

Contact us

North

No. 14, Mathura Road
P.O. Amar Nagar
Faridabad 121 003
Tel: +91 129 227 5592
Tel: +91 129 227 9627
Tel: +91 129 504 9000
Fax: +91 129 227 9692
Fax: +91 129 227 5019

Chandigarh:

Tel: +91 172 4321 800
Fax: +91 172 2601 618

Dehradun

Tel: +91 135 2762 731
Fax: +91 135 2760 655

Jaipur:

Tel: +91 141 274 4024
Fax: +91 141 274 4027

Lucknow:

Tel: +91 522 220 9436
Fax: +91 522 220 9478

Ludhiana

Tel: +91 161 465 6830/31
Fax: +91 161 465 6830

East

ABB Ltd, Omega Building,
17th Floor, Bengal Intelligent Park, Block
EP & GR Salt Lake City, Kolkata - 700091.
Tel: + 91 33 6621 3000 -11
Fax: +91 33 6621 3187

Bhubaneshwar:

Tel : +91 674 6616 302/311
Fax: + 91 674 6616 307

Jamshedpur:

Tel : +91 657 6619 200
Fax: +91 657 6619 200

Raipur

Tel: +91 771 4213 204
Fax: +91 771 4213 222

West

ABB House
Dr. S B Path Ballard Estate
Mumbai 400 038
Tel : +91 22 6615 9913
Fax: +91 22 6631 4203

Pune:

Tel: + 91 20 6624 3838
Fax: + 91 20 6624 3817

Ahmedabad:

Tel:+ 91 79 6609 0109
Fax: +91 79 6609 0105

Bhopal:

Tel : +91 755 4087 601-10
Fax: + 91 755 4087 611

Nagpur:

Tel : +91 712 646 1145/46/45/49
Fax: + 91 712 229 0283

Vododara:

Tel : +91 265 264 2141
Fax: + 91 265 264 0716

South

Khanija Bhavan, 5th Floor, West Wing,
No: 49, Race Course Rd, Bangalore -
560001.
Tel: + 91 80 2294 9250
Fax:+91 80 2294 6702/03

Hyderabad:

Tel : + 91 40 2790 6736/29
Fax: + 91 40 2790 6648

Kochi:

Te l: +91 484 233 0342
Fax: +91 484 233 0343

Vishakapatnam:

Tel: +91 891 2538 188
Fax: +91 891 2795 837

Chennai:

113/96, Pantheon Road, Janpriya Crest, 1
st Floor,
Egmore - 600 008.
Tel: +91 44 2819 1551/1661
Fax: +91 44 2819 3545

Coimbatore:

Tel: +91 422 2300 3415
Fax: +91 422 230 3415

Works:

Nelamangala
Survey No: 88/3, 88/4,
Basavanhalli, Kasaba Hobli,
Nelamangala Taluk,
Bangalore - 562123, Karnataka, India
Tel: +91 80 2294 8995
Fax: +91 80 2294 9999

Peenya

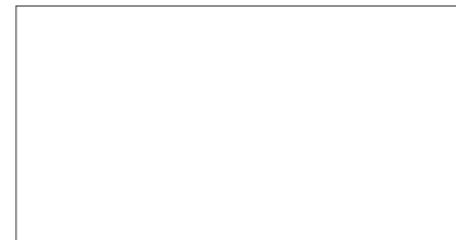
Plot no.5 & 6, II Phase,
Peenya Industrial Area 560058,
Bangalore, Karnataka, INDIA
Phone: +91 80 22949354/9585
Telefax: +91 80 22949389

ABB India Helpline:

Technical Telephone support for customers
and channel partners.
☎ Toll Free : (BSNL) +91 1800 425 07 07
☎ Landline : +91-80-2272277 / 78
Email : helpline.abbindia@in.abb.com

www.abb.com/lowvoltage

Products available at:



LP_BS_CP/2012_01_19/00001 - copyright 2012 ABB. All right reserved



With effect from 17th February 2012

Low Voltage Products Price list

ABB low voltage products

ABB is a global leader in power and automation technologies that enable utility and industry customers to improve performance while lowering environmental impact. ABB in India serves customers in process, manufacturing and consumer industries, utilities, the oil & gas sector and infrastructure markets through a wide manufacturing and marketing network.

ABB, a market leader in low voltage products and applications offers the widest range of high quality products and systems, backed by in-depth application know-how. In putting together its portfolio, ABB has taken care to address not only the core technologies but also systems and services that support customers throughout the life cycle of the product.

ABB's product range serves the diverse needs of customers, offering value for money and high levels of quality and reliability. These products are backed by the technological expertise of ABB's centres of excellence across the globe, each of which excel in a specific range of low voltage products.

ABB's low voltage products offering in India are designed, manufactured and tested in-house in conformance with requirements of the ISO 9000 series. These products conform to the latest IEC standards, EN specifications, national standards such as BS, VDE, etc., in addition to the "CE" mark.

Contents

Breakers and Switches

Pg. No.	Products
4	Tmax moulded case circuit breakers
5	Tmax power distribution circuit-breakers
24	Tmax motor protection circuit-breakers
27	Tmax switch disconnecter
28	Tmax accessories
38	OF HRC Fuse links Din-type
40	OF HRC Fuse links BS-type
42	SFU - OS OESA, 32...160 A
43	SFU - OS OESA, 32...160 accessories
44	OS switch fuses, DIN-types
45	OS switch fuses, BS-types
46	OS blown fuse indicators
47	OT switch-disconnectors, base and DIN-rai mounting
48	OT switch-disconnectors
49	OT switch-disconnectors, base mounting
50	OT fourth poles, neutral and earth terminals, neutral links
51	OT connecting accessories
52	OT manual change-over switches
53	OT motorized change-over switches
54	OT automatic transfer switches
55	OT phase separators
56	Accessories ordering information
57	Sheet steel enclosure for OS and OESA switches with HRC Fuses
58	Rotary cam switches ordering details
59	DC Rated Switch Disconnectors For Solar Segment
60	Tmax PV: photovoltaic range MCCB
62	Easy line general description
63	Kabeldon low voltage switchgear system
64	Emax - Low voltage Air Circuit-Breakers

Control Products

Pg. No.	Products
68	NS 4-pole / 8-pole Contactor Relays - Screw Terminals : AC Operated
69	NSL 4-pole / 8-pole Contactor Relays - Screw Terminals : DC Operated
70	3 Pole contactors : AC operated
71	4 Pole contactors : AC operated
72	Control relay : Wide band AC / DC operated
63	3 Pole contactors : Wide band AC / DC operated
74	4 Pole contactors : Wide band AC / DC operated
75	Installation contactors
77	Contactors for special application - capacitors switching

78	Mini contactors
79	Accessories for contactors
81	Spares for contactors
84	DOL and Star delta starters
85	Manual motor starter
86	Accessories for manual motor starter
88	Thermal overload relays
90	Electronic Overload Relays
91	Intelligent motor management systems
95	Softstarters
98	Electronic timers
100	Power supplies
101	Three phase monitoring relays
103	Insulation monitoring relays
104	Thermistor motor protection relays
105	Product and solutions for machine safety - Jokab Safety
106	Jokab Safety products - PLC, Sensors, Sensoring systems...
108	Arc guard system
109	Ordering details
110	Pilot devices

Miniature Circuit Breakers Compact Series

Pg. No.	Products
116	Technical Details
117	Prices

Other Details

Pg. No.	Products
118	Service Portfolio
120	Design Institute – Training calendar 2012
	A – Z of electricals
122	Type 2 coordination
125	General conditions of sale

ABB's comprehensive range of Breakers and switches

The range of ABB breakers and switches ranks amongst the most extensive on the market with a full range of innovative solutions for various applications, helping to optimise resources, reduce energy costs, boost productivity.

- Moulded Case Circuit Breakers
- Air Circuit Breakers
- HRC fuses
- Switch Fuse Units
- Enclosed Switch Fuse
- Load Break Switches
- Motorized changeover switches
- Auto Transfer Switches

Other products

- Circuit breakers with communication capabilities
- Disconnectors - ACB
- Plug-in and withdrawable MCCB
- Cam switches
- Cable distribution cabinets
- Feeder pillar boxes
- Switches in 6-pole and 8-pole versions
- Easyline Switch Disconnecter fuses
- DC rated switch
- PV MCCBs

Breakers and Switches
Low Voltage Products

Tmax moulded case circuit breakers

Tmax guarantee for reliable performance with smaller foot prints, easy installation and increased safety with double insulation.

The Tmax series are particularly suitable for secondary distribution in AC/DC and provides solution for every application

Scope:

Tmax series is offered in seven frame sizes with application in industrial, commercial and residential purposes. Available for both AC and DC networks of low voltage application. Tmax is suitable applications in

- Power distribution
- Motor protection application
- Generator application

Device range:

To meet different requirements, Tmax Series is available in the following ranges:

- Automatic Circuit Breakers for AC & DC
- Automatic Circuit Breakers for Advanced Zone Selectivity
- Automatic Circuit Breakers for Motor Protection
- Switch-Disconnectors
- Automatic Circuit-Breakers for applications up to 1,150 V for AC and 1,000 V for DC

Available versions are 3P & 4P in Fixed (T1 to T7), Plug-in(T2 to T5) and withdrawable(T4 to T7).

Tmax circuit breakers are offered with standardized accessories providing flexibility to customers.

Tmax range is available in both thermo magnetic and electronic protection releases

Specific Features:

Tmax is one of best circuit breaker in the industry when performance/size ratio is compared. The specially designed contact system and arc chutes guarantee let-through energy is limited in safe guarding downstream connected equipments.

Tmax circuit breakers offered in 7 frame sizes provides versatile functionality and flexibility to customers in selecting optimal rating based on performance requirement.



Tmax power distribution circuit-breakers

Type	Iu (40° C)[A]	Ue [V]		Category	Release	Icu (380 - 415 V AC) [kA]														
		AC	DC			16	25	36	50	70	85	100	120	150	200					
T1	160	690	500	A	TMD	B	C	N												
T2	160	690	500	A	MA (100 A) TMD MF (12,5 A) PR221DS			N	S	H	L									
T3	250	690	500	A	MA TMD TMG			N	S											
T4	250 320	690 1150	750 1000	A	MA (200 A) TMD (50 A) TMA (250 A) PR221DS PR222DS/MP PR223DS/EF			N	S	H			L						V	
T5	400 630	690 1150	750 1000	B (400 A) A (630 A)	TMA (500 A) TMG (500 A) PR221DS PR222DS/MP PR223DS/EF			N	S	H			L						V	
T6	630 800 1000	690 1150	750 1000	B (630A - 800 A) A (1000 A)	TMA (800 A) PR221DS PR222DS/MP PR223DS/EF			N	S	H		L								
T7	800 1000 1250 1600	690		B	PR231/P PR232/P PR331/P PR332/P				S	H			L		V					

Note : Tmax T8 frame available upto 3200 amps, PI contact the nearest sales office for more details

Trip Units

Thermal magnetic trip units

- MA - Magnetic only trip unit with adjustable magnetic thresholds for motor protection
- TMF - Fixed thermal and fixed magnetic for power distribution
- TMD - Adjustable thermal (70-100%of In) and fixed magnetic (10 x In) for power distribution
- TMA - Adjustable thermal (70-100% of In) and adjustable magnetic (5-10 of In) for power distribution
- TMG - Adjustable thermal (70-100% of In) and low fixed magnetic (3 x In) for generator protection

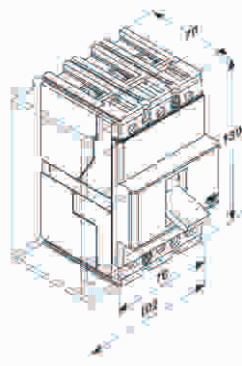
Microprocessor based electronic trip units

PR221	L = 0.40 - 1 of In S = 1 - 10 of In I = 1 - 10 of In	PR222	L = 0.4 - 1 of In S = 0.6 - 10 of In I = 1.5 - 12 of In G = 0.2 - 1 of In	PR231	L = 0.4 - 1 of In S = 1 - 10 of In I = 1 - 12 of In	PR331	L = 0.4 - 1 of In S = 0.6 - 10 of In I = 1.5 - 15 of In G = 0.2 - 1 of In
-------	--	-------	--	-------	---	-------	--

Pr223 EF Early fault detection and prevention from T4 - T7. Details on request

Tmax power distribution circuit-breakers

T1



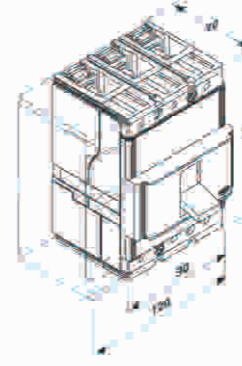
Breaking Capacity at 415VAC

	Icu	Ics
B 1P	25KA @ 240VAC	75%
E/A 3P	10KA	50%
B	16KA	100%
C	25KA	100%
N	36KA	75%



Tmax power distribution circuit-breakers

T2



Breaking Capacity at 415VAC

	Icu	Ics
N	36KA	100%
S	50KA	100%
H	70KA	100%



TMF

T1B 1P 160 F FC Cu

Icu = 25KA, Ics = 75%

In (A)	Poles	Ordering Code	M.R.P.
16	1	1SDA052616R1	Upon Req.
20	1	1SDA052617R1	Upon Req.
25	1	1SDA052618R1	Upon Req.
32	1	1SDA052619R1	Upon Req.
40	1	1SDA052620R1	Upon Req.
50	1	1SDA052621R1	Upon Req.
63	1	1SDA052622R1	Upon Req.
80	1	1SDA052623R1	Upon Req.
100	1	1SDA052624R1	Upon Req.
125	1	1SDA052625R1	Upon Req.
160	1	1SDA052626R1	Upon Req.

T1E/A 100 FF

Icu = 10KA, Ics = 50%

In (A)	Poles	Ordering Code	M.R.P.
10	3	1SDA059574R1	Upon Req.
15	3	1SDA059575R1	Upon Req.
20	3	1SDA059576R1	Upon Req.
25	3	1SDA059577R1	Upon Req.
30	3	1SDA059578R1	Upon Req.
40	3	1SDA059579R1	Upon Req.
50	3	1SDA059580R1	Upon Req.
60	3	1SDA059581R1	Upon Req.
75	3	1SDA059582R1	Upon Req.
90	3	1SDA059583R1	Upon Req.
100	3	1SDA059584R1	Upon Req.

TMD

T2N 160 F F

Icu = 36KA, Ics = 100%

In	Poles	Ordering Code	M.R.P.
1.6	3	1SDA050940R1	7,900
2	3	1SDA050941R1	7,900
2.5	3	1SDA050942R1	7,900
3.2	3	1SDA050943R1	7,900
4	3	1SDA050944R1	7,900
5	3	1SDA050945R1	7,900
6.3	3	1SDA050946R1	7,900
8	3	1SDA050947R1	7,900
10	3	1SDA050948R1	7,900
12.5	3	1SDA050949R1	7,900
16	3	1SDA050950R1	7,900
20	3	1SDA050951R1	7,900
25	3	1SDA050952R1	7,900
32	3	1SDA050953R1	7,900
40	3	1SDA050954R1	7,900
50	3	1SDA050955R1	7,900
63	3	1SDA050956R1	7,900
80	3	1SDA050957R1	7,900
100	3	1SDA050958R1	7,900
125	3	1SDA050959R1	9,000
160	3	1SDA050960R1	12,000
1.6	4	1SDA050962R1	9,750
2	4	1SDA050963R1	9,750
2.5	4	1SDA050964R1	9,750
3.2	4	1SDA050965R1	9,750
4	4	1SDA050966R1	9,750
5	4	1SDA050967R1	9,750
6.3	4	1SDA050968R1	9,750
8	4	1SDA050969R1	9,750
10	4	1SDA050970R1	9,750
12.5	4	1SDA050971R1	9,750
16	4	1SDA050972R1	9,750
20	4	1SDA050973R1	9,750
25	4	1SDA050974R1	9,750
32	4	1SDA050975R1	9,750
40	4	1SDA050976R1	9,750
50	4	1SDA050977R1	9,750
63	4	1SDA050978R1	9,750
80	4	1SDA050979R1	9,750
100	4	1SDA050980R1	9,750
125	4	1SDA051115R1	11,100
160	4	1SDA051116R1	14,000

T2S 160 F F

Icu = 50KA, Ics = 100%

Ordering Code	M.R.P.
1SDA050984R1	10,100
1SDA050985R1	10,100
1SDA050986R1	10,100
1SDA050987R1	10,100
1SDA050988R1	10,100
1SDA050989R1	10,100
1SDA050990R1	10,100
1SDA050991R1	10,100
1SDA050992R1	10,100
1SDA050993R1	10,100
1SDA050994R1	10,100
1SDA050995R1	10,100
1SDA050996R1	10,100
1SDA050997R1	10,100
1SDA050998R1	10,100
1SDA050999R1	10,100
1SDA051000R1	10,100
1SDA051001R1	10,100
1SDA051002R1	10,100
1SDA051003R1	12,900
1SDA051004R1	16,100
1SDA051006R1	13,000
1SDA051007R1	13,000
1SDA051008R1	13,000
1SDA051009R1	13,000
1SDA051010R1	13,000
1SDA051011R1	13,000
1SDA051012R1	13,000
1SDA051013R1	13,000
1SDA051014R1	13,000
1SDA051015R1	13,000
1SDA051016R1	13,000
1SDA051017R1	13,000
1SDA051018R1	13,000
1SDA051019R1	13,000
1SDA051020R1	13,000
1SDA051021R1	13,000
1SDA051022R1	13,000
1SDA051023R1	13,000
1SDA051024R1	13,000
1SDA051117R1	16,500
1SDA051118R1	19,200

T2H 160 F F

Icu = 70KA, Ics = 100%

Ordering Code	M.R.P.
1SDA051028R1	12,400
1SDA051029R1	12,400
1SDA051030R1	12,400
1SDA051031R1	12,400
1SDA051032R1	12,400
1SDA051033R1	12,400
1SDA051034R1	12,400
1SDA051035R1	12,400
1SDA051036R1	12,400
1SDA051037R1	12,400
1SDA051038R1	12,400
1SDA051039R1	12,400
1SDA051040R1	12,400
1SDA051041R1	12,400
1SDA051042R1	12,400
1SDA051043R1	12,400
1SDA051044R1	12,400
1SDA051045R1	12,400
1SDA051046R1	12,400
1SDA051047R1	16,500
1SDA051048R1	19,500
1SDA051050R1	15,800
1SDA051051R1	15,800
1SDA051052R1	15,800
1SDA051053R1	15,800
1SDA051054R1	15,800
1SDA051055R1	15,800
1SDA051056R1	15,800
1SDA051057R1	15,800
1SDA051058R1	15,800
1SDA051059R1	15,800
1SDA051060R1	15,800
1SDA051061R1	15,800
1SDA051062R1	15,800
1SDA051063R1	15,800
1SDA051064R1	15,800
1SDA051065R1	15,800
1SDA051066R1	15,800
1SDA051067R1	15,800
1SDA051068R1	16,700
1SDA051119R1	19,900
1SDA051120R1	23,900

T1B 160 F FC Cu

Icu = 16KA, Ics = 100%

In	Poles	Ordering Code	M.R.P.
16	3	1SDA050870R1	4,900
20	3	1SDA050871R1	4,900
25	3	1SDA050872R1	4,900
32	3	1SDA050873R1	4,900
40	3	1SDA050874R1	4,900
50	3	1SDA050875R1	4,900
63	3	1SDA050876R1	4,900
80	3	1SDA050877R1	4,900
100	3	1SDA050878R1	4,900
125	3	1SDA050879R1	6,500
160	3	1SDA050880R1	7,800
16	4	1SDA050881R1	6,300
20	4	1SDA050882R1	6,300
25	4	1SDA050883R1	6,300
32	4	1SDA050884R1	6,300
40	4	1SDA050885R1	6,300
50	4	1SDA050886R1	6,300
63	4	1SDA050887R1	6,300
80	4	1SDA050888R1	6,300
100	4	1SDA050889R1	6,300
125	4	1SDA050890R1	8,500
160	4	1SDA050936R1	11,000

T1C 160 F FC Cu

Icu = 25KA, Ics = 100%

Ordering Code	M.R.P.
1SDA050894R1	5,100
1SDA050895R1	5,100
1SDA050896R1	5,100
1SDA050897R1	5,100
1SDA050898R1	5,100
1SDA050899R1	5,100
1SDA050900R1	5,100
1SDA050901R1	8,100
1SDA050902R1	10,500

T1N 160 F FC Cu

Icu = 36KA, Ics = 75%

Ordering Code	M.R.P.
1SDA050917R1	6,700
1SDA050918R1	6,700
1SDA050919R1	6,700
1SDA050920R1	6,700
1SDA050921R1	6,700
1SDA050922R1	6,700
1SDA050923R1	8,500
1SDA050924R1	11,000
1SDA050928R1	8,100
1SDA050929R1	8,100
1SDA050930R1	8,100
1SDA050931R1	8,100
1SDA050932R1	8,100
1SDA050933R1	8,700
1SDA050934R1	10,100
1SDA050938R1	13,200

Tmax power distribution circuit-breakers

T2

TMG

T2N 160 F F
Icu = 36KA, Ics = 100%

T2S 160 F F
Icu = 50KA, Ics = 100%

T2H 160 F F
Icu = 70KA, Ics = 100%

In	Poles	Ordering Code	M.R.P.
25	3	1SDA061867R1	9,200
40	3	1SDA061868R1	9,200
63	3	1SDA061869R1	9,200
80	3	1SDA061870R1	9,200
100	3	1SDA061871R1	9,200
125	3	1SDA061872R1	9,200
160	3	1SDA061873R1	9,400
25	4	1SDA061875R1	11,500
40	4	1SDA061876R1	11,500
63	4	1SDA061877R1	11,500
80	4	1SDA061878R1	11,500
100	4	1SDA061879R1	11,500
125	4	1SDA061880R1	11,500
160	4	1SDA061881R1	12,300

Ordering Code	M.R.P.
1SDA061883R1	9,800
1SDA061884R1	9,800
1SDA061885R1	9,800
1SDA061886R1	9,800
1SDA061887R1	9,800
1SDA061888R1	11,000
1SDA061889R1	13,000
1SDA061891R1	12,200
1SDA061892R1	12,200
1SDA061893R1	12,200
1SDA061894R1	12,200
1SDA061895R1	12,200
1SDA061896R1	14,200
1SDA061897R1	17,700

Ordering Code	M.R.P.
-	-
-	-
-	-
-	-
-	-
-	-
-	-
-	-
-	-
-	-
-	-
-	-
-	-
-	-
-	-

PR221 DS-LS/I

In	Poles	Ordering Code	M.R.P.
10	3	1SDA051123R1	14,000
25	3	1SDA051124R1	14,000
63	3	1SDA051125R1	14,000
100	3	1SDA051126R1	14,000
160	3	1SDA051127R1	17,300
10	4	1SDA051128R1	18,200
25	4	1SDA051129R1	18,200
63	4	1SDA051130R1	18,200
100	4	1SDA051131R1	18,200
160	4	1SDA051613R1	24,000

Ordering Code	M.R.P.
1SDA051133R1	17,300
1SDA051134R1	17,300
1SDA051135R1	17,300
1SDA051136R1	17,300
1SDA051137R1	23,000
1SDA051138R1	22,000
1SDA051139R1	22,000
1SDA051140R1	22,000
1SDA051141R1	22,000
1SDA051614R1	30,500

Ordering Code	M.R.P.
1SDA051143R1	18,200
1SDA051144R1	18,200
1SDA051145R1	18,200
1SDA051146R1	18,200
1SDA051147R1	24,600
1SDA051148R1	23,000
1SDA051149R1	23,000
1SDA051150R1	23,000
1SDA051151R1	23,000
1SDA051615R1	31,500

PR221 DS-I

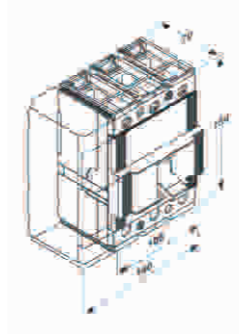
In	Poles	Ordering Code	M.R.P.
10	3	1SDA051163R1	13,900
25	3	1SDA051164R1	13,900
63	3	1SDA051165R1	13,900
100	3	1SDA051166R1	13,900
160	3	1SDA051168R1	17,576

Ordering Code	M.R.P.
1SDA051174R1	17,000
1SDA051175R1	17,000
1SDA051176R1	17,000
1SDA051177R1	17,000
1SDA051178R1	22,000

Ordering Code	M.R.P.
1SDA051184R1	18,000
1SDA051185R1	18,000
1SDA051186R1	18,000
1SDA051187R1	18,000
1SDA051188R1	24,000

Tmax power distribution circuit-breakers

T3



Breaking Capacity at 415VAC

	Icu	Ics
N	36KA	75%
S	50KA	50%



T3 250

TMD

T3N 250 F F
Icu = 36KA, Ics = 75%

T3S 250 F F
Icu = 50KA, Ics = 50%

In (A)	Poles
63	3
80	3
100	3
125	3
160	3
200	3
250	3
63	4
80	4
100	4
125	4
160	4
200	4
250	4

Ordering Code	M.R.P.
1SDA051241R1	13,100
1SDA051242R1	13,100
1SDA051243R1	13,100
1SDA051244R1	13,100
1SDA051245R1	13,100
1SDA051246R1	15,700
1SDA051247R1	18,100
1SDA051252R1	16,800
1SDA051253R1	16,800
1SDA051254R1	16,800
1SDA051303R1	16,800
1SDA051304R1	16,800
1SDA051305R1	20,000
1SDA051306R1	23,000

Ordering Code	M.R.P.
1SDA051263R1	15,500
1SDA051264R1	15,500
1SDA051265R1	15,500
1SDA051266R1	15,500
1SDA051267R1	15,500
1SDA051268R1	18,000
1SDA051269R1	21,000
1SDA051274R1	17,800
1SDA051275R1	17,800
1SDA051276R1	17,800
1SDA051307R1	17,800
1SDA051308R1	17,800
1SDA051309R1	23,000
1SDA051310R1	24,500

TMG

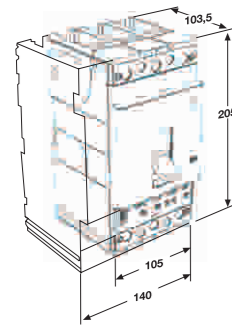
In (A)	Poles
63	3
80	3
100	3
125	3
160	3
200	3
250	3
63	4
80	4
100	4
125	4
160	4
200	4
250	4

Ordering Code	M.R.P.
1SDA055105R1	11,000
1SDA055106R1	11,000
1SDA055107R1	11,000
1SDA055108R1	11,000
1SDA055109R1	11,000
1SDA055110R1	12,500
1SDA055111R1	14,000
1SDA055112R1	13,500
1SDA055113R1	13,500
1SDA055114R1	13,500
1SDA055115R1	13,500
1SDA055116R1	13,500
1SDA055117R1	17,000
1SDA055118R1	18,000

Ordering Code	M.R.P.
1SDA055119R1	13,000
1SDA055120R1	13,000
1SDA055121R1	13,000
1SDA055122R1	13,000
1SDA055123R1	13,000
1SDA055124R1	13,000
1SDA055125R1	15,000
1SDA055126R1	15,000
1SDA055127R1	15,000
1SDA055128R1	15,000
1SDA055129R1	15,000
1SDA055130R1	15,000
1SDA055131R1	18,000
1SDA055132R1	20,000

Tmax power distribution circuit-breakers

T4



Breaking Capacity at 415VAC

	Icu	Ics
N	36KA	100%
S	50KA	100%
H	70KA	100%



T4 250

TMA

In	Poles
80	3
100	3
125	3
160	3
200	3
250	3
80	4
100	4
125	4
160	4
200	4
250	4

T4N 250 F F
Icu = 36KA, Ics = 100%

Ordering Code	M.R.P.
-	-
-	-
-	-
1SDA054177R1	17,000
1SDA054178R1	17,500
1SDA054179R1	20,000
-	-
-	-
-	-
1SDA054272R1	23,000
1SDA054273R1	23,500
1SDA054274R1	24,500

T4S 250 F F
Icu = 50KA, Ics = 100%

Ordering Code	M.R.P.
1SDA054192R1	21,000
1SDA054193R1	21,000
1SDA054194R1	21,000
1SDA054195R1	21,000
1SDA054196R1	21,000
1SDA054197R1	22,000
1SDA054201R1	25,500
1SDA054202R1	25,500
1SDA054275R1	25,700
1SDA054276R1	25,800
1SDA054277R1	26,000
1SDA054278R1	27,000

T4H 250 F F
Icu = 70KA, Ics = 100%

Ordering Code	M.R.P.
1SDA054210R1	23,100
1SDA054211R1	23,100
1SDA054212R1	23,200
1SDA054213R1	23,500
1SDA054214R1	24,000
1SDA054215R1	24,500
1SDA054219R1	30,000
1SDA054220R1	30,000
1SDA054279R1	30,300
1SDA054280R1	30,500
1SDA054281R1	31,000
1SDA054282R1	31,500

PR221 DS-LS/I

250	3
250	4

1SDA053999R1	24,500
1SDA054011R1	32,000

1SDA054023R1	30,000
1SDA054035R1	35,000

1SDA054047R1	31,500
1SDA054059R1	36,000

PR221 DS-I

250	3
-----	---

1SDA054002R1	24,000
--------------	--------

1SDA054026R1	28,500
--------------	--------

1SDA054050R1	31,000
--------------	--------

PR222DS/P-LSIG

100	3
160	3
250	3
100	4
160	4
250	4

1SDA054006R1	36,100
1SDA054007R1	36,100
1SDA054008R1	36,100
1SDA054018R1	41,250
1SDA054019R1	41,250
1SDA054020R1	41,250

1SDA054030R1	37,300
1SDA054031R1	37,300
1SDA054032R1	37,300
1SDA054042R1	44,200
1SDA054043R1	44,200
1SDA054044R1	44,200

1SDA054054R1	48,200
1SDA054055R1	48,900
1SDA054056R1	49,300
1SDA054066R1	52,700
1SDA054067R1	52,700
1SDA054068R1	55,100

PR223DS

100	3
160	3
250	3
100	4
160	4
250	4

1SDA059489R1	Upon Req.
1SDA059491R1	Upon Req.
1SDA059493R1	Upon Req.
1SDA059490R1	Upon Req.
1SDA059492R1	Upon Req.
1SDA059494R1	Upon Req.

1SDA059497R1	Upon Req.
1SDA059499R1	Upon Req.
1SDA059501R1	Upon Req.
1SDA059498R1	Upon Req.
1SDA059500R1	Upon Req.
1SDA059502R1	Upon Req.

1SDA059505R1	Upon Req.
1SDA059507R1	Upon Req.
1SDA059509R1	Upon Req.
1SDA059506R1	Upon Req.
1SDA059508R1	Upon Req.
1SDA059510R1	Upon Req.

Tmax power distribution circuit-breakers

T4

T4 320

PR221 DS-LS/I

In	Poles
320	3
320	4

T4N 320 F F
Icu = 36KA, Ics = 100%

Ordering Code	M.R.P.
1SDA054117R1	28,000
1SDA054121R1	34,000

T4S 320 F F
Icu = 50KA, Ics = 100%

Ordering Code	M.R.P.
1SDA054125R1	31,000
1SDA054129R1	39,000

T4H 320 F F
Icu = 70KA, Ics = 100%

Ordering Code	M.R.P.
1SDA054133R1	36,000
1SDA054137R1	44,000

PR221 DS-I

320	3
-----	---

1SDA054118R1	27,000
--------------	--------

1SDA054126R1	34,000
--------------	--------

1SDA054134R1	35,000
--------------	--------

PR222DS/P-LSIG

320	3
320	4

1SDA054120R1	44,000
1SDA054124R1	53,000

1SDA054128R1	46,000
1SDA054132R1	55,000

1SDA054136R1	52,000
1SDA054140R1	58,000

PR223DS

320	3
320	4

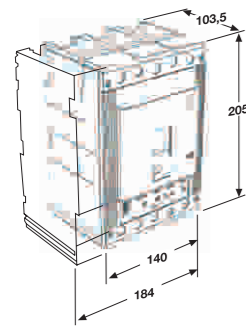
1SDA059495R1	Upon Req.
1SDA059496R1	Upon Req.

1SDA059503R1	Upon Req.
1SDA059504R1	Upon Req.

1SDA059511R1	Upon Req.
1SDA059512R1	Upon Req.

Tmax power distribution circuit-breakers

T5



Breaking Capacity at 415VAC

	Icu	Ics
N	36KA	100%
S	50KA	100%
H	70KA	100%



T5 400

TMA

In	Poles
320	3
400	3
320	4
400	4

PR221 DS-LS/I

In	Poles
320	3
400	3
320	4
400	4

PR221 DS-I

In	Poles
320	3
400	3

PR222DS/P-LSIG

In	Poles
320	3
400	3
320	4
400	4

PR223DS

In	Poles
320	3
400	3
320	3
400	4

T5N 400 F F
Icu = 36KA, Ics = 100%

Ordering Code	M.R.P.
1SDA054436R1	23,000
1SDA054437R1	23,000
1SDA054477R1	29,000
1SDA054478R1	29,000

T5S 400 F F
Icu = 50KA, Ics = 100%

Ordering Code	M.R.P.
1SDA054440R1	24,000
1SDA054441R1	24,000
1SDA054479R1	30,000
1SDA054480R1	30,000

T5H 400 F F
Icu = 70KA, Ics = 100%

Ordering Code	M.R.P.
1SDA054444R1	27,000
1SDA054445R1	27,000
1SDA054481R1	32,000
1SDA054482R1	32,000

Ordering Code	M.R.P.
1SDA054316R1	28,000
1SDA054317R1	28,000
1SDA054324R1	34,000
1SDA054325R1	34,000

Ordering Code	M.R.P.
1SDA054332R1	31,000
1SDA054333R1	31,000
1SDA054340R1	36,000
1SDA054341R1	36,000

Ordering Code	M.R.P.
1SDA054348R1	34,000
1SDA054349R1	34,000
1SDA054356R1	46,000
1SDA054357R1	46,000

Ordering Code	M.R.P.
1SDA054318R1	27,000
1SDA054319R1	27,000

Ordering Code	M.R.P.
1SDA054334R1	30,500
1SDA054335R1	30,500

Ordering Code	M.R.P.
1SDA054350R1	32,000
1SDA054351R1	32,000

Ordering Code	M.R.P.
1SDA054322R1	43,000
1SDA054323R1	44,000
1SDA054330R1	50,000
1SDA054331R1	51,000

Ordering Code	M.R.P.
1SDA054338R1	46,500
1SDA054339R1	46,500
1SDA054346R1	54,000
1SDA054347R1	54,000

Ordering Code	M.R.P.
1SDA054354R1	52,000
1SDA054355R1	52,000
1SDA054362R1	58,000
1SDA054363R1	58,000

Ordering Code	M.R.P.
1SDA059529R1	Upon Req.
1SDA059531R1	Upon Req.
1SDA059530R1	Upon Req.
1SDA059532R1	Upon Req.

Ordering Code	M.R.P.
1SDA059535R1	Upon Req.
1SDA059537R1	Upon Req.
1SDA059536R1	Upon Req.
1SDA059538R1	Upon Req.

Ordering Code	M.R.P.
1SDA059541R1	Upon Req.
1SDA059543R1	Upon Req.
1SDA059542R1	Upon Req.
1SDA059544R1	Upon Req.

Tmax power distribution circuit-breakers

T5

T5 630

TMA

In	Poles
500	3
500	4

PR221 DS-LS/I

In	Poles
630	3
630	4

PR221 DS-I

In	Poles
630	3

PR222DS/P-LSIG

In	Poles
630	3
630	4

PR223DS

In	Poles
630	3
630	4

T5N 630 F F
Icu = 36KA, Ics = 100%

Ordering Code	M.R.P.
1SDA054456R1	26,000
1SDA054487R1	33,000

T5S 630 F F
Icu = 50KA, Ics = 100%

Ordering Code	M.R.P.
1SDA054461R1	28,000
1SDA054489R1	36,000

T5H 630 F F
Icu = 70KA, Ics = 100%

Ordering Code	M.R.P.
1SDA054465R1	36,000
1SDA054491R1	44,000

Ordering Code	M.R.P.
1SDA054396R1	30,000
1SDA054400R1	40,000

Ordering Code	M.R.P.
1SDA054404R1	32,500
1SDA054408R1	43,500

Ordering Code	M.R.P.
1SDA054412R1	39,000
1SDA054416R1	49,000

Ordering Code	M.R.P.
1SDA054397R1	29,000

Ordering Code	M.R.P.
1SDA054405R1	32,000

Ordering Code	M.R.P.
1SDA054413R1	38,000

Ordering Code	M.R.P.
1SDA054399R1	50,000
1SDA054403R1	58,000

Ordering Code	M.R.P.
1SDA054407R1	52,000
1SDA054411R1	62,000

Ordering Code	M.R.P.
1SDA054415R1	59,000
1SDA054419R1	72,800

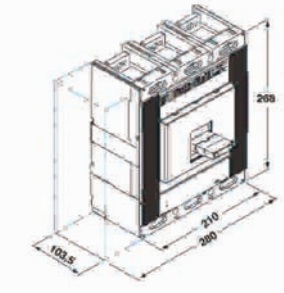
Ordering Code	M.R.P.
1SDA059533R1	Upon Req.
1SDA059534R1	Upon Req.

Ordering Code	M.R.P.
1SDA059539R1	Upon Req.
1SDA059540R1	Upon Req.

Ordering Code	M.R.P.
1SDA059545R1	Upon Req.
1SDA059546R1	Upon Req.

Tmax power distribution circuit-breakers

T6



Breaking Capacity at 415VAC

	Icu	Ics
N	36KA	100%
S	50KA	100%
H	70KA	100%



T6 630

TMA

In	Poles
630	3
630	4

T6N 630 F F
Icu = 36KA, Ics = 100%

Ordering Code	M.R.P.
1SDA060202R1	28,500
1SDA060210R1	34,000

T6S 630 F F
Icu = 50KA, Ics = 100%

Ordering Code	M.R.P.
1SDA060204R1	29,500
1SDA060211R1	37,500

T6H 630 F F
Icu = 70KA, Ics = 100%

Ordering Code	M.R.P.
1SDA060206R1	35,000
1SDA060212R1	42,000

PR221 DS-LS/I

630	3	1SDA060226R1	40,000	1SDA060236R1	42,000	1SDA060246R1	43,000
630	4	1SDA060231R1	42,000	1SDA060241R1	45,000	1SDA060251R1	57,000

PR221 DS-I

630	3	1SDA060227R1	39,000	1SDA060237R1	41,000	1SDA060247R1	42,000
-----	---	--------------	--------	--------------	--------	--------------	--------

PR222DS/P-LSIG

630	3	1SDA060229R1	57,000	1SDA060239R1	58,000	1SDA060249R1	61,000
630	4	1SDA060234R1	60,000	1SDA060244R1	64,000	1SDA060254R1	74,000

PR223DS

630	3	1SDA060230R1	Upon Req.	1SDA060240R1	Upon Req.	1SDA060250R1	Upon Req.
630	4	1SDA060235R1	Upon Req.	1SDA060245R1	Upon Req.	1SDA060255R1	Upon Req.

T6 800

TMA

In	Poles
800	3
800	4

T6N 800 F F n
Icu = 36KA, Ics = 100%

Ordering Code	M.R.P.
1SDA060214R1	37,000
1SDA060222R1	42,000

T6S 800 F F n
Icu = 50KA, Ics = 100%

Ordering Code	M.R.P.
1SDA060216R1	39,000
1SDA060223R1	46,000

T6H 800 F F
Icu = 70KA, Ics = 100%

Ordering Code	M.R.P.
1SDA060218R1	40,000
1SDA060224R1	48,000

PR221 DS-LS/I

800	3	1SDA060268R1	44,000	1SDA060278R1	49,000	1SDA060289R1	56,000
800	4	1SDA060273R1	50,000	1SDA060283R1	62,000	1SDA060294R1	70,000

PR221 DS-I

800	3	1SDA060269R1	43,000	1SDA060279R1	48,000	1SDA060290R1	55,000
-----	---	--------------	--------	--------------	--------	--------------	--------

PR222DS/P-LSIG

800	3	1SDA060271R1	65,000	1SDA060281R1	68,000	1SDA060292R1	72,000
800	4	1SDA060276R1	75,000	1SDA060286R1	77,000	1SDA060297R1	85,000

PR223DS

800	3	1SDA060272R1	Upon Req.	1SDA060282R1	Upon Req.	1SDA060293R1	Upon Req.
800	4	1SDA060277R1	Upon Req.	1SDA060287R1	Upon Req.	1SDA060298R1	Upon Req.

Tmax power distribution circuit-breakers

T6

T6 1000

PR221 DS-LS/I

In	Poles
1000	3
1000	4

T6N 1000 F F
Icu = 36KA, Ics = 100%

Ordering Code	M.R.P.
1SDA060537R1	62,000
1SDA060542R1	82,000

T6S 1000 F F
Icu = 50KA, Ics = 100%

Ordering Code	M.R.P.
1SDA060547R1	63,000
1SDA060556R1	84,000

T6H 1000 F F
Icu = 70KA, Ics = 100%

Ordering Code	M.R.P.
1SDA060561R1	80,000
1SDA060566R1	1,05,000

PR221 DS-I

1000	3	1SDA060538R1	60,000	1SDA060548R1	61,000	1SDA060562R1	78,000
------	---	--------------	--------	--------------	--------	--------------	--------

PR222DS/P-LSIG

1000	3	1SDA060540R1	74,000	1SDA060554R1	78,000	1SDA060564R1	96,000
1000	4	1SDA060545R1	90,000	1SDA060559R1	1,05,000	1SDA060569R1	1,25,000

Ordering Code	M.R.P.
1SDA060540R1	74,000
1SDA060545R1	90,000

Ordering Code	M.R.P.
1SDA060554R1	78,000
1SDA060559R1	1,05,000

Ordering Code	M.R.P.
1SDA060564R1	96,000
1SDA060569R1	1,25,000

PR223DS

1000	3	1SDA060541R1	Upon Req.	1SDA060555R1	Upon Req.	1SDA060565R1	Upon Req.
1000	4	1SDA060546R1	Upon Req.	1SDA060560R1	Upon Req.	1SDA060573R1	Upon Req.

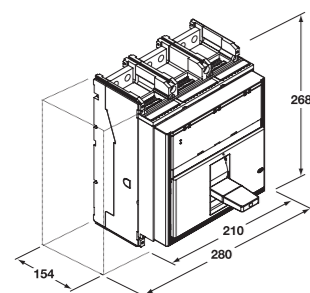
1SDA060541R1	Upon Req.	1SDA060555R1	Upon Req.
1SDA060546R1	Upon Req.	1SDA060560R1	Upon Req.

1SDA060555R1	Upon Req.	1SDA060560R1	Upon Req.
--------------	-----------	--------------	-----------

1SDA060565R1	Upon Req.	1SDA060573R1	Upon Req.
--------------	-----------	--------------	-----------

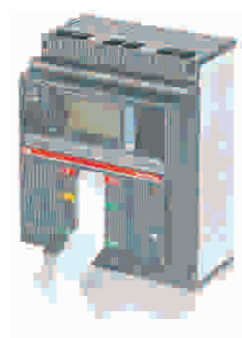
Tmax power distribution circuit-breakers

T7



Breaking Capacity at 415VAC

	Icu	Ics
S	50KA	100%
H	70KA	100%



T7 800

PR231/P I

In	Poles
800	3
800	4

PR231/P LS/I

800	3
800	4

PR232/P LSI

800	3
800	4

PR331/P LSIg

800	3
800	4

PR332/P LI

800	3
800	4

PR332/P LSI

800	3
800	4

PR332/P LSIg

800	3
800	4

PR332/P LSIRc

800	3
800	4

T7S 800 F F

Icu = 50KA, Ics = 100%

Ordering Code	M.R.P.
1SDA061962R1	66,000
1SDA061972R1	78,000

T7H 800 F F

Icu = 70KA, Ics = 100%

Ordering Code	M.R.P.
1SDA062641R1	80,000
1SDA062649R1	96,000

1SDA061963R1	68,000
1SDA061973R1	80,000

1SDA062642R1	82,000
1SDA062650R1	98,000

1SDA061964R1	78,600
1SDA061974R1	88,000

1SDA062643R1	92,000
1SDA062651R1	1,05,000

1SDA061965R1	89,000
1SDA061975R1	99,000

1SDA062644R1	1,02,000
1SDA062652R1	1,15,000

1SDA061966R1	85,000
1SDA061976R1	95,000

1SDA062645R1	1,00,000
1SDA062653R1	1,10,000

1SDA061967R1	90,000
1SDA061977R1	1,00,000

1SDA062646R1	1,04,000
1SDA062654R1	1,18,000

1SDA061968R1	1,00,000
1SDA061978R1	1,10,000

1SDA062647R1	1,15,000
1SDA062655R1	1,25,000

1SDA061969R1	94,000
1SDA061979R1	1,04,000

1SDA062648R1	1,10,000
1SDA062656R1	1,23,000

Tmax power distribution circuit-breakers

T7

T7 1000

PR231/P I

In	Poles
1000	3
1000	4

PR231/P LS/I

1000	3
1000	4

PR232/P LSI

1000	3
1000	4

PR331/P LSIg

1000	3
1000	4

PR332/P LI

1000	3
1000	4

PR332/P LSI

1000	3
1000	4

PR332/P LSIg

1000	3
1000	4

PR332/P LSIRc

1000	3
1000	4

T7S 1000 F F

Icu = 50KA, Ics = 100%

Ordering Code	M.R.P.
1SDA062737R1	85,000
1SDA062745R1	1,00,000

1SDA062738R1	86,000
1SDA062746R1	1,02,000

1SDA062739R1	90,000
1SDA062747R1	1,08,000

1SDA062740R1	1,06,000
1SDA062748R1	1,20,000

1SDA062741R1	1,03,000
1SDA062749R1	1,18,000

1SDA062742R1	1,08,000
1SDA062750R1	1,20,000

1SDA062743R1	1,16,000
1SDA062751R1	1,32,000

1SDA062744R1	1,10,000
1SDA062752R1	1,27,000

T7H 1000 F F

Icu = 70KA, Ics = 100%

Ordering Code	M.R.P.
1SDA062769R1	1,05,000
1SDA062777R1	1,34,000

1SDA062770R1	1,10,000
1SDA062778R1	1,35,000

1SDA062771R1	1,20,000
1SDA062779R1	1,42,000

1SDA062772R1	1,32,000
1SDA062780R1	1,52,000

1SDA062773R1	1,28,000
1SDA062781R1	1,50,000

1SDA062774R1	1,32,000
1SDA062782R1	1,54,000

1SDA062775R1	1,42,000
1SDA062783R1	1,64,000

1SDA062776R1	1,36,000
1SDA062784R1	1,60,000

Tmax power distribution circuit-breakers

T7

T7 1250

PR231/P I

In (A)	Poles	Ordering Code	M.R.P.	Ordering Code	M.R.P.
1250	3	1SDA062865R1	1,00,000	1SDA062897R1	1,37,000
1250	4	1SDA062873R1	1,30,000	1SDA062905R1	1,64,000

PR231/P LS/I

In (A)	Poles	Ordering Code	M.R.P.	Ordering Code	M.R.P.
1250	3	1SDA062866R1	1,05,000	1SDA062898R1	1,38,000
1250	4	1SDA062874R1	1,32,000	1SDA062906R1	1,65,000

PR232/P LSI

In (A)	Poles	Ordering Code	M.R.P.	Ordering Code	M.R.P.
1250	3	1SDA062867R1	1,15,000	1SDA062899R1	1,46,000
1250	4	1SDA062875R1	1,38,000	1SDA062907R1	1,74,000

PR331/P LSIg

In (A)	Poles	Ordering Code	M.R.P.	Ordering Code	M.R.P.
1250	3	1SDA062868R1	1,35,000	1SDA062900R1	1,57,000
1250	4	1SDA062876R1	1,50,000	1SDA062908R1	1,85,000

PR332/P LI

In (A)	Poles	Ordering Code	M.R.P.	Ordering Code	M.R.P.
1250	3	1SDA062869R1	1,25,000	1SDA062901R1	1,54,000
1250	4	1SDA062877R1	1,46,000	1SDA062909R1	1,82,000

PR332/P LSI

In (A)	Poles	Ordering Code	M.R.P.	Ordering Code	M.R.P.
1250	3	1SDA062870R1	1,30,000	1SDA062902R1	1,54,000
1250	4	1SDA062878R1	1,50,000	1SDA062910R1	1,86,000

PR332/P LSIg

In (A)	Poles	Ordering Code	M.R.P.	Ordering Code	M.R.P.
1250	3	1SDA062871R1	1,40,000	1SDA062903R1	1,68,000
1250	4	1SDA062879R1	1,60,000	1SDA062911R1	1,95,000

PR332/P LSIRc

In (A)	Poles	Ordering Code	M.R.P.	Ordering Code	M.R.P.
1250	3	1SDA062872R1	1,34,000	1SDA062904R1	1,63,000
1250	4	1SDA062880R1	1,55,000	1SDA062912R1	1,90,000

T7S 1250 F F
Icu = 50KA, Ics = 100%

T7H 1250 F F
Icu = 70KA, Ics = 100%

Tmax power distribution circuit-breakers

T7

T7 1600

PR231/P I

In (A)	Poles	Ordering Code	M.R.P.	Ordering Code	M.R.P.
1600	3	1SDA062993R1	1,20,000	1SDA063025R1	1,51,000
1600	4	1SDA063001R1	1,44,000	1SDA063033R1	1,82,000

PR231/P LS/I

In (A)	Poles	Ordering Code	M.R.P.	Ordering Code	M.R.P.
1600	3	1SDA062994R1	1,21,000	1SDA063026R1	1,52,000
1600	4	1SDA063002R1	1,45,000	1SDA063034R1	1,83,000

PR232/P LSI

In (A)	Poles	Ordering Code	M.R.P.	Ordering Code	M.R.P.
1600	3	1SDA062995R1	1,30,000	1SDA063027R1	1,62,000
1600	4	1SDA063003R1	1,53,000	1SDA063035R1	1,92,000

PR331/P LSIg

In (A)	Poles	Ordering Code	M.R.P.	Ordering Code	M.R.P.
1600	3	1SDA062996R1	1,40,000	1SDA063028R1	1,75,000
1600	4	1SDA063004R1	1,65,000	1SDA063036R1	2,00,000

PR332/P LI

In (A)	Poles	Ordering Code	M.R.P.	Ordering Code	M.R.P.
1600	3	1SDA062997R1	1,38,000	1SDA063030R1	1,68,000
1600	4	1SDA063005R1	1,60,000	1SDA063037R1	1,99,000

PR332/P LSI

In (A)	Poles	Ordering Code	M.R.P.	Ordering Code	M.R.P.
1600	3	1SDA062998R1	1,42,000	1SDA063031R1	1,74,000
1600	4	1SDA063006R1	1,65,000	1SDA063038R1	2,04,000

PR332/P LSIg

In (A)	Poles	Ordering Code	M.R.P.	Ordering Code	M.R.P.
1600	3	1SDA062999R1	1,52,000	1SDA063032R1	1,82,000
1600	4	1SDA063007R1	1,75,000	1SDA063039R1	2,14,000

PR332/P LSIRc

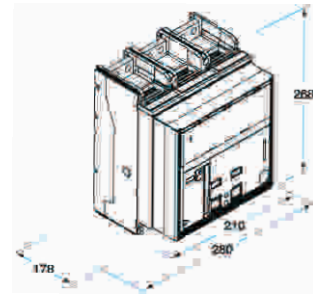
In (A)	Poles	Ordering Code	M.R.P.	Ordering Code	M.R.P.
1600	3	1SDA063000R1	1,45,000	1SDA063033R1	1,76,000
1600	4	1SDA063007R1	1,69,000	1SDA063040R1	2,08,000

T7S 1600 F F
Icu = 50KA, Ics = 100%

T7H 1600 F F
Icu = 70KA, Ics = 100%

Tmax power distribution circuit-breakers

T7



Breaking Capacity at 415VAC

	Icu	Ics
S	50KA	100%
H	70KA	100%



T7 800M

PR231/P I

In (A)	Poles
800	3
800	4

PR231/P LS/I

800	3
800	4

PR232/P LSI

800	3
800	4

PR331/P LSIg

800	3
800	4

PR332/P LI

800	3
800	4

PR332/P LSI

800	3
800	4

PR332/P LSIg

800	3
800	4

PR332/P LSIRc

800	3
800	4

T7S 800M F F

Icu = 50KA, Ics = 100%

Ordering Code	M.R.P.
1SDA061980R1	75,000
1SDA061988R1	86,000

1SDA061981R1	76,000
1SDA061989R1	87,000

1SDA061982R1	84,000
1SDA061989R1	96,000

1SDA061983R1	95,000
1SDA061991R1	1,07,000

1SDA061984R1	92,000
1SDA061992R1	1,03,000

1SDA061985R1	96,000
1SDA061993R1	1,08,000

1SDA061986R1	1,05,000
1SDA061994R1	1,17,000

1SDA061987R1	99,000
1SDA061995R1	1,20,000

T7H 800M F F

Icu = 70KA, Ics = 100%

Ordering Code	M.R.P.
1SDA062657R1	92,000
1SDA062665R1	1,08,000

1SDA062658R1	93,000
1SDA062666R1	1,09,000

1SDA062659R1	1,09,000
1SDA062667R1	1,16,000

1SDA062660R1	1,12,000
1SDA062668R1	1,28,000

1SDA062661R1	1,07,000
1SDA062669R1	1,24,000

1SDA062662R1	1,12,000
1SDA062670R1	1,28,000

1SDA062663R1	1,22,000
1SDA062671R1	1,38,000

1SDA062664R1	1,16,000
1SDA062672R1	1,32,000

Note : For Motorizing T7 M frame, please order along with above code, motor operator, shunt opening coil & shunt closing coil of required voltage.

Tmax power distribution circuit-breakers

T7

T7 1000M

PR231/P I

In (A)	Poles
1000	3
1000	4

PR231/P LS/I

1000	3
1000	4

PR232/P LSI

1000	3
1000	4

PR331/P LSIg

1000	3
1000	4

PR332/P LI

1000	3
1000	4

PR332/P LSI

1000	3
1000	4

PR332/P LSIg

1000	3
1000	4

PR332/P LSIRc

1000	3
1000	4

T7S 1000M F F

Icu = 50KA, Ics = 100%

Ordering Code	M.R.P.
1SDA062753R1	94,000
1SDA062761R1	1,10,000

1SDA062754R1	95,000
1SDA062762R1	1,12,000

1SDA062755R1	1,03,000
1SDA062763R1	1,20,000

1SDA062756R1	1,15,000
1SDA062764R1	1,31,000

1SDA062757R1	1,16,000
1SDA062765R1	1,28,000

1SDA062758R1	1,15,000
1SDA062766R1	1,32,000

1SDA062759R1	1,24,000
1SDA062767R1	1,42,000

1SDA063000R1	1,45,000
1SDA063007R1	1,69,000

T7H 1000M F F

Icu = 70KA, Ics = 100%

Ordering Code	M.R.P.
1SDA062785R1	1,23,000
1SDA062793R1	1,47,000

1SDA062786R1	1,24,000
1SDA062794R1	1,48,000

1SDA062787R1	1,32,000
1SDA062795R1	1,56,000

1SDA062788R1	1,44,000
1SDA062796R1	1,68,000

1SDA062789R1	1,39,000
1SDA062797R1	1,63,000

1SDA062790R1	1,44,000
1SDA062798R1	1,68,000

1SDA062791R1	1,53,000
1SDA062799R1	1,78,000

1SDA062792R1	1,48,000
1SDA062800R1	1,72,000

Note : For Motorizing T7 M frame, please order along with above code, motor operator, shunt opening coil & shunt closing coil of required voltage.

Tmax power distribution circuit-breakers

T7

T7 1250M

PR231/P I

In (A)	Poles	Ordering Code	M.R.P.	Ordering Code	M.R.P.
1250	3	1SDA062881R1	1,12,000	1SDA062913R1	1,52,000
1250	4	1SDA062889R1	1,43,000	1SDA062921R1	1,77,000

PR231/P LS/I

In (A)	Poles	Ordering Code	M.R.P.	Ordering Code	M.R.P.
1250	3	1SDA062882R1	1,21,000	1SDA062914R1	1,53,000
1250	4	1SDA062889R1	1,45,000	1SDA062922R1	1,85,000

PR232/P LSI

In (A)	Poles	Ordering Code	M.R.P.	Ordering Code	M.R.P.
1250	3	1SDA062883R1	1,29,000	1SDA062915R1	1,62,000
1250	4	1SDA062891R1	1,53,000	1SDA062923R1	1,93,000

PR331/P LSIg

In (A)	Poles	Ordering Code	M.R.P.	Ordering Code	M.R.P.
1250	3	1SDA062884R1	1,41,000	1SDA062916R1	1,74,000
1250	4	1SDA062892R1	1,64,000	1SDA062924R1	2,04,000

PR332/P LI

In (A)	Poles	Ordering Code	M.R.P.	Ordering Code	M.R.P.
1250	3	1SDA062885R1	1,36,000	1SDA062917R1	1,70,000
1250	4	1SDA062893R1	1,60,000	1SDA062925R1	2,00,000

PR332/P LSI

In (A)	Poles	Ordering Code	M.R.P.	Ordering Code	M.R.P.
1250	3	1SDA062886R1	1,41,000	1SDA062918R1	1,73,000
1250	4	1SDA062894R1	1,64,000	1SDA062926R1	2,05,000

PR332/P LSIg

In (A)	Poles	Ordering Code	M.R.P.	Ordering Code	M.R.P.
1250	3	1SDA062887R1	1,50,000	1SDA062919R1	1,83,000
1250	4	1SDA062895R1	1,74,000	1SDA062927R1	2,15,000

PR332/P LSIRc

In (A)	Poles	Ordering Code	M.R.P.	Ordering Code	M.R.P.
1250	3	1SDA062888R1	1,45,000	1SDA062920R1	1,77,000
1250	4	1SDA062896R1	1,68,000	1SDA062928R1	2,08,000

Note : For Motorizing T7 M frame, please order along with above code, motor operator, shunt opening coil & shunt closing coil of required voltage.

Tmax power distribution circuit-breakers

T7

T7 1600M

PR231/P I

In (A)	Poles	Ordering Code	M.R.P.	Ordering Code	M.R.P.
1600	3	1SDA063009R1	1,33,000	1SDA063041R1	1,70,000
1600	4	1SDA063017R1	1,60,000	1SDA063049R1	2,04,000

PR231/P LS/I

In (A)	Poles	Ordering Code	M.R.P.	Ordering Code	M.R.P.
1600	3	1SDA063010R1	1,34,000	1SDA063042R1	1,71,000
1600	4	1SDA063018R1	1,62,000	1SDA063050R1	2,05,000

PR232/P LSI

In (A)	Poles	Ordering Code	M.R.P.	Ordering Code	M.R.P.
1600	3	1SDA063011R1	1,43,000	1SDA063043R1	1,78,000
1600	4	1SDA063019R1	1,70,000	1SDA063051R1	2,14,000

PR331/P LSIg

In (A)	Poles	Ordering Code	M.R.P.	Ordering Code	M.R.P.
1600	3	1SDA063012R1	1,54,000	1SDA063044R1	1,90,000
1600	4	1SDA063020R1	1,82,000	1SDA063052R1	2,25,000

PR332/P LI

In (A)	Poles	Ordering Code	M.R.P.	Ordering Code	M.R.P.
1600	3	1SDA063013R1	1,50,000	1SDA063045R1	1,85,000
1600	4	1SDA063021R1	1,76,000	1SDA063053R1	2,22,000

PR332/P LSI

In (A)	Poles	Ordering Code	M.R.P.	Ordering Code	M.R.P.
1600	3	1SDA063014R1	1,55,000	1SDA063046R1	1,90,000
1600	4	1SDA063022R1	1,81,000	1SDA063054R1	2,26,000

PR332/P LSIg

In (A)	Poles	Ordering Code	M.R.P.	Ordering Code	M.R.P.
1600	3	1SDA063015R1	1,64,000	1SDA063047R1	2,00,000
1600	4	1SDA063023R1	1,91,000	1SDA063055R1	2,35,000

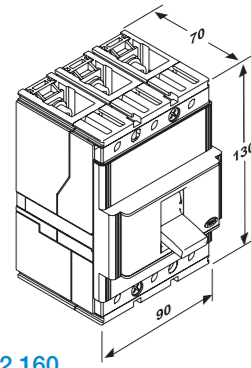
PR332/P LSIRc

In (A)	Poles	Ordering Code	M.R.P.	Ordering Code	M.R.P.
1600	3	1SDA063016R1	1,58,000	1SDA063048R1	1,95,000
1600	4	1SDA063024R1	1,85,000	1SDA063056R1	2,30,000

Note : For Motorizing T7 M frame, please order along with above code, motor operator, shunt opening coil & shunt closing coil of required voltage.

Tmax motor protection circuit breaker

T2



Breaking Capacity at 415VAC

	Icu	Ics
N	36KA	100%
S	50KA	100%
H	70KA	100%



T2 160

MF

In	Poles
1	3
1.6	3
2	3
2.5	3
3.2	3
4	3
5	3
6.5	3
8.5	3
11	3
12.5	3

T2N 160 F F

Icu = 36KA, Ics = 100%

Ordering Code	M.R.P.
1SDA053110R1	10,000
1SDA053111R1	10,000
1SDA053112R1	10,000
1SDA0531131R1	10,000
1SDA053114R1	10,000
1SDA053115R1	10,000
1SDA053116R1	10,000
1SDA053117R1	10,000
1SDA053118R1	10,000
1SDA053119R1	10,000
1SDA053120R1	10,000

T2S 160 F F

Icu = 50KA, Ics = 100%

Ordering Code	M.R.P.
1SDA053121R1	11,000
1SDA053122R1	11,000
1SDA053123R1	11,000
1SDA053124R1	11,000
1SDA053125R1	11,000
1SDA053126R1	11,000
1SDA053127R1	11,000
1SDA053128R1	11,000
1SDA053129R1	11,000
1SDA053130R1	11,000
1SDA053131R1	11,000

T2H 160 F F

Icu = 70KA, Ics = 100%

Ordering Code	M.R.P.
1SDA053132R1	12,000
1SDA053133R1	12,000
1SDA053134R1	12,000
1SDA053135R1	12,000
1SDA053136R1	12,000
1SDA053137R1	12,000
1SDA053138R1	12,000
1SDA053139R1	12,000
1SDA053140R1	12,000
1SDA053141R1	12,000
1SDA053142R1	12,000

MA

In	Poles
20	3
32	3
52	3
80	3
100	3

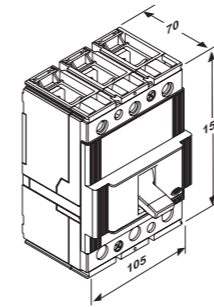
Ordering Code	M.R.P.
1SDA051207R1	10,000
1SDA051208R1	10,000
1SDA051209R1	10,000
1SDA051210R1	10,000
1SDA051211R1	10,000

Ordering Code	M.R.P.
1SDA051216R1	11,000
1SDA051217R1	11,000
1SDA051218R1	11,000
1SDA051219R1	11,000
1SDA051220R1	11,000

Ordering Code	M.R.P.
1SDA051224R1	12,000
1SDA051225R1	12,000
1SDA051226R1	12,000
1SDA051226R1	12,000
1SDA051228R1	12,000

Tmax motor protection circuit breaker

T3



Breaking Capacity at 415VAC

	Icu	Ics
N	36KA	75%
S	50KA	50%



T3 250

MA

In (A)	Poles
100	3
125	3
160	3
200	3

T3N 250 F F

Icu = 36KA, Ics = 75%

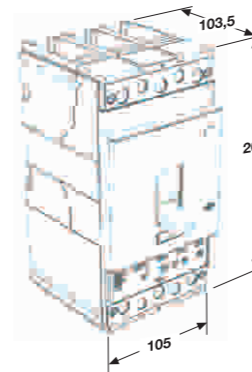
Ordering Code	M.R.P.
1SDA051315R1	12,200
1SDA051316R1	12,500
1SDA051317R1	13,000
1SDA051318R1	14,000

T3S 250 F F

Icu = 50KA, Ics = 50%

Ordering Code	M.R.P.
1SDA051320R1	12,700
1SDA051321R1	13,000
1SDA051322R1	13,500
1SDA051323R1	14,500

T4



Breaking Capacity at 415VAC

	Icu	Ics
N	36KA	100%
S	50KA	100%



T4 250

MA

In	Poles
10	3
25	3
52	3
80	3
100	3
125	3
160	3
200	3

T4N 250 F F

Icu = 36KA, Ics = 100%

Ordering Code	M.R.P.
1SDA055068R1	20,000
1SDA055069R1	20,000
1SDA055070R1	20,000
1SDA054296R1	20,000
1SDA054297R1	20,000
1SDA054298R1	20,000
1SDA054299R1	20,000
1SDA054300R1	20,000

T4S 250 F F

Icu = 50KA, Ics = 100%

Ordering Code	M.R.P.
1SDA055071R1	22,000
1SDA055072R1	22,000
1SDA055073R1	22,000
1SDA054302R1	22,000
1SDA054303R1	22,000
1SDA054304R1	22,000
1SDA054305R1	22,000
1SDA054306R1	22,000

PR222MP

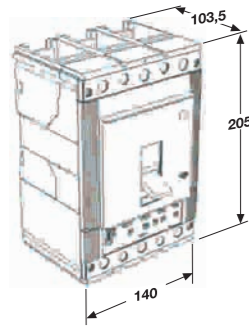
In	Poles
100	3
160	3
200	3

Ordering Code	M.R.P.
1SDA054522R1	32,000
1SDA054523R1	33,000
1SDA054524R1	34,000

Ordering Code	M.R.P.
1SDA054525R1	42,000
1SDA054526R1	43,000
1SDA054527R1	44,000

Tmax motor protection circuit breaker

T5



Breaking Capacity at 415VAC

	Icu	Ics
N	36KA	100%
S	50KA	100%



T3 250

PR222MP

In	Poles
320	3
400	3

T5N 400 F F

Icu = 36KA, Ics = 100%

Ordering Code	M.R.P.
1SDA054551R1	40,000
1SDA054552R1	40,000

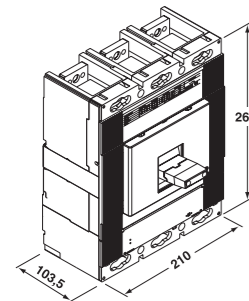
T5S 400 F F

Icu = 50KA, Ics = 100%

Ordering Code	M.R.P.
1SDA054553R1	44,000
1SDA054554R1	44,000

Tmax motor protection circuit breaker

T6



Breaking Capacity at 415VAC

	Icu	Ics
N	36KA	100%
S	50KA	100%
H	70KA	100%



T6 800

PR222MP

In	Poles
630	3

T6N 800 F F

Icu = 36KA, Ics = 100%

Ordering Code	M.R.P.
1SDA060311R1	56,000

T6S 800 F F

Icu = 50KA, Ics = 100%

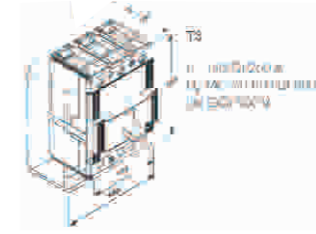
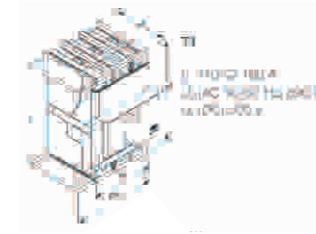
Ordering Code	M.R.P.
1SDA060312R1	62,000

T6H 800 F F

Icu = 50KA, Ics = 100%

Ordering Code	M.R.P.
1SDA060313R1	72,000

Tmax switch disconnecter



T1D - Fixed (F) Iu (40°C), Icw (1s) = 2,2 kA

T1D 160 F FC Cu

Poles	Ordering Code	M.R.P.
3	1SDA051325R1	5,500
4	1SDA051326R1	8,000

T3D - Fixed (F) Iu (40°C), Icw (1s) = 3.6 kA

T3D 250 F F

Poles	Ordering Code	M.R.P.
3	1SDA051327R1	13,500
4	1SDA051328R1	16,000

T4D- Fixed (F) Iu (40°C) ,Icw (1s) = 3,6 kA

T4D 250 F F

Poles	Ordering Code	M.R.P.
3	1SDA057172R1	15,000
4	1SDA057173R1	20,000

T4D 320 F F

Ordering Code	M.R.P.
1SDA054597R1	17,000
1SDA054598R1	22,000

T5D Fixed (F) Iu (40°C), Icw (1s) = 6 kA

T5D 400 F F

Poles	Ordering Code	M.R.P.
3	1SDA054599R1	18,000
4	1SDA054600R1	23,000

T5D 630 F F

Ordering Code	M.R.P.
1SDA054601R1	22,000
1SDA054602R1	28,000

T6D - Fixed (F) Iu (40°C) ,Icw (1s) = 15 kA

T6D 630 F F

Poles	Ordering Code	M.R.P.
3	1SDA060343R1	25,000
4	1SDA060344R1	30,000

T6D 800 F F

Ordering Code	M.R.P.
1SDA060345R1	27,500
1SDA060346R1	45,000

T6D 1000 F F

Ordering Code	M.R.P.
1SDA060594R1	48,000
1SDA060595R1	60,000

T7D- Fixed (F) Iu (40°C), Icw (1s) = 25 kA

T7D 1000 F F

Poles	Ordering Code	M.R.P.
3	1SDA062032R1	55,000
4	1SDA062033R1	70,000

T7D 1250 F F

Ordering Code	M.R.P.
1SDA062036R1	75,000
1SDA062037R1	92,000

T7D 1600 F F

Ordering Code	M.R.P.
1SDA062040R1	78,000
1SDA062041R1	96,000

T7D M - Fixed (F) Iu (40°C), Icw (1s) = 25 kA

T7D 1000 M F F

Poles	Ordering Code	M.R.P.
3	1SDA062034R1	68,000
4	1SDA062035R1	86,000

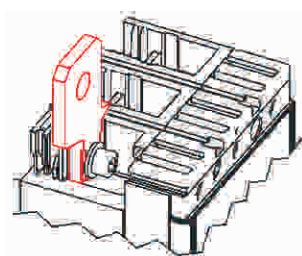
T7D 1250 M F F

Ordering Code	M.R.P.
1SDA062038R1	78,000
1SDA062039R1	96,000

T7D 1600 M F F

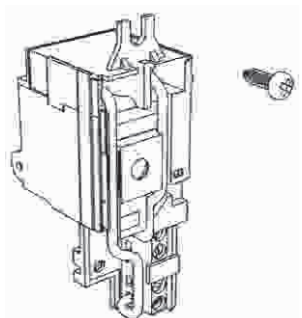
Ordering Code	M.R.P.
1SDA062042R1	86,000
1SDA062043R1	1,07,000

Accessories for T-Max MCCBs



Description	Ordering code	M.R.P.
Extended Spreaded terminals - ES		
Kit EST1 6pcs	1SYN450201R0001	600
Kit EST1 8pcs	1SYN450207R0001	700
Kit EST2 6pcs	1SYN450202R0001	950
Kit EST2 8pcs	1SYN450208R0001	1,150
Kit EST3 6pcs	1SYN450203R0001	1,100
Kit EST3 8pcs	1SYN450209R0001	1,300
Kit EST4 6pcs	1SYN450204R0001	1,300
Kit EST4 8pcs	1SYN450210R0001	1,600
Kit EST5 6pcs (for 400A)	1SYN450205R0001	1,750
Kit EST5 8pcs (for 400A)	1SYN450211R0001	2,300
Kit EST5 6pcs (for 630A)	1SYN450206R0001	1,750
Kit EST5 8pcs (for 630A)	1SYN450212R0001	2,300

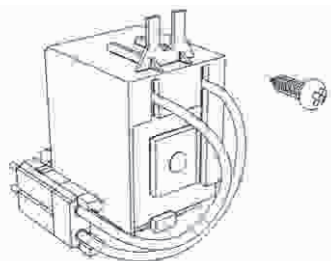
Opening Release



Shunt Opening Release - SOR		
Description	Ordering code	M.R.P.
SOR 12V DC T1-T2-T3	1SDA053000R1	1,500
SOR 24...30V AC/DC T1-T2-T3	1SDA051333R1	1,500
SOR 48...60V AC/DC T1-T2-T3	1SDA051334R1	1,500
SOR 110...127V AC-110...125V DC T1-T2-T3	1SDA051335R1	1,500
SOR 220...240V AC-220...250V DC T1-T2-T3	1SDA051336R1	1,500
SOR 380...440V AC T1-T2-T3	1SDA051337R1	1,500
SOR 480...525V AC T1-T2-T3	1SDA051338R1	2,300
SOR 12V DC T4-T5-T6	1SDA054862R1	2,300
SOR 24V AC/DC T4-T5-T6	1SDA054863R1	2,300
SOR 48...60V AC/DC T4-T5-T6	1SDA054864R1	2,300
SOR 110...120V AC-110...125V DC T4-T5-T6	1SDA054865R1	2,300
SOR 220...240V AC-220...250V DC T4-T5-T6	1SDA054866R1	2,300
SOR 380...440V AC T4-T5-T6	1SDA054867R1	2,300
SOR 480...500V AC T4-T5-T6	1SDA054868R1	2,300
SOR 24V AC/DC T7-T7M-X1	1SDA062065R1	4,600
SOR 30V AC/DC T7-T7M-X1	1SDA062066R1	4,600
SOR 48V AC/DC T7-T7M-X1	1SDA062067R1	4,600
SOR 60V AC/DC T7-T7M-X1	1SDA062068R1	4,600
SOR 110...120V AC/DC T7-T7M-X1	1SDA062069R1	4,600
SOR 120...127V AC/DC T7-T7M-X1	1SDA063547R1	4,600
SOR 220...240V AC/DC T7-T7M-X1	1SDA063548R1	4,600
SOR 240...250V AC/DC T7-T7M-X1	1SDA062070R1	4,600
SOR 380...400V AC T7-T7M-X1	1SDA062071R1	4,600
SOR 415...440V AC T7-T7M-X1	1SDA062072R1	4,600

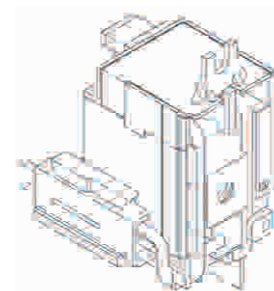
Note: For T7 TM in Withdrawable Version Sliding Contact Blocks for Fixed and Mobile Part are Necessary

Shunt Opening Release C - SOR - C



Description	Ordering code	M.R.P.
SOR-C 12V DC T1-T2-T3	1SDA053001R1	2,300
SOR-C 24...30V AC/DC T1-T2-T3	1SDA051339R1	2,300
SOR-C 48...60V AC/DC T1-T2-T3	1SDA051340R1	2,300
SOR-C 110...127V AC-110...125V DC T1-T2-T3	1SDA051341R1	2,300
SOR-C 220...240V AC-220...250V DC T1-T2-T3	1SDA051342R1	2,300
SOR-C 380...440V AC T1-T2-T3	1SDA051343R1	2,300
SOR-C 480...525V AC T1-T2-T3	1SDA051344R1	2,600
SOR-C 12V DC T4-T5-T6	1SDA054869R1	3,800
SOR-C 24V AC/DC T4-T5-T6	1SDA054870R1	3,800
SOR-C 48...60V AC/DC T4-T5-T6	1SDA054871R1	3,800
SOR-C 110...120V AC-110...125V DC T4-T5-T6	1SDA054872R1	3,800
SOR-C 220...240V AC-220...250V DC T4-T5-T6	1SDA054873R1	3,800
SOR-C 380...440V AC T4-T5-T6	1SDA054874R1	3,800
SOR-C 480...500V AC T4-T5-T6	1SDA054875R1	3,800

Opening Release



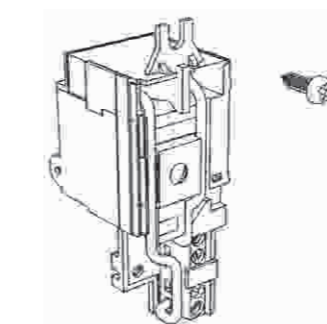
Shunt Opening Release - PS-SOR		
Description	Ordering code	M.R.P.
PS-SOR 24V AC/DC T4-T5-T6	1SDA054876R1	3,300
PS-SOR 110...120V AC T4-T5-T6	1SDA054877R1	3,300

Shunt Opening Release - PS-SOR-C

Description	Ordering code	M.R.P.
PS-SOR-C 24V AC/DC T4-T5-T6	1SDA054878R1	4,400
PS-SOR-C 110...120V AC T4-T5-T6	1SDA054879R1	4,400

Test unit- SOR

Description	Ordering code	M.R.P.
SOR test unit T7-T7M-X1-E1/6	1SDA050228R1	20,400

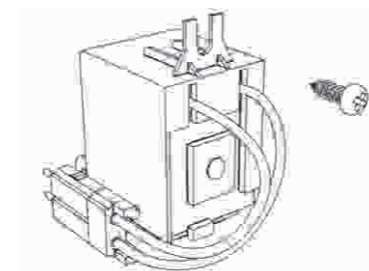


Under Voltage Release - UVR

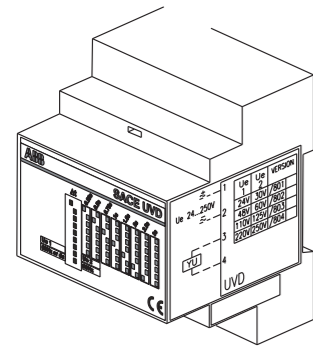
Description	Ordering code	M.R.P.
UVR 24...30V AC/DC T1-T2-T3	1SDA051345R1	3,000
UVR 48V AC/DC T1-T2-T3	1SDA051346R1	3,000
UVR 60V AC/DC T1-T2-T3	1SDA052333R1	3,000
UVR 110...127V AC-110...125V DC T1-T2-T3	1SDA051347R1	3,000
UVR 220...240V AC-220...250V DC T1-T2-T3	1SDA051348R1	3,000
UVR 380...440V AC T1-T2-T3	1SDA051349R1	3,000
UVR 480...500V AC T1-T2-T3	1SDA051350R1	3,000
UVR 24V AC/DC T4-T5-T6	1SDA054880R1	5,000
UVR 48V AC/DC T4-T5-T6	1SDA054881R1	5,000
UVR 60V AC/DC T4-T5-T6	1SDA054882R1	5,000
UVR 110...120V AC-110...125V DC T4-T5-T6	1SDA054883R1	5,000
UVR 220...240V AC-220...250V DC T4-T5-T6	1SDA054884R1	5,000
UVR 380...440V AC T4-T5-T6	1SDA054885R1	5,000
UVR 480...500V AC T4-T5-T6	1SDA054886R1	5,000
UVR 24V AC/DC T7-T7M-X1	1SDA062087R1	6,000
UVR 30V AC/DC T7-T7M-X1	1SDA062088R1	6,000
UVR 48V AC/DC T7-T7M-X1	1SDA062089R1	6,000
UVR 60V AC/DC T7-T7M-X1	1SDA062090R1	6,000
UVR 110...120V AC/DC T7-T7M-X1	1SDA062091R1	6,000
UVR 120...127V AC/DC T7-T7M-X1	1SDA063551R1	6,000
UVR 220...240V AC/DC T7-T7M-X1	1SDA063552R1	6,000
UVR 240...250V AC/DC T7-T7M-X1	1SDA062092R1	6,000
UVR 380...400V AC T7-T7M-X1	1SDA062093R1	6,000
UVR 415...440V AC T7-T7M-X1	1SDA062094R1	6,000

Note: For T7 TM in Withdrawable Version Sliding Contact Blocks for Fixed and Mobile Part are Necessary

Under Voltage Release C - UVR - C



Description	Ordering code	M.R.P.
UVR-C 24...30 V AC/DC T1-T2-T3	1SDA051351R1	6,000
UVR-C 48V AC/DC T1-T2-T3	1SDA051352R1	6,000
UVR-C 110...127V AC-110...125VDC T1-T2-T3	1SDA051353R1	6,000
UVR-C 220...240V AC-220...250VDC T1-T2-T3	1SDA051354R1	6,000
UVR-C 380...440V AC T1-T2-T3	1SDA051355R1	6,000
UVR-C 480...500V AC T1-T2-T3	1SDA051356R1	6,000
UVR-C 60V AC/DC T1-T2-T3	1SDA052335R1	6,000
UVR-C 24V AC/DC T4-T5-T6	1SDA054887R1	6,500
UVR-C 48V AC/DC T4-T5-T6	1SDA054888R1	6,500
UVR-C 60V AC/DC T4-T5-T6	1SDA054889R1	6,500
UVR-C 110...120V AC-110...125V DC T4-T5-T6	1SDA054890R1	6,500
UVR-C 220...240V AC-220...250V DC T4-T5-T6	1SDA054891R1	6,500
UVR-C 380...440V AC T4-T5-T6	1SDA054892R1	6,500
UVR-C 480...500V AC T4-T5-T6	1SDA054893R1	6,500



Time Delay Device for Under Voltage Release- UVD

Description	Ordering code	M.R.P.
UVD 24...30V AC/DC T1...T6	1SDA051357R1	30,000
UVD 48...60V AC/DC T1...T6	1SDA051358R1	30,000
UVD 110...125V AC/DC T1...T6	1SDA051360R1	30,000
UVD 220...250V AC/DC T1...T6	1SDA051361R1	30,000
UVD 24/30V AC/DC E1/6 - T7-T7M-X1	1SDA038316R1	32,000
UVD 48V AC/DC E1/6 - T7-T7M-X1	1SDA038317R1	32,000
UVD 60V AC/DC E1/6 - T7-T7M-X1	1SDA038318R1	32,000
UVD 110...125V AC/DC E1/6 - T7-T7M-X1	1SDA038319R1	32,000
UVD 220...250V AC/DC E1/6 - T7-T7M-X1	1SDA038320R1	32,000

Note: To Request with Relative Under Voltage Release

Shunt Closing Release

Description	Ordering code	M.R.P.
SCR 24V AC/DC T7M-X1	1SDA062076R1	6,000
SCR 30V AC/DC T7M-X1	1SDA062077R1	6,000
SCR 48V AC/DC T7M-X1	1SDA062078R1	6,000
SCR 60V AC/DC T7M-X1	1SDA062079R1	6,000
SCR 110...120V AC/DC T7M-X1	1SDA062080R1	6,000
SCR 120...127V AC/DC T7M-X1	1SDA063549R1	6,000
SCR 220...240V AC/DC T7M-X1	1SDA063550R1	6,000
SCR 240...250V AC/DC T7M-X1	1SDA062081R1	6,000
SCR 380...400V AC T7M-X1	1SDA062082R1	6,000
SCR 415...440V AC T7M-X1	1SDA062083R1	6,000

Note: For T7 TM in Withdrawable Version Sliding Contact Blocks for Fixed and Mobile Part are Necessary

Electrical Signals

Auxiliary Contact - AUX

Description	Ordering code	M.R.P.
AUX 1Q 1SY 250V AC/DC T1...T6 (1)	1SDA051368R1	1,100
AUX 3Q 1SY 250V AC/DC T1...T6 (1)	1SDA051369R1	1,800
AUX 3Q 1SY 24V DC T1...T6 (1)	1SDA054914R1	1,800
AUX-SA 1 S51 T4-T5	1SDA055050R1	1,100
AUX 2Q 24V DC T7M-X1	1SDA062101R1	1,200
AUX 2Q 400V AC T7M-X1	1SDA062102R1	1,200
AUX 1Q + 1SY 24V DC T7	1SDA062103R1	1,800
AUX 1Q + 1SY 400V AC T7	1SDA062104R1	1,800

Note (1): Cannot be used with T2 MCCB fitted with PR221DS trip unit

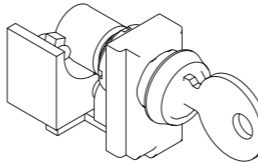
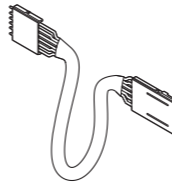
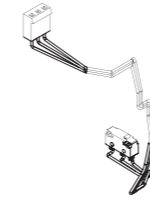
Note: For T7 TM in Withdrawable Version Sliding Contact Blocks for Fixed and Mobile Part are Necessary

Auxiliary Contact Cabled-Version - AUX - C

Description	Ordering code	M.R.P.
AUX-C 1Q 1SY 250 V AC/DC T1-T2-T3 (1)	1SDA051370R1	1,700
AUX-C 3Q 1SY 250 V AC/DC T1-T2-T3 (1)	1SDA051371R1	3,000
AUX-C 3Q 1SY T1-T2-T3 (1)	1SDA055361R1	2,500
AUX-C 1Q 1SY 1S51 - PR221 T2	1SDA053704R1	2,000
AUX-C 2Q 1SY - PR221 T2	1SDA055504R1	4,100
AUX-C 1Q 1SY 250V AC/DC C T4-T5-T6	1SDA054910R1	1,700
AUX-C 1Q 1SY 400V AC C T4-T5-T6	1SDA054912R1	2,400
AUX-C 2Q 400V AC C T4-T5-T6	1SDA054913R1	2,700
AUX-C 3Q 1SY 24VDC C T4-T5-T6	1SDA054915R1	2,500
AUX-C 3Q 1SY 250V AC/DC C T4-T5-T6	1SDA054911R1	3,000

Cabled Contact in Electronic Version

Description	Ordering code	M.R.P.
AUX-E-C 1Q 1SY T4-T5	1SDA054916R1	4,300
AUX-E-C 1Q 1SY T6	1SDA064161R1	5,000



Contact for Auxiliy Contact

Description	Ordering code	M.R.P.
Socket plugs 12Pin T1...T5	1SDA051362R1	3,000
Socket plugs 6Pin T1...T5	1SDA051363R1	1,500

Adapter

Description	Ordering code	M.R.P.
ADP - Adapter 6pin T4-T5-T6	1SDA054922R1	1,200
ADP - Adapter 12pin T4-T5-T6	1SDA054923R1	2,000
ADP - Adapter 10pin T4-T5-T6	1SDA054924R1	1,600
ADP - Adapter 5pin T4-T5-T6	1SDA055173R1	1,600

Key lock

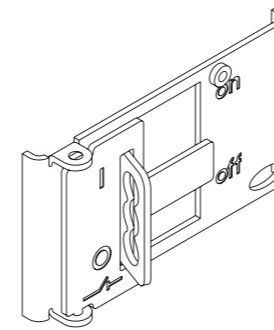
Key Lock - KLC

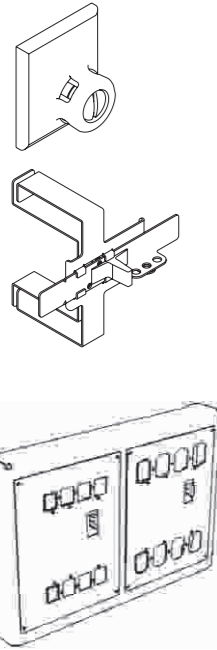
Description	Ordering code	M.R.P.
KLC for Manual Breaker		
KLC Ronis Same Key T1	1SDA051395R1	1,500
KLC Ronis Same Key T2	1SDA052015R1	1,500
KLC Ronis Same Key T3	1SDA052016R1	1,500
KLC Same Key T1	1SDA053528R1	1,500
KLC Same Key T2	1SDA053529R1	1,500
KLC Same Key T3	1SDA053530R1	1,500
KLC-D Key Lock - Different Key in Open Position T7	1SDA062134R1	2,200
KLC-S Same Key for Different Groups of Circuit Breakers (N. 20005) T7	1SDA062135R1	2,200
KLC-S Same Key for Different Groups of Circuit Breakers (N. 20006) T7	1SDA062136R1	2,200
KLC-S Same Key for Different Groups of Circuit Breakers (N. 20007) T7	1SDA062137R1	2,200
KLC-S Same Key for Different Groups of Circuit Breakers (N. 20008) T7	1SDA062138R1	2,200
KLC Arrangement for Ronis Key Lock T7	1SDA062139R1	2,600
KLC Arrangement for Profalux Key Lock T7	1SDA062140R1	2,600
KLC for Circuit Breaker with Motor Operator		
KLC-D Different Key in open Position T7M	1SDA062141R1	2,400
KLC-S Same Key for Different Groups of Circuit Breakers (N. 20005) T7M	1SDA062142R1	2,400
KLC-S Same Key for Different Groups of Circuit Breakers (N. 20006) T7M	1SDA062143R1	2,400
KLC-S Same Key for Different Groups of Circuit Breakers (N. 20007) T7M	1SDA062144R1	2,400
KLC-S Same Key for Different Groups of Circuit Breakers (N. 20008) T7M	1SDA062145R1	2,400
KLC Same Key Ronis-Profalux T7M	1SDA062146R1	2,400

Padlock Lever Lock - PLL

Description	Ordering code	M.R.P.
PLL Plug in Open Position T1	1P1SDA060199R1	800
PLL Plug in Open Position T1-T2-T3 - Plug-in	1SDA051393R1	800
PLL Plug in Open Position T1-T2-T3 - Fixed	1SDA060534R1	2,800
PLL Plate in Open / Closed Position T1-T2-T3	1SDA051394R1	1,500
PLL Padlock for Fixed Part T4-T5-T6	1SDA055232R1	2,800
PLL Padlock in Open Position T7	1SDA062150R1	2,400
PLL Padlock in Open Position T7M	1SDA062151R1	2,400

Note: On T7 the Padlock is an Altrnative to the Key Lock





Mechanical Interlock Between Circuit Breakers - MIF			
Description	Ordering code	M.R.P.	
MIF Mechanical Interlock Between 2 Breakers T1-T2-T3	1SDA051396R1	3,800	
MIF Mechanical Interlock Between 3 Breakers T1-T2-T3	1SDA052165R1	6,850	

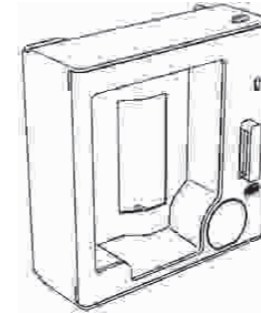
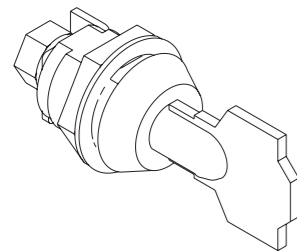
Note: Non Abbinabile Agli Accessorieses fron talli (Trip Unit, Rotary Handle)

Mechanical Interlock Between Circuit Breakers - MIR - to be used with copper spreaders only			
Description	Ordering code	M.R.P.	
MIR-H Horizontal Mechanical Interlock T3	1SDA063324R1	6,300	
MIR-V Vertical Mechanical Interlock T3	1SDA063325R1	6,300	
MIR-HB Horizontal Interlock Frame Unit T4-T5	1SDA054946R1	7,500	
MIR-VB Vertical Interlock Frame Unit T4-T5	1SDA054947R1	7,500	
MIR-P Plate for Interlock Type A T4 (F-P-W) + T4 (F-P-W)	1SDA054948R1	4,200	
MIR-P Plate for Interlock Type B T4 (F-P-W) + T5 400 (F-P-W) o T5 630 (F)	1SDA054949R1	4,200	
MIR-P Plate for Interlock Type C T4 (F-P-W) + T5 630 (P-W)	1SDA054950R1	4,200	
MIR-P Plate for Interlock Type D T5 400 (F-P-W) o T5 630 (F)+T5 400 (F-P-W) o T5 630 (F)	1SDA054951R1	4,200	
MIR-P Plate for Interlock Type E T5 400 (F-P-W) o T5 630 (F) + T5 630 (P-W)	1SDA054952R1	4,200	
MIR-P Plate for Interlock Type F T5 630 (P-W) + T5 630 (P-W)	1SDA054953R1	4,200	
MIR-H Horizontal Mechanical Interlock T6	1SDA060685R1	13,500	
MIR-V Vertical Mechanical Interlock T6	1SDA060686R1	13,500	

Mechanical Interlock with Cables Between 2 Circuit Breakers			
Description	Ordering code	M.R.P.	
Cable Kit for InterlockT7-T7M-X1	1SDA062127R1	5,600	
Cable Kit for InterlockT7-T7M-X1 con E1-6	1SDA064568R1	5,700	
Plate for Interlock T7-T7M-X1 Fixed	1SDA062129R1	22,400	
Plate for Interlock T7-T7M-X1 With drawble	1SDA062131R1	22,400	

Note: It is Necessary to Order 2 Plate and one Kit of Cables

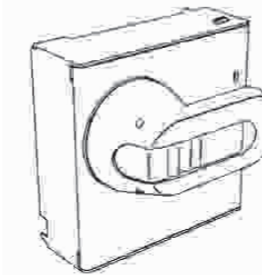
Key Lock for Front / Rotary / Fixed Part- KLF			
Description	Ordering code	M.R.P.	
KLF-D Lock for Front / Rotary Handle - Different Key in open PositionT4-T5	1SDA054939R1	2,400	
KLF-S Block for Front / Rotary Handle - Same Key (N. 20005) T4-T5	1SDA054940R1	2,400	
KLF-S Block for Front / Rotary Handle - Same Key (N. 20006) T4-T5	1SDA054941R1	2,400	
KLF-S Block for Front / Rotary Handle - Same Key (N. 20007) T4-T5	1SDA054942R1	2,400	
KLF-S Block for Front / Rotary Handle - Same Key (N. 20008) T4-T5	1SDA054943R1	2,400	
KLF-D FP Different Key for Each Circuit Breaker T4-T5-T6	1SDA055230R1	2,400	
KLF-D FP Same Key for Different Groups of Circuit Breaker T4-T5-T6	1SDA055231R1	2,400	
KLF-D Ronis Fixed Part- Lock Type Ronis T4-T5-T6	1SDA055233R1	2,400	
KLF-D Different Key in open Position T6	1SDA060658R1	2,400	
KLF-S Same Key for Different Groups of Circuit Breakers (N. 20005) T6	1SDA060659R1	2,400	
KLF-S Same Key for Different Groups of Circuit Breakers (N. 20006) T6	1SDA060660R1	2,400	
KLF-S Same Key for Different Groups of Circuit Breakers (N. 20007) T6	1SDA060661R1	2,400	
KLF-S Same Key for Different Groups of Circuit Breakers (N. 20008) T6	1SDA060662R1	2,400	
KLF-D Different Key in open Position T7	1SDA063555R1	2,400	
KLF-S Same Key for Different Groups of Circuit Breakers (N. 20005) T7	1SDA063556R1	2,400	
KLF-S Same Key for Different Groups of Circuit Breakers (N. 20006) T7	1SDA063557R1	2,400	
KLF-S Same Key for Different Groups of Circuit Breakers (N. 20007) T7	1SDA063558R1	2,400	
KLF-S Same Key for Different Groups of Circuit Breakers (N. 20008) T7	1SDA063559R1	2,400	
KLF Arrangement for ronis key lock T7	1SDA063560R1	2,400	
KLF Arrangement for profalux key lock T7	1SDA063561R1	2,400	



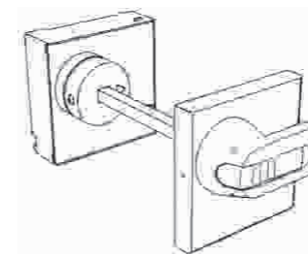
Key Lock in Racked-in/Test Isolated/Racked/Position			
Description	Ordering code	M.R.P.	
KLF-D-FP Different Key (Racked-in/Test Isolated/Racked/Position) T7-T7M-X1	1SDA062153R1	2,400	
KLF-S-FP Same Key (Racked-in/Test Isolated/Racked/Position) 20005 T7-T7M-X1	1SDA062154R1	2,400	
KLF-S-FP Same Key (Racked-in/Test Isolated/Racked/Position) 20006 T7-T7M-X1	1SDA062155R1	2,400	
KLF-S-FP Same Key (Racked-in/Test Isolated/Racked/Position) 20007 T7-T7M-X1	1SDA062156R1	2,400	
KLF-S-FP Same Key (Racked-in/Test Isolated/Racked/Position) 20008 T7-T7M-X1	1SDA062157R1	2,400	
KLF-S-FP Arrangment for RONIS Key Lock (Racked-in/Test Isolated/Racked/Position) T7-T7MX1	1SDA063567R1	2,200	
KLF-FP Arrangment for CASTLE Key Lock (Racked-in/Test Isolated/Racked/Position) T7-T7MX1	1SDA063568R1	2,200	
KLF-FP Arrangment for KIRK Lock (Racked-in/Test Isolated/Racked/Position) T7-T7M-X1	1SDA063569R1	2,200	
KLF-FP Arrangment for PROFALUX Key Lock (Racked-in/Test Isolated/Racked/Position) T7-T7M-X1	1SDA063570R1	2,200	

Rotary handle operating mechanism

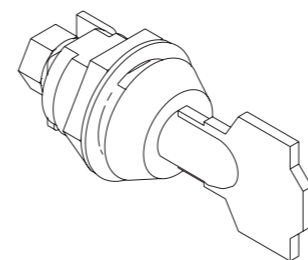
Direct - RHD			
Description	Ordering code	M.R.P.	
RHD Normal T1-T2-T3	1SDA051381R1	1,200	
RHD_EM Emergency T1-T2-T3	1SDA051382R1	1,500	
RHD Normal for Fixed/Plug-in T4-T5	1SDA054926R1	2,400	
RHD_EM Emergency for Fixed/Plug-in T4-T5	1SDA054927R1	2,200	
RHD Normal for Withdrawable T4-T5	1SDA054928R1	2,200	
RHD_EM Emergency for Withdrawable T4-T5	1SDA055234R1	2,200	
RHD Normal for Fixed T6	1SDA060405R1	3,500	
RHD Normal for Withdrawable T6	1SDA060407R1	4,400	
RHD_EM Emergency for Fixed T6	1SDA060406R1	4,400	
RHD_EM Emergency for Withdrawable T6	1SDA060408R1	4,400	
RHD Normal for Fixed/Plug-in T7	1SDA062120R1	4,700	
RHD_EM Emergency for Fixed/Withdrawable T7	1SDA062121R1	4,400	



Transmitted - RHE			
Description	Ordering code	M.R.P.	
RHE_S T1-T2-T3 250MM	1SDA070207R1	1,300	
RHE_EM Emergency T1-T2-T3	1SDA051384R1	2,600	
RHE Normal for Fixed/Plug-in T4-T5	1SDA054929R1	2,300	
RHE_EM Emergency for Fixed/Plug-in T4-T5	1SDA054930R1	4,700	
RHE Normal for Withdrawable T4-T5	1SDA054933R1	4,300	
RHE_EM Emergency for Withdrawable T4-T5	1SDA054934R1	4,300	
RHE Normal for Fixed T6	1SDA060409R1	4,700	
RHE Normal for Withdrawable T6	1SDA060411R1	5,500	
RHE_EM Emergency for Fixed T6	1SDA060410R1	5,500	
RHE_EM Emergency for Withdrawable T6	1SDA060412R1	5,500	
RHE Normal for Fixed/Plug-in T7	1SDA062122R1	5,700	
RHE_EM Emergency for Fixed/Withdrawable T7	1SDA062123R1	6,800	



Key Lock for Rotary Handle - RHL			
Description	Ordering code	M.R.P.	
RHL Different keys in open position for rotary handleT1-T2-T3	1SDA051389R1	800	
RHL Same Keys in open position for rotary handleT1-T2-T3	1SDA051390R1	800	
RHL Different keys in open /closed position for rotary handle T1-T2-T3	1SDA052021R1	800	
RHL Same Keys in open position for rotary handleT1-T2-T3	1SDA060147R1	800	
RHL Same Keys in open position for rotary handleT1-T2-T3	1SDA060148R1	800	
RHL Same Keys in open position for rotary handleT1-T2-T3	1SDA060149R1	800	



Motor Operated

Solenoid Operator - MOS

Description	Ordering code	M.R.P.
MOS Superimposed 48...60V DC T1-T2-T3	1SDA059596R1	15,700
MOS Superimposed 110...250V AC-110...250V DC T1-T2-T3	1SDA059597R1	15,700
MOS Side-by-side 48...60V DC T1-T2	1SDA059598R1	18,700
MOS Side-by-side 110...250V AC-110...250V DC T1-T2	1SDA059599R1	18,700

Note: It is always Fitted with Socket - Plug Connector

Stored Energy Motor Operator - MOE

Description	Ordering code	M.R.P.
MOE 24 V DC T4-T5	1SDA054894R1	26,000
MOE 48...60 V DC T4-T5	1SDA054895R1	26,000
MOE 110...125 V AC / DC T4-T5	1SDA054896R1	26,000
MOE 220...250 V AC / DC T4-T5	1SDA054897R1	26,000
MOE 380 V AC T4-T5	1SDA054898R1	26,000
MOE 24 V DC T6	1SDA060395R1	29,500
MOE 48...60 V DC T6	1SDA060396R1	29,500
MOE 110...125 V AC/DC T6	1SDA060397R1	29,500
MOE 220...250 V AC/DC T6	1SDA060398R1	29,500
MOE 380 V AC T6	1SDA060399R1	29,500

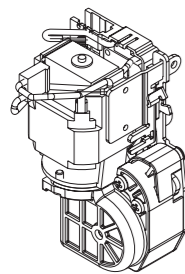
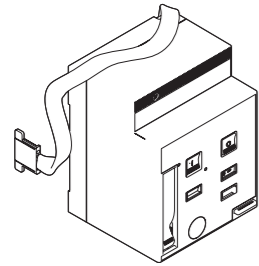
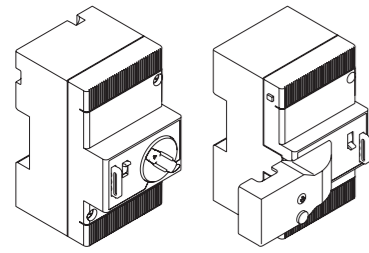
Stored Energy Motor Operator with Electronics - MOE-E

Description	Ordering code	M.R.P.
MOE-E 24 V DC T4-T5	1SDA054899R1	41,000
MOE-E 48...60 V DC T4-T5	1SDA054900R1	41,000
MOE-E 110...125 V AC / DC T4-T5	1SDA054901R1	41,000
MOE-E 220...250 V AC / DC T4-T5	1SDA054902R1	41,000
MOE-E 380 V AC T4-T5	1SDA054903R1	41,000
MOE-E 24 V DC T6	1SDA060400R1	47,500
MOE-E 48...60 V DC T6	1SDA060401R1	47,500
MOE-E 110...125 V AC/DC T6	1SDA060402R1	47,500
MOE-E 220...250 V AC/DC T6	1SDA060403R1	47,500
MOE-E 380 V AC T6	1SDA060404R1	47,500

Spring Charging Motor- M

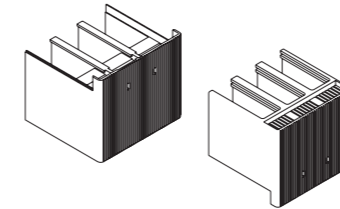
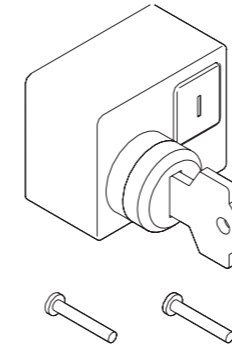
Description	Ordering code	M.R.P.
M 24...30V AC/DC T7M-X1	1SDA062113R1	32,500
M 48...60V AC/DC T7M-X1	1SDA062114R1	32,500
M 100...130V AC/DC T7M-X1	1SDA062115R1	32,500
M 220...250V AC/DC T7M-X1	1SDA062116R1	32,500
M 380...415V AC T7M-X1	1SDA062117R1	32,500

Note: For T7 - T7M in Withdrable Version Sliding Contact Blocks for and Mobile Part are Necessary



Key Lock for Motor Operated- MOL

Description	Ordering code	M.R.P.
MOL-D - Same Key T4-T5	1SDA054904R1	2,400
MOL-S - Same Key for Different Groups of Circuit Breakers (N. 20005) T4-T5	1SDA054905R1	2,400
MOL-S - Same Key for Different Groups of Circuit Breakers (N. 20006) T4-T5	1SDA054906R1	2,400
MOL-S - Same Key for Different Groups of Circuit Breakers (N. 20007) T4-T5	1SDA054907R1	2,400
MOL-S - Same Key for Different Groups of Circuit Breakers (N. 20008) T4-T5	1SDA054908R1	2,400
MOL-M - Lock only on manual operation - Same Key T4-T5-T6	1SDA054909R1	2,400
MOL-D - Different key T6	1SDA060611R1	2,400
MOL-S - Same Key for Different Groups of Circuit Breakers (N. 20005) T6	1SDA060612R1	2,400
MOL-S - Same Key for Different Groups of Circuit Breakers (N. 20006) T6	1SDA060613R1	2,400
MOL-S - Same Key for Different Groups of Circuit Breakers (N. 20007) T6	1SDA060614R1	2,400
MOL-S - Same Key for Different Groups of Circuit Breakers (N. 20008) T6	1SDA060615R1	2,400

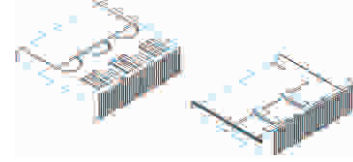


Connection Terminals

High Insulating Terminal Covers - HTC

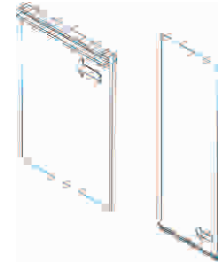
Description	Ordering code	M.R.P.
HTC 3p T1	1SDA051415R1	1,700
HTC 4p T1	1SDA051416R1	2,200
HTC 3p T2	1SDA051417R1	1,700
HTC 4p T2	1SDA051418R1	2,200
HTC 3p T3	1SDA051419R1	1,900
HTC 4p T3	1SDA051420R1	2,500
HTC 3p T4	1SDA054958R1	2,200
HTC 4p T4	1SDA054959R1	2,900
HTC 3p T5	1SDA054960R1	2,600
HTC 4p T5	1SDA054961R1	3,300
HTC 3p S6-T6	1SDA014040R1	4,000
HTC 4p S6-T6	1SDA014041R1	4,000
HTC 3p T7-T7M-X1	1SDA063091R1	3,700
HTC 4p T7-T7M-X1	1SDA063092R1	4,800

Tmax accessories



Low Insulating Terminal Covers - LTC

Description	Ordering code	M.R.P.
LTC 3p T1	1SDA051421R1	1,400
LTC 4p T1	1SDA051422R1	1,700
LTC 3p T2	1SDA051423R1	1,400
LTC 4p T2	1SDA051424R1	1,700
LTC 3p T3	1SDA051425R1	1,500
LTC 4p T3	1SDA051426R1	1,900
LTC 3p T4	1SDA054966R1	1,700
LTC 4p T4	1SDA054967R1	2,200
LTC 3p T5	1SDA054968R1	2,000
LTC 4p T5	1SDA054969R1	2,600
LTC 3p S6-T6	1SDA014038R1	2,200
LTC 4p S6-T6	1SDA014039R1	2,800
LTC 3p F T7-T7M-X1	1SDA063093R1	3,300
LTC 4p F T7-T7M-X1	1SDA063094R1	4,300



Separators - PB

Description	Ordering code	M.R.P.
PB100 6 pcs - Low T1	1SYN850205R0001	600
PB100 8 pcs - Low T1	1SYN850208R0001	500
PB100 6 pcs - Low T2-T3	1SYN850206R0001	800
PB100 8 pcs - Low T2-T3	1SYN850209R0001	600
PB100 6 pcs - Low T4, T5	1SYN850207R0001	1,000
PB100 8 pcs - Low T4, T5	1SYN850210R0001	700
PB200 6 pcs - High T4-T5-T7-T7M	1SDA054973R1	1,300
PB200 4 pcs - High T4-T5-T7-T7M	1SDA054972R1	1,000
PB 4 pcs - Separators S6-S7-T6	1SDA050696R1	700
PB 6 pcs - Separators S6-S7-T6	1SDA050697R1	1,000

Dialogue Unit - PR 222/DS-PD

Description	Ordering code	M.R.P.
PR222DS/PD LSI T4-T5-T6	1SDA055066R1	40,000
PR222DS/PD LSI G T4-T5-T6	1SDA055067R1	45,000

PR010 - Test Unit

Description	Ordering code	M.R.P.
Trip Test Unit T2-T4-T5-T6	1SDA048964R1	2,75,000

Front Display Unit

Description	Ordering code	M.R.P.
PR222DS/P or PR222DS/PD T4-T5	1SDA055051R1	25,000
PR222DS/P or PR222DS/PD T6	1SDA060429R1	25,000

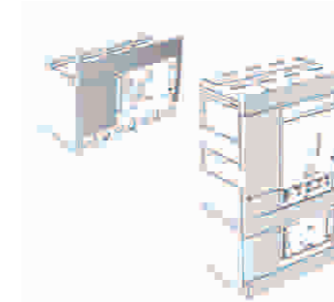
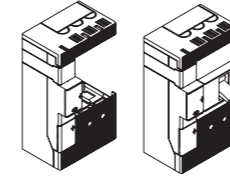
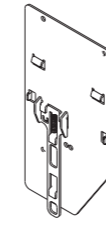
Measurement Module - VM210

Description	Ordering code	M.R.P.
VM210 T4-T5-T6	1SDA059602R1	40,000

Interface Module - EP010

Description	Ordering code	M.R.P.
PR222/PD T4-T5-T6	1SDA059469R1	40,000

Tmax accessories



Installation Accessories

Bracket for Fixing on to DIN rail DIN

Description	Ordering code	M.R.P.
Kit DIN50022 T1-T2	1SDA051437R1	950
Kit DIN50022 T3	1SDA051439R1	1,300
Kit DIN50022 Plate for RC... 3p-4p T1-T2	1SDA051937R1	950
Kit DIN50022 Plate for RC... 3p-4p T3	1SDA051938R1	1,500
Kit DIN50022 Plate for MOS AFF. T1-T2	1SDA051939R1	1,800
Kit DIN50022 Plate for RC222/1 IV Mod200mm T1	1SDA053940R1	1,800

Residual Current Releases

SACE RC22x

Description	Ordering code	M.R.P.
RC221/1 3p Fixed T1	1SDA051398R1	17,000
RC221/1 4p Fixed T1	1SDA051401R1	19,900
RC222/1 3p Fixed T1	1SDA051400R1	17,000
RC222/1 4p Fixed T1	1SDA051402R1	19,900
RC222/1 Mod200mm 4p Fixed T1	1SDA053869R1	24,400

Description	Ordering code	M.R.P.
RC221/2 4p Fixed T2	1SDA051405R1	21,500
RC222/2 3p Fixed T2	1SDA051404R1	17,700
RC222/2 4p Fixed T2	1SDA051406R1	21,500
RC221/3 3p Fixed T3	1SDA051407R1	21,900
RC221/3 4p Fixed T3	1SDA051409R1	29,200
RC222/3 3p Fixed T3	1SDA051408R1	21,900
RC222/3 4p Fixed T3	1SDA051410R1	29,200
RC222/4 4p Fixed T4	1SDA054954R1	34,500
RC223/4 4p Fixed T4 250	1SDA054956R1	36,300
RC222/5 4p Fixed T5	1SDA054955R1	42,500

Note: The Residual Current Releases for the T2 and T3 Circuit Breakers always Supplied Complete with FC Cu Terminal Kit

SACE RCQ

Description	Ordering code	M.R.P.
Relay and Closed Toroid-Diameter 60 mm	1SDA037388R1	89,500
Relay and Closed Toroid-Diameter 110 mm	1SDA037389R1	95,100
Relay and Closed Toroid-Diameter 185 mm	1SDA050542R1	1,15,000
Relay and Toroid which can be Opened - Diameter 110mm	1SDA037390R1	1,24,900
Relay and Toroid which can be Opened - Diameter 180mm	1SDA037391R1	1,39,100
Relay and Toroid which can be Opened - Diameter 230mm	1SDA037392R1	1,53,300
Only Release	1SDA037393R1	71,850
Closed Toroid only - Diameter 60mm	1SDA037394R1	18,500
Closed Toroid only - Diameter 110mm	1SDA037395R1	24,200
Closed Toroid only - Diameter 185 mm	1SDA050543R1	56,300
Only Toroid which can be Opened - Diameter 110mm	1SDA037396R1	54,000
Only Toroid which can be Opened - Diameter 180mm	1SDA037397R1	68,200
Only Toroid which can be Opened - Diameter 230mm	1SDA037398R1	82,400

Automatic Transfer Switch - ATS

Automatic Transfer Switch

Description	Ordering code	M.R.P.
ATS021	1SDA065523R1	85,000
ATS022	1SDA065524R1	95,000

OF HRC fuse links, DIN-type

DIN -type fuse links, gG, 500 V, 80 kA

The type code includes one fuse link, the delivery batch is according to the column.

IEC-size	In [A]	P _n [W]	Type	Order number	Delivery batch [pcs]	M.R.P.
000	2	3.9	OFAFN000GG2	1SCA107747R1001	9	250
	6	1.6	OFAFN000GG6	1SCA107748R1001	9	250
	10	1.1	OFAFN000GG10	1SCA107749R1001	9	250
	16	1.8	OFAFN000GG16	1SCA107750R1001	9	250
	20	2.4	OFAFN000GG20	1SCA107751R1001	9	250
	25	2.6	OFAFN000GG25	1SCA107751R1002	9	250
00	32	2.7	OFAFN000GG32	1SCA107752R1001	9	250
	63	4.7	OFAFN000GG63	1SCA107753R1001	9	250
	6	1.0	OFAFN00GG6	1SCA107754R1001	6	375
	10	1.4	OFAFN00GG10	1SCA107755R1001	6	375
	16	2.4	OFAFN00GG16	1SCA107756R1001	6	375
	20	2.5	OFAFN00GG20	1SCA107757R1001	6	375
0	25	2.6	OFAFN00GG25	1SCA107758R1001	6	375
	32	4.2	OFAFN00GG32	1SCA107759R1001	6	375
	50	4.8	OFAFN00GG50	1SCA107760R1001	6	375
	63	6.1	OFAFN00GG63	1SCA107761R1001	6	375
	80	6.6	OFAFN00GG80	1SCA107762R1001	6	375
	100	7.3	OFAFN00GG100	1SCA107763R1001	6	375
1	125	10.4	OFAFN00GG125	1SCA107764R1001	6	425
	160	11.4	OFAFN00GG160	1SCA107765R1001	6	450
0	160	-	OFAFH160	1SCA022627R3170	1	900
	200	-	OFAFH200	1SCA022629R5140	1	900
1	32	4.4	OFAFN1GG32	1SCA107766R1001	6	555
	50	6.3	OFAFN1GG50	1SCA107767R1001	6	555
	63	6.7	OFAFN1GG63	1SCA107768R1001	6	555
	80	8.0	OFAFN1GG80	1SCA107769R1001	6	555
	100	10.7	OFAFN1GG100	1SCA107770R1001	6	555
	125	13.4	OFAFN1GG125	1SCA107771R1001	6	555
	160	15.5	OFAFN1GG160	1SCA107772R1001	6	555
	200	20.0	OFAFN1GG200	1SCA107773R1001	3	595
	250	21.5	OFAFN1GG250	1SCA107774R1001	3	630

DIN -type fuse links, gG, 500 V, 80 kA

The type code includes one fuse link, the delivery batch is according to the column.

IEC-size	In [A]	P _n [W]	Type	Order number	Delivery batch [pcs]	M.R.P.
2	100	10.0	OFAFN2GG100	1SCA107775R1001	3	805
	125	12.0	OFAFN2GG125	1SCA107776R1001	3	805
	250	22.0	OFAFN2GG250	1SCA107778R1001	3	805
	315	25.0	OFAFN2GG315	1SCA107779R1001	3	820
3	400	30.0	OFAFN2GG400	1SCA107780R1001	3	820
	315	22.0	OFAFN3GG315	1SCA107781R1001	3	1,310
	500	36.0	OFAFN3GG500	1SCA107783R1001	3	1,310
	630	39.0	OFAFN3GG630	1SCA107784R1001	3	1,345

OF HRC fuse links, DIN-type



Fuse Base

IEC-size	In [A]	P _n [W]	Type	Order number	Delivery batch [pcs]	M.R.P.
4	400	31.0	OFAF4H400	1SCA022627R7320	1	Upon Req.
	500	35.0	OFAF4H500	1SCA022627R7410	1	Upon Req.
	630	44.0	OFAF4H630	1SCA022627R7590	1	Upon Req.
	800	70.0	OFAF4H800	1SCA022627R7670	1	Upon Req.
	1000	85.0	OFAF4H1000	1SCA022627R7750	1	Upon Req.
4a	500	33.0	OFAF4AH500	1SCA022637R3980	1	Upon Req.
	630	43.0	OFAF4AH630	1SCA022637R4010	1	Upon Req.
	800	58.0	OFAF4AH800	1SCA022637R4100	1	Upon Req.
	1000	71.0	OFAF4AH1000	1SCA022637R4280	1	Upon Req.
	1250	85.0	OFAF4AH1250	1SCA022637R4360	1	Upon Req.

Din type Fuse Bases

SL.No	Ordering Code	Description	No of Poles	Rating in Amps	M.R.P.
1	1SCA833001R2001	Size 00 Fuse Base -Din type	1	160	300
2	1SCA833001R2002	Size 1 Fuse Base -Din type	1	250	600
3	1SCA833001R2003	Size 2 Fuse Base -Din type	1	400	1150
4	1SCA833001R2004	Size 3 Fuse Base -Din type	1	630	1200

BS type Fuse Bases

Ordering Code	Description	Type of Connection	No of Poles	Rating in Amps	Unit Rate
1SYN833001R2005	Control Fuse Base	Front Type	1	20	135
1SYN833001R2009	Control Fuse Base	Front Type	1	32	165

Note : Minimum packing for ordering of din type fuse bases is 100nos



OF HRC fuse links, BS-type

BS -type fuse links, gG, 500 V, 80 kA

The type code includes one fuse link, but the delivery batch is according to the column.



BS-fuse type	In [A]	Ph [W]	Type	Order number	Delivery batch [pcs]	M.R.P.
Tag type: Offset						
F1	2	0.7	OFFNF1GG2	1SCA107786R1001	20	45
	4	0.7	OFFNF1GG4	1SCA107787R1001	20	45
	6	1.0	OFFNF1GG6	1SCA107788R1001	20	45
	10	1.1	OFFNF1GG10	1SCA107789R1001	20	45
	16	1.6	OFFNF1GG16	1SCA107790R1001	20	45
	20	1.9	OFFNF1GG20	1SCA107791R1001	20	45
	25	2.4	OFFNF1GG25	1SCA107792R1001	20	50
	32	2.7	OFFNF1GG32	1SCA107793R1001	20	50

Tag type Offset, two holes fixing 20

A2	6	1.4	OFFNA2GG6	1SCA107795R1001	10	65
	10	1.6	OFFNA2GG10	1SCA107796R1001	10	65
	16	2.5	OFFNA2GG16	1SCA107798R1001	10	65
	20	2.8	OFFNA2GG20	1SCA107827R1001	10	65
	25	2.8	OFFNA2GG25	1SCA107800R1001	10	80
	32	4.0	OFFNA2GG32	1SCA107801R1001	10	80

A3	40	5.2	OFFNA3GG40	1SCA107803R1001	10	100
	50	5.5	OFFNA3GG50	1SCA107804R1001	10	125
	63	6.8	OFFNA3GG63	1SCA107805R1001	10	125

A4	50	6.0	OFFNA4GG50	1SCA107806R1001	10	160
	63	6.6	OFFNA4GG63	1SCA107807R1001	10	160
	80	7.9	OFFNA4GG80	1SCA107808R1001	10	160
	100	8.6	OFFNA4GG100	1SCA107809R1001	10	170
	125	12.0	OFFNA4GG125	1SCA107810R1001	10	200

OF HRC fuse links, BS-type

BS -type fuse links, gG, 500 V, 80 kA

The type code includes one fuse link, but the delivery batch is according to the column.



BS-fuse type	In [A]	Ph [W]	Type	Order number	Delivery batch [pcs]	M.R.P.
Tag type: Offset						
B1	50	6.0	OFFNB1GG50	1SCA107811R1001	10	200
	63	6.7	OFFNB1GG63	1SCA107812R1001	10	215
	80	8.0	OFFNB1GG80	1SCA107813R1001	10	215
	100	8.6	OFFNB1GG100	1SCA107814R1001	10	215

B2	125	13.5	OFFNB2GG125	1SCA107816R1001	3	235
	160	17.2	OFFNB2GG160	1SCA107817R1001	3	275
	200	20.4	OFFNB2GG200	1SCA107818R1001	3	275

Tag type: Central, two holes fixing 10

B3	250	24.5	OFFNB3GG250	1SCA107819R1001	3	380
	315	28.5	OFFNB3GG315	1SCA107820R1001	3	390
B4	400	37.0	OFFNB4GG400	1SCA107822R1001	3	680

Tag type: Central, four holes fixing

C1	400	35.0	OFFNC1GG400	1SCA107823R1001	1	1,100
C2	500	40.0	OFFNC2GG500	1SCA107824R1001	1	1,150
C2	630	50.0	OFFNC2GG630	1SCA107825R1001	1	1,200
C3	800	60.0	OFFNC3GG800	1SCA107826R1001	1	1,500

SFU - OS OESA, 32...160 A

DIN-pattern

32A and 63A switches have protected tunnel terminals, black IP 65 OHB65J6 handle with I-O/ON-OFF -indication and shaft OXP6X150, length 150 mm.
125A and 160A switches include terminal bolt kit, black IP 65 OHB80J6 handle with I-O/ON-OFF -indication and shaft OXP6X150, length 150 mm.

Types	Number of poles	Fuse size	Rated operational voltage Ac23 [V]	I th (Open) [A]	Rated operational current / rated operational power in category AC23A, IEC 947 [A/kW]					Weight with package (kg)	Order code	M.R.P.
					30V	400V	415V	550V	690V			
OESA00-3 2	3		690	32	32/7.5	32/11	32/15	32/15	-	1.6	1SCA022058R7710	1,600
OESA 00-32A4	4	00	690	63	63/15	63/30	63/30	63/30	40 ¹⁾ /30	1.9	1SCA022067R7610	1,700
OESA 00-63	3		690	63	63/15	63/30	63/30	63/30	40 ¹⁾ /30	1.6	1SCA022057R6850	2,150
OESA 00-63A4	4	00	690	63	63/15	63/30	63/30	63/30	40 ¹⁾ /30	1.9	1SCA022057R7740	2,250
OESA00 100	3		690	100	100/30	100/55	100/55	100/7050	1)/45	2.2	1SCA022025E7830	4,500
OESA00100A4	4	00	690	100	100/30	100/55	100/55	100/7050	1)/45	2.8	1SCA022043R6760	5,200
OESA00125	3		690	125	125/30	125/55	125/55	125/7050	1)/45	2.2	OESA00125	6,050
OESA00125A4	4	00	690	125	125/30	125/55	125/55	125/7050	1)/45	2.8	OESA00125A4	6,800
OESA00-160	3		690	160	160/30	160/55	160/55	160/7050	1)/45	2.2	1SCA022077R8130	6,700
OESA 00-160A4	4	00	690	160	160/30	160/55	160/55	160/7050	1)/45	2.8	1SCA022080R7840	7,700

Note : Above 3 Pole switch is without wrapped neutral link , for TPN switch, wrapped neutral link need to be ordered separately

BS-pattern

32A and 63A switches have protected tunnel terminals, black IP 65 OHB65J6 handle with I-O/ON-OFF -indication and shaft OXP6X210, length 210 mm.
125A and 160A switches include terminal bolt kit, black IP 65 OHB80J6 handle with I-O/ON-OFF -indication and shaft OXP6X210, length 210 mm.

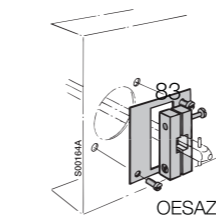
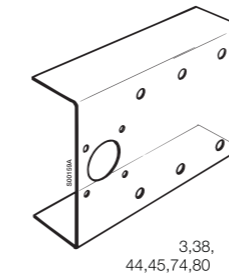
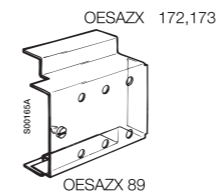
Types	Number of poles	Fuse size	Rated operational voltage Ac23 [V]	I th (Open) [A]	Rated operational current / rated operational power in category AC23A, IEC 947 [A/kW]					Weight with package (kg)	Order code	M.R.P.
					30V	400V	415V	550V	690V			
OESA32G1	3	A2	690	32	32/7.5	32/11	32/15	32/15	32/15	1.6	1SCA022057R1540	1,600
OESA32G 4	4	A2	690	63	63/15	63/30	63/30	63/30	63/30	1.9	1SCA022059R9040	1,900
OESA63G1	3	A3	690	63	63/15	63/30	63/30	63/30	63/30	1.6	1SCA022057R0310	2,100
OESA63G4	4	A3	690	63	63/15	63/30	63/30	63/30	63/30	1.9	1SCA022057R1110	2,300
OESA100G1	3		690	125	100/30	100/55	100/55	100/70	100/70	2.2	1SCA022042R0920	4,300
OESA100G4	4		690	125	100/30	100/55	100/55	100/70	100/70	2.8	1SCA022043R7570	5,400
OESA125G1	3		690	125	100/30	100/55	100/55	100/70	100/70	2.2	OESA125G 1	5,500
OESA125G4	4		690	125	100/30	100/55	100/55	100/70	100/70	2.8	OESA125G4	6,500
OESA160B3	3	B2	690	160	100/30	100/55	100/55	100/70	100/70	2.2	1SCA022076R9570	6,100
OESA160B4	4	B2	690	160	100/30	100/55	100/55	100/70	100/70	2.8	1SCA022080R3690	7,000

Above 3 Pole switch is without wrapped neutral link , for TPN switch, wrapped neutral link need to be ordered separately

Notes :
The fourth pole of all SFU's are 100% rated and are in the switched neutral (SN) version.
If fused neutral is desired replace the A4 by F4 in DIN pattern type reference.
All BS pattern type have solid links in the fourth pole which can be replaced by a fuse.
List prices of Switched neutral and fused neutral are the same.

SFU - OS OESA, 32...160 A accessories

Fuse covers



Types	For Switch types	No. of poles	Packing [pcs]	Order number	M.R.P.
OESAZX 172	OESA 32 G,63 G,14x51	3	1	1SCA022208R5600	1,500
OESAZX 173		4	1	1SCA022208R5430	1,625
OESAZX 89	OESA 32 BM3,63 BM3	3	1	1SCA022083R2950	1,675
OESAZX 144		2	1	1SCA022169R3010	1,825
OESAZX 44	OESA 00-32,00-63	3	1	1SCA022058R4010	1,825
OESAZX 45		4	1	1SCA022058R4280	1,875
OESAZX 145		2	1	1SCA022169R3270	1,875
OESAZX 3	OESA 00,100 G,00-160,	3	1	1SCA022027R7940	1,650
OESAZX 38	22x58		1	1SCA022058R3120	1,800
OESAZX188		1+ 2 (4-pole, mechanism between poles)	1	1SCA022269R4700	1,650
OESAZX 74	OESA 160	3	1	1SCA022080R3770	3,300
OESAZX 80		4	1	1SCA022080R3930	3,850

Fuse cover interlock kit

Types	Features types	For switch types	Packing [pcs]	Order number	M.R.P.
OESAZX 80	The interlock kit prevents the fuse cover opened when the switch fuse is in ON-position.	32...160A	1	1SCA022081R9000	1,500

Spare shaft

For SFU ratings	Type code reference	Packing [pcs]	M.R.P.
32...63A	OXP6x150	1	150
100...160A	OXP6x210	1	225

Spare handles

For SFU ratings	Type code reference	Packing [pcs]	M.R.P.
32...63A	YASDB 51	1	550
100...160A	YASDB 10	1	825

Spare neutral link

For SFU ratings	Type code reference	Packing [pcs]	M.R.P.
32...63A	OESAZX 87	1	275
100...160A	OESAZX 86	1	550

Auxiliary contacts

For SFU ratings	Contact configuration	Type code reference	Packing [pcs]	M.R.P.
OESA 32...160	1NO+1NC	OESAZX 15	1	325
	2NO+2NC	OESAZX 16	1	650

Change-over mechanism

For SFU ratings	Type code reference	Packing [pcs]	M.R.P.
32...160A	OESAZW 1	1	5,950

OS switch fuses, DIN-types

Front operated switch fuses

Including terminal bolt kit, a black ON-OFF plastic handle and shaft as standard. The handle is IP65 protected, padlockable in the OFF position and with door interlock in the ON-position. The shaft is adjustable for a range of installation depths.

Mechanism at the end of the switch fuse

Rated current AC-20...23 = 690V [A]	Rated power AC-23 400/500/690V [kW]	Number of poles	Fuse Size	Type	Order number	Units/type [pcs]	M.R.P.
200	110/132/200	3	0	OS200D03P	1SCA022709R9500	1	7,900
200	110/132/200	4	0	OS200D04N2P	1SCA022709R9680	1	8,800
250	145/170/250	3	0-1	OS250D03P	1SCA022719R0090	1	9,800
250	145/170/250	4	0-1	OS250D04N2P	1SCA022719R2380	1	11,000
315	180/220/315	3	0-2	OS315D03P	OS315D03P	1	12,100
315	180/220/315	4	0-2	OS315D04N2P	OS315D04N2P	1	13,300
400	230/280/400	3	0-2	OS400D03P	1SCA022719R0250	1	14,900
400	230/280/400	4	0-2	OS400D04N2P	1SCA022719R2460	1	15,500
630	355/450/630	3	3	OS630D03P	1SCA022825R2830	1	22,500
630	355/450/630	4	3	OS630D04N2P	1SCA022825R4290	1	24,700
800	450/560/710	3	3	OS800D03P	1SCA022825R4880	1	25,500
800	450/560/710	4	3	OS800D04N2P	1SCA022825R5180	1	27,500
1250A ¹⁾ 1000A ²⁾	560/710/1000	3	4	OS1250D03P	1SCA105475R1001	1	Upon Req.
1250A ¹⁾ 1000A ²⁾	560/710/1000	4	4	OS1250D04N2P	1SCA105248R1001	1	Upon Req.
1250A ¹⁾ 1000A ²⁾	560/710/1000	3	4a	OS1250DA03P	1SCA105238R1001	1	Upon Req.
1250A ¹⁾ 1000A ²⁾	560/710/1000	4	4a	OS1250DA04N2P	1SCA105243R1001	1	Upon Req.

Note : Above 3 Pole switch is without wrapped neutral link , for TPN switch, wrapped neutral link need to be ordered separately

Shafts and handles included as standard

Suitable for switches	Included shaft	Ordering code	M.R.P.
OS200_P	OXF6X210	1SCA022295R6080	250
OS250_P	OXF6X210	1SCA022295R6080	250
OS315_P	OXF12X250	1SCA022325R6980	350
OS400_P	OXF12X250	1SCA022325R6980	350
OS630...800_P	OXF12X280	1SCA022137R5140	475
OS1250_P	OXF12X395	1SCA022042R5990	750

Shafts and handles included as standard

Suitable for switches	Included handle	Ordering code	M.R.P.
OS200_P	OHB65J6	1SCA022380R9660	950
OS250_P	OHB65J6	1SCA022380R9660	950
OS315_P	OHB95J12	1SCA022381R0830	1,025
OS400_P	OHB95J12	1SCA022381R0830	1,025
OS630...800_P	OHB145J12	1SCA022381R2110	1,025
OS1250_P	OHB200J12P	1SCA022865R9510	3,600

¹⁾ AC-20...22 ²⁾ AC-23 ³⁾ Include a detachable neutral link integrated into the mechanism

OS switch fuses, BS -types

Front operated switch fuses

Including terminal bolt kit, a black ON-OFF plastic handle and shaft as standard. The handle is IP65 protected, padlockable in the OFF-position and with door interlock in the ON-position. The shaft is adjustable for a range of installation depths.

Mechanism at the end of the switch fuse

Rated current AC-20...23 = 690V [A]	Rated power AC-23 400/500/690V [kW]	Number of poles	Fuse size	Type	Order number	Units/type [pcs]	M.R.P.
200	110/132/200	3	B1-B2	OS200B03P	1SCA022709R9330	1	6,600
200	110/132/200	4	B1-B2	OS200B04N2P	1SCA022709R9410	1	8,800
250	145/170/250	3	B1-B3	OS250B03P	1SCA022750R6660	1	8,800
250	145/170/250	4	B1-B3	OS250B04N2P	1SCA022750R7800	1	9,200
315	180/220/315	3	B1-B4	OS315B03P	1SCA022719R0680	1	11,250
315	180/220/315	4	B1-B4	OS315B04N2P	1SCA022719R2710	1	12,000
400	230/280/400	3	B1-B4	OS400B03P	1SCA022719R0840	1	13,200
400	230/280/400	4	B1-B4	OS400B04N2P	1SCA022719R2890	1	14,000
630	355/450/630	3	C1-C2	OS630B03P	1SCA022825R5850	1	21,500
630	355/450/630	4	C1-C2	OS630B04N2P	1SCA022825R6230	1	24,000
800	450/560/710	3	C1-C3	OS800B03P	1SCA022825R7550	1	24,000
800	450/560/710	4	C1-C3	OS800B04N2P	1SCA022825R8010	1	26,000
1250A ¹⁾ 1000A ²⁾	560/710/1000	3	D1	OS1250B03P	1SCA105250R1001	1	Upon req.
1250A ¹⁾ 1000A ²⁾	560/710/1000	4	D1	OS1250B04N2P	1SCA105469R1001	1	Upon req.

Note : Above 3 Pole switch is without wrapped neutral link , for TPN switch, wrapped neutral link need to be ordered separately

Auxiliary contacts

Mounting under the mechanism cover:

The "test" contacts operate in ON- and OFF-positions as well as when the handle is turned to TEST-position = 45 degrees over the OFF-position. The "test indication" contacts operate only when the handle is turned to TEST-position. The OA1G10 (N.O.) or OA3G01 (N.C.) auxiliary contact blocks can be used as standard auxiliary contacts, "test" or "test indication" contacts. The desired functions are achieved when an auxiliary contact block is installed in a specific place shown in the mounting instruction. In order to activate the "test" and "test indication" features a handle with test function is required.

Function table of OS200...1250 auxiliary contacts

Handle position	Main contacts	Aux./Test contacts N.O.	Test indication contacts N.O.
Test	open	closed	closed
0	open	open	open
I	closed	closed	open

Maximum number of contact blocks, "Aux./test" contacts and "test indication" contacts, see the table below. Standard versions include all except for N3-types which are equipped with integrated neutral through the mechanism.

Maximum number of auxiliary contacts under the mechanism cover

Pole version	OS200...250		OS315...800		OS1200...1250	
	Standard	N3	Standard	N3	Standard	N3
Maximum number of contact blocks	4	0	8	4	12	8
Aux./Test contacts	4	0	4	2	8	6
Test indication contacts	2	0	4	2	4	2

Mounting on the left side of the switch fuse:

Maximum 8 auxiliary contact blocks (N.O. or N.C.) with the OEA28 module. For Switch types with Neutral inside the mechanism, **OEA28 has to be ordered along with the Aux Contacts for OS200...250**

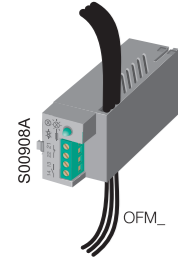
Suitable for switches degree	Description	Protection	Type	Order number	Qty	M.R.P.
OS200...1250	1NO	IP20	OA1G10	1SCA022353R4970	1	400
	1NC	IP20	OA3G01	1SCA022456R7410	1	600
Module for auxiliary contacts			OEA28	1SCA022714R8810	1	1,250
Screw mounting to the left side of the switch						

¹⁾ AC-20...22 ²⁾ AC-23 ³⁾ Include a detachable neutral link integrated into the mechanism

OS blown fuse indicators

Fuse monitor

- includes the auxiliary contacts 1NO + 1NC. Snap-on fitting onto the switch fuse. See brochure OFM20GB.
Mounting onto the right side of OS30...160 switch or on mounting plate.
Note: For OS Mini the frame for fuse monitor and auxiliary contacts type OSZ4 has to be ordered separately.



Rated voltage [Vac]	Type	Order number	Units/ type [pcs]	M.R.P.
100...260	OFM260	1SCA022459R8560	1	3,750
380...690	OFM690	1SCA022459R8480	1	3,750
Electronic fuse monitor, including 1NO + 1NC auxiliary contacts. Mounting onto the left side of OS200-1250 switch fuse or on DIN-rail.				
100...260	OFS260	1SCA022716R0180	1	5,050
380...690	OFS690	1SCA022715R9920	1	5,050

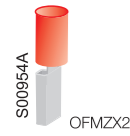
Mounting accessories for fuse monitor.



Suitable for	Flat terminal size [mm]	Type	Order number	Units/ type [pcs]	M.R.P.
Crimp terminals					
OS_	2.8 - 0.8	OFMZ2	1SCA022475R9910	6	350
Mounting frame					
- Mounting on the left side of the switch					
OS Mini		OSZ4	1SCA022530R0200	1	500

Blown fuse indicators (DPMM)

Striker type fuse is needed.



Suitable for	Flat terminal size [mm]	Type	Order number	Units/ type [pcs]	M.R.P.
OS200...1250					
for 3-pole switches		OSZX3	1SCA101224R1001	1	Upon req.
for 4-pole switches		OSZX4	1SCA101225R1001	1	Upon req.

OT switch-disconnectors, base and DIN-rail mounting

Front operated switch-disconnectors

Types OT 16...125 include protected terminal clamps, IP 20.
The type and the ordering numbers are for one piece.



Mechanism at the end of the switch fuse

Number of poles	I th (open) [A]	Cable cross section [mm ²]	Rated operat. currents AC22A/AC2: 3A 400V [A/A]	Type	Order number	Delivery batch [pcs]	M.R.P.
3	25	0.75...10	16 / 16	OT16F3	1SCA104811R1001	1	1,000
4	25	0.75...10	16 / 16	OT16F4N2	1SCA104829R1001	1	1,200
3	32	0.75...10	25 / 20	OT25F3	1SCA104857R1001	1	1,100
4	32	0.75...10	25 / 20	OT25F4N2	1SCA104886R1001	1	1,400
3	40	0.75...10	40 / 23	OT40F3	1SCA104902R1001	1	1,400
4	40	0.75...10	40 / 23	OT40F4N2	1SCA104932R1001	1	1,800
3	63	1.5...35	63 / 45	OT63F3	1SCA105332R1001	1	2,000
4	63	1.5...35	63 / 45	OT63F4N2	1SCA105365R1001	1	2,500
3	80	1.5...35	80 / 75	OT80F3	1SCA105798R1001	1	2,500
4	80	1.5...35	80 / 75	OT80F4N2	1SCA105413R1001	1	3,200
3	115	10...70	100 / 80	OT100F3	1SCA105004R1001	1	3,500
4	115	10...70	100 / 80	OT100F4N2	1SCA105018R1001	1	4,625
3	125	10...70	125 / 90	OT125F3	1SCA105033R1001	1	4,500
4	125	10...70	125 / 90	OT125F4N2	1SCA105051R1001	1	5,000
3	200	200...200		OT160E3 ²⁾	1SCA022257R5950	1	6,100
4	200	200...200		OT160E4 ²⁾	1SCA022259R8060	1	8,700
3	200	200...200		OT160E3-2	1SCA022297R4060	1	7,600

Selector type shafts & handles to be ordered extra along with OT 16...125 is as below:

Suitable for switches	Included shaft/handle	Ordering code	M.R.P.
OT16...125F3, _F4	OXS6X180-shaft	1SCA101659R1001	125
OT16...125F3, _F4	OHGS3AH1-handle	1SCA105271R1001	450

Pistol type shafts & handles to be ordered along with OT 16...125 as below

Suitable for switches	shaft/handle	Ordering code	M.R.P.
OT16...125F3, _F4	EXP6X170-shaft	1SCA108224R1001	150
OT16...125F3, _F4	OHB45J6-Black handle	1SCA022380R8770	900

Shafts and handles included as standard for 160

Suitable for switches	Included shaft/handle	Ordering code	M.R.P.
OT160E3, _E4	EXP6X210-shaft	1SCA022295R6080	225
OT160E3, _E4	OHB65J6-handle	1SCA022380R9660	950

Front operated 6 and 8 pole switch-disconnectors

Including protected terminal clamps, IP 20.

Number of poles	I th (open) [A]	Cable cross section [mm ²]	Rated operat. currents AC22A/AC2: 3A 400V [A/A]	Type	Order number	Delivery batch [pcs]	M.R.P.
6	25	0.75...10	16/16	OT16F6	1SCA104834R1001	1	3,400
6	32	0.75...10	25/20	OT25F6	1SCA104880R1001	1	4,100
6	40	0.75...10	40/23	OT40F6	1SCA104936R1001	1	4,300
6	63	1.5...35	63/45	OT63F6	1SCA105379R1001	1	5,600
6	80	1.5...35	80/75	OT80F6	1SCA105427R1001	1	7,000
6	115	10...70	100/80	OT100F6	1SCA105021R1001	1	8,900
6	125	10...70	125/90	OT125F6	1SCA105057R1001	1	11,100
8	25	0.75...10	16/16	OT16F8	1SCA104836R1001	1	4,100
8	32	0.75...10	25/20	OT25F8	1SCA104882R1001	1	5,000
8	40	0.75...10	40/23	OT40F8	1SCA104938R1001	1	5,800
8	63	1.5...35	63/45	OT63F8	1SCA105381R1001	1	6,900
8	80	1.5...35	80/75	OT80F8	1SCA105429R1001	1	Upon req.
8	115	10...70	100/80	OT100F8	1SCA105022R1001	1	Upon req.
8	125	10...70	125/90	OT125F8	1SCA105059R1001	1	Upon req.

¹⁾ 200A/min. 95 mm² mm², use busbar connections OEZX6/13 or OZXT2 ²⁾ Handle and shaft include

OT switch-disconnectors

OT switch-disconnectors, base mounting

Front operated switch-disconnectors, door mounting

Types OT 16...125 include protected terminal clamps, IP 20. The type and ordering numbers are for one piece.

Number of poles	I th (open) [A]	Cable cross section [mm ²]	Rated operat. currents AC22A/ AC23A 400V [A/A]	Type	Order number	Delivery batch [pcs]	M.R.P.
3	25	0.75...10	16/16	OT16FT3	1SCA104838R1001	1	1,200
4	25	0.75...10	16/16	OT16FT4N2	1SCA105711R1001	1	1,600
3	32	0.75...10	25/20	OT25FT3	1SCA104884R1001	1	1,600
4	32	0.75...10	25/20	OT25FT4N2	1SCA104900R1001	1	1,900
3	40	0.75...10	40/23	OT40FT3	1SCA104940R1001	1	1,700
4	40	0.75...10	40/23	OT40FT4N2	1SCA104956R1001	1	2,100
3	63	1.5...35	63/45	OT63FT3	1SCA105382R1001	1	2,600
4	63	1.5...35	63/45	OT63FT4N2	1SCA105393R1001	1	3,400
3	80	1.5...35	80/75	OT80FT3	1SCA105431R1001	1	2,500
4	80	1.5...35	80/75	OT80FT4N2	1SCA105499R1001	1	3,400
3	115	10...70	100/80	OT100FT3	1SCA105023R1001	1	5,000
4	115	10...70	100/80	OT100FT4N2	1SCA105031R1001	1	6,100
3	125	10...70	125/90	OT125FT3	1SCA105060R1001	1	6,500
4	125	10...70	125/90	OT125FT4N2	1SCA105066R1001	1	7,600
3	200	10...70	200 ¹⁾ /135	OT160ET3	1SCA022350R1960	1	12,100
4	200	10...70	200 ¹⁾ /135	OT160ET4	1SCA022460R6920	1	14,600

Optional handles, door mounted switches Selector type handles

Indication I-O and ON-OFF. No separate shaft needed. The type and the ordering numbers are for one piece.

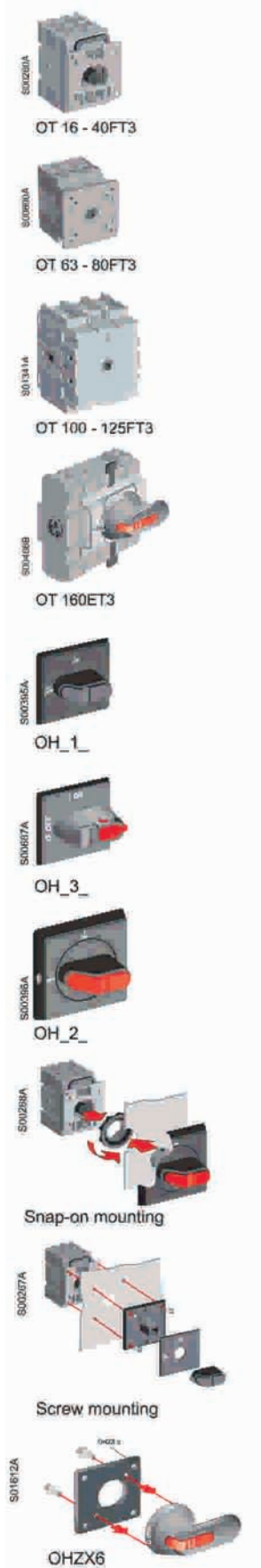
Colour	Suitable for switches	Type	Order number	M.R.P.
Snap-on mounting, door drilling 22,5 mm				
No padlocking, IP 54, NEMA 1				
Black	OT16...40FT	OHBS1PH	1SCA105211R1001	525
Yellow-red	OT16...40FT	OHYS1PH	1SCA105294R1001	400
Padlockable with one padlock, IP 54, NEMA 1				
Black	OT16...40FT	OHBS3PH	1SCA105236R1001	700
Yellow-red	OT16...40FT	OHYS3PH	1SCA105327R1001	425
Padlockable with max. 3 padlocks, IP 65, NEMA 1, 3R, 12				
Black	OT16...40FT	OHBS2PJ	1SCA105231R1001	525
Yellow-red	OT16...40FT	OHYS2PJ	1SCA105322R1001	525
Screw mounting, hole distance 36 mm				
No padlocking, IP 54, NEMA 1				
Black	OT16...80FT	OHBS1RH	1SCA105212R1001	400
Yellow-red	OT16...80FT	OHYS1RH	1SCA105295R1001	400
Padlockable with one padlock, IP 54, NEMA 1				
Black	OT16...80FT	OHBS3RH	1SCA105237R1001	425
Yellow-red	OT16...80FT	OHYS3RH	1SCA105328R1001	425
Padlockable with max. 3 padlocks, IP 65, hole distance 36/48 mm, NEMA 1, 3R, 12				
Black	OT16...125FT	OHBS2RJ	1SCA105232R1001	525
Yellow-red	OT16...125FT	OHYS2RJ	1SCA105323R1001	525

Pistol handle mounting kit for OT 100...125 FT_ switches

Pistol handle is not included

Black	OHZX6	1SCA022559R5670	Upon req.
-------	-------	-----------------	-----------

¹⁾200A/min. 95 mm², use busbar connections OEZX6/13 or OZXT2



Front operated switch-disconnectors, with pistol handle

Including a black ON-OFF plastic handle and shaft as standard. The handle is IP65 protected, padlockable in the OFF-position and with door interlock in the ON-position. The shaft is adjustable for a range of installation depths.

Mechanism at the end of the switch fuse

Number of poles	I th (open) [A]	Cable cross section [mm ²]	Rated operat. currents AC22A/A C23A 400V [A/A]	Type	Order number	Delivery batch [pcs]	M.R.P.
3	200		200/200	OT200E03P	1SCA022712R0800	1	7,000
4	200		200/200	OT200E04P	1SCA022713R4930	1	10,000
3	250		250/250	OT250E03P	1SCA022710R0100	1	8,400
4	250		250/250	OT250E04P	1SCA022710R0520	1	10,800
3	315		315/315	OT315E03P	1SCA022718R8510	1	9,900
4	315		315/315	OT315E04P	1SCA022719R1730	1	11,800
3	400		400/400	OT400E03P	1SCA022718R8780	1	11,800
4	400		400/400	OT400E04P	1SCA022719R1810	1	14,500
3	630		630/630	OT630E03P	1SCA022718R8940	1	17,500
3+N ¹⁾	630		630/630	OT630E03N3P	1SCA022779R4860	1	20,700
4	630		630/630	OT630E04P	1SCA022719R2030	1	21,900
3	800		800/800	OT800E03P	1SCA022718R9410	1	19,500
3+N ¹⁾	800		800/800	OT800E03N3P	1SCA022779R4780	1	24,300
4	800		800/800	OT800E04P	1SCA022719R2110	1	25,300

Shafts and handles included as standard

Including terminal bolt kit, a black ON-OFF plastic handle OHB200J12P and shaft OXP12x280 as standard. The handle is IP65 protected, padlockable in the OFF-position and with door interlock in the ON-position. The shaft is adjustable for a range of installation depths.

3	1000		1000/800	OT1000E03P	1SCA022860R5930	1	37,500
3+N	1000		1000/800	OT1000E03N3P	1SCA100761R1001	1	48,200
4	1000		1000/800	OT1000E04P	1SCA022860R6150	1	49,200
3	1250		1250/1000	OT1250E03P	1SCA022860R6230	1	49,000
3+N	1250		1250/1000	OT1250E03N3P	1SCA022865R7060	1	62,400
4	1250		1250/1000	OT1250E04P	1SCA022860R6310	1	64,400
3	1600		1600/1000	OT1600E03P	1SCA022860R6580	1	62,000
3+N	1600		1600/1000	OT1600E03N3P	1SCA022865R6920	1	79,500
4	1600		1600/1000	OT1600E04P	1SCA022860R6740	1	81,500

Including an IP54 metallic handle with I-O-indication. Padlockable in the O-position.

3	2000		2000/-	OT2000E03P	1SCA108036R1001	1	78,500 [#]
3+N	2000		2000/-	OT2000E03N3P	1SCA108037R1001	1	99,400 [#]
4	2000		2000/-	OT2000E04P	1SCA108038R1001	1	1,01,300 [#]
3	2500		2500/-	OT2500E03P	1SCA104972R1001	1	91,500 [#]
3+N	2500		2500/-	OT2500E03N3P	1SCA108035R1001	1	1,19,500 [#]
4	2500		2500/-	OT2500E04P	1SCA105140R1001	1	1,21,500 [#]
3	3150		1600/-	OETL3150K3 ¹⁾	1SCA022115R6340	1	1,26,500 [#]
4	3150		1600/-	OETL3150K4 ¹⁾	1SCA022115R6510	1	1,64,500 [#]

Suitable for switches	Included shaft	Ordering code	Qty.	M.R.P.
OT200...250_P	OXF6X210	1SCA022295R6080	1	250
OT315...400_P	OXF12X185	1SCA022325R6710	1	475
OT630...800_P	OXF12X185	1SCA022325R6710	1	475
OT1000...1250_P	OXF12X280	1SCA022137R5140	1	475
OT1600_P	OXF12X280	1SCA022137R5140	1	475
OT2000...2500_P	OXF12X280	1SCA022137R5140	1	475

Suitable for switches	Included handle	Ordering code	Qty.	M.R.P.
OT200...250_P	OHB65J6	1SCA022380R9660	1	950
OT315...400_P	OHB95J12	1SCA022381R0830	1	1,025
OT630...800_P	OHB125J12	1SCA022381R1560	1	1,250
OT1000...1250_P	OHB200J12P	1SCA022865R9510	1	3,600
OT1600_P	OHB200J12P	1SCA022865R9510	1	3,600
OT2000...2500_P	OHB200J12P	1SCA022865R9510	1	3,600

Marked products carry list prices

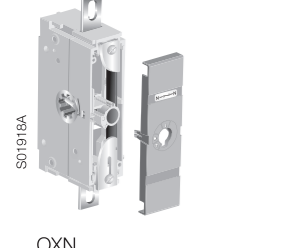
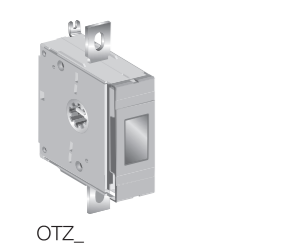
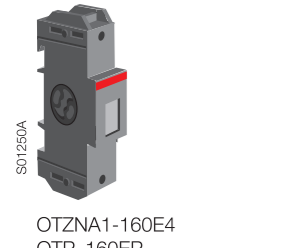
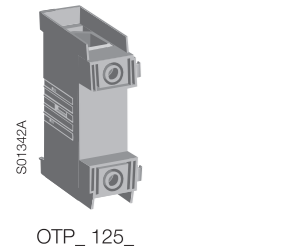
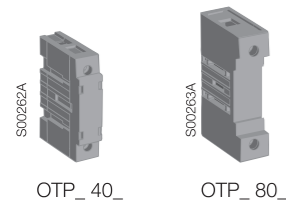


OT fourth poles, neutral and earth terminals, neutral links

OT connecting accessories

Fourth poles

Mountable on the side of the switch. The type and the ordering numbers are for one piece.



Suitable for switches	Function	Type	Order number	Delivery batch [pcs]	M.R.P.	
Simultaneous function with the main contacts						
OT16...40F3	7(N) L4	OTPS40FPN1*)	1SCA105001R1001	1	650	
		OTPS40FPN2*)	1SCA105000R1001	1	650	
OT 63...80F3		OTPS80FP	1SCA105461R1001	1	700	
OT 100...125F3		OTPS125FP	1SCA105099R1001	1	1,200	
OT 16...40FT3		OTPS40FDN1*)	1SCA104999R1001	1	750	
		OTPS40FDN2*)	1SCA104998R1001	1	750	
OT 63...80FT3		OTPS80FD	1SCA105458R1001	1	750	
OT 100...125FT3		125FD	1SCA105096R1001	1	975	
OT 160E3, ET3		8(N) T4	OTZNA1-160E4	1SCA022271R8310	1	7,000
OT160E3, ET3			OTPS160EP	1SCA022325R7360	1	1,650
OT200...250	OTZ250E		1SCA022735R9420	1	1,500	
OT315...400	OTZ400E		1SCA022749R1960	1	2,350	
OT630...800	OTZ800E		1SCA022807R5100	1	4,950	
OT1000...1250	OTZ1250E		1SCA103765R1001	1	16,500	
OT1600	OTZ1600E		1SCA100431R1001	1	20,750	
OT2000...2500	OTZ2500E		1SCA107931R1001	1	28,000	
Late-break and early-make						
OT 16...40F3	N	OTPL40FP	1SCA105717R1001	1	475	
OT 63...80F3		OTPL80FP	1SCA105452R1001	1	700	
OT 100...125F3		OTPL125FP	1SCA105090R1001	1	950	
OT 16...40FT3		OTPL40FD	1SCA105716R1001	1	475	
OT 63...80FT3		OTPL80FD	1SCA105451R1001	1	700	
OT 100...125FT3		OTPL125FD	1SCA105088R1001	1	1,075	

Neutral and earth terminals

Mountable on the side of the switch. The type and the ordering numbers are for one piece.

Fixed neutral

Suitable for switches	Function	Type	Order number	Delivery batch [pcs]	M.R.P.
OT 16...40F3	N	OTPN40FP	1SCA104997R1001	1	550
OT 63...80F3		OTPN80FP	1SCA105457R1001	1	650
OT 100...125F3		OTPN125FP	1SCA105094R1001	1	750
OT 160E3, ET3		OTPN160EP	1SCA022344R9510	1	1,650
OT 16...40FT3		OTPN40FD	1SCA105718R1001	1	550
OT 63...80FT3		OTPN80FD	1SCA105456R1001	1	650
OT 100...125FT3	OTPN125FD	1SCA105092R1001	1	800	

Detachable neutral

Suitable for switches	Function	Type	Order number	Delivery batch [pcs]	M.R.P.
OT 16...40F3	N	OTPD40FP	1SCA104994R1001	1	550
OT 63...80F3		OTPD80FP	1SCA105445R1001	1	750
OT 100...125F3		OTPD125FP	1SCA105083R1001	1	1,100
OT 63...80FT3		OTPD80FD	1SCA105444R1001	1	700

Protective earth

Suitable for switches	Function	Type	Order number	Delivery batch [pcs]	M.R.P.
OT 16...40F3	PE	OTPE40FP	1SCA104995R1001	1	550
OT 63...80F3		OTPE80FP	1SCA105448R1001	1	900
OT 100...125F3		OTPE125FP	1SCA105128R1001	1	975
OT 160E3, ET3		OTPE160EP	1SCA022345R0010	1	3,875
OT 16...40FT3		OTPE40FD	1SCA109884R1001	1	550
OT 63...80FT3		OTPE80FD	1SCA105446R1001	1	700
OT 100...125FT3		OTPE125FD	1SCA105698R1001	1	950

Neutral links

Including protected terminal clamps, IP 20.

Suitable for switches	I th [A]	Type	Order number	Units/ type	M.R.P.
Detachable, mountable separately to the base plate					
OT200...250	250	OXN250	1SCA022752R9950	1	2,200
OT 315...400	400	OXN400	1SCA022770R3060	1	3,600
OT 630...800	800	OXN800T	1SCA022829R0840	1	4,200
OT1000...1250	1250	OXN1250T	1SCA104162R1001	1	12,375
Mountable separately to the base plate					
	200	OESAZX162	1SCA022193R0400	1	1,050
	315	OESAZX164	1SCA022202R9520	1	1,050
	400	OESAZX165	1SCA022202R9790	1	1,400
	1000	OESAZX160	1SCA022186R3960	1	6,000

*) N1=On the left side of the switch
N2=On the right side of the switch

Phase separators

Grey plastic plate for maintaining 1" clearance between the phases without terminal shrouds. Snap-on mounting.



Suitable for switches	Type	Order number	Units/ type	M.R.P.
OT200...OT800	PB100 low ¹⁾	1SDA054970R1	1	450
T200...OT800	PB100 low ¹⁾	1SDA054971R1	1	650
OT200...OT800	PB200 high ¹⁾	1SDA054972R1	1	750
OT200...OT800	PB200 high ¹⁾	1SDA054973R1	1	1,050
OT600U, OT630...800E, 3- and 4-pole	OTB800/6	1SCA022821R7760	1	2,500
OT1000...2500, 3- and 4-pole	OTB1600/6	1SCA100768R1001	1	3,150

OT manual change-over switches

Manual change-over switches, I-O-II -operation, open transition

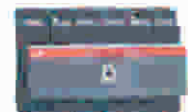
Including terminal clamps, IP20. Handle and shaft has to be ordered separately as below:



OT16...40F3C



OT63...80F3C



OT100...125F3C



OT160...250E03CP



OT160...250E03WCF



OT160...250E04CP



OT160...250E04WCF



OT315...400E13CP

Number of poles	Rated current AC-21A...AC-22A Up to 415V 400V I[A] S[kVA]		Rated power AC-23A 400...415V I[A] / P[kW]	Cable cross section [mm ²]	Type	Order number	M.R.P.
3	16	11	16/7.5	0.75 ... 10	OT16F3C	1SCA104816R1001	1,850
4	16	11	16/7.5	0.75 ... 10	OT16F4C	1SCA104831R1001	2,800
3	25	17	20/9	0.75 ... 10	OT25F3C	1SCA104863R1001	2,800
4	25	17	20/9	0.75 ... 10	OT25F4C	1SCA104877R1001	3,750
3	40	27	23/11	0.75 ... 10	OT40F3C	1SCA104913R1001	3,750
4	40	27	23/11	0.75 ... 10	OT40F4C	1SCA104934R1001	4,900
3	63	43	45/22	1.5 ... 35	OT63F3C	1SCA105338R1001	4,200
4	63	43	45/22	1.5 ... 35	OT63F4C	1SCA105369R1001	5,100
3	80	55	75/37	1.5 ... 35	OT80F3C	1SCA105402R1001	4,600
4	80	55	75/37	1.5 ... 35	OT80F4C	1SCA105418R1001	5,300
3	100	70	80/37	10 ... 70	OT100F3C	1SCA105008R1001	6,600
4	100	70	80/37	10 ... 70	OT100F4C	1SCA105019R1001	8,200
3	125	86	90/45	10 ... 70	OT125F3C	1SCA105037R1001	7,200
4	125	86	90/45	10 ... 70	OT125F4C	1SCA105054R1001	8,800

Including a black plastic IP65 I - O - II pistol type handle, see the table below, shaft and bolt set for the cable connection. Handle padlockable in the 0-position, door interlock in the I- and II-positions and when padlocked. Bridging bars to be ordered along with this and for details refer to page no:78.

Number of poles	Rated current AC-21A...AC-22A Up to 415V 400V I[A] S[kVA]		Rated power AC-23A 400...415V I[A] / P[kW]	Type	Order number	M.R.P.
3	160	110	160/90	OT160E03CP	1SCA022772R6510	10,600
4	160	110	160/90	OT160E04CP	1SCA022775R9440	12,600
3	200	135	200/110	OT200E03CP	1SCA022771R7520	11,000
4	200	135	200/110	OT200E04CP	1SCA022771R7280	13,000
3	250	170	250/140	OT250E03CP	1SCA022771R3450	13,500
4	250	170	250/140	OT250E04CP	1SCA022775R4640	14,500
3	315	215	315/160	OT315E03CP	1SCA022772R6780	15,000
4	315	215	315/160	OT315E04CP	1SCA022775R7150	17,000
3	400	275	400/220	OT400E03CP	1SCA022771R8500	21,000
4	400	275	400/220	OT400E04CP	1SCA022771R8680	22,000
3	630	435	630/355	OT630E03CP	1SCA022785R6050	29,700
4	630	435	630/355	OT630E04CP	1SCA022785R6130	35,300
3	800	550	800/450	OT800E03CP	1SCA022785R6300	36,000
4	800	550	800/450	OT800E04CP	1SCA022785R6210	41,000
3	1000	680	1000/560	OT1000E03CP	1SCA022872R1680	1,08,000 [†]
4	1000	680	1000/560	OT1000E04CP	1SCA022872R1500	1,21,500 [†]
3	1250	850	1250/710	OT1250E03CP	1SCA022872R0790	1,19,250 [†]
4	1250	850	1250/710	OT1250E04CP	1SCA022872R1250	1,30,500 [†]
3	1600	1000	1250/710	OT1600E03CP	1SCA022872R1840	1,28,250 [†]
4	1600	1000	1250/710	OT1600E04CP	1SCA022872R2310	1,41,750 [†]
3	2000	1350		OT2000E03CP	1SCA103908R1001	2,07,000 [†]
4	2000	1350		OT2000E04CP	1SCA103912R1001	2,64,850 [†]
3	2500	1700		OT2500E03CP	1SCA105615R1001	2,35,350 [†]
4	2500	1700		OT2500E04CP	1SCA103906R1001	3,02,650 [†]

Pistol type shafts & handles to be ordered extra along with OT 16...125 as below

Suitable for switches	Shaft / Handle	Ordering code	Qty.	M.R.P.
OT16...125F_C	Shaft	OXF6x170	1	250
OT16...125F_C	Handle	OHB45J6E311	1	1,500

Shafts & handle included as standard

Suitable for switches	Shaft	Ordering code	Qty.	M.R.P.
OT160...250_C	OXF6x161	1SCA022067R1760	1	200
OT315...400_C	OXF12x166	1SCA022325R7100	1	350
OT630...800_C	OXF12x185	1SCA022325R6710	1	475
OT1000...2500_C	OXF12x185	1SCA022325R6710	1	475

Suitable for switches	Handle	Ordering code	Qty.	M.R.P.
OT160...250_C	OHB65J6E011	1SCA022383R2480	1	1,400
OT315...400_C	OHB95J12E011	1SCA022621R0760	1	1,850
OT630...800_C	OHB125J12E011	1SCA022589R3340	1	2,000
OT1000...2500_C	OHB200J12PE011	1SCA022873R4230	1	3600

[†] OT2000...2500: Category AC-21B | # Marked products carry list prices

OT motorized change-over switches

Change-over switches, motor operation, I-O-II -operation, open transition

Including a handle for manual operation, bolt kit with nut and washers for all terminals and male connectors for control circuits. Types OTM160-250E_W are equipped with extended phase distance.



OTM160...250E3



OTM160...250E4



OTM160...250E3W



OTM315...400E3



OTM315...400E4

Number of poles	Rated current AC-21A... AC-22A Up to 415V 400V I[A]	Rated current AC-23A Up to 415 V I [A]/P[kW]	Rated AC-31B. AC-33B p to415 V I [A]	Motor voltage U _e	Type	Order number	M.R.P.
3	160	160/90	160	220-240 V AC	OTM160E3CM230C	1SCA022845R8610	31,500
4	160	160/90	160	220-240 V AC	OTM160E4CM230C	1SCA022846R1510	35,800
3	200	200/110	200	220-240 V AC	OTM200E3CM230C	1SCA022845R8960	34,000
4	200	200/110	200	220-240 V AC	OTM200E4CM230C	1SCA022846R1590	38,050
3	250	250/140	250	220-240 V AC	OTM250E3CM230C	1SCA022845R9260	36,250
4	250	250/140	250	220-240 V AC	OTM250E4CM230C	1SCA022846R1910	39,400
3	315	315/160	315	220-240 V AC	OTM315E3CM230C	1SCA022847R1210	39,400
4	315	315/160	315	220-240 V AC	OTM315E4CM230C	1SCA022847R2870	43,000
3	400	400/220	400	220-240 V AC	OTM400E3CM230C	1SCA022847R1630	43,650
4	400	400/220	400	220-240 V AC	OTM400E4CM230C	1SCA022847R3250	49,500
3	630	630/355	650/650	220-240 V AC	OTM630E3CM230C	1SCA103567R1001	72,000
4	630	630/355	650/650	220-240 V AC	OTM630E4CM230C	1SCA022873R1990	78,750 [†]
3	800	800/450	720/650	220-240 V AC	OTM800E3CM230C	1SCA103570R1001	81,000 [†]
4	800	800/450	720/650	220-240 V AC	OTM800E4CM230C	1SCA022872R8340	85,500 [†]
3	1000			220-240 V AC	OTM1000E3CM230C	1SCA112677R1001	1,64,250 [†]
4	1000			220-240 V AC	OTM1000E4CM230C	1SCA112703R1001	1,86,750 [†]
3	1250			220-240 V AC	OTM1250E3CM230C	1SCA112676R1001	2,13,750 [†]
4	1250			220-240 V AC	OTM1250E4CM230C	1SCA112702R1001	2,36,250 [†]
3	1600			220-240 V AC	OTM1600E3CM230C	1SCA112678R1001	2,40,750 [†]
4	1600			220-240 V AC	OTM1600E4CM230C	1SCA112704R1001	2,63,250 [†]
3	2000			220-240 V AC	OTM2000E3CM230C	1SCA112709R1001	2,67,750 [†]
4	2000			220-240 V AC	OTM2000E4CM230C	1SCA112712R1001	2,90,250 [†]
3	2500			220-240 V AC	OTM2500E3CM230C	1SCA112710R1001	3,03,750 [†]
4	2500			220-240 V AC	OTM2500E4CM230C	1SCA112713R1001	3,35,250 [†]

Note : For Bridging Bars please refer page 78 & it is an optional accessory

Auxiliary contacts

Ordering information

Snap-on mounting to the switch, IP 20, max. 2 blocks/ side. Ith = 16 A, suitable for cable cross sections max. 2 x 2,5 mm².

Suitable for switches	Contact functions	Installation side	Type	Order number	M.R.P.
OT16...125F_C	1NO	Right	OA1G10	1SCA022353R4970	400
	1NC	Left	OA1G01	1SCA022353R4890	400
OT63...125F3C	1NO+1NC	Either	OA2G11	1SCA022379R8010	850

Mounting with adapter to the side of the switch for OT160E,_ET_ only

Suitable for switches	Contact functions	Installation side	Type	Order number	M.R.P.
Adapter			OAZX1	1SCA022467R5140	700
OT160E,_ET_	1NO+1NC	Either	OA2G11	1SCA022379R8100	850

Mounting on the right side of the switch: Max. 4 auxiliary contact blocks/switch (totally 8 blocks). Simultaneous action with the main contacts, IP20.

Suitable for switches	Contact function	Type	Order number	M.R.P.
OT_200...2500E_C	1NO	OA1G10	1SCA022353R4970	400
	1NC	OA3G01	1SCA022456R7410	600

Marked products carry list prices

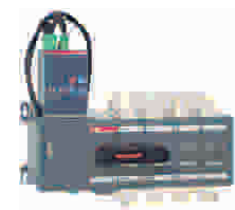
OT automatic transfer switches

Automatic transfer switches, I - O - II operation, open transition

Including a handle for manual operation, PCB connectors, bolt kit with nuts and washers for all terminals. Types OTM 160.800_C_D_, including a voltage sensing kit on the top of the switch.
Consult us for types where the voltage sensing kit is on the bottom of the switch.
Types OTM 160...250_WC_D_ are equipped with extended phase distance.



OTM400E4C3D230C



OTM800E4C2D230C



OTM250E3C8D230C



OTM400E4C8D230C

Number of poles	Rated current AC-21A... AC-22A Up to 415V 1 [A]	Rated current AC-23A Up to 415V 1 [A] / P [kW]	AC-31B... AC-33B Up to 415V I [A]	Type	Order number	M.R.P.
-----------------	---	--	-----------------------------------	------	--------------	--------

Automatic operation, equipped with OMD200 controller unit

3-pole versions available on request.
Motor operator voltage $U_e = 220-240 \text{ V AC}^{1)}$

4	160	160/90	160	OTM160E4C2D230C	1SCA106230R1001	1,15,950
4	160	160/90	160	OTM160E4WC2D230C	1SCA101033R1001	1,18,250
4	200	200/110	200	OTM200E4C2D230C	1SCA106671R1001	1,23,900
4	200	200/110	200	OTM160E4WC2D230C	1SCA101034R1001	1,26,250
4	250	250/140	250	OTM250E4C2D230C	1SCA101061R1001	1,31,700
4	250	250/140	250	OTM250E4WC2D230C	1SCA101035R1001	1,34,500
4	315	315/160	315	OTM315E4C2D230C	1SCA101059R1001	1,58,800
4	400	400/220	400	OTM400E4C2D230C	1SCA101060R1001	1,65,000
4	630	630/355	650/650	OTM630E4C2D230C	1SCA108434R1001	2,22,200 [#]
4	800	800/450	720/650	OTM800E4C2D230C	1SCA108439R1001	2,85,000 [#]

Automatic operation, equipped with OMD300 controller unit

3-pole versions available on request.

Including dual power source for the motor operator, Motor operator voltage $U_e = 220-240 \text{ V AC}^{1)}$.

4	160	160/90	160	OTM160E4C3D230C	1SCA106305R1001	1,35,450
4	200	200/110	200	OTM200E4C3D230C	1SCA106309R1001	1,44,700
4	250	250/140	250	OTM250E4C3D230C	1SCA106313R1001	1,53,900
4	315	315/160	315	OTM315E4C3D230C	1SCA106317R1001	1,85,400
4	400	400/220	400	OTM400E4C3D230C	1SCA106318R1001	1,92,600
4	630	630/355	650/650	OTM630E4C3D230C	1SCA108726R1001	2,59,450 [#]
4	800	800/450	720/650	OTM800E4C3D230C	1SCA108728R1001	3,32,800 [#]

Automatic operation, equipped with OMD800 controller unit

Motor operator voltage $U_e = 220-240 \text{ V AC}^{1)}$

4	160	160/90	160	OTM160E4C8D230C	1SCA101020R1001	1,87,000
4	200	200/110	200	OTM200E4C8D230C	1SCA101021R1001	1,99,750
4	250	250/140	250	OTM250E4C8D230C	1SCA101022R1001	2,12,250
4	315	315/160	315	OTM315E4C8D230C	1SCA101063R1001	2,56,000
4	400	400/220	400	OTM400E4C8D230C	1SCA101064R1001	2,66,000
4	630	630/355	650/650	OTM630E4C8D230C	1SCA108453R1001	3,58,000 [#]
4	800	800/450	720/650	OTM800E4C8D230C	1SCA108455R1001	4,59,250 [#]

P.S. : For higher ratings upto 1600 Amps pls contact sales office

Note:

- For Bridging Bars, Please refer page 78 & it is an optional Accessory.
- OMD control units can be purchased separately. This means that our customers can purchase control units separately for their motorized changeover switches in order to build an ATS by themselves.

Marked products carry list prices

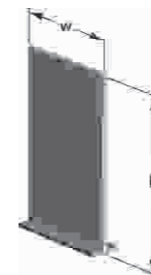
OT phase separators

Phase separators

Grey plastic plate for maintaining clearance between the phases without terminal shrouds.
Snap-on mounting. The package includes 12 plates and 6 filling plates.



OTB_



PB_

Suitable for switches	Type	Order number	M.R.P.
OT600U, OT630...800E, 3- and 4-pole	OTB800/6C	1SCA107272R1001	3,500
OT1000...2500, 3- and 4-pole	OTB1600/6C	1SCA104661R1001	6,500

Phase barriers

The phase barriers designed for ABB Tmax T4-T5 MCCB's can also be used for OT_160...800 change-over switches. 3-pole change-overs need 8 barriers and 4-pole change-overs need 12 barriers for full protection.

Suitable for switches	Number of poles	Height h [mm]	Cutting width w of the phase barrier [mm]	Type	Order number	M.R.P.
OT160... ...250E_C	3	100	55	PB100 low	1SDA054970R1	450
	3	200	55	PB200 high	1SDA054972R1	750
	4	100	55	PB100 low	1SDA054971R1	650
	4	200	55	PB200 high	1SDA054973R1	1,050
OT315... ...400E_C	3	100	67	PB100 low	1SDA054970R1	450
	3	200	67	PB200 high	1SDA054972R1	750
	4	100	67	PB100 low	1SDA054971R1	650
	4	200	67	PB200 high	1SDA054973R1	1,050
OT600... ...800E_C	3	100	90	PB100 low	1SDA054970R1	450
	3	200	90	PB200 high	1SDA054972R1	750
	4	100	90	PB100 low	1SDA054971R1	650
	4	200	90	PB200 high	1SDA054973R1	1,050

Connecting accessories Ordering information



OZXA 39



OZXA 40



OZXA 41



OZXA 32

Parallel connection kits

Finger protected connection bars for parallel connection of the upper or lower terminals. The bars accept additional cables, the maximum size is stated below.

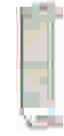
For switches	Max. cable size [mm ²]	Type	Order number	M.R.P.
OT16...40F3C	6 (fine stranded), 10 (stranded)	OZXA33	1SCA022685R0310	Upon req.
OT16...40F4C	6 (fine stranded), 10 (stranded)	OZXA32	1SCA022683R4110	Upon req.
OT63...80F3C	25	OZXA38	1SCA022785R2140	Upon req.
OT63...80F4C	25	OZXA39	1SCA022790R3820	Upon req.
OT100...125F3C	50	OZXA40	1SCA022790R3910	Upon req.
OT100...125F4C	50	OZXA41	1SCA022790R4040	Upon req.

Accessories ordering information

Sheet steel enclosure for OS and OESA switches with HRC Fuses

Bridging bars

The bridging bars provide a connection link either on the incoming or outgoing side of the switch



OTZC13...34



OTZC43...44
OTZC53...54



SO1413A
OETLXC7...10



OTZR_



SO0059A
OETLZW_



SO1518A
OETLZWC 1

For switches	Number of poles	Type	Order number	M.R.P.
OT_160...250E_C	3	OTZC13	1SCA022767R6910	700
	4	OTZC14	1SCA022767R7040	1,000
OT_315...400E_C	3	OTZC23	1SCA022767R7120	1,200
	4	OTZC24	1SCA022767R7210	1,700
OT_600...800E_C	3	OTZC33	1SCA022785R7020	4,600
	4	OTZC34	1SCA022785R7110	4,700
OT1000...1250E_C	3	OTZC43	1SCA022868R0710	13,000
	4	OTZC44	1SCA022868R0800	16,000
OT1600E_C	3	OTZC53	1SCA022868R0980	12,500
	4	OTZC54	1SCA022868R1010	16,000
OT2000...2500E_C	3	OTZC63	1SCA022868R1100	Upon req.
	4	OTZC64	1SCA022868R1360	Upon req.
OEM1000...1250	3	OETLXC7	1SCA022608R1000	11,500
	4	OETLXC8	1SCA022608R1180	14,500
OEM1600	3	OETLXC9	1SCA022608R1260	14,500
	4	OETLXC10	1SCA022608R1340	19,125

Note: Bridging bars are to be brought extra and this is an accessory

Reversing bars

A reversing switch can be built up by using phase sequence bars in two phases.

The kit includes two phase sequence conversion bars.

The missing bridging bars must be ordered separately.

For example 3-pole switches: one 4-pole standard bridging bar kit is required (one bar for the reversing side, three bars for the other side).

Suitable for switches	Type	Order number	M.R.P.
OT_160...250E_C	OTZR1	1SCA100352R1001	Upon req.
OT_315...400E_C	OTZR2	1SCA104647R1001	Upon req.
OT_600...800E_C	OTZR3	1SCA100355R1001	Upon req.

Interlocking device for locks

Cam attachment for Castell, Lowe & Fletcher or Ronis interlock. Lock, handle or shaft not included.

Mounting to OXP-shaft, works together with OH-door handle and a shaft.

This accessory is mounted to the operating shaft of the switch and therefore only compatible with external handles.

Suitable for switches	Type	Order number	M.R.P.
OT16...125F_C	OETLZW16	1SCA022093R2070	3,600
OT160...250E_C	OETLZW16	1SCA022093R2070	3,600
OT315...2500E_C	OETLZW5	1SCA022052R3900	3,900

Direct mounting to the switch with OH-handle.

Order number	Type	Order number	M.R.P.
OETL-NFC800...1200	OETLZWC1	1SCA022608R1420	3,500



Rating	No. of poles	Din pattern	Ordering code *	Fuse sizes - Din	M.R.P.
32Amps	TPN	OESA0032N	1SYN835010P3001	OFAFN000	Upon request
63Amps	TPN	OESA0063N	1SYN835011P3001	OFAFN000	Upon request
100Amps	TPN	OESA00100N	1SYN835023P3001	OFAFN00	Upon request
125Amps	TPN	OESA00125N	1SYN835027P3001	OFAFN00	Upon request
160Amps	TPN	OESA00160N	1SYN835031P3001	OFAFN00	Upon request
200Amps	TPN	OS200D03N3P	1SYN835035P3001	OFAF0H	Upon request
250Amps	TPN	OS250D03N3P	1SYN835039P3001	OFAFN1	Upon request
315Amps	TPN	OS315D03N3P	1SYN835043P3001	OFAFN2	Upon request
400Amps	TPN	OS400D03N3P	1SYN835047P3001	OFAFN2	Upon request
630Amps	TPN	OS630D03N3P	1SYN835051P3001	OFAFN3	Upon request
800Amps	TPN	OS800D03N3P	1SYN835055P3001	OFAFN3	Upon request

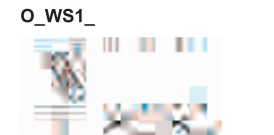
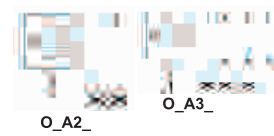
* Includes Enclosure with switch & Fuses

Rating	No. of poles	BS pattern	Ordering Code *	Fuse sizes - BS	M.R.P.
32Amps	TPN	OESA32G1N	1SYN835017P3001	OFFNA2	
63Amps	TPN	OESA63G1N	1SYN835019P3001	OFFNA3	
100Amps	TPN	OESA100G1N	1SYN835021P3001	OFFNA4	
125Amps	TPN	OESA125G1N	1SYN835025P3001	OFFNA4	
160Amps	TPN	OESA160G1N	1SYN835029P3001	OFFNB2	Upon Req.
200Amps	TPN	OS200B03N3P	1SYN835033P3001	OFFNB2	
250Amps	TPN	OS250B03N3P	1SYN835037P3001	OFFNB3	
315Amps	TPN	OS315B03N3P	1SYN835041P3001	OFFNB3	
400Amps	TPN	OS400B03N3P	1SYN835045P3001	OFFNB4	
630Amps	TPN	OS630B03N3P	1SYN835049P3001	OFFNC2	
800Amps	TPN	OS800B03N3P	1SYN835053P3001	OFFNC2/C3	

* Includes Enclosure with switch & Fuses

Rotary cam switches ordering details

Black handle and front plate with position indication are included.
The type and the ordering number are for one piece



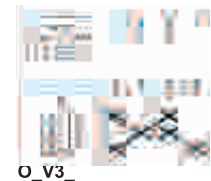
Function	Number of poles	Rated thermal current Ith[A]	Type	Order number	Delivery batch [pics]	Weight/unit [kg]
O-position: 90° clock, step angle 90° door mounted, snap-on mounted handle						
0-1	2	10	OMA2PB	1SCA022531R4090	1	550
	3	10	OMA3PB	1SCA022531R4170	1	675

ON - OFF SWITCH 10 A

Function	Number of poles	Rated thermal current Ith[A]	Type	Order number	Delivery batch [pics]	Weight/unit [kg]
Without O-position: step angle 60° door mounted, snap-on mounted handle						
1-2	1	10	OMWS1PB	1SCA022532R6770	1	550
	2	10	OMWS2PB	1SCA022532R6850	1	750
	3	10	OMWS3PB	1SCA022533R0610	1	950
	2	25	ONWS2PB	1SCA022532R9360	1	875

Voltmeter switches

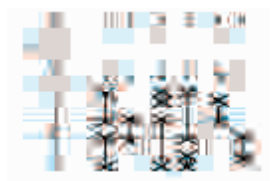
Black handle and front plate with position indication are included.



Function	Number of poles	Rated thermal current Ith[A]	Type	Order number	Delivery batch	Weight/unit
4-positions, 3 Phase - 3 wire, with 0-position, step angle 45° door mounted, snap-on mounted handle						
0, L1-L2, L2-L3, L3-L1	2	10	OMV3PB	1SCA022533R5250	1	750

Ammeter switch

Black handle and front plate with position indication are included.



Function	Number of poles	Rated thermal current Ith[A]	Type	Order number	Delivery batch	Weight/unit
For 3 current transformer circuits, with 0-position, step angle 90° single pole door mounted, snap-on mounted handle						
0-1-2-3		10	OMAU31PB	1SCA022533R5410	1	950

DC Rated Switch Disconnectors For Solar Segment

OTDC 16...32 Amperes up to 1200 V

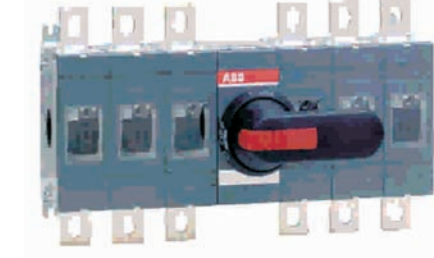


- IEC 60947, Utilization category DC21B
- Pollution degree 2 & 3
- Rated impulse withstand voltage – 8 kV
- Rated short time withstand current, 1000V / 1s – 1kA
- Simplicity in installation
- The DC rated switch-disconnectors are suited for screw or DIN rail mounting
- Tunnel terminals capture fine stranded wires and they are wide enough to allow wires up to 16 mm².
- Short-circuit bars as standard
- Low resistive losses minimize the waste of energy, which helps in maximizing total energy efficiency of your PV system.
- OTDC allows its use at full rated current at up to 60°C, without de-rating
- Thermal excellence – Its quite cool

OT 40 to 630 Amperes up to 1000 V DC



OT200-250E33P



OT630E33P31

Technical data according to IEC 60947 for OT switch-disconnectors

Switch size	A	OT16	OT25	OT40	OT160	OT200	OT250	OT315	OT400	OT630
Rated insulation voltage	Pollution degree 2	V	800	800	800	1000	1000	1000	1000	1000
	Pollution degree 3	V	750	750	750	800	1000	1000	1000	1000
Dielectric strength	50 Hz 1min.	KV	6	6	6	10 ¹⁾	10	10	10	10
Rated impulse withstand voltage		KV	8	8	8	12 ¹⁾	12	12	12	12
Rated thermal current, DC-20 ³⁾	In open air, normal conditions ⁴⁾	A	25	32	40	200	200	250	315	630
	In enclosure 40° C	A	25	32	40	160	200	250	315	630
	In enclosure 60° C	A	20	25	32	125	180	200	280	500
...with minimum cable or bar cross section	Cu	mm ²	4	6	10	70	95	120	185	2x185
Rated operational current / poles in series	550 V	A	16/6 ^{A)}	25/6 ^{A)}	32/6 ^{A)}	160/4 ^{A)}	200/4 ^{A)}	250/4	315/4	600/4
	750 V	A	16/8 ^{A)}	25/8 ^{A)}	32/8 ^{A)}	160/4 ^{A)}	200/5	250/5	315/5	600/5
	800 V	A	16/8 ¹⁾	16/8 ¹⁾	16/8 ¹⁾		200/5	250/5	315/5	600/5
	1000 V	A					200/6	250/6	315/6	600/6
Rated short-time withstand current, 1000 V, 1 s	R.M.S.-value / _{cw}	KA	0.5 ²⁾	0.5 ²⁾	0.5 ²⁾	4 ²⁾	8	8	15	20
Power loss / pole	At rated current	W	0.3	0.6	1.6	6.5	4	6.5	6.5	10
Mechanical endurance	Divide by two for operation cycles									
		Operations	20000	20000	20000	20000	20000	20000	16000	16000

^{A)} Category A

³⁾ Thermal current ratings of OT16...160 apply up to 4-pole versions.

¹⁾ Pollution Degree 2

⁴⁾ Normal conditions defined in IEC 60947-1-6.1

²⁾ At 690 V

- Extensive switch offering for solar segment
- Have high DC voltage ratings and unique safety features.

Tmax PV: photovoltaic range MCCB



Tmax PV is the latest T Generation product upto 1600 A / 1100 V DC.

- IEC 60947-3 certification
- 6 different sizes: from the compact T1 (which can be mounted on DIN rail) to the high-performance T7, available in the two versions, with lever operating mechanism and motor operator
- Rated insulation voltage up to 1150 V DC
- Advantages like
 - excellent performance-dimensions
 - vast and complete range of accessories for all requirements
 - complete remote control

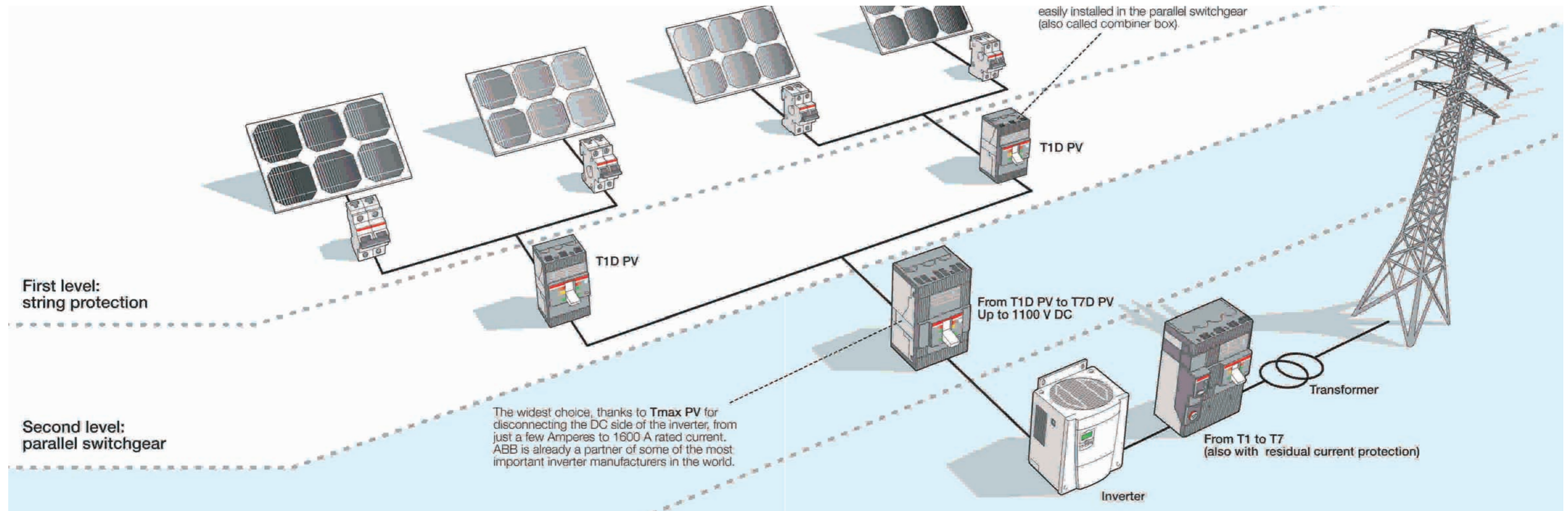
Tmax PV: photovoltaic range MCCB

Technical Characteristics

Tmax PV switch-disconnectors in compliance with the IEC60947-3	T1D PV	T3D PV	T4D PV	T5D PV	T6D PV	T7D PV
Conventional thermal current, I _{th} [A]	160	250	250	630	800	1250/1600
Rated service current in category DC22 B, I _e [A]	160	200	250	500	800	1250/1600
Rated service voltage, U _e [V]	1100 V DC	1100 V DC	1100 V DC	1100 V DC	1100 V DC	1100 V DC
Rated impulse withstand voltage, U _{imp} [kV]	8	8	8	8	8	8
Rated insulation voltage, U _i [V]	1150 V DC	1150 V DC	1150 V DC	1150 V DC	1150 V DC	1150 V DC
Test voltage at industrial frequency for 1 minute [V]	3500	3500	3500	3500	3500	3500
Rated short-circuit making capacity, switch-disconnector only, I _{cm} [kA]	1.5	2.4	3	6	9.6	19.2
Rated short-time withstand current for 1s, I _{cw} [kA]	1.5	2.4	3	6	9.6	19.2
Versions	F	F	F	F	F	F
Terminals	FC Cu	FC Cu	FC Cu	FC Cu	FC CuAl	FC CuAl
Mechanical life [No. operations]	25000	25000	20000	20000	20000	10000
Mechanical life [No. Hourly operations]	120	120	120	120	120	60

Order codes

Code	Code description	Version / Poles
1SDA069816R1	T1D/PV 160 4p F FC Cu 1100V DC	Fixed / 4p
1SDA069822R1	T3D/PV 200 4p F FC Cu 1100V DC	Fixed / 4p
1SDA069823R1	T4D/PV 250 4p F F 1100V DC	Fixed / 4p
1SDA069824R1	T5D/PV 500 4p F F 1100V DC	Fixed / 4p
1SDA069825R1	T6D/PV 800 4p F F 1100V DC	Fixed / 4p
1SDA069826R1	T7D/PV 1250 4p F F 1100V DC	Fixed / 4p
1SDA069827R1	T7D/PV 1250 4p F F M 1100V DC	Fixed / 4p
1SDA069828R1	T7D/PV 1600 4p F F 1100V DC	Fixed / 4p
1SDA069829R1	T7D/PV 1600 4p F F M 1100V DC	Fixed / 4p



Note : Please contact the nearest sales office for more information

Easy line general description

Product presentation

Properties of the easyLine - XLP:

- Compact XLP000
- Typetested according to EN IEC 60947-3
- Fullfills BGV A
- Easy to recycle / EN ISO 14001 standards
- Quick-make operation device
- Integrated IP 0 cable termination
- IP 30 degree of protection from the front
- Replacement compatible to similar types in the market
- Voltage measuring from the front
- V-0 plastic materials

3 - pole:

- XLP000 100 Amp
- XLP00 160 Amp
- XLP1 50 Amp
- XLP 400 Amp
- XLP3 630 Amp

Advantages of the easyLine - XLP:

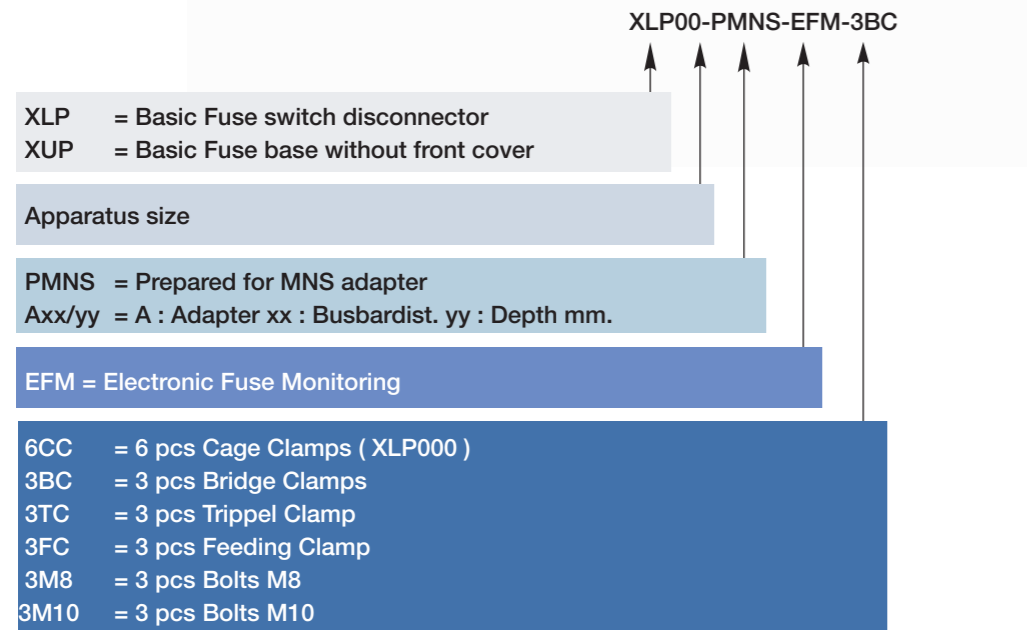
- Easy to install
- Easy to snap on DIN rails
- Easy to operate
- Easy to understand
- Modern cable terminals
- Modern and functional design
- Additional arc protection shroud in front coverincreased personal safety
- Wide range of modern cable clamps and
- Electronic fuse monitoring
- Wide range of busbar adapters

4 - pole:

- SLP00 160 Amp
- SLP1 50 Amp
- SLP 400 Amp
- SLP3 630 Amp



Explanations



Kabeldon low voltage switchgear system

Kabeldon low voltage distribution system for 1 kV by ABB is used to build modern systems for various applications, from substations and cable distribution cabinets to distribution boards in industry.



Features of the Kabeldon IP-system are its simplicity and reliability. These are the most important factors when you want to achieve low operating costs and high delivery reliability in a distribution system.

- Busbars of continuously-extruded aluminium sections, insulated with a layer of polyamid.
- The busbar has a touch-proof contact slot. This ensures safety regardless of where on the busbar the switching device will be placed.
- Blade fuses in all of the fuse-switch disconnectors.
- The switching devices can be arranged in any order, regardless of rated current
- All parts, busbars and devices, fulfil IP2X protection in accordance with IEC 60529*).
- Switching devices 100-1600 A.
- It is easy to add new switching devices to existing distribution boards.
- Switching devices are mounted on and connected to the busbar system in the same operation.
- Switching devices can be connected when the system is live.
- Always voltage-free ("dead") when changing fuses.
- Busbars are available with rated currents from 400 to 1600 A.
- Switching devices, connectors and busbars combine to form a modular system. Each module is 12.5 mm. The modular system makes planning easier.
- The compact design of the switching devices makes them suitable for use in many different types of distribution boards.
- All switching devices have a utilisation category so that they can be used in cable distribution cabinets, substations and other distribution boards.

Note : For more details pl contact the nearest sales office.

Emax - Low voltage Air Circuit-Breakers

Emax - Low voltage Air Circuit-Breakers



Faults: no problem **Extremely simple** **Completely new protection releases** **Modularity**

- Ct Range of 400 - 6300A (E1,E2,E3,E4 and E6) with Breaking capacity range of 42-150KA
- Configured breakers are now available in E1, E2 and E3 frames
- SACE Emax circuit-breakers and their accessories conform to the international IEC 60947, EN 60947 CEI EN 60947 and IEC 61000 Standards and comply with following EC directives "Low Voltage Directive" (LVD) no 73/23 EEC
 - "Electromagnetic Compatibility Directive" (EMC) nr. 89/336 EEC
- Complete range of accessories
- Double Insulation
- Same Height and depth for the whole range
- Protection releases provide complete set of standard protection function, Advanced protection functions, Measurement functions
- Optional modules (Measurements, signalling, communication, wireless com) to upgrade the protection releases
- Neutral protection from OFF to 200%
- Interchangeability of releases
- Low voltage Switch-disconnectors and Automatic circuit-breakers for Direct Current Applications is available upto 5000A, 1000VDC

Note : Please contact the nearest sales office for more information

Configured Breakers		Ordering code for Emax - 3 Pole		
		PR121 LI	PR121 LSIG	PR122 LSIG
E1 - Withdrawable Fixed Part - WFP - HR-HR		1SDA059666R1		
E1 - 50KA -Withdrawable Moving Part - WMP	800 A Manual	1SDA055712R1	1SDA055714R1	1SDA055717R1
	800 A Electrical	1SYN55500100001	1SYN55500100017	1SYN55500100049
	1000 A Manual	1SDA059214R1	1SDA059222R1	1SDA059234R1
	1000 A Electrical	1SYN55500100002	1SYN55500100018	1SYN55500100050
	1250 A Manual	1SDA055744R1	1SDA055746R1	1SDA055749R1
	1250 A Electrical	1SYN55500100003	1SYN55500100019	1SYN55500100051
	1600 A Manual	1SDA055776R1	1SDA055778R1	1SDA055781R1
	1600 A Electrical	1SYN55500100004	1SYN55500100020	1SYN55500100052

Configured Breakers		Ordering code for Emax - 4 Pole		
		PR121 LI	PR121 LSIG	PR122 LSIG
E1 - Withdrawable Fixed Part - WFP - HR-HR		1SDA059762R1		
E1 - 50KA -Withdrawable Moving Part - WMP	800 A Manual	1SDA055720R1	1SDA055722R1	1SDA055725R1
	800 A Electrical	1SYN55500100081	1SYN55500100097	1SYN55500100129
	1000 A Manual	1SDA059216R1	1SDA059224R1	1SDA059236R1
	1000 A Electrical	1SYN55500100082	1SYN55500100098	1SYN55500100130
	1250 A Manual	1SDA055752R1	1SDA055754R1	1SDA055757R1
	1250 A Electrical	1SYN55500100083	1SYN55500100099	1SYN55500100131
	1600 A Manual	1SDA055784R1	1SDA055786R1	1SDA055789R1
	1600 A Electrical	1SYN55500100084	1SYN55500100100	1SYN55500100132

Configured Breakers		Ordering code for Emax - 3 Pole		
		PR121 LI	PR121 LSIG	PR122 LSIG
E2 - Withdrawable Fixed part - WFP-HR-HR		1SDA059667R1		
E2 - 65KA -Withdrawable Moving Part - WMP	2000 A Manual	1SDA055936R1	1SDA055938R1	1SDA055941R1
	2000 A Electrical	1SYN55500100008	1SYN55500100024	1SYN55500100056

Configured Breakers		Ordering code for Emax - 4 Pole		
		PR121 LI	PR121 LSIG	PR122 LSIG
E2 - Withdrawable Fixed part - WFP-HR-HR		1SDA059763R1		
E2 - 65KA -Withdrawable Moving Part - WMP	2000 A Manual	1SDA055944R1	1SDA055946R1	1SDA055949R1
	2000 A Electrical	1SYN55500100088	1SYN55500100104	1SYN55500100136

Configured Breakers		Ordering code for Emax - 3 Pole		
		PR121 LI	PR121 LSIG	PR122 LSIG
E3 - Withdrawable Fixed Part - WFP - HR-HR		1SDA059669R1		
E3 - 65KA -Withdrawable Moving Part - WMP	2500 A Manual	1SDA056128R1	1SDA056130R1	1SDA056133R1
	2500 A Electrical	1SYN55500100009	1SYN55500100025	1SYN55500100057
	3200 A Manual	1SDA056160R1	1SDA056162R1	1SDA056165R1
	3200 A Electrical	1SYN55500100010	1SYN55500100026	1SYN55500100058

Configured Breakers		Ordering code for Emax - 4 Pole		
		PR121 LI	PR121 LSIG	PR122 LSIG
E3 - Withdrawable Fixed Part - WFP - HR-HR		1SDA059765R1		
E3 - 65KA -Withdrawable Moving Part - WMP	2500 A Manual	1SDA056136R1	1SDA056138R1	1SDA056141R1
	2500 A Electrical	1SYN55500100089	1SYN55500100105	1SYN55500100137
	3200 A Manual	1SDA056168R1	1SDA056170R1	1SDA056173R1
	3200 A Electrical	1SYN55500100090	1SYN55500100106	1SYN55500100138

- Note: 1. Withdrawable Fixed Parts (WFP) and withdrawable Moving Parts (WMP) are to be ordered together for a complete breaker
 2. Electrical Drawout breakers mentioned above includes - 240 volts of Shunt closing, shunt opening, motor operator and auxiliary contacts (5NO + 5NC) mounted on the breaker, For any other voltages pl contact our nearest sales office
 3. For other Current rating and Breaking capacity ACB requirement, Pl contact our nearest sales office

Stock item ex-Bangalore

Notes

A series of horizontal dashed lines for writing notes, spanning the width of the page.

Notes

A series of horizontal dashed lines for writing notes, spanning the width of the page.

ABB's comprehensive range of LV control products

The range of ABB control products ranks amongst the most extensive on the market with a full range of innovative solutions for protection, start & control, detection, dialogue, measurement, treatment and connection application

The business unit is comprised of 3 main product families :

- Control & Protection
- Electronic Relays
- Connection Devices - Terminal Blocks

Other products

Our program is already among the most extensive in the market and we are constantly adding new products in order to meet ever changing customer needs.

Quality and reliability are built into every device to ensure total performance satisfaction, even in the most demanding applications.

We offer a very modern and competitive range of contactors, softstarters, starters, limit switches, manual motorstarters, a wide range of electronic relays and overload relays, together with an extended program of pilot devices.

Our offering

- ARC guard systems
- Contactors - Air break
- Manual motor starters
- Thermal overload relays
- Electronic overload relays
- Soft starters
- Pilot devices - push buttons, pilot lights with integrated LED, emergency stops, selector switches illuminated push buttons.
- Electronic relays and controls
- Timers
- Measuring and monitoring relays
- Power Supplies
- UMC 100
- Signal converters - analog / serial
- Plug in Relays
- Motor controllers - intelligent motors management systems
- Sensors - hall effect current / voltage
- Limit switches
- Terminal blocks - Entrelec
- Pre-wiring system for PLC's - Interfast

Control Products Low Voltage Products

NS 4-pole / 8-pole Contactor Relays - Screw Terminals AC Operated



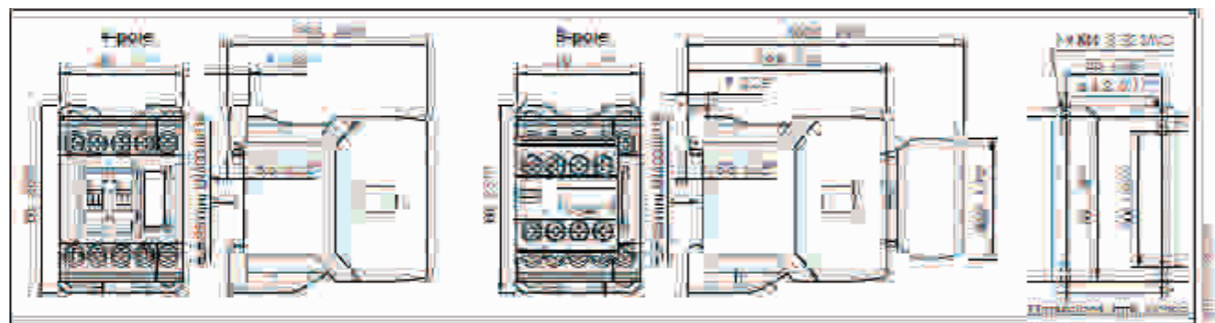
Main accessories available:

- RV5 or RC5-1 surge suppressors which do not increase overall dimensions,
- Up to 2 add-on CA3 1-pole auxiliary contact blocks for 1-stack contactor relays.



Ordering Details

No of contacts		Control coil voltage		Type	Order code	M.R.P.
1 st stack	2 nd stack	50 Hz	60 Hz			
		24 V	24 V	NS22E-20M	1SBH 101 001 M2022	875
		110 V	110 V	NS22E-23M	1SBH 101 001 M2322	875
		230 V	230 V	NS22E-26M	1SBH 101 001 M2622	875
		24 V	24 V	NS31E-20M	1SBH 101 001 M2031	875
		110 V	110 V	NS31E-23M	1SBH 101 001 M2331	875
		230 V	230 V	NS31E-26M	1SBH 101 001 M2631	875
		24 V	24 V	NS40E-20M	1SBH 101 001 M2040	875
		110 V	110 V	NS40E-23M	1SBH 101 001 M2340	875
		230 V	230 V	NS40E-26M	1SBH 101 001 M2640	875
		24 V	24 V	NS44E-20M	1SBH 101 001 M2044	1,175
		110 V	110 V	NS44E-23M	1SBH 101 001 M2344	1,175
		230 V	230 V	NS44E-26M	1SBH 101 001 M2644	1,175
		24 V	24 V	NS53E-20M	1SBH 101 001 M2053	1,175
		110 V	110 V	NS53E-23M	1SBH 101 001 M2353	1,175
		230 V	230 V	NS53E-26M	1SBH 101 001 M2653	1,175
		24 V	24 V	NS62E-20M	1SBH 101 001 M2062	1,175
		110 V	110 V	NS62E-23M	1SBH 101 001 M2362	1,175
		230 V	230 V	NS62E-26M	1SBH 101 001 M2662	1,175
		24 V	24 V	NS71E-20M	1SBH 101 001 M2071	1,175
		110 V	110 V	NS71E-23M	1SBH 101 001 M2371	1,175
		230 V	230 V	NS71E-26M	1SBH 101 001 M2671	1,175
		24 V	24 V	NS80E-20M	1SBH 101 001 M2080	1,175
		110 V	110 V	NS80E-23M	1SBH 101 001 M2380	1,175
		230 V	230 V	NS80E-26M	1SBH 101 001 M2680	1,175



Mounting positions



NSL 4-pole / 8-pole Contactor Relays - Screw Terminals DC Operated



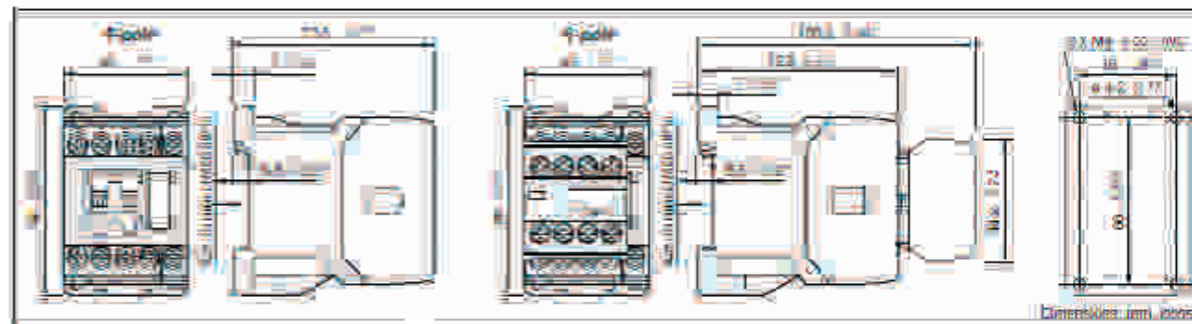
Main accessories available:

- RV5 or RT5 surge suppressors which do not increase overall dimensions,
- Up to 2 add-on CA3 1-pole auxiliary contact blocks for 1-stack contactor relays.



Ordering Details

No of contacts		Control coil voltage	Type	Order code	M.R.P.
1 st stack	2 nd stack	DC			
		24 V	NSL22E-81M	1SBH 103 001 M8122	1,200
		48 V	NSL22E-83M	1SBH 103 001 M8322	1,200
		110 V	NSL22E-86M	1SBH 103 001 M8622	1,200
		220 V	NSL22E-88M	1SBH 103 001 M8822	1,200
		24 V	NSL31E-81M	1SBH 103 001 M8131	1,200
		48 V	NSL31E-83M	1SBH 103 001 M8331	1,200
		110 V	NSL31E-86M	1SBH 103 001 M8631	1,200
		220 V	NSL31E-88M	1SBH 103 001 M8831	1,200
		24 V	NSL40E-81M	1SBH 103 001 M8140	1,200
		48 V	NSL40E-83M	1SBH 103 001 M8340	1,200
		110 V	NSL40E-86M	1SBH 103 001 M8640	1,200
		220 V	NSL40E-88M	1SBH 103 001 M8840	1,200
		24 V	NSL44E-81M	1SBH 103 001 M8144	1,550
		48 V	NSL44E-83M	1SBH 103 001 M8344	1,550
		110 V	NSL44E-86M	1SBH 103 001 M8644	1,550
		220 V	NSL44E-88M	1SBH 103 001 M8844	1,550
		24 V	NSL53E-81M	1SBH 103 001 M8153	1,550
		48 V	NSL53E-83M	1SBH 103 001 M8353	1,550
		110 V	NSL53E-86M	1SBH 103 001 M8653	1,550
		220 V	NSL53E-88M	1SBH 103 001 M8853	1,550
		24 V	NSL62E-81M	1SBH 103 001 M8162	1,550
		48 V	NSL62E-83M	1SBH 103 001 M8362	1,550
		110 V	NSL62E-86M	1SBH 103 001 M8662	1,550
		220 V	NSL62E-88M	1SBH 103 001 M8862	1,550
		24 V	NSL71E-81M	1SBH 103 001 M8171	1,550
		48 V	NSL71E-83M	1SBH 103 001 M8371	1,550
		110 V	NSL71E-86M	1SBH 103 001 M8671	1,550
		220 V	NSL71E-88M	1SBH 103 001 M8871	1,550
		24 V	NSL80E-81M	1SBH 103 001 M8180	1,550
		48 V	NSL80E-83M	1SBH 103 001 M8380	1,550
		110 V	NSL80E-86M	1SBH 103 001 M8680	1,550
		220 V	NSL80E-88M	1SBH 103 001 M8880	1,550



Mounting positions



3 Pole contactors : AC operated

Standard Control Relays

Control circuit	No. of contacts	Contact configuration		Type code reference	Order code	M.R.P.
AC	4	2NO	2NC	N22E **	1SBH 141 001 R□□22	1,100
	4	3NO	1NC	N31E **	1SBH 141 001 R□□31	1,100
	4	4NO	-	N40E **	1SBH 141 001 R□□40	1,100

Power Contactors 3 Pole

AC1 duty Amps	AC3 rating at 415V			Auxiliary contacts		Type code reference	Order code	M.R.P.
	Amps	hP	kW					
25	9	5.5	4	1NO	-	A09-30-10 **	1SBL 141 001 R□□10	775
25	9	5.5	4	-	1NC	A09-30-01 **	1SBL 141 001 R□□01	775
27	12	7.5	5.5	1NO	-	A12-30-10 **	1SBL 161 001 R□□10	880
27	12	7.5	5.5	-	1NC	A12-30-01 **	1SBL 161 001 R□□01	880
30	17	10	7.5	1NO	-	A16-30-10 **	1SBL 181 001 R□□10	965
30	17	10	7.5	-	1NC	A16-30-01 **	1SBL 181 001 R□□01	965
45	26	15	11	1NO	-	A26-30-10 **	1SBL 241 001 R□□10	1,390
45	26	15	11	-	1NC	A26-30-01 **	1SBL 241 001 R□□01	1,390
55	32	20	15	1NO	-	A30-30-10 **	1SBL 281 001 R□□10	2,750
55	32	20	15	-	1NC	A30-30-01 **	1SBL 281 001 R□□01	2,750
60	40	25	18.5	1NO	-	A40-30-10 **	1SBL 321 001 R□□10	4,140
60	40	25	18.5	-	1NC	A40-30-01 **	1SBL 321 001 R□□01	4,140
100	50	34	25	-	-	A50-30-00 **	1SBL 351 001 R□□00	5,150
115	65	50	37	-	-	A63-30-00 **	1SBL 371 001 R□□00	6,950
125	75	54	40	-	-	A75-30-00 **	1SBL 411 001 R□□00	8,420
145	96	60	55	1NO	1NC	A95-30-11**	1SFL 431 001 R□□11	10,500
160	110	75	59	1NO	1NC	A110-30-11**	1SFL 451 001 R□□11	12,050
250	145	80	75	1NO	1NC	A145-30-11**	1SFL 471 001 R□□11	16,500
275	185	100	90	1NO	1NC	A185-30-11**	1SFL 491 001 R□□11	22,400
350	210	125	110	1NO	1NC	A210-30-11**	1SFL 511 001 R□□11	24,300
400	260	150	140	1NO	1NC	A260-30-11**	1SFL 531 001 R□□11	30,350
500	300	190	160	1NO	1NC	A300-30-11**	1SFL 551 001 R□□11	35,900
600	400	220	220	1NO	1NC	AF400-30-11**	1SFL 577 001 R□□11	44,500
700	460	300	250	1NO	1NC	AF460-30-11**	1SFL 597 001 R□□11	58,000
800	580	430	355	1NO	1NC	AF580-30-11**	1SFL 617 001 R□□11	65,000
1050	750	545	425	1NO	1NC	AF750-30-11**	1SFL 637 001 R□□11	1,10,000

Complete the contactor type code by replacing ** with desired coil voltage AF contactors have advanced electronic coil interface with wideband AC/DC coil

Coil voltages and codes: A 09 ... A 300, N range

Voltage □□ V - 50Hz	Voltage □□ V - 60Hz	Code □□
24	24	8 1
110	110 ... 120	8 4
220 ... 230	230 ... 240	8 0
230 ... 240	240 ... 260	8 8
400 ... 415	415 ... 440	8 6

Coil voltages and codes: AF 400 ... AF 750

Voltage □□ V - 50/60Hz	Voltage □□ V d.c.	Code □□
-	24 ... 60	6 8 (1)
48 ... 130	48 ... 130	6 9
100 ... 250	100 ... 250	7 0
250 ... 500	250 ... 500	7 1

(1) The connection polarities indicated close to the coil terminals must be respected: A1 for the positive pole and A2 for the negative pole

Note: For Non standard coil voltage, other than this please contact us for pricing

4 Pole contactors : AC operated

Power Contactors 4 Pole

Rating at 415V AC1 Amps	Main contact arrangement		Auxiliary contacts		Type code reference	Order code	M.R.P.
25	4NO	-	-	-	A09-40-00 **	1SBL 141 201 R□□00	1,170
25	2NO	2NC	-	-	A09-22-00 **	1SBL 141 501 R□□00	1,210
30	4NO	-	-	-	A16-40-00 **	1SBL 181 201 R□□00	1,220
30	2NO	2NC	-	-	A16-22-00 **	1SBL 181 501 R□□00	1,590
45	4NO	-	-	-	A26-40-00 **	1SBL 241 201 R□□00	2,150
45	2NO	2NC	-	-	A26-22-00 **	1SBL 241 501 R□□00	2,650
70	4NO	-	-	-	A45-40-00**	1SBL 331 201 R□□00	5,200
70	2NO	2NC	-	-	A45-22-00**	1SBL 331 501 R□□00	7,600
100	4NO	-	-	-	A50-40-00**	1SBL 351 201 R□□00	7,200
125	4NO	-	-	-	A75-40-00**	1SBL 411 201 R□□00	9,950
125	2NO	2NC	-	-	A75-22-00**	1SBL 411 501 R□□00	10,950
200A	4NO	-	1NO	1NC	EK110-40-11 **	SK 824 440 - □□	21,400
250A	4NO	-	1NO	1NC	EK150-40-11 **	SK 824 441 - □□	24,700
300A	4NO	-	1NO	1NC	EK175-40-11 **	SK 825 440 - □□	32,560
350A	4NO	-	1NO	1NC	EK210-40-11 **	SK 825 441 - □□	40,300
550A	4NO	-	1NO	1NC	EK370-40-11 **	SK 827 040 - □□	64,500
800A	4NO	-	1NO	1NC	EK550-40-11 **	SK 827 041 - □□	85,700
1000A	4NO	-	1NO	1NC	EK1000-40-11 **	SK 827 044 - □□	1,25,000

Complete the contactor type code by replacing ** with desired coil voltage

Multi frequency coils: EK 110 ... EK 210

Voltage □□ V - 40 ... 400Hz	Code □□
100 ... 120	E F
220 ... 230	E L
230 ... 240	E M
400 ... 415	E R

Coil voltages and codes: EK 110 ... EK 1000

Voltage □□ V - 50Hz	Voltage □□ V - 60Hz	Code □□
-	110	A E
110	120	A F
220 ... 230	*	A L
230 ... 240	-	A M
400 ... 415	-	A R

Other voltages: page 0/1

Dual frequency coils (1): EK 370 ... EK 1000

Voltage □□ V - 50Hz	Voltage □□ V - 60Hz	Code □□
110	110 ... 120	E F
220	220 ... 240	E L
220 ... 230	230 ... 255	E M

(1) Two auxiliary contact blocks maximum per contactor, ambient temperature ≤ 55 °C and mounting positions 2 and 6 excluded.

Note: For Non standard coil voltage, other than this please contact us for pricing



Control relay : Wide band AC / DC operated

NF Control Relays Wide band AC / DC Operated - with Screw Terminals

Description

- **NF contactor** relays include an electronic coil interface accepting a wide control voltage $U_{c \min}$... $U_{c \max}$. only four coils cover control voltages between 24...500 V 50/60 Hz or 20...500 V DC
- **NF contactor** relays can manage large control voltage variations. One coil (e.g. 100...250 V 50/60 Hz - DC) can be used for different control voltages used worldwide without any coil change.

- **NFZ contactor** relays equipped with a Z coil type allow direct control by 24 V DC 500 mA PLC-output and obtain a reduced holding coil consumption.
- **NF contactor** relays have built-in surge protection and do not require additional surge suppressors.

Control circuit	No. of contacts	Contact configuration		Control voltage $U_{c \min}$... $U_{c \max}$ V 50/ 60 Hz V DC		Type code reference	Order code	M.R.P.
		2NO	2NC	V 50/60 Hz	V DC			
AC/DC	4	2NO	2NC	24...60	20...60	NF22E-11	1SBH 137 001 R1122	1,550
	4	2NO	2NC	48...130	48...130	NF22E-12	1SBH 137 001 R1222	1,550
	4	2NO	2NC	100...250	100...250	NF22E-13	1SBH 137 001 R1322	1,550
	4	2NO	2NC	250...500	250...500	NF22E-14	1SBH 137 001 R1422	1,550
	4	3NO	1NC	24...60	20...60	NF31E-11	1SBH 137 001 R1131	1,550
	4	3NO	1NC	48...130	48...130	NF31E-12	1SBH 137 001 R1231	1,550
	4	3NO	1NC	100...250	100...250	NF31E-13	1SBH 137 001 R1331	1,550
	4	3NO	1NC	250...500	250...500	NF31E-14	1SBH 137 001 R1431	1,550
	4	4NO	-	24...60	20...60	NF40E-11	1SBH 137 001 R1140	1,550
	4	4NO	-	48...130	48...130	NF40E-12	1SBH 137 001 R1240	1,550
	4	4NO	-	100...250	100...250	NF40E-13	1SBH 137 001 R1340	1,550
	4	4NO	-	250...500	250...500	NF40E-14	1SBH 137 001 R1440	1,550

3 Pole contactors : Wide band AC / DC operated

Description

- **AF09...AF38 contactor** include an electronic coil interface accepting a wide control voltage $U_{c \min}$... $U_{c \max}$. c c only four coils cover control voltages between 24...500 V 50/60 Hz or 20...500 V DC
- **AF contactor** can manage large control voltage variations. One coil (e.g. 100...250 V 50 or 60 Hz - DC) can be used for different control voltages used worldwide without any coil change.

- **AF...Z contactor** equipped with a Z coil type allow direct control by 24 V DC 500 mA PLC-output and obtain a reduced holding coil consumption.
- **AF contactor** have built-in surge protection and do not require additional surge suppressors.

Contactors: 3-Pole - Wide band AC/DC Operated

AC1 duty Amps	AC3 rating at 415V			Auxiliary contacts		Control Voltage $U_{c \min}$... $U_{c \max}$		Type code	Order code	M.R.P.				
	Amps	hP	kW	V 50/60 Hz	V DC									
25	9	5.5	4	1NO	-	24...60	20...60	AF09-30-10-11	1SBL 137 001 R1110	1,350				
				-	1NC	24...60	20...60	AF09-30-01-11	1SBL 137 001 R1101	1,350				
				1NO	-	48...130	48...130	AF09-30-10-12	1SBL 137 001 R1210	1,350				
				-	1NC	48...130	48...130	AF09-30-01-12	1SBL 137 001 R1201	1,350				
				1NO	-	100...250	100...250	AF09-30-10-13	1SBL 137 001 R1310	1,350				
				-	1NC	100...250	100...250	AF09-30-01-13	1SBL 137 001 R1301	1,350				
				1NO	-	250...500	250...500	AF09-30-10-14	1SBL 137 001 R1410	1,350				
				-	1NC	250...500	250...500	AF09-30-01-14	1SBL 137 001 R1401	1,350				
				28	12	7.5	5.5	1NO	-	24...60	20...60	AF12-30-10-11	1SBL 157 001 R1110	1,590
								-	1NC	24...60	20...60	AF12-30-01-11	1SBL 157 001 R1101	1,590

3 Pole contactors : Wide band AC / DC operated

AC1 duty Amps	AC3 rating at 415V			Auxiliary contacts		Control Voltage $U_{c \min}$... $U_{c \max}$		Type code	Order code	M.R.P.				
	Amps	hP	kW	V 50/60 Hz	V DC									
30	18	9	7.5	-	1NC	24...60	20...60	AF12-30-01-11	1SBL 157 001 R1101	1,590				
				1NO	-	48...130	48...130	AF12-30-10-12	1SBL 157 001 R1210	1,590				
				-	1NC	48...130	48...130	AF12-30-01-12	1SBL 157 001 R1201	1,590				
				1NO	-	100...250	100...250	AF12-30-10-13	1SBL 157 001 R1310	1,590				
				-	1NC	100...250	100...250	AF12-30-01-13	1SBL 157 001 R1301	1,590				
				1NO	-	250...500	250...500	AF12-30-10-14	1SBL 157 001 R1410	1,590				
				-	1NC	250...500	250...500	AF12-30-01-14	1SBL 157 001 R1401	1,590				
				45	26	15	11	1NO	-	24...60	20...60	AF16-30-10-11	1SBL 177 001 R1110	1,650
								-	1NC	24...60	20...60	AF16-30-01-11	1SBL 177 001 R1101	1,650
								1NO	-	48...130	48...130	AF16-30-10-12	1SBL 177 001 R1210	1,650
								-	1NC	48...130	48...130	AF16-30-01-12	1SBL 177 001 R1201	1,650
								1NO	-	100...250	100...250	AF16-30-10-13	1SBL 177 001 R1310	1,650
-	1NC	100...250	100...250					AF16-30-01-13	1SBL 177 001 R1301	1,650				
1NO	-	250...500	250...500					AF16-30-10-14	1SBL 177 001 R1410	1,650				
-	1NC	250...500	250...500					AF16-30-01-14	1SBL 177 001 R1401	1,650				
50	35	20	18					-	-	24...60	20...60	AF26-30-00-11	1SBL 237 001 R1100	2,390
								-	-	48...130	48...130	AF26-30-00-12	1SBL 237 001 R1200	2,390
								-	-	100...250	100...250	AF26-30-00-13	1SBL 237 001 R1300	2,390
								-	-	250...500	250...500	AF26-30-00-14	1SBL 237 001 R1400	2,390
				-	-	24...60	20...60	AF30-30-00-11	1SBL 277 001 R1100	4,890				
				-	-	48...130	48...130	AF30-30-00-12	1SBL 277 001 R1200	4,890				
				-	-	100...250	100...250	AF30-30-00-13	1SBL 277 001 R1300	4,890				
				-	-	250...500	250...500	AF30-30-00-14	1SBL 277 001 R1400	4,890				
				50	38	25	18.5	-	-	24...60	20...60	AF38-30-00-11	1SBL 297 001 R1100	5,920
								-	-	48...130	48...130	AF38-30-00-12	1SBL 297 001 R1200	5,920
								-	-	100...250	100...250	AF38-30-00-13	1SBL 297 001 R1300	5,920
								-	-	250...500	250...500	AF38-30-00-14	1SBL 297 001 R1400	5,920
-	-	24...60	20...60					AF38-30-00-11	1SBL 297 001 R1100	5,920				
-	-	48...130	48...130					AF38-30-00-12	1SBL 297 001 R1200	5,920				

Contactors: 3-Pole - Wide band AC/DC Operated

AC1 duty Amps	AC3 rating at 415V			Auxiliary contacts		Type code	Order code	M.R.P.
	Amps	hP	kW	V 50/60 Hz	V DC			
100	50	34	25	-	-	AF50-30-00**	1SBL 357 001 R□□00	7,600
115	65	50	37	-	-	AF63-30-00**	1SBL 377 001 R□□00	8,250
125	75	54	40	-	-	AF75-30-00**	1SBL 417 001 R□□00	9,950
145	96	60	55	1NO	1NC	AF95-30-11**	1SFL 437 001 R□□11	14,900
160	110	75	59	1NO	1NC	AF110-30-11**	1SFL 457 001 R□□11	16,900
250	145	80	75	1NO	1NC	AF145-30-11**	1SFL 477 001 R□□11	23,200
275	185	100	90	1NO	1NC	AF185-30-11**	1SFL 497 001 R□□11	29,300
350	210	125	110	1NO	1NC	AF210-30-11**	1SFL 517 001 R□□11	35,800
400	260	150	140	1NO	1NC	AF260-30-11**	1SFL 537 001 R□□11	39,900
500	300	190	160	1NO	1NC	AF300-30-11**	1SFL 557 001 R□□11	42,500
600	400	220	220	1NO	1NC	AF400-30-11**	1SFL 577 001 R□□11	44,500
700	460	300	250	1NO	1NC	AF460-30-11**	1SFL 597 001 R□□11	58,000
800	580	430	355	1NO	1NC	AF580-30-11**	1SFL 617 001 R□□11	65,000
1050	750	545	425	1NO	1NC	AF750-30-11**	1SFL 637 001 R□□11	1,10,000

Complete the contactor type code by replacing ** with desired coil voltage
Contactors with advanced electronic coil interface with wideband AC/DC coil

4 Pole contactors : Wide band AC / DC operated

Contactors: 4-Pole - Wide band AC / DC Operated

Rating at 415V AC1 Amps	Main contact arrangement	Auxiliary contacts			Control Voltage		Type code reference	Order code	M.R.P.
					V 50/60 Hz	V DC			
25	4NO	-	-	-	24...60	20...60	AF09-40-00-11	1SBL 137 201 R1100	2,015
		-	-	-	48...130	48...130	AF09-40-00-12	1SBL 137 201 R1200	2,015
		-	-	-	100...250	100...250	AF09-40-00-13	1SBL 137 201 R1300	2,015
		-	-	-	250...500	250...500	AF09-40-00-14	1SBL 137 201 R1400	2,015
30	4NO	-	-	-	24...60	20...60	AF16-40-00-11	1SBL 177 201 R1100	2,420
		-	-	-	48...130	48...130	AF16-40-00-12	1SBL 177 201 R1200	2,420
		-	-	-	100...250	100...250	AF16-40-00-13	1SBL 177 201 R1300	2,420
		-	-	-	250...500	250...500	AF16-40-00-14	1SBL 177 201 R1400	2,420
45	4NO	-	-	-	24...60	20...60	AF26-40-00-11	1SBL 237 201 R1100	3,275
		-	-	-	48...130	48...130	AF26-40-00-12	1SBL 237 201 R1200	3,275
		-	-	-	100...250	100...250	AF26-40-00-13	1SBL 237 201 R1300	3,275
		-	-	-	250...500	250...500	AF26-40-00-14	1SBL 237 201 R1400	3,275
55	4NO	-	-	-	24...60	20...60	AF38-40-00-11	1SBL 297 201 R1100	5,300
		-	-	-	48...130	48...130	AF38-40-00-12	1SBL 297 201 R1200	5,300
		-	-	-	100...250	100...250	AF38-40-00-13	1SBL 297 201 R1300	5,300
		-	-	-	250...500	250...500	AF38-40-00-14	1SBL 297 201 R1400	5,300

Power contactors 4 Pole - Wide band AC / DC operated

70	4NO	-	-	-	AF45-40-00 **	1SBL 337 201 R□□00	10,870
100	4NO	-	-	-	AF50-40-00 **	1SBL 357 201 R□□00	11,010
125	4NO	-	-	-	AF75-40-00 **	1SBL 417 201 R□□00	12,190
200A	4NO	-	2NO	1NC	EK110-40-21 **	SK 824 440- □□	18,340
250A	4NO	-	2NO	1NC	EK150-40-21 **	SK 824 441 - □□	22,770
300A	4NO	-	2NO	1NC	EK175-40-21 **	SK 825 440 - □□	33,480
350A	4NO	-	2NO	1NC	EK210-40-21 **	SK 825 441 - □□	38,160
550A	4NO	-	2NO	1NC	EK370-40-21 **	SK 827 040 - □□	59,400
800A	4NO	-	2NO	1NC	EK550-40-21 **	SK 827 041 - □□	92,000
1000A	4NO	-	2NO	1NC	EK1000-40-21 **	SK 827 044 - □□	1,21,900

Complete the contactor type code by replacing ** with desired coil voltage
AL and EK contactors are DC operated only*

Coil voltages and codes: For EK contactors

Voltage V d.c.	Code
12 ⁽¹⁾	D A
24	D B
48	D D
110	D E
220	D F

(1) Not for EK 370 ... EK 1000 contactors

Coil voltages and codes: AF 45... AF 75

Voltage V - 50/60Hz	Voltage V d.c.	Code
-	20 ... 60	7 2 ⁽¹⁾
48 ... 130	48 ... 130	6 9
100 ... 250	100 ... 250	7 0

(1) The connection polarities indicated close to the coil terminals must be respected: A1 for the positive pole and A2 for the negative pole.

Installation contactors

EN/ESB20	EN/ESB24	EN/ESB40	EN/ESB63
Switching heaters and resistors, AC-1 / AC-7a			
Rated operational current I _b (NO)			
20 A	24 A	40 A	63 A
Rated operational current I _b (NC)			
20 A	24 A	30 A	30 A
Rated operational power, 1-phase at 230 V			
4 kW	5.3 kW	8.8 kW	13.8 kW
Rated operational power, 3-phase at 400 V			
	16 kW	26 kW	41 kW
Switching motors, AC-3 / AC-7b			
Rated operational current I _b (NO)			
9 A	9 A	22 A	30 A
Rated operational current I _b (NC)			
9 A	6 A		
Rated operational power, 1-phase at 230 V			
1.3 kW	2.2 kW	5.5 kW	8 kW
Rated operational power, 3-phase at 400 V			
	4 kW	11 kW	15 kW
Module width			
18 mm	36 mm	54 mm	54 mm



Contacts	Type	Order No.	M.R.P.
20 A 2-pole (No aux.-contact block possible)			
2NO	ESB 20-20 24 V 50/60 Hz	GHE3 211 102 R0001	1,700
2NO	ESB 20-20 230 V 50/60 Hz	GHE3 211 102 R0006	1,700
2NC	ESB 20-02 24 V 50/60 Hz	GHE3 211 202 R0001	1,800
2NC	ESB 20-02 230 V 50/60 Hz	GHE3 211 202 R0006	1,800
1NO, 1NC	ESB 20-11 24 V 50/60 Hz	GHE3 211 302 R0001	1,700
1NO, 1NC	ESB 20-11 230 V 50/60 Hz	GHE3 211 302 R0006	1,700
24 A 2-pole (1 aux.-contact block possible)			
2NO	ESB 24-20 24 V AC/DC	GHE3 291 402 R0006	1,700
2NO	ESB 24-20 24 V AC/DC	GHE3 291 402 R0001	1,700
24 A 4-pole (1 aux.-contact block possible)			
4NO	ESB 24-40 24 V AC/DC	GHE3 291 102 R0001	2,000
4NO	ESB 24-40 230-240 V AC/DC	GHE3 291 102 R0006	2,000
2NO, 2NC	ESB 24-22 24 V AC/DC	GHE3 291 302 R0001	2,300
2NO, 2NC	ESB 24-22 230-240 V AC/DC	GHE3 291 302 R0006	2,300
40 A 2-/3-/4-pole (1 aux.-contact block possible)			
2NO	ESB 40-20 24 V AC/DC	GHE3 491 402 R0001	3,990
2NO	ESB 40-20 230 V AC/DC	GHE3 491 402 R0006	3,800
3NO	ESB 40-30 24 V AC/DC	GHE3 491 502 R0001	4,000
3NO	ESB 40-30 230 V AC/DC	GHE3 491 502 R0006	3,900
4NO	ESB 40-40 24 V AC/DC	GHE3 491 102 R0001	4,300
4NO	ESB 40-40 230 V AC/DC	GHE3 491 102 R0006	4,200
2NO, 2NC	ESB 40-22 24 V AC/DC	GHE3 491 302 R0001	4,500
2NO, 2NC	ESB 40-22 230 V AC/DC	GHE3 491 302 R0006	4,400
63 A 2-/3-/4-pole (1 aux.-contact block possible)			
2NO	ESB 63-20 24 V AC/DC	GHE3 691 402 R0001	4,500
2NO	ESB 63-20 230 V AC/DC	GHE3 691 402 R0006	4,400
3NO	ESB 63-30 230 V AC/DC	GHE3 691 502 R0006	4,800
4NO	ESB 63-40 24 V AC/DC	GHE3 691 102 R0001	5,300
4NO	ESB 63-40 230 V AC/DC	GHE3 691 102 R0006	5,200

Installation contactors

EN-Types - with benefits for service

EN-Types have an integrated 3-position switch for manual and automatic operation.

Functions:

- Switch in position "AUTO" : standard control
- Switch in position "O" : Supply to coil interrupted
- Switch in position "I" : Manually switched on (a trigger signal at the coil terminal initiates the switch moving into "AUTO" position)



Contacts	Type	Order code	M.R.P.
20 A 2-pole (No aux.-contact block possible)			
2NO	EN 20-20 24 V 50 Hz	GHE3 221 101 R0001	3,000
2NO	EN 20-20 230 V 50 Hz	GHE3 221 101 R0006	3,000
24 A 3-pole (1 aux.-contact block possible)			
3NO	EN 24-30 230-240 V AC/DC	GHE3 261 501 R0006	7,500
24 A 4-pole (1 aux.-contact block possible)			
4NO	EN 24-40 24 V AC/DC	GHE3 261 101 R0001	8,200
4NO	EN 24-40 230-240 V AC/DC	GHE3 261 101 R0006	8,000
40 A 3-pole (1 aux.-contact block possible)			
3NO	EN 40-30 230 V AC/DC	GHE3 421 501 R0006	7,600
40 A 4-pole (1 aux.-contact block possible)			
4NO	EN 40-40 24 V AC/DC	GHE3 421 101 R0001	7,700
4NO	EN 40-40 230 V AC/DC	GHE3 421 101 R0006	7,600
Accessories			
2NO	EH 04-20, Aux.-contact block	GHE3 401 321 R0001	800
1NO, 1NC	EH 04-11, Aux.-contact block	GHE3 401 321 R0002	800
distance pcs	ESB-DIS Spacer	GHE3 201 902 R0001	70
Seal	ESBPLK24	GHE3 201 903 R0001	60

Contactors for special application - capacitors switching

Contactors for capacitor switching 3 Pole AC operated

kVAR rating at 415V	Peak inrush current	Auxiliary contacts	Type code reference	Order code	M.R.P.
12.5	Unlimited	1NO —	UA16-30-10RA **	1SBL 181 024 R□□10	2,755
22	Unlimited	1NO —	UA26-30-10RA **	1SBL 241 024 R□□10	3,700
30	Unlimited	1NO —	UA30-30-10RA **	1SBL 281 024 R□□10	4,300
40	Unlimited	— —	UA50-30-00RA **	1SBL 351 024 R□□00	10,500
50	Unlimited	— —	UA63-30-00RA **	1SBL 371 024 R□□00	10,800
60	Unlimited	— —	UA75-30-00RA **	1SBL 411 024 R□□00	12,000
70	Unlimited	— —	UA95-30-00RA **	1SBL 431 024 R□□00	15,100
80	Unlimited	— —	UA110-30-00RA **	1SBL 451 024 R□□00	16,500

Type UA...RA with in-built damping resistors

Complete the contactor type code by replacing ** with desired coil voltage

Price for UAF 50-30 - 00RA..... UAF110-30-00RA (with wide band electronic coil 100...250V AC/DC) on request

Contactors for DC Circuit Switching AC/DC operated

Coil	Current ratings at 440V DC			Type code reference	Order code	M.R.P.
	DC-1	DC-3	DC-5			
AC	100A	85A	50A	GA75-10-00 **	1SBL 411 025 R□□11	16,300
DC	100A	85A	50A	GAE75-10-00 **	1SBL 419 025 R□□11	17,800

Complete the contactor type code by replacing ** with desired coil voltage

Coil voltages and codes UA...RA

Voltage	Voltage	Code
V - 50Hz	V - 60Hz	□□
24	24	8 1
110	110 ... 120	8 4
220 ... 230	230 ... 240	8 0
230 ... 240	240 ... 260	8 8
400 ... 415	415 ... 440	8 6

Coil voltages and codes: GA 75

Voltage	Voltage	Code
V - 50Hz	V - 60Hz	□□
24	24	8 1
110	110 ... 120	8 4
220 ... 230	230 ... 240	8 0
230 ... 240	240 ... 260	8 8
400 ... 415	415 ... 440	8 6

Coil voltages and codes: GAE 75

Voltage	Code
V d.c.	□□
12	8 0
24	8 1
42	8 2
110	8 6
220	8 8
240	8 9

Note: For Non standard coil voltage, other than this please contact us for pricing

Mini contactors

Mini contactors with screw connection 3 Pole AC operated

AC1duty Amps	AC3 rating at 415V			Auxiliary contacts		Type code reference	Order code	M.R.P.	Box Packing quantity
	Amps	hP	kW						
20A	9	5.5	4	1NO	-	B06-30-10 **	GJL 121 1001 R□10□	1,080	10
20A	9	5.5	4	-	1NC	B06-30-01 **	GJL 121 1001 R□01□	1,080	10
20A	12	7.5	5.5	1NO	-	B07-30-10 **	GJL 131 1001 R□10□	1,200	10
20A	12	7.5	5.5	-	1NC	B07-30-01 **	GJL 131 1001 R□01□	1,200	10

Complete the contactor type code by replacing ** with desired coil voltage

Mini contactors with screw connection 3 Pole DC operated

AC1duty Amps	AC3 rating at 415V			Auxiliary contacts		Type code reference	Order code	M.R.P.	Box Packing quantity
	Amps	hP	kW						
20A	9	5.5	4	1NO	-	BC6-30-10 **	GJL 121 3001 R□10□	1,250	10
20A	9	5.5	4	-	1NC	BC6-30-01 **	GJL 121 3001 R□01□	1,250	10
20A	12	7.5	5.5	1NO	-	BC7-30-10 **	GJL 131 3001 R□10□	1,350	10
20A	12	7.5	5.5	-	1NC	BC7-30-01 **	GJL 131 3001 R□01□	1,350	10

Complete the contactor type code by replacing ** with desired coil voltage

Mini relays with screw connection

Control circuit	No. of contacts	Contact configuration		Type code reference	Order code	M.R.P.	Box Packing quantity
AC	4	2NO	2NC	K6-22Z **	GJH 121 1001 R□22□	1,000	10
	4	3NO	1NC	K6-31Z **	GJH 121 1001 R□31□	1,000	10
	4	4NO	-	K6-40E **	GJH 121 1001 R□40□	1,000	10
DC	4	2NO	2NC	KC6-22Z **	GJH 121 3001 R□□22	1,200	10
	4	3NO	1NC	KC6-31Z **	GJH 121 3001 R□□31	1,200	10
	4	4NO	-	KC6-40E **	GJH 121 3001 R□□40	1,200	10

Complete the contactor type code by replacing ** with desired coil voltage

Coil voltage for Mini Contactors

AC		DC	
40-450Hz	Code number	DC V	Code number
24	0 ... 1	24	0 ... 1
48	0 ... 3	110 ... 125	0 ... 4
110 ... 127	8 ... 4	220 ... 240	0 ... 5
220 ... 240	8 ... 0		
380 ... 415	8 ... 5		

Note: For Non standard coil voltage, other than this please contact us for pricing

Accessories for contactors

1-pole Auxiliary Contact Blocks - NS and NSL Contactor Relays

Description	Mounting on contactors	Contact configuration		Type code reference	Order code	M.R.P.
Front mounted single pole add-on blocks	NS,NSL	1NO	-	CA3-10	1SBN 010 011 T1010	120
		-	1NC	CA3-01	1SBN 010 011 T1001	120

* Please refer technical catalogue for proper selection.
Auxiliary contact block for A range

Description	Mounting on contactors	Contact configuration		Type code reference	Order code	M.R.P.
Front mounted single pole add-on blocks	A9...A110 / AL9...AL40, TAL9...TAL40 / AE45...AE110, TAE45...TAE110 / AF45...AF110 / N,NL TNL &UA	1NO	-	CA5-10	1SBN 010 010 R1010	125
		-	1NC	CA5-01	1SBN 010 010 R1001	125
Side mounted 2 pole add-on blocks	A9...A75 / AL9...AL40, TAL9...TAL40 / AE45...AE75, TAE45...TAE75 / AF45...AF75 / N,NL , TNL & UA 16..75	1NO	1NC	CAL5-11	1SBN 010 020 R1011	410
Side mounted 2 pole add-on blocks		1NO	1NC	CAL18-11	1SBN 010 720 R1011	490
Side mounted 2 pole add-on blocks	A145...A300 / AF145...AF2050	1NO	1NC	CAL18-11B	1SBN 010 720 R3311	490

* Please refer technical catalogue for proper selection.

Auxiliary contact block for AF / NF range

Description	Mounting on contactors	Contact configuration		Type code reference	Order code	M.R.P.
Front mounted single pole add-on blocks	AF...AF38 / NF	1NO	-	CA4-10	1SBN 010 110 R1010	150
		-	1NC	CA4-01	1SBN 010 110 R1001	150
Front mounted 4 pole add-on blocks*	AF...AF38 / NF	4NO	-	CA4-40E	1SBN 010 140 R1040	540
		4NO	-	CA4-40U	1SBN 010 140 R1340	540
Front mounted 4 pole add-on blocks*	AF...AF38 / NF	3NO	1NC	CA4-31E	1SBN 010 140 R1031	540
		3NO	1NC	CA4-31U	1SBN 010 140 R1331	540
Front mounted 4 pole add-on blocks*	AF...AF38 / NF	3NO	1NC	CA4-31M	1SBN 010 140 R1131	540
		2NO	2NC	CA4-22E	1SBN 010 140 R1022	540
Front mounted 4 pole add-on blocks*	AF...AF38 / NF	2NO	2NC	CA4-22U	1SBN 010 140 R1322	540
		2NO	2NC	CA4-22M	1SBN 010 140 R1122	540
Front mounted 4 pole add-on blocks*	AF...AF38 / NF	-	4NC	CA4-04E	1SBN 010 140 R1004	540
		-	4NC	CA4-04M	1SBN 010 140 R1104	540
Side mounted 2 pole add-on blocks	AF...AF38 / NF	1NO	1NC	CA4-11	1SBN 010 120 R1011	530

Accessories for contactors

Auxiliary contact blocks for EK range

Description	Mounting on contactors	Contact configuration		Type code reference	Order code	M.R.P.
Side mounting	EK110/EK1000	1NO	1NC	CAL16-11A	SK 829 002-A	510
Two pole		1NO	1NC	CAL16-11B	SK 829 002-B	510
Auxiliary contact		1NO	1NC	CAL16-11C	SK 829 002-C	510
blocks		1NO	1NC	CAL16-11D	SK 829 002-D	510

Adaptor plates

For contactor types	To new contactor	Type code reference	Order code	M.R.P.
EH65, 75, 80, EG80	A95, A110	PR 110-1	1SFN 094 500 R1000	950
EH100, EH145	A110, A145	PR 145-1	1SFN 094 700 R1000	970
EH150, 160, 175, 210, EG160	A185, A210	PR 210-1	1SFN 094 900 R1000	1,050
EH250, 260 & 300	A210...A300	PR 300-1	1SFN 095 300 R1000	1,400
EH370, EH550, EG315	AF400...AF580	PR 460-1	1SFN 095 700 R1000	2,150
EH700, EH800	AF750	PR 750-1	1SFN 096 100 R1000	2,500

Surge suppressors

Description	For contactor types	Voltage range	Type code reference	Order code	M.R.P.
For suppression of disturbances caused by switching of DC coils on electronic circuits	EK110.....EK210	24...48V/AC	RC-EH 300/48	SK 829 007-A	2,200
		110...415V/AC	RC-EH 300/415	SK 829 007-B	2,200
	EK370.....EK1000	48...110V/AC	RC-EH 800/110	SK 829 007-C	2,900
		220...600V/AC	RC-EH 800/600	SK 829 007-D	3,300

Surge suppressors

For contactor types	Voltage range	Type code reference	Order code	M.R.P.
AL9...AL40, AL9Z...AL16Z AE45...AE110, TAL9...TAL40 TAE45...TAE110 NL/NLZ/TNL	12...32 DC	RT 5/32	1SBN 050 020 R1000	720
	25...65 DC	RT 5/65	1SBN 050 020 R1001	720
	50...90 DC	RT 5/90	1SBN 050 020 R1002	720
	77...150 DC	RT 5/150	1SBN 050 020 R1003	720
A9...A110, AL9...AL40 AL9Z...AL16Z AE45...AE10,TAL9...TAL40 TAE45...TAE110, N/NL/NLZ/TNL/NS/NSL/AS/ASL	150...264 DC	RT 5/264	1SBN 050 020 R1004	720
	24...50V AC/DC	RV 5/50	1SBN 050 010 R1000	680
	50...133V AC/DC	RV 5/133	1SBN 050 010 R1001	680
	110...250V AC/DC	RV 5/250	1SBN 050 010 R1002	680
A9...A40, N	250...440V AC/DC	RV 5/440	1SBN 050 010 R1003	680
	24...50V AC	RC 5-1/50	1SBN 050 100 R1000	750
	50...133V AC	RC 5-1/133	1SBN 050 100 R1001	750
	110...250V AC	RC 5-1/250	1SBN 050 100 R1002	750
A45...A110	250...440V AC	RC 5-1/440	1SBN 050 100 R1003	750
	24...50V AC	RC 5-2/50	1SBN 050 200 R1000	750
	50...133V AC	RC 5-2/133	1SBN 050 200 R1001	750
	110...250V AC	RC 5-2/250	1SBN 050 200 R1002	750
	250...440V AC	RC 5-2/440	1SBN 050 200 R1003	750

Accessories for contactors

Mechanical interlocks

For contactor types	Description	Type code reference	Order code	M.R.P.
A9...A40	Horizontal Mechanical Interlock	VM 5-1	1SBN 030 100 R1000	380
A45...A75, A95...A110	Horizontal Mechanical & Electrical Interlock	VE 5-2	1SBN 030 210 R1000	1,200
A95...A185, A210...A300	Horizontal with 2NC contacts	VM 300H	1SFN 034 700 R1000	1,950
AF400...AF460	Horizontal Mechanical Interlock	VM 300/460H	1SFN 035 100 R1000	2,600
AF400...AF460, AF580...AF1250	Horizontal Mechanical Interlock	VM 750H	1SFN 035 700 R1000	2,800
AF1350...AF1650	Horizontal Mechanical Interlock	VM 1650H	1SFN 036 503 R1000	13,000
A9...A40	Horizontal with 2NC contacts	VE 5-1	1SBN 030 110 R1000	590
EK110...EK150	Horizontal Mechanical Interlock	VH145	SK 829 071-A	3,450
EK175...EK210	Horizontal Mechanical Interlock	VH300	SK 829 071-B	3,950
EK370...EK1000	Horizontal Mechanical Interlock	VH800	SK 829 070-F	Upon Request
AF09...AF38	Horizontal Mechanical Interlock	VM 4	1SBN 030 105 T1000	440
AF09...AF38	Horizontal Mechanical & Electrical Interlock	VEM 4	1SBN 030 111 R1000	720

Note: Please refer technical catalogue for proper selection.

Spares for contactors

Spare coils for A range

For contactor types	Type code reference	Order code	M.R.P.
N, A9...A16, UA16..RA	ZA16 **	1SBN 151 410 R□□06	460
A26..A40;UA26..UA30 RA	ZA40 **	1SBN 152 410 R□□06	515
A45..A75;UA50..UA75 RA	ZA75 **	1SBN 153 510 R□□06	1,600
A95..A110; UA95..UA110 RA	ZA110 **	1SFN 154 310 R□□06	2,050
A145...A185	ZA185 **	1SFN 154 710 R□□06	3,200
A210...A300	ZA300 **	1SFN 155 110 R□□06	3,500

Spare coils for AF range

For contactor types	Type code reference	Order code	M.R.P.
AF45...AF75	ZAF75	1SBN 153 570 R□□06	4,300
AF95...AF110	ZAF110	1SFN 153 370 R□□06	7,500
AF145...AF185	ZAF185	1SFN 154 770 R□□06	8,800
AF210,AF260 &AF300	ZAF300	1SFN 155 170 R□□06	11,100
AF460...AF460	ZAF460**	1SFN 155 770 R□□06	12,900
AF580...AF750**	ZAF750**	1SFN 156 170 R□□06	17,300

Spare coils for AC operated contactors 4 pole

Description	For contactor types	Type code reference	Order code	M.R.P.
Standard AC coils suitable for EK Contactors	EK110.....EK150	KH210 **	SK 825 400 - □□	Upon request
	EK175.....EK210	KH300 **	SK 826 400 - □□	
	EK370.....EK550	KH800 **	SK 828 100 - □□	

Spares for contactors

Spare coils for DC operated contactors 4 pole Coil voltages and codes:

Description	For contactor types	Type code reference	Order code	M.R.P.
Consists of a set of double wound D.C. operating coil & economising contact	EK110.....EK150	KP210 **	SK 825 450 - □□	Upon request
	EK175.....EK210	KP300 **	SK 826 450 - □□	Upon request
Consists of a set comprising D.C. operating coil, economising contact and resistor R1 for EK contactors	EK370.....EK550	KP800 **	SK 828 150 - □□	Upon request

Spare contact sets for 3 pole

Description	For contactor types	Type code reference	Order code	M.R.P.
Contact set for 3 -pole contactors consisting of 6 fixed contacts, 3 moving contacts, springs and the required screws	A/AF/AE/TAE50	ZL 50	1SBN 163 503 R1000	2,400
	A/AF/AE/TAE63	ZL 63	1SBN 163 703 R1000	3,100
	A/AF/AE/TAE75	ZL 75	1SBN 164 103 R1000	3,900
	A/AF/AE/TAE95	ZL 95	1SFN 164 303 R1000	5,500
	A/AF/AE/TAE110	ZL 110	1SFN 164 503 R1000	5,900
	A/AF145	ZL 145	1SFN 164 703 R1000	7,000
	A/AF185	ZL 185	1SFN 164 903 R1000	9,300
	A/AF210	ZL 210	1SFN 165 103 R1000	11,300
	A/AF260	ZL 260	1SFN 165 303 R1000	15,300
	A/AF300	ZL 300	1SFN 165 503 R1000	16,400
	AF400	ZL 400	1SFN 165 703 R1000	18,500
	AF460	ZL 460	1SFN 165 903 R1000	23,000
	AF 580	ZL 580	1SFN 166 103 R1000	42,500
	AF 750	ZL 750	1SFN 166 303 R1000	47,500
	UA 50	ZLU 50	1SBN 163 502 R1000	2,400
	UA 63	ZLU 63	1SBN 163 702 R1000	3,300
UA 75	ZLU 75	1SBN 164 102 R1000	4,200	

Spare contact sets for 4 pole

Description	For contactor types	Type code reference	Order code	M.R.P.
Contact sets for 4-Pole contactors consisting of 8-fixed & 4-moving main contacts, c/w screws & appropriate pressure springs	EK110	KZK110	SK 824 204-A	8,500
	EK150	KZK150	SK 824 204-B	10,000
	EK175	KZK175	SK 825 204-A	14,900
	EK210	KZK210	SK 825 204-B	20,500
	EK370	KZK370	SK 827 204-A	33,000
	EK550	KZK550	SK 827 204-B	42,500
	EK1000	KZK1000	SK 827 204-F	48,000

KZK370 to KZK800 include 4-moving arcing contacts

Spares for contactors

Spare arc shields 4 pole

Description	For contactor types	Type code reference	Order code	M.R.P.
Spare arc shield comprising of the contactor top housing with the relevant arc chutes and fixing screws.	EK110	KWK110	5223 351-AH	8,600
	EK150	KWK150	5223 351-AK	10,500
	EK175	KWK175	5223 351-AL	11,800
	EK210	KWK210	5223 351-AM	12,200
	EK370	KWK370	5223 351-Y	16,000
	EK550	KWK550	5223 351-Z	20,000
	EK1000	KWK1000	5223 351-AN	Upon request

Starters

Direct on Line Starter:

Rating at 415V 50Hz		Contactor rating	Back - up fuse	Relay range	Type code reference	Order code	M.R.P.
HP	kW						
0.25	0.18	16A	4A	TA25DU 1.0	MA-0.25 *	1SYN 140 318R86 25	2,500
0.50	0.37	16A	4A	TA25DU 1.4	MA-0.50 *	1SYN 140 318R86 05	2,500
0.75	0.52	16A	6A	TA25DU 1.8	MA-0.75 *	1SYN 140 318R86 75	2,500
1.00	0.75	16A	6A	TA25DU 2.4	MA-1.00 *	1SYN 140 318R86 10	2,500
1.50	1.10	16A	10A	TA25DU 3.1	MA-1.50 *	1SYN 140 318R86 15	2,500
2.00	1.50	16A	10A	TA25DU 4.0	MA-2.00 *	1SYN 140 318R86 20	2,500
3.00	2.20	16A	16A	TA25DU 6.5	MA-3.00 *	1SYN 140 318R86 30	2,500
5.00	3.70	16A	25A	TA25DU 8.5	MA-5.00 *	1SYN 140 318R86 50	2,500
7.50	5.50	16A	32A	TA25DU 14	MA-7.50 *	1SYN 160 318R86 75	2,500
10.00	7.50	16A	32A	TA25DU 19	MA-10.00 *	1SYN 180 318R86 10	2,730

Fully automatic Star Delta Starter:

HP/KW rating at 415V	Contactor types			Relay range	Type code reference	Order code	M.R.P.
	Main	Delta	Star				
12.5	A16	A16	A09	TA25DU 14	SDA-12.5 **	1SYN 184 322R86 00	9,000
15	A26	A26	A09	TA25DU 14	SDA-15 **	1SYN 242 322R86 00	10,000
20	A26	A26	A12	TA25DU 19	SDA-20 **	1SYN 244 322R86 00	11,000
25	A26	A26	A16	TA25DU 25	SDA-25 **	1SYN 246 322R86 00	11,200
30	A30	A30	A16	TA25DU 32	SDA-30 **	1SYN 282 322R86 00	16,550
35	A30	A30	A16	TA25DU 32	SDA-35 **	1SYN 284 322R86 00	17,000
40	A40	A40	A26	TA42DU 42	SDA-40 **	1SYN 322 322R86 00	22,000
50	A50	A50	A26	TA75DU 52	SDA-50 **	1SYN 352 342R86 00	25,150
60	A63	A63	A30	TA75DU 63	SDA-60 **	1SYN 372 342R86 00	34,500
75	A75	A75	A40	TA75DU 63	SDA-75 **	1SYN 412 342R86 00	39,650

Complete the starter type code by replacing the ** with the desired coil voltage.

Voltage	Code
220 ... 230 V coil	3 8
400 ... 415 V coil	8 6

Manual motor starter

Breaking capacity at 415V	Thermal range Amps	Magnetic tripping band	Type code reference	Order code	M.R.P.
---------------------------	--------------------	------------------------	---------------------	------------	--------

MS 116: 3 pole power manual motor starter with rotary knob control protection against overload, short circuit, phase failure, under voltage

50kA	0.10.....0.16	9.6.....14.4In	MS116-0.16	1SAM 250 000 R1001	2,475
50kA	0.16.....0.25	9.6.....14.4In	MS116-0.25	1SAM 250 000 R1002	2,475
50kA	0.25.....0.40	9.6.....14.4In	MS116-0.40	1SAM 250 000 R1003	2,475
50kA	0.40.....0.63	9.6.....14.4In	MS116-0.63	1SAM 250 000 R1004	2,795
50kA	0.63.....1.00	9.6.....14.4In	MS116-1.00	1SAM 250 000 R1005	2,795
50kA	1.00.....1.60	9.6.....14.4In	MS116-1.60	1SAM 250 000 R1006	2,895
50kA	1.60.....2.50	9.6.....14.4In	MS116-2.50	1SAM 250 000 R1007	2,895
50kA	2.50.....4.00	9.6.....14.4In	MS116-4.00	1SAM 250 000 R1008	2,985
50kA	4.00.....6.30	9.6.....14.4In	MS116-6.30	1SAM 250 000 R1009	2,985
50kA	6.30.....10.00	9.6.....14.4In	MS116-10.00	1SAM 250 000 R1010	3,120
25kA	8.00.....12.00	9.6.....14.4In	MS116-12	1SAM 250 000 R1012	3,250
16kA	10.00.....16.00	9.6.....14.4In	MS116-16	1SAM 250 000 R1011	3,500

MS 132: 3 pole power manual motor starter with rotary knob control protection against overload, short circuit, phase failure, under voltage

100kA	0.1 - 0.16	1.25.....1.87 Amp	MS132-0.16	1SAM 350 000 R1001	3,375
100kA	0.16 - 0.25	1.95.....2.92 Amp	MS132-0.25	1SAM 350 000 R1002	3,375
100kA	0.25 - 0.40	3.12.....4.68 Amp	MS132-0.40	1SAM 350 000 R1003	3,375
100kA	0.40 - 0.63	4.91.....7.37 Amp	MS132-0.63	1SAM 350 000 R1004	3,375
100kA	0.63 - 1.00	9.2.....13.8 Amp	MS132-1.00	1SAM 350 000 R1005	3,775
100kA	1.00 - 1.60	14.7.....22.1 Amp	MS132-1.60	1SAM 350 000 R1006	3,775
100kA	1.60 - 2.50	23.0.....34.5 Amp	MS132-2.50	1SAM 350 000 R1007	3,775
100kA	2.50 - 4.00	40.0.....60.00 Amp	MS132-4.00	1SAM 350 000 R1008	3,775
100kA	4.00 - 6.30	63.0.....94.50 Amp	MS132-6.30	1SAM 350 000 R1009	3,775
100kA	6.30 - 10.0	120.0.....180.00 Amp	MS132-10.00	1SAM 350 000 R1010	4,105
50kA	8.00 - 12.0	144.0.....216.00 Amp	MS132-12.00	1SAM 350 000 R1012	4,105
50kA	10.0 - 16.0	192.0.....288.00 Amp	MS132-16	1SAM 350 000 R1011	4,205
50kA	16.0 - 20.0	240.0.....360.00 Amp	MS132-20	1SAM 350 000 R1013	4,520
50kA	20.0 - 25.0	300.0.....450.00 Amp	MS132-25	1SAM 350 000 R1014	4,550
25kA	25.0 - 32.0	384.0.....576.00 Amp	MS132-32	1SAM 350 000 R1015	7,300

Breaking capacity at 415V	Rated instantaneous short-circuit current setting Ii A	Rated operational current Ie A	Type code reference	Order code	M.R.P.
---------------------------	--	--------------------------------	---------------------	------------	--------

MO 132: 3 Pole Power Manual Motor Starter with Rotary Knob Control magnetic only type : protection against short circuit

100kA	1.56	0.16	MO132-0.16	1SAM 360 000 R1001	2,950
100kA	2.44	0.25	MO132-0.25	1SAM 360 000 R1002	2,950
100kA	3.9	0.4	MO132-0.4	1SAM 360 000 R1003	2,950
100kA	6.14	0.63	MO132-0.63	1SAM 360 000 R1004	2,950
100kA	11.5	1	MO132-1.0	1SAM 360 000 R1005	3,350
100kA	18.4	1.6	MO132-1.6	1SAM 360 000 R1006	3,350
100kA	28.75	2.5	MO132-2.5	1SAM 360 000 R1007	3,350
50kA	50	4	MO132-4.0	1SAM 360 000 R1008	3,350
50kA	78.75	6.3	MO132-6.3	1SAM 360 000 R1009	3,350
50kA	125	10	MO132-10	1SAM 360 000 R1010	3,560
50kA	150	12	MO132-16	1SAM 360 000 R1012	3,560
50kA	200	16	MO132-12	1SAM 360 000 R1012	3,560
50kA	250	20	MO132-20	1SAM 360 000 R1013	4,000
50kA	313	25	MO132-25	1SAM 360 000 R1014	4,150
50kA	400	32	MO132-32	1SAM 360 000 R1015	6,750

Manual motor starter

Breaking capacity at 415V	Thermal range Amps	Magnetic tripping band	Type code reference	Order code	M.R.P.
MS 450: 3 pole power manual motor starter with rotary knob control protection against overload, short circuit, phase failure, under voltage					
50kA	28.....40	12In	MS450-40	1SAM 450 000 R1005	10,200
50kA	36.....45	12In	MS450-45	1SAM 450 000 R1006	11,200
50kA	40.....50	12In	MS450-50	1SAM 450 000 R1007	11,500
MS 495: 3 pole power manual motor starter with rotary knob control protection against overload, short circuit, phase failure, under voltage					
50kA	45.....63	12In	MS495-63	1SAM 550 000 R1007	13,000
50kA	57.....75	12In	MS495-75	1SAM 550 000 R1008	13,000
50kA	70.....90	12In	MS495-90	1SAM 550 000 R1009	13,500
50kA	80....100	12In	MS495-100	1SAM 550 000 R1010	15,000

Price for Magnetic only types MO 325 / MO 496 / MO 450 / MO 495 are available on request

Price for MS 497 3 Pole Manual Motor Starter with 100 kA breaking capacity are available on request

Accessories for MS116 / MS 132 / MO132

Accessory	Description	Type code reference	Order code	M.R.P.
Auxiliary Contact	Lateral attachment Right side,1NO+1NC	HK1-11	1SAM 201 902 R1001	550
	Lateral attachment Right side, 2NO	HK1-20	1SAM 201 902 R1002	550
	Lateral attachment Right side,2NC	HK1-02	1SAM 201 902 R1003	550
	Lateral attachment front side, 1NO+1NC	HKF1-11	1SAM 201 901 R1001	500
Signalling Contact	Lateral attachment Right side,1NO+1NC	SK1-11	1SAM 201 903 R1001	750
	Lateral attachment Right side, 2NO	SK1-20	1SAM 201 903 R1002	750
	Lateral attachment Right side,2NC	SK1-02	1SAM 201 903 R1003	750
Shunt trip Release	Lateral attachment left side	AA1*	1SAM 201 910 R1001	2,300
UV Release	Lateral attachment left side	UA1**	1SAM 201 904 R1001	1,900
Phase buses for crosswiring MS116	For 2 devices	PS1-2-0	1SAM 201 906 R1002	600
	For 3 devices	PS1-3-0	1SAM 201 906 R1003	690
	For 4 devices	PS1-4-0	1SAM 201 906 R1004	770
	For 5 devices	PS1-5-0	1SAM 201 906 R1005	880
	Power infeed block Flat	S1-M1	1SAM 201 907 R1001	760
	Power infeed block High	S1-M2	1SAM 201 907 R1002	820
Connecting Link	MS116 and A9/A12/A16	BEA16/116	1SBN 081 406 R1000	350
Connecting Link	MS116 and A26	BEA26/116	1SBN 082 406 R1000	400
Connecting Link	MS132 and AF09...AF161	BEA16/4	1SBN 081 306 T1000	300
Connecting Link	Ms132 and AF26...AF38	BEA38/4	1SBN 082 306 T2000	350
Mounting plate	MS116 or MS325 + A26	PM26-13	1SBN 092 406 R1000	800
Door Mounted Handle	MSMN Driver	MSMN Driver	1SAM 101 923 R0002	160
	OXS6X130	OXS6X130	1SCA 101 655 R1001	430
	Handle Mechanism	Handle Mechanism	1SAM 201 920 R1001	510
Insulating enclosure IP65	Insulating enclosure IP65 with rotary handle.	IB 116-G	1SAM 201 911 R1000	1,200
	Twist knob Black			
	Insulating enclosure IP65 with rotary handle.	IB 116-Y	1SAM 201 911 R1001	1,300
	Twist knob Yellow			

* coil voltages available are 24V, 110V, 230V, 400V

** coil voltages available are 24V, 120V, 230V, 415V

Accessories for manual motor starter

Accessories for MS450/495/496/497

Accessory	Description	Type code reference	Order code	M.R.P.
Auxiliary Contact	1NO+1NC	HK4 - 11	1SAM 401 901 R1001	650
	1 C/O	HK4 - W	1SAM 401 901 R1002	650
Auxiliary Contact lateral mounting	1NO+1NC	HKS4-11	1SAM 401 902 R1001	650
	2NO	HKS4 - 20	1SAM 401 902 R1002	650
	2NC	HKS4 - 02	1SAM 401 902 R1003	650
Signalling Contact	1NO+1NC	SK4 - 11	1SAM 401 904 R1001	1,230
Door Mounted Handle	MSMN Driver	MSMN Driver	1SAM 101 923 R0002	160
	OXS6X130	OXS6X130	1SCA 101 655 R1001	430
	Handle Mechanism	OHB 2AJM	1SCA 022 384 R6940	510
Shunt trip release	Lateral mounting- left side	AA4*	1SAM 401 907 R1001	1,850
UV release	Lateral mounting- right side	UA4**	1SAM 401 905 R1004	1,850

* coil voltages available are 20-70V, 70-190V, 190-330V,330-500V

** coil voltages available are 24V,110V, 230V,400V

Thermal overload relays

Relay range in Amps	Direct mounting on Contactors	Type code reference	Order code	M.R.P.	
0.10....0.16	A9...A40 AL9...AL40 TAL9...TAL40 AL9Z...AL16Z	TA25DU 0.16	1SAZ 211 201 R1005	1,200	
0.10....0.16		TA25DU 0.25	1SAZ 211 201 R1009	1,200	
0.25....0.40		TA25DU 0.40	1SAZ 211 201 R1013	1,200	
0.40....0.63		TA25DU 0.63	1SAZ 211 201 R1017	1,200	
0.63....1.00		TA25DU 1.00	1SAZ 211 201 R1021	1,200	
1.00....1.40		TA25DU 1.40	1SAZ 211 201 R1023	1,200	
1.30....1.80		TA25DU 1.80	1SAZ 211 201 R1025	1,200	
1.70....2.40		TA25DU 2.40	1SAZ 211 201 R1028	1,200	
2.20....3.10		TA25DU 3.10	1SAZ 211 201 R1031	1,200	
2.80....4.00		TA25DU 4.00	1SAZ 211 201 R1033	1,200	
3.50....5.00		TA25DU 5.00	1SAZ 211 201 R1035	1,200	
4.50....6.50		TA25DU 6.50	1SAZ 211 201 R1038	1,200	
6.00....8.50		TA25DU 8.50	1SAZ 211 201 R1040	1,200	
7.50....11.0		TA25DU 11	1SAZ 211 201 R1043	1,200	
10.0....14.0		TA25DU 14	1SAZ 211 201 R1045	1,200	
13.0....19.0		TA25DU 19	1SAZ 211 201 R1047	1,600	
18.0....25.0		TA25DU 25	1SAZ 211 201 R1051	1,600	
24.0....32.0		TA25DU 32	1SAZ 211 201 R1053	1,650	
18.0....25.0		A30, A40 AL30, AL40 TAL30, TAL40	TA42DU 25	1SAZ 311 201 R1001	3,200
22.0....32.0			TA42DU 32	1SAZ 311 201 R1002	3,300
29.0....42.0	TA42DU 42		1SAZ 311 201 R1003	3,500	
22....32	A50...A75 AE50...AE75 TAE50...TAE75 AF50...AF75	TA75DU 32	1SAZ 321 201 R1002	3,500	
29....42		TA75DU 42	1SAZ 321 201 R1003	3,500	
36....52		TA75DU 52	1SAZ 321 201 R1004	3,500	
45....63		TA75DU 63	1SAZ 321 201 R1005	3,700	
60....80		TA75DU 80	1SAZ 321 201 R1006	4,500	

TA25/TA42/TA75/TA80/TA110/TA200 are direct operated relays with trip class 10A

Accessories

Independent Mounting Kit	TA25DU0.16..25A	DB25/25	1SAZ 201 108 R0001	240
	TA25DU32	DB25/32	1SAZ 201 108 R0002	850

Relay range in Amps	Mounting on contactors	Type code reference	Order code	M.R.P.
65....91	Separate Mounting	Ti135DU 90	1SYN410002B1	6,000
80....112		Ti135DU 110	1SYN410003B1	6,000
100....140		Ti135DU 135	1SYN410004B1	6,400
130....185		Ti450DU 185	1SYN410005B1	6,400
165....236		Ti450DU 235	1SYN410006B1	7,300
217....310		Ti450DU 310	1SYN410007B1	7,500
280....400		Ti450DU 400	1SYN410008B1	8,000

Ti are CT-operated relays with trip class 20

Thermal overload relays

TF42 Relays

Relay range in Amps	Direct mounting on Contactors	Type code reference	Order code	M.R.P.
0.10....0.13	AF09...AF38	TF42-0.13	1SAZ 721 201 R1005	Upon Request
0.13....0.17		TF42-0.17	1SAZ 721 201 R1008	
0.17....0.23		TF42-0.23	1SAZ 721 201 R1009	
0.23....0.31		TF42-0.31	1SAZ 721 201 R1013	
0.31....0.41		TF42-0.41	1SAZ 721 201 R1014	
0.41....0.55		TF42-0.55	1SAZ 721 201 R1017	
0.55....0.74		TF42-0.74	1SAZ 721 201 R1021	
0.74....1.00		TF42-1.0	1SAZ 721 201 R1023	
1.00....1.30		TF42-1.3	1SAZ 721 201 R1025	
1.30....1.70		TF42-1.7	1SAZ 721 201 R1028	
1.70....2.30		TF42-2.3	1SAZ 721 201 R1031	
2.30....3.10		TF42-3.1	1SAZ 721 201 R1033	
3.10....4.20		TF42-4.2	1SAZ 721 201 R1035	
4.20....5.70		TF42-5.7	1SAZ 721 201 R1038	
5.70....7.60		TF42-7.6	1SAZ 721 201 R1040	
7.60....10.0		TF42-10	1SAZ 721 201 R1043	
10.0....13.0		TF42-13	1SAZ 721 201 R1045	
13.0....16.0		TF42-16	1SAZ 721 201 R1047	
16.0....20.0		TF42-20	1SAZ 721 201 R1049	
20.0....24.0		TF42-24	1SAZ 721 201 R1051	
24.0....29.0		TF42-29	1SAZ 721 201 R1052	
29.0....35.0		TF42-35	1SAZ 721 201 R1053	
35.0....38.0/40.0		TF42-38	1SAZ 721 201 R1055	

T16 Relays

Relay range in Amps	Direct mounting on Contactors	Type code reference	Order code	M.R.P.
0.10....0.13	B6/BC6 B7/BC7 VB6/VBC6 VB7/VBC7 AS/ASL NS/NSL	T16-0.13	1SAZ 711 201 R1005	Upon Request
0.13....0.17		T16-0.17	1SAZ 711 201 R1008	
0.17....0.23		T16-0.23	1SAZ 711 201 R1009	
0.23....0.31		T16-0.31	1SAZ 711 201 R1013	
0.31....0.41		T16-0.41	1SAZ 711 201 R1014	
0.41....0.55		T16-0.55	1SAZ 711 201 R1017	
0.55....0.74		T16-0.74	1SAZ 711 201 R1021	
0.74....1.00		T16-1.0	1SAZ 711 201 R1023	
1.00....1.30		T16-1.3	1SAZ 711 201 R1025	
1.30....1.70		T16-1.7	1SAZ 711 201 R1028	
1.70....2.30		T16-2.3	1SAZ 711 201 R1031	
2.30....3.10		T16-3.1	1SAZ 711 201 R1033	
3.10....4.20		T16-4.2	1SAZ 711 201 R1035	
4.20....5.70		T16-5.7	1SAZ 711 201 R1038	
5.70....7.60		T16-7.6	1SAZ 711 201 R1040	
7.60....10.0		T16-10	1SAZ 711 201 R1043	
10.0....13.0		T16-13	1SAZ 711 201 R1045	
13.0....16.0	T16-16	1SAZ 711 201 R1047		

Electronic Overload Relays class 10, 20, 30

Trip Class 10, 20, 30 selectable

Type	Setting Range	Trip Class	Contact Designation	Order Code	M.R.P.
E16DU 0.32	0.1 - 0.32A	selectable	B...6-B...7 / A...9...A...16...	1SAX 111 001 R1101	Upon request
E16DU 1.0	0.3 - 1.0A	selectable	B...6-B...7 / A...9...A...16...	1SAX 111 001 R1102	
E16DU 2.7	0.8 - 2.7A	selectable	B...6-B...7 / A...9...A...16...	1SAX 111 001 R1103	
E16DU 6.3	1.9 - 6.3A	selectable	B...6-B...7 / A...9...A...16...	1SAX 111 001 R1104	
E16DU 18.9	5.7 - 18.9A	selectable	B...6-B...7 / A...9...A...16...	1SAX 111 001 R1105	
E45DU 30	9 - 30A	selectable	A...26 ... A...40	1SAX 211 001 R1101	
E45DU 45	15 - 45A	selectable	A...26 ... A...40	1SAX 211 001 R1102	
E80DU 80	27 - 80A	selectable	A...50 ... A...75	1SAX 311 001 R1101	
E140DU 140	50 - 140A	selectable	A...95 ... A...110	1SAX 321 001 R1101	
E200DU 200	60 - 200A	selectable	A...145 ... A...185	1SAX 511 001 R1101	
E320DU 320	100 - 320A	selectable	A...210 ... A...300	1SAX 521 001 R1101	
E500DU 500	150 - 500A	selectable	A...400 ... A...460	1SAX 711 001 R1101	
E800DU 800	250 - 800A	selectable	A...580 ... A...750	1SAX 811 001 R1101	
E1250DU	375 - 1250A	selectable	A...1350 ... A...1630	1SAX 739 001 R1000	

Accessories

Type	Description	Order Code	M.R.P.
DB16E	Separate mounting kit	1SAX 101 110 R0001	Upon request
DB45E	Separate mounting kit	1SAX 201 110 R1001	
DB80E	Separate mounting kit	1SAX 301 110 R1001	
DB140E	Separate mounting kit	1SAX 301 110 R1002	
LT200E	Terminal shrouds for E200DU	1SAX 501 904 R0001	
LT320E	Terminal shrouds for E320DU	1SAX 601 904 R0001	
LT500E	Terminal shrouds for E500DU	1SAX 701 904 R0001	
LT800E	Terminal shrouds for E800DU	1SAX 801 904 R0001	

FBP FieldBusPlug

Motor management, general information

With the Universal Motor Controller UMC100-FBP, ABB provides the optimum solution for integrating motor control into system control. The UMC100-FBP is a flexible, modularly expandable motor management system for low voltage motors with constant rotational speed. Its most important task is avoiding system downtimes through early detection of possible drive problems and reducing the associated downtimes through quick detection of the error cause if a motor stop has occurred.



Universal Motor Controller UMC100-FBP

Continued further development

The UMC100-FBP Universal Motor Controller ideally supplements the already proven UMC22-FBP with several additional functions and extensions. It is based on ABB's long-standing experience in the area of motor protection and drive technology.

Motor management and more

With its predefined control features and the option to optimally adapt the device to different system conditions due to its flexible logic, the UMC100-FBP is very well suited to varied applications. For complex applications with more I/Os or special signals, extension modules are available.

High system availability

The UMC100-FBP continuously provides extensive operating, service and diagnostic data of the motor. This enables the operator to detect faults in time or to even prevent these with suitable measures, or to limit their effect. Quick error location and elimination increases system availability.



Operating panel UMC100 PAN

Electronic full motor protection

The comprehensive electronic full motor protection is self-sufficient and guarantees full motor protection even if superordinated automation or process control systems or the bus system fail. The high accuracy of the electronic measuring system better utilizes the performance of the motors. The digital technology guarantees high long-term stability of the tripping characteristic and consistent tripping behavior even after many years of use.



I/C expansion modules DX111-FBP/DX122-FBP

Less planning, development and material effort

The UMC100-FBP already convinces during the planning and development phase due to its universal and modular structure. All required protection, monitoring and control features are integrated in one single device, which thus reduces the wiring effort. One single version for all current ranges and field buses simplifies planning and service from systems through to the spares inventory.

Simple integration in a confined space

Due to its compact design with integrated measuring system, the UMC100-FBP reduces the required floor space. This is important for application in low voltage drawer systems in conditions with limited space, or for conversion of existing systems to a modern motor management system.



I/C expansion modules V1150-FBP/V1155-FBP

Flexible integration into process control

With the FieldBusPlug, the UMC100-FBP can communicate with control systems via the widespread standard fieldbus systems PROFIBUS DP, CANopen, DeviceNet or Modbus. With the FDT interface it is easy to configure the motor management in the process control and adapt it to the process.

FBP FieldBusPlug

Motor management, general information



Customer-specific application

Application in industrial plants

In large industrial systems it is quite common that several thousand motors are required to provide the required movement. This in turn requires intelligent devices on site, as well as a continuous connection from the process control and automation level through to the field. For this reason it is particularly important that motors can be easily integrated into system control and monitoring. With the FieldBusPlug system and the new UMC100-FBP motor management system, the best prerequisites are created for this. Intelligent motor management ensures high reliability in the process. The UMC100-FBP motor management system is easy to handle, from planning and implementation through to on-site service.

Application of UMC100-FBP Universal Motor Controllers in MCCs

The use of intelligent motor management systems with their coordinated accessories provides many advantages.

- When removing the basic drawer unit from the control cabinet, the bus system remains fully operational. This applies to all FieldBusPlugs. There are no branch lines that could result in malfunctions of the fieldbus.
- Bus addresses are kept

FBP FieldBusPlug

Motor management system UMC100-FBP & accessories, ordering data



UMC100-FBP

Universal Motor Controller UMC100-FBP

Intelligent motor management system for three-phase with $I_b = 0,24 - 63$ A in one single device. Compact housing with integrated bushing-type current transformer for cable cross section up to 25 mm² (max. Ø with insulation 11 mm). Higher currents with additional external current transformer.

Thermal overload protection according to EN/IEC 60947-4-1, selectable trip classes 5E, 10E, 20E, 30E, 40E. (Some functions require the additional use of a voltage expansion module V1150 or V1155)

- Motor protection functions : Over-/Underload, Over-/Undercurrent, Over-/Undervoltage, rotor blocking Phase failure / imbalance / sequence
Earth fault detection integrated or with external sensor CEM11
Thermistor motor protection
- Motor control functions : Easily configurable motor control functions: direct, reverse, star-delta starter, pole-changing, overload relay, actuator mode. Additionally free programmable application specific logic with function blocks
- Service and diagnostic data : Operating hours, number of motor starts and overload trips
Motorstatus, faults and warnings, fault history (16 events)
Motor current, phase voltages, thermal load, power factor (cos φ), active power, apparent power, energy, total harmonic distortion (THD).

FBP FieldBusPlug

Motor management system UMC100-FBP & accessories, ordering data

Integrated I/Os: 6 digital inputs, 1 FTC input, 4 digital outputs. Maximum number of I/Os with expansion module: 14 digital inputs, 1 PTC input, 8 digital outputs, 1 analogue output,
Interface for FieldBusPlug for communication via fieldbus systems,
Interface for operator panel UMC100-PAN, Bus interface for connection of expansion modules UMC100 requires 24 V DC power supply.

Type	Designation	Nominal motor current	Order code
UMC100-FBP.0	Universal Motor Controller	0.24 - 63 A	1SAJ 520 000 R0101
UMC100-FBP.2	Universal Motor Controller, ATEX	0.24 - 63 A	1SAJ 520 000 R0200



DX111-FBP/DX122-FBP

Expansion modules and accessories for Universal Motor Controller UMC100-FBP

One I/O-expansion-module Dx111 or Dx122 and one voltage-expansion-module V1150 or V1155 can be connected to a UMC100. All expansion modules require 24 V DC power supply

- DX111-FBP.0 : I/O-expansion module with 8 digital inputs 24 V DC, 4 relay outputs, 1 analog output 0/4...20 mA or 0...10 V
- DX122-FBP.0 : I/O-expansion module with 8 digital inputs 110 / 230 V AC, 4 relay outputs, 1 analog output 0/4 - 0 mA or 0 - 10 V
- V1150-FBP.0 : Voltage expansion module for use in grounded networks, 150 - 690 V AC
- V1155-FBP.0 : Voltage expansion module for use in all networks, 150 - 690 V AC
Voltage modules for the determination of phase voltages, power factor (cos φ), apparent power, energy, total harmonic distortion (THD)



V1150-FBP/V1155-FBP

Type	Designation	For use with	Order code
DX111-FBP.0	I/O module for UMC100, 24 V DC digital input and supply voltage	UMC100-FBP	1SAJ 611 000 R0101
DX122-FBP.0	I/O module for UMC100, 110-230 V AC digital input, 24 V DC supply voltage	UMC100-FBP	1SAJ 622 000 R0101
V1150-FBP.0	3 phase Voltage module for grounded networks	UMC100-FBP	1SAJ 650 000 R0100
V1155-FBP.0	3 phase Voltage module for all networks	UMC100-FBP	1SAJ 655 000 R0100
UMCIO-CAB.030	Connection cable UMC100 - I/O module, length 0.30 m	UMC100-FBP	1SAJ 691 000 R0001
IOIO-CAB.030	Connection cable IO-module - IO module, length 0.30 m	UMC100-FBP	1SAJ 692 000 R0001
UMCTB-FBP.0	Terminal set for UMC (spare parts)	UMC22-FBP	1SAJ 929 160 R0001

FBP FieldBusPlug

Communicative motor starter UMC100-FBP with control functions, ordering data



UMC100-PAN

Operating panel UMC100-PAN and accessories for Universal Motor Controller UMC100-FBP

Operating, diagnostics and parameter setting panel for Universal Motor Controller UMC100-FBP. Setting of motor and bus parameters. Backlit graphical multilingual display. Assembly directly on UMC100-FBP or on the control cabinet door via extension cable and door mounting set Ip65 (front side)

Type	Designation	For use with	Order code
DX111-FBP.0	Operating panel	UMC100-FBP	1SAJ 590 000 R0102
DX122-FBP.0	3 m ext. cable with door mounting set	UMC100-FBP UMC22-FBP	1SAJ 510 002 R0001
V1150-FBP.0	0.7 m ext. cable with door mounting set	UMC100-FBP UMC22-FBP	1SAJ 510 003 R0001
V1155-FBP.0	1.5 m ext. cable with door mounting set	UMC100-FBP UMC22-FBP	1SAJ 510 004 R0001



UMC22-FBP

Universal Motor Controller UMC22-FBP

Universal Motor controller for three-phase motors of 0.24 - 63 A in one single device type. Thermal overload protection according to EN/IEC 60947-4-1, adjustable trip categories 5, 10, 20, 30. Integrated bushing-type current transformers for cable cross section up to 25 mm² (11 mm max. diameter incl. insulation). Easily configureable motor control functions: Direct starting, reverse starting, star-delta starting, actuator, pole-changing. Motor protection functions: Overload, blocking, phase failure, ground fault with sensor CEM11, temperature. Diagnostic functions: Operating hours, number of motor starts and overloads, storage of parameters and motor data. Integrated I/os: 6 digital inputs, 1 PTC input, 3 relay outputs. Fieldbus-neutral interface for FieldBusPlug. Interface to UMC-PAN control panel.

Type	Designation	Nominal motor current	Order code
UMC22-FBP.0	Universal Motor Controller	0.24 - 63 A	1SAJ 510 000 R0600



UMC-PAN

Operating panel UMC100-PAN with accessories for Universal Motor Controller UMC22-FBP

Operating, diagnostics and parameter setting panel for Universal Motor Controller UMC22-FBP. Setting of motor and bus parameters. Copy function: Reading and transferring motor parameters to additional UMC22-FBPs. Accessories: Extension cable and door mounting set IP65 (front side).

Type	Designation	For use with	Order code
UMC-PAN	Operating panel	UMC22-FBP	1SAJ 510 001 R0002
UMCPAN-CAB.300	3 m ext. cable with door mounting set	UMC22-FBP UMC100-FBP	1SAJ 510 002 R0001
UMCPAN-CAB.070	0.7 m ext. cable with door mounting set	UMC22-FBP UMC100-FBP	1SAJ 510 003 R0001
UMCPAN-CAB.150	1.5 m ext. cable with door mounting set	UMC22-FBP UMC100-FBP	1SAJ 510 004 R0001

Softstarters

ABB softstarters - The complete range

ABB offers four different ranges of softstarters to cover every customer need for solutions for motor sizes up to 1800 A. This page describes the main characteristics of the different softstarter ranges

PSR - The compact range

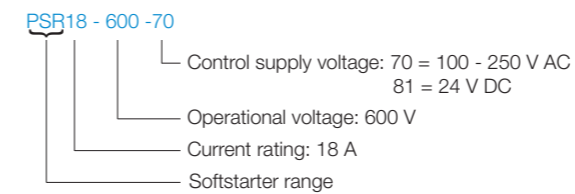
The PSR softstarter is the most compact of all the softstarter ranges, thereby making it possible to design compact starting equipments. The system concept with Manual Motor Starters and the PSR provides a far more compact starting solution than for instance a star delta starter.

Built-in by-pass reduces the energy loss and makes the connection easier and with only three potentiometers, the set-up couldn't be any easier. Still, the optimized ramping characteristics will ensure a very smooth start and stop for all applications.

PSE - The efficient range

The PSE softstarter is the world's first compact softstarter with both built-in electronic overload for motor protection and torque control for an excellent control of pumps. The compact design with the most important functionality integrated provides a very efficient starting solution.

The illuminated language neutral display and the four button keypad make it easy to take advantage of all the advanced functionality in the softstarter. The display will also provide all the necessary information both during



PST(B) - The advanced range

The PST(B) softstarter is the most advanced softstarter in the range with almost all imaginable functionality included. All the advanced protections for the motor, the softstarter and the load ensure a trouble free operation. Pre-warnings even allow problems to be detected before the motor needs to be stopped

The torque control function has been developed and tested together with well known pump manufacturers to ensure the absolutely best possible stop of pumps without water hammering and pressure surges, and thereby avoiding unnecessary downtime.

With the full text LCD display in your own language, pre-programmed application settings and event logging, it couldn't be easier to set-up and operate.

By using the ABB FieldBusPlug, you can decide at any time which bus protocol to use. The fieldbus system will allow you to set-up, control and monitor the softstarter.

PSR	PSS	PSE	PST(B)	• Standard O Opional - Not available
•	-	•	• 1)	Built-in by-pass
-	•	-	•	Inside delta connection
-	-	•	O	Coated PCBs
-	-	•	•	Display and keypad
-	-	•	•	Torque control
-	O	•	•	Settable current limit function
-	-	•	•	Electronic motor overload protection
-	-	-	•	PTC input for motor protection
-	-	-	•	Phase imbalance protection
-	-	-	•	Phase reversal protection
-	-	•	•	Locked rotor protection
-	•	•	•	Thyristor overtemperature protection
-	-	•	•	Underload protection
-	-	-	•	Programmable warning functions
-	-	•	•	Analog output
O	-	O	•	FieldBus communication
-	-	O	•	Event log
-	-	O	O	External keypad

Quick guide for selection

<p>Normal start Class 10</p> <ul style="list-style-type: none"> • Bow thruster • Compressor • Elevator 	<p>Heavy duty start class 30</p> <ul style="list-style-type: none"> • Centrifugal pump • Conveyor belt (short) • Escalator
--	--

Typical applications

<ul style="list-style-type: none"> • Centrifugal fan • Crusher • Mixer 	<ul style="list-style-type: none"> • Conveyor belt (long) • Mill • Stirrer
---	---

If more than 10 starts/h
Select one size larger than the standard selection

Soft starters

PSR - The compact and cost effective solution integrated bypass
 PSR3 ... PSR105
 Rated operational voltage U_n , 208-600 V AC
 Rated control supply voltage, U_c , 100 - 240 V AC



415V P _e kW	500V P _e kW	IEC Max rated operational I _e A	Type	Order code	M.R.P.
1.5	2.2	3.9	PSR3-600-70	1SFA896 103 R7000	7,040
3	4	6.8	PSR6-600-70	1SFA896 104 R7000	7,920
4	4	9	PSR9-600-70	1SFA896 105 R7000	9,900
5.5	5.5	12	PSR12-600-70	1SFA896 106 R7000	11,770
7.5	7.5	16	PSR16-600-70	1SFA896 107 R7000	13,200
11	15	25	PSR25-600-70	1SFA896 108 R7000	15,400
15	18.5	30	PSR30-600-70	1SFA896 109 R7000	20,900
18.5	22	37	PSR37-600-70	1SFA896 110 R7000	25,300
22	30	45	PSR45-600-70	1SFA896 111 R7000	27,500
30	37	60	PSR60-600-70	1SFA896 112 R7000	38,500
37	45	72	PSR72-600-70	1SFA896 113 R7000	48,400
45	55	85	PSR85-600-70	1SFA896 114 R7000	55,000
55	55	105	PSR105-600-70	1SFA896 115 R7000	59,400

For Rated control supply voltage, U_c, 24 V Dc: replace R7000 by R8100

PSE - The Efficient Range with integrated bypass
 Normal Starts , Class 10, In-Line



415V P _e kW	500V P _e kW	IEC Max rated operational I _e A	Type	Order code	M.R.P.
7.5	11	18	PSE18-600-70	1SFA897 101 R7000	33,900
11	15	25	PSE25-600-70	1SFA897 102 R7000	34,900
15	18.5	30	PSE30-600-70	1SFA897 103 R7000	37,000
18.5	22	37	PSE37-600-70	1SFA897 104 R7000	42,000
22	30	45	PSE45-600-70	1SFA897 106 R7000	47,000
30	37	60	PSE60-600-70	1SFA897 106 R7000	53,800
37	45	72	PSE72-600-70	1SFA897 107 R7000	60,500
45	55	85	PSE85-600-70	1SFA897 108 R7000	64,000
55	75	106	PSE105-600-70	1SFA897 109 R7000	69,500
75	90	143	PSE142-600-70	1SFA897 110 R7000	96,000
90	110	171	PSE170-600-70	1SFA897 111 R7000	1,05,000
110	132	210	PSE210-600-70	1SFA897 112 R7000	1,12,000
132	160	250	PSE250-600-70	1SFA897 113 R7000	1,24,000
160	200	300	PSE300-600-70	1SFA897 114 R7000	1,36,000
200	250	370	PSE370-600-70	1SFA897 115 R7000	1,48,000

Softstarters

Normal starts, class 10, In-Line
 PST(B) - The advanced range | PST30 ... PSTB1050
 Rated operational voltage U_n , 208 - 600 V
 Rated control supply voltage, U_c , 100 - 250 V AC, 50/60 Hz



415V P _e kW	500V P _e kW	690V P _e kW	IEC Max rated operational I _e A	Type*)	Order code**	M.R.P.
15	18.5	-	30	PST30-600-70■	1SFA894 002 R70▼0	Upon request
18.5	22	-	37	PST37-600-70■	1SFA894 003 R70▼0	
22	25	-	44	PST44-600-70■	1SFA894 004 R70▼0	
25	30	-	50	PST50-600-70■	1SFA894 005 R70▼0	
30	37	-	60	PST60-600-70■	1SFA894 006 R70▼0	
37	45	-	72	PST72-600-70■	1SFA894 007 R70▼0	
45	55	-	85	PST85-600-70■	1SFA894 008 R70▼0	
55	75	-	105	PST105-600-70■	1SFA894 009 R70▼0	
75	90	-	142	PST142-600-70■	1SFA894 010 R70▼0	
90	110	-	175	PST175-600-70■	1SFA894 011 R70▼0	
110	132	-	210	PST210-600-70■	1SFA894 012 R70▼0	
132	160	-	250	PST250-600-70■	1SFA894 013 R70▼0	
160	200	-	300	PST300-600-70■	1SFA894 014 R70▼0	
200	257	-	370	PSTB370-600-70■	1SFA894 015 R70▼0	
250	315	-	470	PSTB470-600-70■	1SFA894 016 R70▼0	
315	400	-	570	PSTB570-600-70■	1SFA894 017 R70▼0	
400	500	-	720	PSTB720-600-70■	1SFA894 018 R70▼0	
450	600	-	840	PSTB840-600-70■	1SFA894 019 R70▼0	
560	730	-	1050	PSTB1050-600-70■	1SFA894 020 R70▼0	

*) Add code number in Type acc. to: ■ No code letter = Normal | T = Coated PCBs
 **) Add code number in Type acc. to: ▼ 0 = Normal | 2 = Coated PCBs

PST(B) - The advanced range - Heavy Duty, class 30, In-Line, ordering details
 PST30 ... PSTB1050 / Rated operational voltage U_n , 400 - 690 V
 Rated control supply voltage, U_c , 100 - 250 V AC, 50/60 Hz



415V P _e kW	500V P _e kW	690V P _e kW	IEC Max rated operational I _e A	Type*)	Order code**	M.R.P.
11	15	18.5	22	PST30-690-70■	1SFA895 002 R70▼0	Upon request
15	18.5	25	3	PST37-690-70■	1SFA895 003 R70▼0	
18.5	22	30	37	PST44-690-70■	1SFA895 004 R70▼0	
22	25	37	44	PST50-690-70■	1SFA895 005 R70▼0	
25	30	45	50	PST60-690-70■	1SFA895 006 R70▼0	
30	37	55	60	PST72-690-70■	1SFA895 007 R70▼0	
37	45	59	72	PST85-690-70■	1SFA895 008 R70▼0	
45	55	75	85	PST105-690-70■	1SFA895 009 R70▼0	
55	75	90	105	PST142-690-70■	1SFA895 010 R70▼0	
75	90	132	142	PST175-690-70■	1SFA895 011 R70▼0	
90	110	160	175	PST210-690-70■	1SFA895 012 R70▼0	
110	132	184	210	PST250-690-70■	1SFA895 013 R70▼0	
132	160	220	250	PST300-690-70■	1SFA895 014 R70▼0	
160	200	257	300	PSTB370-690-70■	1SFA895 015 R70▼0	
200	257	355	370	PSTB470-690-70■	1SFA895 016 R70▼0	
250	315	450	470	PSTB570-690-70■	1SFA895 017 R70▼0	
315	400	560	570	PSTB720-690-70■	1SFA895 018 R70▼0	
400	500	710	720	PSTB840-690-70■	1SFA895 019 R70▼0	
450	600	800	840	PSTB1050-690-70■	1SFA895 020 R70▼0	

*) Add code number in Type acc. to: ■ No code letter = Normal | T = Coated PCBs
 **) Add code number in Type acc. to: ▼ 0 = Normal | 2 = Coated PCBs

Electronic products & relays

Electronic timer



ON-delay timers
CT-ERE : 1 c/o contact, 2 LEDs

Type	Rated control supply voltage	Time Range	Order code	M.R.P.
CT-ERE	24 V AC/DC, 220-240 V AC	0.1-10 s	1SVR 550 107 R1100	1,890
		0.3-30 s	1SVR 550 107 R4100	1,890
		3-300 s	1SVR 550 107 R2100	1,890
		0.3-30 min	1SVR 550 107 R5100	1,890
	110-130 V AC	0.1-10 s	1SVR 550 100 R1100	1,890
		0.3-30 s	1SVR 550 100 R4100	1,890
		3-300 s	1SVR 550 100 R2100	1,890
		0.3-30 min	1SVR 550 100 R5100	1,890

OFF-delay timers
CT-AHE : 1 c/o contact, 2 LEDs

Type	Rated control supply voltage	Time Range	Order code	M.R.P.
CT-AHE	24 V AC/DC, 220-240 V AC	0.1-10 s	1SVR 550 118 R1100	1,900
		0.3-30 s	1SVR 550 118 R4100	1,900
		3-300 s	1SVR 550 118 R2100	1,900
	110-130 V AC	0.1-10 s	1SVR 550 110 R1100	1,900
		0.3-30 s	1SVR 550 110 R4100	1,900
		3-300 s	1SVR 550 110 R2100	1,900
	200-240 V AC	0.1-10 s	1SVR 550 110 R2100	1,900
		0.3-30 s	1SVR 550 111 R4100	1,900
		3-300 s	1SVR 550 111 R2100	1,900

CT-ARE : without auxiliary voltage, 1 c/o contact, 1 LED

Type	Rated control supply voltage	Time Range	Order code	M.R.P.
CT-ARE	24 V AC/DC, 220-240 V AC	0.1-10 s	1SVR 550 127 R1100	1,910
		0.3-30 s	1SVR 550 127 R4100	1,910
	110-130 V AC	0.1-10 s	1SVR 550 120 R1100	1,910
		0.3-30 s	1SVR 550 120 R4100	1,910

Multifunction timer
CT-MFE : 6 functions¹⁾, 8 time ranges (0.05 s - 100 h), 1 c/o contact, 2 LEDs

Type	Rated control supply voltage	Time Range	Order code	M.R.P.
CT-MFE	24-240 V AC	0.05 s - 100 h	1SVR 550 029 R8100	3,550

Electronic products & relays

Electronic timer

Star-delta timers
CT-YDE : ON-delayed, OFF-delayed without auxiliary voltage, 1c/o contact, 2 LEDs

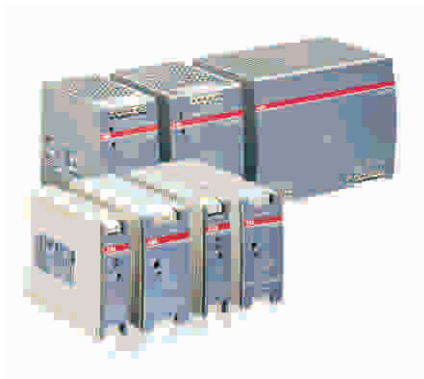
Type	Rated control supply voltage	Time Range	Order code	M.R.P.
CT-YDE	24 V AC/DC, 220-240 V AC	0.1-10 s	1SVR 550 207 R1100	1,890
		0.3-30 s	1SVR 550 207 R4100	1,890
		3-300 s	1SVR 550 207 R2100	1,890
	110-130 V AC	0.1-10 s	1SVR 550 200 R1100	1,890
		0.3-30 s	1SVR 550 200 R4100	1,890
		3-300 s	1SVR 550 200 R2100	1,890



CT-SDE : ON-delayed with fixed transition time, 1 n/c contact, 1 n/o contact, internally wired , 2 LEDs

Type	Rated control supply voltage	Time Range	Order code	M.R.P.
CT-SDE	24 V AC/DC, 220-240V AC	0.3-30 s	1SVR 550 217 R4100	2,375
	110-130V AC		1SVR 550 210 R4100	2,375
	380-415V AC		1SVR 550 212 R4100	2,375

Power supplies



CP-E range

Type	Rated I/P voltage	Rated O/P Voltage/Current	Order code	M.R.P.
CP-E 5/3.0	100-240 V AC	5 V DC / 3.0 A	1SVR 427 033 R3000	4,150
CP-E 12/2.5	100-240 V AC	12 V DC / 2.5 A	1SVR 427 032 R1000	4,150
CP-E 12/10.0	115-230 V AC/auto select	12 V DC / 10 A	1SVR 427 035 R1000	7,450
CP-E 24/0.75	100-240 V AC	24 V DC / 0.75 A	1SVR 427 030 R0000	3,320
CP-E 24/1.25	100-240 V AC	24 V DC / 1.25 A	1SVR 427 031 R0000	3,620
CP-E 24/2.5	100-240 V AC	24 V DC / 2.5 A	1SVR 427 032 R0000	3,650
CP-E 24/5.0	115-230 V AC/auto select	24 V DC / 5 A	1SVR 427 034 R0000	6,270
CP-E 24/10.0	115-230 V AC/auto select	24 V DC / 10 A	1SVR 427 035 R0000	9,420
CP-E 24/20.0	115-230 V AC	24 V DC / 20 A	1SVR 427 036 R0000	16,690
CP-E 48/0.62	115-230 V AC	48 V DC / 0.62 A	1SVR 427 030 R2000	4,390
CP-E 48/1.25	115-230 V AC	48 V DC / 1.25 A	1SVR 427 031 R2000	5,570
CP-E 48/5.0	115-230 V AC/auto select	48 V DC / 5 A	1SVR 427 034 R2000	11,290
CP-E 48/10.0	115-230 V AC	48 V DC / 10 A	1SVR 427 035 R2000	15,410



CP-T range

Type	Rated I/P voltage	Rated O/P Voltage/Current	Order code	M.R.P.
CP-T 24/5.0	340-575 V AC/480-820 V DC	24 V DC / 5 A	1SVR 427 054 R0000	9,180
CP-T 24/10.0	340-575 V AC/480-820 V DC	24 V DC / 10 A	1SVR 427 055 R0000	11,680
CP-T 24/20.0	340-575 V AC/480-820 V DC	24 V DC / 20 A	1SVR 427 056 R0000	14,500
CP-T 24/40.0	340-575 V AC/480-820 V DC	24 V DC / 40 A	1SVR 427 057 R0000	26,000
CP-T 48/5.0	340-575 V AC/480-820 V DC	48 V DC / 5 A	1SVR 427 054 R2000	16,000
CP-T 48/10.0	340-575 V AC/480-820 V DC	48 V DC / 10 A	1SVR 427 055 R2000	19,500
CP-T 48/20.0	340-575 V AC/480-820 V DC	48 V DC / 20 A	1SVR 427 056 R2000	30,000

Three - Phase Monitors



Single- and three-phase monitoring relays for phase failure detection

Type	Rated control supply voltage = measuring voltage	Order code	M.R.P.
With neutral monitoring			
CM-PBE	3x380-440 V AC, 220-240 V AC	1SVR 550 881 R9400	3,060
Without neutral monitoring			
CM-PBE	3x380-440 V AC	1SVR 550 882 R9500	3,060

Single- and three-phase monitoring relays for over- / undervoltage and phase failure detection

Type	Rated control supply voltage = measuring voltage	Order code	M.R.P.
With neutral monitoring			
CM-PVE	3x320-460 V AC, 185-265 V AC	1SVR 550 870 R9400	3,350
Without neutral monitoring			
CM-PVE	3x320-460 V AC	1SVR 550 871 R9500	3,320

Three-phase monitoring relays for phase sequence monitoring and phase failure detection

Type	Rated control supply voltage = measuring voltage	Order code	M.R.P.
CM-PFS	3x200-500 V AC	1SVR 430 824 R9300	3,100

Three - Phase Monitors

Three-phase monitoring relays for over- and undervoltage with adjustable threshold values

Type	Rated control supply voltage = measuring voltage	Order code	M.R.P.
CM-PVS.31	3x160-300 V AC	1SVR 630 794 R1300	9,660
CM-PVS.41	3x300-500 V AC	1SVR 630 794 R3300	9,660

Three-phase monitoring relays for over- and undervoltage with adjustable threshold values

Type	Rated control supply voltage = measuring voltage	Order code	M.R.P.
CM-PAS.31	3x160-300 V AC	1SVR 630 774 R1300	3,300
CM-PAS.41	3x300-500 V AC	1SVR 630 774 R3300	9,150

Multifunctional three-phase monitoring relays

Type	Rated control supply voltage = measuring voltage	Order code	M.R.P.
With interrupted neutral monitoring			
CM-MPS.11	3x90-170 V AC	1SVR 630 885 R1300	Upon Request
CM-MPS.21	3x180-280 V AC	1SVR 630 885 R3300	Upon Request
Without interrupted neutral monitoring			
CM-MPS.31	3x160-300 V AC	1SVR 630 884 R1300	Upon Request
CM-MPS.41	3x300-500 V AC	1SVR 630 884 R4300	Upon Request



Three - Phase Monitors

Multifunctional three-phase monitoring relays, automatic phase sequence correction and separate monitoring of over- and undervoltage (window monitoring) configurable

Type	Rated control supply voltage = measuring voltage	Order code	M.R.P.
With interrupted neutral monitoring			
CM-MPS.23	3x180-280 V AC	1SVR 630 885 R4300	12,440
Without interrupted neutral monitoring			
CM-MPS.43	3x300-500 V AC	1SVR 630 884 R4300	12,450

Multifunctional three-phase monitoring relays, automatic phase sequence correction and separate monitoring of over- and undervoltage (window monitoring) configurable

Type	Rated control supply voltage = measuring voltage	Order code	M.R.P.
CM-MPN.52	3x350-580 V AC	1SVR 650 487 R8300	14,150
CM-MPN.62	3x450-720 V AC	1SVR 650 488 R8300	14,150
CM-MPN.72	3x530-820 V AC	1SVR 650 489 R8300	14,150

Insulation monitors for unearthed supply systems



Type	Nominal voltage Un of the distribution system to be monitored	Rated control supply voltage	Order code	M.R.P.
CM-IWS.1	0-250 V AC / 0-300 V DC	24-240 V AC/DC	1SVR 630 660 R0100	Upon Request
CM-IWS.2	0-400 V AC	24-240 V AC/DC	1SVR 630 670 R0200	Upon Request

Type	Nominal voltage Un of the distribution system to be monitored	Rated control supply voltage	Order code	M.R.P.
CM-IWN.1	0-400 V AC / 0-600 V DC	24-240 V AC/DC	1SVR 650 660 R0200	Upon Request
CM-IVN	0-690 V AC / 0-1000 V DC	Passive device, no control supply voltage needed	1SVR 650 669 R9400	Upon Request

Thermistor motor protection relays

CM-MSE

Type	Rated control supply voltage	Order code	M.R.P.
CM-MSE	24 V AC	1SVR 550 805 R9300	3,650
	110-130 V AC	1SVR 550 800 R9300	2,660
	220-240 V AC	1SVR 550 801 R9300	3,630

CM-MSS (1), 1 c/o contact

Type	Rated control supply voltage	Order code	M.R.P.
CM-MSS (1)	24 V AC/DC	1SVR 430 800 R9100	4,150
	220-240 V AC	1SVR 430 801 R1100	2,430

CM-MSE

Type	Rated control supply voltage	Order code	M.R.P.
CM-MSS (2)	24 V AC/DC	1SVR 430 810 R9300	4,510
	24 V AC	1SVR 430 811 R9300	4,510
	110-130 V AC	1SVR 430 811 R0300	4,510
	220-240 V AC	1SVR 430 811 R1300	4,510

Productivity and safety go hand in hand

Jokab Safety was acquired by ABB in march 2010. This gives us extra strength and a sales network in 120 countries. Our goal is to become even better at supporting you as a customer through cooperation within ABB Jokab Safety globally and locally.

The fact that the leading power and automation technology company, ABB, and a leader in machine safety, Jokab Safety, are joining forces means a lot more than just a new organisational chart. ABB has a huge footprint in the industry - from power supply to the control of each individual motor - and has been delivering reliable solutions for decades that boost productivity in the industry. The acquisition of Jokab Safety now means the last building block is in place. We can now offer our customers tailored, turnkey solutions where machine safety is an integral and value-enhancing component.

Since its inception in 1988, Jokab Safety has been adhering to the business concept of developing innovative products and solutions for machine safety. The company has supplied everything from individual safety components to fully installed protection systems for entire production lines and works on a daily basis with the practical application of safety requirements in combination with production requirements. Jokab Safety is also represented on a variety of international standards committees concerned with the safety of machinery which means that we have now added this very valuable experience and knowledge to our offering. Similarly, ABB has always been a pioneer and a representative for its business areas and a powerful voice in professional organisations and committees. All in all, this creates an enormous bank of knowledge



and experience that we look forward to sharing with our customers. Productivity and safety are not contradictory terms. On the contrary, safety solutions that are properly executed and adapted from the beginning will increase productivity. A partner that can deliver integrated and well thought out turnkey solutions enables a production-friendly safety environment. By building up and upgrading safety solutions in existing environments in a smart way, the mode of production will not need to be adapted to meet the requirements that safety sets. Instead, this allows a system that is manufacturing-friendly and that takes into account the business and its productivity objectives.



Jokab Safety

Pluto Safety PLC

Pluto, Gateway, Profibus, DeviceNet, CANopen, Ethernet, Safe Encoder, IDFIX, program examples

Pluto AS-I

Pluto AS-I, Urax, Flex

Pluto Manager

Software for programming of Pluto

Vital and Tina safety systems

Vital, Tina and Connection examples

Light Curtains, Light grids, Light beams and Scanner

Focus, Spot, Look, Bjom, Focus Wet, Blanking programmer, Connection examples

Stop time measurement and machine diagnosis

Smart, Smart manager

Sensors/Switches

Eden, JSNY series, Magne, Dalton, Knox

Control devices

3-position device JSHD4, Two-handed control unit Safeball

Emergency stop devices

Inca, Smile, Smile Tina, Line emergency stop

Contacts rails/Bumpers/Safety mats

Fencing systems

Quick-Guard, Quick-Guard E, SafeCad, Roller doors

EC Declaration of Conformity

Jokab Safetys developments in 80's



Jokab Safetys first safety relay

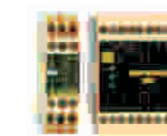


Jokab Safetys first steel fencing system

Jokab Safetys developments in 90's



Timer reset and first light beam



Smallest safety relays JSBT5 and JSBR4



Stop time measurement



Quick-Guard aluminium fencing system



Three-position switch for robots



3-position devices



Safeball - ergonomic control device



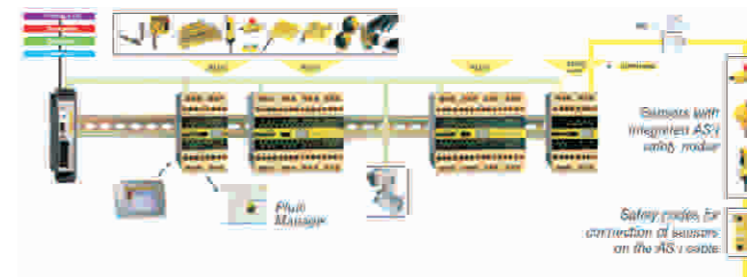
RT series universal relays



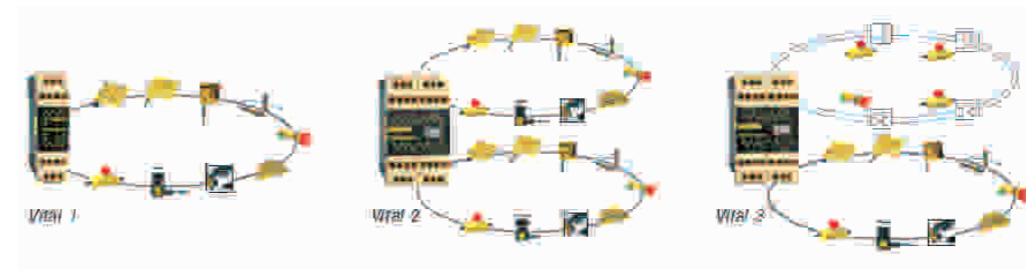
SafeCad for Quick-Guard

Jokab Safetys developments in 2000

Pluto All-Master safety PLC



Vital with dynamic safety circuits



Non-contact sensor Eden, guard locks, Focus light beam, E-stops Inca and smile, Smart for machine diagnosis and three-position device with hand detection



Why arc protection?

With arc guard system™, reduces the negative consequences of an arc accident to a minimum.

Every day throughout the world, hundreds of people face serious injuries or death due to arc accidents. What's more, this is not restricted to countries with low safety standards. According to public data, one person dies each day in North America due to arc flash accidents. Several more are injured.

In any plant, the risk of arc accidents can be reduced by the design of systems (mechanical and electrical) and the routines for working with electric equipment. The importance of safety has led ABB to develop 'arc-proof' switchgears, where the mechanical design as well as the choice of electrical components reduces both the risk of an arc accident and its consequences.

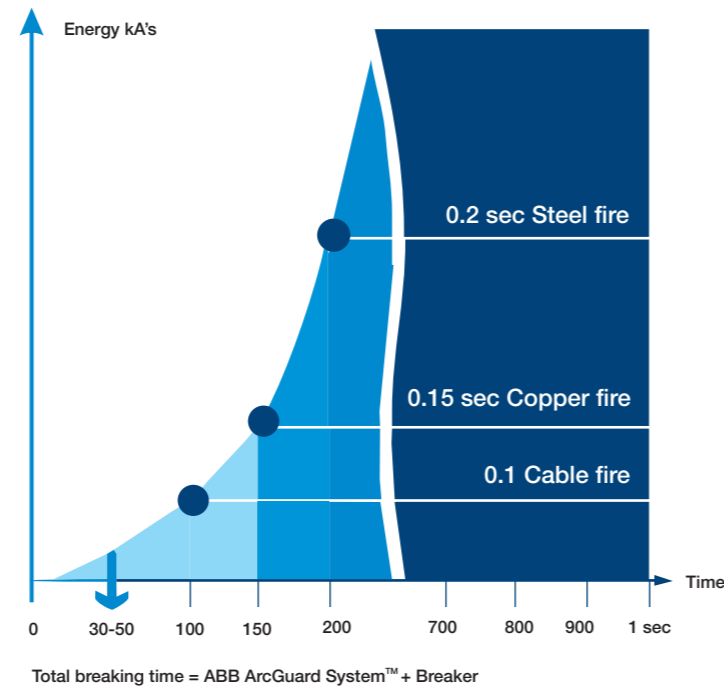
Unfortunately, these measures are most often not sufficient for two reasons;

1) Most accidents happen with the switchgear door open, which reduces the effects of mechanical protection, (2) Breaker protection is based on over-current only and often includes time delays. Reducing the consequences of arc faults is all about time (see chart). This is why the ABB TVOC-2 (Arc Guard System™) reacts in just a couple of milli-seconds, thereby overruling standard protection time delays when tripping breakers.

Safety is becoming more and more important. As legal and regulatory requirements increase, old equipment soon becomes out-of-date. Arc Guard System™ can help increase equipment safety and thereby prolong its life-cycle. Arc Guard System™ will not prevent the accident from happening – but it will significantly reduce the damage caused.

The four main reasons to invest in an arc guard system™

1. Save lives
 2. Save equipment
 3. Minimize downtime
 4. Increase switchgear life
- } Save money



Ordering details

Supply voltage 100-240 V DC or AC 50-60 Hz

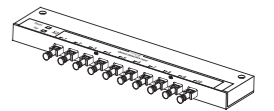
Description	Type	Order code	M.R.P.
Arc Monitor including one HMI and door mounting accessories	TVOC-2-240	1SFA 664 001 R1001	Upon request
Extension 10 optical inputs	TVOC-2-E1	1SFA 664 002 R1001	
HMI (Human machine interface) additional	TVOC-2-H1	1SFA 664 002 R1005	

Detectors			
Cable length	1 m	TVOC-2-DP1	1SFA 664 003 R1010
Cable length	2 m	TVOC-2-DP2	1SFA 664 003 R1020
Cable length	4 m	TVOC-2-DP4	1SFA 664 003 R1040
Cable length	6 m	TVOC-2-DP6	1SFA 664 003 R1060
Cable length	8 m	TVOC-2-DP8	1SFA 664 003 R1080
Cable length	10 m	TVOC-2-DP10	1SFA 664 003 R1100
Cable length	15 m	TVOC-2-DP15	1SFA 664 003 R1150
Cable length	20 m	TVOC-2-DP20	1SFA 664 003 R1200
Cable length	25 m	TVOC-2-DP25	1SFA 664 003 R1250
Cable length	30 m	TVOC-2-DP30	1SFA 664 003 R1300

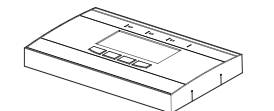
Description	Type	Order code	M.R.P.
Current sensing unit	CSU	1SFA 663 002-A	Upon request
Optical cable between TVOC-2 arc monitor and current sensing unit			
Cable length	0.5 m		Upon request
Cable length	1 m	TVOC-1TO2-OP1	
Cable length	2 m		
Cable length	4 m	TVOC-1TO2-OP4	
Cable length	6 m	TVOC-1TO2-OP6	
Cable length	8 m	TVOC-1TO2-OP8	
Cable length	10 m	TVOC-1TO2-OP10	
Cable length	15 m	TVOC-1TO2-OP15	
Cable length	20 m	TVOC-1TO2-OP20	
Cable length	25 m	TVOC-1TO2-OP25	
Cable length	30 m	TVOC-1TO2-OP30	



Arc Monitor



Extension unit



HMI



Detector cable



CSU



Optical cable TVOC-2 - CSU

Pilot devices

Compact range

Order examples

Ex 1: Type CP1-10 ■ - 10, to order color red replace ■ with R: CP1-10 R-10

Ex 2: Order code 1SFA619100R1011 □

To order color red replace □ with 1: 1SFA619100R1011

Order codes

	Red	Green	Yellow	Blue	White	Black	Grey	Clear
Type Code ■	R	G	Y	L	W	B	U	C
Order code □	1	2	3	4	5	6	7	8



Bezel - How to order

Black - Standard

Chrome metal - Replace '1' with '3' in type and order codes



Bezel options	Type	Order code
Black plastic	CP(X)-10X-XX	1SFA619 X0X R10XX
Chrome metal	CP(X)-30X-XX	1SFA619 X0X R30XX



Flush Pushbutton				Extended Pushbutton				
● ● ● ● ○	Type	Order code	Type	Order code	Type	Order code	Type	Order code
● ●	Momentary		Maintained		Momentary		Maintained	
1 NO	CP1-10 ■ -10	1SFA619100R101□	CP2-10 ■ -10	1SFA619101R101□	CP3-10 ■ -10	1SFA619102R101□	CP4-10 ■ -10	1SFA619103R101□
2 NO	CP1-10 ■ -20	1SFA619100R102□	CP2-10 ■ -20	1SFA619101R102□	CP3-10 ■ -10	1SFA619102R102□	CP4-10 ■ -10	1SFA619103R102□
1 NC	CP1-10 ■ -01	1SFA619100R104□	CP2-10 ■ -01	1SFA619101R104□	CP3-10 ■ -01	1SFA619100R104□	CP4-10 ■ -01	1SFA619101R104□
2 NC	CP1-10 ■ -02	1SFA619100R105□	CP2-10 ■ -02	1SFA619101R105□	CP3-10 ■ -02	1SFA619100R105□	CP4-10 ■ -02	1SFA619101R105□
1 NO+1 NC	CP1-10 ■ -11	1SFA619100R107□	CP2-10 ■ -11	1SFA619101R107□	CP3-10 ■ -11	1SFA619100R107□	CP4-10 ■ -11	1SFA619101R107□



Pilot devices

Compact range

Illuminated pushbutton with integrated LED. Flush or extended lens*

● ● ●	24 V, AC/DC Momentary		110-130 V, AC/DC Momentary		220 V, AC/DC Momentary	
1 NO flush	CP1-11 ■ -10	1SFA619100R111□	CP1-12 ■ -10	1SFA619100R121□	CP1-13 ■ -10	1SFA619100R131□
● 1 NC flush	CP1-11R-01	1SFA619100R1141	CP1-12R-01	1SFA619100R1241	CP1-13R-01	1SFA619100R1341
1 NO extended	CP3-11 ■ -10	1SFA619102R111□	CP3-12 ■ -10	1SFA619102R121□	CP3-13 ■ -10	1SFA619102R131□
● 1 NC flush	CP3-11R-01	1SFA619102R1141	CP3-12R-01	1SFA619102R1241	CP3-13R-01	1SFA619102R1341
● ● ●	24 V, AC/DC Maintained		110-130 V, AC/DC Maintained		220 V, AC/DC Maintained	
1 NO flush	CP2-11 ■ -10	1SFA619101R111□	CP2-12 ■ -10	1SFA619101R121□	CP2-13 ■ -10	1SFA619101R131□
● 1 NC flush	CP2-11R-01	1SFA619101R1141	CP2-12R-01	1SFA619101R1241	CP2-13R-01	1SFA619101R1341
1 NO extended	CP4-11 ■ -10	1SFA619103R111□	CP4-12 ■ -10	1SFA619103R121□	CP4-13 ■ -10	1SFA619103R131□
● 1 NC flush	CP4-11R-01	1SFA619103R1141	CP4-12R-01	1SFA619103R1241	CP4-13R-01	1SFA619103R1341



Pilot light with integrated LED

● ● ● ● ○	24 V, AC/DC		110-130 V, AC		220 V, DC		220 V, AC	
	CL-502 ■	1SFA619402R502□	CL-513 ■	1SFA619402R513□	CL-520 ■	1SFA619402R520□	CL-523 ■	1SFA619402R523□



Selector switch

● ● ●	Maintained / Two Positions		Maintained / Two Positions		Momentary / Two Positions	
1 NO	C2SS1-10 ■ -10	1SFA619200R101□	C2SS2-10 ■ -10	1SFA619201R101□	C2SS3-10 ■ -10	1SFA619202R101□
2 NO	C2SS1-10 ■ -20	1SFA619200R102□	C2SS2-10 ■ -20	1SFA619201R102□	C2SS3-10 ■ -20	1SFA619202R102□
1 NO + 1 NC	C2SS1-10 ■ -11	1SFA619200R107□	C2SS2-10 ■ -11	1SFA619201R107□	C2SS3-10 ■ -11	1SFA619202R107□
● ● ●	Maintained / Three Positions		Momentary / Three Positions		Momentary / Three Positions	
2 NO	C3SS1-10 ■ -20	1SFA619210R102□	C3SS2-10 ■ -20	1SFA619211R102□	C3SS3-10 ■ -20	1SFA619212R102□
1 NO + 1 NC	C3SS1-10 ■ -11	1SFA619210R107□	C3SS2-10 ■ -11	1SFA619211R107□	C3SS3-10 ■ -11	1SFA619212R107□

Pilot devices Compact range



Compact product features

- 'All in one design'
- IP66, 67, 69K & UL Type 1, 3R, 4, 4X, 12, 13
- Easy mounting
- Reduced inventory levels
- Operator style identical to modular range
- Wiping action
- Metal and plastic bezel option

Emergency stop

●	Type		Order code		Type		Order code	
	Twist release		Pull release		Key release: Ronis 455, key code 71			
1 NC	Ø 30 mm	CE3T-10R-01	1SFA619500R1041					
2 NC	Ø 30 mm	CE3T-10R-02	1SFA619500R1051	CE3P-10R-02	1SFA619501R1051	CE3K1-10R-02	1SFA619502R1051	
1 NO+1 NC	Ø 30 mm	CE3T-10R-011	1SFA619500R1071	CE3P-10R-11	1SFA619501R1071	CE3K1-10R-11	1SFA619502R1071	
1 NC	Ø 40 mm	CE4T-10R-01	1SFA619550R1041					
2 NC	Ø 40 mm	CE4T-10R-02	1SFA619550R1051	CE4P-10R-02	1SFA619551R1051	CE4K1-10R-02	1SFA619552R1051	
1 NO+1 NC	Ø 40 mm	CE4T-10R-011	1SFA619550R1071	CE4P-10R-11	1SFA619551R1071	CE4K1-10R-11	1SFA619552R1071	



Pilot devices Compact range

Machine stop

●	Twist release		Pull release		Key release: Ronis 455, key code 71		
1NO+1NC	Ø 30 mm	CE3T-10B-11	1SFA619500R1076	CE3P-10B-11	1SFA619501R1076	CE3K-10B-11	1SFA619502R1076
1NO+1NC	Ø 40 mm	CE4T-10B-11	1SFA619550R1076	CE4P-10B-11	1SFA619551R1076	CE4K-10B-11	1SFA619552R1076

Mushroom

● ● ● ●	Momentary		
1NO+1NC	Ø 40 mm	CPM3-10 ■ -11	1SFA619126R107 □



Assembled compact emergency stop enclosures

1-seat plastic enclosure (yellow)

■ □	Twist release. Red button 2 NC	CEPY1-1001	1SFA619821R1001
■ □	Pull release. Red button 2 NC	CEPY1-1002	1SFA619821R1002

Emergency stop enclosure with shroud

■ □	Twist release. Red button 2 NC	CEPY1-2002	1SFA619821R2002
■ □	Pull release. Red button 2 NC	CEPY1-2001	1SFA619821R2001

Assembled compact machine stop enclosures

1-seat plastic enclosure with black mushroom pushbutton (dark grey)

■ □	Twist release. Black button 1 NO + 1 NC	CEP1-1001	1SFA619811R1001
■ □	Pull release. Black button 1 NO + 1 NC	CEP1-1002	1SFA619811R1002

Machine stop enclosure with shroud

■ □	Twist release. Red button 2 NC	CEP1-2001	1SFA619811R2001
■ □	Pull release. Red button 2 NC	CEP1-2002	1SFA619811R2002

Notes

A series of horizontal dashed lines for taking notes on the left page.

Notes

A series of horizontal dashed lines for taking notes on the right page.

ABB's comprehensive range of MCB

The range of ABB line protection devices ranks amongst the most extensive on the market with a full range of innovative solutions for various applications, helping to optimise resources, reduce energy costs, boost productivity.

For all applications in residential, industrial and commercial installations ABB offers many functionalities like:

- protection and switching
- checking and monitoring
- control and programming

System Pro M

System ProM is a modular system developed by ABB which, is capable of meeting the requirements of the most modern and up-to-date installations for low voltage applications.

The system is based on two main criteria:

- Complete functionality
- Wide range of devices which leads to increased safety for the user and greater diversification in command and load management.

Optimum sizing

The modular structure allows the internal structure of the switchboard to be used in the best possible way, reduces wiring operation and enhances functionality and aesthetics of the switchboards System proM offers a wide range of devices for basic functions like protection, command, measure and load management which characterise the low voltage electrical applications. Protection forms the basis of system proM which comprises of MCBs, RCCBs, RCBOs and a host of other modular devices. These miniature modular devices are technologically advanced, advanced, enable speedy installation and simplify maintenance. Each device in the System proM has been designed in accordance with strict criteria for safety and functionality to guarantee the the maximum operating safety even in the difficult environment conditions.

Quality and reliability are built into every device to ensure total performance satisfaction, even in the most demanding applications.

The System Pro M compact range

- Miniature Circuit Breakers
- Residual Current Devices
 - a) Residual current circuit breaker(RCCBs)
 - b) RCD blocks
 - c) Residual current circuit breaker with overcurrent protection(RCBOs)
 - d) Residual Current relays with external toroid
- Auxiliary elements and various accessories
- Surge Protection devices
- Command devices
- Load management devices
- Measurement devices

Miniature Circuit Breakers ^{new} Compact Series

Technical Details

Electrical Data	SH200 M
Standards	IS IEC 60898-1
Poles	1P, 2P, 3P, 4P, 1P +N, 3P +N
Tripping Characteristics	B, C, D
Rated Current	0.5A - 63 A
Rated Voltage	1P : 230 V AC 1P + N : 230 V AC 2..4P : 400 V AC 3P + N : 400 V AC
Insulation Voltage	250 V AC (Phase to Ground) 440 V AC (Phase to Phase)
Max Operating Voltage	1P: 253 V AC 2..4P : 440 V AC
Min Operating Voltage	12 V AC
Rated Frequency	50/60 Hz
Rated Short Circuit Capacity	10kA
Energy Limiting Class	3
Over Voltage Category	III
Pollution Degree	2
Rated Impulse withstand Voltage	4kV (Test Voltage 6.2kV at Sea Level, 5kV at 2,000 m)
Dielectric Test Voltage	2kV (50/60 Hz, 1 min)



Housing Material

By using the state-of-the-art housing material, ABB is taking care of the environment. With the latest generation of thermoplastics it's possible to recycle the MCBs – especially the thermoplastic housing-material can be re-used. By using the latest generation of thermoplastics the material stability of all Compact Home MCBs is improved. Residential MCBs are free of halogens – no environmental pollution.



Laser Printing

All printings of the Compact Home MCBs, like the approvals on the dome, the product identification, are printed by a laser. The laser printing ensures a friction, scratch and solvent resistant marking on the MCBs. Easy identification of the products in case of maintenance or replacements due to safe laser printing.



Connection of Compact Home SH Series & Compact Pro M S Series

Compatibility with System pro M compactR is given in all kind of variations like insertion of one System pro M compactR MCB into an installation with Compact Home components and Compact Home busbars. Also the combination of one Compact Home MCB with System pro M compact components and System pro M compact busbar are compatible.



Terminals

The MCBs Compact Home are equipped with 25 mm² cage terminals, a well proven and reliable technology. The cross wiring can easily be done by inserting the Compact Home busbars and then the incoming wires into one of the MCB's terminals. The terminals accept Compact Home busbars and conductors up to 16 mm² together.



CPI: Contact Position Indicator

All Compact Home MCBs are suited with a contact position indication (CPI) on the toggle. You can easily identify, if the MCB is in ON or OFF position –easy and safe maintenance work is possible.

SH200 M - MCBs, C Characteristics - 10 kA

Product Code	Rating	M.R.P	Packing
Single Pole			
SH201M-C 0.5	0.5A	305	1/12
SH201M-C 1	1A	305	1/12
SH201M-C 1.6	1.6A	305	1/12
SH201M-C 2	2A	305	1/12
SH201M-C 3	3A	305	1/12
SH201M-C 4	4A	305	1/12
SH201M-C 6	6A	205	1/12
SH201M-C 8	8A	205	1/12
SH201M-C 10	10A	205	1/12
SH201M-C 16	16A	205	1/12
SH201M-C 20	20A	205	1/12
SH201M-C 25	25A	205	1/12
SH201M-C 32	32A	205	1/12
SH201M-C 40	40A	425	1/12
SH201M-C 50	50A	430	1/12
SH201M-C 63	63A	430	1/12

Product Code	Rating	M.R.P	Packing
Single Pole & Neutral			
SH201M-C 0.5 NA	0.5A	800	1/6
SH201M-C 1 NA	1A	800	1/6
SH201M-C 1.6 NA	1.6A	800	1/6
SH201M-C 2 NA	2A	800	1/6
SH201M-C 3 NA	3A	800	1/6
SH201M-C 4 NA	4A	800	1/6
SH201M-C 6 NA	6A	575	1/6
SH201M-C 8 NA	8A	575	1/6
SH201M-C 10 NA	10A	575	1/6
SH201M-C 16 NA	16A	575	1/6
SH201M-C 20 NA	20A	575	1/6
SH201M-C 25 NA	25A	575	1/6
SH201M-C 32 NA	32A	575	1/6
SH201M-C 40 NA	40A	925	1/6
SH201M-C 50 NA	50A	930	1/6
SH201M-C 63 NA	63A	930	1/6

Product Code	Rating	M.R.P	Packing
Double Pole			
SH202M-C 0.5	0.5A	830	1/6
SH202M-C 1	1A	830	1/6
SH202M-C 1.6	1.6A	830	1/6
SH202M-C 2	2A	830	1/6
SH202M-C 3	3A	830	1/6
SH202M-C 4	4A	830	1/6
SH202M-C 6	6A	592	1/6
SH202M-C 8	8A	592	1/6
SH202M-C 10	10A	592	1/6
SH202M-C 16	16A	592	1/6
SH202M-C 20	20A	592	1/6
SH202M-C 25	25A	592	1/6
SH202M-C 32	32A	592	1/6
SH202M-C 40	40A	960	1/6
SH202M-C 50	50A	970	1/6
SH202M-C 63	63A	970	1/6

Product Code	Rating	M.R.P	Packing
Triple Pole			
SH203M-C 0.5	0.5A	1,260	1/4
SH203M-C 1	1A	1,260	1/4
SH203M-C 1.6	1.6A	1,260	1/4
SH203M-C 2	2A	1,260	1/4
SH203M-C 3	3A	1,260	1/4
SH203M-C 4	4A	1,260	1/4
SH203M-C 6	6A	960	1/4
SH203M-C 8	8A	960	1/4
SH203M-C 10	10A	960	1/4
SH203M-C 16	16A	960	1/4
SH203M-C 20	20A	960	1/4
SH203M-C 25	25A	960	1/4
SH203M-C 32	32A	960	1/4
SH203M-C 40	40A	1,475	1/4
SH203M-C 50	50A	1,490	1/4
SH203M-C 63	63A	1,490	1/4

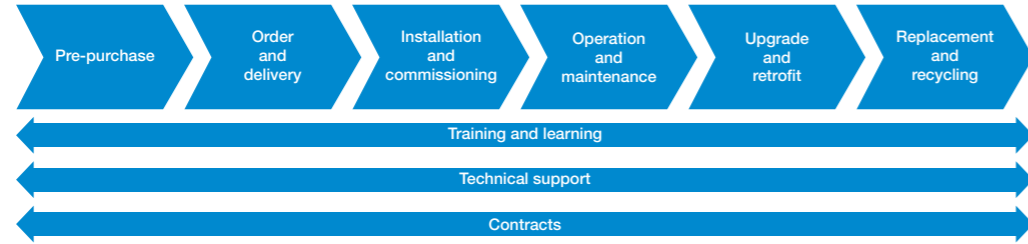
Product Code	Rating	M.R.P	Packing
Triple Pole & Neutral			
SH203M-C 0.5 NA	0.5A	1,550	1/3
SH203M-C 1 NA	1A	1,550	1/3
SH203M-C 1.6 NA	1.6A	1,550	1/3
SH203M-C 2 NA	2A	1,550	1/3
SH203M-C 3 NA	3A	1,550	1/3
SH203M-C 4 NA	4A	1,550	1/3
SH203M-C 6 NA	6A	1,245	1/3
SH203M-C 8 NA	8A	1,245	1/3
SH203M-C 10 NA	10A	1,245	1/3
SH203M-C 16 NA	16A	1,245	1/3
SH203M-C 20 NA	20A	1,245	1/3
SH203M-C 25 NA	25A	1,245	1/3
SH203M-C 32 NA	32A	1,245	1/3
SH203M-C 40 NA	40A	1,840	1/3
SH203M-C 50 NA	50A	1,860	1/3
SH203M-C 63 NA	63A	1,860	1/3

Product Code	Rating	M.R.P	Packing
Four Pole			
SH204M-C 0.5	0.5A	1,605	1/3
SH204M-C 1	1A	1,605	1/3
SH204M-C 1.6	1.6A	1,605	1/3
SH204M-C 2	2A	1,605	1/3
SH204M-C 3	3A	1,605	1/3
SH204M-C 4	4A	1,605	1/3
SH204M-C 6	6A	1,275	1/3
SH204M-C 8	8A	1,275	1/3
SH204M-C 10	10A	1,275	1/3
SH204M-C 16	16A	1,275	1/3
SH204M-C 20	20A	1,275	1/3
SH204M-C 25	25A	1,275	1/3
SH204M-C 32	32A	1,275	1/3
SH204M-C 40	40A	1,890	1/3
SH204M-C 50	50A	1,910	1/3
SH204M-C 63	63A	1,910	1/3

Service Portfolio

Low Voltage Products Division delivers a vast range of services to cover the whole product lifecycle

The services offered by ABB's Low Voltage Products and Systems span the entire value chain, from the moment a customer makes the first enquiry to disposal and recycling of the product. Throughout the value chain, ABB provides training, technical support and customized contracts. All of this is supported by one of the most extensive country sales and service network.



Installation and Commissioning

ABB provides comprehensive installation and commissioning services to achieve a problem-free start up, by following installation and commissioning procedures. The use of service personnel from ABB LP Service ensures that the switchgear is installed in a safe and correct way.

Operation and Maintenance

ABB can guide the customer through a fast and efficient fault finding procedure as well as analyze the operation of the product and the customer's process. From site surveys to preventive, predictive maintenance and reconditioning, ABB has all the options covered to keep its customers' processes operational.

Upgrade and Retrofits

Upgrades

An existing ABB product can often be upgraded to the latest software or hardware to improve the performance of the application. Existing processes can be economically modernized by upgrading with the latest technology.

Retrofits

Replacing old LV Switchgear of any make with ABB's latest versions can be done using the ABB special conversion kits which enable quick installation without structural modifications to the original compartment. In addition complete "turnkey" solutions are available. Specific conversion kits have been developed in order to replace old components with new ones that can be found in the latest switchgears.

Replacement and Recycling

ABB can advise on the best replacement products while ensuring that the existing products are disposed of in a way that meets all local regulations.

Entire Value Chain Services

The main services available throughout the entire value chain include:

Training and Learning – Hands on

ABB LP Service carries out training programs. Those trainings can be either general or bespoke and have the aim of providing the personnel in charge of management/ maintenance with the necessary know-how to achieve an excellent level of operating ability in certain situations. The manager of an electrical site can find it convenient to have certain maintenance capabilities available within his own team.

The courses mainly cover:

- Operating equipment
- Maintenance principles
- Repairs for small faults

Service Portfolio

Technical support

At each stage of the value chain, an ABB expert is available to offer advice to keep the customer's process or plant operational.

Spare Parts

Availability of original spare parts is essential for fast and efficient maintenance activities. This becomes even more critical when the product was produced some years ago and has components in it which are no longer in production.

ABB LP Service is the only one able to supply original and guaranteed spare parts. These can be easily selected and ordered through the authorized channel.

Maintenance Contracts

In addition to the corrective maintenance of a faulty unit, which includes any type of emergency intervention, there is a complete preventive maintenance service package, ensuring those who manage the plant gain considerable advantages in terms of reliability, safety and reduction of costs.

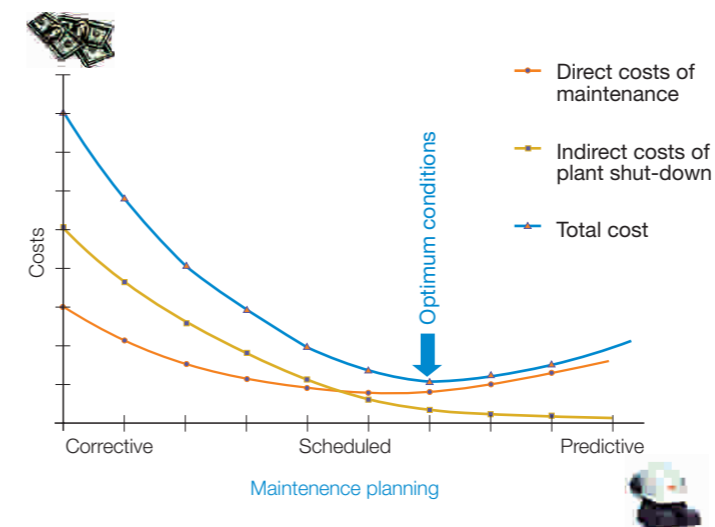
Also Customized contracts can be devised between the customer and ABB.

Depending on the severity of the intervention needed, it can often be done on-site by our skilled and experienced engineers and is a faster way of resolution.

ABB LP Service has an effective service network across the country and dedicated service workshops.

For all your service requirements, contact our nearest Sales office.

Benefits of Maintenance Contracts



Design Institute – Training calendar 2012

A – Z of electricals

Code	Training Module	Subject covered	Who can benefit
T1	Basics of Circuit protection and IEC/IS Regulations	1.Circuit protection understanding 2. IEC/IS regulations for circuit protection 3. Application examples	1. Design Engineers 2. Maintenance engineers 3. Site Engineers
T2	Solution for Final Distribution in an Electrical network/Residual current protection solution for polluted electrical network	1. Selection criteria 2. Application based control and protection 3. understanding different regulations	1. Site electrical engineers from contracting companies 2. Design engineers 3. Facility engineers
T3	Switching and Protection solutions for Renewable Energy application - Wind	1. Application understanding of electrical distribution in wind power 2. Protection philosophy - wind energy application 3. Selection criteria of switchgear in wind mill application	1. Design engineers from wind mill manufacturers 2. Maintenance engineers 3. Site engineers from EPC contractors
T4	Switching and Protection solutions for Renewable Energy application - Solar	1. Application understanding of electrical distribution in solar power 2. Protection philosophy - solar energy application 3. Selection criteria of switchgear for DC network and AC network	1. Design engineers from solar power plant manufacturers 2. Maintenance engineers 3. Site engineers from EPC contractors
T5	Understanding application of Lightning and Surge protection	1. Effects of surge and lightening protection in buildings and industry 2. Understanding remedial methods against surge and lightening protection 3. Selection criteria for Lightning and surge protection devices	1. Electrical network design engineers 2. Site electrical engineers 3. Engineering team from EPC contractors
T6	Electrical network consideration for Hospitals	1. Understanding of Hospital Electrical Distribution 2. Safety consideration in electrical distribution in Hospitals 3. protection device consideration in Hospitals	1.Electrical design engineers 2. Maintenance engineers from Hospitals 3. Engineers from EPC contractors
T7	Electrical network consideration for Data centers	1. Understanding of Electrical Distribution in data centers 2. Understanding TIER redundancy 3. Solution for Data centers	1. Electrical design engineers 2. Facility engineers from software industry/Data centers 3. Engineers from EPC contractors
T8	Energy Management solutions and understanding sub-metering application	1. Basic understanding of energy management system 2. Understanding concept of sub-metering solutions 3. Benefits of Energy management systems	1. Electrical design engineers 2. Facility managers/Maintenance managers 3. Engineers from EPC contractors
T9	Green Building and Energy efficiency with intelligent building solution(KNX)	1. Understanding requirement of Green buildings concepts 2. Energy efficiency solutions 3. Benefits of intelligent building solutions	1. Architectural engineers 2. Design engineers from Developers/Consultants 3. Engineers from contractors
T10	IEC / IS regulation in Low voltage switchgear assembly	1. Latest developments in IEC regulation 2. Heating in LV installation 3. Forms of construction/Testing in accordance IEC 60439	1. Design engineers 2. Engineers from EPC contractors 3. Site engineers 4. Maintenance engineers
T11	Type tested enclosures system in LV application	1. Understanding TTA(type tested) and Partially TTA solutions 2. Understanding supplementary test requirement in Low voltage switchgear 3. ABB solutions for LV power distribution.	1. Design engineers 2. Maintenance engineers/Facility engineers 3. Site engineers
T12	Application of Circuit Breakers	1. Understanding various application requirement in electrical distribution 2. Sizing and selection of circuit breakers. 3. Understanding communication requirements in circuit breakers	1. Engineers from Panel building industry 2. Maintenance/Facility engineers 3. Design engineers
T13	Circuit Breakers - Standards and Regulations	1. Circuit breaker standards 2. General definitions in accordance to regulations 3. Understanding testing criteria for circuit breakers	1. Design engineers 2. Engineers from panel building industry 3. Engineers from commissioning/site engineers

Design Institute – Training calendar 2012

A – Z of electricals

Code	Training Module	Subject covered	Who can benefit
T14	Course on Network Design Software of ABB	1. Method of short circuit calculations in LV network 2. Network calculation understanding in DOC software 3. Switchboard configuration through CAT software	1. Design engineers 2. Engineers from EPC contractors 3. Maintenance engineers
T15	Protection Coordination and Selectivity	1. Understanding selectivity 2. Understanding back up protection 3. Coordination of circuit breakers	1. Design engineers 2. Engineers from EPC contractors 3. Maintenance engineers
T16	Circuit Breaker Protection Releases	1. Understanding of protection functionalities 2. Basics of curves in LV circuit breakers 3. Implementation of protection in LV network	1. Maintenance engineers 2. Design engineers 3. Engineers from panel building industry
T17	Selection of Circuit Breakers - Application based	1. Understanding DC switching consideration 2. Suitability of circuit breakers for variable frequency application 3. Protection criteria in LV network	1. Design engineers 2. Maintenance engineers 3. Facility engineers
T18	Fuse technology in Power Distribution	1. International regulations on Power distribution public areas 2. Fuse technology - Advantages 3. Utilization categories in switches	1. Maintenance engineers from process industries 2. Design engineers 3. Engineers from Utility companies
T19	Motor control & protection	1. Motor control philosophy 2. Protection criteria in Motor applications 3. Innovative solutions in motor control and protection	1. Design engineers from OEM of Machine tools/Pump manufacturers 2. Maintenance engineers 3. Engineers from process industries
T20	Application of control relays and safety in Machines	1. Application of safety and control relays in machines 2. Selection criteria for power supplies and sizing of power supplies 3. Safety solutions for industries	1. Design engineers OEM machine manufacturers 2. Maintenance engineers from Auto/Paper/Cement/engineering industry
T21	Intelligent Motor Management	1. Concept of Intelligent motor control 2. How to improve plant efficiency with intelligent motor managers 3. Motor diagnostics	1. Electrical design engineers from process/Consulting sectors 2. Engineers from Panel building industry 3. Maintenance engineers from process industries
T22	Efficient motor starting solutions and	1. Effects of different starting methods of motors on loads 2. Motor starting criteria for different applications 3. load specific development of load/torque curves through software tools	1. Design engineers from Pump/Compressor/Crusher/machinery manufacturers 2. Engineers from Panel building industry 3. Maintenance engineers from process industries/engineering industries
T23	Criteria of selecting arc proof and safe LV switchboards	1. Electrical safety requirement in LV switchgear 2. Criteria of selection of LV switchboards 3. Safe and reliable LV switchboard design	1. Maintenance engineers from Industry/Hospitality/Hospitals 2. Design engineers 3. Engineers from panel building industry
T24	Application specific selection of contactors	1. Utilization categories of auxiliary and power contactors 2. Selection criteria of contactors based on application 3. Innovations in contactor technology	1. Design engineers 2. Maintenance engineers from Industries 3. Engineers from Panel building industry
T25	Method of starting induction motors	1. Understanding starting of induction motors 2. Selection starting method of induction motors 3. Limitations and benefits various methods of starting	1. Design engineers 2. Engineers from panel building industry 3. Engineers from OEM's - Pump/Blowers/Compressors 4. Maintenance engineers
T26	Selection for electronic products in industrial automation	1. Sensors selection criteria 2. Automation products in machines to improve efficiency	1. Design engineers OEM machine manufacturers 2. Maintenance engineers from Auto/Paper/Cement/engineering industry

Type 2 coordination

MCCB DOL-NS EOL

SCPD type : MCCB
 Rated voltage : 400 V
 Short circuit current : 50 kA
 Starting type : DOL-NS
 Coordination type : IEC Type 2
 Overload relay : EOL
 Frequency : 50-60 Hz

Motor		Moulded Case Circuit Breakers		Contactor	Overload Relay	
Rated Power (kW)	Rated Current (A)	Type	Instantaneous Tripping Current (A)	Type	Type	Current setting range (A)
0.37	1.1	T2S160 MF 1.6	21	A9	E16DU2.7	0.90 - 2.70
0.55	1.5	T2S160 MF 1.6	21	A9	E16DU2.7	0.90 - 2.70
0.75	1.9	T2S160 MF 2	26	A9	E16DU2.7	0.90 - 2.70
1.1	2.7	T2S160 MF 3.2	42	A9	E16DU6.3	2.00 - 6.30
1.5	3.6	T2S160 MF 4	52	A16	E16DU6.3	2.00 - 6.30
2.2	4.9	T2S160 MF 5	65	A26	E16DU6.3	2.00 - 6.30
3	6.5	T2S160 MF 8.5	110	A26	E16DU18.9	5.70 - 18.90
4	8.5	T2S160 MF 11	145	A30	E16DU18.9	5.70 - 18.90
5.5	11.5	T2S160 MF 12.5	163	A30	E16DU18.9	5.70 - 18.90
7.5	15.5	T2S160 MA 20	210	A30	E16DU18.9	5.70 - 18.90
11	22	T2S160 MA 32	288	A30	E45DU45	15.00 - 45.00
15	28.5	T2S160 MA 52	392	A50	E45DU45	15.00 - 45.00
18.5	36	T2S160 MA 52	469	A50	E80DU80	27.00 - 80.00
22	42	T2S160 MA 52	547	A50	E80DU80	27.00 - 80.00
30	56	T2S160 MA 80	840	A63	E80DU80	27.00 - 80.00
37	68	T2S160 MA 80	960	A75	E80DU80	27.00 - 80.00
45	83	T2S160 MA 100	1,200.00	A95	E140DU140	50.00 - 140.00
55	98	T3S250 MA 160	1,440.00	A145	E200DU200	60.00 - 200.00
75	132	T3S250 MA 200	1,800.00	A145	E200DU200	60.00 - 200.00
90	160	T3S250 MA 200	2,400.00	A185	E200DU200	60.00 - 200.00
110	195	T4S320 PR221-I In320	2,720.00	A210	E320DU	100.00 - 320.00
132	230	T5S400 PR221-I In400	3,200.00	A260	E320DU	100.00 - 320.00
160	280	T5S400 PR221-I In400	4,000.00	A300	E320DU	100.00 - 320.00
200	350	T5S630 PR221-I In630	5,040.00	AF400	E500DU	150.00 - 500.00
250	430	T6S630 PR221-I In630	6,300.00	AF460	E500DU	150.00 - 500.00
290	520	T6S800 PR221-I In800	7,200.00	AF580	E800DU	250.00 - 800.00
315	540	T6S800 PR221-I In800	8,000.00	AF580	E800DU	250.00 - 800.00
355	610	T6S800 PR221-I In800	8,000.00	A750	E800DU	250.00 - 800.00

Type 2 coordination

MCCB SD-NS

SCPD type : MCCB
 Rated voltage : 400 V
 Short circuit current : 50 kA
 Starting type : SD-NS
 Coordination type : IEC Type 2
 Overload relay : TOL
 Frequency : 50-60 Hz

Motor		Moulded Case Circuit Breakers		Contactor			Overload Relay	
Rated Power (kW)	Rated Current (A)	Type	Instantaneous Tripping Current (A)	Line	Delta	Star	Type	Current setting range (A)
18.5	35	T2S160 MA52	469	A50	A50	A26	TA75DU25	18.00 - 25.00
22	41	T2S160 MA52	547	A50	A50	A26	TA75DU32	22.00 - 32.00
30	55	T2S160 MA80	720	A63	A63	A30	TA75DU42	29.00 - 42.00
37	66	T2S160 MA80	840	A75	A75	A30	TA75DU52	36.00 - 52.00
45	80	T2S160 MA100	1,050.00	A75	A75	A30	TA75DU63	45.00 - 63.00
55	97	T2S160 MA100	1,200.00	A75	A75	A40	TA75DU63	45.00 - 63.00
75	132	T3S250 MA160	1,700.00	A95	A95	A75	TA110DU90	66.00 - 90.00
90	160	T3S250 MA200	2,000.00	A110	A110	A95	TA110DU110	80.00 - 110.00
110	195	T3S250 MA200	2,400.00	A145	A145	A95	TA200DU135	100.00 - 135.00
132	230	T4S320 PR221-I In320	2,880.00	A145	A145	A110	E200DU200	60.00 - 200.00
132	230	T4S320 PR221-I In320	2,880.00	A145	A145	A110	TA200DU175	130.00 - 175.00
160	280	T5S400 PR221-I In400	3,600.00	A185	A185	A145	E200DU200	60.00 - 200.00
160	280	T5S400 PR221-I In400	3,600.00	A185	A185	A145	TA200DU175	130.00 - 175.00
200	350	T5S630 PR221-I In630	4,410.00	A210	A210	A185	E320DU320	100.00 - 320.00
200	350	T5S630 PR221-I In630	4,410.00	A210	A210	A185	TA450DU235	165.00 - 235.00
250	430	T5S630 PR221-I In630	5,670.00	A260	A260	A210	E320DU320	100.00 - 320.00
250	430	T5S630 PR221-I In630	5,670.00	A260	A260	A210	TA450DU310	220.00 - 310.00

Type 2 coordination Ms132 DOL-NS

SCPD type : MMS
 Rated voltage : 400 V
 Short circuit current : 50 kA
 Starting type : DOL-NS
 Coordination type : IEC Type 2
 Overload relay : Embedded
 Frequency : 50-60 Hz

Motor		Manual Motor Starter			Contactor
Rated Power (kW)	Rated Current (A)	Type	Instantaneous Tripping Current (A)	Current setting range (A)	Type
0.06	0.2	MS132-0,25	2.44	0.16 - 0.25	A9
0.09	0.3	MS132-0,40	3.9	0.25 - 0.40	A9
0.12	0.44	MS132-0,63	6.14	0.40 - 0.63	A9
0.18	0.6	MS132-0,63	6.14	0.40 - 0.63	A9
0.25	0.85	MS132-1,0	11.5	0.63 - 1.00	A9
0.37	1.1	MS132-1,6	18.4	1.00 - 1.60	A9
0.55	1.5	MS132-1,6	18.4	1.00 - 1.60	A9
0.75	1.9	MS132-2,5	28.75	1.60 - 2.50	A9
1.1	2.7	MS132-4,0	50	2.50 - 4.00	A16
1.5	3.6	MS132-4,0	50	2.50 - 4.00	A16
2.2	4.9	MS132-6,3	78.75	4.00 - 6.30	A26
3	6.5	MS132-10	150	6.30 - 10.00	A26
4	8.5	MS132-10	150	6.30 - 10.00	A26
5.5	11.5	MS132-12	180	8.00 - 12.00	A26
7.5	15.5	MS132-16	240	10.00 - 16.00	A30
11	22	MS132-25	375	20.00 - 25.00	A30
15	29	MS132-32	480	25.00 - 32.00	A30
18.5	35	MS450-40	520	28.00 - 40.00	A40

Type 2 coordination MS116 SD - NS

Coordination type : IEC Type 2
 SCPD type : MMS
 Rated voltage : 400 V
 Short circuit current : 50 kA
 Starting type : SD-NS
 Overload relay : Embedded
 Frequency : 50-60 Hz

Motor		Manual Motor Starter			Contactor		
Rated Power (kW)	Rated Current (A)	Type	Instantaneous Tripping Current (A)	Current setting range (A)	Line	Delta	Star
0.06	0.22	MS116-0,25	3	0.16 - 0.25	A9	A9	A9
0.09	0.34	MS116-0,40	4.8	0.25 - 0.40	A9	A9	A9
0.12	0.44	MS116-0,63	7.56	0.40 - 0.63	A9	A9	A9
0.18	0.72	MS116-1,00	12	0.63 - 1.00	A9	A9	A9
0.25	0.83	MS116-1,00	12	0.63 - 1.00	A9	A9	A9
0.37	1.12	MS116-1,60	19.2	1.00 - 1.60	A9	A9	A9
0.55	1.45	MS116-1,60	19.2	1.00 - 1.60	A9	A9	A9
0.75	1.9	MS116-2,50	30	1.60 - 2.50	A9	A9	A9
1.1	2.59	MS116-4,00	48	2.50 - 4.00	A16	A16	A9
1.5	3.45	MS116-4,00	48	2.50 - 4.00	A16	A16	A9
2	4	MS116-6,30	75.6	4.00 - 6.30	A16	A16	A9
2.2	4.8	MS116-6,30	75.6	4.00 - 6.30	A16	A16	A9

** ABB offers type 2 coordination with various range of products. For other combination, please contact our nearest sales office.

General conditions of sale

General terms and conditions of sale:

- All prices mentioned in this price list are in Indian rupees(INR)
- Prices are based on Ex-warehouse basis
- Prices indicated are Maximum retail price (maximum recommended selling price) unless otherwise marked(Inclusive of duties and taxes)
- Items marked # are with list prices are inclusive of excise duty/counter veiling duty, However exclusive of all taxes and levies
- Prices are subject to revision without prior notice

Terms of delivery : Ex- warehouse, Nelamangala or any other ABB warehouse in India

Standard delivery terms

Ex stock or 30 working days

Address of Nelamangala Warehouse

ABB Limited
 Low Voltage Product Warehouse
 Survey No. 64 & 72/2
 Opp. Himalaya Drugs
 Golden Palms Spa & Hotel Road
 Dasanapura Hobli
 Heggadadevanapura Village
 Bangalore - 562 123
 Tel. : +91 80 2294 8206
 Tel. : +91 80 2294 8608
 Fax : +91 80 2371 7159

Nelamangala
 Survey No: 88/3, 88/4,
 Basavanhalli, Kasaba Hobli,
 Nelamangala Taluk,
 Bangalore - 562123, Karnataka, India
 Tel: +91 80 2294 6618
 Tel: +91 80 2294 6619
 Fax: +91 80 2294 9999

Classic Products

Isomax "S" Range of MCCB's
OETL upto 2500 Amps Load Break Switches
OESA 200 to 800 Switches

Warranty Policy:

ABB guarantee the supply according to the law. Upon expiration, the warranty expires even if the devices have not been operated for any reason. In the case of faults, as long as this does not depend on assembly errors by the Customer or third parties, on incorrect use of the materials, lack of or incorrect maintenance, normal wear and tear, faults caused by inexperience or negligence by the purchaser or by transport, by the improper storage of the materials, or failure by the Customer to adopt measures to reduce eventual dysfunction, overload with respect to the contractual limits, by unauthorized intervention, by tampering or action effected by the Customer, to force majeure, ABB will, throughout the warranty period, repair or replace any defective part of supply free of charge, in the shortest possible time, at its premises. Where the repair cannot be executed at ABB premises, except as otherwise agreed, all the supplementary or relevant expenses shall be borne by the customer.

Repair or replacement will be executed only if the customer has performed all its obligations to that date. The Customer may not suspend performance of the obligations in any case in which this warranty is invoked. The term for the repair or replacement of the faulty supply will be agreed by ABB and the customer. The shipment of any supply claimed to be faulty by the Customer to ABB and subsequently by ABB to the Customer, shall be at the risk and under the responsibility of the customer, who shall arrange adequate insurance coverage. The supply repaired or replaced is shipped at the expense and risk of the customer. Any dispute about a shipment has no effect on the remainder of the supply. The products replaced by ABB become the property of ABB.

Any claim regarding the supply, machinery, plant or components not compliant with the specifications or the contractual documentation must be raised in writing, within a maximum term of 8 days from delivery, when the time limit for action expires. In the case of systems, this term is 60 days from execution of the disputed service when the time limit for action expires.

In the case of latent defects, the terms indicated above run from the date of discovery. Once the warranty period has expired claims are not accepted, even for latent defect.

Where the claim is timely and justified, ABB's obligation is limited to replacement of the goods found not in compliance or repetition of execution of the non-compliant service, excluding all rights to the Customer to seek termination of the contract and/or compensation of damages.

With reference to the provision of spare parts, ABB reserves the right to provide materials either from the original supplier or from equivalent supplier.

Warranty Period:

1. Breakers & Switches: The Warranty period is 12 months from the date of commissioning or 18 months from the date of ABB's invoice, whichever is earlier.

2. Control Products: The Warranty period is 12 months from the date of commissioning or 18 months from the date of ABB's invoice, whichever is earlier.

3. Enclosures & Din Rail Components: The warranty period is 5 years from the date of ABB's invoice if the components are used in ABB's enclosure. If non-ABB enclosure is used, Warranty period is 12 months from the date of commissioning or 18 months from the date of ABB's invoice, whichever is earlier.

Liability Clause:

The manufacturer shall not be liable for any consequential loss, injury or damages attributable to defect or failure of its products.