

GEYER



GENERAL CATALOGUE

We combine your energies

YOUR DAILY HANDBOOK
FOR QUALITY AND KNOW-HOW.
CAN YOU AFFORD NOT TO LOOK
INTO THIS FURTHER?

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[VARIO-Distribution Boards](#)
[EURO-Distribution Boards](#)
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[Pillars](#)
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H5 TECHNICAL APPENDIX



DISTRIBUTION BOARDS

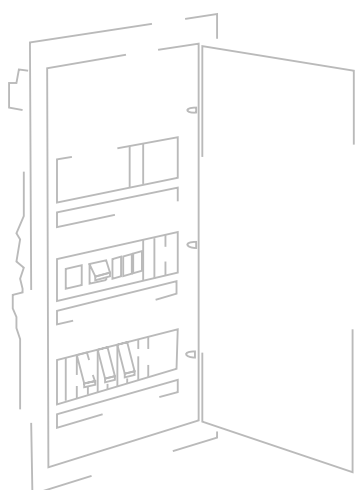
TAKE COMFORT IN PRODUCTS
ENGINEERED BY GEYER.

We combine your energies



DISTRIBUTION BOARDS

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PRIMO-Distribution Boards

flush mounting
distribution boards

Distribution boards for
cavity partition walls

Accessories



■ The PRIMO small flush mounting distribution board from GEYER. A specially designed solution for fast and safe installation on site. Discover the genuine plus points of the PRIMO system. Check it out for yourself by contacting your local stockist or have a look to our web site <http://www.geyer.de>

- Stability
- Easy to fix
- Adaptable - easy to fix adjoining enclosures together
- Top and bottom walls have been specially designed for easy cable installation
- Roomy - generous amount of space for connecting modular devices
- Expandable - DIN rail "stops" allow DIN rail capacity to be expanded from 12 to 13 or 14 modules as standard
- DIN rail separation - special connection in DIN rail mounting allows for electrical separation of DIN rails should the circuit conditions require it
- Insulated earth and neutral terminals
- Front cover with additional design features - sealable; 2 point fixing; ½ module wide markings; easy labelling etc.
- Flush door in modern design - adjustable; easy to remove; left or right hand hinged; locking facility available
- User friendly packaging - enclosure removed in correct sequence; all fixings etc. included in the packaging
- Packaging provides protection after first fix phase - pre-punched carton could be used during plastering to prevent ingress of plaster
- Version available for direct mounting into cavity partition walls and system build walls

Flush mounting boards with door

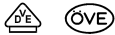
Extent of delivery:

- Plastic wall box with sheet steel DIN rails
- Insulated PE/N-terminals
- Protection cover with open section for modular devices, height of section = 46mm
- Outer frame with door
- Circuit legends
- Sheet with ideograms
- Plaster protection plate (detachable from the packing carton)

Specification:

DIN VDE 0603 - 1 and DIN EN 60 439-3/DIN VDE 0660-504
Dimensions according to DIN 43 871

Approvals:



Protection degree:

IP 30 according to DIN VDE 0470 - 1/ EN 60529

Protection grade:

double isolated

Rated voltage:

AC 400 V

Rated current:

Suitable for modular devices up to 63 Amps.

Material:

- Outer frame with door made of sheet steel, powder coated finish.
- Wall box and cover made of plastic material according to DIN ISO 11469.
- Distribution board for cavity partition walls: glow wire test = 850 °C

Colour:

RAL 9003; white

Door:

Hingeable right and left without dismantling of the outer frame.
Indoor mounted spring catch.

Door locking device:

Flat elegant spring catch.
Easy exchange for a locking device (same design).

Cable entries:

In the top and bottom parts, which are removeable, are knockouts.
12 knockouts Ø 29 mm are on the rear side.
Lateral left and right are knockouts Ø 29 mm as follows:
1 row = 2, 2 row = 3, 3 row = 4, 4 row = 5

Protection cover:

Section for modular devices suitable for 12 modules,
can be extended to 14 modules.
Sealable, fixed to the wall box by 2 screws.

Modular devices:

Mounting depth upto 70 mm

Frame adjustment to thickness of plaster:

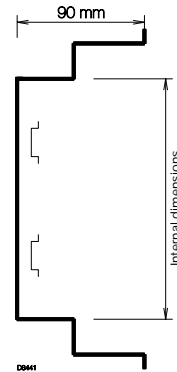
26 mm maximum possible by plastic pieces for different distances.

Distribution boards for cavity partition walls:

with special fixing clamps,
Cable ties for stress relief,
Angle brackets for fixing on metal wall construction frames.

Dimensions of wall box: (width x height x depth mm)

	1 row	2 row	3 row	4 row
Height - Internal Dimensions	235	360	510	635
Recess Dimensions	330 x 310 x *	330 x 435 x *	330 x 585 x *	330 x 710 x *
Cutout for cavity partition walls	310 x 295	310 x 420	310 x 570	310 x 695

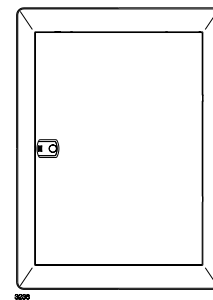


* Dimensions for recess (depth)

- Minimum requirement is 68 mm
- from 68 to 81,5 mm – higher outer frame is needed
- ≥ 82 mm – standard outer frame

Dimensions of outer frame: (width x height mm)

	1 row	2 row	3 row	4 row
Outer dimensions	344 x 349	344 x 474	344 x 624	344 x 749



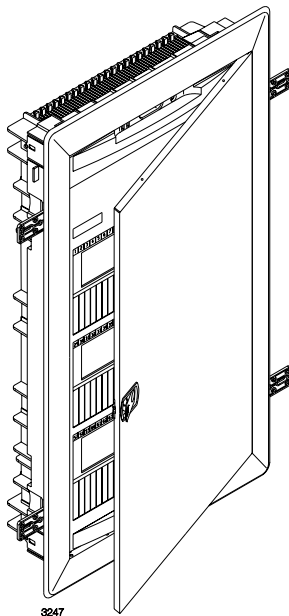
Space for wiring:

Connection space	1 row	2 row	3 row	4 row
on the top	130	130	155	155
on the bottom	105	105	105	105
lateral left/right	20	20	20	20

Dimensions in mm

Specification	Modules à 18 mm	Reference-No.
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Flush mounting board



1 row
with PE-terminal
3 x 16/10 x 10 mm²
with N-terminal
3 x 16/10 x 10 mm²

14 **VU 14**



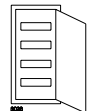
2 row
with PE-terminal
3 x 16/14 x 10 mm²
with N-terminal
5 x 16/10 x 10 mm² + 4 x 10 mm² for a second RCD

28 **VU 28**



3 row
with PE-terminal
1 x 25/5 x 16/16 x 10 mm²
with N-terminal
1 x 25/5 x 16/16 x 10 + 4 x 10 mm² for a second RCD

42 **VU 42**



4 row
with PE-terminal
1 x 25/5 x 16/19 x 10 mm²
with N-terminal
1 x 25/5 x 16/19 x 10 + 4 x 10 mm² for a second RCD

56 **VU 56**

Distribution Boards for cavity partition walls



1 row
with PE-terminal
3 x 16/10 x 10 mm²
with N-terminal
3 x 16/10 x 10 mm²

14 **VH 14**



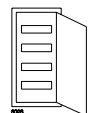
2 row
with PE-terminal
3 x 16/14 x 10 mm²
with N-terminal
5 x 16/10 x 10 mm² + 4 x 10 mm² for a second RCD

28 **VH 28**



3 row
with PE-terminal
1 x 25/5 x 16/16 x 10 mm²
with N-terminal
1 x 25/5 x 16/16 x 10 + 4 x 10 mm² for a second RCD

42 **VH 42**

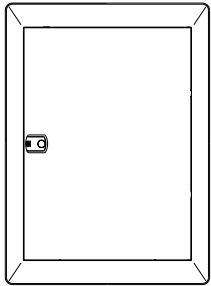


4 row
with PE-terminal
1 x 25/5 x 16/19 x 10 mm²
with N-terminal
1 x 25/5 x 16/19 x 10 + 4 x 10 mm² for a second RCD

56 **VH 56**

Specification	Reference No.
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Accessories



**Outer frame
with door and spring catch**
(for replacement)
RAL 9003, white

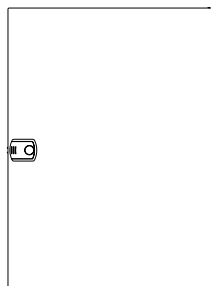
VU/VH, one row
VU/VH, two row
VU/VH, three row
VU/VH, four row

47591
47592
47593
47594

Higher outer frame (without door)
RAL 9003, white

VU/VH, one row
VU/VH, two row
VU/VH, three row
VU/VH, four row

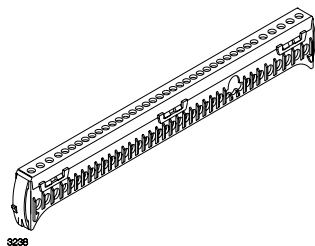
47551
47552
47553
47554



Door with spring catch
(for replacement)
RAL 9003, white

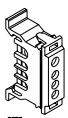
VU/VH, one row
VU/VH, two row
VU/VH, three row
VU/VH, four row

75631
75632
75633
75634



PE/N-terminals (for replacement)

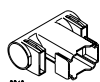
Numbers of terminals (mm ²)	Mode of termial	Distribution rows	
3 x 16 / 10x10	PE + N	1	81051
3 x 16 / 14x10	PE	2	81082
5 x 16 / 10 x 10 + 4 x 10 for second RCD	N		
1 x 25/5 x 16/16 x 10	PE	3	81053
1 x 25/5 x 16/16 x 10 + 4 x 10 for second RCD	N		81083
1 x 25/5 x 16/19 x 10	PE	4	81054
1 x 25/5 x 16/19 x 10 + 4 x 10 for second RCD	N		81084



**Extension terminal
for more RCDs**

81038

N-terminal
1 x 16 mm²
3 x 10 mm²



Wall box connection set
(2 pieces)

60053

to connect two wall boxes with protection graded cable passing through from distribution board to distribution board horizontally.

Specification	Reference-No.
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Accessories



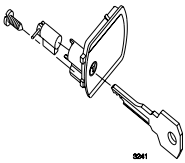
Blank piece
for 1 row with 12 modules
RAL 9003, white
similar to RAL 7035, light grey

48859
48862



Locking bracket set
(10 pieces)
for the blank piece

69805



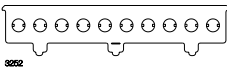
Door lock with 2 keys
In exchange for snap locking device

60055



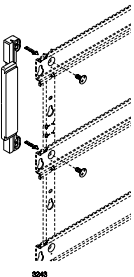
Longitudinal wall
(set with 20 pieces)
to separate various tariff groups

62686



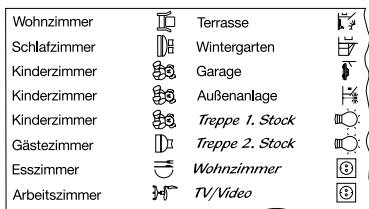
Cross separation wall

60054



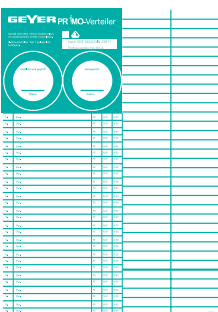
Insulating piece
(set with 2 pieces)

46134



Tabs Ideograms
DIN A4
available in following lanuages:
german, swedish

42855



Circuit identification cards

42882

VARIO-Distribution Boards

Consumer units insulated

Consumer units with door



Accessories



■ VARIO-Distribution-Boards for surface mounting are available with or without door. They are designed for fast and easy assembly especially for renovation contracts.

Consumer units insulated

Specification:

Protection degree: IP 30
Double isolated  
DIN VDE 0603-1
(Dimensions acc. to DIN 43871)

Material:

Cover and rearplate made of
Polystyrol-Butadien
Self extinguishing

Colour:

RAL 9003

Depth:


Suitable for 68 and 85 mm devices as:
MCBs, RCDs and Isolators

Cover:

sealable

Consumer Units insulated with metal door

Specification:

Protection degree: IP 30
Double isolated 
DIN VDE 0603-1
(Dimensions acc. to DIN 43871)

Material:

Cover and rearplate made of
Polystyrol-Butadien
Self extinguishing
Door made of sheet steel

Colour:

RAL 9003

Depth:

For devices of 68 mm only

Door:

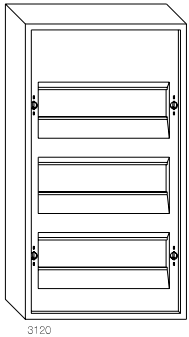
Made of sheet steel
Hingeable right and left

Cover:

sealable

Specification	Modules à 18 mm	Dimensions (mm) width/height/depth	Reference-No.
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Consumer units insulated, for surface mounting



3120



1 row
PE + N terminals
3 x 16/10 x 10 mm²

12 270x225x96 **VA 121**



2 row
PE + N terminals
3 x 16/10 x 10 mm²

24 270x350x96 **VA 222**



3 row
PE + N terminals
1 x 25/5 x 16/16 x 10 mm²

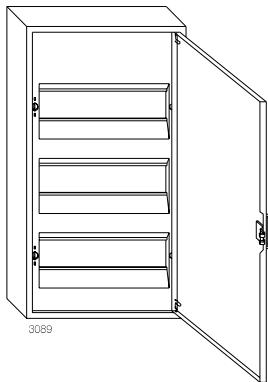
36 270x495x96 **VA 323**



4 row
PE + N terminals
1 x 25/5 x 16/19 x 10 mm²

48 270x620x96 **VA 424**

Consumer Units insulated with metal door, for surface mounting



3089



1 row
PE + N terminals
3 x 16/10 x 10 mm²

12 270x225x96 **VA 121 T**



2 row
PE + N terminals
3 x 16/10 x 10 mm²

24 270x350x96 **VA 222 T**



3 row
PE + N terminals
1 x 25/5 x 16/16 x 10 mm²

36 270x495x96 **VA 323 T**



4 row
PE + N terminals
1 x 25/5 x 16/19 x 10 mm²

48 270x620x96 **VA 424 T**

Notice:

All ranges of Consumer Units and Distribution Boards can be supplied ready fitted with miniature circuit breakers, residual current devices etc.

Specification	Reference No.
---------------	---------------

Accessories



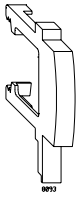
Blank
for 1 row 46 x 220 mm

48862



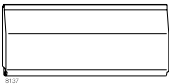
Lock
with 2 keys

50962



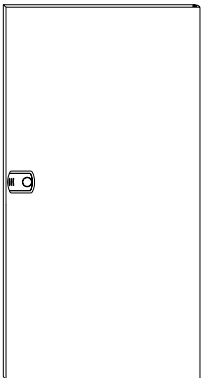
Spacer
9 mm wide

58250



Transparent flap
for VA 121, VA 222, VA 323, VA 424

40902

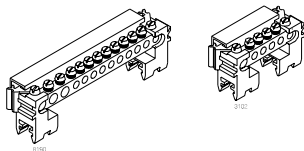


Door with snap device
for consumer unit

VA 121	1 row
VA 222	2 row
VA 323	3 row
VA 424	4 row

61761
61762
61763
61764

8136

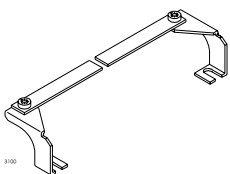


Terminals PE + N

terminal	incoming 16 mm ²	outgoing 10 mm ²
PE	3	10
N	3	10
N	1	5

81620
81610

81626



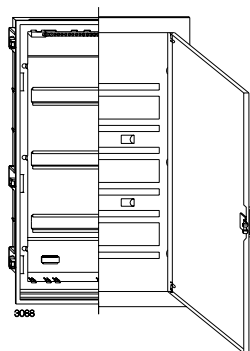
Bar to hold terminals

53624

3100

Specification	Dimensions (mm) width/height/depth	Modules à 18 mm	Reference No..
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Distribution Boards with metal door for flush mounting



1 row
PE + N terminals
3 x 16/10 x 10 mm²

wall box
317 x 276 x 89 12 **VU 131**



2 row
PE + N terminals
3 x 16/14 x 10 mm²

317 x 402 x 89 24 **VU 232**



3 row
PE + N terminals
1 x 25/5 x 16/16 x 10 mm²

317 x 547 x 91 36 **VU 333**



4 row
PE + N terminals
1 x 25/5 x 16/19 x 10 mm²

317 x 672 x 91 48 **VU 434**

Distribution Boards with metal door for flush mounting . Door with transparent window



1 row
PE + N terminals
3 x 16/10 x 10 mm²

317 x 276 x 89 12 **VU 131 G**



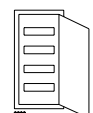
2 row
PE + N terminals
3 x 16/14 x 10 mm²

317 x 402 x 89 24 **VU 232 G**



3 row
PE + N terminals
1 x 25/5 x 16/16 x 10 mm²

317 x 547 x 91 36 **VU 333 G**



4 row
PE + N terminals
1 x 25/5 x 16/19 x 10 mm²

317 x 672 x 91 48 **VU 434 G**

EURO-Distribution Boards

Consumer units insulated with hinged door

Consumer units with door VDE approved



■ Due to the robust design of the box the EURO-Distribution Boards from GEYER offer excellent protection against aggressive environments. Sealing to IP 54 makes them suitable for use in many applications.

■ EURO-Distribution Boards are available from 5 to 36 18mm wide modules. The transparent door could be hinged left or right. Locking and sealing devices are available.



Consumer units insulated

Consumer units with door

Norm:

DIN VDE 0603-1 and DIN EN 60439-3/DIN VDE 0660-504
Dimensions according to DIN 43871

Specification:

Protection degree: IP 54

Double isolated  

Material:

Base and cover:
ABS self-extinguishing

Transparent door/flap:
Polycarbonate

Accessories:

The distribution boards are supplied with plastic entry glands:

VW 005 1 gland Pg 29, 3 x 9-14 mm
1 gland Pg 29, 1 x 17-28 mm
2 glands Pg 16

VW 008 3 glands Pg 29, 3 x 9-14 mm
1 gland Pg 29, 1 x 17-28 mm

VW 013 3 glands Pg 29, 3 x 9-14 mm
1 gland Pg 29, 1 x 17-28 mm

VW 012 3 glands Pg 29, 3 x 9-14 mm
1 gland Pg 29, 1 x 17-26 mm

VW 024 5 glands Pg 29, 1 x 17-28 mm
8 glands Pg 16, 1 x 6,5 mm

VW 036 5 glands Pg 29, 3 x 9-14 mm
1 gland Pg 29, 1 x 17-28 mm
8 glands Pg 16, 1 x 6,5 mm

Colour:

RAL 7035

Depth:

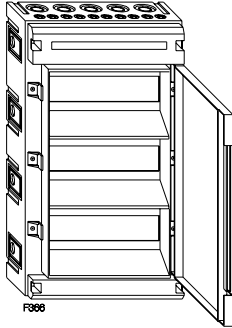
Suitable for 68 and 85 mm devices as:
MCB's, RCD's and Isolators

Door:

Hingeable right or left

Specification	Modules à 18 mm	Dimensions (mm) width/height/depth	Reference-No
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Consumer units insulated with hinged door



1 row
PE + N terminals
3 x 16/10 x 10 mm²

12 285 x 250 x 138 **VW 012**

alternative: without VDE registration

VW 012 E



2 row
PE + N terminals
3 x 16/10 x 10 mm²

24 285 x 375 x 138 **VW 024**

alternative: without VDE registration

VW 024 E



3 row
PE + N terminals
1 x 25/5 x 16/16 x 10 mm²

36 285 x 500 x 138 **VW 036**

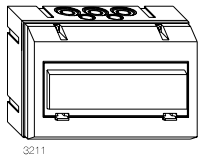
alternative: without VDE registration

VW 036 E

Padlock with 2 keys

75907

Consumer units with door



1 row
PE + N terminals
4 x 10/2 x 16 mm²

5 126 x 175 x 114 **VW 005**

alternative: without VDE registration

VW 005 E



1 row
PE + N terminals
8 x 10/2 x 16 mm²

8 213 x 175 x 114 **VW 008**

alternative: without VDE registration

VW 008 E



1 row
PE + N terminals
8 x 10/2 x 16 mm²

13 287 x 200 x 123 **VW 013**

alternative: without VDE registration

VW 013 E

ISO-Distribution Boards and Consumer Units

Insulated enclosures one row



■ The ISO-Distribution Boards and Consumer Units are ideally suited for additional circuits and small installations. They are available with earth and neutral terminals and also with a transparent flap cover.


The enclosure is manufactured from self extinguishing material coloured in RAL 9003.

The enclosure is sealable as standard. Additional back plate for rear protection is available.

Insulated enclosures one row

Specification:

Protection degree: IP 30

Double isolated 

Material:

Cover made of Polystyrol-Butadien

Self extinguishing

Transparent lid

Colour of transparent lid:

RAL 7035

Depth:

Suitable for 68 and 85 mm devices as:

MCBs, RCDs and Isolators

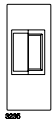
according to DIN 43880

Cover:

sealable

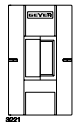
Specification	Modules à 18 mm	Dimensions (mm) width/height/depth	Reference-No
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Insulated enclosures one row



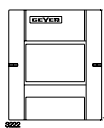
1 row
with integral back plate
without PE/N-terminals

1 (2) 53 x 128 x 60 **VA 101**



1 row
with PE/N-terminals 2 x 16/2 x 10 mm²
transparent lid
back plate

1 (2) 78 x 135 x 65 **VA 02**
78 x 135 x 90 **VA 02 K**
40171



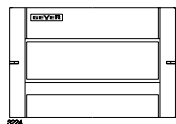
1 row
with PE/N-terminals 2 x 16/2 x 10 mm²
transparent lid
back plate

4 114 x 135 x 65 **VA 04**
114 x 135 x 90 **VA 04 K**
40172



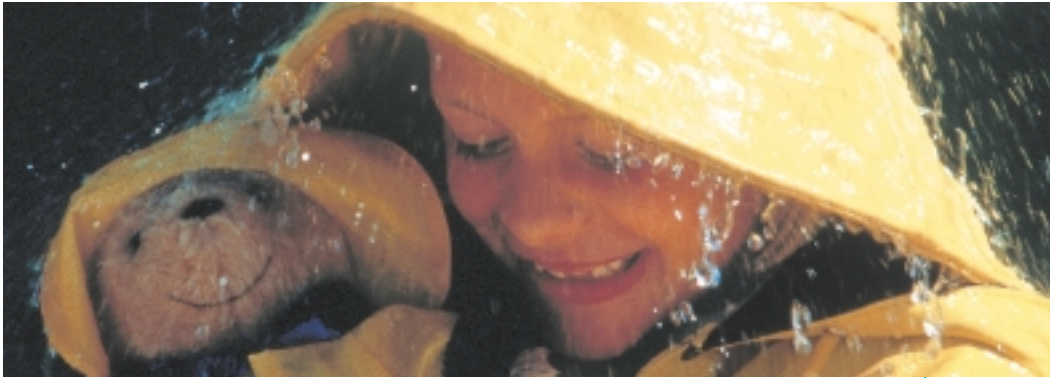
1 row
with PE/N-terminals 2 x 16/2 x 10 mm²
transparent lid
back plate

6 150 x 135 x 65 **VA 06**
150 x 135 x 90 **VA 06 K**
40173



1 row
with PE/N-terminals 2 x 16/2 x 10 mm²
transparent lid
back plate

9 204 x 135 x 65 **VA 09**
204 x 135 x 90 **VA 09 K**
40174



CABINETS AND PILLARS

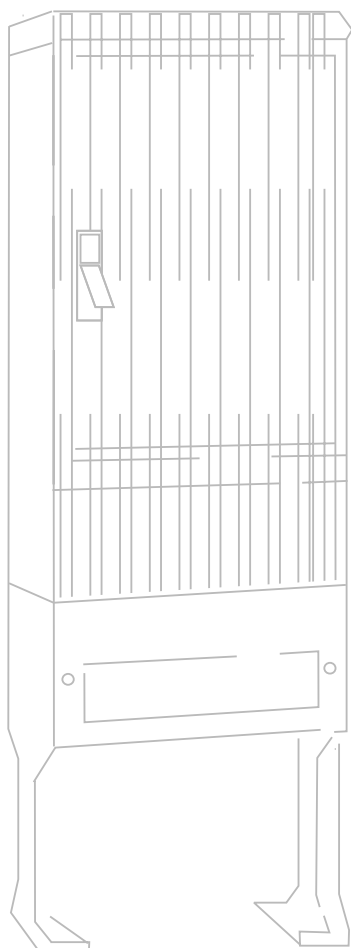
THE INHERENT FEATURES OF THESE ENCLOSURES MEAN THAT THEY ARE ABLE TO WITHSTAND ALL WEATHER CONDITIONS.

We combine your energies



CABINETS AND PILLARS

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R336

R337

R338

R339

✓ Made of polyester
in compliance with VDE 0660 part 503
and IEC 17 D (SEC) 144

- ✓ modern ribbed surface
- ✓ easy exchange if parts get damaged



R 344

- ✓ expected break area in case of crash



R 350

- ✓ flush fitted locking device made of high impact material



R 345

- ✓ doors can be unhinged easily



R 351

- ✓ steel frame with busbars

- ✓ marking plate



R 346

- ✓ doors can be opened to an angle of 180°



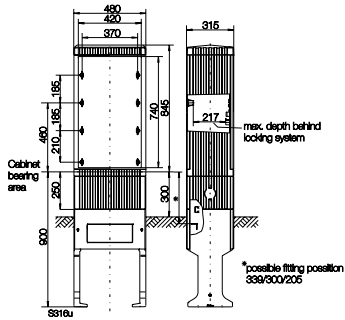
R 349

- ✓ opening in the side on request

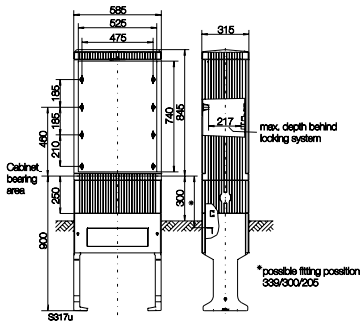


Product range

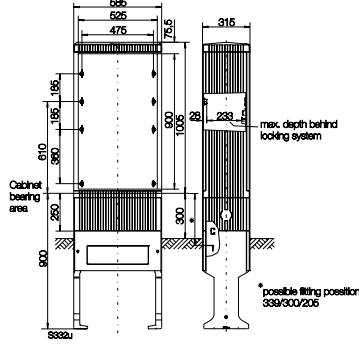
Size 00 / Height 845



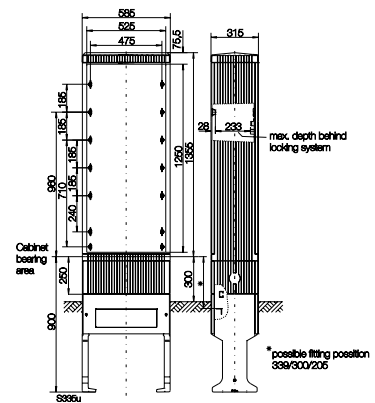
Size 0 / Height 845



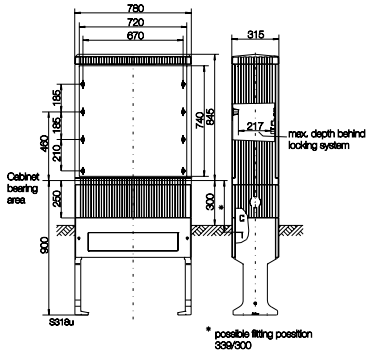
Height 1005



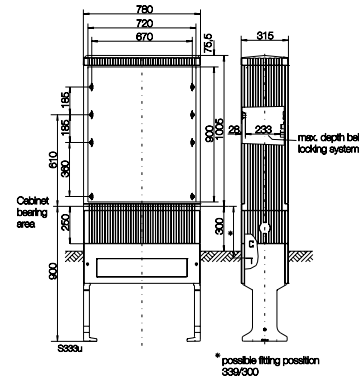
Height 1355



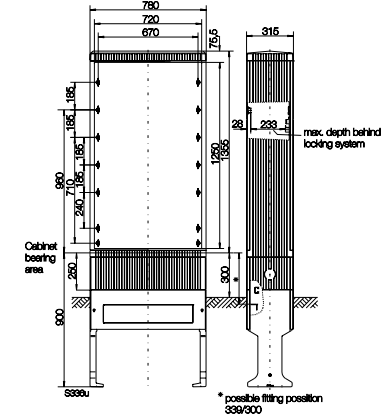
Size 1 / Height 845



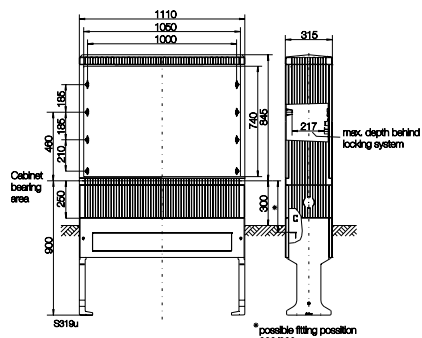
Height 1005



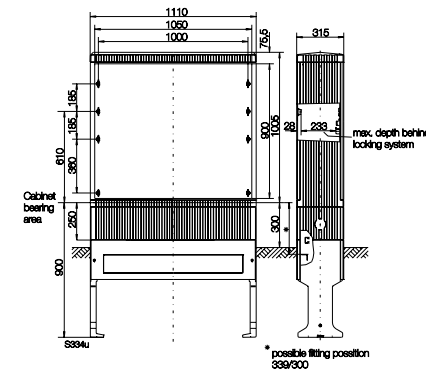
Height 1355



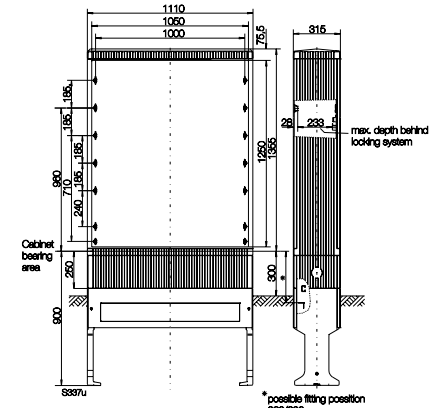
Size 2 / Height 845



Height 1005



Height 1355



Cable Distribution Cabinets

Size 00/845
 Size 0/845 – 0/1355
 Size 1/845 – 1/1355
 Size 2/845 –2/1355

with asymmetrical doors
 Size 1/845/1005/1355
 Size 2/845/1005/1355



■ Cable Distribution Cabinets from GEYER are suitable for a very wide range of applications. Their modular design makes it possible. There are four widths, three heights and five different pedestals available.



The versions available with asymmetrical doors mean that many different applications could be covered. They are regularly used for many telecommunications

uses, broad band cable networks and also energy metering applications.

■ Pedestal variations:

- Underground - filled trench pedestal
- Wall mounting pedestal
- Pedestal with cable outlets for festival- and market places
- Stand alone pedestal
- Special versions suitable for sites subject to flooding

Size 00 – Size 2

according to DIN EN 60 439-5

Technical specification

of reinforced polyester see page 64

Colour

Lightgrey according to RAL 7035

Protection grade

IP 43, on special request IP 44 see page 63

Dimensions

see design variations
pages 7–18

Locking device

Three point locking system suitable for:
one or two cylinders with key or
triangular lock or
square lock

Ventilation

On bottom and top side of the cabinet
there are labyrinthine slots

Pedestal

On one side one opening for temporary
connection from outside. This opening can
be closed from inside after using.
With cable support bar angle iron 40 x 40 x 3 mm

Accessory for the pedestal (see page H2-56 – H2-57, ground grate)

Base plate made of cast iron (on request)

Rods to adjust the pedestal on the base plate (on request)

Earth lead (on request)

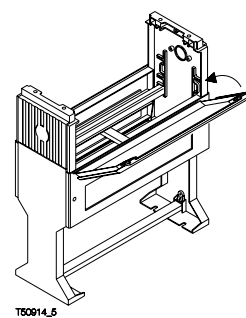
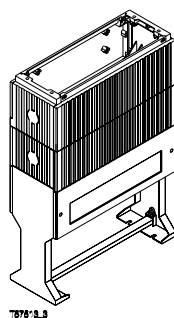
Accessory for the cabinet

Steel frame with busbars (on request)

Built-in units of 100 mm width (on request)

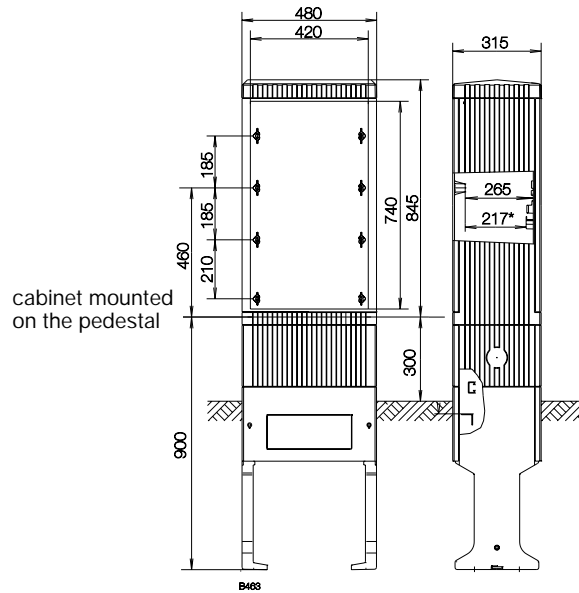
- Built-in unit 1
2 HRC Fuse strips, size 00 100A-660V
- Built-in unit 2
1 HRC Fuse strip, size 2 400A-660V
- Built-in unit 3
1 GEYER Load plug-in system
- Built-in unit 4
1 clamp connection either by screws, bolts or direct terminals

- The cabinets according to DIN EN 60439-5
(general electric regulations)
- Modern ribbed surface design
- Recyclable, because no pressed metal parts used in the enclosure
- Damaged enclosure parts can be easily exchanged
- Surface enclosure can be painted on request
- Flush fitted door handle made of high impact plastic
- At free standing the doors can be opened to an angle of 180°
- Cabinets can be mounted side by side, door angle 90° possible
- Cabinets of size 2 have doors of the same size
- Cabinets of size 2 can be fitted with 2 independent and
lockable doors
- Doors are easy to put onto hinges and to take off
- Door hinge left or right possible without alteration



Cable Distribution Cabinets

Size 00/845



Types width x height x depth (mm) 480 x 845 x 315	maximum equipment	standard- pedestal	single locking device	double locking device	1 profile locking cylinder (built in)	grade of protection IP 44	side plug-in door	pocket for wiring diagram	holder for spare fuse	cabinet heating	lighting with „Schuko“- socket	marking plate	Reference-No.
empty cabinet		●	○	●	●	○	○	○	○	○	○	○	SL 084
with assembly plate 358 x 750 x 6 mm		●	○	●	●	○	○	○	○	○	○	○	SL 084 P
with busbar system E-copper 30 x 6 mm	4 built-in units of 100 mm width	●	●	○	○	○	○	○	○	○	○	○	SK 084 G
with steel frame and busbar system E-copper 30 x 6 mm	3 built-in units of 100 mm width	●	●	○	○	○	○	○	○	○	○	○	SK 084 C

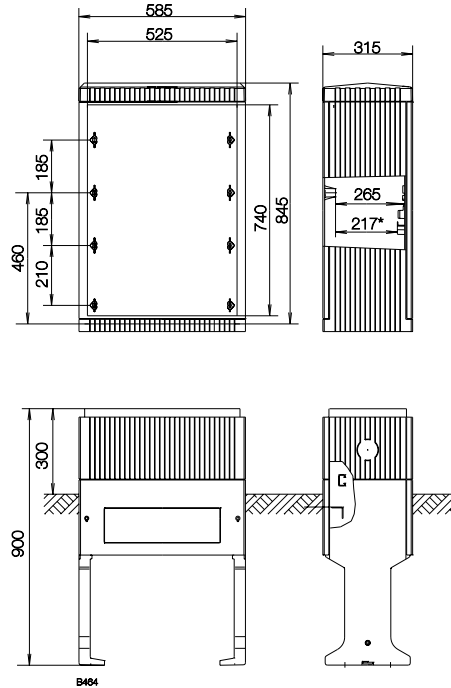
Pedestals for Pillar Size 00/845	height (mm)	Reference-No.
standard	900	77675
flood type	1125	77681
with estimated site of fracture in case of crash	900	77685

* Mounting depth in locking device area

- Basic model
- Accessories on request

Cable Distribution Cabinets according to DIN 43 629

Size 0/845



Types width x height x depth (mm) 585 x 845 x 315	maximum equipment	standard- pedestal	single locking device	double locking device	1 profile locking cylinder (built in)	grade of protection IP 44	side plug-in door	pocket for wiring diagram	holder for spare fuse	cabinet heating	lighting with „Schuko“- socket	marking plate	Reference No.
empty cabinet		○	○	●	●	○	○	○	○	○	○	○	SL 080
with assembly plate 500 x 750 x 6 mm		○	○	●	●	○	○	○	○	○	○	○	SL 080 P
with busbar system E-copper 30 x 6 mm	5 built-in units of 100 mm width	○	●	○	○	○	○	○	○	○	○	○	SK 080 G
with steel frame and busbar system E-copper 30 x 6 mm	5 built-in units of 100 mm width	●	●	○	○	○	○	○	○	○	○	○	SK 080 C

Pedestals for Pillar Size 0/845	height (mm)	Reference No.
standard	900	77675
flood type	1125	77681
with estimated site of fracture in case of crash	900	77685

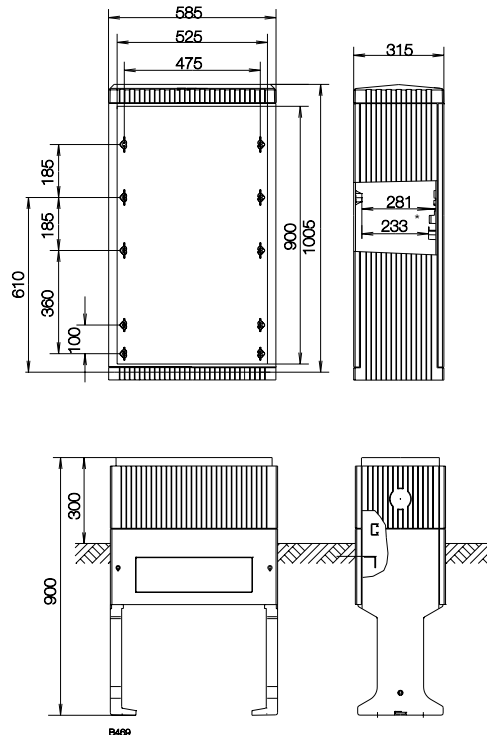
* Mounting depth in locking device area

● Basic model

○ Accessories on request

Cable Distribution Cabinets according to DIN 43 629

Size 0/1005



Types width x height x depth (mm) 585 x 1005 x 315	maximum equipment	standard- pedestal	single locking device	double locking device	1 profile locking cylinder (built in)	grade of protection IP 44	side plug-in door	pocket for wiring diagram	holder for spare fuse	cabinet heating	lighting with „Schuko“- socket	marking plate	Reference No.
empty cabinet		○	○	●	●	○	○	○	○	○	○	○	SL 100
with assembly plate 491 x 895 x 6 mm		○	○	●	●	○	○	○	○	○	○	○	SL 100 P
with busbar system E-copper 30 x 6 mm	5 built-in units of 100 mm width	○	○	●	○	○	○	○	○	○	○	○	SK 100 G

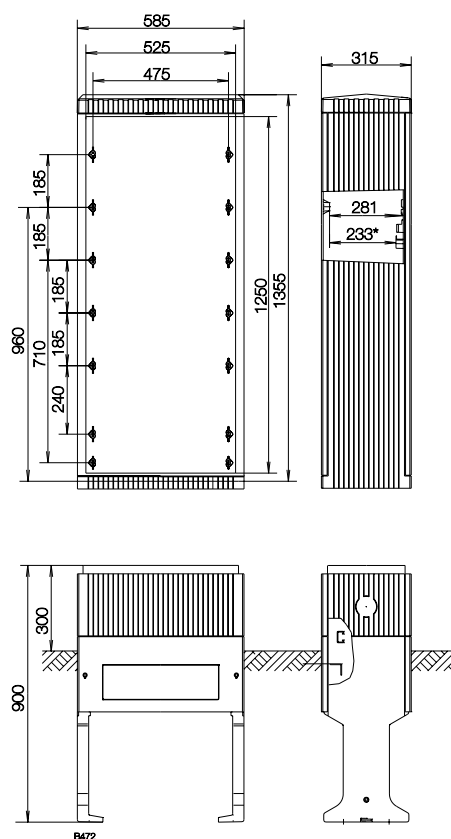
Pedestals for Pillar Size 0/1005	height (mm)	Reference No.
standard	900	77676
flood type	1125	77682
with estimated site of fracture in case of crash	900	77686
wall pedestal with 4 cable entries	310	69350
cover sheet for wall pedestal	640	35860

* Mounting depth in locking device area

- Basic model
- Accessories on request

Cable Distribution Cabinets according to DIN 43 629

Size 0/1355



Types width x height x depth (mm) 585 x 1355 x 315	maximum equipment	standard- pedestal	single locking device	double locking device	1 profile locking cylinder (built in)	grade of protection IP 44	side plug-in door	pocket for wiring diagram	holder for spare fuse	cabinet heating	lighting with „Schuko“- socket	marking plate	Reference No.
empty cabinet		○	○	●	●	○	○	○	○	○	○	○	SL 130
with assembly plate 491 x 1245 x 6 mm		○	○	●	●	○	○	○	○	○	○	○	SL 130 P

Pedestals for Pillar Size 0/1355	height (mm)	Reference No.
standard	900	77676
flood type	1125	77682
with estimated site of fracture in case of crash	900	77686
wall pedestal with 4 cable entries	310	69350
cover sheet for wall pedestal	640	35860

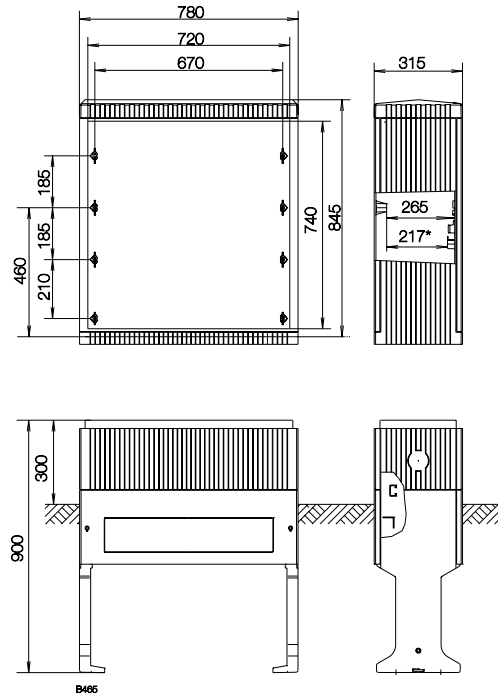
* Mounting depth in locking device area

● Basic model

○ Accessories on request

Cable Distribution Cabinets according to DIN 43 629

Size 1/845



Types width x height x depth (mm) 780 x 845 x 315	maximum equipment	standard- pedestal	single locking device	double locking device	1 profile locking cylinder (built in)	grade of protection IP 44	side plug-in door	pocket for wiring diagram	holder for spare fuse	cabinet heating	lighting with „Schuko“- socket	marking plate	Reference No.
empty cabinet		○	○	●	●	○	○	○	○	○	○	○	SL 081
with assembly plate 658 x 750 x 6 mm		○	○	●	●	○	○	○	○	○	○	○	SL 081 P
with busbar system E-copper 30 x 6 mm	7 built-in units of 100 mm width	○	●	○	○	○	○	○	○	○	○	○	SK 081 G
with steel frame and busbar system E-copper 40 x 6 mm	7 built-in units of 100 mm width	●	●	○	○	○	○	○	○	○	○	○	SK 081 C

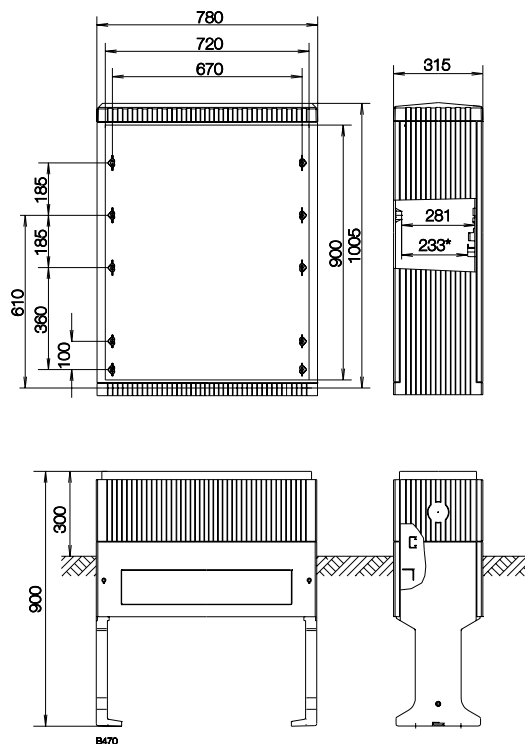
Pedestals for Pillar Size 1/845	height (mm)	Reference No.
standard	900	77677
flood type	1125	77683
with estimated site of fracture in case of crash	900	77687

* Mounting depth in locking device area

- Basic model
- Accessories on request

Cable Distribution Cabinets according to DIN 43 629

Size 1/1005



Types width x height x depth (mm) 780 x 1005 x 315	maximum equipment	standard- pedestal	single locking device	double locking device	1 profile locking cylinder (built in)	grade of protection IP 44	side plug-in door	pocket for wiring diagram	holder for spare fuse	cabinet heating	lighting with „Schuko“- socket	marking plate	Reference No.
empty cabinet		○	○	●	●	○	○	○	○	○	○	○	SL 101
with assembly plate 686 x 895 x 6 mm		○	○	●	●	○	○	○	○	○	○	○	SL 101 P
with busbar system E-copper 30 x 6 mm	7 built-in units of 100 mm width	○	○	●	○	○	○	○	○	○	○	○	SK 101 G

Pedestals for Pillar Size 0/1005	height (mm)	Reference No.
standard	900	77677
flood type	1125	77683
with estimated site of fracture in case of crash	900	77687
wall pedestal with 6 cable entries	310	69351
cover sheet for wall pedestal	640	35861

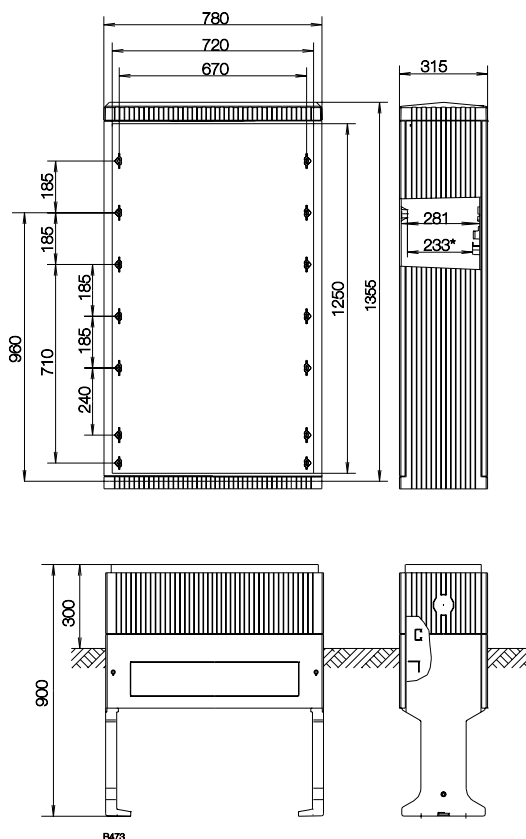
* Mounting depth in locking device area

● Basic model

○ Accessories on request

Cable Distribution Cabinets according to DIN 43 629

Size 1/1355



Types width x height x depth (mm) 780 x 1355 x 315	maximum equipment	standard- pedestal	single locking device	double locking device	1 profile locking cylinder (built in)	grade of protection IP 44	side plug-in door	pocket for wiring diagram	holder for spare fuse	cabinet heating	lighting with „Schuko“- socket	marking plate	Reference No.
empty cabinet		○	○	●	●	○	○	○	○	○	○	○	SL 131
with assembly plate 686 x 1245 x 6 mm		○	○	●	●	○	○	○	○	○	○	○	SL 131 P

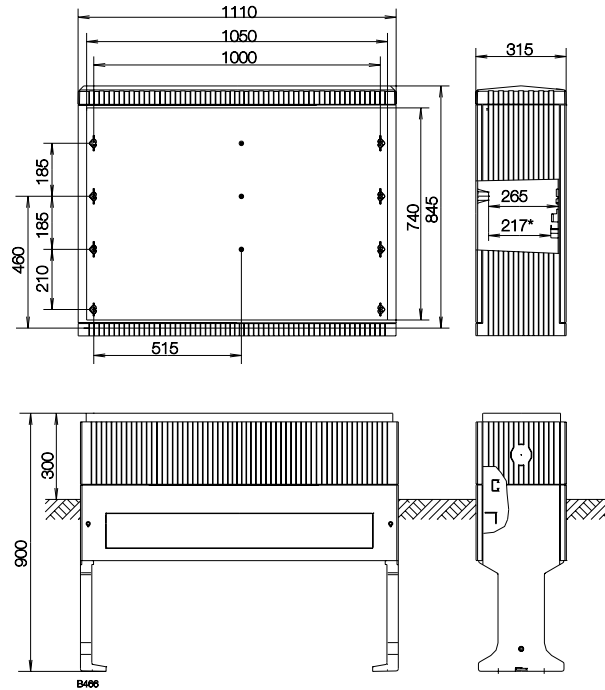
Pedestals for Pillar Size 0/1355	height (mm)	Reference No.
standard	900	77677
flood type	1125	77683
with estimated site of fracture in case of crash	900	77687
wall pedestal with 4 cable entries	310	69351
cover sheet for wall pedestal	640	35861

* Mounting depth in locking device area

- Basic model
- Accessories on request

Cable Distribution Cabinets according to DIN 43 629

Size 2/845



Types width x height x depth (mm) 1100 x 845 x 315	maximum equipment	standard- pedestal	single locking device	double locking device	1 profile locking cylinder (built in)	grade of protection IP 44	side plug-in door	pocket for wiring diagram	holder for spare fuse	cabinet heating	lighting with „Schuko“- socket	marking plate	Reference No.
empty cabinet		○	○	●	●	○	○	○	○	○	○	○	SL 082
with assembly plate 988 x 750 x 6 mm		○	○	●	●	○	○	○	○	○	○	○	SL 082 P
with busbar system E-copper 30 x 6 mm	10 built-in units of 100 mm width	○	●	○	○	○	○	○	○	○	○	○	SK 082 G
with steel frame and busbar system E-copper 40 x 10 mm	10 built-in units of 100 mm width	●	●	○	○	○	○	○	○	○	○	○	SK 082 C

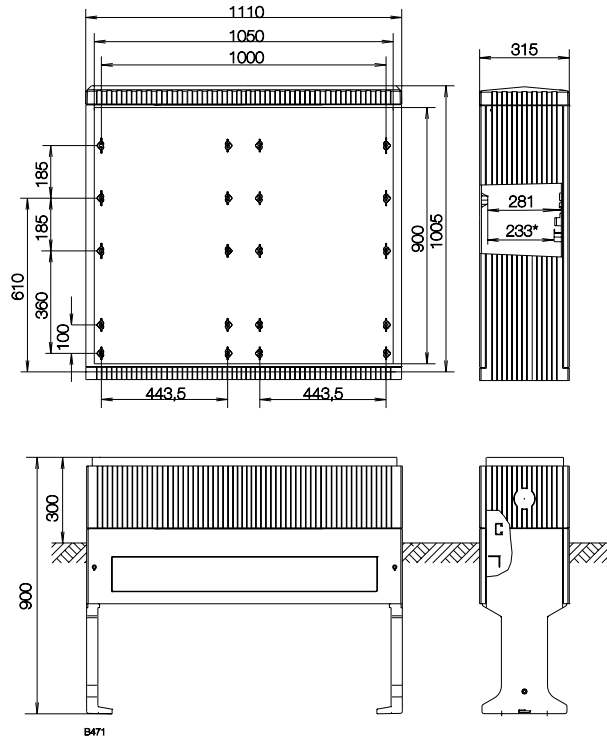
Pedestals for Pillar Size 2/845	height (mm)	Reference No.
standard	900	77678
flood type	1125	77684
with estimated site of fracture in case of crash	900	77688

* Mounting depth in locking device area

- Basic model
- Accessories on request

Cable Distribution Cabinets according to DIN 43 629

Size 2/1005



Types width x height x depth (mm) 1110 x 1005 x 315	maximum equipment	standard- pedestal	single locking device	double locking device	1 profile locking cylinder (built in)	grade of protection IP 44	side plug-in door	pocket for wiring diagram	holder for spare fuse	cabinet heating	lighting with „Schuko“- socket	marking plate	Reference No.
empty cabinet		○	○	●	●	○	○	○	○	○	○	○	SL 102
with assembly plate 1016 x 895 x 6 mm		○	○	●	●	○	○	○	○	○	○	○	SL 102 P
with busbar system E-copper 30 x 8 mm	10 built-in units of 100 mm width	○	○	●	○	○	○	○	○	○	○	○	SK 102 G

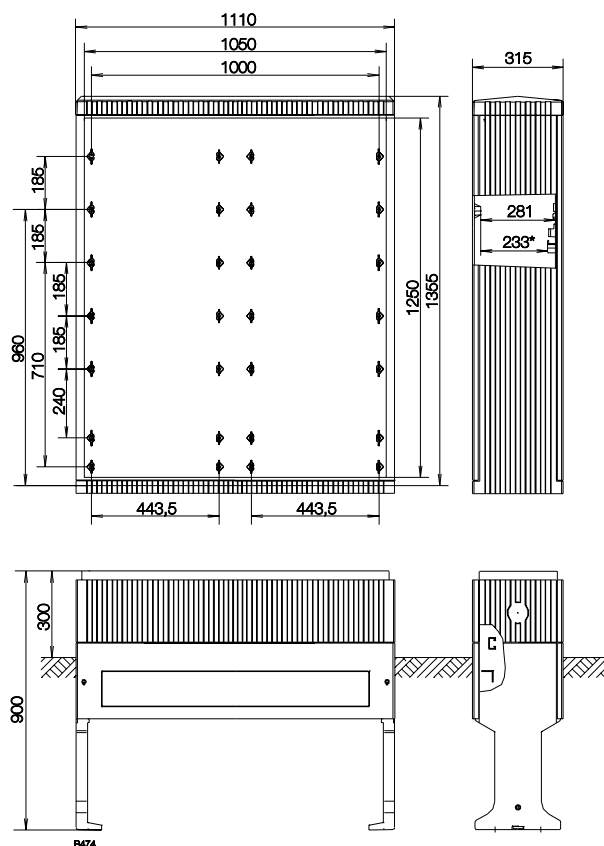
Pedestals for Pillar Size 2/1005	height (mm)	Reference No.
standard	900	77678
flood type	1125	77684
with estimated site of fracture in case of crash	900	77688
wall pedestal with 4 cable entries	310	69354
cover sheet for wall pedestal	640	35862

* Mounting depth in locking device area

- Basic model
- Accessories on request

Cable Distribution Cabinets according to DIN 43 629

Size 2/1355



Types width x height x depth (mm) 1110 x 1355 x 315	maximum equipment	standard- pedestal	single locking device	double locking device	1 profile locking cylinder (built in)	grade of protection IP 44	side plug-in door	pocket for wiring diagram	holder for spare fuse	cabinet heating	lighting with „Schuko“- socket	marking plate	Reference No.
empty cabinet		○	○	●	●	○	○	○	○	○	○	○	SL 132
with assembly plate 988 x 1245 x 6 mm		○	○	●	●	○	○	○	○	○	○	○	SL 132 P

Pedestals for Pillar Size 2/1355	height (mm)	Reference No.
standard	900	77678
flood type	1125	77684
with estimated site of fracture in case of crash	900	77688
wall pedestal with 9 cable entries	310	69354
cover sheet for wall pedestal	640	35862

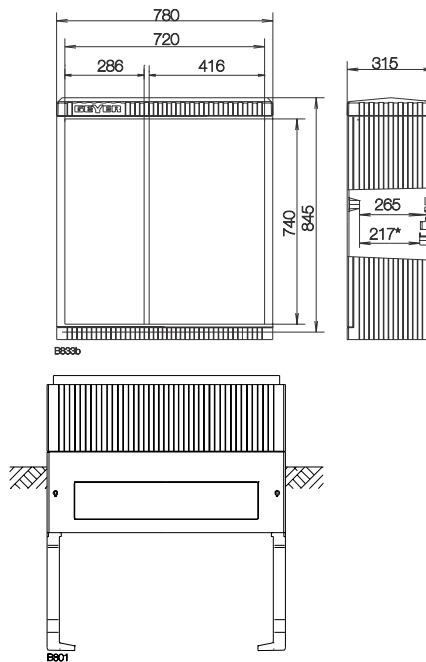
* Mounting depth in locking device area

● Basic model

○ Accessories on request

Cable Distribution Cabinets with asymmetrical doors according to DIN 43 629

Size 1/845/1005/1355



Pillar size 1 height	maximum equipment	standard-pedestal	single locking device	double locking device	1 profile locking cylinder (built in)	grade of protection IP 44	side plug-in door	pocket for wiring diagram	holder for spare fuse	cabinet heating	lighting with „Schuko“-socket	marking plate	Reference-No.
845 mm with assembly plate (PVC) 658 x 750 x 6 mm													SL 081 V
1005 mm with assembly plate (PVC) 658 x 895 x 6 mm													SL 101 V
1355 mm with assembly plate (PVC) 686 x 1245 x 6 mm													SL 131 V

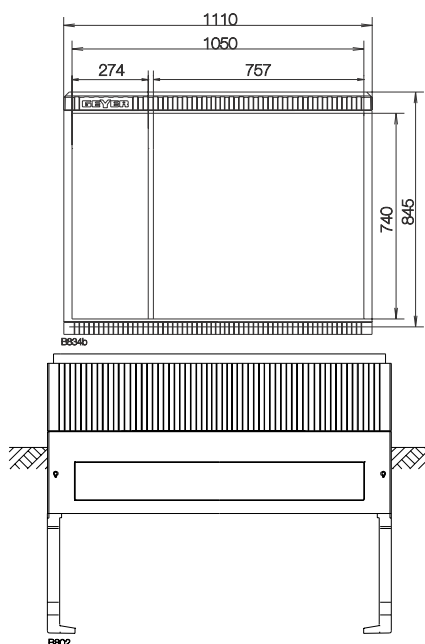
Pedestals for Pillar Size 0/1005	height (mm)	Reference-No.
standard	900	77677
flood type	1125	77683
with estimated site of fracture in case of crash	900	77687
wall pedestal with 6 cable entries	310	69351
cover sheet for wall pedestal	640	35861

* Mounting depth in locking device area

- Basic model
- Accessories on request

Cable Distribution Cabinets with asymmetrical doors according to DIN 43 629

Size 2/845/1005/1355



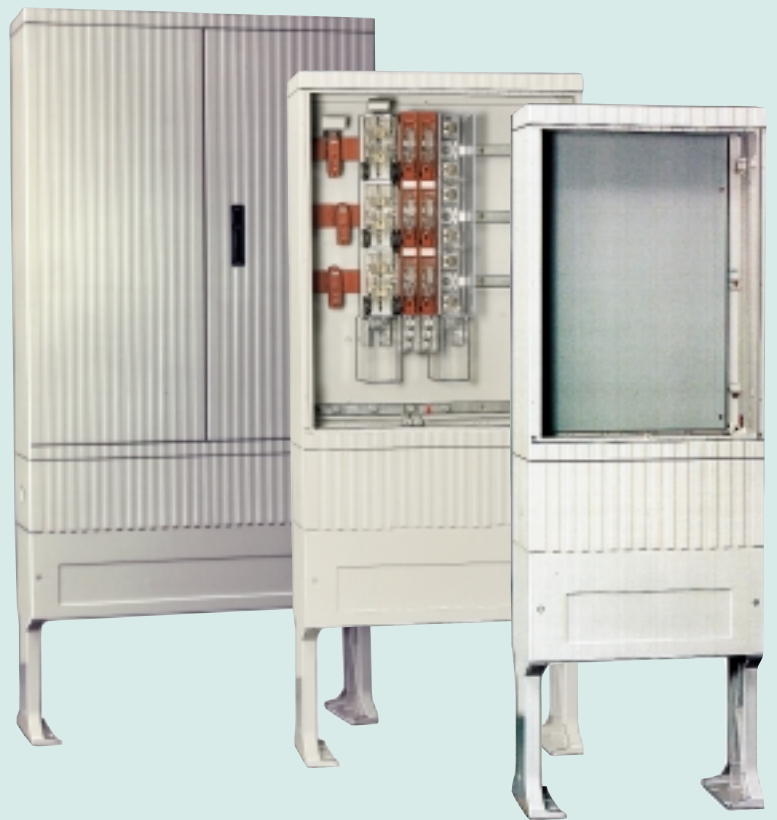
Pillar size 2 height	maximum equipment	standard-pedestal	single locking device	double locking device	1 profile locking cylinder (built in)	grade of protection IP 44	side plug-in door	pocket for wiring diagram	holder for spare fuse	cabinet heating	lighting with „Schuko“-socket	marking plate	Reference-No.
845 mm with assembly plate (PVC) 988 x 750 x 6 mm													SL 082 V
1005 mm with assembly plate (PVC) 1016 x 895 x 6 mm													SL 102 V
1355 mm with assembly plate (PVC) 988 x 1245 x 6 mm													SL 132 V

Pedestals for Pillar Size 2/1355	height (mm)	Reference-No.
standard	900	77678
flood type	1125	77684
with estimated site of fracture in case of crash	900	77688
wall pedestal with 9 cable entries	310	69354
cover sheet for wall pedestal	640	35862

- Basic model
- Accessories on request

Cable Distribution Cabinets, flat types

Series 153, 154, 173, 174, 176



Series 153, 154, 173, 174, 176

Technical specification

of reinforced polyester see page H5-2

Colour

Lightgrey according to RAL 7035

Protection grade

IP 43, on special request IP 44 see page H5-31

Dimensions

see design variations
pages H2-21 – H2-25

Locking device

Three point locking system suitable for:
one cylinders with key or
triangular lock or
square lock

Ventilation

On bottom and top side of the cabinet
there are labyrinthine slots

Pedestal

With cable support bar angle iron 40 x 40 x 3 mm
On one side one opening for temporary
connection from outside. This opening can
be closed from inside after using (on request).

Accessory for the pedestal (see page H2-56 – H2-57, ground grate)

Base plate made of cast iron (on request)

Rods to adjust the pedestal on the base plate (on request)

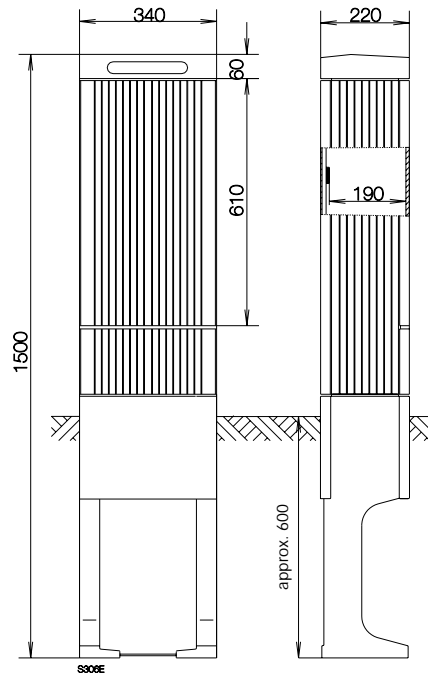
Earth lead (on request)

Built-in units of 100 mm width (on request)

- Built-in unit 1
2 HRC Fuse strips size 00 100A-660V
 - Built-in unit 2
1 HRC Fuse strip size 2 400A-660V
 - Built-in unit 3
1 GEYER Load plug-in system
 - Built-in unit 4
1 clamp connection either by screws, bolts or direct terminals
-
- Extremely flat outside dimensions of only 220 mm depth
 - Built-in depth of 190 mm is according to DIN 43 629
 - Fully available built-in depth by modern locking system (patent DE 3903118 C2)
 - Modern ribbed surface design
 - Surface enclosure can be painted on request
 - Hinged door fixed on the right hand side
 - Optimized estimated site of fracture in case of crash avoids digging work
 - Door angle 90° at free standing cabinets

Cable Distribution Cabinets, flat types

Serie 153



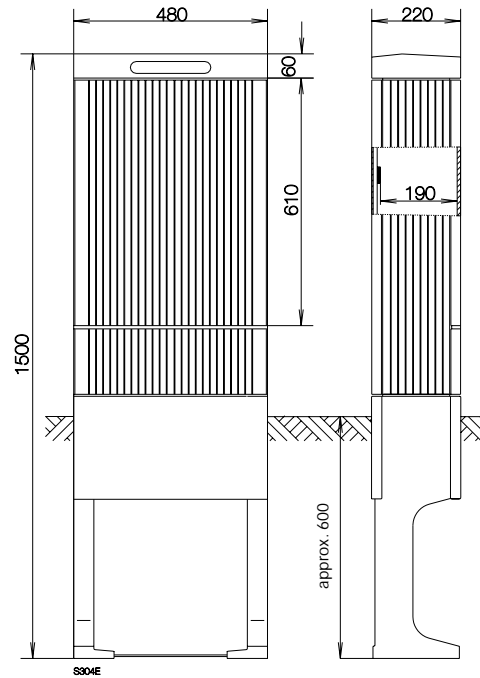
Types width x height x depth (mm) 340 x 1500 x 220	maximum equipment	Polyester- pedestal	building site connection	single locking device	double locking device	1 profile locking cylinder (built in)	side plug-in door	pocket for wiring diagram	holder for spare fuse	cabinet heating	lighting with „Schuko“- socket	marking plate	Reference No.
empty cabinet		●	○	●		○		○		○		○	SL 153
with assembly plate 276 x 600 x 6 mm		●	○	●		○		○		○		○	SL 153 P
with busbar system E-copper 30 x 5 mm	2* built-in units of 100 mm width	●	○	●		○		○		○		○	SK 153 A

* When using built-in units 3 or 4 (H2-59 up to H2-63) 3 built-in units are possible.

- Basic model
- Accessories on request

Cable Distribution Cabinets, flat types

Serie 154

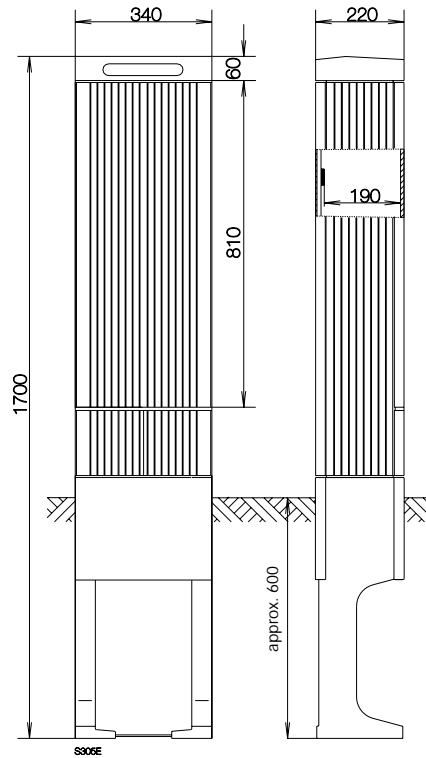


Types width x height x depth (mm) 480 x 1500 x 220	maximum equipment	Polyester- pedestal	building site connection	single locking device	double locking device	1 profile locking cylinder (built in)	side plug-in door	pocket for wiring diagram	holder for spare fuse	cabinet heating	lighting with „Schuko“- socket	marking plate	Reference No.
empty cabinet		●	○	●		○		○		○		○	SL 154
with assembly plate 418 x 600 x 6 mm		●	○	●		○		○		○		○	SL 154 P
with busbar system E-copper 40 x 5 mm	4 built-in units of 100 mm width	●	○	●		○		○		○		○	SK 154 A

- Basic model
- Accessories on request

Cable Distribution Cabinets, flat types

Serie 173



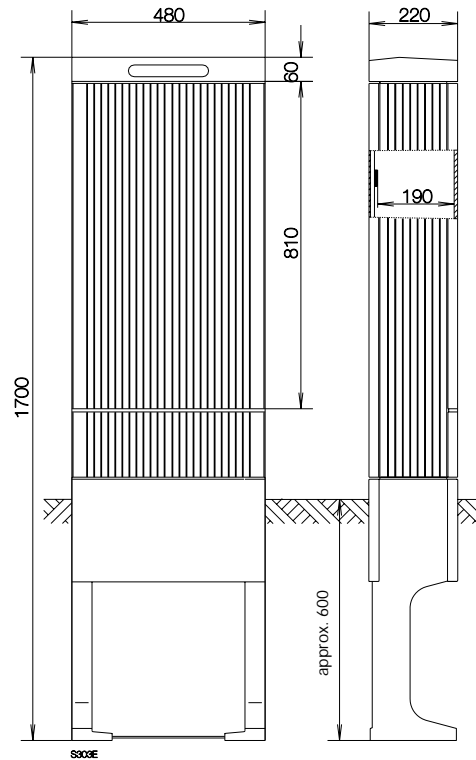
Types width x height x depth (mm) 340 x 1700 x 220	maximum equipment	Polyester- pedestal	building site connection	single locking device	double locking device	1 profile locking cylinder (built in)	side plug-in door	pocket for wiring diagram	holder for spare fuse	cabinet heating	lighting with „Schuko“- socket	marking plate	Reference No.
empty cabinet		●	○	●		○		○		○		○	SL 173
with assembly plate 276 x 800 x 6 mm		●	○	●		○		○		○		○	SL 173 P
with busbar system E-copper 30 x 5 mm	2* built-in units of 100 mm width	●	○	●		○		○		○		○	SK 173 A

* When using built-in units 3 or 4 (H2-59 up to H2-63) 3 built-in units are possible.

- Basic model
- Accessories on request

Cable Distribution Cabinets, flat types

Serie 174

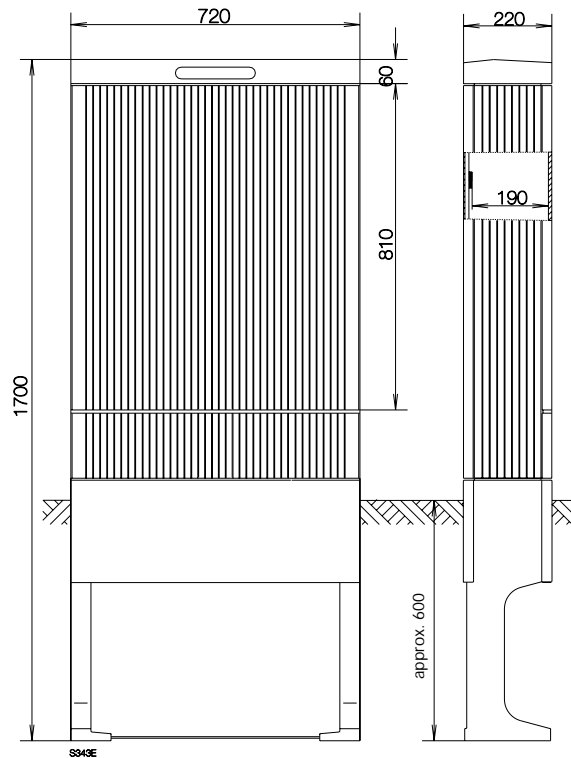


Types width x height x depth (mm) 480 x 1700 x 220	maximum equipment	Polyester- pedestal	building site connection	single locking device	double locking device	1 profile locking cylinder (built in)	side plug-in door	pocket for wiring diagram	holder for spare fuse	cabinet heating	lighting with „Schuko“- socket	marking plate	Reference No.
empty cabinet		●	○	●		○		○		○		○	SL 174
with assembly plate 418 x 800 x 6 mm		●	○	●		○		○		○		○	SL 174 P
with busbar system E-copper 40 x 5 mm	4 built-in units of 100 mm width	●	○	●		○		○		○		○	SK 174 A

- Basic model
- Accessories on request

Cable Distribution Cabinets, flat types

Serie 176

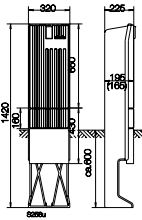


Types width x height x depth (mm) 720 x 1700 x 220	maximum equipment	Polyester- pedestal	building site connection	single locking device	double locking device	1 profile locking cylinder (built in)	side plug-in door	pocket for wiring diagram	holder for spare fuse	cabinet heating	lighting with „Schuko“- socket	marking plate	Reference No.
empty cabinet		●	○	●		○		○		○		○	SL 173
with assembly plate 658 x 800 x 6 mm		●	○	●		○		○		○		○	SL 173 P
with busbar system E-copper 40 x 6 mm	6 built-in units of 100 mm width	●	○	●		○		○		○		○	SK 173 A

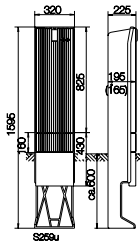
- Basic model
- Accessories on request

Product range

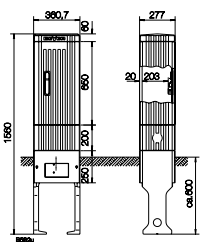
Type 142



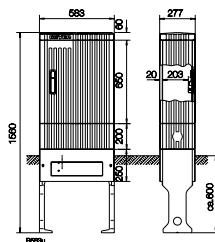
Type 162



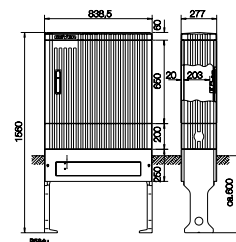
Type 152



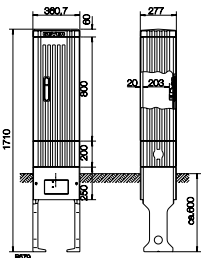
Type 155



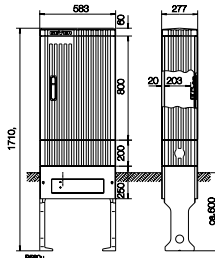
Type 157



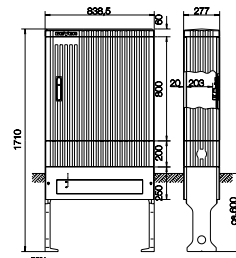
Type 172



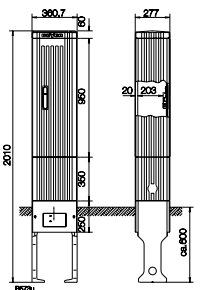
Type 175



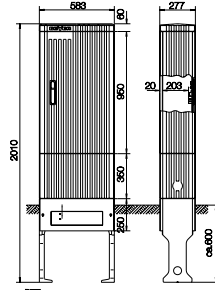
Baureihe 177



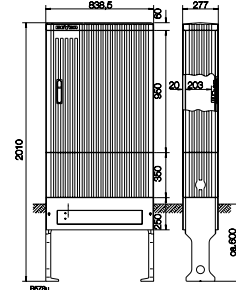
Type 202



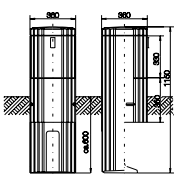
Type 205



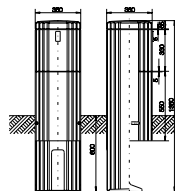
Type 207



Type 115

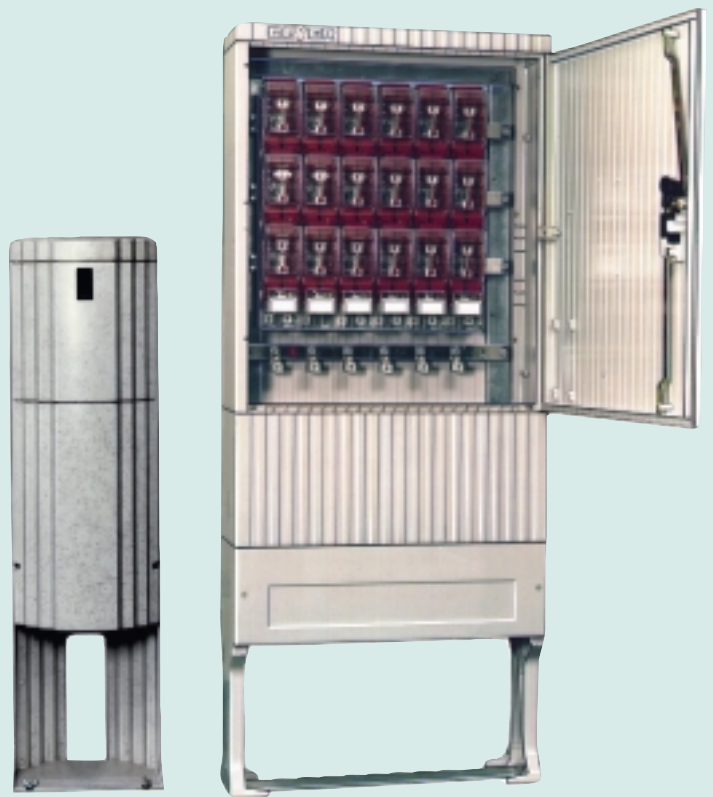


Type 135



Pillars

Series 152, 155, 157,
172, 175, 177,
202, 205, 207



■ GEYER is THE specialist for outdoor enclosures. The experience gained since 1927 enables GEYER to be at the forefront in the development and production of glass fibre reinforced polyester enclosures.

GEYER pillars differ from cabinets in that the enclosure and pedestal are a one-piece unit rather than separate units.

With a very wide range of internal options available from within the GEYER product range all designs and applications can be catered for.

A popular application for this product is the provision of energy metering on the boundary of domestic households allowing energy company personal to read meters etc. without needing access to private property.

Series 152, 155, 157, 172, 175, 177, 202, 205, 207

Technical specification

of reinforced polyester see page H5-2.

Colour

Lightgrey according to RAL 7035

Protection grade

IP 44

Dimensions

see design variations
pages H2-29 – H2-34

Locking device

Three point locking system suitable for:
one or two cylinders with key or
triangular lock or
square lock

Ventilation

On bottom and top side of the cabinet
there are labyrinthine slots

Pedestal

With cable support bar angle iron 40 x 40 x 3 mm
On one side one opening for temporary
connection from outside. This opening can
be closed from inside after using (on request)

Accessory for the pedestal (see page H2-56 – H2-57 ground grate)

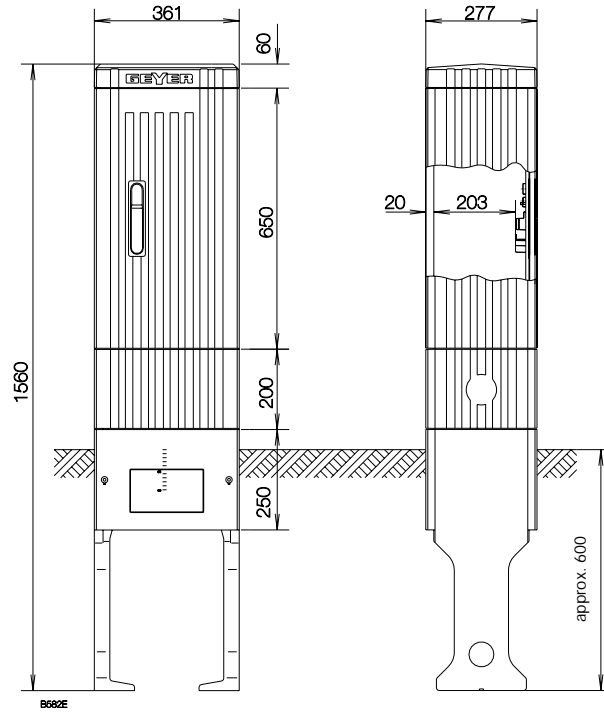
Base plate made of cast iron (on request)
Rods to adjust the pedestal on the base plate (on request)
Earth lead (on request)

Built-in units of 100 mm width (on request)

- Built-in unit 1
1 HRC Fuse strip, size 2 400A-660V
 - Built-in unit 2
2 HRC Fuse strips, size 2 100A-660V
 - Built-in unit 3
1 GEYER Load plug-in system
 - Built-in unit 4
1 clamp connection either by screws, bolts or direct terminals
-
- Modern ribbed surface design
 - Recyclable, because no pressed metal parts used in the enclosure
 - Surface enclosure can be painted on request
 - Flush fitted door handle made of impact plastic
 - At free standing the doors can be opened to an angle of 180°
 - Cabinets can be mounted side by side, door angle 90° possible
 - Doors are easily to put on its hinges and to take off
 - Door hinge left and right possible without alteration

Pillars

Type 152

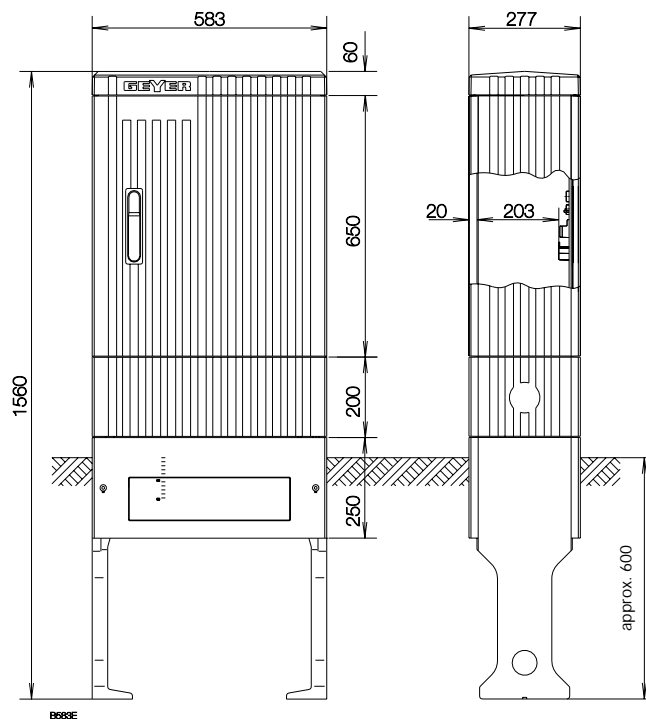


Types width x height x depth (mm) 361 x 1560 x 227	maximum equipment	Polyester- pedestal	building site connection	single locking device	double locking device	1 profile locking cylinder (built in)	side plug-in door	pocket for wiring diagram	holder for spare fuse	cabinet heating	lighting with „Schuko“- socket	marking plate	Reference-No.
empty cabinet			o	o	●	●				o		o	SL 152
with assembly plate 278 x 700 x 6 mm			o	o	●	●				o		o	SL 152 P
with busbar system E-copper 30 x 6 mm	2 built-in units of 100 mm width		o	●	o	o				o		o	SK 152 A

- Basic model
- o Accessories on request

Pillars

Type 155

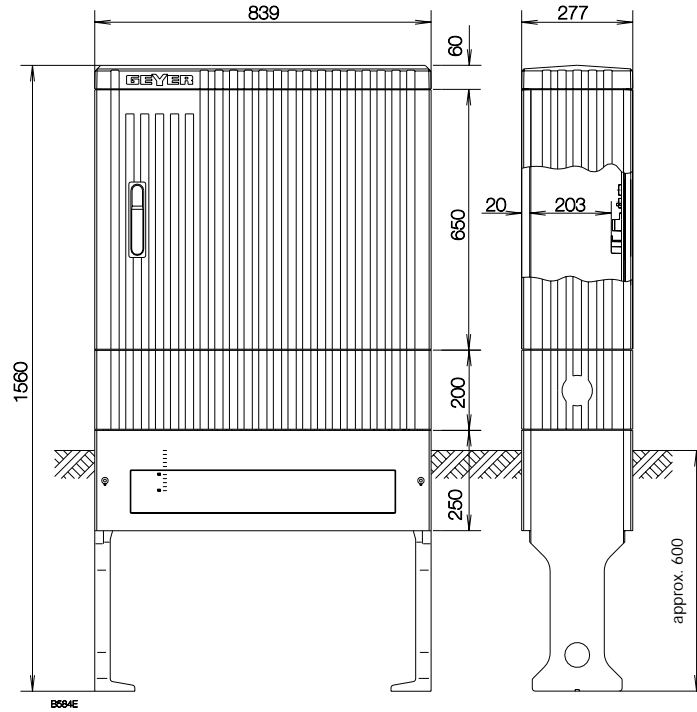


Types width x height x depth (mm) 583 x 1560 x 227	maximum equipment	Polyester- pedestal	building site connection	single locking device	double locking device	1 profile locking cylinder (built in)	side plug-in door	pocket for wiring diagram	holder for spare fuse	cabinet heating	lighting with „Schuko“- socket	marking plate	Reference-No.
empty cabinet			o	o	●	●		o		o	o	o	SL 155
with assembly plate 498 x 700 x 6 mm			o	o	●	●		o		o	o	o	SL 155 P
with busbar system E-copper 30 x 6 mm	5 built-in units of 100mm width		o	●	o	o		o		o	o	o	SK 155 G

- Basic model
- o Accessories on request

Pillars

Type 157

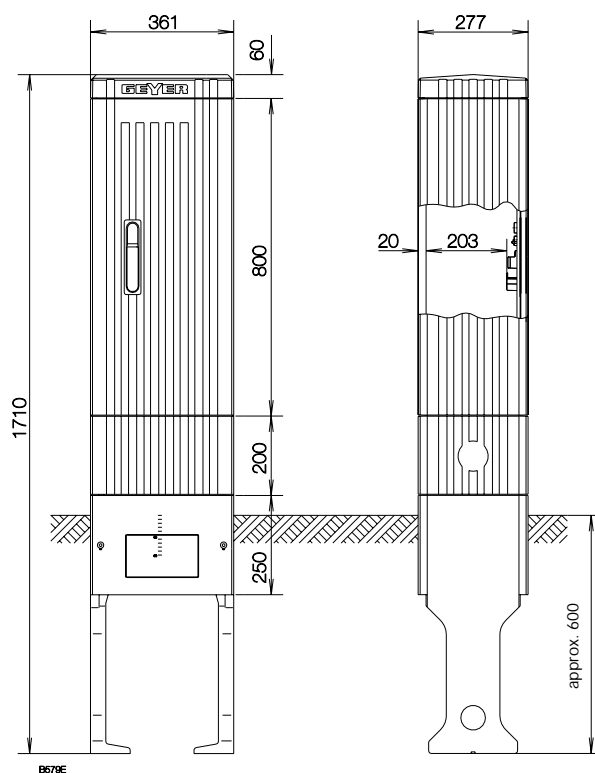


Types width x height x depth (mm) 839 x 1560 x 227	maximum equipment	Polyester- pedestal	building site connection	single locking device	double locking device	1 profile locking cylinder (built in)	side plug-in door	pocket for wiring diagram	holder for spare fuse	cabinet heating	lighting with „Schuko“- socket	marking plate	Reference-No.
empty cabinet			o	o	●	●		o		o	o	o	SL 157
with assembly plate 756 x 700 x 6 mm			o	o	●	●		o		o	o	o	SL 157 P
with busbar system E-copper 30 x 6 mm	7 built-in units of 100 mm width		o	●	o	o		o		o	o	o	SK 157 A

- Basic model
- o Accessories on request

Pillars

Type 172

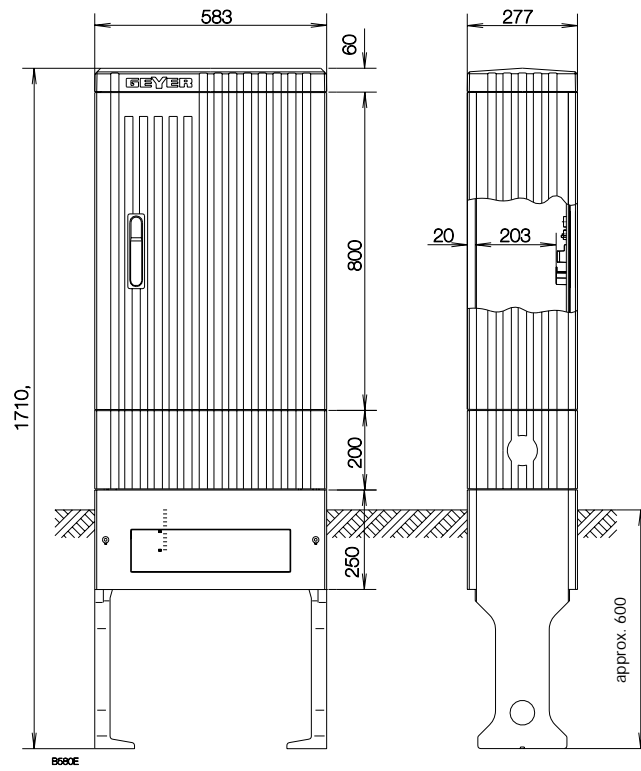


Types width x height x depth (mm) 361 x 1710 x 277	maximum equipment	Polyester- pedestal	building site connection	single locking device	double locking device	1 profile locking cylinder (built in)	side plug-in door	pocket for wiring diagram	holder for spare fuse	cabinet heating	lighting with „Schuko“- socket	marking plate	Reference-No.
empty cabinet			o	o	●	●			o	o		o	SL 172
with assembly plate 278 x 850 x 6 mm			o	o	●	●			o	o		o	SL 172 P
with busbar system E-copper 30 x 6 mm	2 built-in units of 100 mm width		o	●	o	o			o	o		o	SK 172 A

- Basic model
- o Accessories on request

Pillars

Type 175

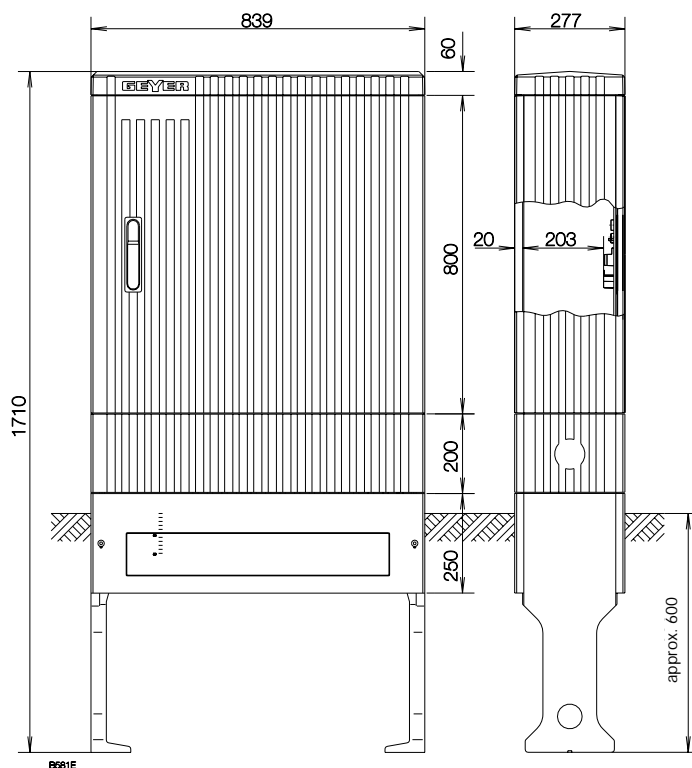


Types width x height x depth (mm) 583 x 1710 x 277	maximum equipment	Polyester- pedestal	building site connection	single locking device	double locking device	1 profile locking cylinder (built in)	side plug-in door	pocket for wiring diagram	holder for spare fuse	cabinet heating	lighting with „Schuko“- socket	marking plate	Reference-No.
empty cabinet			o	o	●	●		o	o	o	o	o	SL 175
with assembly plate 498 x 850 x 6 mm			o	o	●	●		o	o	o	o	o	SL 175 P
with busbar system E-copper 30 x 6 mm	5 built-in units of 100 mm width		o	●	o	o		o	o	o	o	o	SK 175 G

- Basic model
- o Accessories on request

Pillars

Type 177

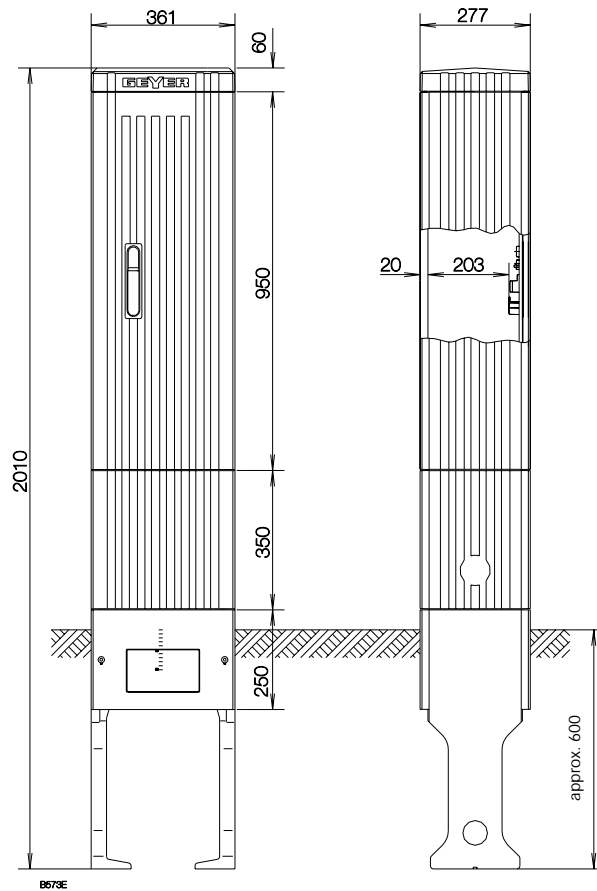


Types width x height x depth (mm) 839 x 1710 x 277	maximum equipment	Polyester- pedestal	building site connection	single locking device	double locking device	1 profile locking cylinder (built in)	side plug-in door	pocket for wiring diagram	holder for spare fuse	cabinet heating	lighting with „Schuko“- socket	marking plate	Reference-No.
empty cabinet			o	o	●	●			o	o	o	o	SL 177
with assembly plate 756 x 850 x 6 mm			o	o	●	●			o	o	o	o	SL 177 P
with busbar system E-copper 30 x 6 mm	7 built-in units of 100 mm width		o	●	o	o			o	o	o	o	SK 177 A

- Basic model
- o Accessories on request

Pillars

Type 202

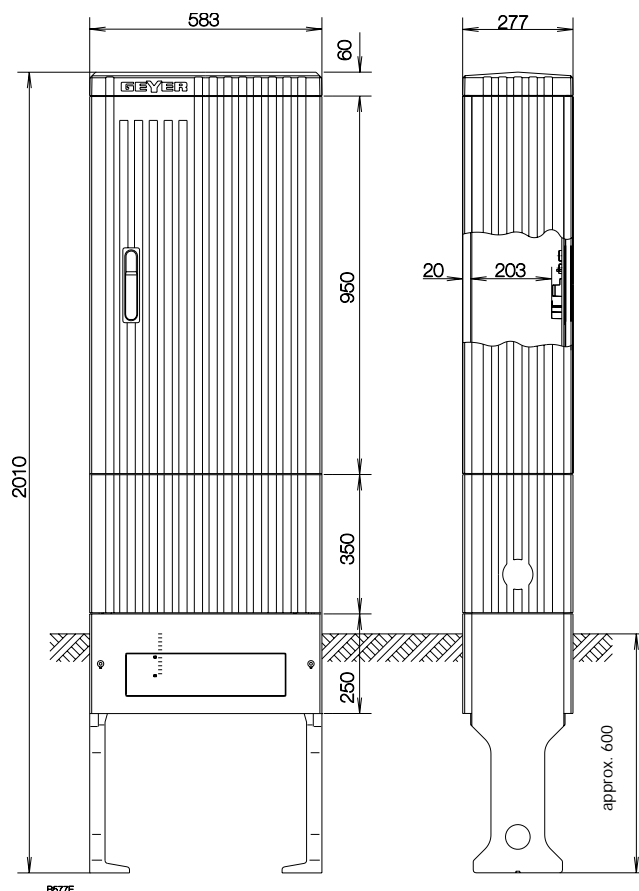


Types width x height x depth (mm) 361 x 2010 x 277	maximum equipment	Polyester- pedestal	building site connection	single locking device	double locking device	1 profile locking cylinder (built in)	side plug-in door	pocket for wiring diagram	holder for spare fuse	cabinet heating	lighting with „Schuko“- socket	marking plate	Reference-No.
empty cabinet			o	o	●	●			o	o		o	SL 202
with assembly plate 278 x 1000 x 6 mm			o	o	●	●			o	o		o	SL 202 P

- Basic model
- o Accessories on request

Pillars

Type 205

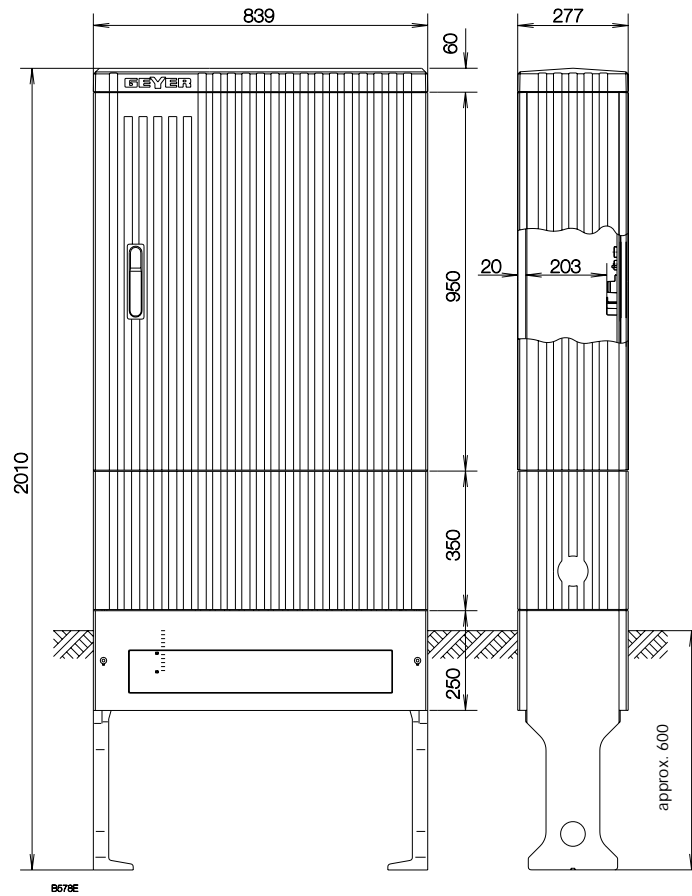


Types B x H x T (mm) 583 x 2010 x 277	maximum equipment	Polyester- pedestal	building site connection	single locking device	double locking device	1 profile locking cylinder (built in)	side plug-in door	pocket for wiring diagram	holder for spare fuse	cabinet heating	lighting with „Schuko“- socket	marking plate	Reference-No.
empty cabinet			o	o	●	●		o	o	o	o	o	SL 205
with assembly plate 498 x 1000 x 6 mm			o	o	●	●		o	o	o	o	o	SL 205 P

- Basic model
- o Accessories on request

Pillars

Serie 207

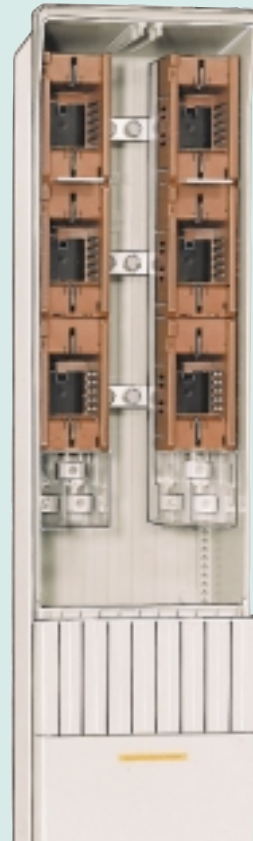


Types width x height x depth (mm) 839 x 2010 x 277	maximum equipment	Polyester- pedestal	building site connection	single locking device	double locking device	1 profile locking cylinder (built in)	side plug-in door	pocket for wiring diagram	holder for spare fuse	cabinet heating	lighting with „Schuko“- socket	marking plate	Reference-No.
empty cabinet			o	o	●	●			o	o	o	o	SL 207
with assembly plate 756 x 1000 x 6 mm			o	o	●	●			o	o	o	o	SL 207 P

- Basic model
- o Accessories on request

Pillars - small dimensions

Series 142, 162



Type 142, 162

Technical specification
of reinforced polyester see page H5-2

Colour
Lightgrey according to RAL 7035

Protection grade
IP 44

Dimensions
see design variations
pages H2-41 – H2-42

Locking device
Locking system suitable for
one or two cylinders with key

Ventilation
On bottom and top side of the cabinet
there are labyrinthine slots

Pedestal
Pillar and pedestal are one unit
With cable support bar angle iron 40 x 40 x 3 mm
On one side one opening for temporary
connection from outside. This opening can
be closed from inside after using (on request).

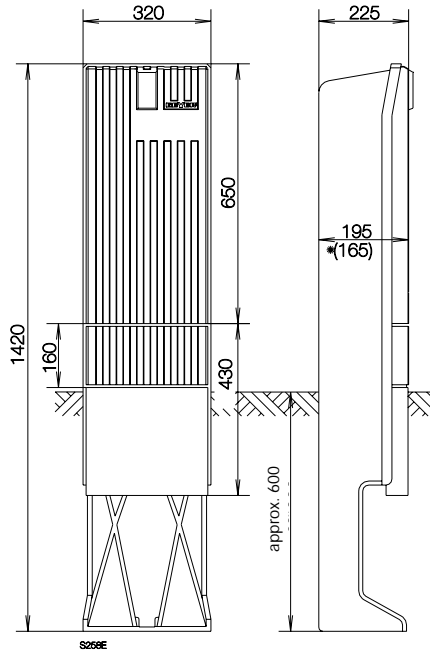
Accessory for the pedestal
Base plate made of cast iron (on request).
Rods to adjust the pedestal on the base plate (on request).
Earth lead (on request)

Built-in units (on request)

- Built-in unit 1
2 HRC Fuse strips, size 00 100A-660V
 - Built-in unit 2
1 HRC Fuse strip, size 2 400A-660V
 - Built-in unit 3
1 GEYER Load plug-in system
 - Built-in unit 4
1 clamp connection either by screws, bolts or direct terminals
-
- Low built height of enclosure
 - Small dimensions
 - Modern ribbed surface design
 - Surface enclosure can be painted on request

Pillars – small dimensions

Type 142

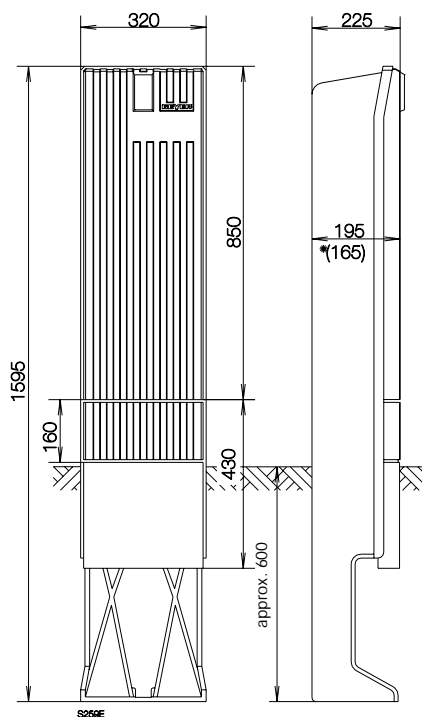


Types width x height x depth (mm) 320 x 1420 x 225	maximum equipment	bottom front cover (2 parts)	building site connection	single locking device	double locking device	1 profile locking cylinder (built in)	side plug-in door	pocket for wiring diagram	holder for spare fuse	cabinet heating	lighting with „Schuko“- socket	marking plate	Reference-No.
empty cabinet		●	○	○	○	○				○			SL 142 B
with assembly plate 276 x 600 x 6 mm		●	○	○	○	○				○			SL 142 PB
with busbar system E-copper 30 x 5 mm	2 built-in units of 100 mm width	●	○	●	○	○				○			SK 142 D

- Basic model
- Accessories on request

Pillars – small dimensions

Type 162



Types width x height x depth (mm) 320 x 1595 x 225	maximum equipment	bottom front cover (2 parts)	building site connection	single locking device	double locking device	1 profile locking cylinder (built in)	side plug-in door	pocket for wiring diagram	holder for spare fuse	cabinet heating	lighting with „Schuko“- socket	marking plate	Reference-No.
empty cabinet		●	○	○	○	○				○			SL 162 B
with assembly plate 276 x 800 x 6 mm		●	○	○	○	○				○			SL 162 PB
with busbar system E-copper 30 x 5 mm	2 built-in units of 100 mm width	●	○	●	○	○				○			SK 162 D

- Basic model
- Accessories on request

Cabinets for temporary outdoor installation

Size 0/1005 – 2/1005



- Custom design to suit application
- Cable access with door closed
- Modular design concept
- Vandal resistant
- Tamper proof
- Various pedestal applications available
- Easy change of modular socket units
- Variety of electrical protection - RCD's ; MCB's ; fuses etc.
- Several frame sizes available

Size 0/1005 – 2/1005

Technical specification

of reinforced polyester see H5-2
according to DIN 16913

Colour

Lightgrey according to RAL 7035

Protection grade

IP 43, IP 44 on request, see page H2-58

Dimensions

see design variations
page H2-45

Doors

size 0/1005: one door
size 1/1005: one door
size 2/1005: two doors

Locking device

Three point locking system suitable for:
one or two cylinders with key or
triangular lock or
square lock

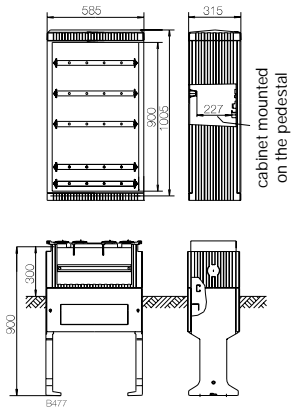
Pedestal

- Front cover with cable entry provisions to feed the cables
- Prismatic formed slide to close the cable entry provisions
- On both sides there are openings for temporary cable feeding which can be closed from inside
- with cable support bar angle iron 40 x 40,3 mm
- Accessory on request only: ground grate, adjustment rods and earth connection

Built-in units (on request, see pages H2-56 to H2-65)

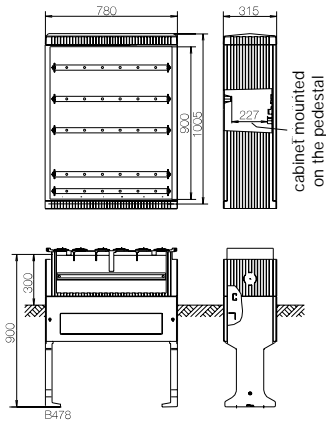
- built-in unit 1
1 HRC load fuse strip size 2, 400 A – 660 V
- built-in unit 2
2 HRC load fuse strips size 00, 100 A – 660 V
- built-in unit 3
1 GEYER load plug-in system (GLS)
- built-in unit 4
1 clamp connection either by screens, bolts or direct terminals
- built-in unit 5
1 socket outlet combination

Cabinets for temporary outdoor installation



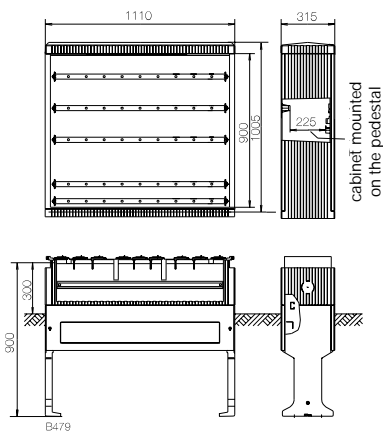
Size 0/1005

Types	Reference-No.
max. 5 built-in units busbar system, E-Cu 30 x 6 mm, 5pole, insulated	SF 100 A
Pedestal size 0 with 4 cable entries	SX 008
Cover for pedestal	47900



Size 1/1005

Types	Reference-No.
max. 7 built-in units busbar system, E-Cu 30 x 6 mm, 5pole, insulated	SF 101 A
Pedestal size 1 with 6 cable entries	SX 009
Cover for pedestal	47901



Size 2/1005

Types	Reference-No.
max. 10 built-in units busbar system, E-Cu 30 x 8 mm, 5-pole, insulated	SF 102 A
Pedestal size 2 with 9 cable entries	SX 010
Cover for pedestal	47902

RONDO-Pillars - round design

Series 115, 135



- Unique award winning design
- Environmentally friendly (produced from recycled material)
- Suitable for multi-energy usage (electricity, water, gas, telecoms e.g.)
- Custom designed applications possible
- Designed for use in marinas, caravan parks etc.

Type 115/135

Technical specification
of reinforced polyester see page H5-2
(recycled material)

Colour
Lightgrey according to RAL 7035 (spotted)

Protection grade
IP 44

Dimensions
see design variations
pages H2-42 and H2-50

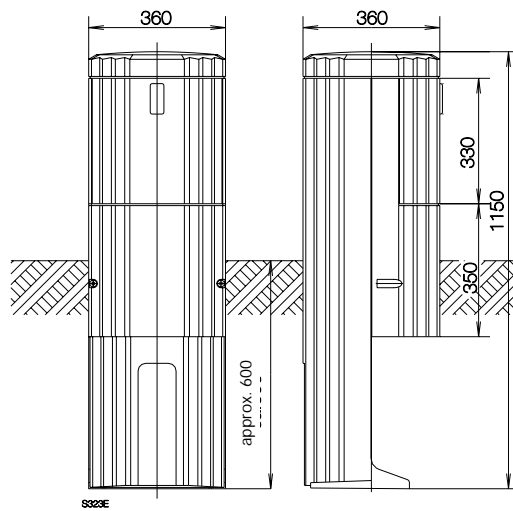
Locking device
suitable for one cylinder lock

Door
Plug-in door (no hinges)

Pedestal
Pillar and pedestal are one unit

Pillars – round design

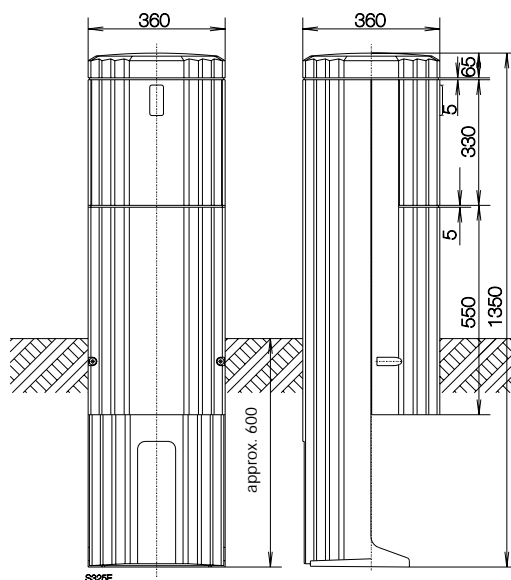
Type 115



Types with plug-in door 330 mm	Reference-No.
empty	SL 115 B
with assembly plate 260 x 350 x 6 mm	SL 115 PB

Pillars – round design

Type 135



Types with plug-in door 330 mm	Reference-No.
empty	SL 135 B
with assembly plate 260 x 350 x 6 mm	SL 135 PB

RONDO-Pillars - round design, for festival events

Type 135

RONDomobil

Socket outlet combinations
for pillar SL 135 A



- Unique award winning design
- Separate cast iron pedestal (allows easy disconnection of complete pillar using IP 67 plug and socket arrangement)
- Optional cable outlet (allows cable outlet with door closed)
- When pillar removed the pedestal is flush at ground level
- Easy 4 screw fixing of the pillar onto the pedestal
- Big variety of outgoing options



Type 135

Technical specification
of reinforced polyester see page H5-2
(recycled material)

Colour
Lightgrey according to RAL 7035
(spotted)

Protection grade
IP 44

Dimensions
see design variations
page H2-53

Locking device
Locking device suitable for
one cylinder lock

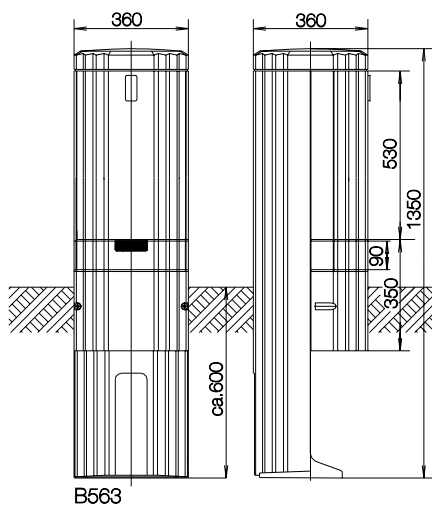
Door
Plug-in door (no hinges)

Pedestal
Pillar and pedestal are one unit

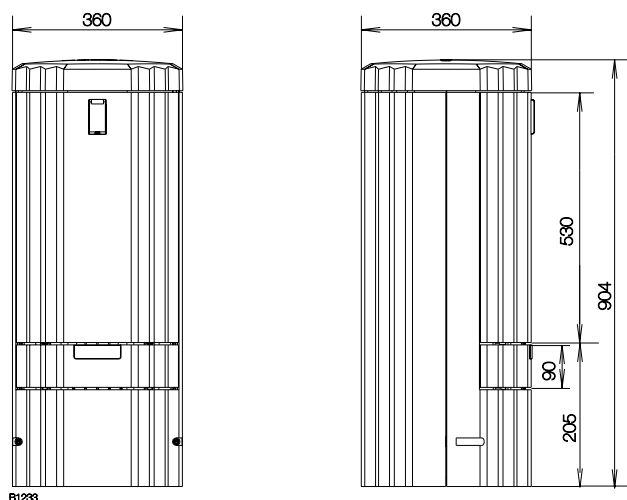
Built-in units
1 socket outlet combination
(see page H2-54 – H2-55)

RONDO-Pillar – round design – for festival events

Serie 135



Type	Reference-No.
Round pillar with plug door and cutout for socket outlets	SL 135 A

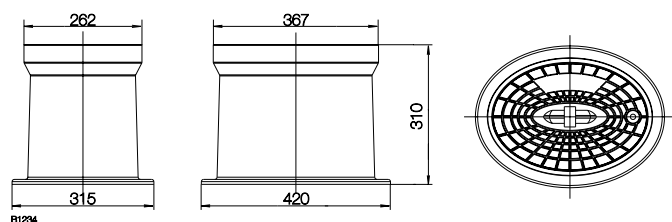


RONDomobil

Round pillar with plug-in door with optional cutout for socket outlet cable

SF 135 M

with supply cable 5 x 16 mm² and plug 5-pole IP 67

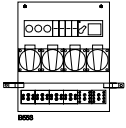


Elektrant

cast-iron pedestal with fixing for the pillar including 5-pole socket IP 67 for main supply

SX 135

Socket outlet combination for pillar SL135 A

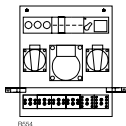


Socket outlet combination

consisting of:

- 1 x D02-Neozed fuse socket, 3pole
- 1 x RCD 40A/0,03A, 4pole
- 4 x Miniature circuit breaker B, 16A, 1pole
- 4 x „Schuko“-Sockets 16 A
- 1 x Main cable clamp 5pole, 25 mm²
(including fixing material)

Types	Reference No.
with 4 „Schuko“-socket outlets 16 A	79465

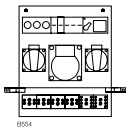


Socket outlet combination

consisting of:

- 1 x D02-Neozed fuse socket, 3pole
- 1 x RCD 40A/0,03A, 4pole
- 1 x Miniature circuit breaker B, 16A, 3pole
- 2 x Miniature circuit breaker B, 16A, 1pole
- 1 x CEE-Socket outlet 16 A, 5pole
- 2 x „Schuko“-Sockets 16 A
- 1 x Main cable clamp 5pole, 25 mm²
(including fixing material)

Types	Reference No.
with 1 CEE-socket outlet 16 A, 5pole and 2 „Schuko“-socket outlets 16 A	79467

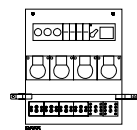


Socket outlet combination

consisting of:

- 1 x D02-Neozed fuse socket, 3pole
- 1 x RCD 40A/0,03A, 4pole
- 1 x Miniature circuit breaker B, 16A, 3pole
- 2 x Miniature circuit breaker B, 16A, 1pole
- 1 x CEE-Socket outlet 32 A, 5pole
- 2 x „Schuko“-Sockets 16 A
- 1 x Main cable clamp 5pole, 25 mm²
(including fixing material)

Types	Reference No.
with 1 CEE-socket outlet 32A, 5pole and 2 „Schuko“-socket outlets 16 A	79468



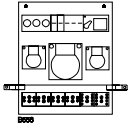
Socket outlet combination

consisting of:

- 1 x D02-Neozed fuse socket, 3pole
- 1 x RCD 40A/0,03A, 4pole
- 4 x Miniature circuit breaker B, 16A, 1pole
- 4 x CEE-Socket outlet 16 A, 3pole
- 1 x Main cable clamp 5pole, 25 mm²
(including fixing material)

Types	Reference No.
with 4 CEE-socket outlet 16 A, 3pole	79466

Socket outlet combination for pillar SL 135 A

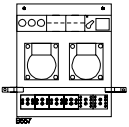


Socket outlet combination

consisting of:

- 1 x D02-Neozed fuse socket, 3pole
- 1 x RCD 40 A/0,03 A, 4pole
- 1 x Miniature circuit breaker B, 32 A, 3pole
- 2 x Miniature circuit breaker B, 16 A, 1pole
- 1 x CEE-Socket outlet 32 A, 5pole
- 2 x CEE-Socket outlet 16 A, 3pole
- 1 x Main cable clamp 5pole, 25 mm²
(including fixing material)

Types	Reference-No.
with 1 CEE-socket outlet 32 A, 5pole + 2 CEE-socket outlets 16 A, 3pole	79463

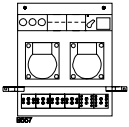


Socket outlet combination

consisting of:

- 1 x D02-Neozed fuse socket, 3pole
- 1 x RCD 25 A/0,03 A, 4pole
- 2 x Miniature circuit breaker B, 16 A, 3pole
- 2 x CEE-Socket outlet, 16 A, 5pole
- 1 x Main cable clamp 5pole, 25 mm²
(including fixing material)

Types	Reference-No.
with 2 CEE-socket outlet 16 A, 5pole	98334

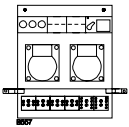


Socket outlet combination

consisting of:

- 1 x D02-Neozed fuse socket, 3pole
- 1 x RCD 40 A/0,03 A, 4pole
- 1 x Miniature circuit breaker B, 32 A, 3pole
- 1 x Miniature circuit breaker B, 16 A, 3pole
- 1 x CEE-Socket outlet, 16 A, 5pole
- 1 x CEE-Socket outlet, 32 A, 5pole
- 1 x Main cable clamp 5pole, 25 mm²
(including fixing material)

Types	Reference-No.
with 1 CEE-socket outlet 16 A, 5pole + 1 CEE-socket outlet 32 A, 5pole	98335




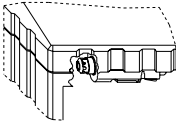
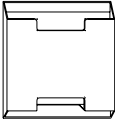
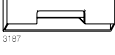
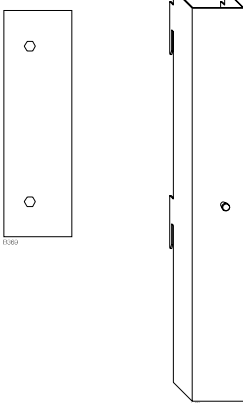
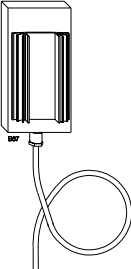
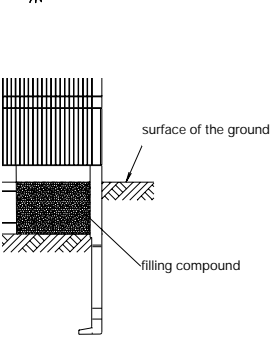
Socket outlet combination

consisting of:

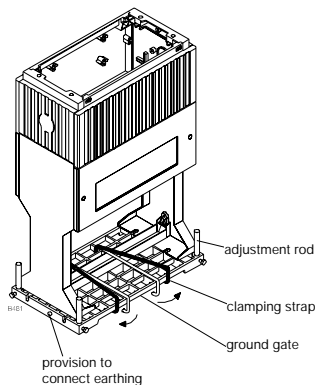
- 1 x D02-Neozed fuse socket, 3pole
- 1 x RCD 40 A/0,03 A, 4pole
- 2 x Miniature circuit breaker B, 32 A, 3pole
- 2 x CEE-Socket outlet, 32 A, 5pole
- 1 x Main cable clamp 5pole, 25 mm²
(including fixing material)

Types	Reference-No.
with 2 CEE-socket outlet 32 A, 5pole	79464

Accessories for cable cabinets and pillars

Type	Reference-No.								
Switch knife size 00, 250 A size 2, 400 A	55803 55802								
 Locking devices Profile cylinder with 2 keys	50994								
 Lighting fitting with switch and socket outlet „Schuko“ for cabinets size 00 - size 2 and pillars serie 152, 155, 157, 172, 175, 177, 202, 205, 207	75924								
 Bag for wiring diagrams DIN A 4	37542								
 Holder for spare fuses for 3 HRC fuses size 2	95038								
 Contact safety device above the busbars symmetrical fixing asymmetrical fixig for direct terminals	<table border="1"> <thead> <tr> <th>width x height (mm)</th> <th>Reference-No.</th> </tr> </thead> <tbody> <tr> <td>102 x 560</td> <td>47930</td> </tr> <tr> <td>150 x 500</td> <td>60282</td> </tr> <tr> <td>100 x 750</td> <td>60138</td> </tr> </tbody> </table>	width x height (mm)	Reference-No.	102 x 560	47930	150 x 500	60282	100 x 750	60138
width x height (mm)	Reference-No.								
102 x 560	47930								
150 x 500	60282								
100 x 750	60138								
 Heating 33 W thermostatic controlled	55517								
 Filling compound Plastic bag, with 25l absorber stones To reduce condensation water inside of the cabinet.	<table border="1"> <thead> <tr> <th>Type of cabinet</th> <th>needed quantity</th> </tr> </thead> <tbody> <tr> <td>115, 135, 142, 152, 153, 154 162, 172, 173, 202</td> <td>1 bag</td> </tr> <tr> <td>size 00, size 0 155, 175, 176, 205</td> <td>2 bags</td> </tr> <tr> <td>size 1, size 2 157, 177, 207</td> <td>3 bags</td> </tr> </tbody> </table> <p>The filling height should be approximaty 200–300 mm</p>	Type of cabinet	needed quantity	115, 135, 142, 152, 153, 154 162, 172, 173, 202	1 bag	size 00, size 0 155, 175, 176, 205	2 bags	size 1, size 2 157, 177, 207	3 bags
Type of cabinet	needed quantity								
115, 135, 142, 152, 153, 154 162, 172, 173, 202	1 bag								
size 00, size 0 155, 175, 176, 205	2 bags								
size 1, size 2 157, 177, 207	3 bags								

Accessory for cable cabinets and pillars



Ground grate for polyester pedestals

Type	Reference-No. for cabinets			
	size 00	size 0	size 1	size 2
Assembly kit	69756	69757	69758	69759
Assembly kit with earth connection	69765	69766	69767	69768
Assembly kit with adjustment rods	69769	69770	69771	69772
Assembly kit with earth connection and adjustment rods	69790	69791	69792	69793

Ground grate for polyester pedestals, flat type cabinets

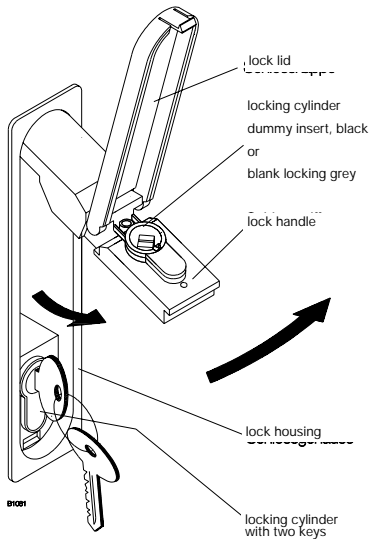
Type	Reference-No. for cabinets		
	153/173	154/174	176
Assembly kit	90220	90212	90200
Assembly kit with earth connection	90221	90213	90201
Assembly kit with adjustment rods	90222	90214	90202
Assembly kit with earth connection and adjustment rods	90223	90215	90203

Ground grate for polyester pillars

Type	Reference-No. for pillars				
	115/135	142/162	155, 172, 202	155, 175, 205	157, 177, 207
Assembly kit	90216	90224	90216	69757	69758
Assembly kit with earth connection	90217	90225	90217	69766	69767
Assembly kit with adjustment rods	90218	90226	90218	69770	69771
Assembly kit with earth connection and adjustment rods	90219	90227	90219	69791	69792

Accessory for cable cabinets and pillars

Type	Reference-No.
Sealing profiles to upgrade IP 43 to IP 44	
for pillars serie 152, 153, 172, 202	72190
serie 155, 175, 205	72191
for cabinets size 00	72192
size 0/845/1005/1355	72193
size 1/845/1005/1355	72194
size 2/845/1005/1355	72195
for cabinets flat types serie 153, 154, 173, 174	72196
serie 176	72197
for pillars serie 157, 177, 207	72198



Locking variations for cabinet and pillars

locking lid blank lock, grey colour	43902 95068
handle for single lock for double lock	74228 74227
lock housing for single lock for double lock	48583 48598

HRC Fuse Strips – Built-in Unit 1

Size 00

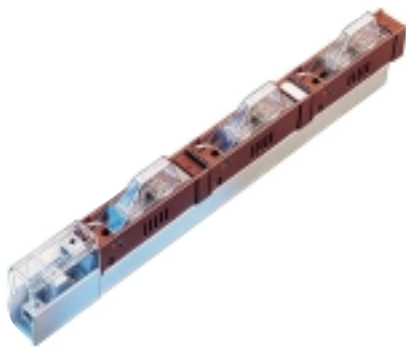


HRC Fuse strips, size 00, 100A - 660V
with body cover
distance of busbars 185 mm

Technical specification:

- body made of reinforced polyester
- (width x height x depth) 49 x 634 x 113 mm
- non-tracking and leakage current approved
- silvered contacts with duplex springs
- tin coated busbars
- material to fix on busbars
- connection material for 4 core conductor

Types Size	Rating A	with flat direct terminal 50–70 mm ² se	Screw connection M8 x 20	V-direct terminals 16–50 mm ² se	steel frame V-terminals 10–95 mm ² se	cover for clamps	cover for 3 feeding clamps	cover for fuse strip	Reference No.
00	100		●				●	●	EH 052 AAC
00	100				●		●	●	EH 052 CAD



HRC Fuse strips, size 00, 100A - 660V
1pole switchable
distance of busbars 185 mm

Technical specification:

- body made of reinforced polyester
- (width x height x depth) 49 x 665 x 135 mm
- non-tracking and leakage current approved
- silvered contacts with duplex springs
- tin coated busbars
- Deion contact quencher chambers
- material to fix on busbars
- connection material for 4 core conductor

Types Size	Rating A	with flat direct terminal 50–70 mm ² se	Screw connection M8 x 20	V-direct terminals 16–50 mm ² se	steel frame V-terminals 10–95 mm ² se	cover for clamps	cover for 3 feeding clamps	cover for fuse strip	Reference No.
00	100		●				●		EH 041 AAC
00	100				●		●		EH 041 CAD



Fuse strips, size 00, 250A - 500V
suitable for switch knives
1pole switchable
distance of busbars 185 mm

Technical specification:

- body made of reinforced polyester
- (width x height x depth) 49 x 705 x 135 mm
- non-tracking and leakage current approved
- silvered contacts with duplex springs
- tin coated busbars
- Deion contact quencher chambers
- material to fix on busbars
- connection material for 4 core conductor

Types Size	Rating A	with flat direct terminal 50–70 mm ² se	Screw connection M8 x 20	V-direct terminals 16–50 mm ² se	steel frame V-terminals 10–95 mm ² se	cover for clamps	cover for 3 feeding clamps	cover for fuse strip	Reference No.
00	250			●		●			EH 040 CAB

- Basic model
- Accessories on request

Accessories for HRC Fuse Strips

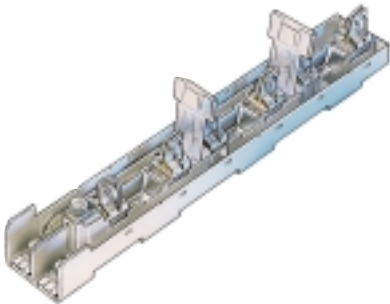


Types	Reference-No.
Adapter set with shock proof protection cover to fit on a built-in unit load fuse strip size 2, a built-in unit of 2 load fuse strips size 00 with steel frame V-clamps 10–95 mm ² Al/Cu with screw connection M8 x 20	75950 75952

Type	Reference-No.
Switch knife size 00, 250 A	55803

HRC Fuse Strips – built-in unit 2

Size 2



HRC fuse strips, size 2, 400A - 660V vertical version

Technical specification:

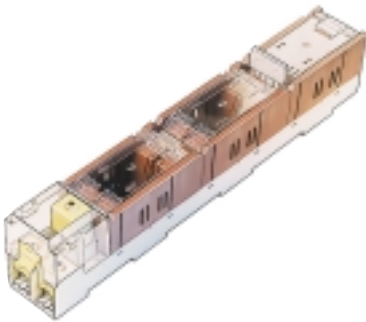
- according to DIN 43623, Form B, and VDE 0636, part 21
- body made of reinforced polyester
- (width x height x depth) 99 x 645 x 154 mm
- non-tracking and leakage current approved
- silvered contacts with duplex springs
- tin coated busbars
- material to fix on busbars
- connection material for 4 core conductor

Types Size	Rating A	flat direct terminals 50–185 mm ² se	screw connection M12 x 35	bolt connection M12 x 60	V-direct terminals 35–240 mm ² se	steel frame V-terminals 16–240 mm ² sm	cover for feeding clamps	body cover	Reference-No.
2	400	●							EH 210 AAA
2	400		●						EH 210 AAC
2	400			●					EH 210 BAA
2	400				●				EH 210 CAA
2	400					●			EH 210 DAA
2	400	●					●	●	EH 212 AAA
2	400		●				●	●	EH 212 AAC
2	400			●			●	●	EH 212 BAA
2	400				●		●	●	EH 212 CAA
2	400					●	●	●	EH 212 DAA

- Basic model
- Accessories on request

HRC-Fuse Strips – built-in unit 2

Size 2



HRC-Fuse strips, Size 2, 400A - 660V
with shock proof protection

Technical specification:

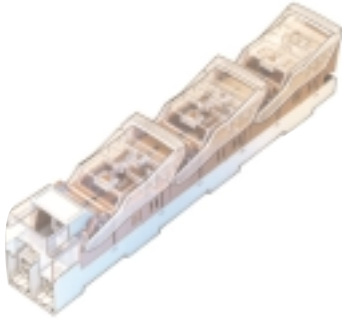
- according to DIN 43623, Form B, and VDE 0636, part 21
- body made of reinforced polyester
- (width x height x depth) 99 x 645 x 155 mm
- non-tracking and leakage current approved
- silvered contacts with duplex springs
- tin coated busbars
- suitable for current transformer
- material to fix on busbars
- connection material for 4 core conductor

Types Size	Rating A	flat direct terminals 50–185 mm ² se	screw connection M12 x 35	bolt connection M12 x 60	V-direct terminals 35–240 mm ² se	steel frame V-terminals 16–240 mm ² sm	switching ancillary equipment 50 kA	cover for feeding clamps	body cover	Reference-No.
2	400	●						●		EH 251 AAA
2	400		●					●		EH 251 AAC
2	400			●				●		EH 251 BAA
2	400				●			●		EH 251 CAA
2	400					●		●		EH 251 DAA
2	400	●						●	●	EH 252 AAA
2	400		●					●	●	EH 252 AAC
2	400			●				●	●	EH 252 BAA
2	400				●			●	●	EH 252 CAA
2	400					●		●	●	EH 252 DAA
2	400	●					●	●		EH 231 AAA
2	400		●				●	●		EH 231 AAC
2	400			●			●	●		EH 231 BAA
2	400				●		●	●		EH 231 CAA
2	400					●	●	●		EH 231 DAA
2	400	●					●	●	●	EH 232 AAA
2	400		●				●	●	●	EH 232 AAC
2	400			●			●	●	●	EH 232 BAA
2	400				●		●	●	●	EH 232 CAA
2	400					●	●	●	●	EH 232 DAA

- Basic model
- Accessories on request

HRC-Fuse Strips – built-in unit 2

Size 2



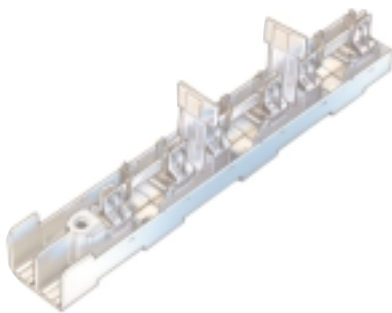
HRC Load fuse strips, size 2, 400A - 660V 1pole switchable

Technical specification:

- according to DIN 43623, Form B, and VDE 0636, part 21
- body made of reinforced polyester
- (width x height x depth) 99 x 655 x 151 mm
- non-tracking and leakage current approved
- silvered contacts with duplex springs
- tin coated busbars
- suitable for current transformer
- Deion contact quencher chambers
- material to fix on busbars
- connection material for 4 core conductor

Types Size	Rating A	flat direct terminals 50–185 mm ² se	crew connection M12 x 35	bolt connection M12 x 60	V-direct terminals 35–240 mm ² se	steel frame V-terminals 16–240 mm ² sm	switching element	cover for feeding clamps	body cover	Reference-No.
2	400	●						●		EH 241 AAA
2	400		●					●		EH 241 AAC
2	400			●				●		EH 241 BAA
2	400				●			●		EH 241 CAA
2	400					●		●		EH 241 DAA

Accessory	Reference-No.
Shock proof protection cover for the connection busbar area, 3 pieces	69837



HRC-Fuse strips, Size 2, 400A - 660V for busbar disconnection

Technical specification:

- according to DIN 43623 and VDE 0636, part 21
- body made of reinforced polyester
- (width x height x depth) 99 x 645 x 154 mm
- non-tracking and leakage current approved
- silvered contacts with duplex springs
- tin coated busbars
- material to fix on busbars

Size	Rating A	Types	Reference-No.
2	400	basic model in open design	EH 210 T
2	400	with shock proof protection housings and cover of the switch knife	EH 252 T
2	400	load fuse strip with deion contact quencher chambers	EH 241 T

- Basic model
- Accessories on request

GLS cable coupler – built-in unit 3



GLS cable coupler 400A-400V
with busbar contact

Technical specification:

- switchable and detachable connection for cable distribution cabinets and low voltage distribution boards
- simple handling by standard HRC fuse pullers (all parts are full insulated. EC tested according to VDE 0471 T1)
- high interrupting capacity by Deion-arc chambers
- short circuit proof until 50 kA
- combinable with HRC fuse strips
- no selectivity problems

Types			
Rating A	Scope of clamping mm ²	1 Set contains	Reference-No.
400	1 x 50 – 185 se	3 cable coupler 3 busbar contact 1 designation label	85975
400	1 x 50 – 70 se		85976
	2 x 50 – 70 se		



GLS fuse cable coupler, Size 00, 100A
with busbar contact

Technical specification:

- switchable and detachable connection for cable distribution cabinets and low voltage distribution boards
- simple handling by standard HRC fuse pullers (all parts are full insulated. EC tested according to VDE 0471 T1)
- high interrupting capacity by Deion-arc chambers
- short circuit proof until 50 kA
- combinable with HRC fuse strips
- no selectivity problems

Types			
Rating A	Scope of clamping mm ²	1 Set contains	Reference-No.
100	1 x 50 – 185 se	3 cable coupler 3 busbar contact 1 designation label	85977
100	1 x 50 – 70 se		85978
	2 x 50 – 70 se		
100	1 x 6 – 50 se		85979

GEYER load plug-in system – built-in unit 3



GLS rest position holder

Technical specification:

- complete isolation of the busbar contacts
- locates cable coupler
- protects from unintentional reconnection

Type	Reference-No.
GLS rest position holder	43777



GLS rest position holder

Technical specification:

- by inserting of the impulse voltage contact between busbar contact and cable coupler the location of a failure can be carried out with the impulse voltage generator
- complete isolation of the busbar contact and connects the cable coupler with the wiring point of the measuring line
- Impulse voltage strength until 6 kV maximum

Type	Reference-No.
GLS impulse voltage contact	52999

Terminations – built-in unit 4



44612

Direct terminations for aluminium and copper conductors

Scope of termination mm ²	Mounting bolt Bolt/Screw	Starting torque Nm	Reference No.
50 re 35 – 70 rm 50 – 185 se 35 – 150 sm	M12	40	44610
	M10	30	44611
16 – 50 re 10 – 35 rm 50 – 70 se 35 – 50 sm	M10	25	44612



44613

Double direct terminations for aluminium and copper conductors

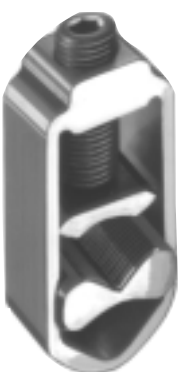
Scope of termination mm ²	Mounting bolt Bolt/Screw	Starting torque Nm	Reference No.
50re 35 – 70rm 50 – 185 se 35 – 150 sm	M 12	40	44613
16 – 50 re 10 – 35 rm 50 – 70 se 35 sm	M 10	25	44614
Channel 1: 120 – 185 se Channel 2: 25 – 70 re/rm	M 12	40	44666



83124

V-shaped direct terminations for aluminium and copper conductors

Scope of termination mm ²	for V-embossing connection 90/120°	Starting torque Nm	Reference No.
35 – 50 re 35 – 70 rm 50 – 240 se 50 – 185 sm		22–24	83124



83115

Double V-shaped direct terminations for aluminium and copper conductors

Scope of termination mm ²	Starting torque Nm	Reference No.
25 – 50 re 25 – 50 rm 25 – 50 se 25 – 50 sm	12 – 15	83115
50 – 185 sm 50 – 240 se	22 – 24	83113

Terminations – built-in unit 4



83144

Steel frame V-shaped direct terminations for Aluminium and copper conductors

Scope of termination mm ²	for V-embossing connection 90/120°	Starting torque Nm	Reference-No.
10 – 50re 10 – 50rm 50 – 95se 35 – 70sm		15	83144
16 – 150re 16 – 150rm 35 – 240se 35 – 240sm		40	83151

83151



59251

Tag with 90/120° V-shaped embossing

for the application of V-shaped direct terminations when bolts or screws are used on the busbar

Types	Reference-No.
with hole 10 mm, suitable for V-shaped direct terminations 83115, 83144	59250
with hole 12 mm, suitable for V-shaped direct terminations 83113, 83124	88811
with hole 12 mm, suitable for steel-frame V-shaped direct terminations 83151	88812

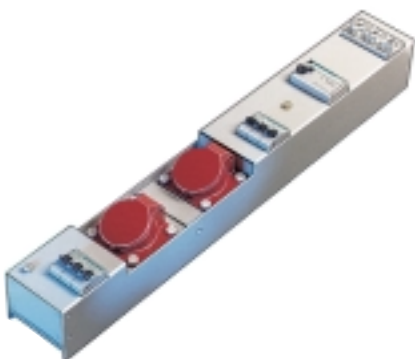
Socket outlet combinations – built-in unit 5



Socket outlet combination
with 2 CEE sockets 32 A, 5pole

Technical specification
 1 Fuse socket D02, 3pole
 1 RCD 63 A/0,5 A
 2 MBC 32 A, B, 3pole
 2 CEE sockets 32 A, 5pole

Type	Reference-No.
with 2 CEE sockets 32 A, 5pole	EH 001 L



Socket outlet combination
with 2 CEE sockets 16 A, 5pole

Technical specification
 1 Fuse socket D02, 3pole
 1 RCD 40 A/0,03 A
 2 MBC 16 A, B, 3pole
 2 CEE sockets 16 A, 5pole

Type	Reference-No.
with 2 CEE sockets 16 A, 5pole	EH 002 L



Socket outlet combination
with 1 CEE socket 63 A, 5pole

Technical specification
 1 Fuse socket D02, 3pole
 1 RCD 63 A/0,5 A
 1 CEE sockets 63 A, 5pole

Type	Reference-No.
mit 1 CEE socket 63 A, 5pole	EH 003 L



Socket outlet combination
with 4 CEE socket 16 A, 3pole

Technical specification
 1 Fuse socket D02, 3pole
 1 RCD 40 A/0,03 A
 4 MCB 16 A, B, 1pole
 4 CEE sockets 16 A, 3pole

Type	Reference-No.
with 4 CEE sockets 16 A, 3pole	EH 004 L

The sockets outlet combinations comply with the terminating- and fixing mode the HRC tube strips size 2 according to DIN 43 623.

Socket outlet combinations – built-in unit 5



Socket outlet combination
with 1 CEE socket 32 A, 5pole and 1 socket „Schuko“

Technical specification

- 1 Fuse socket D02, 3pole
- 1 RCD 40 A/0,03 A
- 1 MBC 16 A, C, 1pole
- 1 MBC 32 A, C, 3pole
- 1 CEE socket 32 A, 5pole
- 1 socket „Schuko“

Type	Reference-No.
with 1 CEE socket 32 A, 5pole and 1 socket „Schuko“	EH 012 L

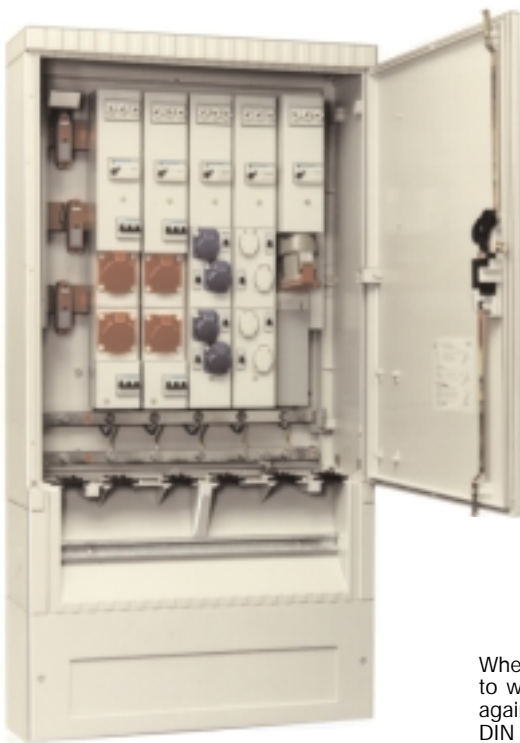


Socket outlet combination
with 4 sockets „Schuko“

Technical specification

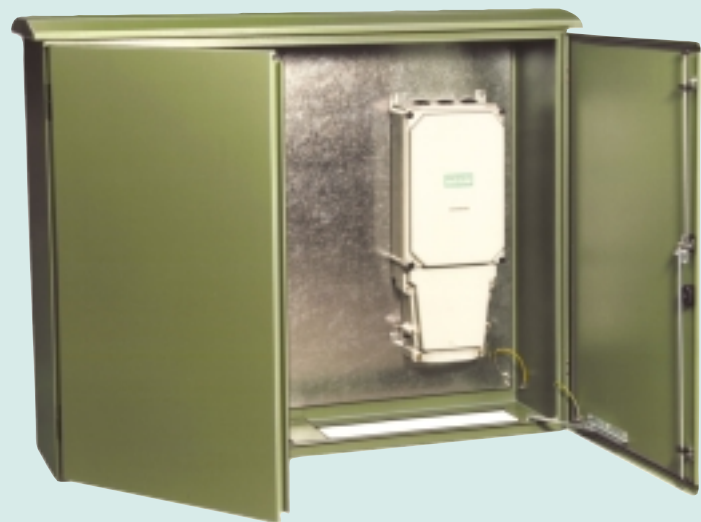
- 1 Fuse socket D02, 3pole
- 1 RCD 40 A/0,03 A
- 4 MBC 16 A, B, 1pole
- 4 sockets „Schuko“ 16 A

Type	Reference-No.
with 4 sockets „Schuko“	EH 005 L



When socket outlet combinations are mounted inside of cable distribution cabinets and pillars to which non-authorized people have access, the panel builder has to secure the assembly against direct touch of live parts. According to DIN VDE 0100, part 729, clause 3.3. and DIN VDE 0660, part 504/EN 60439-3.

Distribution Cabinets made of Aluminium



■ Aluminium Cabinets from GEYER are designed to withstand extremes of atmospheric conditions e.g.:

- intensive sunlight
- high humidity
- snow and ice
- extreme temperature variations



The construction is very robust and therefore suitable for extreme conditions. The cabinets are supplied with a

mounting plate, door and rain-hood.

The mounting plate is removable.

The door has wide angle opening and fitted stay. Cylinder lock with 3 point locking mechanism.

Available with 19" or ETSI-rack system if required.

Special designs possible on request.

Distribution Cabinets made of Aluminium for outdoor installation

Type

Protection grade IP 44
Frame construction made of Al/Mg 3,2mm
Protection class I

Colour

- RAL 7035 lightgrey

optionally

- RAL 7032 siliceous grey
- RAL 6011 green

Special colours on request

Locking device

Three point locking system suitable for one or two cylinders with key. Profil cylinder you find on page H2-70 (Accessories).

Doors

Max. angle of door to open 180°; all doors have door stopper to fix the door in open position. Cabinets exceeding width of 1500mm have double doors.

Assembly plate

Steel sheet with power coated finish with a thickness of 2 mm

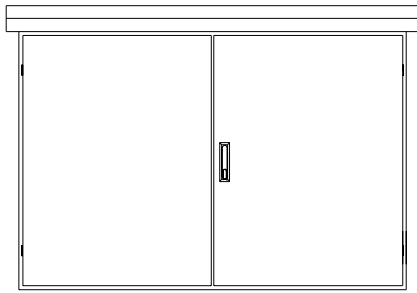
Pedestal

The holding lateral parts of the pedestal are made of high grade steel (1.4301). The front and rear cover plates are made of corrosion-resistant special sheet metal (ZinCor).

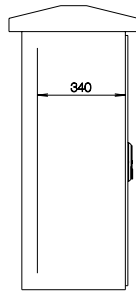
Ground work

To avoid condensation water inside of the cabinet it is advisable to fill up the foundation inside with absorber stones. Details see on page H2-70 (Accessories).

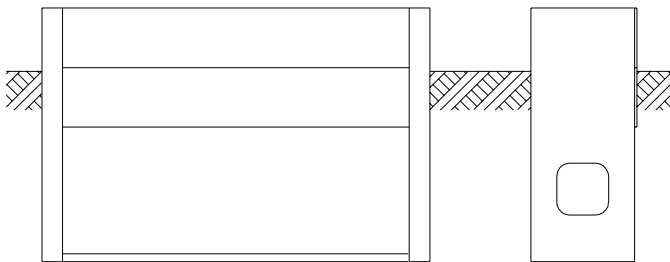
Distribution cabinets made of aluminium – for outdoor installation



B876



Cabinet (width x height x depth) mm	assembly plate (width x height) mm	Reference-No.
600 x 800 x 400	500 x 700	88375
850 x 800 x 400	750 x 700	88376
1100 x 800 x 400	1000 x 700	88377
600 x 1000 x 400	500 x 900	88378
850 x 1000 x 400	750 x 900	88379
1100 x 1000 x 400	1000 x 900	88380
1350 x 1000 x 400	750 x 900 + 500 x 900	88381
2100 x 1000 x 400	1000 x 900 + 1000 x 900	88382
600 x 1200 x 400	500 x 1100	88383
850 x 1200 x 400	750 x 1100	88384
1100 x 1200 x 400	1000 x 1100	88385
1350 x 1200 x 400	750 x 1100 + 500 x 1100	88386
1600 x 1200 x 400	1000 x 1100 + 500 x 1100	88387
2100 x 1200 x 400	1000 x 1100 + 1000 x 1100	88388
1100 x 1400 x 400	1000 x 1300	88389
1350 x 1400 x 400	750 x 1300 + 500 x 1300	88390
1600 x 1400 x 400	1000 x 1300 + 500 x 1300	88391
2100 x 1400 x 400	1000 x 1300 + 1000 x 1300	88392
1100 x 2000 x 400	1000 x 1900	88393
1350 x 2000 x 400	750 x 1900 + 500 x 1900	88394
1600 x 2000 x 400	1000 x 1900 + 500 x 1900	88395
2100 x 2000 x 400	1000 x 1900 + 1000 x 1900	88396

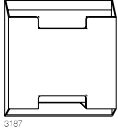


B877

Pedestal (width x height x depth) mm	Reference-No.
600 x 900 x 400	88397
850 x 900 x 400	88398
1100 x 900 x 400	88399
1350 x 900 x 400	88365
1600 x 900 x 400	88366
2100 x 900 x 400	88367

Type	Reference-No.
------	---------------

Accessories



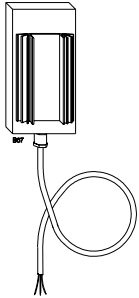
Bag for wiring diagrams
DIN A4, self sticking

55696



Locking device
profile cylinder with 2 keys

50994



Heating 33 W
thermostatic controlled

55517

Insulating mat
(heat insulation, noise protection)

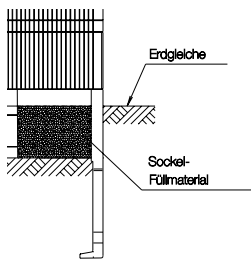
auf Anfrage

Filling compound
plastic bag, with 25l absorber stones
to reduce condensation water inside the cabinet.

95075

Type of cabinet	needed quantity
115, 135, 142, 152, 153, 154 162, 172, 173, 202	1 bag
size 00, size 0 155, 175, 176, 205	2 bags
size 1, size 2 157, 177, 207	3 bags

The filling height should be approximatly 200-300mm.



Fastening set for DISPO-built-in's
(1 field width) for high BH 6 + 8

69859

GEYER



COMMUNICATION

WHEN YOU ARE USED TO BEING AT
THE HUB OF THINGS, LET GEYER
BE YOUR HARDWARE

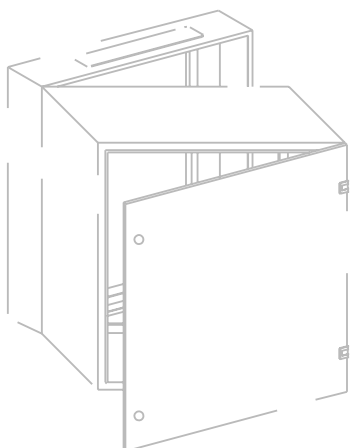
H
3

We combine your energies



COMMUNICATION

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Type HB.00	5
Type HB.10	5
Accessories	5



Communication

Broad Band Cable Enclosures

Range includes:

- Wall mounting enclosures
- Custom designed enclosures
- Floor standing cabinets
- Accessories



■ Protection and security for the data flow in your LAN-Networks is ensured by the 19" network cabinets from GEYER. This range can be supplied assembled or as a kit. The new and innovative 2-column frame gives a very high physical strength to the cabinet. For more detailed information please ask for our catalogue "Network cabinets" or download the .pdf file from our Internet homepage (www.geyer.de).

■ GEYER has a very long experience in the production of cabinets and pillars for broad band cable networks. In the 80's and 90's when many towns were installing the first generation of broad band cable networks GEYER cabinets were used. Based on this experience we developed the range of cabinets to make them user friendly, robust and safe. For more details please ask for our special catalogue "Cabinets and pillars for broad band cable networks" or download the pdf. File from the Internet (www.geyer.de).

Range HB 00

Generally:

For easy mounting the BVT-cabinets are designed with a separate rear wall. The rear wall could easily be pre mounted on different walls or base plates.

The side wall has a cut-out for the cable entry.

The door can be hinged left or right side.

For each frame size a metal mounting plate could be supplied as an accessory.

Special mounting plates on request.

For an easy mounting of equipment the door is removable.

The BVT enclosure can also be used to cover existing units and installations.



Enclosure:

2mm steel; powder coated (white); removable door; door can be hinged on left or right side.

Locking system:

Cylinder interlocking device with 2 keys.

With the HB005 frame size a dual locking system is incorporated.

Mounting plate:

A 1,5mm zinc plated steel mounting plate is available.

Range HB 10

This range was designed for special applications. The enclosure system incorporates several anti-vandal features. Including recessed door, bottom hinged door with dual lever, centre key operated locking system fitted near to the top of the door.

The mounting plate is separate from the enclosure, allowing components to be pre-mounted in the workshop, than fixed to the wall. The outer case than "slots" into position and is permanently fixed in place using fixing screws provided.

Enclosure:

Manufactured using 2mm powder coated steel.
Colour white RAL 9010

Locking system:

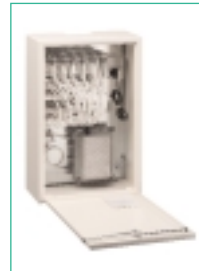
Double lever locking system with centre key lock.
2 keys provided.

Mounting plate:

2mm zinc plated steel

On request a composite mounting plate could be supplied.

This is manufactured from wooden composite with aluminium sheet bonded to it.



Other enclosures and designs on request.

Specification	Dimensions W x H x D (mm)	Reference No.
---------------	------------------------------	---------------

Range HB 00



Enclosure	200 x 200 x 80	HB 006
Enclosure	200 x 300 x 120	HB 002
Enclosure	400 x 320 x 130	HB 003
Metal mounting plate for HB 003		33712
Enclosure	400 x 600 x 180	HB 004
Metal mounting plate for HB 004		33713
Enclosure	600 x 800 x 230	HB 005
Metal mounting plate for HB 005		33714

Range HB 10

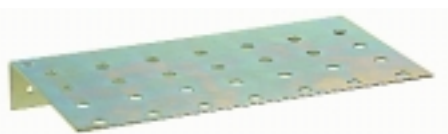


Enclosure with mounting plate	300 x 400 x 150	HB 101
Enclosure with mounting plate	400 x 600 x 200	HB 102

Accessories



Cable fixing bracket 130 mm long with M6 earthing bolt for 9 F-plugs 10 mm Diameter Angle dimensions 40mm by 110mm	60849
--	--------------



Cable fixing bracket 280 mm long with M6 earthing bolt for 28 F-plugs 10 mm Diameter Angle dimensions 40mm by 155mm	60848
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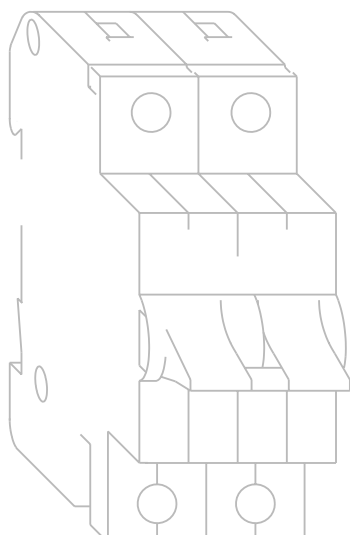


MODULAR DEVICES

OUR DESIGN ENGINEERS ARE CONTINUALLY RESEARCHING FOR NEW INNOVATIONS TO KEEP OUR CUSTOMERS SATISFIED.

MODULAR DEVICES

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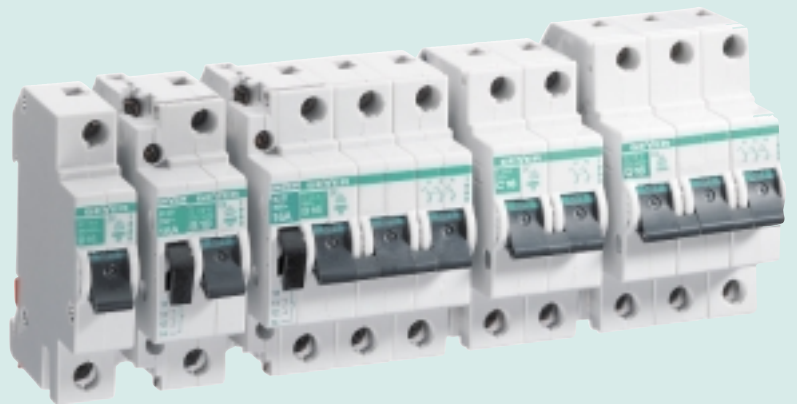


Miniature Circuit Breakers

B/C-Curve, 6 kA,
B/C-Curve, 6 kA with
auxiliary contact

B/C-Curve, 10 kA,
B/C-Curve, 10 kA with
auxiliary contact

D-Curve, 6 kA,
D-Curve, 6 kA with
auxiliary contact



■ MCB's are mainly used to protect cables and equipment against overload and short circuit. To suit different applications you have the option to choose from 3 characteristics. GEYER MCB's are designed for DIN-rail mounting and have a facility which allows individual MCB's to be removed from the rail without the need to disconnect other devices connected to the busbar. This feature provides a practical and convenient solution for mounting and servicing.

■ MCB's with B-Curve are normally used for the protection of cables and equipment in domestic and light commercial applications e.g. normal lightning, sockets etc.

■ MCB's with C-Curve protect against overload and short circuit. Mainly to protect devices with a higher inrush-current e.g. motors and ballast lightning.

■ MCB's with D-Curve ensure that also devices with very high inrush-current do not suffer from nuisance tripping e.g. transformers, motors or UPS power supplies.

Specification:

Voltage: 230/400Vac
48Vdc (B curve)
60Vdc (C curve)

Frequency: 50/60Hz

Short-circuit duty: 6 or 10kA
C curve
40A and 50A, 6kA

Fully tested to: EN 60898
IEC 898
DIN VDE 0641

Terminal capacity: input line 25 mm²
output 16 mm²
(UK 25mm²)

Selectivity: 3

Applications:

This miniature circuit breakers range is suitable for standard DIN rail mounting and includes single, double and triple pole units in 13 current ratings from 1 A to 63A. All are suitable for use on standard 230/400V, 50/60Hz supplies. The fully shrouded line terminals on the units will accept cables up to 25 mm² and load terminal cables up to 16 mm².

Specification auxiliary contacts:

Voltage: 250V

Rated current (AC 11): 6A

Short-circuit duty: 1000A, 250V~

Terminal capacity: 1,5...6 mm²



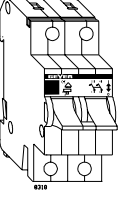

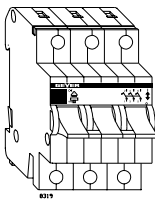
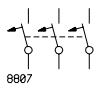
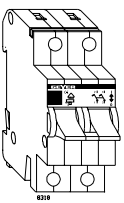

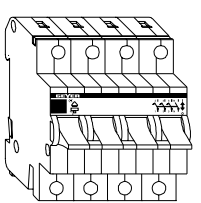
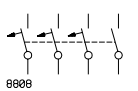
Advantages:



Miniature Circuit Breakers



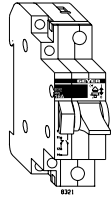
B/C-Curve, 6 kA

		Specification	packing per unit	Rated current I_N (A)	Modules à 18 mm	Reference No. B curve	Reference No. C curve
		1pole	10	6	1	EA 106 B	EA 106 C
			10	10	1	EA 110 B	EA 110 C
			10	16	1	EA 116 B	EA 116 C
			10	20	1	EA 120 B	EA 120 C
			10	25	1	EA 125 B	EA 125 C
			10	32	1	EA 132 B	EA 132 C
			10	40	1	EA 140 B	EA 140 C
		2pole	5	6	2	EA 206 B	EA 206 C
			5	10	2	EA 210 B	EA 210 C
			5	16	2	EA 216 B	EA 216 C
			5	20	2	EA 220 B	EA 220 C
			5	25	2	EA 225 B	EA 225 C
			5	32	2	EA 232 B	EA 232 C
		3pole	3	6	3	EA 306 B	EA 306 C
			3	10	3	EA 310 B	EA 310 C
			3	16	3	EA 316 B	EA 316 C
			3	20	3	EA 320 B	EA 320 C
			3	25	3	EA 325 B	EA 325 C
			3	32	3	EA 332 B	EA 332 C
		1pole + neutral	5	6	2	EA 106 BN	EA 106 CN
			5	10	2	EA 110 BN	EA 110 CN
			5	16	2	EA 116 BN	EA 116 CN
			5	20	2	EA 120 BN	EA 120 CN
			5	25	2	EA 125 BN	EA 125 CN
			5	32	2	EA 132 BN	EA 132 CN
		3pole + neutral	2	6	4	EA 306 BN	EA 306 CN
			2	10	4	EA 310 BN	EA 310 CN
			2	16	4	EA 316 BN	EA 316 CN
			2	20	4	EA 320 BN	EA 320 CN
			2	25	4	EA 325 BN	EA 325 CN
			2	32	4	EA 332 BN	EA 332 CN

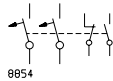
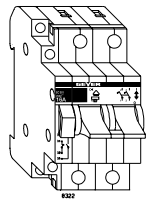
Miniature Circuit Breakers



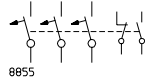
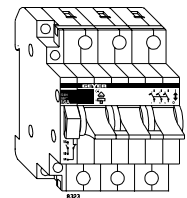
B/C-Curve, 6 kA with auxiliary contact



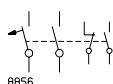
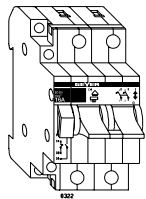
Specification	packing per unit	Rated current I _N (A)	Modules à 18 mm	Reference No. B curve	Reference No. C curve
1pole	6	6	1,5	EA 106 BH	EA 106 CH
with auxiliary contact	6	10	1,5	EA 110 BH	EA 110 CH
1 NC, 1 NO	6	16	1,5	EA 116 BH	EA 116 CH
	6	20	1,5	EA 120 BH	EA 120 CH
	6	25	1,5	EA 125 BH	EA 125 CH
	6	32	1,5	EA 132 BH	EA 132 CH
	6	40	1,5	EA 140 BH	EA 140 CH



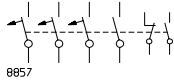
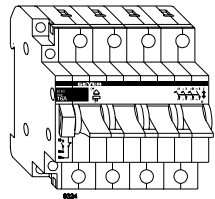
2pole	4	16	2,5	EA 216 BH	EA 216 CH
with auxiliary contact	4	20	2,5	EA 220 BH	EA 220 CH
1 NC, 1 NO	4	25	2,5	EA 225 BH	EA 225 CH
	4	32	2,5	EA 232 BH	EA 232 CH



3pole	2	6	3,5	EA 306 BH	EA 306 CH
with auxiliary contact	2	10	3,5	EA 310 BH	EA 310 CH
1 NC, 1 NO	2	16	3,5	EA 316 BH	EA 316 CH
	2	20	3,5	EA 320 BH	EA 320 CH
	2	25	3,5	EA 325 BH	EA 325 CH
	2	32	3,5	EA 332 BH	EA 332 CH



1pole + neutral	4	6	2,5	EA 106 BM	EA 106 CM
with auxiliary contact	4	10	2,5	EA 110 BM	EA 110 CM
1 NC, 1 NO	4	16	2,5	EA 116 BM	EA 116 CM
	4	20	2,5	EA 120 BM	EA 120 CM
	4	25	2,5	EA 125 BM	EA 125 CM
	4	32	2,5	EA 132 BM	EA 132 CM

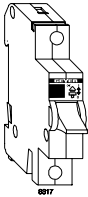

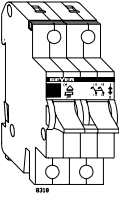

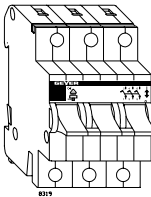

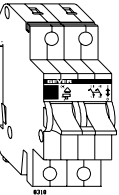

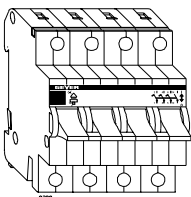
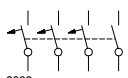


3pole + neutral	2	6	4,5	EA 306 BM	EA 306 CM
with auxiliary contact	2	10	4,5	EA 310 BM	EA 310 CM
1 NC, 1 NO	2	16	4,5	EA 316 BM	EA 316 CM
	2	20	4,5	EA 320 BM	EA 320 CM
	2	25	4,5	EA 325 BM	EA 325 CM
	2	32	4,5	EA 332 BM	EA 332 CM

Miniature Circuit Breakers



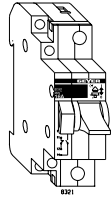
B/C-Curve, 10 kA

Specification	packing per unit	Rated current I _N (A)	Modules à 18mm	Reference No. B curve	Reference No. C curve
 	10	1	1	EC 101 B	EC 101 C
	10	2	1	EC 102 B	EC 102 C
	10	4	1	EC 104 B	EC 104 C
	10	6	1	EC 106 B	EC 106 C
	10	10	1	EC 110 B	EC 110 C
	10	13	1	EC 113 B	EC 113 C
	10	16	1	EC 116 B	EC 116 C
	10	20	1	EC 120 B	EC 120 C
	10	25	1	EC 125 B	EC 125 C
	10	32	1	EC 132 B	EC 132 C
	10	40	1	EC 140 B*	EC 140 C*
	10	50	1	EC 150 B*	EC 150 C*
	10	63	1	EC 163 BX	EC 163 CX
	10	63	1	EC 163 BR**	EC 163 CR**
 	5	1	2	EC 201 B	EC 201 C
	5	2	2	EC 202 B	EC 202 C
	5	4	2	EC 204 B	EC 204 C
	5	6	2	EC 206 B	EC 206 C
	5	10	2	EC 210 B	EC 210 C
	5	13	2	EC 213 B	EC 213 C
	5	16	2	EC 216 B	EC 216 C
	5	20	2	EC 220 B	EC 220 C
	5	25	2	EC 225 B	EC 225 C
	5	32	2	EC 232 B	EC 232 C
	5	40	2	EC 240 B*	EC 240 C*
	5	50	2	EC 250 B*	EC 250 C*
	5	63	2	EC 263 BX*	EC 263 CX*
	5	63	2	EC 263 BR**	EC 263 CR**
 	3	1	3	EC 301 B	EC 301 C
	3	2	3	EC 302 B	EC 302 C
	3	4	3	EC 304 B	EC 304 C
	3	6	3	EC 306 B	EC 306 C
	3	10	3	EC 310 B	EC 310 C
	3	13	3	EC 313 B	EC 313 C
	3	16	3	EC 316 B	EC 316 C
	3	20	3	EC 320 B	EC 320 C
	3	25	3	EC 325 B	EC 325 C
	3	32	3	EC 332 B	EC 332 C
	3	40	3	EC 340 B*	EC 340 C*
	3	50	3	EC 350 B*	EC 350 C*
	3	63	3	EC 363 BX	EC 363 CX
	3	63	3	EC 363 BR**	EC 363 CR**
 	5	6	2	EC 106 BN	EC 106 CN
	5	10	2	EC 110 BN	EC 110 CN
	5	13	2	EC 113 BN	EC 113 CN
	5	16	2	EC 116 BN	EC 116 CN
	5	20	2	EC 120 BN	EC 120 CN
	5	25	2	EC 125 BN	EC 125 CN
	5	32	2	EC 132 BN	EC 132 CN
	5	40	2	EC 140 BN*	EC 140 CN*
	5	50	2	EC 150 BN*	EC 150 CN*
	5	63	2	EC 163 BX1**	EC 163 CN1**
 	2	6	4	EC 306 BN	EC 306 CN
	2	10	4	EC 310 BN	EC 310 CN
	2	13	4	EC 313 BN	EC 313 CN
	2	16	4	EC 316 BN	EC 316 CN
	2	20	4	EC 320 BN	EC 320 CN
	2	25	4	EC 325 BN	EC 325 CN
	2	32	4	EC 332 BN	EC 332 CN
	2	40	4	EC 340 BN*	EC 340 CN*
	2	50	4	EC 350 BN*	EC 350 CN*
	2	63	4	EC 363 BX1**	EC 363 CX1**

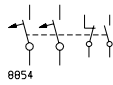
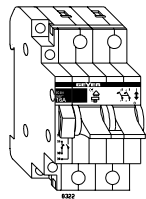
* special Types 6 kA

** special Types 4,5 kA, with metal fixing clip

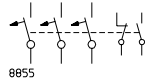
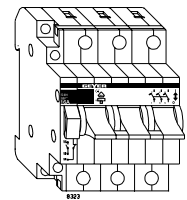
B/C-Curve, 10 kA with auxiliary contact



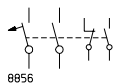
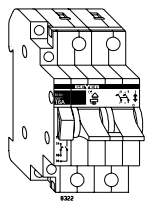
Specification	packing per unit	Rated current I _N (A)	Modules à 18 mm	Reference No. B curve	Reference No. C curve
1pole	6	1	1,5	EC 101 BH	EC 101 CH
with auxiliary contact	6	2	1,5	EC 102 BH	EC 102 CH
1 NC, 1 NO	6	4	1,5	EC 104 BH	EC 104 CH
	6	6	1,5	EC 106 BH	EC 106 CH
	6	10	1,5	EC 110 BH	EC 110 CH
	6	13	1,5	EC 113 BH	EC 113 CH
	6	16	1,5	EC 116 BH	EC 116 CH
	6	20	1,5	EC 120 BH	EC 120 CH
	6	25	1,5	EC 125 BH	EC 125 CH
	6	32	1,5	EC 132 BH	EC 132 CH
	6	40	1,5	EC 140 BH*	EC 140 CH*
	6	50	1,5	EC 150 BH*	EC 150 CH*
	6	63	1,5	on request	on request



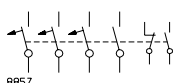
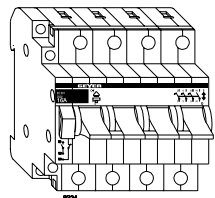
2pole	4	6	2,5	EC 206 BH	EC 206 CH
with auxiliary contact	4	10	2,5	EC 210 BH	EC 210 CH
1 NC, 1 NO	4	13	2,5	EC 213 BH	EC 213 CH
	4	16	2,5	EC 216 BH	EC 216 CH
	4	20	2,5	EC 220 BH	EC 220 CH
	4	25	2,5	EC 225 BH	EC 225 CH
	4	32	2,5	EC 232 BH	EC 232 CH
	4	40	2,5	EC 240 BH*	EC 240 CH*
	4	50	2,5	EC 250 BH*	EC 250 CH*
	4	63	2,5	on request	on request



3pole	2	1	3,5	EC 301 BH	EC 301 CH
with auxiliary contact	2	2	3,5	EC 302 BH	EC 302 CH
1 NC, 1 NO	2	4	3,5	EC 304 BH	EC 304 CH
	2	6	3,5	EC 306 BH	EC 306 CH
	2	10	3,5	EC 310 BH	EC 310 CH
	2	13	3,5	EC 313 BH	EC 313 CH
	2	16	3,5	EC 316 BH	EC 316 CH
	2	20	3,5	EC 320 BH	EC 320 CH
	2	25	3,5	EC 325 BH	EC 325 CH
	2	32	3,5	EC 332 BH	EC 332 CH
	2	40	3,5	EC 340 BH*	EC 340 CH*
	2	50	3,5	EC 350 BH*	EC 350 CH*
	2	63	3,5	on request	on request





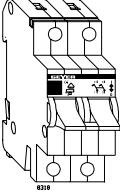

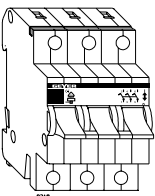

1pole + neutral	4	6	2,5	EC 106 BM	EC 106 CM
with auxiliary contact	4	10	2,5	EC 110 BM	EC 110 CM
1 NC, 1 NO	4	13	2,5	EC 113 BM	EC 113 CM
	4	16	2,5	EC 116 BM	EC 116 CM
	4	20	2,5	EC 120 BM	EC 120 CM
	4	25	2,5	EC 125 BM	EC 125 CM
	4	32	2,5	EC 132 BM	EC 132 CM
	4	40	2,5	EC 140 BM*	EC 140 CM*
	4	50	2,5	EC 150 BM*	EC 150 CM*
	4	63	2,5	on request	on request





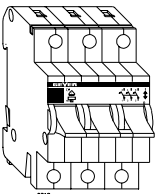
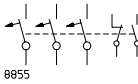
3pole + neutral	2	6	4,5	EC 306 BM	EC 306 CM
with auxiliary contact	2	10	4,5	EC 310 BM	EC 310 CM
1 NC, 1 NO	2	13	4,5	EC 313 BM	EC 313 CM
	2	16	4,5	EC 316 BM	EC 316 CM
	2	20	4,5	EC 320 BM	EC 320 CM
	2	25	4,5	EC 325 BM	EC 325 CM
	2	32	4,5	EC 332 BM	EC 332 CM
	2	40	4,5	EC 340 BM*	EC 340 CM*
	2	50	4,5	EC 350 BM*	EC 350 CM*
	2	63	4,5	on request	on request

* special Types 6 kA

D-Curve, 6 kA

Specification		packing per unit	Rated current I_N (A)	Modules à 18mm	Reference No. D curve
		10	6	1	EC 106 D
		10	10	1	EC 110 D
		10	13	1	EC 113 D
		10	16	1	EC 116 D
		10	20	1	EC 120 D
		10	25	1	EC 125 D
		10	32	1	EC 132 D
		5	6	2	EC 206 D
		5	10	2	EC 210 D
		5	13	2	EC 213 D
		5	16	2	EC 216 D
		5	20	2	EC 220 D
		5	25	2	EC 225 D
		5	32	2	EC 232 D
		3	6	3	EC 306 D
		3	10	3	EC 310 D
		3	13	3	EC 313 D
		3	16	3	EC 316 D
		3	20	3	EC 320 D
		3	25	3	EC 325 D
		3	32	3	EC 332 D

D-Curve, 6 kA, with auxiliary contact

Specification		packing per unit	Rated current I_N (A)	Modules à 18mm	Reference No. D curve
		6	6	1,5	EC 106 DH
		6	10	1,5	EC 110 DH
		6	13	1,5	EC 113 DH
		6	16	1,5	EC 116 DH
		6	20	1,5	EC 120 DH
		6	25	1,5	EC 125 DH
		6	32	1,5	EC 132 DH
		2	6	1,5	EC 306 DH
		2	10	1,5	EC 310 DH
		2	13	1,5	EC 313 DH
		2	16	1,5	EC 316 DH
		2	20	1,5	EC 320 DH
		2	25	1,5	EC 325 DH
		2	32	1,5	EC 332 DH

Residual Current Devices

Sensitive to AC residual current

Sensitive to AC and pulsating DC residual current



■ RCD's increase the safety in all installations. The device opens the circuit automatically in the event of current leakage. RCD's could offer protection to personnel or animals against the effects of electric shock, and could also offer protection to equipment and buildings against fire and damage.

Sensitive to AC residual currents Sensitive to AC and pulsating DC residual currents

High standards

GEYER residual current devices conform to the latest national and international standards, including.

- EN 61008
- Terminal shrouding
- Independently tested

Range

- Modular - 18 mm module
- Compact (2 module) 16 to 125 A
- 4 module 25-125 A
- 10 mA - 500 mA sensitivity
- 2- and 4pole

Principle of operation

GEYER residual current devices continuously monitor the vectoral summation of currents flowing in all circuit conductors. Should an imbalance result due to a leakage of current to earth (possibly via human being!) the precision movement detection relay immediately causes the residual current devices to trip, isolating all circuit conductors.

When to use residual current devices

For shock prevention purposes residual current devices must be employed:

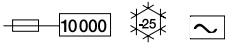
- where the earth loop impedance is too high for automatic disconnection by the circuit protective device
- on circuits supplying sockets outside the equipotentially bonded zone
- socket outlets on TT circuits (where local earth electrodes are employed)
- socket outlets feeding mobile (touring) caravans

It is generally agreed that it is also good practice to provide residual current devices protection:

- in caravans (touring or static)
- laboratories
- workshops
- circuits employing trailing leads liable to damage

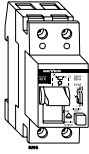
Shock prevention

The I.E.C. Publication 479 summarises the effect of electric currents on the human body.



Specification	Rated currents I_N (A)	Sensitivities (A)	Rated voltage (V) 50 Hz	Modules à 18 mm	Reference No.
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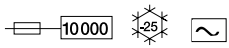
sensitive to AC residual current



2pole

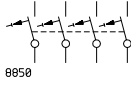
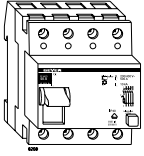
25	0,03	230	2	EF 225 DD
25	0,1	230	2	EF 225 GD
25	0,3	230	2	EF 225 ED
25	0,5	230	2	EF 225 FD
40	0,03	230	2	EF 240 DD
40	0,1	230	2	EF 240 GD
40	0,3	230	2	EF 240 ED
40	0,5	230	2	EF 240 FD
63	0,03	230	2	EF 263 DD
63	0,1	230	2	EF 263 GD
63	0,3	230	2	EF 263 ED
63	0,5	230	2	EF 263 FD
80	0,03	230	2	EF 280 DD
80	0,1	230	2	EF 280 GD
80	0,3	230	2	EF 280 ED
80	0,5	230	2	EF 280 FD
100	0,03	230	2	EF 200 DD
100	0,1	230	2	EF 200 GD
100	0,3	230	2	EF 200 ED
100	0,5	230	2	EF 200 FD
125	0,03	230	2	EF 281 DD
125	0,1	230	2	EF 281 GD
125	0,3	230	2	EF 281 ED
125	0,5	230	2	EF 281 FD

Auxiliary contacts for RCDs on request



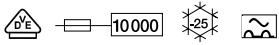
Specification	Rated currents I_N (A)	Sensitivities (A)	Rated voltage (V) 50 Hz	Modules à 18 mm	Reference No.
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sensitive to AC residual current



4pole	25	0,03	230/400	4	EF 425 DD
	25	0,1	230/400	4	EF 425 GD
	25	0,3	230/400	4	EF 425 ED
	25	0,5	230/400	4	EF 425 FD
	40	0,03	230/400	4	EF 440 DD
	40	0,1	230/400	4	EF 440 GD
	40	0,3	230/400	4	EF 440 ED
	40	0,5	230/400	4	EF 440 FD
	63	0,03	230/400	4	EF 463 DD
	63	0,1	230/400	4	EF 463 GD
	63	0,3	230/400	4	EF 463 ED
	63	0,5	230/400	4	EF 463 FD
80	0,03	230/400	4	EF 480 DD	
80	0,1	230/400	4	EF 480 GD	
80	0,3	230/400	4	EF 480 ED	
80	0,5	230/400	4	EF 480 FD	
100	0,03	230/400	4	EF 400 DD	
100	0,1	230/400	4	EF 400 GD	
100	0,3	230/400	4	EF 400 ED	
100	0,5	230/400	4	EF 400 FD	
125	0,03	230/400	4	EF 481 DD	
125	0,1	230/400	4	EF 481 GD	
125	0,3	230/400	4	EF 481 ED	
125	0,5	230/400	4	EF 481 FD	

Auxiliary contacts for RCDs on request

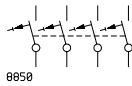
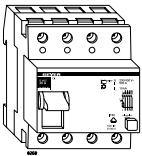


Specification	Rated currents I_N (A)	Sensitivities (A)	Rated voltage (V) 50 Hz	Modules à 18 mm	Reference No.
---------------	--------------------------	-------------------	-------------------------	-----------------	---------------

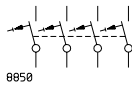
sensitive to AC and pulsating DC residual current



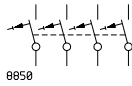
2pole	16	0,01	230	2	EF 216 C
	25	0,03	230	2	EF 225 D
	40	0,03	230	2	EF 240 D
	63	0,03	230	2	EF 263 D



4pole	25	0,03	230/400	4	EF 425 D
	40	0,03	230/400	4	EF 440 D
	63	0,03	230/400	4	EF 463 D
	80	0,03	230/400	4	EF 480 D
	100	0,03	230/400	4	EF 400 D



4pole	25	0,3	230/400	4	EF 425 E
	40	0,3	230/400	4	EF 440 E
	63	0,3	230/400	4	EF 463 E
	80	0,3	230/400	4	EF 480 E
	100	0,3	230/400	4	EF 400 E



4pole	25	0,5	230/400	4	EF 425 F
	40	0,5	230/400	4	EF 440 F
	63	0,5	230/400	4	EF 463 F
	80	0,5	230/400	4	EF 480 F
	100	0,5	230/400	4	EF 400 F

Auxiliary contacts for RCDs on request

Residual Current Circuitbreakers with overcurrent Protection RCBOs

Sensitive to AC residual current

Sensitive to AC and pulsating DC residual current

■ The RCBO is a combination of a miniature circuit breaker with type B or C characteristics and an residual current device capable of high sensitivity operation.

The residual current element of the RCBO provides corebalance detection of the difference between line and neutral current and amplification to provide high sensitivity. The RCBO is capable of responding to the superimposition of components of current on the supply caused by the operation of equipment using rectified voltages in compliance with BSEN 61009.

Sensitive to AC residual currents
Sensitive to AC and pulsating DC residual currents

High standards

GEYER RCBO's conform to the latest national and international standards, including.

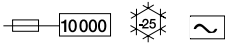
- EN 61009-1
- Terminal shrouding
- Independently tested

Range

- Modular - 18 mm module
- Compact (2 module) 6 to 50 A
- 4 module 6 to 63 A
- 30 mA - 500 mA sensitivity
- 2- and 4pole

Description

Kompakt protection devices which combine the overcurrent functions of an MCB with the earth fault functions of an RCCB in a single unit. A range of sensitivity and current ratings are available for use in domestic commercial and industrial applications.



Specification	Rated currents I_N (A)	Sensitivities (A)	Rated voltage (V) 50 Hz	Characteristic	Modules à 18 mm	Reference No.
---------------	--------------------------	-------------------	-------------------------	----------------	-----------------	---------------

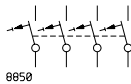
sensitive to AC residual current



2pole

6	0,3	230	C	2	EO 206 VMC
10	0,3	230	C	2	EO 210 VMC
16	0,3	230	C	2	EO 216 VMC
20	0,3	230	C	2	EO 220 VMC
25	0,3	230	C	2	EO 225 VMC
32	0,3	230	C	2	EO 232 VMC
40	0,3	230	C	2	EO 240 VMC
50	0,3	230	C	2	EO 250 VMC

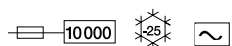
6	0,03	230	C	2	EO 206 SMC
10	0,03	230	C	2	EO 210 SMC
16	0,03	230	C	2	EO 216 SMC
20	0,03	230	C	2	EO 220 SMC
25	0,03	230	C	2	EO 225 SMC
32	0,03	230	C	2	EO 232 SMC
40	0,03	230	C	2	EO 240 SMC
50	0,03	230	C	2	EO 250 SMC



4pole

6	0,3	230/400	C	2	EO 406 VMC
10	0,3	230/400	C	2	EO 410 VMC
16	0,3	230/400	C	2	EO 416 VMC
20	0,3	230/400	C	2	EO 420 VMC
25	0,3	230/400	C	2	EO 425 VMC
32	0,3	230/400	C	2	EO 432 VMC
40	0,3	230/400	C	2	EO 440 VMC
50	0,3	230/400	C	2	EO 450 VMC

6	0,03	230/400	C	2	EO 406 SMC
10	0,03	230/400	C	2	EO 410 SMC
16	0,03	230/400	C	2	EO 416 SMC
20	0,03	230/400	C	2	EO 420 SMC
25	0,03	230/400	C	2	EO 425 SMC
32	0,03	230/400	C	2	EO 432 SMC
40	0,03	230/400	C	2	EO 440 SMC
50	0,03	230/400	C	2	EO 450 SMC



Specification	Rated currents I_N (A)	Sensivities (A)	Rated voltage (V) 50 Hz	Characteristic	Modules à 18 mm	Reference No.
---------------	--------------------------	-----------------	-------------------------	----------------	-----------------	---------------

sensitive to AC and pulsating DC residual current



Specification	Rated currents I_N (A)	Sensivities (A)	Rated voltage (V) 50 Hz	Characteristic	Modules à 18 mm	Reference No.
2pole	6	0,3	230	C	2	EO 206 EMC
	10	0,3	230	C	2	EO 210 EMC
	16	0,3	230	C	2	EO 216 EMC
	20	0,3	230	C	2	EO 220 EMC
	25	0,3	230	C	2	EO 225 EMC
	32	0,3	230	C	2	EO 232 EMC
	40	0,3	230	C	2	EO 240 EMC
	50	0,3	230	C	2	EO 250 EMC
	6	0,03	230	C	2	EO 206 DMC
	10	0,03	230	C	2	EO 210 DMC
	16	0,03	230	C	2	EO 216 DMC
	20	0,03	230	C	2	EO 220 DMC
	25	0,03	230	C	2	EO 225 DMC
	32	0,03	230	C	2	EO 232 DMC
40	0,03	230	C	2	EO 240 DMC	
50	0,03	230	C	2	EO 250 DMC	



Specification	Rated currents I_N (A)	Sensivities (A)	Rated voltage (V) 50 Hz	Characteristic	Modules à 18 mm	Reference No.
4pole	6	0,3	230/400	C	2	EO 406 EMC
	10	0,3	230/400	C	2	EO 410 EMC
	16	0,3	230/400	C	2	EO 416 EMC
	20	0,3	230/400	C	2	EO 420 EMC
	25	0,3	230/400	C	2	EO 425 EMC
	32	0,3	230/400	C	2	EO 432 EMC
	40	0,3	230/400	C	2	EO 440 EMC
	50	0,3	230/400	C	2	EO 450 EMC
	6	0,03	230/400	C	2	EO 406 DMC
	10	0,03	230/400	C	2	EO 410 DMC
	16	0,03	230/400	C	2	EO 416 DMC
	20	0,03	230/400	C	2	EO 420 DMC
	25	0,03	230/400	C	2	EO 425 DMC
	32	0,03	230/400	C	2	EO 432 DMC
	40	0,03	230/400	C	2	EO 440 DMC
	50	0,03	230/400	C	2	EO 450 DMC

Switches, Push Buttons, Pilot Lamps, Bell Transformers

Switches, Switches with pilot lamps

Isolators

Change over switches, Control switches

Push buttons

Push buttons with pilot lamps

Pilot lamps, Lens for pilot lamps, Bell transformers



■ These devices are designed for panel installation with 45mm cut-out (MCB-slot) and are DIN-rail mounted according to DIN EN 50022.

All switches have been manufactured with terminals having cage clamps, captive screws with slotted-/pozidrive heads for easy and convenient installation.



R 855

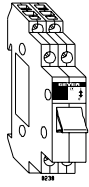
Isolators

Application:

- SP, DP, TP, TPN
- 1/2/3/2,5/3,5 module
- AC 22 category of duty
- Fused short circuit current 6 kA
- Rated voltage 230/400 V~, 50 Hz

Specification	Rated current I_N (A)	Module à 18 mm	Reference No.
---------------	----------------------------	-------------------	---------------

Switches



1pole

1 NO

16
25

1
1

ES 116
ES 125



2pole

2 NO

16
25

1
1

ES 216
ES 225



3pole

3 NO

16
25

1
1

ES 316
ES 325



4pole

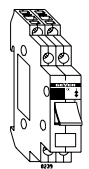
4 NO

16
25

1
1

ES 416
ES 425

Switches with pilot lamps



1pole
with pilot lamps

1 NO

16
25

1
1

ES 116 L
ES 125 L



2pole
with pilot lamps

2 NO

16
25

1
1

ES 216 L
ES 225 L



3pole
with pilot lamps

3 NO

16
25

1
1

ES 316 L
ES 325 L



4pole
with pilot lamps

4 NO

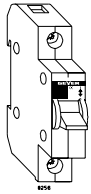
16
25

1
1

ES 416 L
ES 425 L

Specification	Rated current I_N (A)	Module à 18 mm	Reference No.
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Isolators



8801

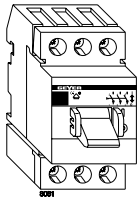
1pole

1 NO

63

1

ES 163



8802

2pole

2 NO

63

2,5

ES 263



8802

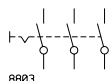
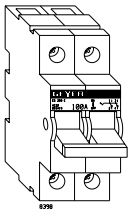
2pole
BS EN 60947-3

2 NO

100

2

ES 200 C



8803

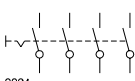
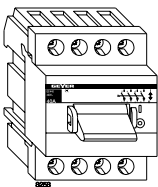
3pole

3 NO

63

2,5

ES 363



8804

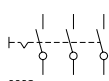
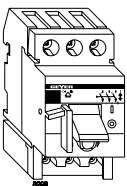
3pole + N

4 NO

63

3,5

ES 463



8803

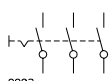
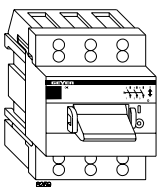
3pole
lockable
by a special hexagon key

3 NO

63

2,5

ES 363 EG



8803

3pole
BS EN 60669

3 NO

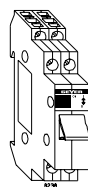
100

3,5

ES 300

Specification	Rated current I_N (A)	Module à 18 mm	Reference No.
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Changeover switches

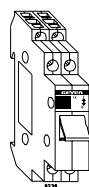


1pole	1 changeover	16 25	1 1	ES 116 W ES 125 W
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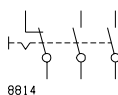


2pole	2 changeover	16 25	1 1	ES 216 W ES 225 W
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Control switches



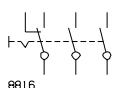
2pole	1 NO, 1 NC	16	1	ES 216 F
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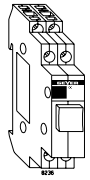
3pole	2 NO, 1 NC	16	1	ES 316 F
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2pole	1 NO, 1 changeover	16	1	ES 216 H
-------	--------------------	----	---	-----------------



3pole	2 NO, 1 changeover	16	1	ES 316 H
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Specification	Rated current I_N (A)	Module à 18 mm	Reference No.
---------------	-------------------------	----------------	---------------

Push buttons



1pole

1 NO

6

1

ET 116



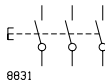
2pole

2 NO

6

1

ET 216



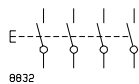
3pole

3 NO

6

1

ET 316



4pole

4 NO

6

1

ET 416



1pole

1 NC

6

1

ET 116 B



2pole

2 NC

6

1

ET 216 B



1pole

1 changeover

6

1

ET 116 C



2pole

2 changeover

6

1

ET 216 C



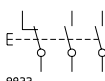
2pole

1 NO, 1 NC

6

1

ET 216 D



3pole

2 NO, 1 NC

6

1

ET 316 D



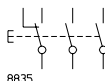
2pole

1 NO, 1 changeover

6

1

ET 216 E



3pole

2 NO, 1 changeover

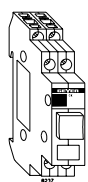
6

1

ET 316 E

Specification	Rated current I_N (A)	Module à 18 mm	Reference No.
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Push buttons with pilot lamps



8820

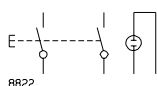
1pole

1 NO

6

1

ET 116 L



8822

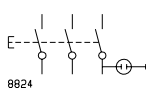
2pole

2 NO

6

1

ET 216 L



8824

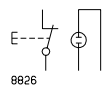
3pole

3 NO

6

1

ET 316 L



8826

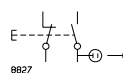
1pole

1 NC

6

1

ET 116 G



8827

2pole

1 NO, 1 NC

6

1

ET 216 H



8828








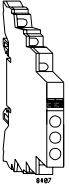
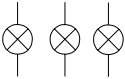
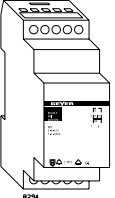

1pole

1 changeover

6

1

ET 116 K

		Specification	Module à 18 mm	Reference No.
	    	Pilot lamps	1	EL 102 H
		transparent	1	EL 102 G
		green	1	EL 102 R
		red	1	EL 102 A
		yellow	1	EL 102 B
		blue		
		Lens for pilot lamps		43 182
	transparent			43 183
	green			43 184
	red			46 484
	yellow			46 485
	blue			
		Signallamp with 3 glow lamps		
		transparent	0,5	EL 302 H
		Bell transformer		
		$U_{\text{primary}}: 230 \text{ V} \sim / 50 \text{ Hz}$ $U_{\text{secondary}}: 4 / 8 / 12 \text{ V} \sim$ $I_N: 1 / 1 / 0,67 \text{ A}$	2	EK 002 A

Impulse Relays



■ Impulse Relays are used for remote switching of electrical circuits by an impulse. These modular devices are designed for DIN-rail mounting (DIN EN 50022). They could also be hand operated and have position indication.

Specification:

Shock protection acc. to DIN VDE 0106, part 100.
 DIN-rail mounting acc. to DIN EN 50022.

Application:

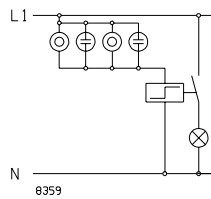
The device may be remotely operated by an impulse; when a pulse is applied to the coil the relay will latch. The contacts will then remain in this state until another pulse is applied to the same coil.

Advantages:

- Hand setting push button for manual switching
- Indication of the switch position of each contact

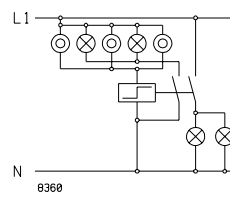
Wiring diagrams:

ER 116 FE



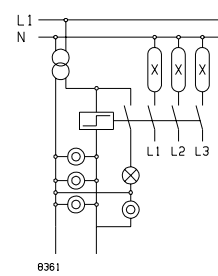
Controlling of the impulse relay with optional parallel connected push buttons. Glow lamp current max. 5mA

ER 216 FE



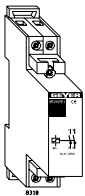




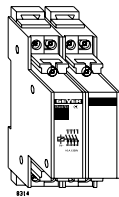
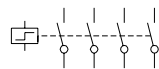
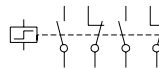
Controlling of the impulse relay with optional parallel connected push buttons. Back signal of the switch position "on".

ER 416 FE



3 phase switching of fluorescent lamps (parallel compensated until 250µF) by low tension current push buttons. Back signal of the switch position to the switching station.

Impulse Relays

		Specification	Rated current I_N (A)	Coil voltage (V) 50 Hz	Module à 18 mm	Reference No.	
	 8883	1pole	1 NO	16 16	8 230	1 1	ER 116 FE 1 ER 116 FE 9
	 8884	2pole	2 NO	16 16	8 230	1 1	ER 216 FE 1 ER 216 FE 9
	 8886	2pole	1 NO, 1 NC	16 16	8 230	1 1	ER 216 FW 1 ER 216 FW 9
	 8887	2pole	1 NO + 1 NO	16 16	8 230	1 1	ER 216 FS 1 ER 216 FS 9
	 8885	4pole	4 NO	16 16	8 230	2 2	ER 416 FE 1 ER 416 FE 9
	 8888	4pole	2 NO, 2 NC	16 16	8 230	2 2	ER 416 FW 1 ER 416 FW 9

Contactors





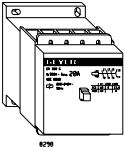
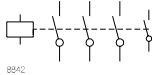
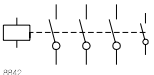

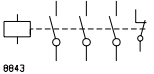
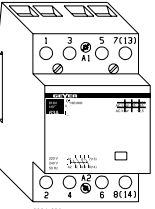
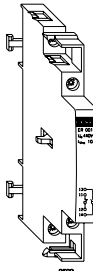
■ Contactors are used to switch loads up to 63A in a variety of applications e.g. heating loads, ballast lighting, air conditioning etc.

Specification:

Contact safety device acc. to DIN VDE 0106,
part 100.
DIN rail mounting acc. to DIN EN 50022.

Applications:

- Control of lighting circuits in commercial premises when the contactors are mounted in the service centre whilst the actuating switches or push buttons are sited adjacent to entrance and exits
- Upgrading the switch capacity of programmers, timers etc. in cyclic control systems
- Providing not only an improved switching capacity but also the facility to manually override the programmed cycle in domestic or commercial building heating systems
- Control of machinery from push button actuators
- Switching of motors
- Remote control of electrical equipment
- Control of electrical storage heating

		Specification	Rated current I_N (A)	Coil voltage (V) 50 Hz	Power of the heating element AC1 (kW/V)	Rated power AC3 of the motor (kW/400V)	Module à 18 mm	Reference no.
		noiseless when switching hum-free main contacts: 2 NO	20 20	220-240 24	4,6/230 4,6/230	- -	1 1	ER 220 ER 220 A
		noiseless when switching hum-free sealable main contacts: 3 NO auxiliary contacts: 1 NO	20	220-240	13,8/400	4	2,5	ER 320 G
		noiseless when switching sealable main contacts: 3 NO auxiliary contacts: 1 NO	25	220-240	17/400	4	2,5	ER 325
		noiseless when switching sealable main contacts: 3 NO auxiliary contacts: 1 NO	40	220-240	27,5/400	12,5	3	ER 340
		noiseless when switching sealable main contacts: 3 NO auxiliary contacts: 1 NC	40	220-240	27,5/400	12,5	3	ER 340 A
		noiseless when switching sealable main contacts: 3 NO auxiliary contacts: 1 NO	63	220-240	43/400	12,5	3	ER 363
		Auxiliary contact for contactors ER 325, ER 340, ER 363 2pole auxiliary contacts: 1 NC, 1 NO	10				0,5	ER 000

Timers

Electromechanical timers

Digital timers



■ Timers are used in a variety of applications including lightning, heating, air conditioning etc. to operate time settings.

Electromechanical Timers

Specification:

Contact safety device acc. to DIN VDE 0106, part 100.
DIN rail mounting acc. to DIN EN 50022.

ER 116 UM 2 and ER 116 UM 8 are with synchronous drive mechanism ER 116 UM 1 and ER 116 UM 7 are with quartz mechanism and spring reserve up to 150 hours. Switch for permanently "on".

Advantages:

- 36 mm width
- sealable transparent cover

Digital Timers

Specification:

Contact safety device acc. to DIN VDE 0106, Teil 100.
DIN rail mounting acc. to DIN EN 50022.

7 day programming cycle day grouping or daily programming one and two channel.

Advantages:

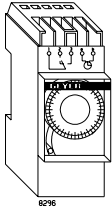
- 36 mm width
- sealable transparent cover
- manual switching on or off without changing the programme
- simple programming

Typical applications:

control of heating systems
control of exterior lighting
control of any process repeated on a daily or weekly basis

Specification	Rated current I_N (A)	Coil voltage (V) 50 Hz	Module à 18 mm	Reference no.
---------------	----------------------------	---------------------------	-------------------	---------------

Electromechanical timers



1 channel without reserve

16 230 2 **ER 116 UM 2**
16 230 2 **ER 116 UM 8**

day disc 1 changeover
week disc 1 changeover



1 channel with reserve

16 230 2 **ER 116 UM 1**
16 230 2 **ER 116 UM 7**

day disc 1 changeover
week disc 1 changeover

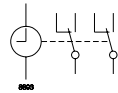
Digital timers



1 channel with reserve

16 230 2 **ER 116 UD 7**

1 changeover



2 channels with reserve

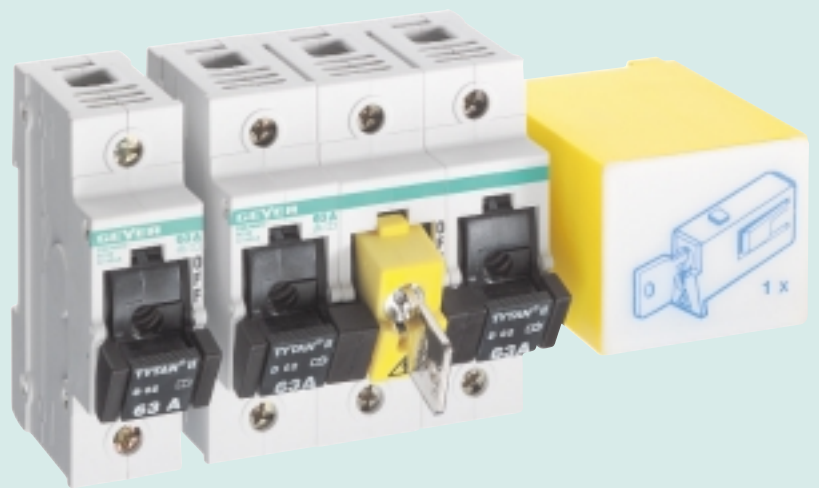
10 230 2 **ER 210 UD 7**

2 changeover

Load Switches

Neozed load switches

DIn rail mounting HRC fuse carriers



■ Load switches are used in installations to ensure high safety and reliability from the NEOZED fuses. Features include safe and convenient fuse removal / replacement. A additional safety feature is the key locking facility (accessory) which allows a safe working at the circuit.

Specification:

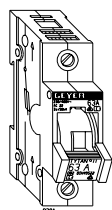
Contact safety device acc. to DIN VDE 0106,
part 100.
DIN rail mounting acc. to DIN EN 50022.

Description:

- The fuses are interchangeable
from 2 - 63 A
- Terminals are suitable for cables up to
35 mm²
- AC 22
- Interrupting capacity 50 kA eff.

Specification	Rated current I _N (A)	Module a 18 mm	Reference no.
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Neozed load switches with fuse plug 63 A and adapter

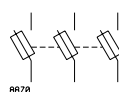
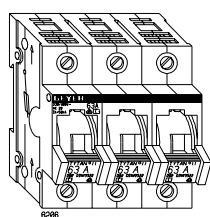


1pole

63

1,5

EP 163

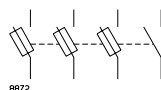


3pole

63

4,5

EP 363



3pole + neutral

63

6

EP 363 N

Fuse Sockets

Neozed fuse sockets
Diazed fuse sockets



■ Fuse sockets are for use in distribution boards to protect incoming and outgoing circuits.

They could be fitted on a DIN-rail (DIN EN 50022) and fit into a 45mm MCB slot.



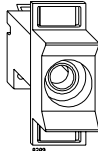







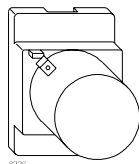







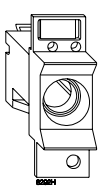









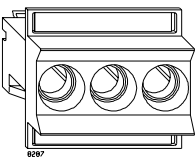



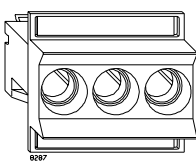



R 429

Advantage:

The neozed fuse socket can be connected by a busbar with miniature circuit breakers or residual current devices.

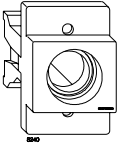







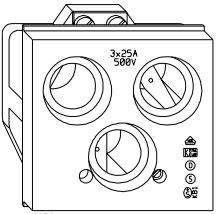


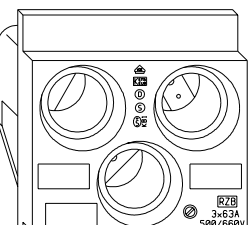



Specification	Module à 18 mm	Reference No.
---------------	----------------	---------------

Neozed fuse sockets

		incoming terminal	outgoing terminal			
				D01	1 x 16 A	1,5 EN 116
				D01	1 x 16 A	1,5 EN 116 A
				D01	1 x 16 A	3 EN 116 P
				D02	1 x 63 A	1,5 EN 163
				D02	1 x 63 A	1,5 EN 163 A
				D03	1 x 100 A	2,5 EN 100
				D03	1 x 100 A	2,5 EN 100 B
				D01	3 x 16 A	4,5 EN 316
				D02	3 x 63 A	4,5 EN 363

Specification	Module à 18 mm	Reference No.
---------------	----------------	---------------

Diazed fuse sockets

		incoming terminal	outgoing terminal				
				DII	1 x 25 A	2,5	ED 125
				DII	1 x 25 A	3	ED 125 P
				DIII	1 x 63 A	3	ED 163
				DIII	1 x 63 A	3	ED 163 C
				DII	3 x 25 A	5,5	ED 325
				DIII	3 x 63 A	6,5	ED 363

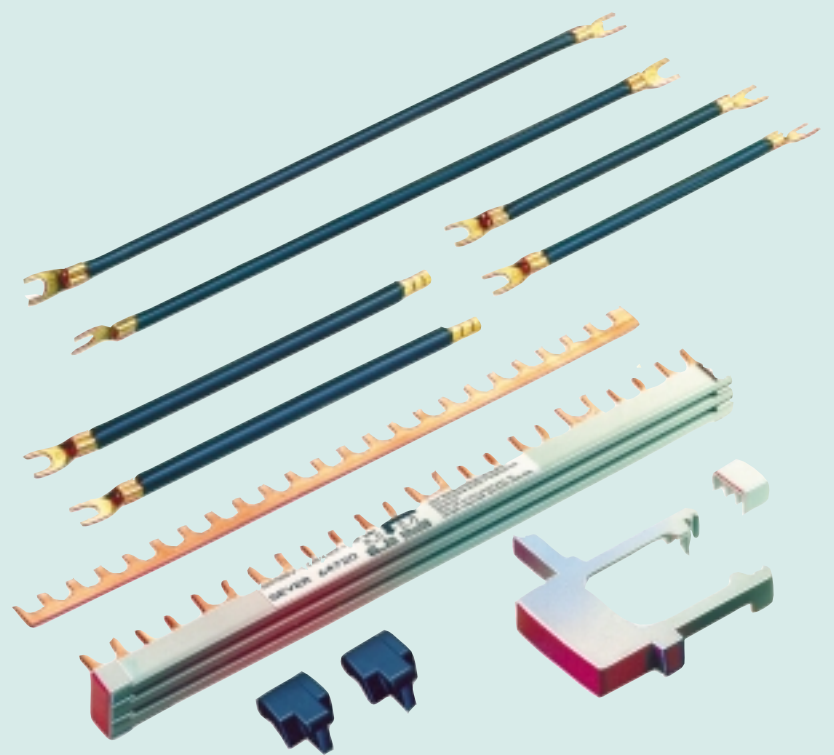
Accessories

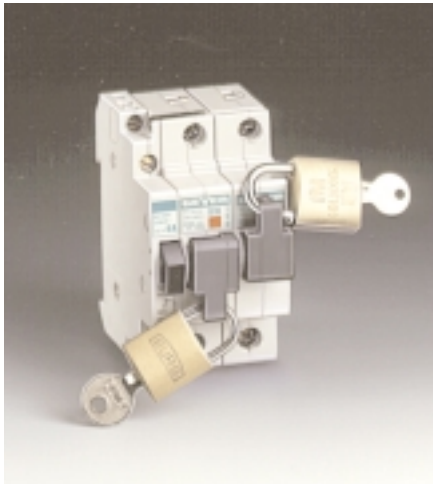
Connection cables

Busbars

Locking device

Blank piece





R 430

Locking device

Application:

- Locking against undesirable switch on during maintenance works
- Locking with remark for "putting into operation"
- Prevention of undesirable manual switch off, for instance in alarm devices, air-conditioning plants, data processing units etc.
- Suitable for a diameter of the padlock of max. 4,5 mm


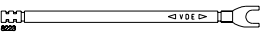
Blank piece

Application:



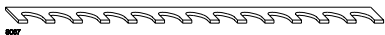
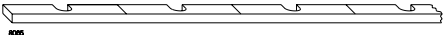

- To avoid any heat build up when using protection and switching devices, for instance when two pairs of permanently energised contactors are mounted adjacent to each other a ventilation module must be included between each pair
- To fill up blank panels

Specification	Length mm	Reference No.
---------------	--------------	---------------


Connection cables

	type of cable: H07V-K blank with sleeves	118	59875
		225	59876
	6 mm ²	128	59871
	6 mm ²	235	59872
	10 mm ²	135	59957
	10 mm ²		

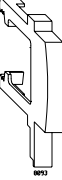
Busbars

	three phase busbars, suitable for miniature circuit breakers		
	10 mm ² for 3 x 4 miniature circuit breakers	210	64720
	10 mm ² for 3 x19 miniature circuit breakers	1010	64721
	16 mm ² for 3 x 4 miniature circuit breakers	210	64722
	16 mm ² for 3 x19 miniature circuit breakers	1010	64723
	endcap for three phase busbars		43667
	busbar for miniature circuit breakers and neozed fuse sockets 9 mm distance (12 x 1 mm)		
	suitable for 12 module à 18 mm	220	52881
	suitable to cut as required length	1000	52882
	busbars for diazed fuse sockets		
	44 mm distance (12 x 1 mm) without clamps for 22 fuse sockets diazed 25 A	1000	52877
	53 mm distance (12 x 1 mm) without clamps for 18 fuse sockets diazed 63 A	1000	52878
	terminal for busbar 4 -16 mm ²		83194

Locking device

	sealable and for padlock to fit on the miniature circuit breakers type EC		58350
---	--	--	--------------

Blank piece (Spacer)

	to modular devices depth 68 mm, width 9 mm		58250
---	---	--	--------------



TECHNICAL APPENDIX

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TO HELP YOUR DAY-TO-DAY BUSINESS.

We combine your energies

TECHNICAL APPENDIX

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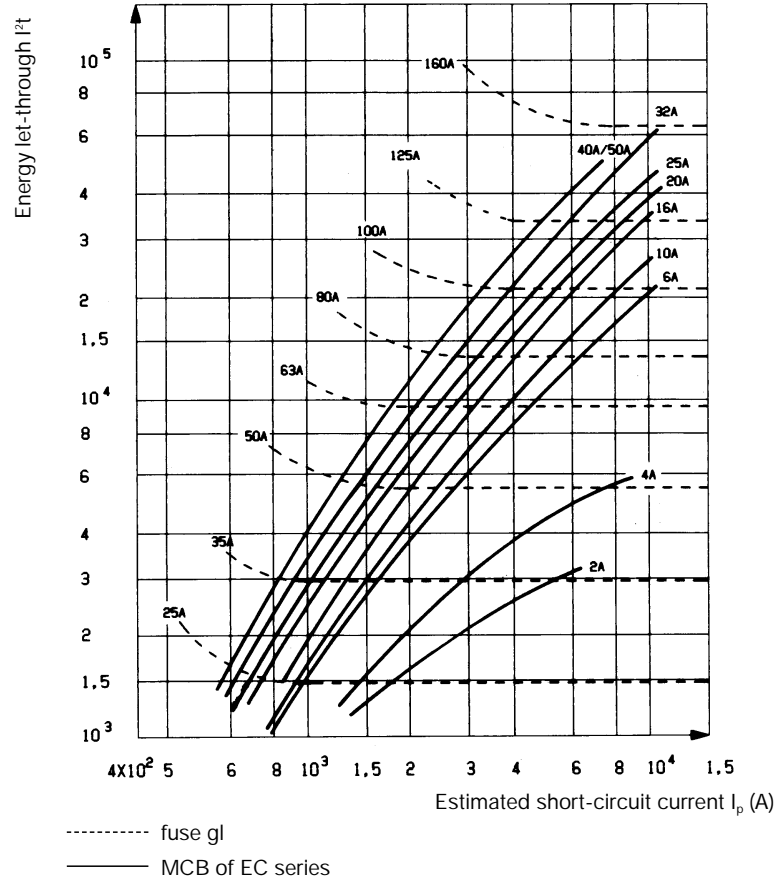
Technical specification of
REINFORCED POLYESTER (SMC SHEET MOULDING COMPOUND)
 according to DIN 16913
 self extinguishing, hot pressed

SMC	Dimensions	831.5	testing methods acc. to DIN
Density	g/cm ³	approx. 1,5	53479
Bending strength	kp/cm ²	1600–1800	53452
Tensile strength	kp/cm ²	600– 900	53455
Impact strength	cmkp/cm ²	70– 90	53453
Notch impact strength	cmkp/cm ²	60– 80	53453
E-Module	kp/cm ²	11–12 x 10 ⁴	53457
Compression strength	kp/cm ²	1500–2000	53454
Coefficient of linear expansion	10 ⁻⁶ /grd	≈ 20	
Surface resistance		5 x 10 ¹³	53482
Dielectric strength	KV/mm	15–20	53481
Non-tracking	stage	KA 3c	53480
Specific continuity resistance	Ω x cm	10 ¹³	53482
Dielectric loss factor 800 Hz	tang δ	0,02	53483
Dielectric coefficient	E	4	53483
Arc strength	stage	L1	53484
Water absorption	mg/4d	70	53472
Glow strength	quality grade	3	53458
Shape stability in the heat acc. to Martens	°C	> 200	53458
Fire test		self-extinguishing	ASTM D-635
Shrinking	percent	0,2–0,25	53464

Miniature Circuit Breaker

Norms	DIN VDE 0641, part 11; BS EN 60898, IEC 898		
Number of poles	1, 2, 3, 1+N and 3+N		
Characteristics	B, C and D		
Rated current	1, 2, 4, 6, 10, 13, 16, 20, 25, 32, 40, 50 and 63A		
Rated voltage	single pole	230/400 V AC,	48 V DC (characteristic B) 60 V DC (characteristic C)
	multi-pole	400 V AC	48 V DC (characteristic B) 60 V DC (characteristic C)
Rated frequency	50 ... 60 HZ		
Maximum service voltage	440 V AC		
Minimum service voltage	12 V DC / 12 V AC		
Breaking	10 kA at 6 - 50 A, characteristic B 10 kA at 6 - 32 A, characteristic C 6 kA at all other rated currents 4,5 kA at 63 A		
Energy let through classification	3		
Dimensions	according to DIN 43880, physical size 1		
Terminals	incoming	clamp for single and multistranded cables up to 25 mm ² and busbar connection suitable for a maximum of a 3 mm busbar	
	outgoing	clamp for single and multistranded cables up to 16 mm ² (UK 25mm ²)	
Protection against finger touch	according to VDE 0106, part 100		
Endurance at rated values	20.000 switching operations < 32 A 10.000 switching operations ≥ 32 A		
Mechanical endurance	20.000 operations		
Storage temperatur	-40° up to 70° Celsius		
Operating temperature	-25° up to 55° Celsius (at average of day ≤ 35° C)		
Ingress protection grade	IP 20 (with cover: IP 40)		
Mountig position	any position possible		
Fixing	to snap on a rail according to DIN EN 50 022 - 35 x 7,5		
Auxiliary contact	- rated voltage	250 V AC	
	- rated current	6 A	
	- short circuit proof	250 V AC, 1000 A	
	- contacts	1 NC, 1 OC	
	- terminals	1,5 ... 6 mm ²	

I²t characteristic curve



The resistance and power loss of MCBs of EC series

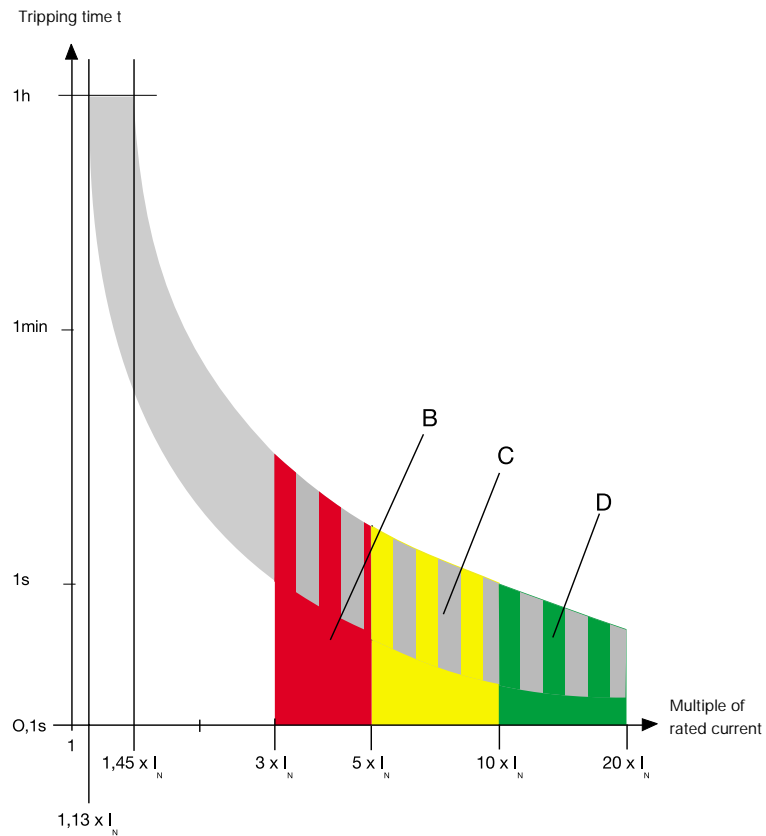
Both the resistance and the power loss is the mean values of each pole.
 Power loss is calculated on the basis of the voltage drop across the main terminals measured at rated current I_N.

Rated current of MCB I _N (A)	B characteristic		C characteristic		Charakteristik D	
	R _i (mΩ)	P _v (W)	R _i (mΩ)	P _v (W)	R _i (mΩ)	P _v (W)
1	1600	1,6	1600	1,6	1600	1,6
2	420	1,7	420	1,7	420	1,7
4	98	1,6	98	1,6	98	1,6
..6	34,5	1,3	17,7	0,7	15,4	0,6
10	13,7	1,37	13,7	1,37	11,6	1,16
13	11,7	1,0	11,7	2,0	9,2	1,55
16	9,25	2,4	9,28	2,4	8,2	2,1
20	6,9	2,76	6,9	2,76	6,4	2,6
25	5,6	3,5	4,7	2,95	4,7	3,0
32	3,4	3,5	3,4	3,5	3,1	3,2
40	2,7	4,4	2,7	4,4		
50	1,95	4,9	1,8	4,5		
10**	28	2,8				

EC 110 BK 2

Miniature Circuit Breaker

Tripping curve:



Release limits

Thermal release at 30°C		
min. testing current	Tripping characteristic B, C, D	
$1,13 \times I_N$	$\geq 1h$	
$1,45 \times I_N$	$< 1h$	
$2,55 \times I_N$	$I_N \leq 32A$	$1s < t < 60s$
	$I_N > 32A$	$1s < t < 120s$

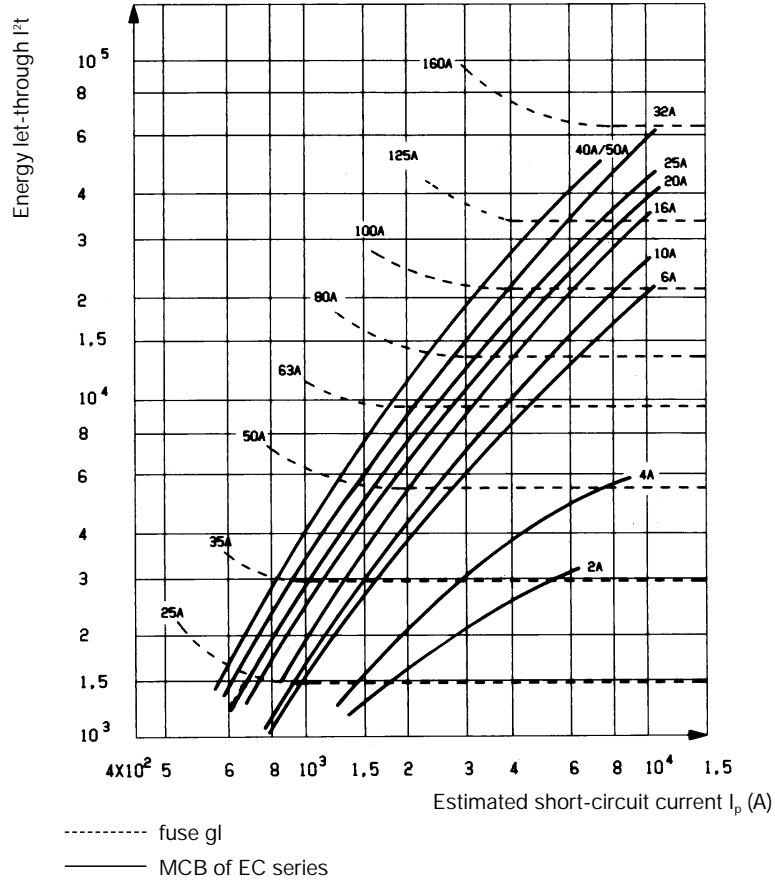
Magnetic Release			
min. testing current	Tripping characteristic		
	B	C	D
$3 \times I_N$	$\geq 0,1s$		
$5 \times I_N$	$< 0,1s$	$\geq 0,1s$	
$10 \times I_N$		$< 0,1s$	$\geq 0,1s$
$20 \times I_N$			$< 0,1s$

The influence of frequency on magnetic tripping characteristic

Frequency (Hz)	100	200	400	DC
Coefficient	1,1	1,2	1,5	1,5

Table 2

A²s characteristic curve



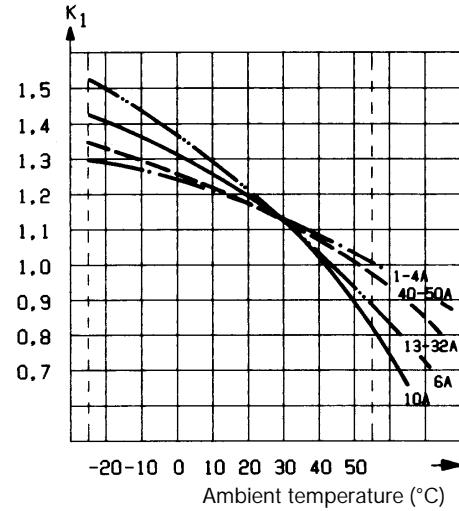
The resistance and power loss of MCBs of EC series

Both the resistance and the power loss is the mean values of each pole.
 Power loss is calculated on the basis of the voltage drop across the main terminals measured at rated current I_N .

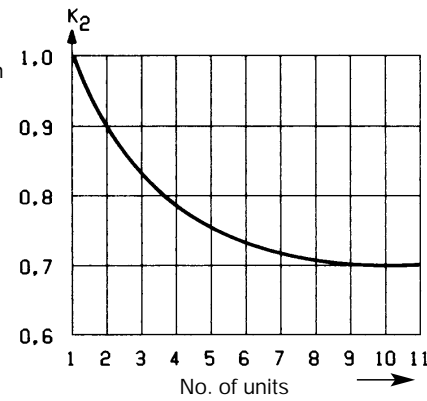
Rated current of MCB I_N (A)	B characteristic		C characteristic		Charakteristik D	
	R_i (mΩ)	P_v (W)	R_i (mΩ)	P_v (W)	R_i (mΩ)	P_v (W)
1	1600	1,6	1600	1,6	1600	1,6
2	420	1,7	420	1,7	420	1,7
4	98	1,6	98	1,6	98	1,6
..6	34,5	1,3	17,7	0,7	15,4	0,6
10	13,7	1,37	13,7	1,37	11,6	1,16
13	11,7	1,0	11,7	2,0	9,2	1,55
16	9,25	2,4	9,28	2,4	8,2	2,1
20	6,9	2,76	6,9	2,76	6,4	2,6
25	5,6	3,5	4,7	2,95	4,7	3,0
32	3,4	3,5	3,4	3,5	3,1	3,2
40	2,7	4,4	2,7	4,4		
50	1,95	4,9	1,8	4,5		
10**	28	2,8				

EC 110 BK 2

Maximum permissible persistent current: The curve of correction factor with the influence of the ambient temperature (standard operating temperature 30°C)



The curve of correction factors influenced by parallel installation



Calculation formula: $I_D = K_1 \times K_2 \times I_N$

For example: with the ambient temperature being 50°C, four Miniature Circuit Breakers, their rated current is 10A, were side by side mounted with no interval.

The calculation is as follows: $K_1 = 0,89$
 $K_2 = 0,78$
 $I_D = K_1 \times K_2 \times I_N$
 $= 0,89 \times 0,78 \times 10 \text{ A}$
 $= 6,94 \text{ A}$

The acceptable fuse with maximum rated current:

Depending on the position of the MCB in a supply system the maximum prospective current may be unknown or greater than the rated breaking capacity. A further protection arrangement must be connected in series as back-up protection against demands that exceed the MCBs capacity. Normally a fuse is used. The rated current of the fuse should not be greater than the value in the table. (the table is suitable for the B, C tripping characteristics)

Rated current of the MCB I_N (A)	Rated current of the fuse I_N (A)
1	25
2	35
4	50
6	80
10 - 50	100

Selection table:

The short-circuit current in the following table is in kA. Within this amount of current, the Miniature Circuit Breakers disconnect the circuit earlier than the fuse connected with it in series. The fuse with its permissible current below the green scope can only be used if the short-circuit current through the Miniature Circuit Breaker doesn't exceed the value in the table.

	Rated current of the fuse												
	6	10	16	20	25	35	50	63	80	100	125	160	
B characteristic	1	0,1	0,25	1,1	4,5	6	6	6	6	6	6	6	6
	2		0,25	0,5	0,75	2,5	4,5	6	6	6	6	6	6
	4				0,5	1,4	2,6	5,0	6	6	6	6	6
	6				0,5	1,2	2,2	3,8	5,5	7,5	10	10	10
	10					0,8	1,3	3,2	4,0	5,8	10	10	10
	13					0,8	1,2	1,9	3,5	5,2	8,8	10	10
	16						1,3	1,8	3,0	4,2	8,5	10	10
	20						1,1	1,6	2,5	3,5	6,5	10	10
	25							1,4	2,4	3,1	5,8	10	10
	32							1,3	2,0	2,8	5,0	7,0	10
	40								1,8	2,5	4,0	6,5	10
	50									2,3	3,5	6,2	10
	C characteristic	1	0,1	0,25	0,8	4,2	6	6	6	6	6	6	6
2			0,2	0,4	0,75	2,2	4,2	6	6	6	6	6	6
4				0,3	0,5	1,1	2,0	4,1	6	6	6	6	6
6						0,5	1,6	2,8	5,0	7,0	10	10	10
10							1,3	2,0	3,8	5,2	10	10	10
13							1,3	1,8	3,2	4,6	8,5	10	10
16								1,5	2,8	4,0	7,8	10	10
20									2,2	3,1	5,0	7,0	10
25										2,5	4,5	7,0	10
32										2,4	4,0	6,8	10
40											3,0	4,8	6
50												4,8	6

Maximum permissible ground impedance for the fault loop (Z_S):

According to VDE 0100, 410, when the voltage to earth U_0 is 230V, to comply with disconnection conditions, the ground impedance for the fault loop Z_S should not exceed the values in the following table

Rated current of the MCB I_N (A)	Maximum ground impedance B characteristic Z_S (Ω)		Maximum ground impedance C characteristic Z_S (Ω)	
	$t_a < 0,2s$	$t_a < 5s$	$t_a < 0,2s$	$t_a < 5s$
1	45,0	45,0	22,5	28,5
2	22,0	22,0	11,4	14,0
4	11,0	11,2	5,7	7,0
6	7,6	7,6	3,8	4,7
10	4,5	4,5	2,2	2,8
13	3,4	3,4	1,7	2,2
16	2,8	2,8	1,4	1,7
20	2,2	2,2	1,1	1,4
25	1,8	1,8	0,9	1,1
32	1,4	1,4	0,7	0,85
40	1,1	1,1	0,5	0,7
50	0,9	0,9	0,4	0,5

U_0 refers to the rated voltage to the grounding circuit.

In the case of the voltage to earth except 230 V, then: $Z_S' \leq Z_S \times U_0 + 230 \text{ V}$

For example, if $U_0 = 127 \text{ V}$, then:

$$Z_S' \leq Z_S \times 127 \text{ V} + 230 \text{ V}$$

$$Z_S' \leq Z_S \times 0,55$$

Miniature Circuit Breakers

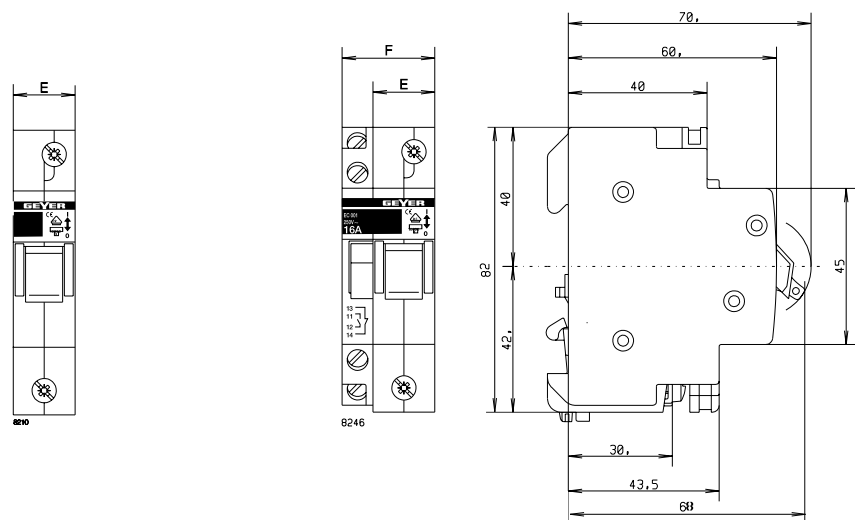
Dimensions:

MCB s	Dimension E (mm)	Dimension F (mm)
1-pole	17,8	26,7
1-pole + N	35,5	44,5
2-pole	35,5	44,5
3-pole	53,5	62,5
3-pole + N	71,5	80,5

B and C curve: 10-25 A

without auxiliary contact

with auxiliary contact



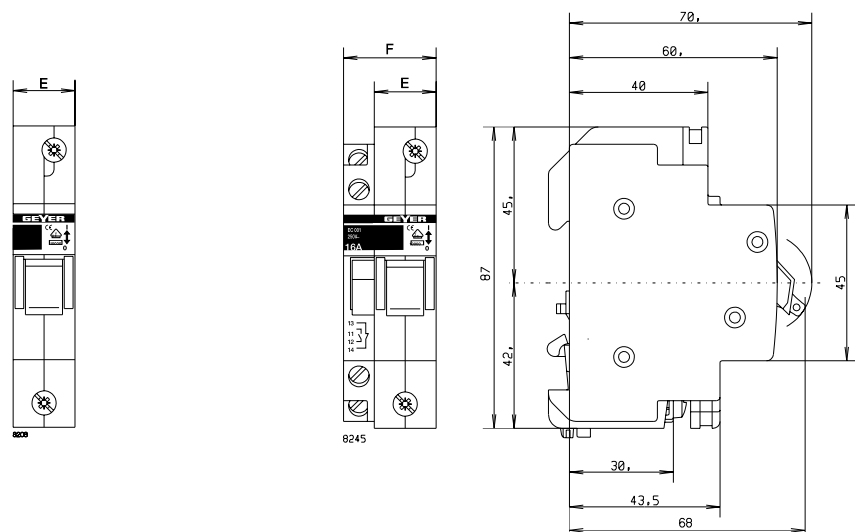
B and C curve: < 10 A oder > 25 A

D curve

all current ratings

without auxiliary contact

with auxiliary contact



Residual Current Circuit Breakers

1. Principle of Operation

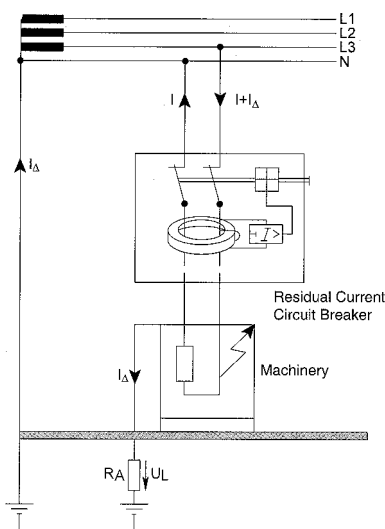
In the event of a short to earth the residual current operated system prevents shock-hazard voltages from remaining on the body of Safety Class 1 electrical equipment or machines. For this purpose, the residual current circuit breaker (RCCB) monitors the difference between the loads flowing through it and ensures that it is approximately zero. If, as a result of an earth fault, this difference exceeds the circuit breakers residual operating current rating $I_{\Delta n}$, then the RCCB will disconnect the faulty equipment.

1.1 Residual current protection in the event of indirect contact

In order to ensure immediate disconnection of the protected circuit in the event of an insulation fault involving body contact with machinery and equipment (protection against indirect contact), the maximum permissible contact voltage U_L of the body must be linked with a residual current which exceeds, or equals, the rated residual operating current $I_{\Delta n}$ of the RCCB. This is achieved by earthing the body with a sufficiently low earth resistance R_A :

$$\text{Earth resistance } R_A < \frac{\text{Contact voltage } U_L}{\text{Rated residual operating current } I_{\Delta n}}$$

The maximum values of R_A for 25 V and 50 V contact voltages are listed in the specification tables on page ____.



Fault Current Circuit with correct earth leakage protection circuit

1.2 Additional protection in the event of direct contact

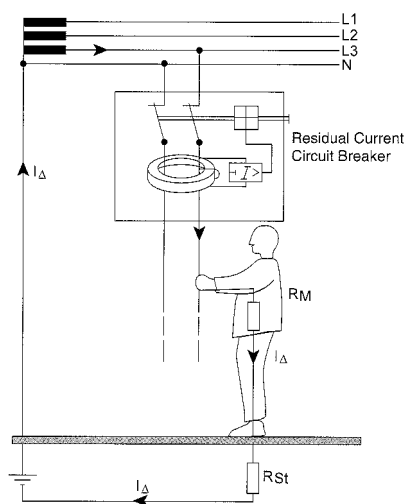
In order to provide additional protection in the event of direct contact with (unearthed) live components, extremely sensitive RCCBs with a rated residual operating current of 30 mA or less ($I_{\Delta n} < 30 \text{ mA}$) are employed in place of more conventional RCCBs with higher residual operating current ratings. This additional protection is necessary if

- the insulation of shockproof equipment or their leads is defective
- the earth wire is interrupted
- earth wire and live wire have been transposed accidentally thus rendering live the body of a Protection Class 1 device
- a component which is live in normal operation is touched during repairs.

In view of this increased range of protection, the VDE standards specify that either an RCCB, as per VDE 0664 Part 1, or an RCCB/MCB, as per VDE 0664 Part 2, with $I_{\Delta n} \leq 30 \text{ mA}$ must be provided when installing machinery or equipment in areas with particularly high accident risk. This applies for example to the following:

- socket outlet circuits in rooms with bath or shower (VDE 0100 Part 701)
- caravans, boats, yachts and their power supply on camping and berthing sites (VDE 0107 Part 721)
- rooms used for medical purposes

Since, in the event of direct contact, the residual current passes through the human body to earth, this additional protection should under no circumstances be regarded as a basic safety measure. It is merely an "emergency brake" in the above mentioned electrical fault situations.



Residual Current Circuit with direct contact

1.3 Fire protection

Even relatively insensitive RCCBs ($I_{\Delta n} \leq 300 \text{ mA}$) can effectively safeguard against fires caused by earth leakage faults. In the case of residual currents $\leq 300 \text{ mA}$, the electrical energy converted at the location of the earth fault is insufficient to ignite normal building materials. With higher residual currents the RCCB will shut down in less than 200 ms, thereby restricting the amount of energy released to harmless levels.


Residual Current Circuit Breakers

2. Technical Features and Instruction for Use

2.1 Independence from mains voltage

A genuine residual current circuit breaker takes the energy required for tripping exclusively from the earth residual current. It is thus still able to function if the mains voltage drops, or if the neutral wire is interrupted. Even a relatively long period of overvoltage caused by a fault in the mains will not destroy an RCCB or effect its operation. This high level of protection makes a residual current circuit breaker preferable to other mains voltage-dependent differential circuit breakers. For this reason DIN/VDE 0100, Part 410 stipulates that in Germany - but this applies to many other European countries too - only residual current circuit breakers i.e. devices independent of mains voltage, may be used to provide the basic protection of a residual current protection circuit.


2.2 Ambient temperature range


The normal ambient temperature range for RCCBs is specified as -5°C to +40°C in almost all international standards. The majority of our switches are designed for a wider range of -25°C to +40°C. This feature is indicated by the  symbol on their nameplate. If these RCCBs are to operate at temperatures below -5°C, they are permitted by the German standard and by the drafts for an IEC Standard to have a 25% higher tripping current for such devices. The earth resistance must therefore be reduced to 80% compared to normal use.

2.3 Tripping behaviour at different frequencies

Since the RCCB basically functions on the induction principle, both the time curve and the frequency of the residual current effect the tripping threshold and tripping time. Dependent upon the nature of the transformer's secondary circuit, the permissible frequency range is 16–60 Hz or 50–60 Hz. Please consult the technical specification tables. Special models for frequencies up to 400 Hz are available upon request for certain types or RCCBs.

2.4 Short circuit resistance 63-10000

RCCBs must be protected against short circuits and, if there is a potential risk, against overloading by means of suitable protective provisions. The specification tables show the prospective short circuit current in conjunction with the maximum permissible back-up fuse (acc. to VDE 0636 utilization category gL). On the nameplate of the RCCB the symbol  e.g. indicates that the switch will withstand a prospective short circuit of 10.000 A when used in conjunction with a 63 A back-up fuse.

Our RCCBs up to a rated current of 63 A are sufficiently protected by a 63 A back-up fuse. In most cases the service fuse will already guarantee adequate short-circuit protection. According to VDE 0664 it is not necessary in such cases to specify the current rating of the back-up fuse so that e.g. the simplified symbol  is sufficient.

2.5 AD-DC Sensitivity

The ever increasing use of rectifiers, particularly in the mining industry, requires safety measures against fault currents which will also safely detect and respond to AC residual currents with a frequency of \neq 50 Hz to smooth DC residual currents. This so-called universal sensitivity can only be achieved with auxiliary voltage-dependent circuit breakers, i.e. "DI" devices. VDE 0100 Part 510, specifies that any equipment likely to emit smooth DC residual currents may only be used outside house installations and, according to VDE 0664, it may not be operated downstream of "normal" RCCBs to which other circuits are connected. In the event of a residual DC current arising, the RCCB's operation could be impaired and it might not even trip if a residual current occurs simultaneously at another electrical equipment. In order to be able to ensure selective protection against direct and indirect contact, professional bodies are increasingly demanding that AC-DC sensitive devices be employed. Our devices are designed and constructed to IEC 1008 with undervoltage tripping. They will respond to residual currents from smooth DC residual currents to 400 Hz AV and pulsating currents and provide extremely high operational reliability.

Residual Current Circuit Breakers

3. Installation instructs

3.1 Mounting

The positioning of our RCCBs and the direction of current feed are optionals. 4-pole equipment may also be employed for 2- and 3-pole operation. However, attention should be paid to the voltage supply to the testing equipment. The RCCB is mounted on a support rail to DIN EN 50022. Protection level IP40, which is achieved by carefully covering the terminals, provides protection only against contact. Without an additional housing the RCCBs may therefore be used only in dry, dust-free rooms. For rooms subject to occasional dampness, or in particularly dirty locations, we recommend our Type A housing with IP54 protection.

3.2 Connecting up and testing

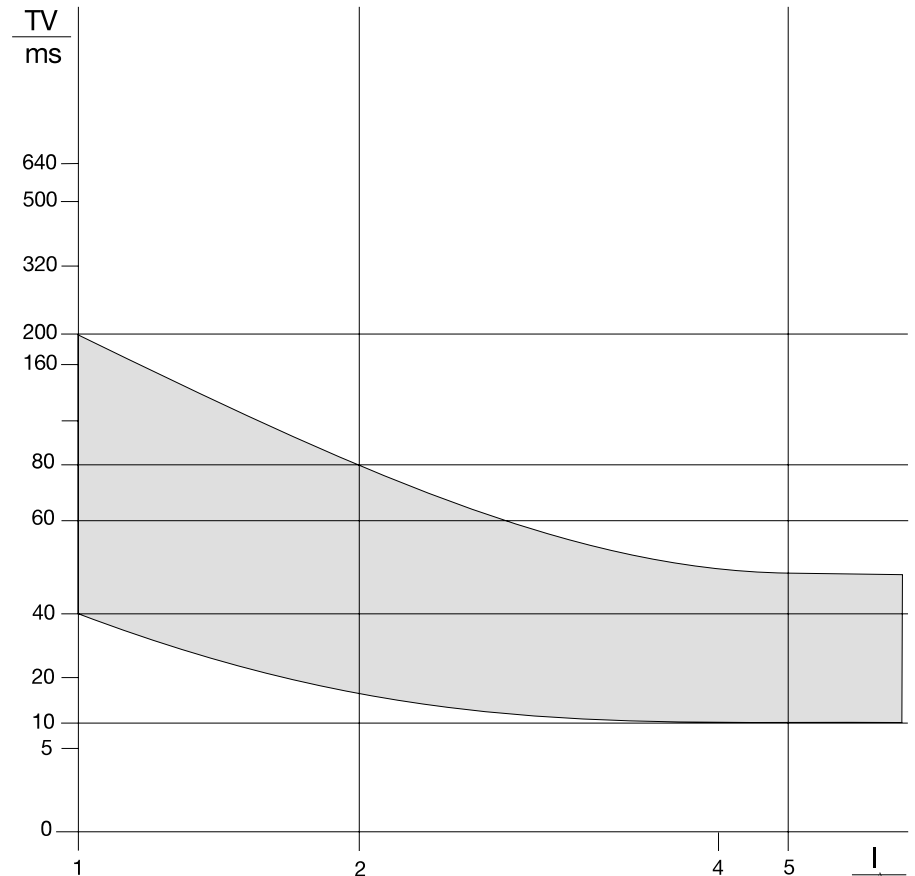
Pass all leads (incl. neutral) required for operating the equipment through the RCCB. Check all leads for proper insulation (use an insulation tester). Earth any equipment which is to be protected. If possible, do not use the neutral wire upstream of the RCCB as an earth conductor (dangerous if the neutral wire should break upstream of the RCCB, e.g. in overhead cable networks). Before putting into service, check that not only the RCCB, but also the entire protective circuit, is functioning correctly (measure the earth resistance and determine the maximum possible contact voltage for a residual current at the tripping limit of the RCCB).

4. "Made by GEYER" - Marks of Quality

- All metal parts of the latch are made from special NIRO stainless steel
- Plastic parts do not contain halogen
- All materials used are recyclable
- All electrical data are repeatedly checked in extensive final tests and, once assigned to the unit, permanently recorded.

5. Specification Sheets

The following specification sheets provide further information on the technical characteristics of our residual current circuit breakers without delay feature. The following diagram and tables give the total operating time and the maximum earth resistance. These data apply to all instantaneous RCCBs.



Tripping time T_V as a Function of the magnitude of the residual current $I_{\Delta n}$

T_U min.	- 5° C	- 5° C	- 5° C
Contact voltage U_L		25 V	50 V
Rated residual operating current	0,01 A	2500 Ω	5000 Ω
	0,03 A	830 Ω	1660 Ω
$I_{\Delta n}$	0,1 A	250 Ω	500 Ω
	0,3 A	83 Ω	166 Ω
	0,5 A	50 Ω	100 Ω

Max. permissible earth resistance R_A as a function of the rated residual operating current $I_{\Delta n}$ and contact voltage U_L at a minimum ambient temperature of - 5° C.

T_U min.	- 25° C	- 25° C
Contact voltage U_L		25 V
Rated residual operating current	0,01 A	2000 Ω
	0,03 A	660 Ω
$I_{\Delta n}$	0,1 A	200 Ω
	0,3 A	60 Ω
	0,5 A	40 Ω

Max. permissible earth resistance R_A as a function of the rated residual operating current $I_{\Delta n}$ and contact voltage U_L at a minimum ambient temperature of - 25° C.

Residual Current Circuitbreakers with overcurrent Protection RCBOs

Reference No.: EO 2 . VMC, EO 2 . SMC, EO 2 . EMC, EO 2 . DMC (from page _____)

Number of poles: 3P+N
4 modules

Rated voltage: 400 Vac~

Rated current: 6 - 10 - 16 - 20 - 25 - 32 - 40 - 50 - 63 A
(6 modules width)

Breaking capacity: 6 kA

Reference No.: EO 2 . VMC, EO 2 . SMC, EO 2 . EMC, EO 2 . DMC (from page _____)

Number of poles: 1P+N
2 modules

Rated voltage: 230 Vac~

Rated current: 6 - 10 - 16 - 20 - 25 - 32 - 40 - 50 A

Breaking capacity: 6 kA (IMQ tested)

I Δn: 0,03 - 0,1 - 0,3 - 0,5 A

Frequency: 50/60Hz

Instantaneous tripping: B . C

In compliance with: EN 61009-1

Fitting position: Free choice

Terminal capacity: max. 25 mm² / Busbar thickness max. 3 mm

Suitable for: DIN Rail 35 x 7,5, acc. to DIN EN 50022

Mechanical endurance: min. 20.000 switching operations

Storage temperature: -40 up to 65°C

Operating temperature: -25 up to 55°C (at a day average ≤ 35°C)

Protection degree: IP 20, with cover IP 40

Dimensions:

Power loss (w) per pole

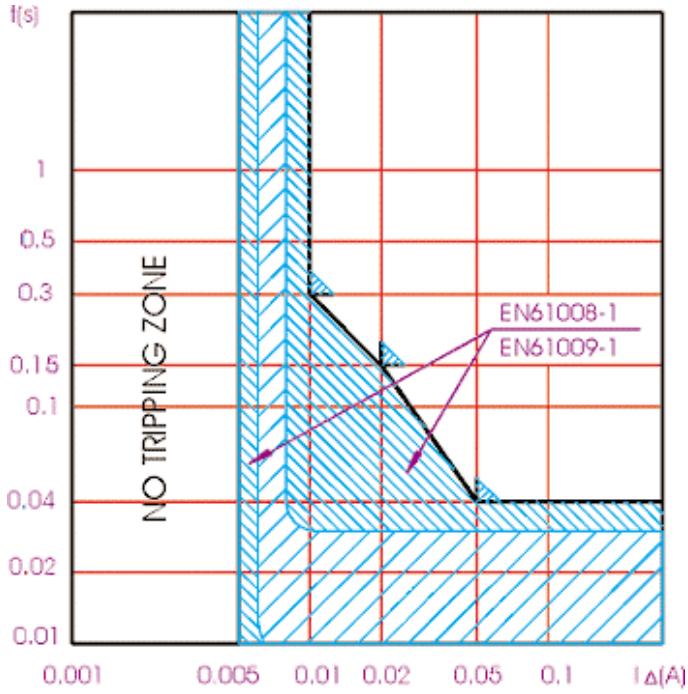
rated current (A)	power loss (W) phase pole	power loss (W) neutral pole
6	1,1	0,1
10	1,4	0,2
16	2,3	0,5
20	3,1	0,8
25	5,0	1,2
32	5,1	2,4
40	6,5	3,0
50	7,5	3,5

Derating of rated current according to ambient temperature

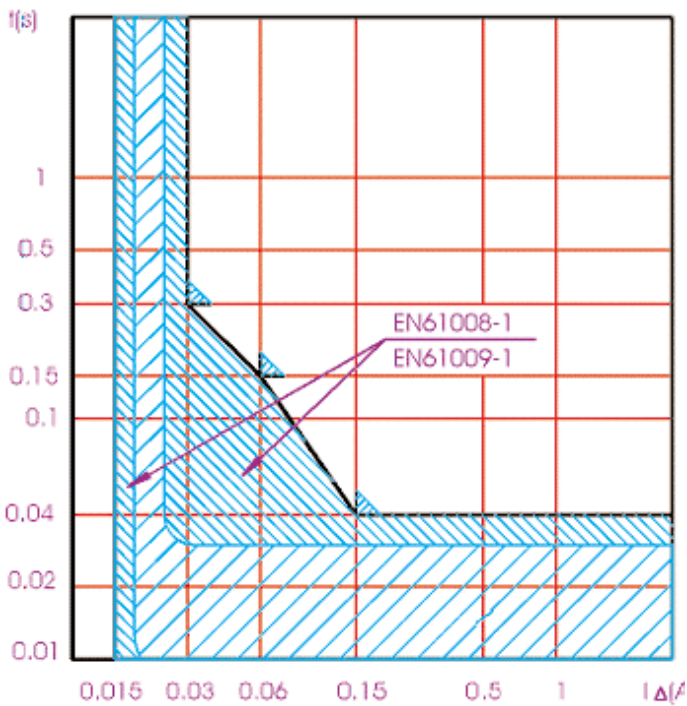
rated current (A)	rated current (A) at the following ambient temperature								
	AT 30°C	-25°C	-10°C	0°C	+10°C	+20°C	+30°C	+40°C	+50°C
6	6	7,5	7,3	7,0	6,7	6,4	6,0	5,6	5,0
10	10	12,7	12,2	11,7	11,2	10,6	10,0	9,3	8,3
16	16	20,3	19,4	18,7	17,9	17,0	16,0	14,8	13,3
20	20	25,6	24,2	23,3	22,3	21,2	20,0	18,1	16,5
25	25	32,0	30,2	29,0	27,7	26,4	25,0	23,0	20,6
32	32	41,6	39,3	37,6	35,8	33,9	32,0	29,4	26,3
40	40	51,9	49,0	46,9	44,7	42,4	40,0	37,0	32,8
50	50	65,5	61,7	59,0	56,1	53,1	50,0	46,0	40,8
63	63	83,1	78,6	75,0	71,2	67,2	63,0	58,1	51,2

Residual Current Circuitbreakers with overcurrent Protection RCBOs

Residual Current Characteristics - Tripping limits of EN Standards:
 EN 61009-1, Standards for RCBO's . EN 61008-1 for RCCB's

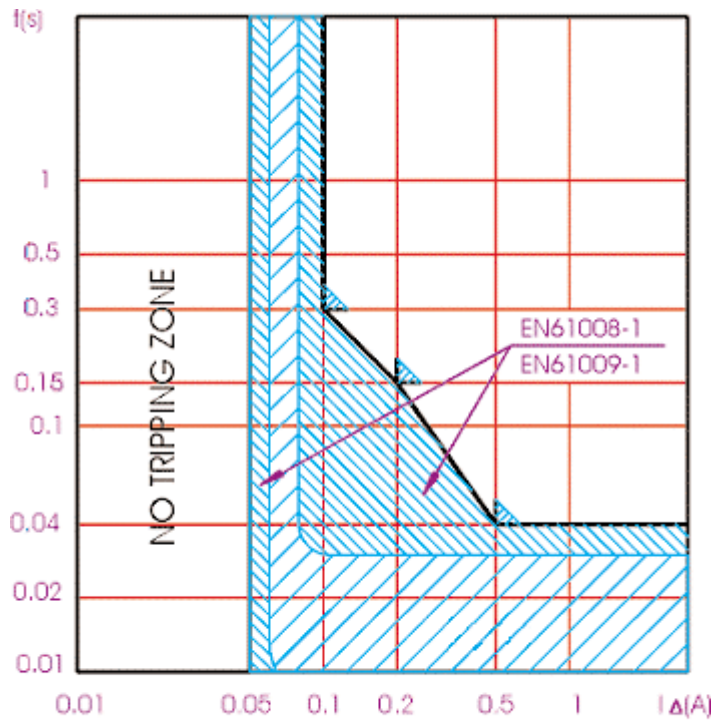


$I_{\Delta n} = 0.01A$

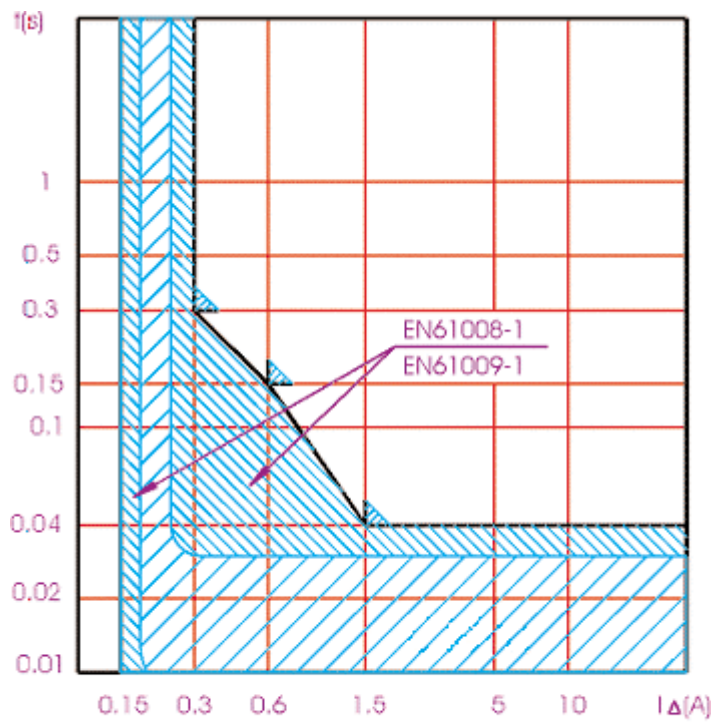


$I_{\Delta n} = 0.03A$

Residual Current Circuitbreakers with overcurrent Protection RCBOs

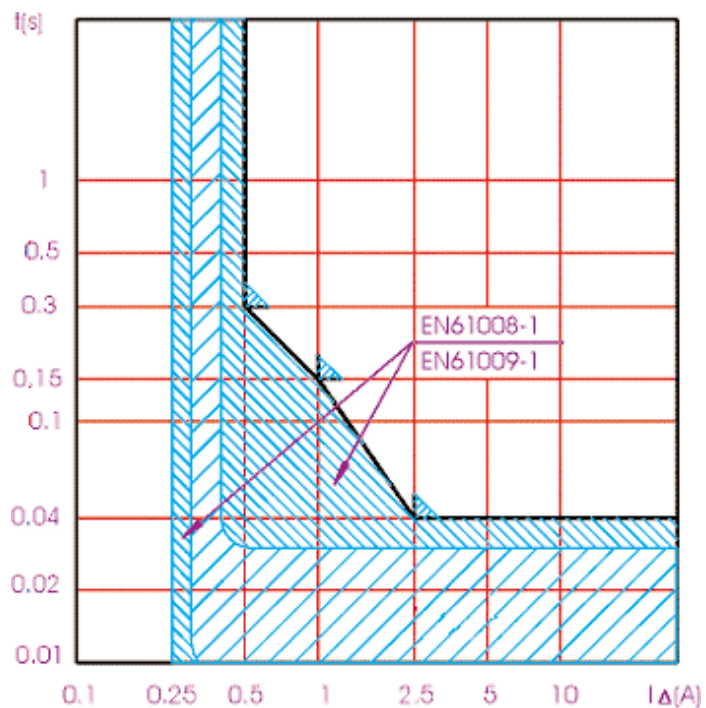


$I_{\Delta n} = 0.1A$



$I_{\Delta n} = 0.3A$

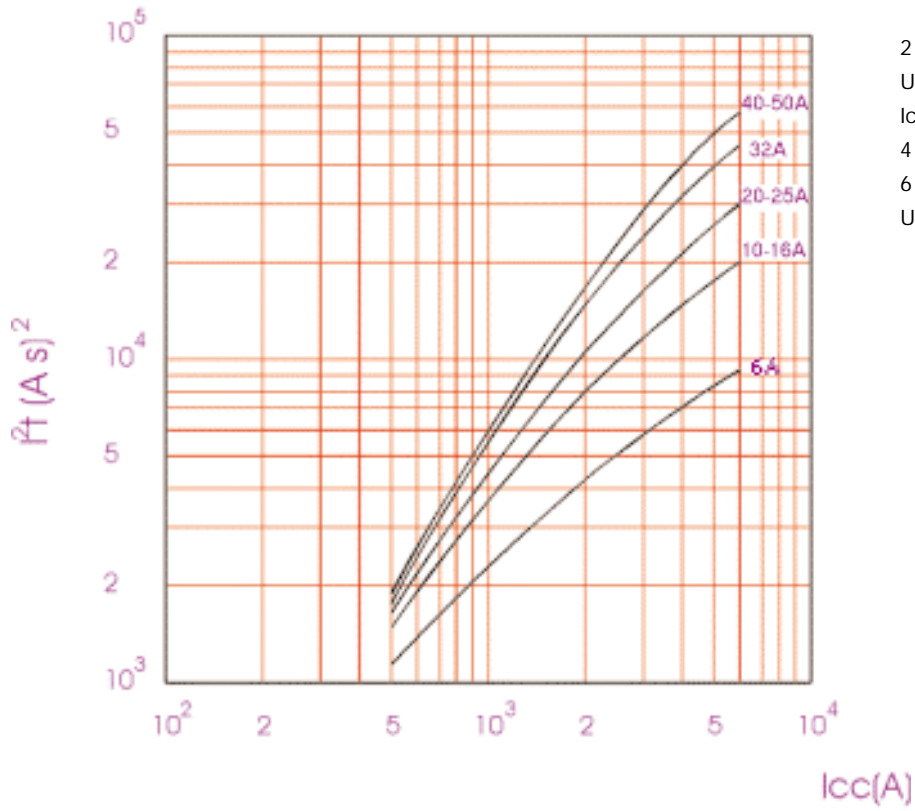
Residual Current Circuitbreakers with overcurrent Protection RCBOs



$I_{\Delta n} = 0.5A$

Residual Current Circuitbreakers with overcurrent Protection RCBOs

I^2t Characteristic



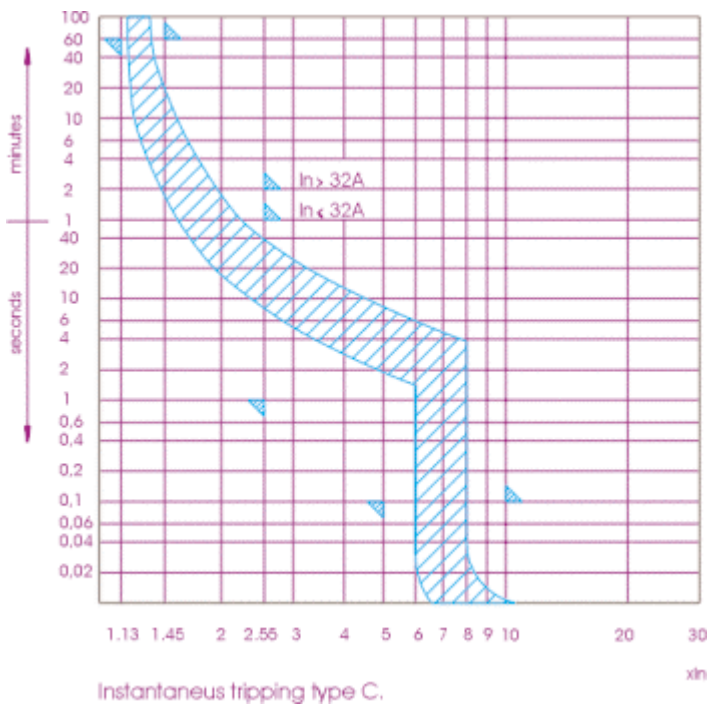
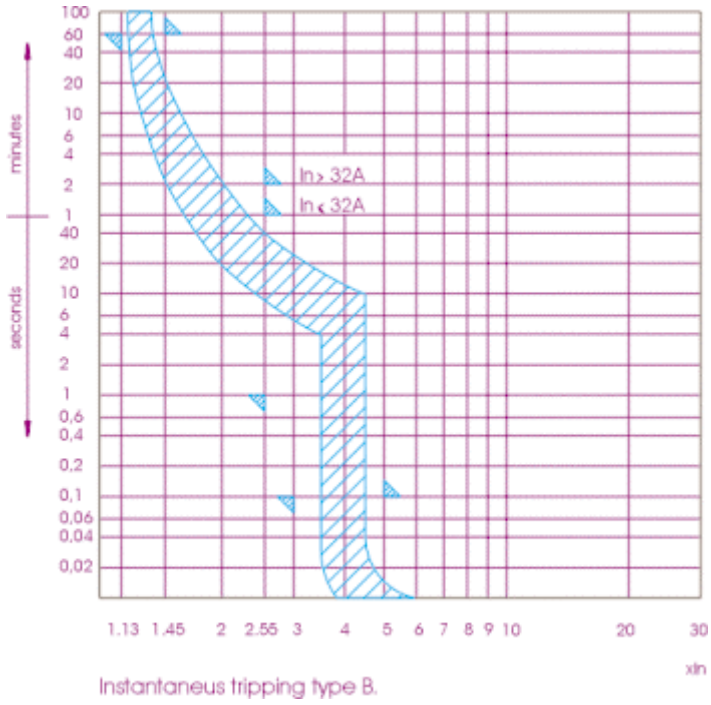
2 POLES (1P + N) 2 modules
 Un= 230V ~;
 Icn= 6000A (IMQ tested)
 4 POLES (3P + N) 4 modules up to 32A
 6 modules up to 63A
 Un= 400V ~; Icn= 6000A

Residual Current Circuitbreakers with overcurrent Protection RCBOs

Overcurrent Characteristics

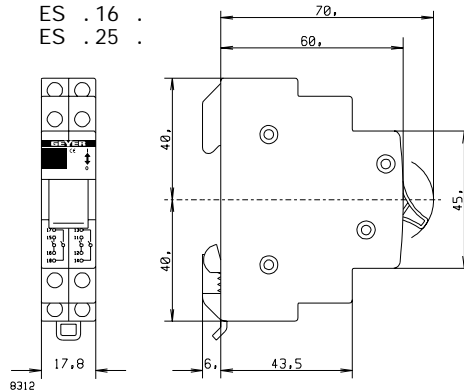
Limits of EN 60898, Standards for MCB's

Limits of EN 61009-1, Standards for RCBO's



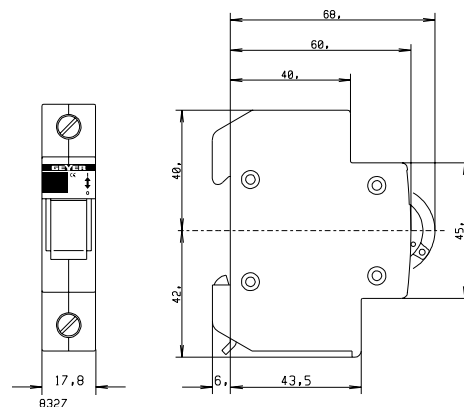
Switches (16/25A)

Reference No.:	ES . 16 . , ES . 25 . (from page _____)
Rated voltage:	230 V~
Rated current:	16/25 A
Breaking capacity:	$1,25 \times I_N ; 1,1 U_N ; \cos \varphi = 0,6$
Sealable:	in On- and Off
Terminal capacity:	1,5 ... 6 mm ²
Protection against finger touch:	according to DIN VDE 106 Part 100
Mounting position:	any position possible
Fixing:	to snap on a rail according to DIN EN 50022 - 35 x 7,5
Dimensions:	ES . 16 . ES . 25 .



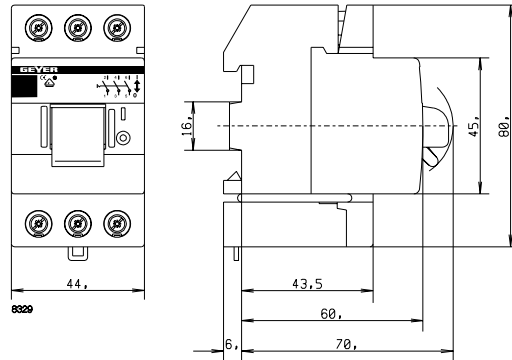
Switches (63/100A)

Reference No.:	ES . 63, ES 363 . , ES 300
switched Neutral:	only ES463 ; right pole break last, make first
Rated voltage:	230/400 V~
Rated current	63 A 100 A (ES 300)
Breaking capacity	$1,25 \times I_N ; 1,1 U_N ; \cos \varphi = 0,6$
Protection against finger touch:	according to DIN VDE 106 Part 100
Short circuit withstand:	10kA according to VDE 0632, A19 (only 63A Types)
Sealable:	in Off-position (ES163) in On- and Off-position (ES263, ES363, ES363B) in On- and Off-position with padlock (ES463, ES363EG, ES300)
Terminal capacity:	1,5...25mm ² 1,5...35mm ² (ES363EG) incoming up to 10mm ² (only ES 363 EG)
Mounting position:	any position possible
Fixing:	to snap on a rail according to DIN EN 50022 - 35 x 7,5
Dimensions:	ES 163

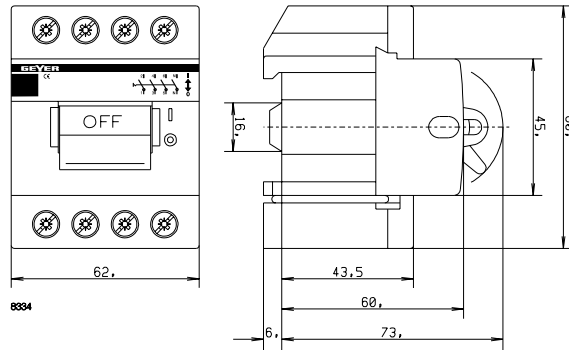


Dimensions:

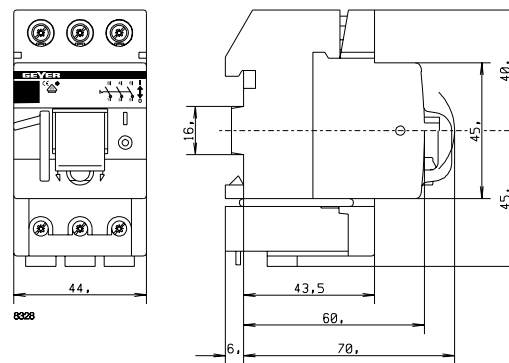
ES 263
ES 363



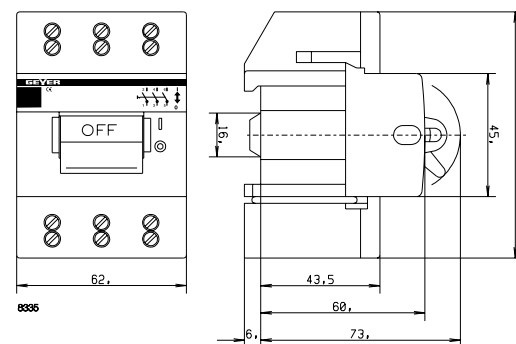
ES 463



ES 363 EG



ES 300



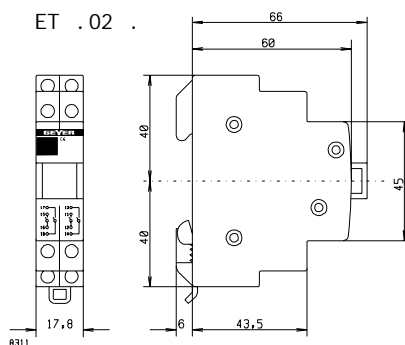
Changeover and Control switches

Reference No.:	ES . 16 . , ES . 25 .
Rated voltage	230 V~
Rated current	16/25 A
Breaking capacity	$1,25 \times I_N ; 1,1 U_N ; \cos \varphi = 0,6$
Sealable:	in On- and Off
Terminal capacity:	1,5 ... 6 mm ²
Protection against finger touch:	according to DIN VDE 106 Part 100
Mounting position:	any position possible
Fixing:	to snap on a rail according to DIN EN 50022 - 35 x 7,5
Dimensions:	see Switches (16/25A) page H.....

Push buttons

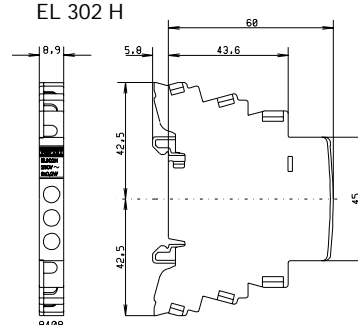
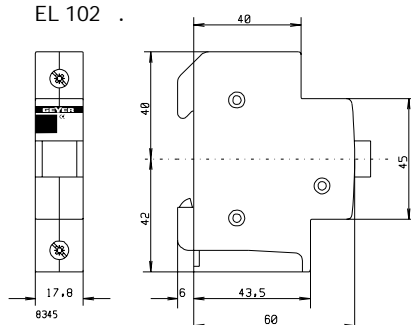
Reference No.:	ET . 02 .
Rated voltage	230 V~
Rated current:	16 A
Breaking capacity	$1,25 \times I_N ; 1,1 U_N ; \cos \varphi = 0,6$
Protection against finger touch:	according to DIN VDE 106 Part 100
Terminal capacity:	1,5 ... 6 mm ²
Mounting position:	any position possible
Fixing:	to snap on a rail according to DIN EN 50022 - 35 x 7,5

Dimensions:



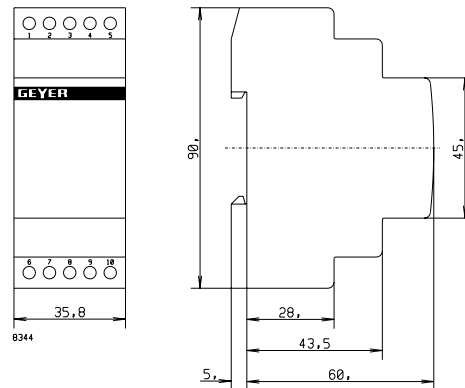
Pilot lamps

Reference No.:	EL 102 .	EL 302 H
Rated voltage:	250 V~	250 V~
glow lamps:	with E10-socket for 230V For removal use glow lamps Up to 1,2W max.	3 pieces 0,2W each fixed
Standards:	tested according to VDE 710 part 1 and 11	
Terminal capacity:	1,5 ... 4 mm ²	1,0 ... 4 mm ²
Mounting position:	any position possible	any position possible
Fixing:	to snap on a rail according to DIN EN 50022 - 35 x 7,5	to snap on a rail according to DIN EN 50022 - 35 x 7,5
Dimensions:	EL 102 .	EL 302 H



Bell transformer

Reference No.:	EK 002 A
Rated voltage	
Primary:	Terminals 7-9: 230 V~/50 Hz
Secondary:	Terminals 1-2: 4 V~/1 A
	Terminals 2-3: 8 V~/1 A
	Terminals 1-3: 12 V~/0,67 A
No-load voltage:	6,6 V~/13,3 V~/19,9 V~
Rated load:	8 VA
No-load power loss	3,7 W
Total power loss at full load:	15,7 W
Features:	Special safety transformer according to DIN VDE 0570 T2-8 and DIN EN 61588-2-8 short circuit resistant, protection class II temperature class ta25°C, only for dry rooms
Mounting position:	any position possible
Fixing:	to snap on a rail according to DIN EN 50022 - 35 x 7,5
Dimensions:	EK 002 A



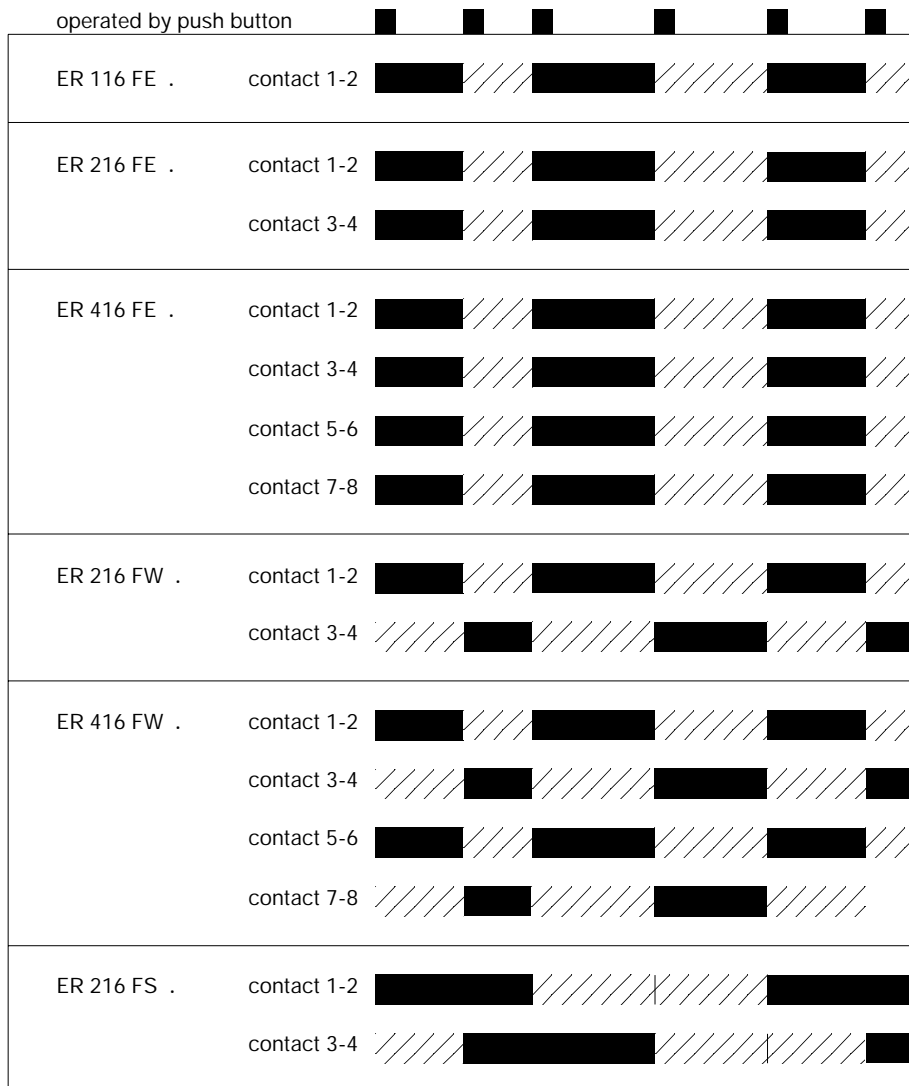
Reference No.:	ER . 16 F . .
Contacts	
Contact material:	Ag CdO
Contact distance:	3 mm
Distance control-/main contacts:	8 mm
Rated insulation voltage according to VDE 0110:	Contact/Contact: 400V~ Contact/Coil: 400V~
Rated operating current:	16 A/250 V~ 10 A/400 V~
Max. glow lamp load:	10 A (2200 W)
Max. fluorescent lamp load	
In parallel connection	16 A (3500 W)
Inductive or capacitive load	10 A (1300 W)
Parallel compensated	4 A (500 W)
With electronic starter (EVG):	10 A (2800 W)
Inductive load	10 A (1300 W), $\cos \varphi = 0,6/230 V\sim$
Max. DC load	max. 100 W
Min. contact load:	6V~/50 mA
Endurance	
mechanical	> 10^6 at max. $10^3/h$
at rated load	> 10^5 ($\cos \varphi = 1$ and $10^3/h$)
with glow lamp	> 10^5 (1000 W and $10^3 h$)
at rated load	> 2×10^4 ($\cos \varphi = 0,6$ and $10^3/h$)
Operating cycles, max.:	max. $10^3/h$
Bouncing time:	3 ms
Contact indication:	each contact separate
Manual control:	yes
Terminals:	Control circuits up to 2,5 mm ² Main contacts up to 10 mm ²
Cross connection for control terminals:	yes
Protection against finger touch:	VDE 0 106, part 100 and VBG 4
Mounting position:	any position possible
Fixing:	to snap on a rail according to DIN EN 50022 - 35 x 7,5

Solenoid system
(Figures are based on U_N)

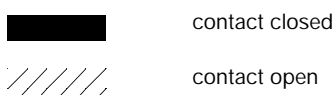
Time on at rated voltage:*	100 %
Max/Min. temperature at mounting location:	-5 bis +35°C
Control voltage range:	0,8/0,9 to 1,1 x U_N
Coil power loss AC+DC +/-:	5 W (1- and 2-pole), 10 W (4-pole)
Total power loss with continuous excitation, at rated voltage and rated contact load	7 W (1-pole), 9 W (2-pole), 18 W (4-pole)
Minimum command-pulse duration:	50 ms
Max. parallel capacitance (length) of individual control lead at 230 V AC:	0,06 μF (approx. 200 m)
Max. voltage induced at the control inputs:	0,2 x U_N
Glow lamps in parallel with 230 V control pushbuttons:	5 mA
with 1 $\mu F/250 V$ AC capacitor in parallel with coil	10 mA
with 2,2 $\mu F/250 V$ AC capacitor in parallel with coil	15 mA

Whenever several impulse switches are continuously energised, make sure there is (i) adequate ventilation as a function of the calculated power loss and, in addition, (ii) a ventilation clearance of approx. half a module. Use the 58250 spacer as necessary.

Operating diagram:



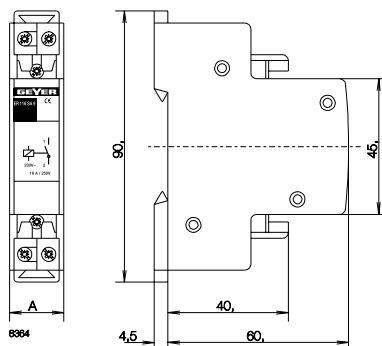
8373



Abmessungen:

ER . 16 F . .
ER . 16 S . .

Impulse Relay	Dim. A(mm)
1-polig	17,7
2-polig	17,7
4-polig	35,5



Technical data according to IEC 947-3,
IEC 947-5-1, VDE 0660, EN 60947-3,
EN 60947-5-1

	ER 220 (A)	ER 325	ER 340	ER 363	ER 320 G	ER 000
Main contacts						
Rated insulation voltage U_i V ~	440 ²⁾	440 ²⁾	440 ²⁾	440 ²⁾	690 ¹⁾	440 ²⁾
Rated operational voltage U_e V ~	250	440	440	440	690	440
Max. operations /h z AC1, AC3 1/h	300	300	600	600	600	600
Mechanical endurance S x 10 ⁶	1	1	1	1	1	1
Utilisation category AC1						
Rated current $I_e (=I_{th})$ not enclosed at 60°C A	20	25	40	63	20	-
Max. endurance of the switching contacts S x 10 ⁶	0,1	0,1	0,1	0,1	0,2	-
Power loss per pol at $I_e/AC1$ W	2	2	3	7	1	0,5
Utilisation category AC23						
Switching of 3-phase motors						
Rated current I_e A	-	9	27	30	12	-
Rated operational power from 3-phase motors 220V kW	-	2,2	7,5	8	3	-
50-60Hz 230-240V kW	-	2,5	8	8,5	3	-
380-415V kW	-	4	12,5	15	4	-
Max. endurance of the switching contact S x 10 ⁶	-	0,15	0,15	0,15	0,9	-
Power consumption of coils						
AC operated inrush VA	7-9	14-18	33-45	33-45	3-3,5	-
sealed VA	2,2-4,2	4,4-8,4	7	7	3-3,5	-
W	0,8-1,6	1,6-3,2	2,6	2,6	3-3,5	-
Operation range of coils in multiples of control voltage U_s	0,85-1,1	0,85-1,1	0,85-1,1	0,85-1,1	0,85-1,1	-
Short circuit protection						
max. rated current of fuse Coordination-typ "1"						
max. fuse size gL (gG) A	35	35	63	80	35	-
Cable cross-sections						
Main connector solid or stranded mm ²	1,5-10	1,5-10	2,5-25	2,5-25	0,5-2,5 ³⁾	0,5-2,5 ³⁾
flexible mm ²	1,5-6	1,5-6	2,5-16	2,5-16	0,5-2,5 ³⁾	0,5-2,5 ³⁾
flexible with multicore cable end mm ²	1,5-6	1,5-6	2,5-16	2,5-16	0,5-1,5	0,5-1,5
Clamps per pole	1	1	1	1	2	2
Magnetic coil solid or stranded mm ²	0,75-2,5	0,75-2,5	0,75-2,5	0,75-2,5	0,5-2,5 ³⁾	-
flexible mm ²	0,5-2,5	0,5-2,5	0,5-2,5	0,5-2,5	0,5-2,5 ³⁾	-
flexible with multicore cable end mm ²	0,5-1,5	0,5-1,5	0,5-1,5	0,5-1,5	0,5-1,5	-
Clamps per pole	1	1	1	1	2	-
Auxiliary Contacts						
Rated insulation voltage U_i V ~						440 ²⁾
Thermal rated current I_{th} 40°C A						10
Ambient temperature 60°C A						6
Main contacts can be used as auxiliary contacts						
Utilization category AC15						
Rated operational current I_e 220-240 V A						3
380-415 V A						2
440 V A						1,6
Utilization category DC13						
Rated operational current I_e 24-60 V A						2
110 V A						0,4
per Pole 220 V A						0,1
Short circuit protection						
short-circuit current 1kA, contact welding not accepted						
max. fuse size gL (gG) A						10

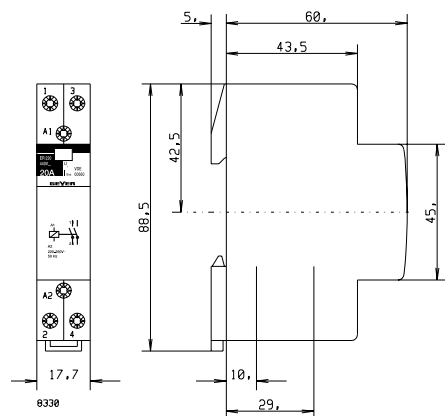
1) Suitabel for: earthed-neutral systems, overvoltage category I to IV, pollution degree 3 (standard-industry): $U_{imp} = 6kV$.

2) Suitabel for: earthed-neutral systems, overvoltage category I to III, pollution degree 3 (standard-industry): $U_{imp} = 4kV$.

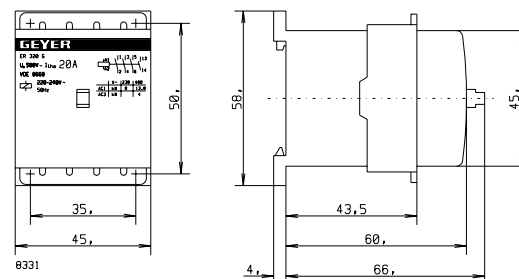
3) Maximum cable cross-section with prepared conductor

Dimensions:

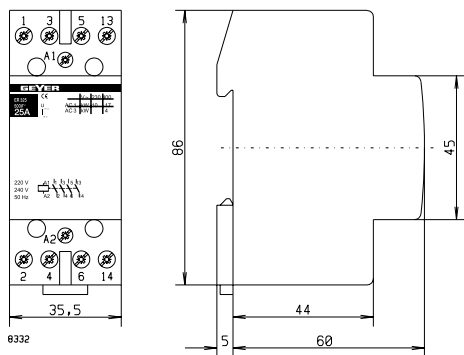
ER 220
ER 220 A



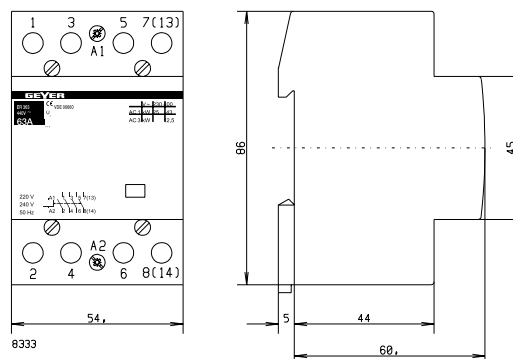
ER 320 G



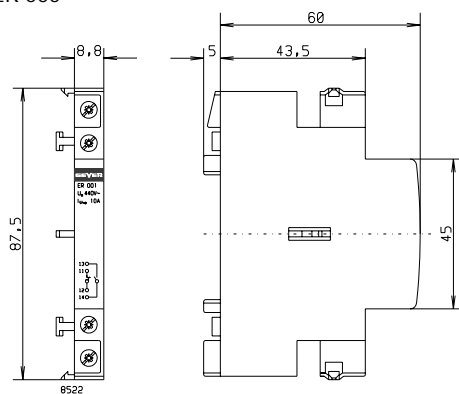
ER 325



ER 340
ER 363



ER 000

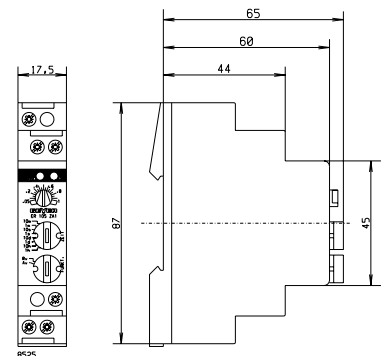


Multifunctional Relays

Reference No.:	ER 105 Z ..
Rated voltage	DC 24 V ($\pm 10\%$)
ER 105 ZM/ER 105 ZA1	AC 24 V AC 110 240 V ($-15 + 10\%$)
Rated voltage:	AC/DC 12.....60 V ($\pm 10\%$)
ER 105 ZM1	
Frequency:	50/60 Hz
Power consumption (max.):	DC 24 V, 1W AC 24 V, 1,5 VA AC 110 V, 2 VA AC 230 V, 8 VA
Maximum reset time by de-energizing:	100 ms
Contact material:	AgCdO
Contact rating:	AC 250 V / 5 A
Min. switching current:	100 mA
Electrical life:	min. 400.000 operations at 1000 VA resistive load
Mechanical life:	min. 30 000 000 operations
Switching frequency:	3600/h bei 100 VA resistive load
Insulation nominal voltage:	250 Vms according to IEC 664-1
Dielectric strength/Pollution degree:	4 kV/2 according to IEC 664-1
Air and creepage distance:	3 mm according to IEC 664-1
Operating temperature:	-25°C...+ 55°C
Storage temperature:	-25°C...+ 70°C
Climate resistance:	HVF according to DIN 40040
Mounting:	DIN-rail 35 mm
Protection class:	housing IP 40, terminals IP 20
Wire cross selection:	up to 4 mm ²
Housing material:	self extinguishing plastic
Tamperproof protection class terminals:	according to VDE 0106
Display:	1 LED (green) „U/t“ for power on, flashing during timing period 1 LED (yellow) „R“ for relay energized
Signal Input (loadable) B1 (IZM-1, IZML-1 and IZA/R-1, only)	parallel load on C; B1-A1 (AC 110...140V) or B1/A3 (AC/DC 24V), are allowed; (static current with open trigger contact B1 app. 2 mA)
Voltage dependance B1 Control wiring (contact C open)	voltage B1-A2 (A3) needs a least 90 % of the voltage A1-A2 (A3) between terminals A1-B1: capacity < 10 nF, resistance > 1 MΩ

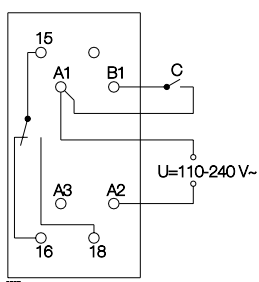
Repetition accuracy (with constant parameters): < 0,5 % (off full range) 5 ms

Basic accuracy: $\pm 0,6$ % at min. and max. position
 Adjusting accuracy: < 5 %
 Number of timing ranges: 8
 Time range: 0,05 s...10 days
 Dimensions:

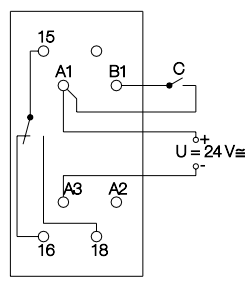


ER 105 Z ..

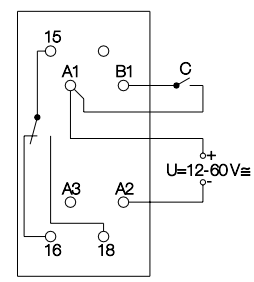
U = Supply voltage
 C (B1) = control voltage



ER 105 ZM



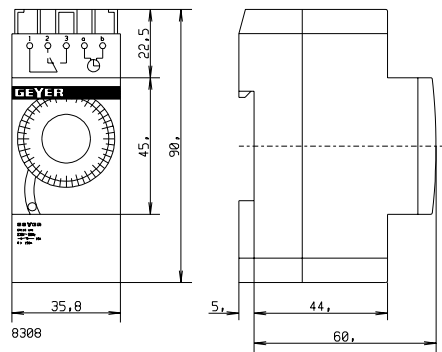
ER 105 ZA1



ER 105 ZM1

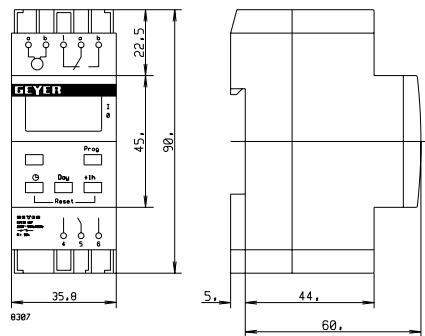
Electromechanical time switches

	without power reserve	with power reserve
Reference-No.:	ER 116 UM 2 (24 hour dial) ER 116 UM 8 (7 day dial)	ER 116 UM 1 (Tagesscheibe) ER 116 UM 7 (Wochenscheibe)
Rated voltage:	230 V~, 50 Hz,	230 V~, 50 Hz,
Switch rating:	16 A (3500 W) bei 250 V~ resistive load, 1000 W inductive load	16 A (3500W) bei 250 V~ ohmsche Last, 1000 W induktiv
Drive:	Synchronous motor	Stepping motor
Power consumption:	ca. 1,5 W	ca. 1,5 W
Reserve power supply:	-	storage battery
Power reserve:	-	ca. 150 h
Quartz frequency:	-	4,194304 MHz
Operating accuracy:	mains-operated	approx. ±5 min./year
Switching interval:	24 hour dail 30 min 7 day dail 3,5 h	24 hour dail 30 min 7 day dail 3,5 h
Housing material:	plastic, grey RAL 7035 with transparent flap	plastic, grey RAL 7035 with transparent flap
Sealable:	yes	yes
Operating temperature:	-10 to 50°C	-10 to 50°C
Mounting possition:	individual	individual
Fixing:	to snap on a DIN-rail according to DIN EN 50 022 - 35 x 7,5	to snap on a DIN-rail according to DIN EN 50 022 - 35 x 7,5
Dimensions:	ER 116 UM 1 ER 116 UM 2 ER 116 UM 7 ER 116 UM 8	



Digital time switches

Reference-No.:	ER 116 UD 7	
Rated voltage:	230V~, 50-60 Hz other voltages on request power consumption approx. 5VA	230V~, 50-60 Hz other voltages on request power consumption approx. 5VA
Switch rating:	16 A/250 V AC 2 A/250 V AC cos φ 0,6 inductive load 3000 W bei 250 V AC resistive load 1000 W incandescent lamp load	16 A/250 V AC 2 A/250 V AC cos φ 0,6 inductive loadt 3000 W bei 250 V AC resistive load 1000 W incandescent lamp load
Relay type:	voltage-free changeover relay	2 voltage-free changeover relays
Reserve power supply:	NiMH-Akku	NiMH-Akku
Power reserve:	250 h	250 h
Program memory:	permanent memory, writable (EEPROM)	permanent memory, writable (EEPROM)
Operating accuracy:	approx. 1sec/day at 20°C	approx. 1sec/day at 20°C
Switching accuracy:	1 second max.	1 second max.
Quartz frequency:	32768 Hz	32768 Hz
Switching pairs:	20 free programmable	20 free programmable
Switching interval:	min. 1min or 1sec	min. 1min or 1sec
Housing material:	plastic, grey RAL 7035	plastic, grey RAL 7035
Protection degree:	IP 40	IP 40
Sealable:	yes	yes
Operating temperature:	-10 to +50°C	-10 to +50°C
Mounting position:	individual	individual
Fixing:	to snap on a DIN-rail according to DIN EN 50 022 - 35 x 7,5	to snap on a DIN-rail according to DIN EN 50 022 - 35 x 7,5
Construction:	electronic time switch with digital display ; CMOS technology ; microprocessor and quartz driven	
Programming:	the time switch is programmed by using 5 / 6 multifunction keys	
LCD-Display:	for clock time, day and relay status	
Monitoring:	permanent monitoring of relay status	
Additional functions:	automatic summer/wintertime changeover automatic leap year changeover	
Dimensions:	ER 116 UD 7 ER 210 UD 7	

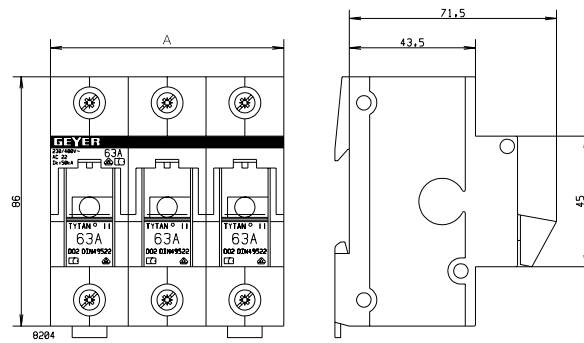


Reference No.: EP . 63 .
Rated voltage: 230/400 V~ (DC-voltage up to 100 V)
Rated current: 63 A
Rating could be adjusted at: 2, 4, 6, 10, 16, 20, 25, 35, 50 und 63 A
Number of poles: 1-, 1- + N, 2-, 3- und 3-polig + N
Breaking capacity: 50 kA_{eff}
Utilisation category: AC 22
Terminal capacity: max. 35 mm²
Operating ambient temperature: -25 bis +40°C
Mounting position: any position possible
Fixing: to snap on a rail according to DIN EN 50022 - 35 x 7,5

Note: We recommend the use of silver plated cartridge fuses only. If non Silver plated fuses are fitted the fuse holder should be down rated due to the risk of temperature rise problems.

Dimensions: EP 163
 EP 263 L
 EP 363
 EP 163 L
 EP 363 L
 EP 163 N
 EP 363 N

Device	Dim. A(mm)
1-pole	26,8
2-pole	53,8
3-pole	80,5
3-pole+N	107,5



Fuse Sockets

D01

D02

Reference No.:

EN 116
EN 116 A
EN 116 P
EN 316

EN 163
EN 163 A
EN 363

Rated current

16 A

63 A

Thread form:

E 14

E 18

Rated voltage:

400 V

could be used with busbar 52 881:

EN 116 A, EN 163 A

VDE-Approval:

for the main types

Protection against finger touch:

D01 and D02 according to DIN VDE 0 106, Teil 100

Design:

according to DIN 49524

D0-fuses:

according to DIN 49522

D0-fuse carriers:

according to DIN 49525

D0-gauge pieces:

according to DIN 49523

Sealable with transparent cap:

EN 116 P

Mounting position:

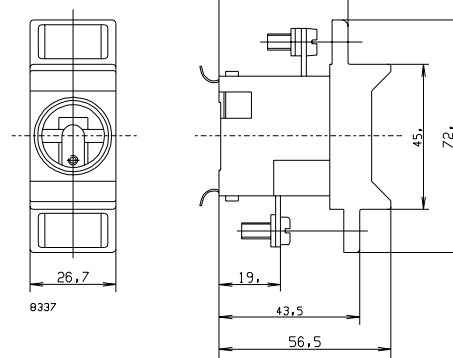
any position possible

Fixing:

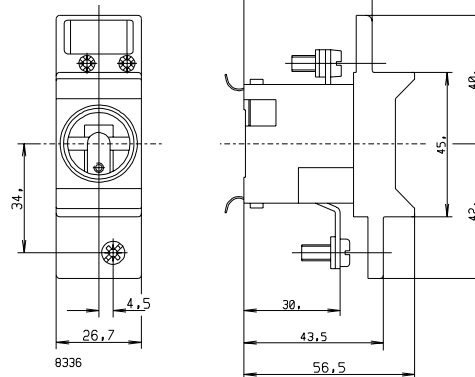
to snap on a rail according to DIN EN 50022 - 35 x 7,5

Dimensions:

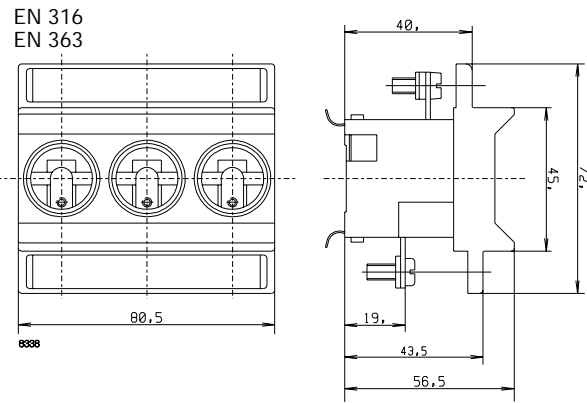
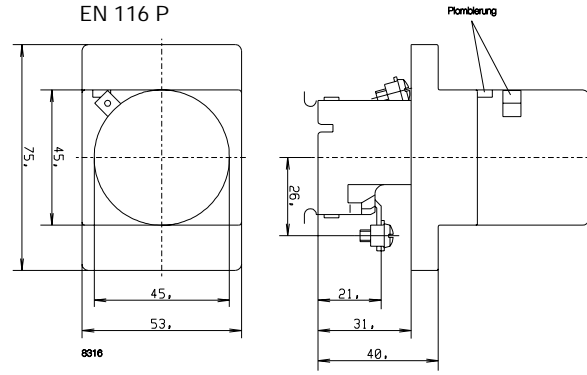
EN 116
EN 163



EN 116 A
EN 163 A



Dimensions:



Fuse Sockets

DII

DIII

Reference No.:	ED 125 ED 125 P ED 325	ED 163 ED 163 C ED 363
Rated current:	25 A	63 A
Thread form:	E 27	E 33
Rated voltage:	500 V	
VDE-Approval:	for the main types	
Protection against finger touch:	according to DIN VDE 0 106, Teil 100	
Design:	according to DIN 49510	
D0-fuses:	according to DIN 49516	
D0-fuse carriers:	according to DIN 49514	
Sealable with transparent cap:	ED 125 P	
Mounting position:	any position possible	
Fixing:	to snap on a rail according to DIN EN 50022 - 35 x 7,5	
Dimensions:	see fuse sockets without ring	

Fuse sockets without ring

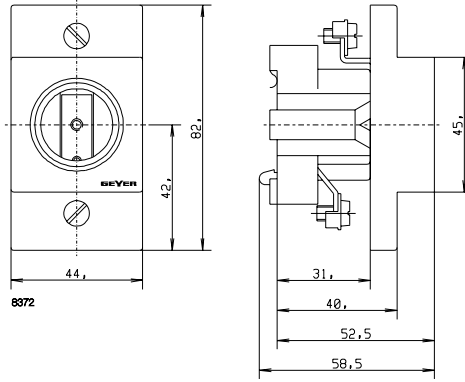
DII

DIII

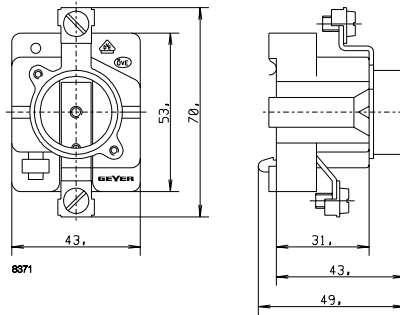
Reference No.:	ED 125 D ED 125 E ED 125 G ED 125 H ED 125 L (mit N)	ED 163 D ED 163 G ED 163 H ED 163 L (mit N)
Rated voltage:	25 A	63 A
Thread form:	E 27	E 33
VDE-Approval:	for the main types	
Protection against finger touch:	according to DIN VDE 0 106, Teil 100	
Design:	according to DIN 49510	
D0-fuses:	according to DIN 49516	
D0-fuse carriers:	according to DIN 49514	
Mounting position:	any position possible	
Fixing:	to snap on a rail according to DIN EN 50022 - 35 x 7,5 (ED 125 D, ED 125 E, ED 163 D) Base fixing (fixing parts and screws are supplied (ED 125 G, ED 125 H, ED 125 L, ED 163 G, ED 163 H, ED 163 L)	

Dimensions:

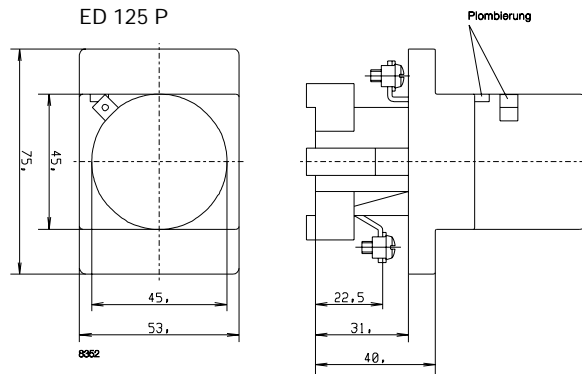
ED 125



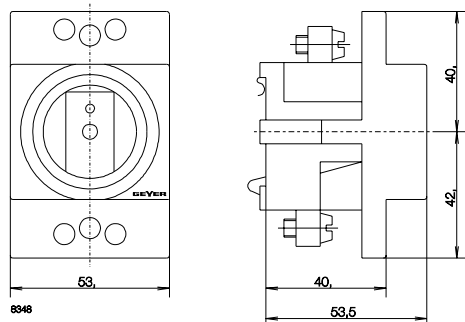
ED 125 D
ED 125 E



ED 125 P

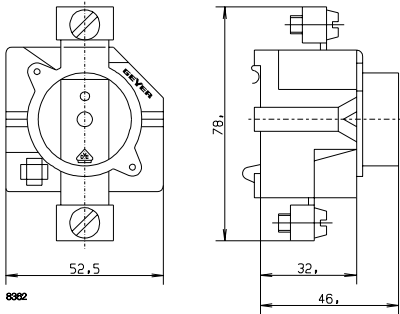


ED 163
ED 163 C

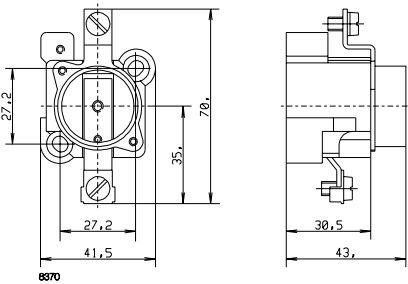


Dimensions:

ED 163 D

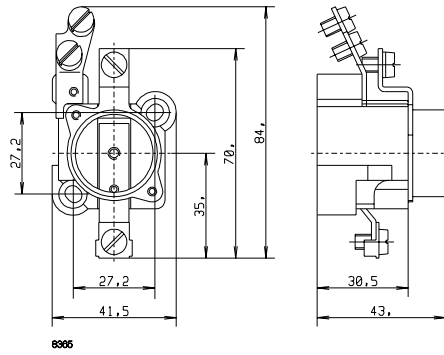


ED 125 G
ED 125 H

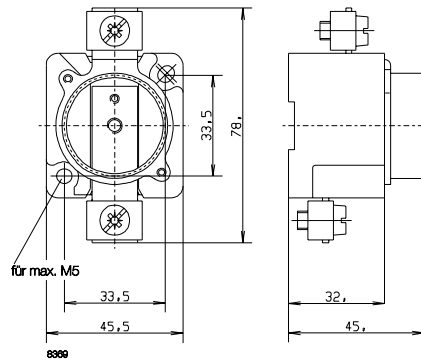


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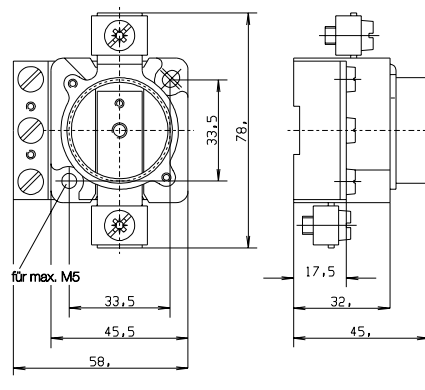
ED 125 L



ED 163 G
ED 163 H



ED 163 L



IP Figures relevant to the protection degrees

Ordinary	IP 20		Pressure-watertight (submersibel)	IP X8	◆◆..m
Drip-proof	IP X1	◆	Proof against 1 mm, diameter probe	IP 4X	
Rain-proof	IP X3	◆	Dust-proof	IP 5X	◆◆
Splash-proof	IP X4	◆	Dust-tight	IP 6X	◆◆
Jet-proof	IP X5	◆◆	Clamps or earth terminals		⊕
Watertight (immersible)	IP X7	◆◆			

First characteristic numeral	Degree of protection	
	Short description	Brief details of objects which will be excluded from the luminaire
0	Non-protected	No special protection
1	Projected against solid objects greater than 50mm	A large surface of the body, such as a hand (but no protection against deliberate occoss). Solid objects exceeding 50mm in diameter.
2	Projected against solid objects greater than 50mm	Fingers or similar objects exceeding 80mm in length. Solid objects exceeding 12mm in diameter.
3	Projected against solid objects greater than 2,5mm	Tools, wires, etc. of diameter or thickness greater than 2,5mm. Solid objects exceeding 2,5mm in diameter.
4	Protected against solid objects	Wires or snips of thickness greater than 1,0mm. Solid objects exceeding 1,0mm in diameter.
5	Dust-protected	Ingress of dust is not totally prevented but dust does not enter in sufficient quantity to interfere with satisfactory operation of the equipment.
6	Dust-tight	No ingress of dust

Second characteristic numeral	Degree of protection	
	Short description	Brief details of objects which will be excluded from the luminaire
0	Non-protected	No special protection
1	Projected against dripping water	Dripping water (vertically falling drops) shall have no harmful effect.
2	Projected against dripping water when tilted up to 15°	Vertically dripping water shall have no harmful effect when the luminaire is tilted. at any angle up to 15° from its normal position.
3	Projected against spraying water	Water falling as a spray at an angle up to 60° from the vertical shall have no harmful effect.
4	Protected against splashing water	Water splashed against the enclosure from any direction shall have no harmful effect.
5	Protected against spraying water jets	Water protected by a nozzle the enclosure from any direction shall have no harmful effect.
6	Protected against heavy seas	Water from heavy seas or water protected in powerful jets shall have no enter the luminaire in harmful quantities.
7	Protected against the effects of immersion	Ingress of water in a harmful quantity shall not be possible when the luminaire is immersed in water under defined conditions of pressure and time.
8	Protected against of submersion	The equipment is suistable for continous submersion in water under conditions which shall be specified by the manufacturer.

CE CE marking applied on items proves the conformity according to the European Rules 89/336 and 93/68 EEC relevant to the Elektromagnetic Compatibility.

General Conditions for GEYER AG (hereinafter called "GEYER")

I. GENERAL CONDITIONS

1. The scope of the supplies or services (hereinafter called "Supplies") shall be defined by the written declarations of both parties to the contract. General terms and conditions of the Purchaser shall apply only where expressly accepted in writing by GEYER or service provider.

2. For cost estimates, drawings and other documents (hereinafter called "Documents"), GEYER reserves all rights, right, title and interest in the property and the copyright. Such Documents may not be made available to third parties without the prior consent of GEYER and they shall, upon request, be immediately returned to GEYER if he is not awarded the contract. Sentences 1 and 2 shall apply reciprocally to Purchaser's Documents; however, these may be made available to those third parties to whom GEYER may transfer Supplies.

3. The Purchaser shall have the non-exclusive right to use standard software in unchanged form with the stipulated performance characteristics for the agreed equipment. The Purchaser is allowed to make two back-up copies without GEYER's express consent.

4. Partial Supplies shall be permissible where they can be reasonably expected of GEYER.

II. PRICES AND TERMS OF PAYMENT

1. Prices shall be ex works and exclude packing and shall exclude the sales tax payable under the applicable law.

2. If GEYER has undertaken the assembly or erection, the Purchaser shall bear all agreed incidental costs in addition to the agreed contract price unless otherwise agreed.

3. Payments shall be made free at GEYER's paying office.

4. The Purchaser may set off only those claims that are undisputed or have been finally determined in a legally binding manner.

III. RETENTION OF TITLE

1. The items of Supplies (Secured Goods) shall remain the property of GEYER until each and every claim against the Purchaser to which GEYER is entitled under this business relationship has been duly satisfied. If the value of all security rights of GEYER exceeds the value of all secured claims by more than 20%, GEYER shall release a corresponding part of the security rights at the Purchaser's request.

2. For the duration of the retention of title, the Purchaser is prohibited from giving the items of Supplies in pledge or as security, and resale shall be permissible only to resellers in the ordinary course of business and only on condition that the reseller receives payment from his customer or retains title so that the property is transferred to the customer only after fulfilment of his obligation to pay.

3. In case of seizure or other acts or interventions by third parties, GEYER shall be immediately informed thereof in writing by the Purchaser.

4. In cases of fundamental non-performance of contractual obligations by the Purchaser, especially a delay in payment, GEYER shall be entitled to take back the goods following a demand for payment. The Purchaser shall be obliged to return the purchased goods. The taking back, the assertion of the retention of title or the seizure of the Secured Goods by GEYER does not mean termination of the contract except if expressly stated by the GEYER.

IV. TIME FOR DELIVERY AND DELAY

1. Observance of the stipulated time for delivery is conditional upon the timely receipt of all documents, necessary permits and releases, especially of plans to be provided by the Purchaser, as well as fulfilment of the agreed terms of payment and other obligations by the Purchaser. Unless these conditions are fulfilled on time, the time for delivery will be extended accordingly except where GEYER is responsible for the delay.

2. If non-observance of the time for delivery is due to force majeure such as mobilization, war, riot or similar events, e.g. strike or lock-out, such time shall be extended accordingly.

3. If GEYER is responsible for a delay in delivery, the Purchaser who can establish credibly that he suffered a loss from such delay may claim agreed compensation of 0.5% for every completed week of delay but in no event shall the aggregate of such compensation exceed a total of 5% of the price of that part of GEYER which, because of the delay, could not be put to the intended use.

4. Purchaser's claims for compensation which exceed the limits specified in para. IV.3. shall be excluded in all cases of delayed delivery even after expiry of an extension of time that may have been granted to GEYER. This exclusion shall not apply where in cases of wilful misconduct or gross negligence there is a legally binding liability on the part of GEYER. No change in the burden of proof to the detriment of the Purchaser is involved. Purchaser's right to terminate the contract shall remain unaffected after the expiry of an extension granted to GEYER that did not result in delivery.

5. If dispatch or delivery is delayed at Purchaser's request by more than one month after notice was given of the readiness for dispatch, the Purchaser may be charged storage costs for each month thereafter to the amount of 0.5% of the price of the supplied goods but in no event shall the aggregate storage charges exceed a total of 5% of the price. The parties to the contract are at liberty to furnish proof of higher or lower storage costs.

V. TRANSFER OF RISK

1. Even where "carriage paid" delivery has been agreed, the risk shall pass to the Purchaser as follows:

a) If the supply does not include assembly or erection, when goods have been delivered to or picked up by carrier. At the Purchaser's request and expense, Supplies shall be insured by GEYER against the ordinary risks of transport.

b) If the supply includes assembly or erection, the day on which they are taken over into Purchaser's own service or, if so stipulated, after a satisfactory trial run.

2. If the dispatch, the delivery, the beginning or completion of assembly or erection, the taking over into Purchaser's own service or the trial run is delayed for reasons within the Purchaser's responsibility, or if the Purchaser has failed for other reasons to accept delivery, the risk shall pass to the Purchaser.

VI. ASSEMBLY AND ERECTION

Unless otherwise agreed in writing, assembly and erection shall be subject to the following provisions:

1. The Purchaser shall provide at his own expense and in a timely manner:

a) all earth-moving and construction work and other ancillary services not specific to GEYER's trade as well as the necessary skilled and unskilled labour, materials and tools,

b) the equipment and materials necessary for assembly, erection and commissioning such as scaffolds, lifting equipment etc., fuels and lubricants,

c) energy and water at the point of use, including connections, heating and lighting,

d) suitable, dry and lockable rooms of sufficient size at the site for the storage of machine parts, apparatus, materials, tools etc. and adequate working and recreation rooms for the assembly personnel including appropriate sanitary facilities. Furthermore, the Purchaser shall take all measures he would take for the protection of his own property to safeguard the property of GEYER and of the assembly personnel,

e) protective clothing and protective devices which are needed because of particular conditions on the site.

2. Before the start of assembly or erection, the Purchaser shall make available of his own accord all necessary information concerning the location of concealed electric power, gas and water lines or of similar installations as well as the required data concerning statics and underlying conditions of the site.

3. Before the beginning of assembly or erection, the necessary materials and equipment to start work must be provided at the site and all preparations must have advanced to such a point that the assembly or erection can be started as agreed and carried out without interruption. Access roads and the site itself must be level and clear.

4. If the assembly, erection or commissioning is delayed by circumstances for which

GEYER is not responsible, the Purchaser shall bear an appropriate amount of the costs of waiting periods and of any additional travelling of GEYER or the assembly personnel that may be necessary.

5. The Purchaser shall attest to GEYER at weekly intervals the hours worked by the assembly personnel and he shall immediately confirm in writing the completion of assembly, erection or commissioning.

6. If, after completion, GEYER requests acceptance of the Supplies, it shall be carried out by the Purchaser within two weeks of the GEYER's request, failing which acceptance is deemed to have taken place. Acceptance is also deemed to have taken place if after completion of any agreed test phase the Supplies are put to use.

VII. TAKING DELIVERY

Deliveries, even with minor defects, have to be accepted by the Purchaser.

VIII. WARRANTY

For defects which include the absence of expressly warranted characteristics, GEYER shall be liable as follows:

1. GEYER shall, at his option and expense, repair, replace or newly provide any parts or services whose usefulness is impaired more than insignificantly within 24 months from the date of the transfer of risk - regardless of the period of operation - owing to circumstances that existed before the transfer of risk.

2. Warranty claims are subject to a limitation period of 24 months after notification of the defect. Notice in writing shall be given to GEYER immediately after discovery of the defect.

3. In case of notification of a defect, Purchaser's payments may be withheld in reasonable proportion to the noticed defect. If the contract pertains to the conduct of a Purchaser's business, the Purchaser can withhold payments only if the legitimacy of the asserted complaint can be established beyond doubt.

4. GEYER shall be given adequate time and opportunity to remedy the defect. If he is refused these, GEYER shall have no liability for the defect.

5. If an adequate extension granted to GEYER expires without the defect being remedied, the Purchaser shall have the right to demand cancellation of the contract or a reduction of the purchase price.

6. The warranty does not cover natural wear and tear or damage arising, after the transfer of risk, from faulty or negligent handling, excessive strain, unsuitable equipment, defective workmanship, inappropriate foundation soil or from particular external influences not assumed under the contract, or from non-reproducible software errors. The warranty does not cover modifications or repairs carried out improperly by the Purchaser or by third parties.

7. The warranty period for repairs or replacement Supplies (of goods or services) shall be

6 months. It shall be the later of: (1) 6 months from the date of repair or replacement; or (2) the remaining length of the original warranty period for the Supplies. For those parts which cannot be put to the intended use because of the interruption of service, the warranty period shall be extended by the period of service interruption caused by the repair or replacement supply.

8. The periods specified in paras 1., 2. and 7. shall not apply where longer periods are provided by law according to § 638 BGB.

9. Except as provided above, any other warranty claims of the Purchaser against GEYER and the GEYER's agent shall be excluded. However, clause XI (Further liability) shall remain unaffected.

IX. INDUSTRIAL PROPERTY RIGHTS AND COPYRIGHT

1. If a third party, because of an infringement of an industrial property right or copyright (hereinafter called "Property Rights") by products furnished by GEYER and used in conformity with the contract, asserts legitimate claims against the Purchaser, GEYER shall be liable to the Purchaser as follows:

a) At his own option and expense, GEYER shall either obtain a right to use the product, modify the product so as not to infringe the Property Rights or replace the product. If this is not possible to GEYER on acceptable terms, GEYER shall have to take back the product and refund the purchase price.

b) GEYER's aforesaid obligations shall exist only on condition that the Purchaser immediately notifies GEYER in writing of the claims asserted by the third party, that he does not acknowledge an infringement and that all countermeasures and settlement negotiations are reserved to GEYER. If the Purchaser stops using the product to reduce the damage or for other important reasons, he shall be obliged to make it clear to the third party that the suspended use does not mean acknowledgment of an infringement of Property Rights.

2. Claims of the Purchaser shall be excluded if he is responsible for an infringement of Property Rights.

3. Claims of the Purchaser shall also be excluded if the infringement of Property Rights was caused by specific demands of the Purchaser, by a use of the product not foreseeable by GEYER or by the product being altered by the Purchaser or being used together with products not provided by GEYER.

4. Further claims against GEYER shall be excluded. However, Clause XI (Further liability) shall remain unaffected and so shall be Purchaser's right to terminate the contract.

X. IMPOSSIBILITY OF PERFORMANCE, CONTRACT ADAPTATION

1. If it is impossible for GEYER to carry out the Supplies for reasons for which he is responsible, the Purchaser shall be entitled to claim damages but the Purchaser's claim for damages shall be limited to 10% of the value of that part of the Supplies which, owing to the impossibility, cannot be put to

the intended use. This shall not apply where in cases of wilful misconduct, of gross negligence or of initial impossibility, there is a legally binding liability. No change in the burden of proof to the detriment of the Purchaser is involved. Purchaser's right to terminate the contract shall remain unaffected.

2. Where unforeseeable events as described in Clause IV, para. 2., substantially change the economic importance or the contents of the Supplies or considerably affect GEYER's business, the contract shall be adapted accordingly with due regard to the principle of good faith. Where this is not economically reasonable, GEYER shall have the right to terminate the contract. If GEYER wants to make use of this right of termination, he shall notify the Purchaser in writing immediately after becoming aware of the significance of the event. This shall apply even where at first an extension of the delivery time had been agreed with the Purchaser.

XI. FURTHER LIABILITY

Except as provided herein, any other claims for damages of the Purchaser shall be excluded regardless of whether they are based on positive breach of contractual obligations, violation of obligations in contract negotiations, breach of warranty, tort or other legal theory. This exclusion shall not apply where e.g. under the product liability law or in cases of wilful misconduct, of gross negligence, of the absence of warranted characteristics or of the fundamental non-performance of contractual obligations, there is a legally binding liability. However, liability for damages arising from the fundamental non-performance of contractual obligations shall be limited to the foreseeable damage normally covered by a contract except in cases of wilful misconduct or gross negligence. This limitation does not imply a change in the burden of proof to the detriment of the Purchaser.

XII. CHOICE OF FORUM

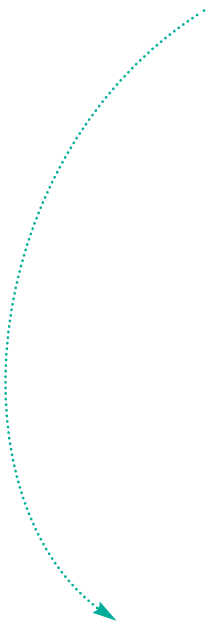
1. The place of jurisdiction for all disputes arising directly or indirectly out of the contract between GEYER and the Purchaser is Nuremberg - Germany.

2. All relations arising out of the contract shall be governed by German law not including the United Nations Convention on Contracts for the International Sale of Goods (CISG).

XIII. VALIDITY OF THE CONTRACT

Even in case of legal invalidity of individual items, the remaining parts of the contract shall remain binding save where adherence to the contract would mean an undue hardship on one of the parties.

GEYER



We combine your energies



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