

## Your trusted partner in automation

Omron Automation is an industrial automation partner that creates, sells and services complete automation solutions that include sensing, control, safety, vision, motion, robotics and more.

Omron's engineers are dedicated to providing flexible and highly customizable solutions that can solve unique needs in a variety of industries, including food and beverage, automotive, life sciences, semiconductor and electronics manufacturing. We can help you develop solutions to address needs ranging from high performance machines to plant wide traceability and advanced manufacturing.

Established in 1933 and currently headed by President Yoshihito Yamada, Omron's 30,000 employees help businesses solve problems with creativity in more than 110 countries.

Learn more at [automation.omron.com](http://automation.omron.com).





## A selection of our most popular products

This core product guide presents a selection of our most popular products in a clear and concise format to aid in decision-making. We have included the most important selection criteria for each family to aid in easy product selection. We encourage you to refer to our website for more information and additional products and technologies.

Omron has the wide-ranging technology portfolio necessary to offer a fully integrated, end-to-end solution for any automation need. From sensors, barcode readers and vision systems to programmable logic controllers, robotics and more. For manufacturers seeking to implement a complete automation system or simply choose a few Omron products to incorporate into their existing designs, this guide is meant to make selection and design much easier.



OMRON

MAIN ROBOT SERVICE JOG TEACH ALARMS CONFIG LOGIN LOGOUT

HEART BEAT ●  
 ALL CONVEYOR SERVO ON ●  
 ROBOT POWERED ●

**Mode Selection**  
AUTO MANUAL POSITION  
SEQ1 SEQ2 SERVICE

MODE ACTIVATE  
ROBOT POS START  
MACHINE RESET  
 STATE ###

WORLD	
X	###
Y	###
Z	###
Rx	###
Ry	###
Rz	###

JOINT	
J1	###
J1	###
J3	###
J4	###
J5	###
J6	###

PALLET 1	###
PALLET 2	###
PALLET 3	###
PALLET 4	###
PALLET 5	###

Conv Front #.##

ENABLE CONT  
LOAD DONE

MAIN POWER ON  
 RUN ●  
 CONVEYOR OFF ON ●  
 RESET ●  
 MUTING ●  
 MODE SELECTION ●  
 ROBOT POWER ●  
 E-STOP ●

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## E2E NEXT - Long Range DC 3-Wire Inductive Sensors

- Industry leading sensing distances with up to 4x the sensing range of standard models
- IO-Link is standard with DC 3-wire PNP models Multiple connection Types
- Multiple connection Types (including M8 QD, M12 QD, M12 Pig-tail QD, PVC cable and PVC Robot Cable)
- Harsh condition robustness with IP67, IP69K, and IP67G



Barrel Size	Sensing Distance	Shielded /Unshielded	Connection Method	PNP Model	NPN Model	
M8	1.5 mm	Shielded	M8 Connector (3 pins)	E2E-X1R5B1D8-M5	E2E-X1R5C18-M5	
	2mm			E2E-X2B1D8-M5	E2E-X2C18-M5	
	4mm			<b>E2E-X4B1D8-M5</b>	E2E-X4C18-M5	
	1.5 mm		M12 Pigtail*	E2E-X1R5B1D8-M1TJ 0.3M	E2E-X1R5C18-M1TJ 0.3M	
	2mm			E2E-X2B1D8-M1TJ 0.3M	E2E-X2C18-M1TJ 0.3M	
	4mm			E2E-X4B1D8-M1TJ 0.3M	E2E-X4C18-M1TJ 0.3M	
	M8	2 mm	Unshielded	M8 Connector (3 pins)	E2E-X2MB1D8-M5	E2E-X2MC18-M5
		4mm			E2E-X4MB1D8-M5	E2E-X4MC18-M5
		8mm			E2E-X8MB1D8-M5	E2E-X8MC18-M5
		2 mm		M12 Pigtail*	E2E-X2MB1D8-M1TJ 0.3M	E2E-X2MC18-M1TJ 0.3M
		4mm			E2E-X4MB1D8-M1TJ 0.3M	E2E-X4MC18-M1TJ 0.3M
		8mm			E2E-X8MB1D8-M1TJ 0.3M	E2E-X8MC18-M1TJ 0.3M
M12	2 mm	Shielded	M12 Connector (4 pins)	E2E-X2B1D12-M1	E2E-X2C112-M1	
	4mm			<b>E2E-X4B1D12-M1</b>	E2E-X4C112-M1	
	9mm			<b>E2E-X9B1D12-M1</b>	E2E-X9C112-M1	
	5 mm	Unshielded		E2E-X5MB1D12-M1	E2E-X5MC112-M1	
	8mm			E2E-X8MB1D12-M1	E2E-X8MC112-M1	
	16mm			E2E-X16MB1D12-M1	E2E-X16MC112-M1	
M18	5 mm	Shielded	M12 Connector (4 pins)	E2E-X5B1D18-M1	E2E-X5C118-M1	
	8mm			E2E-X8B1D18-M1	E2E-X8C118-M1	
	14mm			<b>E2E-X14B1D18-M1</b>	E2E-X14C118-M1	
	10 mm	Unshielded		E2E-X10MB1D18-M1	E2E-X10MC118-M1	
	16mm			E2E-X16MB1D18-M1	E2E-X16MC118-M1	
	30mm			E2E-X30MB1DL18-M1	E2E-X30MC1L18-M1	
M30	10 mm	Shielded	M12 Connector (4 pins)	E2E-X10B1D30-M1	E2E-X10C130-M1	
	15mm			E2E-X15B1D30-M1	E2E-X15C130-M1	
	23mm			E2E-X23B1D30-M1	E2E-X23C130-M1	
	18 mm	Unshielded		E2E-X18MB1D30-M1	E2E-X18MC130-M1	
	30mm			E2E-X30MB1DL30-M1	E2E-X30MC1L30-M1	
	50mm			E2E-X50MB1DL30-M1	E2E-X50MC1L30-M1	

Note: Models shown are normally open, normally closed options are available.

\* 0.3M pre-wired with 4 pin M12 connector on the end.

Tables include representative part numbers. Please consult the product page for more details.

# E2EW - Metal Face Proximity Sensors

- Extended sensing range, up to 4x standard sensing
- Factor 1 sensing of ferrous and non-ferrous metals
- Weld field immunity
- IP67 rating for environmental robustness
- Proprietary slag resistance coating
- IO-link configurability and output monitoring



Connection	Range	Size	Sensing Distance	PNP	NPN
M12 4pin	4x	M12	7 mm	E2EW-X7B1T12-M1	E2EW-X7C112-M1
		M18	12 mm	E2EW-X12B1T18-M1	E2EW-X12C118-M1
		M30	22 mm	E2EW-X22B1T30-M1	E2EW-X22C130-M1
M12 pigtail*		M12	7 mm	E2EW-X7B1T12-M1TJ 0.3M	E2EW-X7C112-M1TJ 0.3M
		M18	12 mm	E2EW-X12B1T18-M1TJ 0.3M	E2EW-X12C118-M1TJ 0.3M
		M30	22 mm	E2EW-X22B1T30-M1TJ 0.3M	E2EW-X22C130-M1TJ 0.3M
2m Cable		M12	7 mm	E2EW-X7B1T12 2M	E2EW-X7C112 2M
		M18	12 mm	E2EW-X12B1T18 2M	E2EW-X12C118 2M
		M30	22 mm	E2EW-X22B1T30 2M	E2EW-X22C130 2M
Connection Method	Sensing Range	Barrel Size	Sensing Distance	PNP Model	NPN Model
M12 pigtail*	1x	M12	2 mm	E2EW-QX2B112-M1TJ 0.3M	E2EW-QX2C112-M1TJ 0.3M
		M18	5 mm	E2EW-QX5B118-M1TJ 0.3M	E2EW-QX5C118-M1TJ 0.3M
2m Cable		M12	2 mm	E2EW-QX2B112 2M	E2EW-QX2C112 2M
		M18	5 mm	E2EW-QX5B118 2M	E2EW-QX5C118 2M
Connection Method	Sensing Range	Barrel Size	Sensing Distance	PNP Model	NPN Model
M12 pigtail*	4x	M12	7 mm	E2EW-QX7B1T12-M1TJ 0.3M	E2EW-QX7C112-M1TJ 0.3M
		M18	12 mm	E2EW-QX12B1T18-M1TJ 0.3M	E2EW-QX12C118-M1TJ 0.3M
		M30	22 mm	E2EW-QX22B1T30-M1TJ 0.3M	E2EW-QX22C130-M1TJ 0.3M
M12 4pin		M12	7 mm	E2EW-QX7B1T12-M1	E2EW-QX7C112-M1
		M18	12 mm	E2EW-QX12B1T18-M1	E2EW-QX12C118-M1
		M30	22 mm	E2EW-QX22B1T30-M1	E2EW-QX22C130-M1

Note: Tables include representative part numbers. Bold models: Preferred Availability. Please consult the product page for more details.

## E3Z - Compact Photoelectric Sensor

- General purpose photoelectric family with all common sensing modes at long range
- Minimal optical axis deviation for easy alignment
- IP67 for water resistance
- Intensive shielding for highest noise immunity (EMC)
- Multiple molding housing for high mechanical resistance



Sensor Type	Sensor Distance	Connection	PNP Model	NPN Model
Through-beam (emitter+receiver)	10m (Red LED)	2m Cable	E3Z-T81A	E3Z-T61A
		M8 Connector (4 pins)	<b>E3Z-T86A</b>	E3Z-T66A
	15m (Infrared LED)	2m Cable	<b>E3Z-T81</b>	<b>E3Z-T61</b>
		M8 Connector (4 pins)	<b>E3Z-T86</b>	E3Z-T66
	30m (Infrared LED)	2m Cable	E3Z-T82 2M	E3Z-T62 2M
		M8 Connector (4 pins)	E3Z-T87	E3Z-T67
Retro-reflective with MSR function	0.1 to 4m (Red LED)	2m Cable	<b>E3Z-R81</b>	<b>E3Z-R61</b>
		M8 Connector (4 pins)	<b>E3Z-R86</b>	<b>E3Z-R66</b>
Diffuse-reflective	1m (Infrared LED)	2m Cable	<b>E3Z-D82</b>	<b>E3Z-D62</b>
		M8 Connector (4 pins)	<b>E3Z-D87</b>	E3Z-D67
Background suppression	20 to 200mm (Red LED)	2m Cable	<b>E3Z-LS81</b>	<b>E3Z-LS61</b>
		M8 Connector (4 pins)	<b>E3Z-LS86</b>	E3Z-LS66

Note:

For sensors with IO-Link, refer to the catalog on the website [automation.omron.com](http://automation.omron.com)

Note: Tables include representative part numbers. Bold models: Preferred Availability. Please consult the product page for more details.



## E3FA - M18 Barrel Photoelectric Sensor

- Simplicity in selection and installation
- Compact size with flush mounting option
- IP67, IP69K for wash down resistance
- Straight or right angle (E3RA) models in cylindrical M18 plastic housing
- Background suppression, Limited Distance and Transparent detection models available



Sensor Type	Sensor Distance	Connection	PNP Model	NPN Model
Through-beam (emitter + receiver)*	20m (Red LED)	2m Cable	E3FA-TP11 2M	E3FA-TN11 2M
		M12 Connector (4 pins)	<b>E3FA-TP21</b>	<b>E3FA-TN21</b>
Retro-reflective with MSR function	0.1 to 4m (Red LED)	2m Cable	<b>E3FA-RP11 2M</b>	<b>E3FA-RN11 2M</b>
		M12 Connector (4 pins)	<b>E3FA-RP21</b>	<b>E3FA-RN21</b>
Diffuse-reflective*	100mm (Red LED)	2m Cable	E3FA-DP11 2M	<b>E3FA-DN11 2M</b>
		M12 Connector (4 pins)	<b>E3FA-DP21</b>	<b>E3FA-DN21</b>
	300mm (Red LED)	2m Cable	<b>E3FA-DP12 2M</b>	<b>E3FA-DN12 2M</b>
		M12 Connector (4 pins)	<b>E3FA-DP22</b>	<b>E3FA-DN22</b>
	1m (Red LED)	2m Cable	E3FA-DP13 2M	E3FA-DN13 2M
		M12 Connector (4 pins)	<b>E3FA-DP23</b>	E3FA-DN23
Background suppression	100mm (Red LED)	2m Cable	E3FA-LP11 2M	E3FA-LN11 2M
		M12 Connector (4 pins)	<b>E3FA-LP21</b>	E3FA-LN21
	200mm (Red LED)	2m Cable	E3FA-LP12 2M	E3FA-LN12 2M
		M12 Connector (4 pins)	E3FA-LP22	E3FA-LN22

\*Note for these sensing modes Infrared LED models are available.

Note: Tables include representative part numbers. Bold models: Preferred Availability. Please consult the product page for more details.

## E3Z-F - M18 Barrel Mount Photoelectric Sensor

- Visible alignment spot simplifies set-up
- Popular M18 nose mounting
- Models with infrared LEDs available
- Offers various types of sensing distances



Sensor Type	Sensor Distance	Connection	PNP Model	NPN Model
Through-beam (emitter+receiver)*	20 m	2m Cable	E3Z-FTP11 2M	E3Z-FTN11 2M
		M12 Connector (4 pins)	E3Z-FTP21	E3Z-FTN21
Retro-reflective with MSR Function	0.1 to 4m	2m Cable	E3Z-FRP11 2M	E3Z-FRN11 2M
		M12 Connector (4 pins)	<b>E3Z-FRP21</b>	<b>E3Z-FRN21</b>
Diffuse-reflective*	100 mm	2m Cable	E3Z-FDP11 2M	E3Z-FDN11 2M
		M12 Connector (4 pins)	E3Z-FDP21	E3Z-FDN21
	300 mm	2m Cable	E3Z-FDP12 2M	E3Z-FDN12 2M
		M12 Connector (4 pins)	E3Z-FDP22	E3Z-FDN22
	500 mm	2m Cable	E3Z-FDP13 2M	E3Z-FDN13 2M
		M12 Connector (4 pins)	E3Z-FDP23	E3Z-FDN23
	1 m	2m Cable	E3Z-FDP14 2M	E3Z-FDN14 2M
		M12 Connector (4 pins)	E3Z-FDP24	E3Z-FDN24

Note:

Reflectors for retroreflective models are sold separately under code E39-R1S

\*Note for these sensing modes Infrared LED models are available

Note: Tables include representative part numbers. Bold models: Preferred Availability. Please consult the product page for more details.

## E3AS-HL - Photoelectric Sensor

- Limited effect of color or reflectivity
- Small and complex object detection
- Line and spot beam for 150mm and 500mm sensing distances
- IP69K and IP67G
- Ecolab tested and certified detergent resistance
- Advanced ease-of-use, single teach button, OLED screen
- IO-Link distance output monitoring and configuration



Sensor Type	Sensor Distance	Beam Type	Connection	PNP Model (I/O Link)	NPN Model
CMOS laser	500 mm	Spot	Pre-wire M12 Connector	E3AS-HL500MT-M1TJ 0.3M	E3AS-HL500MN-M1TJ 0.3M
		Line		E3AS-HL500LMT-M1TJ 0.3M	E3AS-HL500LMN-M1TJ 0.3M
	150 mm	Spot		E3AS-HL150MT-M1TJ 0.3M	E3AS-HL150MN-M1TJ 0.3M
		Line		E3AS-HL150LMT-M1TJ 0.3M	E3AS-HL150LMN-M1TJ 0.3M
	500 mm	Spot	M8 4pin	E3AS-HL500MT M3	E3AS-HL500MN M3
		Line		E3AS-HL500LMT M3	E3AS-HL500LMN M3
	150 mm	Spot		E3AS-HL150MT M3	E3AS-HL150MN M3
		Line		E3AS-HL150LMT M3	E3AS-HL150LMN M3

## E3AS-F - Photoelectric Sensor

- Minimal color influence on sensing distance
- 50mm to 1500mm sensing range
- IP69K and IP67G
- Ecolab tested and certified detergent resistance
- Single teach button
- IO-Link distance output monitoring and configuration



Sensor Type	Sensor Distance	Material	Connection	PNP Model (I/O Link)	NPN Model
Time of Flight with Background Suppression	50 - 1500 mm	Stainless Steel	Pre-wired M12 Connector	E3AS-F1500IMT-M1TJ 0.3M	E3AS-F1500IMN-M1TJ 0.3M
			M8 4pin Connector	E3AS-F1500IMT M3	E3AS-F1500IMN M3
		Plastic	Pre-wired M12 Connector	E3AS-F1500IPT- M1TJ 0.3M	E3AS-F1500IPN-M1TJ 0.3M
			M8 4pin Connector	E3AS-F1500IPT M3	E3AS-F1500IPN M3
	50 - 1000 mm	Stainless Steel	Pre-wired M12 Connector	E3AS-F1000IMT-M1TJ 0.3M	E3AS-F1000IMN-M1TJ 0.3M
			M8 4pin Connector	E3AS-F1000IMT M3	E3AS-F1000IMN M3
		Plastic	Pre-wired M12 Connector	E3AS-F1000IPT-M1TJ 0.3M	E3AS-F1000IPN-M1TJ 0.3M
			M8 4pin Connector	E3AS-F1000IPT M3	E3AS-F1000IPN M3

Note: Tables include representative part numbers. Bold models: Preferred Availability. Please consult the product page for more details.

## E3AS-L - Photoelectric Sensor

- Enhanced background suppression-Reduced black/white error and differential travel
- 200mm or 80mm sensing range
- IP69K and IP67G
- Ecolab tested and certified detergent resistance
- Single teach button
- IO-Link configurability



Sensor Type	Sensor Distance	Material	Connection	PNP Model (I/O Link)	NPN Model
Diffuse with Background Suppression	10 - 200 mm	Stainless Steel	Pre-wired M12 Connector	E3AS-L200MT-M1TJ 0.3M	E3AS-L200MN-M1TJ 0.3M
	10 - 80 mm			E3AS-L80MT-M1TJ 0.3M	E3AS-L80MN-M1TJ 0.3M
	10 - 200 mm		M8 4pin Connector	E3AS-L200MT M3	E3AS-L200MN M3
	10 - 80 mm			E3AS-L80MT M3	E3AS-L80MN M3

## E3S-DC - Color Mark Detection Sensor

- High signal to noise ratio detects subtle color differences.
- High luminance, three-element (RGB) LED light source for greater light intensity.
- Highly efficient optics technology provides high power and enables stable detection even of subtle color differences.



Type	Sensor Distance	Connection	Output	Baud Rate (IO-Link)	Model
Diffuse - reflective (mark detection)	10 ± 3mm	M12 Connector	PNP	COM 3 (230, 4 kbps)	E3S-DCP21-IL3
			NPN	---	E3S-DCN21

Note: Tables include representative part numbers. Bold models: Preferred Availability. Please consult the product page for more details.

## E3NX-FA - High Speed Digital Fiber Amplifier

- Easy teaching by Smart tuning within a few seconds
- New N-Smart technology provides significant improvement for sensing distance, minimum object detection and speed
- Easy and transparent information about sensor status by Solution Viewer and Change Finder function
- EtherCAT Communication unit for high-speed field bus connectivity



Setting/Function	Sensor Distance	Inputs/Outputs	Connection	PNP Model	NPN Model
Standard Models	Sensing distance up to 4m depending on fiber used	1 output	2 m	E3NX-FA41 2M	E3NX-FA11 2M
Advanced Models		2 outputs + 1 input	2 m	E3NX-FA51 2M	E3NX-FA21 2M
Analog Output Models		2 outputs	2 m	E3NX-FA41AN 2M	E3NX-FA11AN 2M

Note: Infrared standard models are available as well as connector options for standard, advanced, and infrared models.

## E3X-HD - Advanced Fiber Amplifier

- Simple one-button smart tuning for sensor threshold and light intensity
- Confirm settings and status easily with dual digital display
- Automatic compensation for large objects and low reflectance dark targets



Setting / Function	Range	Connection	PNP Model	NPN Model
Advanced digital amplifier	Up to 4m depending on fiber model	2m Cable	<b>E3X-HD41 2M</b>	<b>E3X-HD11 2M</b>
		M8 Connector	<b>E3X-HD44</b>	E3X-HD14

Note: Tables include representative part numbers. Bold models: Preferred Availability. Please consult the product page for more details.

## E3X-NA / SD - Fiber Optic Amplifiers

- Easy adjustment with potentiometer
- Mutual interference prevention
- Enhanced water resistance types



Setting / Function	Distance	Connection	PNP Model	NPN Model
Potentiometer and Bargraph	Depending on the fiber optic model	2m Cable	<b>E3X-NA41</b>	<b>E3X-NA11</b>
Teach Button and digital display			<b>E3X-SD51</b>	E3X-SD21

## E3NX-CA - Colormark Fiber Amplifier

- High signal to noise ratio makes subtle color difference detection easy
- Able to handle glossy materials
- Stable even when lots change



Model	Sensor Distance	Connection	Inputs / Outputs	PNP Model	NPN Model
Standard Model	Sensor distance depends on selected fiber model	2m Cable	1 output	<b>E3NX-CA41 2M</b>	<b>E3NX-CA11 2M</b>
Advanced Model			2 outputs / 1 input	<b>E3NX-CA51 2M</b>	<b>E3NX-CA21 2M</b>

\*For fiber options, or models for special applications, refer to the E32 fibers catalog on the Omron website.

Note: Tables include representative part numbers. Bold models: Preferred Availability. Please consult the product page for more details.

## E3ZM-V - Colormark Detection Sensor

- Compact SUS 316L colormark photoelectric sensor
- Ideal for high contrast colormark detection in a small package
- IP69K and IP67 rated for environmental robustness
- 50 us response time
- Single teach button



Type	Sensor Distance	Connection	PNP	NPN
Diffuse - reflective (color mark detection)	12 ± 2mm	Pre-wired	E3ZM-V81 2M	E3ZM-V61 2M
		M8 Connector	E3ZM-V86	E3ZM-V66

## ZX1 - CMOS Laser Measurement Sensor

- Down to 2um resolution
- Best in class performance for accuracy and speed
- Increased measurement range
- Stable measurement for objects with any surface
- Simple configuration by one-button, Smart Tuning
- Compact size for quick mounting



Range	Resolution	Connection	PNP Model	NPN Model
50 ± 10 mm	2um	2 m Cable	ZX1-LD50A81 2M	ZX1-LD50A61 2M
100 ± 35 mm	7um		ZX1-LD100A81 2M	ZX1-LD100A61 2M
300 ± 150 mm	30um		ZX1-LD300A81 2M	ZX1-LD300A61 2M
600 ± 400 mm	80um		ZX1-LD600A81 2M	ZX1-LD600A61 2M

Note: Models with 5-meter cable and pre-wired M12 connector available.

Note: Tables include representative part numbers. Bold models: Preferred Availability. Please consult the product page for more details.

## Sensor Cordsets

- Standard PVC or PUR cordsets for a wide variety of applications
- M8 and M12 connector sizes with 3 and 4 pin configurations
- Straight, right angle, and double ended variations available
- 2m, 5m, and 10m cordset lengths are available. Alternative lengths are also available



Material	Connector Size	No. of Pins	Length	Straight Connector	Right Angle Connector	
PUR	M8	3 Pins	2 m	XS3F-M8PUR3S2M	XS3F-M8PUR3A2M	
			5 m	<b>XS3F-M8PUR3S5M</b>	XS3F-M8PUR3A5M	
			10 m	XS3F-M8PUR3S10M	XS3F-M8PUR3A10M	
		4 Pins	2 m	XS3F-M8PUR4S2M	XS3F-M8PUR4A2M	
			5 m	<b>XS3F-M8PUR4S5M</b>	<b>XS3F-M8PUR4A5M</b>	
			10 m	<b>XS3F-M8PUR4S10M</b>	XS3F-M8PUR4A10M	
	M12	4 Pins	2 m	XS2F-M12PUR4S2M	XS2F-M12PUR4A2M	
			5 m	<b>XS2F-M12PUR4S5M</b>	<b>XS2F-M12PUR4A5M</b>	
			10 m	<b>XS2F-M12PUR4S10M</b>	XS2F-M12PUR4A10M	
	PVC	M8	3 Pins	2 m	XS3F-M8PVC3S2M	XS3F-M8PVC3A2M
				5 m	XS3F-M8PVC3S5M	XS3F-M8PVC3A5M
				10 m	XS3F-M8PVC3S10M	XS3F-M8PVC3A10M
4 Pins			2 m	XS3F-M8PVC4S2M	XS3F-M8PVC4A2M	
			5 m	XS3F-M8PVC4S5M	XS3F-M8PVC4A5M	
			10 m	XS3F-M8PVC4S10M	XS3F-M8PVC4A10M	
M12		3 Pins	2 m	XS2F-M12PVC3S2M	XS2F-M12PVC3A2M	
			5 m	XS2F-M12PVC3S5M	XS2F-M12PVC3A5M	
			10 m	XS2F-M12PVC3S10M	XS2F-M12PVC3A10M	
		4 Pins	2 m	<b>XS2F-M12PVC4S2M</b>	XS2F-M12PVC4A2M	
			5 m	<b>XS2F-M12PVC4S5M</b>	<b>XS2F-M12PVC4A5M</b>	
			10 m	<b>XS2F-M12PVC4S10M</b>	XS2F-M12PVC4A10M	

### Double-ended cordsets

Material	Connector Size	No. of Pins	Length	Straight Connector	Right Angle (Socket)/Straight (Plug)
PVC	M12	4	2 m	XS2W-D421-D81-F	XS2W-D424-D81-F
			5 m	XS2W-D421-G81-F	XS2W-D424-G81-F
			10 m	XS2W-D421-J81-F	XS2W-D424-J81-F

Note: Tables include representative part numbers. Bold models: Preferred Availability. Please consult the product page for more details.



## S8VK - Complete Line Of Power Supplies

- Compact single-phase and three-phase power supplies
- Operating Temperature: -40°C to 70°C (S8VK-G and S8VK-T) and -25°C to 60°C (S8VK-C)
- 5 year warranty
- Power Boost Function: 120% for 10s (S8VK-G/T)



Line	Power	Output Voltage	Output Current	Capacity	Model	
Economy Single-Phase	100 to 240 VAC 90 to 350 VDC	24V	2.5 A	60 W	<b>S8VK-C06024</b>	
			5 A	120 W	<b>S8VK-C12024</b>	
			10 A	240 W	S8VK-C24024	
			20 A	480 W	S8VK-C48024	
General Purpose Single-phase		5V	3 A	15 W	S8VK-G01505	
				30 W	S8VK-G03012	
		24V	10 A	1.3 A	30 W	S8VK-G03024
				2.5 A	60 W	<b>S8VK-G06024</b>
				5 A	120 W	<b>S8VK-G12024</b>
				10 A	240 W	<b>S8VK-G24024</b>
				20 A	480 W	S8VK-G48024
		48V	10 A	480 W	S8VK-G48048	
	Three-phase	380 to 480 VAC 450 to 600 VDC	24V	5 A	120 W	S8VK-T12024
				10 A	240 W	<b>S8VK-T24024</b>
20 A				480 W	<b>S8VK-T48024</b>	
40 A				960 W	S8VK-T96024	

Note: Tables include representative part numbers. Bold models: Preferred Availability.

Please refer to the [Component selection guide](#) for more details.

## S8VK-X - Power Supply With EtherNet / IP

- Product replacement time, output voltage, output current, and more can be monitored remotely on the Ethernet/IP network
- Product status can be checked on-site using the indication monitor
- Remote monitoring with included software tool



Line	Power	Output Voltage	Output Current	Capacity	Model
EtherNet/IP Communication With Display	100 to 240 VAC 90 to 350 VDC	24V	3.75 A	90 W	<b>S8VK-X09024A-EIP</b>
			5 A	120 W	<b>S8VK-X12024A-EIP</b>
			10 A	240 W	<b>S8VK-X24024A-EIP</b>
2.5 A			60 W	S8VK-X06024-EIP	
3.75 A			90 W	<b>S8VK-X09024-EIP</b>	
5 A			120 W	S8VK-X12024-EIP	
10 A			240 W	S8VK-X24024-EIP	
20 A			480 W	S8VK-X48024-EIP	
EtherNet/IP Communication Without Display					

## S8V-CP - Electronic Circuit Protector

- Compact design saves panel space compared to standard circuit breakers
- 3-step LED indicators for easy identification of channel status
- 4 and 8 channel models available with individual output current adjustments for various loads
- Available UL Class-2 output model



Power	Output Voltage	Number of Outputs	Maximum Input Current	Adjustment Output Current	Model
24 VDC	24 VDC	4	40A	2 A up to 10 A	<b>S8V-CP0424</b>
		8	70A	2 A up to 10 A	S8V-CP0824

Note: Tables include representative part numbers. Bold models: Preferred Availability.  
Please refer to the [Component selection guide](#) for more details.

## H5CX-N - Digital Timer

- 15 Different timing settings
- High Precision and Excellent Performance
- Available IP66 rating with optional waterproof cover
- Time parameterization from 0.001s to 9999h



Power	Terminal Type	Output Type	Model
12 - 24V AC/DC	Screw	Relay	H5CX-AD-N AC24/DC12-24
		Transistor	H5CX-ASD-N DC12-24/AC24
100 - 240 VAC		Relay	<b>H5CX-A-N AC100-240</b>

## H7CX-N - Digital Counters

- Multi-function Counter/Tachometer
- High Precision and Excellent Performance
- Available IP66 rating with optional waterproof cover
- 4 and 6 digit displays are available

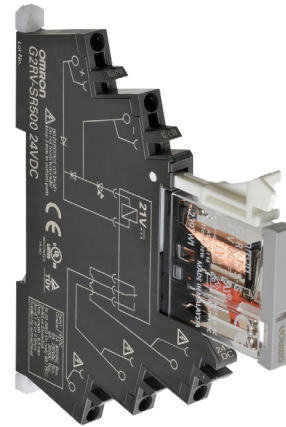


Power	Terminal type	Output Type	Display Digits	Model
12 - 24V AC/DC	Screw	Relay	6	<b>H7CX AD-N DC12-24</b>
		Transistor		H7CX-ASD-N DC12-24
100 - 240 VAC		Relay		<b>H7CX-A-N AC100-240</b>
		Transistor		H7CX-AS-N AC100-240

Note: Tables include representative part numbers. Bold models: Preferred Availability.  
 Please refer to the [Component selection guide](#) for more details.

## G2RV-SR - Slim I/O Relay

- Push-in plus Technology for easy wiring
- Lockable test switch models available for circuit troubleshooting
- LED/mechanical flag available for checking operation
- Slim 6mm width – space saving
- Gold plate contact models available for micro loads



Coil Voltage	Contact Rating	Contact Form	Screw Terminal Model	Push-in Terminal Model	Individual Relay for Replacement
24 VDC	6 A	SPDT	<b>G2RV-SR700 DC24</b>	<b>G2RV-SR500 DC24</b>	G2RV-1-S- DC21
110 VAC			<b>G2RV-SR700 AC110</b>	<b>G2RV-SR500 AC110</b>	G2RV-1-S DC48
230VAC			G2RV-SR700 AC230	G2RV-SR500 AC230	

### Accessories

Description	Number of Poles	Red	Blue	Yellow
Jumper bar	20	PYDN-6.2-200R	PYDN-6.2-200S	PYDN-6.2-200Y

Note: Tables include representative part numbers. Bold models: Preferred Availability.  
 Please refer to the [Component selection guide](#) for more details.

## G2R-S - Slim Mechanical Relay

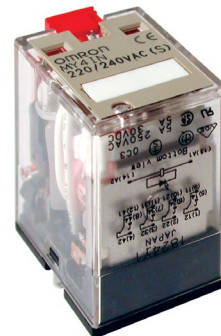
- Lockable test switch models available for circuit troubleshooting
- LED/mechanical flag available for checking operation
- Available DIN-rail mount relay sockets
- Slim 16mm design with socket



Coil Voltage	Contact Rating	Contact Form	Relay Socket Model	Relay Model
12 VDC	10 A	SPDT	P2RFZ-05E/P2RF-05-PU	G2R-1-S DC12(S)
24 VDC				<b>G2R-1-S DC24(S)</b>
120 VAC				<b>G2R-1-SN AC120(S)</b>
240 VAC				G2R-1-SN AC240(S)
12 VDC	5 A	DPDT	P2RFZ-08E/P2RF-08-PU	G2R-2-S DC12(S)
24 VDC				<b>G2R-2-S DC24(S)</b>
120 VAC				<b>G2R-2-S AC120(S)</b>
240 VAC				G2R-2-S AC240(S)

## MY - General Purpose Ice Cube Relay

- DPDT type 10 A / 4PDT type 5 A
- Lockable test switch models available for circuit troubleshooting
- LED/mechanical flag available for checking operation
- Low power switching (1 mA at 5 VDC) / Bifurcated 4PDT (0.1 mA at 1 VDC)



Coil Voltage	Contact Rating	Contact Form	Relay Socket Model	Relay Model
24 VDC	10 A	DPDT	PYFZ-08-E/PYF-08-PU	<b>MY2N DC24 (S)</b>
120 VAC				<b>MY2N AC110/120 (S)</b>
220 VAC				MY2N AC220/240 (S)
24 VDC	5 A	4PDT	PYFZ-14-E/PYF-14-PU	<b>MY4N DC24 (S)</b>
120 VAC				<b>MY4N AC110/120 (S)</b>
220 VAC				MY4N AC220/240 (S)

Note: Tables include representative part numbers. Bold models: Preferred Availability.

Please refer to the [Component selection guide](#) for more details.

## E5CC/E5DC - General-Purpose Temperature Controllers

- High contrast white PV display
- High-speed sampling at 50ms
- Available auxiliary outputs, event inputs, a transfer output, and a remote SP input
- Short body with a depth of 60mm
- Available IP66 rating with optional waterproof cover



Dimensions	Type of Input	Power	Type of Output	Auxiliary Output	Standard Model
48 x 48 x 60 mm	Thermocouple, PT100, Analogical	100 -240 VAC	Relay	SPST-NO contacts (Relay Output)	E5CC-RX3A5M-000
			Voltage		E5CC-QX3A5M-000
			Current		E5CC-CX3A5M-000
		24 VAC / VDC	Relay		E5CC-RX3D5M-000
			Voltage		E5CC-QX3D5M-000
			Current		E5CC-CX3D5M-000
22.5mm For DIN rail mount	Thermocouple, PT100, Analogical	100-240 VAC	Relay	E5DC-RX2ASM-000	
			Current	E5DC-CX2ASM-000	
		24VAC / VDC	Relay	E5DC-RX2DSM-000	
			Voltage	E5DC-QX2DSM-002	

Note: Tables include representative part numbers. Bold models: Preferred Availability.  
Please refer to the [Component selection guide](#) for more details.

## K6CM - Motor Condition Monitor

- 24/7 remote monitoring of critical 3-phase induction motors
- Can monitor motor vibration, temperature, current, and insulation resistance depending on model
- EtherNet/IP and Modbus TCP communication
- Included monitoring software tool can monitor up to 10 motors at one time



Motor failure mode	Description	Power	Controller model	Sensor Model
Bearing Wear	Monitors motor vibration/temperature with sensor	24 VAC/DC	<b>K6CM-VBMD-EIP</b>	<b>K6CM-VBS1</b>
Overload Condition	Monitors motor current and degradation level using a CT sensor	24 VAC/DC	<b>K6CM-CI2MD-EIP</b>	<b>K6CM-CICB025</b> <b>K6CM-CICB100</b> <b>K6CM-CICB200</b> <b>K6CM-CICB400</b>
Insulation breakdown	Monitors motor insulation and current leakage with sensor	24 VAC/DC	K6CM-ISMD-EIP	K6CM-ISZBI52

## K6PM - Thermal Condition Monitor

- 24/7 remote thermal monitoring of equipment using infrared thermal image sensors
- Thermal Imaging Sensor that detects temperatures 32-392°F (0-200°C)
- EtherNet/IP and Modbus TCP communication
- Included monitoring software tool can monitor up to 155 sensors at one time



Power	Controller	Thermal image Sensor
24 VAC/DC	K6PM-THMD-EIP	<b>K6PM-THS3232</b>

Note: Tables include representative part numbers. Bold models: Preferred Availability.  
Please refer to the [Component selection guide](#) for more details.

## K8AK / K8DS – Monitoring Relays

- Three-phase and single-phase relays for voltage and current monitoring
- Complete line for monitoring sequence and phase drop, asymmetry, under or over control
- Supply voltages: 24 VAC/DC, 100 to 240 VAC, 380-480 VAC
- Special models for monitoring temperature and liquid level



Phase	Dimensions	Monitoring Type	Input	Output Contact Form	Model
Single-Phase	K8AK - 22.5 x 90 x 100 [mm]	Over Current	24 VAC/DC or 100 to 240 VAC	SPDT	K8AK-AS2 24VAC/DC
		Overvoltage and Undervoltage	24 VAC/DC or 100 to 240 VAC	SPDT	K8AK-VW2 24VAC/DC
Three-Phase	K8DS: 17.5 x 80 x 69 [mm]	Phase Drop and Phase Sequence	200-480 VAC	DPDT SPDT	<b>K8AK-PH1 200/500VAC</b> K8DS-PH1 200/480VAC
		Phase Drop, Phase Sequence, Overvoltage and Undervoltage	200-240 VAC	(2) SPDT	K8AK-PM1 200/240VAC
			380-480 VAC		K8AK-PM2 380/480VAC

Note: Tables include representative part numbers. Bold models: Preferred Availability.  
Please refer to the [Component selection guide](#) for more details.



## A2W - Wireless Pushbutton

- 8 pushbuttons can be assigned to one receiver unit
- Each receiver has 8 transistor outputs (one-shot operation)
- LED signal strength indicator on each button
- Battery-less pushbutton (uses self-generating power)



### Pushbutton Unit

Type	Button type	Frequency (MHz)	Area	Button color	Flange color	Model
Pushbutton	Mushroom	922.5	United States or Canada	Green	Black	A2W-TC-WC1 US1GB
	Full guard			Red	Black	A2W-TC-WC1 US2RB
				Green	Black	A2W-TC-WC1 US2GB
				Yellow	Black	A2W-TC-WC1 US2YB
				Blue	Black	A2W-TC-WC1 US2AB
				Black	Black	A2W-TC-WC1 US2BB

### Receiver Unit

Type	Frequency (MHz)	Area	Output configuration	Model
Receiver	922.5	United States or Canada	PNP	A2W-RCP-WC1 US

Note: This product is a wireless device that conforms to the radio regulations of United States or Canada. It cannot be used outside of United States or Canada.

### Accessories (sold separately)

Type	Model	Remarks
High-sensitivity magnetic-base antenna	A2W-AT2.5-WC1	Frequencies: all frequencies supported, cable length 2.5 m Degree of protection: IP65

Note: Tables include representative part numbers. Bold models: Preferred Availability.  
Please refer to the [Component selection guide](#) for more details.

## A22N / M22N - Push Buttons And Indicators

- Complete line with Ø 22mm assemblies
- Various colors and models with plastic or metallic bezels
- Color coded contact blocks to prevent assembly errors
- Easy installation and IP66 degree of protection



Type	Bezel material	Color	Contact	LED Voltage	Model
A22NN - Push Button	(1) Bezel Material B – Plastic R – Metallic	(2) Color B – Red G – Green Y – Yellow W – White A – Blue B – Black	1 NO	(3) LED Voltage N – No lighting A – 6 VAC/VDC B – 12 VAC/VDC C – 24VAC/VDC D – 100/120 VAC/VDC E – 200/240 VAC/VDC	A22NN-RNM-NGA-G100-NN
			1 NO		A22NN-RNM-NBA-G100-NN
A22NL - Lighted Push Button			1 NO		A22NL-BGM-TGA-G100-GC
			1 NO		A22NL-RPM-TRA-G100-RC
M22N - Indicators			---		M22N-BC-TYA-YC
			---		M22N-BN-TGA-GC
A22NS - Selector			2 positions - 1NO		A22NS-2RM-NBA-G100-NN
			3 positions - 2NO		A22NS-3RM-NBA-G101-NN
A22NK - Selector with Key			2 positions - 1NO		A22NK-2RM-01AA-G100
			2 positions - 1NO		A22NK-2RL-01BA-G100

Item	Model
Contact block 1NO	A22NZ-S-G1A
Contact block 1NC	A22NZ-S-G1B

Note: Tables include representative part numbers. Bold models: Preferred Availability.  
Please refer to the [Component selection guide](#) for more details.

# CP1H – MicroPLC for 4 Axis Position Control and High Speed Control

- High-speed counters with differential phases and pulse outputs for 4 axes control. Easily handles multi-axis control with a single unit.
- Up to two Ethernet ports and two serial ports when selecting the appropriate optional communications boards
- Up to 40 Built in I/O points with Analog I/O built in on XA CPU units
- Over 30 different expansion units for I/O, temperature sensing and communications



Type	Input Points	Output Points	Expandable up to*	Program Capacity	Data Memory Capacity	Power Supply	Output Method	Built-In Functions			Model
								E	I/C	P	
CP1H-X with pulse outputs for 4 axes	24	16	320 points	20K steps	32K words	85 to 264 VAC	Relay output	4	8	--	CP1H-X40DR-A
						20.4 to 26.4 VDC	Transistor output (sink type)	4	8	4	CP1H-X40DT-D
							Transistor output (source type)	4	8	4	CP1H-X40DT1-D
CP1H-XA with built-in analog I/O (4 analog inputs/2 analog outputs; 1/12,000 resolution)	12	8	300 points	20K steps	32K words	85 to 264 VAC	Relay output	4	8	--	<b>CP1H-XA40DR-A</b>
						20.4 to 26.4 VDC	Transistor output (sink type)	4	8	4	<b>CP1H-XA40DT-D</b>
							Transistor output (source type)	4	8	4	CP1H-XA40DT1-D
CP1H-Y with 1-MHz pulse I/O						20.4 to 26.4 VDC	Transistor output (sink type)	4**	6	4**	CP1H-Y20DT-D

Note: Built-in functions: E = Encoder inputs; I/C = Interrupts/counters; P = Pulse outputs

\*CP1H CPU series can be expanded with CP-series Expansion Units and CJ1 Special I/O Units.

\*\* Encoder inputs: 2x 1 MHz + 2x 100 kHz; Pulse outputs: 2x 1 MHz + 2x 100 kHz.

Note: Tables include representative part numbers. Bold models: Preferred Availability. Please consult the product page for more details.

## CP2E - Micro PLC for Data Collection and Machine-To-Machine Communication

- Up to five communications channels: dual Ethernet and up to three serial ports for data collection, machine-to-machine or IIoT
- Built-in I/O of either 14, 20, 30, 40 or 60 points with up to 180 I/O points when using expansion modules
- Up to four axes of motion control for precise machine movement



### CP2E-N/Network Models

I/O points	Specifications								
	Power Supply	Inputs	Outputs	Output Type	Communications	Axis	Option Boards	Expansion Units	Model
14	100 to 240 VAC	8	6	Relay	1 Ethernet port Up to 2 serial ports	2	1		CP2E-N14DR-A
	24 VDC			Transistor (sinking)					CP2E-N14DT-A
				Relay					CP2E-N14DR-D
				Transistor (sinking)					CP2E-N14DT-D
			Transistor (sourcing)	CP2E-N14DT1-D					
20	100 to 240 VAC	12	8	Relay	1 Ethernet port Up to 2 serial ports	2	1		CP2E-N20DR-A
	24 VDC			Transistor (sinking)					CP2E-N20DT-A
				Relay					CP2E-N20DR-D
				Transistor (sinking)					CP2E-N20DT-D
			Transistor (sourcing)	CP2E-N20DT1-D					
30	100 to 240 VAC	18	12	Relay	2 Ethernet ports Up to 3 serial ports	4	2	3	<b>CP2E-N30DR-A</b>
	24 VDC			Transistor (sinking)					CP2E-N30DT-A
				Relay					CP2E-N30DR-D
				Transistor (sinking)					CP2E-N30DT-D
			Transistor (sourcing)	CP2E-N30DT1-D					
40	100 to 240 VAC	24	16	Relay	2 Ethernet ports Up to 3 serial ports	4	2	3	<b>CP2E-N40DR-A</b>
	24 VDC			Transistor (sinking)					CP2E-N40DT-A
				Relay					CP2E-N40DR-D
				Transistor (sinking)					CP2E-N40DT-D
			Transistor (sourcing)	CP2E-N40DT1-D					
60	100 to 240 VAC	36	24	Relay	2 Ethernet ports Up to 3 serial ports	4	2	3	CP2E-N60DR-A
	24 VDC			Transistor (sinking)					CP2E-N60DT-A
				Relay					CP2E-N60DR-D
				Transistor (sinking)					CP2E-N60DT-D
			Transistor (sourcing)	CP2E-N60DT1-D					

Note: Tables include representative part numbers. Bold models: Preferred Availability. Please consult the product page for more details.



# CP1L - Micro PLC

- Compact PLC for up to 180 I/O points
- Programming via USB port or Ethernet port based on model
- Optional boards for Analog, Serial and Ethernet communication on select models
- Supports up to 4 encoders and 2 pulse train outputs (transistor models only)



Family	Power Supply	Amount of I/Os in the CPU			Expansion Units	Communication Ports	Option Boards	Output Type	Model
		Digital		Analog					
		Inputs	Outputs	Inputs					
CP1L-EM	24 VDC	24	16	2 (0-10V)	3	Ethernet FINS	2	Transistor (sourcing)	<b>CP1L-EM40DT1-D</b>
	24 VDC	24	16	2 (0-10V)	3	Ethernet FINS	2	Relay	<b>CP1L-EM40DR-D</b>
	24 VDC	18	12	2 (0-10V)	3	Ethernet FINS	2	Transistor (sourcing)	CP1L-EM30DT1-D
	24 VDC	18	12	2 (0-10V)	3	Ethernet FINS	2	Relay	<b>CP1L-EM30DR-D</b>
CP1L-EL	24 VDC	12	8	2 (0-10V)	1	Ethernet FINS	1	Transistor (sourcing)	CP1L-EL20DT1-D
	24 VDC	12	8	2 (0-10V)	1	Ethernet FINS	1	Relay	CP1L-EL20DR-D
CP1L-M	100 to 240 VAC	24	16	No	3	USB	2	Relay	<b>CP1L-M40DR-A</b>
	24 VDC	24	16	No	3	USB	2	Relay	<b>CP1L-M40DR-D</b>
	24 VDC	24	16	No	3	USB	2	Transistor (sourcing)	<b>CP1L-M40DT1-D</b>
	100 to 240 VAC	18	12	No	3	USB	2	Relay	<b>CP1L-M30DR-A</b>
	24 VDC	18	12	No	3	USB	2	Relay	CP1L-M30DR-D
	24 VDC	18	12	No	3	USB	2	Transistor (sourcing)	CP1L-M30DT1-D
CP1L-L	24 VDC	12	8	No	1	USB	1	Transistor (sourcing)	<b>CP1L-L20DT1-D</b>
	24 VDC	12	8	No	1	USB	1	Transistor (sinking)	CP1L-L20DT-D
	100 to 240 VAC	12	8	No	1	USB	1	Relay	<b>CP1L-L20DR-A</b>
	24 VDC	12	8	No	1	USB	1	Relay	CP1L-L20DR-D
	24 VDC	8	6	No	1	USB	1	Transistor (sinking)	CP1L-L14DT-D
	100 to 240 VAC	8	6	No	1	USB	1	Relay	<b>CP1L-L14DR-A</b>

## Expansion Modules and Accessories

Family	Communication Ports	Model
Digital Expansions	8 Inputs	CP1W-8ED
	8 Relay Outputs	CP1W-8ER
	16 Relay Outputs	CP1W-16ER
	12 Inputs and 8 PNP Transistor Outputs	CP1W-20EDT1
	24 Inputs and 16 Relay Outputs	CP1W-40EDR
Analog Expansions Resolution of 12000 points	4 Inputs (0 to 5V, 1 to 5V, 0 to 10V, -10 to + 10V, 0 to 20mA and 4 to 20mA)	CP1W-AD042
	4 Outputs (1 to 5V, 0 to 10V, -10 to + 10V, 0 to 20mA and 4 to 20mA)	CP1W-DA042
	2 Inputs (0 to 5V, 1 to 5V, 0 to 10V, -10 to + 10V, 0 to 20mA and 4 to 20mA)	CP1W-MAD42
	1 Output (1 to 5V, 0 to 10V, -10 to + 10V, 0 to 20mA and 4 to 20mA)	CP1W-MAD42
Optional Communication Adapters	RS-232C Serial Port (15m Distance)	CP1W-CIF01
	RS-422A/485 Serial Port (50m Distance)	CP1W-CIF11
	RS-422A/485 Serial Port (500m Distance)	CP1W-CIF12
Software	Programming Software with 1 license	CXONE-AL01D-V4

Note: Tables include representative part numbers. Bold models: Preferred Availability. Please consult the product page for more details.

# NX1P - Machine Automation Controllers

- Compact entry model with integrated motion and machine control. Connectivity to safety and vision systems
- Up to 4 axes of coordinated motion control plus 4 axes point to point control
- Expandable I/O using up to 8 NX series I/O cards on local bus
- Built in EtherCAT and EtherNet/IP ports
- Connect up to 16 EtherCAT Slaves
- Sysmac Studio IDE for flexible, scalable programming



Built-In Digital I/O		Specifications	Number of Coordinated axes*	Number of point-to-point axes**	Total Axes	Option Boards	Model
Digital							
Inputs	Outputs						
14	10	1.5MB of programming memory, min cycle time up to 2ms	0	4	4	1 Slot	<b>NX1P2-9024-DT1</b>
24	16		2		6	2 Slots	<b>NX1P2-1040-DT1</b>
24	16		4		8		NX1P2-1140-DT1

\* Coordinated Axes Include:

- Point to Point Positioning
- Synchronized Motion (Gearing/Camming)
- Multi-Axes Coordinated Motion (Circular/Linear Interpolation)
- Axes grouping

\*\*Point to Point axes Include:

- Only Point to Point Positioning
- No Synchronized Motion
- No Multi-Axes Coordinated Motion
- No Axes Grouping

Note: PNP transistor Output options shown. For NPN options, go to [automation.omron.com](http://automation.omron.com)

## Option Boards

Type	Description	Communication Protocol	Model
Serial Communication	1 x RS-232C port Transmission Distance: 15 m Connector type: Spring terminal (9 terminals)	Host link, Modbus-RTU Master and no-protocol	NX1W-CIF01
	1 RS-422A/485 Transmission Distance: 50 m Connector type: Spring terminal (5 terminals)		NX1W-CIF11
	1 RS-422A/485 port (isolated) Transmission Distance: 500 m Connector type: Spring terminal (5 terminals)		NX1W-CIF12
Analog Inputs and Outputs	2 x Analog inputs Voltage input: 0 to 10 V (Resolution: 1/4,000) Input current: 0 to 20 mA (1/2,000) Connector type: Spring terminal (5 terminals)		NX1W-ADB21
	2 x Analog inputs / 2 x Analog output Voltage input: 0 to 10 V (Resolution: 1/4,000) Input current: 0 to 20 mA (1/2,000) Voltage output: 0 to 10 V (Resolution: 1/4,000) Connector Type: Spring terminal (8 terminals)		NX1W-MAB221

Note: The expansion cards of the NX1P machine controller line are the same as the NX Series I/O cards.

For information on virtual axes, refer to the catalog on the website [automation.omron.com](http://automation.omron.com)

Note: Tables include representative part numbers. Bold models: Preferred Availability. Please consult the product page for more details.

## NX102 - Machine Automation Controller

- Compact controller integrates production line, safety systems, and IT systems
- EtherCAT (1 port) and EtherNet/IP (2 ports) communication on the same CPU
- OPC UA server functionality
- Up to 8 axes of coordinated motion plus 4 axes of point-to-point control
- Embedded SQL Client Option
- Connect up to 64 EtherCAT slaves
- Expandable IO using up to 32 NX Series I/O cards on local bus
- Sysmac Studio IDE for flexible, scalable programming



Family	Specifications	Number of Coordinated axes *	Number of point-to-point axes **	Total Axes	SQL	Model
NX102	5 MB of programming memory, Min. cycle up to 1ms	0	4	4	No	<b>NX102-9000</b>
					Yes	<b>NX102-9020</b>
		2		6	No	<b>NX102-1000</b>
					Yes	NX102-1020
		4		8	No	NX102-1100
					Yes	NX102-1120
		8		12	No	NX102-1200
					Yes	NX102-1220

Note: The NX-END02 terminal cover is included with the NX102. The HMC-SD291 memory card is supplied with the NX102-\_\_20. The battery is not mounted when the product is shipped. Refer to the datasheet for details.

For information on virtual axes, refer to the catalog on Omron website [automation.omron.com](http://automation.omron.com)

\* Coordinated Axes Include:

- Point to Point Positioning
- Synchronized Motion (Gearing/Camming)
- Multi-Axes Coordinated Motion (Circular/Linear Interpolation)
- Axes grouping

\*\*Point to Point axes Include:

- Only Point to Point Positioning
- No Synchronized Motion
- No Multi-Axes Coordinated Motion
- No Axes Grouping

Note: Tables include representative part numbers. Bold models: Preferred Availability. Please consult the product page for more details.



## NJ - Machine Automation Controllers

- One integrated controller designed to meet extreme requirements in terms of logic sequence, motion control speed, accuracy, and system size
- EtherCAT and Ethernet IP communication on the same CPU
- Ability to manage logic, motion, safety and vision tasks
- Embedded SQL Client Option
- Expandable I/O Using up to 10 CJ Expansion cards
- Sysmac Studio IDE for flexible, scalable programming



Family	Specifications	Number of axes	OPC UA	SQL	Model
NJ1	64 EtherCAT slaves, 3 MB of programming memory, Min. cycle time: 1ms	0	No	No	NJ101-9000
			No	Yes	NJ101-9020
		2	No	No	NJ101-1000
			No	Yes	NJ101-1020
NJ3	192 EtherCAT slaves, 5 MB of programming memory, Min. cycle time: 1ms	4	No	No	NJ301-1100
		8	No	No	NJ301-1200
NJ5	192 EtherCAT slaves, 20 MB of programming memory, Min. cycle time: 0.5 ms	16	Yes	No	NJ501-1300
			No	Yes	<b>NJ501-1320</b>

Note: For information on virtual axes, refer to the catalog on the website [automation.omron.com](http://automation.omron.com)

### Power Supplies

Power Supplies	Capacity	RUN Indicator	Model
100 to 240VAC	30W	NO Relay	<b>NJ-PA3001</b>
24 VDC			<b>NJ-PD3001</b>

### Software and Switches

Type	Description	Model
Software	Sysmac Studio IDE 1 License	SYSMAC-SE201L
Hub	Hub EtherCAT with 3 Ports	GX-JC03
	Hub EtherCAT with 6 Ports	<b>GX-JC06</b>
	Hub EtherNet/IP with 3 Ports	W4S1-03B
	Hub EtherNet/IP with 5 Ports	W4S1-05B

Note: Tables include representative part numbers. Bold models: Preferred Availability. Please consult the product page for more details.

## NX7 - Machine Automation Controllers

- Highest performance Sysmac CPU, designed to address the most demanding industrial control and motion applications, laying the infrastructure for Big Data support
- EtherCAT (1 port) and EtherNet/IP (2 ports) communication on the same CPU
- Dual-core Motion
- 128 or 256 Axes of Motion
- Embedded SQL Client Option
- Sysmac Studio IDE for flexible, scalable programming



Family	Specification	Number of Coordinated Axes	SQL	Model Number
NX7	80 MB of programming memory, minimum cycle time 0.125 ms	128	YES	<b>NX701-1620</b>

### Power Supplies

Power Supplies	Capacity	RUN Indicator	Model
100 to 240VAC	90W	NO Relay	NX-PA9001
24 VDC	70W		NX-PD7001

Note: Tables include representative part numbers. Bold models: Preferred Availability. Please consult the product page for more details.

## NX - Remote I/O

- Wide variety of high density remote I/O Modules
- Ideal match with Sysmac Machine automation controllers
- EtherCAT and EtherNet/IP coupler options
- Platform Agnostic. Easy connectivity to 3rd party systems
- Removable wiring terminals for easy system assembly and testing



Type	Description	Model
Digital I/O	8 Digital Inputs (NPN)	NX-ID4342
	8 Digital Inputs (PNP)	<b>NX-ID4442</b>
	16 Digital Inputs (NPN)	<b>NX-ID5342</b>
	16 Digital Inputs (PNP)	<b>NX-ID5442</b>
	8 Relay NO Outputs	<b>NX-OC4633</b>
	8 Digital Outputs (NPN)	NX-OD4121
	8 Digital Outputs (PNP)	<b>NX-OD4256</b>
	16 digital outputs (NPN)	<b>NX-OD5121</b>
	16 digital outputs (PNP)	<b>NX-OD5256</b>
Analog I/O	4 4-20 mA Analog Inputs	<b>NX-AD3203</b>
	4 4-20mA Analog Outputs	<b>NX-DA3203</b>
	4 Analog Inputs -10 to +10 V	<b>NX-AD3603</b>
	4 Analog Outputs -10 to +10 V	<b>NX-DA3603</b>
Temperature control	4 Thermocouple Inputs	<b>NX-TS3101</b>
	4 RTD Inputs	<b>NX-TS3201</b>
Weighing	1 Input for Load Cell	<b>NX-RS1201</b>
Position control	1 Line-Driver Pulsed Output	NX-PG0122
	1 Incremental Encoder Input	NX-EC0122
Serial Communication	1 RS232C Interface	NX-CIF101
	1 RS485/422A Interface	NX-CIF105
IIoT	IO-Link Master Interface for 4 IO-Link Devices	<b>NX-ILM400</b>
Accessories	Additional Supply for I/Os (4A)	NX-PF0630
	Additional Supply for I/Os (10A)	<b>NX-PF0730</b>
	Additional Source for Communication Bus	<b>NX-PD1000</b>

## Couplers

Network	Communications Cycle	Current Consumption	Maximim I/O power supply current	Model
EtherCAT	250 to 4,000 $\mu$ s	1.45 W or lower	4A	NX-ECC201
			10A	<b>NX-ECC202</b>
	125 to 10,000 $\mu$ s	1.25 W or lower		
EtherNet/IP	-	1.50W or lower		<b>NX-EIC202</b>

Note: Tables include representative part numbers. Bold models: Preferred Availability. Please consult the product page for more details.

## NB - Basic Graphic HMI

- 65K Color TFT display with LED backlight
- Data Logging/Trending, Recipes, Alarms, Remote web viewing
- Graphics Library and Animation
- Free NB Designer programming software
- Preferred for Omron CP controllers



Size	Description		Model
	Communication Port	Resolution	
3.5"	RS232C/RS422	320 x 234	NB3Q-TW00B
5.6"	RS232C/RS422, Ethernet		NB5Q-TW01B
5.6"	RS232C/RS422		NB5Q-TW00B
7"	RS232C/RS422, Ethernet	800 x 480	NB7W-TW01B
7"	RS232C/RS422		NB7W-TW00B
10"	RS232C/RS422, Ethernet		NB10W-TW01B

Note: For more information, refer to the catalog on the website [automation.omron.com](http://automation.omron.com)

## NS - Standard Graphic HMI

- High resolution displays QVGA (5.7") to XGA (15") with LED back lighting
- Ladder Monitor, Programming Console and Troubleshooter for Omron Controllers
- FTP Interface with Ethernet models
- CX Designer programming software
- Preferred for Omron CJ/CS controllers



Size	Description		Model
	Communication Port	Resolution	
5.7"	RS232C	320 x 240 Resolution	<b>NS5-SQ10B-V2</b>
8.4"	EtherNet, RS232C	640 x 480 Resolution	<b>NS8-TV01B-V2</b>
10.4"	RS232C	640 x 480 Resolution	NS10-TV00B-V2
12.1"	EtherNet, RS232C	800 x 600 Resolution	<b>NS12-TS01B-V2</b>
15"	EtherNet, RS232C	1024 x 768 Resolution	<b>NS15-TX01B-V2</b>

Note: Tables include representative part numbers. Bold models: Preferred Availability. Please consult the product page for more details.

## NA - Advanced High Resolution Graphic Display

- Wide screen high resolution display with 16M colors
- Multimedia including video, Word, Excel and PDF viewers
- Sysmac Studio provides the integrated development environment
- Preferred for NJ/NX controllers



Size	Description		Model
	Communication Port	Resolution	
7"	2 Ethernet, USB, RS232	800 x 480	NA5-7W001B-V1
9"			NA5-9W001B-V1
12.1"		1280 x 800	NA5-12W101B-V1
15.4"			NA5-15W101B-V1

Note: Part numbers are for black bezel. Silver bezel available.

Note: Tables include representative part numbers. Bold models: Preferred Availability. Please consult the product page for more details.

## NY - Industrial PC

- No internal cables eliminates faults, maximizes uptime
- Unique simplified thermal design cuts downtime
- Powerful Intel® Core™ technology for optimum performance
- Options for models with no moving parts - increasing reliability
- Box and Panel mount versions

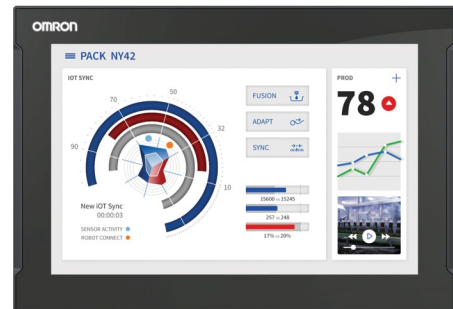


Family	Operational System	CPU	RAM Memory	Storage	Type	Model
NYB	Windows 10 IoT Enterprise LTSB 64bit	Intel Xeon E3-1515M v5	8GB	128GB SSD	Box PC	NYB1E-313K1
		Intel Core i7-4700EQ				NYB17-313K1
		Intel Core i5-7300U				NYB35-313K1
		Intel Core i5-4300U				NYB25-313K1
		Intel Celeron 2980U				NYB1C-313K1
		Intel Core ATOM E3940				NYB2A-30450
NYP		Intel Core i7-4700EQ	8GB	128GB SSD	Monitor Panel 12", 15", 19"	NYP17-313K1-15WC1000
		Intel Core i5-7300U		64GB SSD		NYP35-30350-19WC1000
		Intel Core i5-4300U		128GB SSD		NYP25-31391-15WC1000
		Intel Celeron 2980U		64GB SSD		NYP1C-313K1-15WC1000
		Intel Core ATOM E3940		128GB SSD		NYP2A-30460-19WC1000
				128GB SSD		NYP2A-30460-19WC1000

Note: The NYB family does not come with an industrial monitor.

## NYM - Industrial Monitor

- Multitouch projected capacitive touchscreen
- False touch detection (palm, water)  
Operator can wear gloves
- Optional NY Monitor Link interface for connectivity up to 100m
- Custom logo option



Item	Size	Resolution	Interface	Model
Industrial Monitor	18.5"	1,280 x 800	DVI-D	NYM19W-C1000
	15.4"			NYM15W-C1000
	12.1"			NYM12W-C1000
	18.5"		NY Monitor Link	NYM19W-C1060
	15.4"			NYM15W-C1060
	12.1"			NYM12W-C1060

Note: Tables include representative part numbers. Bold models: Preferred Availability. Please consult the product page for more details.

# NY5 - IPC Machine Controller

- Models available with AI function and with NC function
- Real Time Operating System runs independently of the Windows OS
- Program the machine control with Sysmac Studio using ladder, ST, SFC.
- Machine control program portable to modular NJ controller
- Available in box and panel versions



Operational System	CPU	Number of axes	RAM Memory	Storage	Type	Model
Windows Embedded Standard 7 64 bit	Intel Core i7 4700EQ	64	8 GB	64GB SSD	15.4" Monitor Panel	NY532-1500-112213910
		32				NY532-1400-112213910
		16				NY532-1300-112213910

Note: For models with NC function or with Artificial Intelligence function, refer to the catalog on the website [automation.omron.com](http://automation.omron.com)

Note: Tables include representative part numbers. Bold models: Preferred Availability. Please consult the product page for more details.

## MX-Z2000H-V1 - Laser Marker

- Provides durable, high-resolution marking for advanced traceability (1D & 2D Code Marking)
- Boosts flexibility by marking parts in any orientation (Three axes)
- Marks a wide variety of shapes and curved surfaces
- Performs orientation, marking and verification in a single step



Laser Type	Marking Area	Working Distance	Marking Resolution	Model
1062nm Class 4, 20W	90mm x 90mm	170mm +/- 10mm	2 micron	MX-Z2000H-V1
	160mm x 160mm	220mm +/- 10mm	4 micron	MX-Z2050H-V1
				MX-Z2055H-V1*

\* Large Bean Diameter for coarse marking

### Accessories

Type	Descriptions	Model
Safety Relay	4 pole, DPST-NO, DPST-NC, EN 50205 Class A	<b>G7SA-2A2B DC24</b>
Cable	Controller power supply cable	MX-9301
EE Mode	Energy Enhancement (EE) Mode activation key	MX-9230
Camera Controller	Vision System Controller, Super, Mid Spd CPU, Box 2-Cam	FH-2050
Camera	Hi-Speed Camera 4M pix Color	FH-SC04
Camera Lens	CCTV Lens 16mm	3Z4S-LE SV-1614V
Camera Bracket	Vision Attachment MX-Z2050/55	MX-9151
	Vision Attachment MX-Z2000	MX-9150
Camera Mounting Plate	FH-SC04 Camera Mount for MX-9151	SFP0270

Note: Tables include representative part numbers. Bold models: Preferred Availability. Please consult the product page for more details.



## MS-3, QX-830/870 - 1D Code Readers

- Very high scan speed (Up to 1400 scans/second)
- 1D Code reading with Intelligent Raster
- X-Mode technology for code reconstruction (QX-830 and QX-870)
- IP65 Degree of Protection (QX-870)



Line	Scans per Second	Resolution Code	Distance	Communication	Laser Format	Power	Model
MS-3	300 to 1000	5 to 20 mils*	38 to 254 mm*	Serial (RS-232C) + Serial (RS-232C/422/485)	Single Line	5VDC	FIS-0003-0001G
					Raster Line		<b>FIS-0003-0003G</b>
QX-830	300 to 1400	5 to 40 mils*	38 to 762 mm*	2 x Serial (RS-232C/422/485)	Single Line	10~28VDC	FIS-0830-0001G
					Raster Line		FIS-0830-0004G
QX-870				Serial (RS-232C/422/485), Ethernet TCP/IP, EtherNet/IP	Single Line		FIS-0830-1001G
					Raster Line		FIS-0830-1004G
				2 x Serial (RS-232C/422/485)	Sweeping Raster		FIS-0870-1004G
							FIS-0870-0004G

Note: \* dependent on model #, see data sheet

Note: Tables include representative part numbers. Bold models: Preferred Availability. Please consult the product page for more details.

## MicroHAWK V430/420/330 - Barcode Reader

- Ultracompact readers, with several model options and setting possibilities
- High performance in reading 1D and 2D codes on any surface, including Direct Part Marks
- Extremely simple setting via browser - WebLink, without the need for software installation
- Autofocus with liquid lens (V420-F and V430-F)



Line	Acquisition	Sensor	Focus	Communication	Lighting	IP	Power	Model
V320-F	52 fps	0.34 MP Mono	Fixed 102mm	RS-232C, USB/HID, or Ethernet via USB (USB 2.0 Full-Speed)	Built-in White & Red	IP40	5VDC	V320-F102W03M-NNX
	40 fps	1.2 MP Mono						V320-F102W12M-NNX
V330-F	60 fps	0.34 MP Mono	Fixed 102mm	Ethernet TCP/IP	Built-in White & Red	IP40	36 to 57 VDC (PoE, IEEE 802.3af)	V330-F102W03M-NNX
	42 fps	1.2 MP Mono						V330-F102W12M-NNX
V420-F	60 fps	0.34 MP Mono	Autofocus 50-300mm	RS-232C, USB/HID, or Ethernet via USB (USB 2.0 Full-Speed)	Built-in White & Red + External Red (8 LEDs)	IP54	5VDC	V420-F000W03M-SRX
	42 fps	1.2 MP Mono						V420-F000W12M-SRX
	42 fps	1.2 MP Mono	Autofocus 75-1200mm					V420-F000L12M-SRX
V430-F	60 fps	0.34 MP Mono	Autofocus 50-300mm	RS-232C, Ethernet TCP/IP, EtherNet/IP, PROFINET I/O	Built-in White & Red + External Red (8 LEDs)	IP65/67	5 to 30 VDC	V430-F000W03M-SRX
	42 fps	1.2 MP Mono						V430-F000W12M-SRX
	42 fps	1.2 MP Mono	Autofocus 75-1200mm					V430-F000L12M-SRX
	42 fps	1.2 MP Mono	Autofocus 50-300mm		External Red (24 LEDs)			V430-F000M12M-RRX

Note: Tables include representative part numbers. Bold models: Preferred Availability. Please consult the product page for more details.

## V410H - Handheld Barcode Reader

- Labels or Direct Part Mark barcode reading
- High resolution 1280 x 800 pixels
- Read ranges from contact to 28 inches
- Intuitive and insightful WebLink PC utility and run time with image storage, statistics, reader discovery, troubleshooting and extensive tool tips



Name	Decoding Algorithms	Read Range (10 mil DataMatrix)	Communication	IP Rating	Application	Model
V410-H XD	1D/2D, X-Mode	0 - 12 cm / 0 - 4.6 in	RS-232 / USB	IP52	Direct Part Mark and Labels	V410-HDS4608XD
V410-H SR	1D/2D	2.5 - 29 cm / 1 - 11.5 in			Labels only	V410-HDS4608SR
V410-H HC		0.5 - 24 cm / 0.2 - 9.5 in			Healthcare / Disinfectant resistant	V410-HDS4608HC

### Cables And Accessories

Product	Type	Description	Model
MS-3	Programming	DB15 cable for USB	<b>98-000051-01</b>
QX-830/870	Port A: Power, I/O and Serial	Cable with 12-pin M12 connector, 3m	61-000167-02
	Port B: Serial	Cable with 12-pin M12 connector, 3m	61-000166-02
	Port B: Ethernet	Cable with 8-pin M12 connector for RJ45, 3m	61-000163-03
MicroHAWK V/ F320-F	Power, I/O, Serial and USB	Cable with RJ50 connector, 3m	V320-W8-3M
	RJ50/DB-15 Converter	RJ50 Cable for DB-15, 1m	V320-WR-1M
	Programming	DB-15 cable for USB, 1m	V420-WUB-1M
MicroHAWK V/ F330-F	Standard Ethernet Cable	RJ45 Cable for RJ45	XS6W-5PURBSS_00CM-G
MicroHAWK V/ F420-F	Programming	DB-15 cable for USB, 1m	V420-WUB-1M
MicroHAWK V/ F430-F	Power, I/O and Serial	Cable with 12-pin M12 connector	V430-W8-_M
	Ethernet	Cable with 8-pin M12 connector for RJ45	V430-WE-_M
V410-H	Cable (Required)	CABLE ASSY, UNIVERSAL STYLE 3 USB, 2m, SHIELDED MOD PLUG-V410-H	V410-WUB-2M
	Cable	CBL ASSY, RS232, DB9F, 2m, for connection to communication module or PLC	V410-WR-2M
	Power Supply	Power Supply required for V410-WR-2M RS-232 Cable	V410-AC0-1
	Intelligent Stand	Stand/holder for using in Hands-free mode	V410-AS0
	Communication Module	Serial to Ethernet TCP and EIP DIN rail mounted converter	OEI-EA3600-R1CP-11
	Cable	2m Serial Cable for OEI-EA3600	OEI-CBA-RF2-CO9ZAR

Note: Tables include representative part numbers. Bold models: Preferred Availability. Please consult the product page for more details.

## V680S - RFID Reader/Writer

- All in one controller, amplifier, antenna
- Reads and writes to any ISO 18000-3 compliant RFID Tag
- Diagnostic function for easy setup and troubleshooting
- Ethernet, EtherNet/IP and PROFINET connectivity



Dimensions (mm)	Network	Model
50 x 50 x 30	EtherNet/IP	<b>V680S-HMD63-EIP</b>
	PROFINET	V680S-HMD63-PNT
	Modbus TCP (TCP/IP)	V680S-HMD63-ETN
75 x 75 x 40	EtherNet/IP	V680S-HMD64-EIP
	PROFINET	V680S-HMD64-PNT
	Modbus TCP (TCP/IP)	V680S-HMD64-ETN
120 x 120 x 40	EtherNet/IP	V680S-HMD66-EIP
	PROFINET	V680S-HMD66-PNT
	Modbus TCP (TCP/IP)	V680S-HMD66-ETN

### Tags

Type	Memory	Dimensions (mm)	Installation	Model
No Battery	2 K	40 x 40 x 5	For assembly on non-metallic faceted surface	V680S-D2KF67
			For assembly on metallic faceted surface	V680S-D2KF67M
		86 x 54 x 10	For assembly on non-metallic faceted surface	V680S-D2KF68
			For assembly on metallic faceted surface	V680S-D2KF68M
	8 K	40 x 40 x 5	For assembly on non-metallic faceted surface	V680S-D8KF67
			For assembly on metallic faceted surface	V680S-D8KF67M
		86 x 54 x 10	For assembly on non-metallic faceted surface	V680S-D8KF68
			For assembly on metallic faceted surface	V680S-D8KF68M

Note: For tags in other formats, or labels, refer to Omron website.

Note: Tables include representative part numbers. Bold models: Preferred Availability. Please consult the product page for more details.

# V780 - UHF Long Range RFID Reader/Writer



- All-in-one antenna/amplifier/controller with up to 6m of read/write range
- Ability to network up to 7 slave antennas with a master for increased tag reading area
- Web browser based setup and configuration with advanced diagnostics
- Ethernet (Modbus TCP, EtherNet/IP™) as a standard feature



Dimensions (mm)	Network	Applicable countries	Model
250 × 250 × 70	Modbus/TCP base (TCP/IP)	United States and Canada	V780-HMD68-ETN-US
		Mexico	V780-HMD68-ETN-MX
	EtherNet/IP	United States and Canada	V780-HMD68-EIP-US
		Mexico	V780-HMD68-EIP-MX
	(For Multi-Reader/Writer function *2)	United States and Canada	V780-HMD68-ETN-US-S
		Mexico	V780-HMD68-ETN-MX-S

## Cables and accessories for V680 and V780

Type of Communication	Length	Power cable	Communication cable
Modbus TCP (TCP/IP)	2 Meters		V680S-A41 2M*
	5 Meters		V680S-A41 5M*
	10 Meters		V680S-A41 10M*
V780 EtherNet/IP and PROFINET	1 Meter	XS5F-D421-C80-F	XS5W-T421-CME-K
V680S EtherNet/IP and PROFINET	2 Meters	XS5F-D421-D80-F	XS5W-T421-DMC-K
	5 Meters	XS5F-D421-G80-F	XS5W-T421-GMC-K
	10 Meters	XS5F-D421-J80-F	XS5W-T421-JMC-K

Note: Tables include representative part numbers. Bold models: Preferred Availability. Please consult the product page for more details.

## LVS-95XX - Offline Verifier

- Verify a broad variety of direct part marks as well as 1D and 2D printed barcodes with a single model
- Software automatically selects best lighting performance from integrated red or white dome and 30° angle lighting
- Validates printed barcodes to ISO/IEC, ANSI, GS1, and UDI print quality standards



Type	Field of View	Codes	X-Dimension (min)		Lighting	Power	Communication	Model
			1 D	2 D				
LVS-9510 Desktop	102mm x 102mm	1D & 2D	6.0 mils	9.0 mils	White (with red filter)	12VDC (Supply)	USB 2.0	9510-5-4.0
LVS-9580 DPM/ LVS-9585 DPM	76.19mm x 57.15mm		1D, 2D & DPM	4.0 mils	5.9 mils			White Dome type (with red filter)
	33mm x 25mm (High Density, HD)	2.0 mils (DPM)			9580-DPM-HD			
	76.19mm x 57.15mm 44mm x 44mm (DPM)	5.9 mils			White and Red Dome	9585-DPM		
	33mm x 25mm (High Density, HD)	2.0 mils (DPM)			White and Red Dome	9585-DPM-HD		

## V275 - Inline Verifier and Print Quality Inspection



- Inspect 100% of labels for print quality.
- Verify 1D and 2D codes to ISO standards.
- Ensure compliance with regulations and quality requirements.
- Check for cosmetic blemishes and errors in printed data.
- Avoid costly chargebacks, recalls, and supply chain disruption.



Printer	Print Resolution	Print Speed (max)	Label Width (max)	X-Dimension (min)		Font Size (point)	Communication	Model
				1 D	2 D			
Zebra ZT610	300 dpi	304mm (12")/seg	104mm (4.1")	6.6 mils	10.0 mils	5 point	5 pt Ethernet (via PC)	V275-P46Z61030-CC
Zebra ZT610	600 dpi	152mm (6")/seg	104mm (4.1")					V275-P46Z61060-CC
Zebra ZT620	300 dpi	203mm (8")/seg	167mm (6.6")					V275-P86Z62030-CC

Note: 10.0 mils if Code 1D is vertically printed (ladder orientation)

Note: Tables include representative part numbers. Bold models: Preferred Availability. Please consult the product page for more details.

# MicroHAWK F430/330 - Smart Camera

- Ultracompact Smart Cameras
- Various model options and configuration possibilities
- Two programming software options: AutoVISION (Simplified) or Visionscape (Complete)
- Autofocus with liquid lens (F420-F and F430-F)
- Degree of protection up to IP67



Family	Sensor Color	Sensor Resolution	Shutter Type	Lens Type/ Mount	Focus Distance	Software or License	Model
F320	Monochrome	0.34 MP	Global	Integrated - fixed focus	102 mm	AutoVISION + Verification + Visionscape	F320-F102W03M-NNV
	Monochrome	1.2 MP					F320-F102W12M-NNV
	Color	5 MP	Rolling				F320-F102W50C-NNV
F330	Monochrome	0.34 MP	Global				F330-F102W03M-NNV
	Monochrome	1.2 MP	Rolling				F330-F102W12M-NNV
	Color	5 MP	Rolling				F330-F102W50C-NNV
F420	Monochrome	1.2 MP	Global	Autofocus high speed liquid lens	75 to 1200 mm	AutoVISION Sensor	F420-F000L12M-SRV
	Color	5 MP	Rolling		50 to 300 mm		F420-F000M50C-SWS
	Monochrome	0.34 MP	Global				F420-F000W03M-SRV
	Monochrome	1.2 MP			F420-F000W12M-SRV		
	Color	5 MP	Rolling		AutoVISION + Verification + Visionscape		F420-F000W50C-SWV
F430	Monochrome	1.2 MP	Global	Autofocus high speed liquid lens	75 to 1200 mm	AutoVISION + Verification + Visionscape	F430-F000L12M-SRV
	Monochrome	1.2 MP			50 to 300 mm		F430-F000M12M-RRV
	Monochrome	1.2 MP					AutoVISION + Verification
	Monochrome	1.2 MP			AutoVISION + Verification + Visionscape		F430-F000M12M-SRV
	Monochrome	1.2 MP			AutoVISION + Verification		<b>F430-F000M12M-SWA</b>
	Monochrome	0.34 MP			AutoVISION + Verification + Visionscape		F430-F000W03M-SRV
	Monochrome	1.2 MP			AutoVISION + Verification + Visionscape		F430-F000W12M-SRV
	Color	5 MP			Rolling		AutoVISION Sensor
	Color	5 MP	AutoVISION + Verification + Visionscape				F430-F000W50C-SWV

Note: Tables include representative part numbers. Bold models: Preferred Availability. Please consult the product page for more details.

## MV4000 - Smart camera/vision sensor

- Complete vision, code reading and code verification toolsets
- Near PC processing speeds (inspection rates ranging from 4,000 to 14,000 parts per minute)
- Complete offering lenses, lights, cables and mounts to support the complete solution
- A scalable and faster solution on AutoVISION/ Visionscape software platform



Family	Sensor Color	Sensor Resolution	Shutter Type	Lens Type/Mount	Software or License	Model
MV-4000	Monochrome	0.3 MP	Global	C Mount with option for auto-focus accessory	AutoVISION + Verification + Visionscape	8011-0000-0104
		1.3 MP				8012-0000-0104
		2 MP				8013-0000-0104
		5 MP				8014-0000-0104
	Color	0.3 MP				8015-0000-0104
		1.3 MP				8016-0000-0104
		2 MP				8017-0000-0104
		5 MP				8018-0000-0104

Note: Tables include representative part numbers. Bold models: Preferred Availability. Please consult the product page for more details.



# FHV7 - Vision System

- Smart Cameras with several model options and setting possibilities (from 0.4MP to 12M)
- Dual Core CPU providing up to 430 fps (0.4MP) acquisition
- Multicolor lighting module (red, green, blue, and infrared, with individual control)
- Degree of protection up to IP67



Family	Sensor Color	Sensor Resolution	Shutter Type	Lens Type/Mount	Software or License	Model
FHV7	Monochrome	0.4 MP	Global	C Mount with option for auto-focus accessory	FHV Software + Sysmac Studio	FHV7H-M004-C
		1.6 MP				FHV7H-M016-C
		3.2 MP				FHV7H-M032-C
		5 MP				FHV7H-M050-C
	Color	0.4 MP		C Mount with option for auto-focus accessory		<b>FHV7H-C004-C</b>
		1.6 MP				FHV7H-C016-C
		3.2 MP				<b>FHV7H-C032-C</b>
		5 MP				FHV7H-C050-C
	Monochrome	6.3 MP	Rolling	C Mount with option for auto-focus accessory	FHV7H-C063R-C	
		12 MP		C Mount	FHV7H-C120R-C	
		6.3 MP		C Mount with option for auto-focus accessory	FHV7H-M063R-C	
		12 MP		C Mount	FHV7H-M120R-C	

## Lenses

Focal Distance	C-Mount	Autofocus (Standard)	Autofocus (High-speed)
6mm		FHV-LEM-S06	FHV-LEM-H06
8mm	<b>3Z4S-LE SV-0814H</b>	-	-
9mm		<b>FHV-LEM-S09</b>	-
12mm	<b>3Z4S-LE SV-1214H</b>	FHV-LEM-S12	-
16mm	<b>3Z4S-LE SV-1614H</b>	FHV-LEM-S16	-
19mm	-		FHV-LEM-H19
25mm	<b>3Z4S-LE SV-2514H</b>	FHV-LEM-S25	-

Note: For C-Mount lenses, please refer to Vision Accessory Catalog for complete lens setup. Autofocus and Lighting modules will fit on 0.4MP, 1.6MP, 3.2MP and 6.3MP cameras. You can also refer to the FHV7 configurator on the product page.

## Lighting Modules

Light Color	Model
Multicolor	FHV-LTM-MC
Red	FHV-LTM-R
White	<b>FHV-LTM-W</b>
IR	FHV-LTM-IR

## Accessories

Type	Connector	
	Straight	90°
Ethernet Cable	FHV-VNB _M	FHV-VNLB _M
I/O Cable	FHV-VDB _M	FHV-VDLB _M
Connection cable for Interface	FHV-VUB _M	FHV-VULB _M
I/O Cable for Parallel Interface	XW2Z-S013-_*	

## Data and Communication Interface

Type	Inputs / Outputs	EtherCAT Communication	Model
Parallel	12 Inputs / 24 Outputs	No	FHV-SDU10
EtherCAT	1 Input / 2 Outputs	Yes (Slave)	FHV-SDU30

## FH - Vision System

- High performance Vision System with more than 100 program tools
- Connection for 2, 4 or 8 cameras on the same controller with independent triggers
- High resolution cameras up to 20 MP
- Real image processing (16 million colors)



### Controllers

Item	CPU and Processing	Communication	EtherCAT	No. of cameras	Model
Box type controller	High-Speed Controller (4 core)	EtherNet/IP, Ethernet TCP/UDP, PROFINET, Serial, Parallel I/O	Yes	2	FH-5050
				4	FH-5050 -10
				8	FH-5050-20
				2	FH-2050
	High-Speed Controller (2 core)		4	FH-2050 -10	
			8	FH-2050 -20	
			Lite Controller (2 core)	2	<b>FH-L550</b>
				4	FH-L550-10

### Cameras

Item	Description	Model	
		Color	Monochrome
CMOS Camera (Rolling Shutter)	5MP, 71.7ms image acquisition time	FH-SC05R	FH-SM05R
	20.4MP, 42.6ms image acquisition time	FH-SC21R	FH-SM21R
Newer high speed CMOS Camera (Global Shutter)	12MP, 24.9ms image acquisition time	FH-SCX12	FH-SMX12
	5MP, 10.3ms image acquisition time	FH-SCX05	FH-SMX05
	0.4MP, 1.9ms image acquisition time	FH-SCX	FH-SMX
High speed CMOS Camera (Global Shutter)	M42 Mount 12MP, 25.7ms image acq time	FH-SC12	FH-SM12
	4MP, 8.5ms image acquisition time	FH-SC04	FH-SM04
	2MP, 4.6ms image acquisition time	FH-SC02	FH-SM02
	0.3MP, 3.3ms image acquisition time	FH-SC	FH-SM
CCD Camera (Global Shutter)	5MP, 62.5ms image acquisition time	FZ-SC5M3	FZ-S5M3
	2MP, 33.3ms image acquisition time	FZ-SC2M	FZ-S2M
	0.3MP, 12.5ms image acquisition time	FZ-SC	FZ-S
	0.3MP, 4.9ms image acquisition time	FZ-SHC	FZ-SH
Smart CMOS Camera (Global Shutter)	0.3MP, 16.7ms image acquisition time	FZ-SQ100N	-

Type	Description	Model	Type of Camera	Focal Distance	Model
Cable for camera	2m Length	FZ-VS3 2M	FZ-S_2M FZ-S_5M2 FH-S_05R (2MP and 5MP)	6mm	3Z4S-LE SV-0614H
	5m Length	<b>FZ-VS3 5M</b>		8mm	3Z4S-LE SV-0814H
	10m Length	<b>FZ-VS3 10M</b>		12mm	3Z4S-LE SV-1214H
Parallel cable for I/Os	2m Length	XW2Z-S013-2		16mm	3Z4S-LE SV-1614H
				25mm	3Z4S-LE SV-2514H
	5m Length	XW2Z-S013-5		6mm	3Z4S-LE SV-0614V
			8mm	3Z4S-LE SV-0813V	
			12mm	3Z4S-LE SV-1214V	
			16mm	3Z4S-LE SV-1614V	
			25mm	3Z4S-LE SV-2514V	

Note: Please refer to Vision Accessory Catalog for complete lens setup.

## M Series GigE Vision Cameras

- Power over Ethernet capable
- High Resolution, High Speed, CMOS Sensors.
- Small Form Factor: 29 x 29mm & 30 x 40mm versions.
- IEEE1588 Certified with GigE Vision 2.1
- Compatible with Omron AutoVISION & VisionScope



### Global shutter models

Monochrome/Color	Resolution	Frame Rate	Effective Pixels (H × V)	Sensor Size	Cell Size (μm)	Sensor	Lens Mount	Model
Monochrome	0.4M	282.8 fps	720 × 540	1/2.9	6.9 × 6.9	IMX287	C	STC-MBS43POE
Color								STC-MCS43POE
Monochrome	0.5M	166.5 fps	816 × 624	1/1.7	9 × 9	IMX433	C	STC-MBS52POE
Color								STC-MCS52POE
Monochrome	1.3M	61 fps	1280 × 1024	1/1.8	5.3 × 5.3	EV76C560	C	STC-MBE132POE
Color								STC-MCE132POE
Monochrome	1.6M	70.7 fps	1440 × 1088	1/2.9	3.45 × 3.45	IMX273	C	STC-MBS163POE
Color								STC-MCS163POE
Monochrome	2M	54.6 fps	1624 × 1240	1/1.7	4.5 × 4.5	IMX430	C	STC-MBS202POE
Color								STC-MCS202POE
Monochrome	2.3M	41.6 fps	1920 × 1200	1/1.2	5.86 × 5.86	IMX249	C	STC-MBS231POE
Color								STC-MCS231POE
Monochrome	3.2M	34.9 fps	2048 × 2048	2/3	3.45 × 3.45	IMX265	C	STC-MBS312POE
Color								STC-MCS312POE
Monochrome	5M	21.9 fps	2448 × 2048	2/3	3.45 × 3.45	IMX264	C	STC-MBS500POE
Color								STC-MCS500POE
Monochrome	8.9M	12.4 fps	4096 × 2160	1	3.45 × 3.45	IMX267	C	STC-MBS881POE
Color								STC-MCS881POE
Monochrome	12.3M	8.9 fps	4096 × 3000	1.1	3.45 × 3.45	IMX255	C	STC-MBS122BPOE
Color								STC-MCS122BPOE

### Rolling shutter models

Monochrome/Color	Resolution	Frame Rate	Effective Pixels (H × V)	Sensor Size	Cell Size (μm)	Sensor	Lens Mount	Model
Monochrome	5M	14 fps	2592 × 1944	1/2.5	2.2 × 2.2	MT9P031	C	STC-MBA503POE
Color								STC-MCA503POE
Monochrome	6.4M	17.4 fps	3072 × 2048	1/1.8	2.4 × 2.4	IMX178	C	STC-MBS642POE
Color								STC-MCS642POE
Monochrome	10M	10.3 fps	3856 × 2764	1/2.3	1.67 × 1.67	MT9J003	C	STC-MBA1002POE
Monochrome	12M	9.2 fps	4000 × 3000	1/1.7	1.85 × 1.85	IMX226	C	STC-MBS1242POE
Color								STC-MCS1242POE
Monochrome	20.4M	5.5 fps	5472 × 3648	1	2.4 × 2.4	IMX183	C	STC-MBS2041POE
Color								STC-MCS2041POE

### Screw-Fastened GigE Cables

Length	Model
3 m	FJ-VSG 3M
5 m	FJ-VSG 5M
10 m	FJ-VSG 10M
20 m	FJ-VSG 20M
40 m	FJ-VSG 40M

### Power Supply and I/O Cables

Length	Model
3 m	FJ-VSP2 3M
5 m	FJ-VSP2 5M
10 m	FJ-VSP2 10M

Note. Please connect the cables according to the external connector specifications prescribed in your camera's specification documents, for faulty wiring can cause failure.

## FS Series GigE Vision Line Scan Cameras

- Power over Ethernet capable
- Compact case designed for easy mounting
- Offered in 2K, 4K, or 8K
- Available in Single & Dual Line Monochrome and Dual Line Color Models.
- Action Command Triggering: Trigger multiple cameras simultaneously with one command.



Monochrome/Color	Resolution	Line Rate	Pixel size	Sensor	Sensor Type	Lens Mount	Model
Monochrome	2048 × 1	51 kHz	7 μm	DR-2K-7	Single	C	FS-B2KU7GES-C
						F	FS-B2KU7GES-F
						M42	FS-B2KU7GES-M42
Monochrome	4096 × 1	26 kHz	7 μm	DR-4K-7	Single	F	FS-B4KU7GES-F
						M42	FS-B4KU7GES-M42
Monochrome	4096 × 1	26 kHz	3.5 μm	DR-4K-3.5	Single	C	FS-B4KU35GES-C
						F	FS-B4KU35GES-F
						M42	FS-B4KU35GES-M42
Monochrome	8192 × 1	13 kHz	3.5 μm	DR-8K-3.5	Single	F	FS-B8KU35GES-F
						M42	FS-B8KU35GES-M42
Monochrome	2048x1	26kHz	7 μm	DR-2X2K-7-inver	Dual	C	FS-B2KU7DGES-C
						F	FS-B2KU7DGES-F
						M42	FS-B2KU7DGES-M42
Monochrome	4096x2	13kHz	7 μm	DR-2X4K-7-inver	Dual	F	FS-B4KU7DGES-F
						M42	FS-B4KU7DGES-M42
Color	2048x1	26kHz	7 μm	DR-2X2K-7-inver-RGB	Dual	C	FS-C2KU7DGES-C
						F	FS-C2KU7DGES-F
						M42	FS-C2KU7DGES-M42
Color	4096x2	13kHz	7 μm	DR-2X4K-7-inver-RGB	Dual	F	FS-C4KU7DGES-F
						M42	FS-C4KU7DGES-M42

### Screw-Fastened GigE Cables

Length	Model
3 m	FJ-VSG 3M
5 m	FJ-VSG 5M
10 m	FJ-VSG 10M
20 m	FJ-VSG 20M
40 m	FJ-VSG 40M

### Power Supply and I/O Cables

Length	Model
3 m	FJ-VSP2 3M
5 m	FJ-VSP2 5M
10 m	FJ-VSP2 10M

Note. Please connect the cables according to the external connector specifications prescribed in your camera's specification documents, for faulty wiring can cause failure.

## M Series USB3 Vision Cameras

- USB3.0 Compact CMOS Camera
- Offered in resolutions ranging from 0.4M to 20.4M
- Plug and Play functionality
- Compatible with Omron AutoVISION & VisionScape.



### Global shutter models

Monochrome/Color	Resolution	Frame Rate	Effective Pixels (H × V)	Sensor Size	Cell Size (µm)	Sensor	Lens Mount	Model
Monochrome	0.4M	527.1 fps	720 × 540	1/2.9	6.9 × 6.9	IMX287	C	STC-MBS43U3V
Color								STC-MCS43U3V
Monochrome	1.3M	60 fps	1280 × 1024	1/1.8	5.3 × 5.3	EV76C560	CS	STC-MBE132U3V
Color								STC-MCE132U3V
Monochrome	1.6M	238 fps	1440 × 1080	1/2.9	3.45 × 3.45	IMX273	C	STC-MBS163U3V
Color								STC-MCS163U3V
Monochrome	2M	167 fps	2048 × 1088	2/3	5.5 × 5.5	CMV2000	C	STC-MBCM200U3V
Monochrome NIR								STC-MBCM200U3V-NIR
Monochrome	2.3M	41.6 fps	1920 × 1200	1/1.2	5.86 × 5.86	IMX249	C	STC-MBS231U3V
Color								STC-MCS231U3V
Monochrome	2.3M	163 fps	1920 × 1200	1/1.2	5.86 × 5.86	IMX174	C	STC-MBS241U3V
Color								STC-MCS241U3V
Monochrome	3.2M	56 fps	2048 × 1536	1/1.8	3.45 × 3.45	IMX265	C	STC-MBS312U3V
Color								STC-MCS312U3V
Monochrome	3.2M	121 fps	2048 × 1536	1/1.8	3.45 × 3.45	IMX252	C	STC-MBS322U3V
Color								STC-MCS322U3V
Monochrome	4M	89 fps	2048 × 2048	1	5.5 × 5.5	CMV4000	C	STC-MBCM401U3V
Color								STC-MCCM401U3V
Monochrome NIR								STC-MBCM401U3V-NIR
Monochrome	5M	35.8 fps	2448 × 2048	2/3	3.45 × 3.45	IMX264	C	STC-MBS500U3V
Color								STC-MCS500U3V
Monochrome	5M	75.7 fps	2448 × 2048	2/3	3.45 × 3.45	IMX250	C	STC-MBS510U3V
Color								STC-MCS510U3V
Monochrome	7.1M	51.2 fps	3216 × 2208	1.1	4.5 × 4.5	IMX428	C	STC-MBS70BU3V
Color								STC-MCS70BU3V
Monochrome	8.9M	32.5 fps	4096 × 2160	1	3.45 × 3.45	IMX267	C	STC-MBS881U3V
Color								STC-MCS881U3V
Monochrome	8.9M	41.9 fps	4096 × 2160	1	3.45 × 3.45	IMX255	C	STC-MBS891U3V
Color								STC-MCS891U3V
Monochrome	12.3M	23.5 fps	4096 × 3000	1.1	3.45 × 3.45	IMX304	C	STC-MBS122BU3V
Color								STC-MCS122BU3V
Monochrome	12.3M	30.4 fps	4096 × 3000	1.1	3.45 × 3.45	IMX253	C	STC-MBS123BU3V
Color								STC-MCS123BU3V

Note. We recommend that you use an external power supply for 8.9M and 12M cameras, for depending on PC performance, power supplied via USB bus connection alone may not be sufficient for these cameras.

Note. Models with "-SE" have been additionally equipped with the Short Exposure Mode feature.

### Rolling shutter models

Monochrome/Color	Resolution	Frame Rate	Effective Pixels (H × V)	Sensor Size	Cell Size (µm)	Sensor	Lens Mount	Model
Monochrome	12M	31.2 fps	4000 × 3000	1/1.7	1.85 × 1.85	IMX226	C	STC-MBS1242U3V
Color								STC-MCS1242U3V
Monochrome	20.4M	18.5 fps	5472 × 3648	1	2.4 × 2.4	IMX183	C	STC-MBS2041U3V
Color								STC-MCS2041U3V

### Non-USB3 Vision Compliant Models (with Rolling Shutters)

Monochrome/Color	Resolution	Frame Rate	Effective Pixels (H × V)	Sensor Size	Cell Size (µm)	Sensor	Lens Mount	Model
Monochrome	5M	14 fps	2592 × 1944	1/2.5	2.2 × 2.2	MT9P031	CS	STC-MBA5MUSB3
Color								STC-MCA5MUSB3

# G9SP - Safety Controller

- The standalone safety controller for small and mid-sized applications.
- Communication with standard PLC via Ethernet or Serial
- Direct communication with HMI NB Series via Serial
- Four types of standard expansion



Product	Inputs	Test outputs	Safety outputs	Common outputs	Model
G9SP Series	10	4	Transistor Output: 4	4	<b>G9SP-N10S</b>
	10	6		-	G9SP-N10D
	20	6	Transistor Output: 8	-	<b>G9SP-N20S</b>

## Expansion Modules and Accessories

Description	No. of Outputs	No. of Inputs	Model
Expansion Modules	8 (NPN)	12 (NPN)	CP1W-20EDT
	8 (PNP)	12 (PNP)	CP1W-20EDT1
	32 (NPN)		CP1W-32ET
	32 (PNP)		CP1W-32ET1
Connection Cable	80cm (for connecting distant units)		CP1W-CN811
Communication Modules	RS-232 Serial		CP1W-CIF01
	EtherNet/FINS		CP1W-CIF41
	EtherNet/IP		<b>CM-EIP-1</b>
Programming software	1 license		WS02-G9SP01-V1
Cassette Memory			CP1W-ME05M

Note: Tables include representative part numbers. Bold models: Preferred Availability. Please consult the product page for more details.

## NX-SL5 - Safety Controller

- A versatile safety controller, with EtherCAT and EtherNet/IP capabilities, for integrated or stand-alone solutions, making machine safety design, installation, and maintenance easier
- Enable flexible manufacture by supporting different safety networks, CIP Safety and FSoE. Enable a hybrid system, when combining the NX-SL5 with the NX-102.
- Sysmac Studio offers a set of unique functions to make functional safety management easier as Safety Signature Check and Online Function Verification. In addition, reduce the design cycle with automatic programming and simple automatic test.



Product	Description	Model
NX-SL5 Safety Controller Units	Safety PLC, up to 1024 safety I/O and 128 safety connections	<b>NX-SL5500</b>
	Safety PLC, up to 2032 safety I/O and 254 safety connections	NX-SL5700

Product	Type	Protocol	Am. of Ports	Number of Networks	Safety Inputs	Safety Outputs	Test Outputs	Model
Communication & Remote Safety I/O Units	Network Coupler	EtherNet/IP	3	2				NX-CSG320
	Remote Module of safety I/Os	EtherNet/IP	2	1	12	4	12	GI-SMD1624
					12	-	12	GI-SID1224

Product	Type	No. of Points	Description	Model
Safety Input & Output Units	Input	4	4 safety input points (PNP) with 2 test outputs	NX-SIH400 Ver 1.1
		8	8 safety input points (PNP) with 2 test outputs	<b>NX-SID800</b>
	Output	2	2 safety outputs (PNP)	NX-SOH200
		4	4 safety outputs (PNP)	<b>NX-SOD400</b>

Note: Tables include representative part numbers. Bold models: Preferred Availability. Please consult the product page for more details.

## NX-SL3 - Safety Controller

- Effortless integration into the most common PLC’s platforms in the market, providing reliable safety solutions while supporting different configurations.
- Offer a direct connection to any PLC using an EtherNet/IP coupler, and build a stand-alone system. For larger projects, with a higher number of safety devices distributed over a larger area, using an EtherCAT coupler supports EtherCAT and FSoE.
- Sysmac Studio offers a set of unique functions to make functional safety management easier as Safety Signature Check and Online Function Verification. In addition, reduce the design cycle with automatic programming and simple automatic test.



Product	Type	Model
NX-SL3 Safety Controller Units	Safety PLC, up to 256 safety I/O and 32 safety connections *	NX-SL3300 Ver 1.1
	Safety PLC, up to 1024 safety I/O and 128 safety connections *	NX-SL3500 Ver 1.1

\* Only FSoE master connections supported

Product	Type	No. of Points	Description	Model
Safety Input & Output Units	Input	4	4 safety input points (PNP) with 2 test outputs	NX-SIH400 Ver 1.1
		8	8 safety input points (PNP) with 2 test outputs	NX-SID800
	Output	2	2 safety outputs (PNP)	NX-SOH200
		4	4 safety outputs (PNP)	NX-SOD400

Product	Communication Cycle	Protocol	Maximum number of NX I/O modules	Maximum Current I/O	Model
Network Couplers	250 to 4,000 us	EtherCAT Slave	63	4A	NX-ECC201
				10A	NX-ECC202
	125 to 10,000 us	EtherNet/IP Slave		10A	NX-ECC203
				4 to 1,000 us	NX-EIC202

Note: Tables include representative part numbers. Bold models: Preferred Availability. Please consult the product page for more details.



# F3SG-SR - Machine Guard Safety Light Curtain

- Three-color Area Beam Indicators (ABIs) enable easy alignment and quick troubleshooting
- Up to 30m protection range (25mm resolution and up)
- IO-Link communication capability helps improve preventive maintenance programs
- Advanced programming features (muting, blanking, pre-reset, warning zone, etc.) are available on all models.
- IP67G rating is standard, with IP69K option available (F3SG-SRB only)



Resolution	Protective Height (mm)	Area Beam Indicators	Part Number
14 mm	160	No	F3SG-4SRB0160-14
	320		F3SG-4SRB0320-14
	400		F3SG-4SRB0400-14
	480		F3SG-4SRB0480-14
	560		<b>F3SG-4SRB0560-14</b>
	640		F3SG-4SRB0640-14
	720		F3SG-4SRB0720-14-F
	1200		<b>F3SG-4SRB1200-14</b>
25 mm	360		F3SG-4SRB0360-25-F
	440		F3SG-4SRB0440-25-F
	600		<b>F3SG-4SRB0600-25-F</b>
	680		F3SG-4SRB0680-25-F
	760		F3SG-4SRB0760-25-F
	840		F3SG-4SRB0840-25-F
	920		<b>F3SG-4SRB0920-25-F</b>
	1000		F3SG-4SRB1000-25-F
	1200		<b>F3SG-4SRB1200-25</b>
	1440		F3SG-4SRB1440-25
	1520		<b>F3SG-4SRB1520-25</b>
	1600		F3SG-4SRB1600-25
14 mm	1840		F3SG-4SRB1840-25
	400		F3SG-4SRA0400-14
	560		<b>F3SG-4SRA0560-14</b>
	720		F3SG-4SRA0720-14-F
	880	F3SG-4SRA0880-14-F	
25 mm	1200	<b>F3SG-4SRA1200-14</b>	
	280	F3SG-4SRA0280-25-F	
	440	F3SG-4SRA0440-25-F	
	600	<b>F3SG-4SRA0600-25-F</b>	
	760	F3SG-4SRA0760-25-F	
	920	<b>F3SG-4SRA0920-25-F</b>	
	1200	<b>F3SG-4SRA1200-25</b>	
	1600	F3SG-4SRA1600-25	
1760	F3SG-4SRA1760-25		

## F3SG-PG - Perimeter Guard Safety Light Curtain

- Three-color Area Beam Indicators (ABIs) enable easy alignment and quick troubleshooting.
- Protection distance up to 110m
- Robust design for harsh environments (rated IP67G)
- IO-Link communication for remote monitoring



Number of Beams	Beam Gap (mm)	Product Length (mm)	Protection Range (m)	Type	Part Number
2	500	670	up to 30m	Emitter/Receiver	F3SG-4PGA0670-2A
	500	670	up to 8m	Transceiver	F3SG-4PGA0670-2C
	500	670	up to 110m	Emitter/Receiver	F3SG-4PGA0670-2L
3	400	970	up to 30m	Emitter/Receiver	F3SG-4PGA0970-3A
	400	970	up to 110m	Emitter/Receiver	<b>F3SG-4PGA0970-3L</b>
4	300	1070	up to 30m	Emitter/Receiver	F3SG-4PGA1070-4A
	300	1070	up to 8m	Transceiver	F3SG-4PGA1070-4C
	300	1070	up to 110m	Emitter/Receiver	F3SG-4PGA1070-4L
	400	1370	up to 30m	Emitter/Receiver	F3SG-4PGA1370-4A
	400	1370	up to 8m	Transceiver	F3SG-4PGA1370-4C
	400	1370	up to 110m	Emitter/Receiver	<b>F3SG-4PGA1370-4L</b>

Note: Tables include representative part numbers. Bold models: Preferred Availability. Please consult the product page for more details.

## Safety Light Curtain Accessories and Cables

### F3SG-SR/PG Brackets

Description	Part Number
Standard Bracket (non-adjustable)	F39-LSGF
Adjustable Side-Mount Bracket	<b>F39-LSGA</b>
Adjustable Top/Bottom Bracket (F3SJ, F3SN Adaptor)	F39-LSGTB-SJ
Adjustable Top/Bottom Bracket (F3SG-RA/RE Adaptor)	<b>F39-LSGTB-RE</b>
Adjustable Top/Bottom Bracket (MS4800, F3SR Adaptor)	<b>F39-LSGTB-MS</b>

### F3SG-SR/PG Root Cables (plug into light curtain)

Description	Length	Emitter Part Number	Receiver Part Number
Root Cable to M12 connector (Standard)	0.3 m	<b>F39-JGR3K-L</b>	<b>F39-JGR3K-D</b>
Root Cable to Flying Leads	3m	<b>F39-JG3C-L</b>	<b>F39-JG3C-D</b>
Root Cable to Flying Leads	7m	F39-JG7C-L	F39-JG7C-D
Root Cable to Flying Leads	10m	F39-JG10C-L	F39-JG10C-D
Root Cable to M12 Connector (F3SJ-B/A, F3SR, or F3SN Conversion)	0.3 m	F39-JGR3K-SJ-L	F39-JGR3K-SJ-D
Root Cable to M12 Connector (F3SG-RE Conversion)	0.3 m	F39-JGR3K-RE-L	F39-JGR3K-RE-D
Root Cable to M12 Connector (MS4800 Conversion)	0.3 m	<b>F39-JGR3K-MS-L</b>	<b>F39-JGR3K-MS-D</b>

### F3SG-SR/PG Extension Cables (plug into M12 Root Cable)

Description	Length	Emitter Part Number	Receiver Part Number
M12 to Flying Lead Extension Cable	3 m	F39-JG3A-L	F39-JG3A-D
M12 to Flying Lead Extension Cable	10 m	<b>F39-JG10A-L</b>	<b>F39-JG10A-D</b>
M12 to M12 Extension Cable	3 m	F39-JG3B-L	F39-JG3B-D
M12 to M12 Extension Cable	10 m	F39-JG10B-L	F39-JG10B-D
M12 to M12 Extension Cable	20 m	F39-JG20B-L	F39-JG20B-D

### F3SG-SR Cascade Cables

Description	Length	Part Number
Side-by-Side Cascading Cable (2 cables per part number)	0.12 m	<b>F39-JGR12L</b>
Extension Cable for Cascading (2 cables per part number)	0.3 m	<b>F39-JGR3W</b>

### F3SG-SR/PG IO-Link Cables

Description	Length	Part Number
NX-ILM400 IO-Link Cable	2 m	X55F-D521-DJ0-IL
GX-ILM08C IO-Link Cable	3 m	F39-JG3B-L
GX-ILM08C IO-Link Cable	10 m	F39-JG10B-L
GX-ILM08C IO-Link Cable	20 m	F39-JG20B-L

### F3SG-SR/PG Wiring Reduction and Reset Cables

Description	Length	Part Number
Y-Joint Plug/Socket Connector	0.5 m	F39-GCNY2
Reset Switch Connector	0.5 m	F39-GCNY3
Reset Switch Connector to Reset Switch Cable	1 m	X55F-D421-C80-F
Reset Switch Connector to Reset Switch Cable	2 m	X55F-D421-D80-F
Reset Switch Connector to Reset Switch Cable	3 m	X55F-D421-E80-F
Reset Switch Connector to Reset Switch Cable	5 m	X55F-D421-G80-F
Reset Switch Connector to Reset Switch Cable	10 m	X55F-D421-J80-F
Reset Switch Connector to Reset Switch Cable	20 m	X55F-D421-L80-F

## F3SG-SR/PG Accessories

### F3SG-SR, F3SG-PG, and F3SG-R[] Floor Mount Columns

Applicable F3SG-SR/F3SG-R[] Light Curtain	Applicable F3SG-PG Light Curtain	Column Height	Part Number
Protective Height up to 880 mm	F3SG-4PGA0670-2[]	990 mm	F39-ST0990
Protective Height up to 1280 mm	F3SG-4PGA0970-3A/3L F3SG-4PGA1070-4[]	1310 mm	<b>F39-ST1310</b>
Protective Height up to 1520 mm	F3SG-4PGA1370-4[]	1630 mm	F39-ST1630
Protective Height up to 1840 mm	-----	1950 mm	F39-ST1950
Protective Height up to 2080 mm	-----	2270 mm	F39-ST2270

### F3SG-SR, F3SG-PG, and F3SG-R[] Mirror Columns

Applicable F3SG-SR/F3SG-R[] Light Curtain	Applicable F3SG-PG Light Curtain	Column Height	Part Number
Protective Height up to 880 mm	F3SG-4PGA0670-2[]	990 mm	F39-SML0990
Protective Height up to 1200 mm	F3SG-4PGA0970-3A/3L F3SG-4PGA1070-4[]	1310 mm	<b>F39-SML1310</b>
Protective Height up to 1520 mm	F3SG-4PGA1370-4[]	1630 mm	F39-SML1630
Protective Height up to 1840 mm	-----	1950 mm	F39-SML1950
-----	F3SG-4PGA0670-2A/2L	990 mm	F39-PML0990-2
-----	F3SG-4PGA0970-3A/3L	1310 mm	F39-PML1310-3
-----	F3SG-4PGA1070-4A/4L	1310 mm	F39-PML1310-4
-----	F3SG-4PGA1370-4A/4L	1950 mm	F39-PML1630-4

### Stand and Mirror Base Accessory

Description	Part Number
Adjustable and Rotatable Column Base	<b>F39-STB</b>

### F3SG-SR and F3SG-PG Muting Accessories

Description	Length	Part Number
Through Beam Muting Sensor Mounting Arm	150 mm	F39-FMA150T
Through Beam Muting Sensor Mounting Arm	400 mm	F39-FMA400T
Retro-Reflective Muting Sensor Mounting Arm	150 mm	F39-FMA150R
Retro-Reflective Muting Sensor Mounting Arm	400 mm	F39-FMA400R
Muting Arm Bracket for F3SG-SR/PG Mounting	n/a	F39-LMAF1
Muting Sensor Connection Box	n/a	F39-GCN5

Note: Tables include representative part numbers. Bold models: Preferred Availability. Please consult the product page for more details.

## F3SG-RE - Economic Model

- Simple on/off functionality with easy wiring
- 5ms response time
- IP67 Rated
- Resolutions of 14 and 30mm



Resolution	Protective Height (mm)	Part Number
14 mm	160	F3SG-4RE0160P14
	240	F3SG-4RE0240P14
	320	F3SG-4RE0320P14
	560	F3SG-4RE0560P14
	640	F3SG-4RE0640P14
	960	F3SG-4RE0960P14
	1200	F3SG-4RE1200P14
30 mm	350	F3SG-4RE0350P30
	430	F3SG-4RE0430P30
	590	<b>F3SG-4RE0590P30</b>
	750	F3SG-4RE0750P30
	910	<b>F3SG-4RE0910P30</b>
	1070	F3SG-4RE1070P30
	1230	<b>F3SG-4RE1230P30</b>
	1550	F3SG-4RE1550P30

### Cables

Material	Length	Model
PVC Cable	2m	XS2F-M12PVC4S2M
	5m	XS2F-M12PVC4S5M
	10m	XS2F-M12PVC4S10M
PUR Cable	2m	XS2F-M12PUR4S2M
	5m	XS2F-M12PUR4S5M
	10m	XS2F-M12PUR4S10M
Connection cable in 'Y' between Sender and Receiver	0.5m	F39-GCNY1

### Accessories (for Advanced and Economic models)

Type	Description	Model
Fixed Mounting Bracket (Already included)	Side fixation (2 supports per code)	F39-LGF
		<b>F39-LGA</b>
Adjustable Mounting Bracket (Optional)	Top fixation (4 supports per code)	F39-LGTB
		F39-LGTB-1

Note: Tables include representative part numbers. Bold models: Preferred Availability. Please consult the product page for more details.

## OS32C - Safety Laser Scanner

- 4m maximum safety zone and 15m warning zone
- Up to 70 different detection zones configurations
- Distance measurement capabilities up to 50m
- 5W power consumption



Cable Outlet	Safety Range	Ethernet/IP Data	Part Number
Back	3m	No	OS32C-BP
	4m	No	<b>OS32C-BP-4M</b>
	3m	Yes	OS32C-BP-DM
	4m	Yes	OS32C-BP-DM-4M
Side	3m	No	OS32C-SP1
	4m	No	OS32C-SP1-4M
	3m	Yes	OS32C-SP1-DM
	4m	Yes	OS32C-SP1-DM-4M

### OS32C Safety Laser Scanner Cables

Description	Length	Part Number
Power Cable	3 m	<b>OS32C-CBL-03M</b>
	10 m	OS32C-CBL-10M
	20 m	OS32C-CBL-20M
	30 m	OS32C-CBL-30M
Ethernet Cable	2 m	<b>OS32C-ECBL-02M</b>
	5 m	OS32C-ECBL-05M
	15 m	OS32C-ECBL-15M

### OS32C Safety Laser Scanner Brackets

Description	Part Number
Bottom/Side Mounting Bracket	<b>OS32C-BKT1</b>
XY Axis Rotation Mounting Bracket	OS32C-BKT2
Simple Mounting Bracket	OS32C-BKT3
Protective Cover for Window	OS32C-BKT4
Mounting Stand	OS32C-MT
Hardware kit for Mounting Stand	OS32C-HDT

### OS32C Spare/Replacement Parts

Description	Part Number
Scan Window	<b>OS32C-WIN-KT</b>
Sensor block without I/O 3m Range	OS32C-SN
Sensor block without I/O 4m Range	OS32C-SN-4M
Sensor block without I/O 3m Range, Ethernet/IP	OS32C-SN-DM
Sensor block without I/O 4m Range, Ethernet/IP	OS32C-SN-DM-4M
I/O Block with Back Cable Access	OS32C-CBBP
I/O Block with Side Cable Access	OS32C-CBSP1

Note: Tables include representative part numbers. Bold models: Preferred Availability. Please consult the product page for more details.

## G9SE - Safety Relays

- A compact safety relay for simple safety applications, with screwless terminals and increased diagnostic capabilities for fast troubleshooting and easy wiring
- Modules with two or four safety contacts and OFF-delay timing options
- Compact units, 17.5 or 22.5 mm wide
- Front side wiring using screw less terminals and led indicators for fast diagnostic



Safety Outputs	Auxiliary Output	OFF-delay Max. time	Power	Model
2	1	-	24VDC	<b>G9SE-201</b>
4		-		<b>G9SE-401</b>
2		5 s		<b>G9SE-221-T05</b>
2		30 s		G9SE-221-T30

## G9SA - Expandable Safety Relay

- All-purpose expandable safety relays series ideal for high demand applications.
- Ideal for high demand applications.
- Expandable outputs options only, up to 8: instantaneous or time-delay
- Simple expansion connection available



Safety Outputs	Auxiliary Outputs	Power	Model
3	1	24VDC	G9SA-301 AC/DC24
5	1		<b>G9SA-501 AC/DC24</b>
3	1		G9SA-EX301
3	1		G9SA-TH301 AC/DC24*

\* Two hand controller (type III C, EN 574)

Note: Tables include representative part numbers. Bold models: Preferred Availability. Please consult the product page for more details.

## G9SX - Safety Modules

- A versatile safety relay series, ideal for scalable safety solution, support logical “AND” functions for expansion and offer special modules for dedicated safety functions
- G9SX-family modules can be connected by a logical “AND” function to implement partial/global stopping of a machine
- Solid-state outputs, detailed LED diagnosis and clever feedback signals help to keep maintenance easy
- Expansion units with safe timing functions complete the line-up



Terminal Block Type	Safety Output Instantaneous	Safety Output – Off-Delayed	Safety Standstill detection output	Safety slow-speed/ stopping detection output	Auxiliary Outputs	Power	Model
Screw Terminal	2	0	0	0	2	24VDC	<b>G9SX-BC202-RT DC24</b>
Spring-cage terminals	3	2	0	0	2		G9SX-AD322-T15-RC DC24*
Screw Terminals	0	0	3	0	2		G9SX-SM032-RT
Screw Terminals	2	0	0	2	4		G9SX-LM224-F10-RT **
Screw Terminals	2	0	0	0	2		G9SX-NS202-RT DC24 ***
Screw Terminals	2	2	0	0	2		G9SX-NSA222-T03-RT DC24

\*Off-Delay:

T15: 0/0.2/0.3/0.4/0.5/0.6/0.7/1/1.5/2/3/4/5/7/10/15 s

T03: 0/0.2/0.3/0.4/0.5/0.6/0.7/0.8/0.9/1.0/1.2/1.4/1.8/2.0/2.5/3.0 s

\*\* Safe Standstill monitoring unit based on Back EMF operation for two and three phase systems.

\*\*\* Limited speed monitoring unit

Note: Tables include representative part numbers. Bold models: Preferred Availability. Please consult the product page for more details.



## D41D - High-Coded Non-Contact Safety Door Switch

- Type 4 High-coded door switch, RFID
- Easy and quick automatic pairing with Individual coding, single or multiple teaching type
- Three sizes of actuator, including flat and miniature to fit in narrow spaces or inside corners
- Symmetrical design for left and right mounting
- Approach direction can be either from the front or side
- Extensive diagnostic via a three-color LED indicators and diagnostic output
- Up to 31 safety door switches from D41 Series can be connected



Sensor	Part Number	Coding Level	Connector
Sensor	D41D-1CD-N1	High, Individual coding	M8 connector
	D41D-2CD-025N2	High, Individual coding with no limitation	M12 with 250 mm cable
	Part Number	Type	Dimensions
Actuator <sup>1</sup>	D41D-A1	Standard	W x D x H= 39 x 29.5 x 18 (mm)
	D41D-A2	Flat	W x D x H= 60 x 16 x 6.8 (mm)
	D41D-A3	Miniature	W x D x H= 22 x 9 x 7 (mm)

1. Actuators sold separately

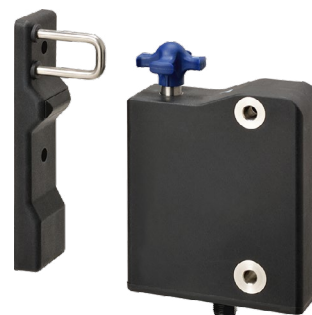
### Accessories

	Part Number	Description
Cables	D41D-8P5-CFM8-702M	Cable, 2m, M8 connector, IP67
	D41D-8P5-CFM8-705M	Cable, 5m, M8 connector, IP67
	D41D-8P5-CFM8-710M	Cable, 10m, M8 connector, IP67
	D41L-8P5-CFM12-905M	Cable, 5m, M12 connector, IP69
	D41L-8P5-CFM12-910M	Cable, 10m, M12 connector, IP69
Sealing Kits	D41D-SK	Seal mounting holes. Contains: 4 flat plugs and 4 plugs with rim for high screw head
Mounting Kits	D41D-MS	Contains: 2 mounting plates and 4 ferrule plugs

Note: Tables include representative part numbers. Bold models: Preferred Availability. Please consult the product page for more details.

## D41L - Type 4 High-Coded Guard Lock Switch

- Type 4 High-coded door switch, RFID
- Easy and quick automatic pairing with Individual coding, single or multiple teaching type
- Improved hygiene: resistant to wide range of cleaning agents, easy to clean
- Protection class IP66, IP67 and IP69 and ECOLAB certified
- Large actuator tolerances and easy latching force adjustment
- Power to lock or power to unlock versions with optional emergency exit
- 3 actuating directions with identical mounting for left and right hinged doors
- 3 LED indicators for smart diagnostics
- Star handle instead of key hole to prevent water and foreign material to collect
- Device can be used as an end stop for sliding door applications
- Up to 31 devices connected in series



Part Number	Lock and Release	Teaching	OSSD Configuration	Connection Method
D41L-1YDG-N2	Power to lock (solenoid lock)	Individual coding, single teaching	Guard monitoring and lock monitoring	No
D41L-2YDG-N2		Individual coding, multiple teaching		Only guard monitoring
D41L-2ZDGE-N2			Yes	
D41L-1ZDA-N2	Power to unlock (mechanical release)	Individual coding, single teaching	Guard monitoring and lock monitoring	No
D41L-2YDA-N2		Individual coding, multiple teaching		Guard monitoring and lock monitoring
D41L-2YDAE-N2			Yes	

Part Number	Description
<b>Actuator<sup>1</sup></b> D41L-A1	Compatible with D41L models

1. Actuators sold separately

### Accessories

	Part Number	Description
Cables	D41L-8P5-CFM12-905M	Cable, 5m, M12 connector, IP69
	D41L-8P5-CFM12-910M	Cable, 10m, M8 connector, IP69
Mounting Plate	D41L-MP	Mounting plate for sensor only
Mounting Set	D41L-MS	Mounting set for actuator only

Note: Tables include representative part numbers. Bold models: Preferred Availability. Please consult the product page for more details.

## D41G - Type 4 High-Coded Guard Lock Switch

- Type 4 High-coded door switch, RFID
- Easy and quick automatic pairing with individual coding, single or multiple teaching type
- Power to lock and power to unlock versions available
- OSSD configuration for guard monitoring only or guard and lock monitoring
- Extensive diagnostic via a three-color LED indicators and diagnostic output
- Easily mounted to standard aluminum profile systems
- Up to 31 devices connected in series



	Part Number	Lock and Release	Teaching	OSSD Configuration	Connection Method
Sensor <sup>1</sup>	D41G-1YDA-N2	Power to unlock	Individual coding, single teaching	Guard monitoring and lock monitoring	M12 connector
	D41G-2YDA-N2	Power to unlock	Individual coding, multiple teaching		
	D41G-2YDG-N2	Power to lock			
	D41G-2YDG-N2	Power to lock			
	D41G-2YDG-T1	Power to lock			
	D41G-2ZDA-T1	Power to unlock		Only guard monitoring	Screw Terminal

1. Actuators sold separately

### Accessories

	Part Number	Description
Cables	D41L-8P5-CFM12-905M	Cable, 5m, M12 connector, IP69
	D41L-8P5-CFM12-910M	Cable, 10m, M8 connector, IP69

Note: Tables include representative part numbers. Bold models: Preferred Availability. Please consult the product page for more details.

## D41G Actuators

- Actuators for right and left hinged doors with door handle and optional emergency exit and lock-out tag as well as options available for sliding doors
- Actuators for right and left sliding doors



Actuator Type <sup>1</sup>	Part Number	Handle Position	Emergency Exit Unit	Lock-out option
With door handle	D41G-A2L-E1	Left	Yes	-
	D41G-A2L-E1T		Yes	Yes
	D41G-A2R-E1	Right	Yes	-
	D41G-A2R-E1T		Yes	Yes
Non door handle	D41G-A1L	Left	-	-
	D41G-A1R	Right	-	-

1. Actuators sold separately

Note: Tables include representative part numbers. Bold models: Preferred Availability. Please consult the product page for more details.

## D40Z - Compact Non-Contact Door Switch

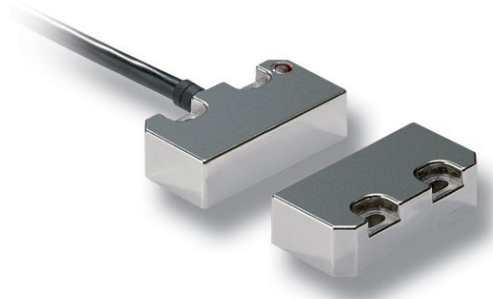
- Up to 30 Switches can be connected to one Safety Controller while maintaining PLE/safety category 4
- Can be connected to G9SP or G9SX-NS Safety Controllers
- LED indication for easy troubleshooting
- Compact Non-contact Door Switch can be mounted from both sides



Cable length	Auxiliary Outputs	Model
2 m	1	D40Z-1C2
5 m		<b>D40Z-1C5</b>

## D40P - Non-Contact Safety Switches

- Hall effect technology provides solid state outputs for increased longevity
- LED indicates operation state
- Operates with all OMRON safety controllers and safety relays
- Connect up to 20 switches in series, up to PLd acc. EN ISO 13849-1



Body Size	Housing	Contacts	Cable Connection	Model
Elongated	Polyester Housing	2NC / 1NO	M12, 8 pin, fitted with 250 mm cable	<b>D40P-LPC-21-M12</b>
Small			M12, 8 pin, fitted with 250 mm cable	D40P-SPC-21-M12
Barrel			5 m pre-wired	D40P-BPC-21-05
Small	Stainless Steel		5 m pre-wired	D40P-SMC-21-05
Small	Hygienic	2NC / 1NO	M12, 8 pin, fitted with 250 mm cable	D40P-SHC-21-M12

### Accessories

Type	Description	Model
Cables, M12 female - 8 pin to flying leads	5m	D40ML-CBL-M12-5M
Cables, M12 female - 8 pin to flying leads	10m	<b>D40ML-CBL-M12-10M</b>
T-Connector Connection Cable	T-Connector for M12 cable	D40P-8PTC-M12

Note: Tables include representative part numbers. Bold models: Preferred Availability. Please consult the product page for more details.

## D40ML - RFID Magnetic Locking Safety Switch

- Magnetic latching combines with RFID technology to deliver high holding force and tamper resistance
- Residual magnetism acts as light door latch after unlocking and it provides multiple holding forces
- Clean/Sanitize in Place – stainless steel versions are rated IP69K
- For use on machines with no rundown time if power is lost



Actuator Type	Case Material	Holding Force	Cable Connection	Model
Basic	Diecast Metal (IP67)	1500N	Pigtail w/ M12 Connector	D40ML-M1-B-M12
Basic	Plastic (IP67)	1500N		D40ML-P1-B-M12
Basic	316 Stainless Steel (IP69K)	950N		D40ML-SS1-B-M12
Unique	316 Stainless Steel (IP69K)	600N	5m Cable	D40ML-SS2-U-5M

### Accessories

Type	Description	Model
Cables, M12 female - 8 pin to flying leads	5m	D40ML-CBL-M12-5M
Cables, M12 female - 8 pin to flying leads	10m	D40ML-CBL-M12-10M

Note: Tables include representative part numbers. Bold models: Preferred Availability. Please consult the product page for more details.

## D4SL-N - Guard Lock Safety Door Switch

- A wide variety of built-in switches can be used for various devices (4-, 5-, and 6-contact models are available)
- Removable terminal block for easy wiring and quick maintenance
- Key holding force of 1,300N
- Slide key available to prevent workers from becoming trapped inside the hazardous area
- Can be easily mounted on 40 × 40 mm aluminum frames



Type	Conduit Size	Contact Model	Head Material	Door Lock and Release	Indicator	Model
D4SL-N	1/2-14NPT *	2NC/1NO + 2NC/1NO	Metal	Mechanical lock/24VDC solenoid release	Yes	<b>D4SL-N3NDA-D</b>
	1/2-14NPT *	2NC/1NO + 2NC/1NO	Metal	24VDC solenoid lock/mechanical release	Yes	<b>D4SL-N3NDG-D</b>
	M20	3NC + 1NC/1NO	Resin	Mechanical lock/24VDC solenoid release	Yes	D4SL-N4GFA-D
	G1/2	2NC/1NO + 2NC/1NO	Resin	Mechanical lock/24VDC solenoid release	Yes	D4SL-N2NFA-D4

\* M20, includes M20-to-1/2-14NPT conversion adapter.

## Slides Key for D4SL

- Lockout Key to prevent workers from becoming trapped inside the hazardous area
- The plastic material makes the Slide Key suitable for lightweight doors



Description	Model
Slide Key Kit	<b>D4SL-NSK10-LK</b>
Slide Key with inner lever	D4SL-NSK10-LKH

## Operation Keys for D4SL

Mounting Orientation	Special Function	Model
Horizontal	-	D4SL-NK1
Horizontal	Rubber cushions	D4SL-NK1G
Vertical	-	D4SL-NK2
Horizontal	Adjustable	D4SL-NK3

Note: Tables include representative part numbers. Bold models: Preferred Availability. Please consult the product page for more details.

# PMAC Motion Controllers CK3 Series

## CK3E - EtherCAT Based Controllers

- 32, 16 or 8 axes motion control
- Up to 250 µs cycle time
- Compatible with standard G-Code functions
- Save space & wiring thanks to compact design
- CAD/CAM for easy motion control
- EtherCAT for flexible configuration



Number of Axis	Memory capacity	Programming language	Model
8	1G	G-Code/ANSI C/original programming language	CK3E-1210-US
16			CK3E-1310-US
32			CK3E-1410-US

By combining global leading Delta Tau Data Systems’ Motion Control technologies, Omron can open up new applications and solutions. The CK3E is a controller designed for precise multi-axis control. You can build a system capable of controlling up to 32 axes of motion and incorporate customized control algorithms into the system. The CK3E allows you to program in C language and reuse existing software assets. The compact design saves space in machines and control panels. EtherCAT® connects servo drives, I/O, and other devices to the CK3E, reducing the number of cables.

## CK3M - Modular Controllers

- Local axes for nanoscale precision
- Ultra high-speed synchronous control (50µs/5 axes)
- Custom servo regulation algorithms
- Flexibility on using multi-vendor actuators and encoders
- Flexibility on programming on G-code, ANSI C or original programming language



Product Type	Memory capacity	EtherCAT® port	EtherCAT Axes	Expansion	Model
CPU Units	RAM: 1 GB Built-In flash memory: 1 GB	-	-	One expansion rack can be connected using the expansion master unit and expansion slave unit	CK3M-CPU101
		EtherCAT® 1 port (DC sync)	4		CK3M-CPU111
			8		CK3M-CPU121

Maximize your machine’s performance: Performing precise linear motor drive control and nanoscale positioning, the PMAC (Programmable Multi Axis Controller) has been appreciated by manufacturers of semiconductor manufacturing equipment and other leading-edge equipment. Omron now offers a next generation motion controller CK3M that packs PMAC’s superior motion control capability, multi-vendor connectivity, and flexible development capability into its compact design. The CK3M removes constraints and barriers and maximizes your machine’s capabilities.

Note: Tables include representative part numbers. Bold models: Preferred Availability. Please consult the product page for more details.



Product Type	Amplifier interface	Encoder interface	Output type	Model
Axial Interface Units	DirectPWM output	Digital quadrature encoder/serial encoder	NPN type	CK3W-AX1313N
	DA output (Filtered PWM)			CK3W-AX1414N
	DA output (True DAC)			CK3W-AX1515N
	DirectPWM output	Sinusoidal encoder/Serial encoder		CK3W-AX2323N
	DirectPWM output	Digital quadrature encoder/serial encoder	PNP type	CK3W-AX1313P
	DA output (Filtered PWM)			CK3W-AX1414P
	DA output (True DAC)			CK3W-AX1515P
	DirectPWM output	Sinusoidal encoder/Serial encoder		CK3W-AX2323P

Product Type	Description	Model
Power Supply Unit	Rated output voltage: 5 VDC / 24 VDC	CK3W-PD048

Product Type	Number of inputs	Number of outputs	I/O type	Model
Digital I/O Units	16 points	16 points	NPN	CK3W-MD7110
			PNP	CK3W-MD7120

Product Type	Input Range	Number of inputs	Model
Analog Input Units	Unit -10 to 10V	4 points	CK3W-AD2100
		8 points	CK3W-AD3100

Product Type	Product Name	Function	Model
Expansion Master Unit and Expansion Slave Unit	Expansion Master Unit	Expansion Master Unit connects to the right side of the CPU Unit	CK3W-EXM01
	Expansion Slave Unit	Expansion Slave Unit connects to the right side of the Power Supply Unit	CK3W-EXS02
	Expansion cable	To connection between the Expansion Master Unit and Slave Unit (0.3m)	CK3W-CAX003A

## Power PMAC IDE (Integrated Development Environment)

- Based on Microsoft® Visual Studio®
- ANSI C or original programming language
- Easy tuning
- Simple setting
- Troubleshooting
- Debugger

Note: Tables include representative part numbers. Bold models: Preferred Availability. Please consult the product page for more details.

# 1S Series - Servomotor

- Advanced design allows easy installation and wiring
- EtherCAT communications up to 125µsec
- Safety over the EtherCAT network
- Motor has 23-bit battery less absolute encoder
- 350% momentary torque (200 V, 750 W max.)



RPM	Capacity	Torque	Motor	Drive	Motor	Drive
			110V VAC		480V VAC	
3000 RPM	0.05 kW	0.159 Nm	R88M-1M05030S-(1)S2	<b>R88D-1SN01L-ECT</b>		
	0.1 kW	0.318 Nm	R88M-1M10030S-(1)S2	R88D-1SN01L-ECT		
	0.2 kW	0.637 Nm	R88M-1M20030S-(1)S2	R88D-1SN02L-ECT		
	0.4 kW	1.27 Nm	R88M-1M40030S-(1)S2	R88D-1SN04L-ECT		
			220V VAC			
	0.05 kW	0.159 Nm	R88M-1M05030T-(1)S2	<b>R88D-1SN01H-ECT</b>		
	0.1 kW	0.318 Nm	R88M-1M10030T-(1)S2	R88D-1SN01H-ECT		
	0.2 kW	0.637 Nm	R88M-1M20030T-(1)S2	<b>R88D-1SN02H-ECT</b>		
	0.4 kW	1.27 Nm	R88M-1M40030T-(1)S2	<b>R88D-1SN04H-ECT</b>		
	0.75 kW	2.39 Nm	R88M-1M75030T-(1)S2	<b>R88D-1SN08H-ECT</b>	R88M-1L75030C-(1)S2	R88D-1SN10F-ECT
	1.0 kW	3.18 Nm	R88M-1L1K030T-(1)S2	<b>R88D-1SN10H-ECT</b>	R88M-1L1K030C-(1)S2	R88D-1SN10F-ECT
	1.5 kW	4.77 Nm	R88M-1L1K530T-(1)S2	<b>R88D-1SN15H-ECT</b>	R88M-1L1K530C-(1)S2	R88D-1SN15F-ECT
	2.0 kW	6.37 Nm	R88M-1L2K030T-(1)S2	<b>R88D-1SN20H-ECT</b>	R88M-1L2K030C-(1)S2	<b>R88D-1SN20F-ECT</b>
	3.0 kW	9.55 Nm	R88M-1L3K030T-(1)S2	<b>R88D-1SN30H-ECT</b>	R88M-1L3K030C-(1)S2	R88D-1SN30F-ECT
	4.0 kW	12.7 Nm	R88M-1L4K030T-(1)S2	R88D-1SN55H-ECT	R88M-1L4K030C-(1)S2	R88D-1SN55F-ECT
	5.5 kW	15.9 Nm	R88M-1L5K030T-(1)S2	R88D-1SN55H-ECT	R88M-1L5K030C-(1)S2	R88D-1SN55F-ECT
2000 RPM	0.4 kW	1.91 Nm			R88M-1M40020C-(1)S2	R88D-1SN06F-ECT
	0.6 kW	2.86 Nm			R88M-1M60020C-(1)S2	R88D-1SN06F-ECT
	1.0 kW	4.77 Nm	R88M-1M1K020T-(1)S2	R88D-1SN10H-ECT	R88M-1M1K020C-(1)S2	R88D-1SN10F-ECT
	1.5 kW	7.16 Nm	R88M-1M1K520T-(1)S2	R88D-1SN15H-ECT	R88M-1M1K520C-(1)S2	R88D-1SN15F-ECT
	2.0 kW	9.55 Nm	R88M-1M2K020T-(1)S2	R88D-1SN20H-ECT	R88M-1M2K020C-(1)S2	R88D-1SN20F-ECT
	3.0 kW	14.3 Nm	R88M-1M3K020T-(1)S2	R88D-1SN30H-ECT	R88M-1M3K020C-(1)S2	R88D-1SN30F-ECT
1500 RPM	4 kW	25.5 Nm	R88M-1M4K015T-(1)S2	R88D-1SN55H-ECT	R88M-1M4K015C-(1)S2	<b>R88D-1SN55F-ECT</b>
	5.5 kW	35 Nm	R88M-1M5K515T-(1)S2	<b>R88D-1SN55H-ECT</b>	R88M-1M5K515C-(1)S2	R88D-1SN55F-ECT
	7.5kW	47.8 Nm	R88M-1M7K515T-(1)S2	<b>R88D-1SN75H-ECT</b>	R88M-1M7K515C-(1)S2	<b>R88D-1SN75F-ECT</b>
	11 kW	70 Nm	R88M-1M11K015T-(1)S2	R88D-1SN150H-ECT	R88M-1M11K015C-(1)S2	<b>R88D-1SN150F-ECT</b>
	15 kW	95.5 Nm	R88M-1M15K015T-(1)S2	R88D-1SN150H-ECT	R88M-1M15K015C-(1)S2	R88D-1SN150F-ECT
1000 RPM	0.9 kW	8.59 Nm	R88M-1M90010T-(1)S2	R88D-1SN10H-ECT	R88M-1M90010C-(1)S2	R88D-1SN10F-ECT
	2.0 kW	19.1 Nm	R88M-1M2K010T-(1)S2	R88D-1SN20H-ECT	R88M-1M2K010C-(1)S2	R88D-1SN20F-ECT
	3.0 kW	28.7 Nm	R88M-1M3K010T-(1)S2	R88D-1SN30H-ECT	R88M-1M3K010C-(1)S2	R88D-1SN30F-ECT

Note: (1) B - Motor with brake WHITE - Without brake

Note: Tables include representative part numbers. Bold models: Preferred Availability. Please consult the product page for more details.

# 3G3MX2 - Frequency Inverter

- Vector Frequency Inverter
- Communication with major industrial communication networks
- Built-in Safety Torque Off function
- Embedded Micro PLC



Capacity CT		220V Single phase	220V Three-phase	480V Three-phase
kW	HP			
0.1	1/8	3G3MX2-AB001-V1	3G3MX2-A2001-V1	-
0.2	1/4	3G3MX2-AB002-V1	<b>3G3MX2-A2002-V1</b>	-
0.4	1/2	<b>3G3MX2-AB004-V1</b>	<b>3G3MX2-A2004-V1</b>	<b>3G3MX2-A4004-V1</b>
0.75	1	<b>3G3MX2-AB007-V1</b>	<b>3G3MX2-A2007-V1</b>	<b>3G3MX2-A4007-V1</b>
1.5	2	3G3MX2-AB015-V1	<b>3G3MX2-A2015-V1</b>	<b>3G3MX2-A4015-V1</b>
2.2	3	3G3MX2-AB022-V1	<b>3G3MX2-A2022-V1</b>	<b>3G3MX2-A4022-V1</b>
3	4	-	-	3G3MX2-A4030-V1
3.7	5	-	<b>3G3MX2-A2037-V1</b>	-
4	5	-	-	3G3MX2-A4040-V1
5.5	7-1/2	-	3G3MX2-A2055-V1	3G3MX2-A4055-V1
7.5	10	-	3G3MX2-A2075-V1	3G3MX2-A4075-V1
11	15	-	3G3MX2-A2110-V1	3G3MX2-A4110-V1
15	20	-	3G3MX2-A2150-V1	3G3MX2-A4150-V1

## Expansion Modules and Accessories

Description	Accessory	Model
Optional Communications	Profibus Communication	3G3AX-MX2-PRT-E
	DeviceNet Communication	3G3AX-MX2-DRT
	EtherCAT Communication	<b>3G3AX-MX2-ECT</b>
	CompoNET Communication	3G3AX-MX2-CRT-E
	Mechatrolink II Communication	3G3AX-MX2-ML2
	EtherNet/IP Communication	<b>3G3AX-MX2-EIP-A</b>
Remote HMI	Remote HMI with Potentiometer	3G3AX-OP01
	Communication cable for Remote HMI	3G3AX-OPCN3

Note: Tables include representative part numbers. Bold models: Preferred Availability. Please consult the product page for more details.

# 3G3RX - Frequency Inverter

- Sensor-less and vector closed-loop control
- Full torque at 0 Hz in closed loop
- High starting torque in open loop: 200% at 0.3 Hz
- Double rating VT 120%/1 min and CT 150%/1 min
- Built-in EMC filter
- Built-in logic programmability



Voltage	Constant torque		Variable torque		Model
	Max motor (kW)	Rated current (A)	Max motor (kW)	Rated current (A)	
Three-phase 200 V	0.4	3	0.75	3.7	3G3RX-A2004-V1
	0.75	5	1.5	6.3	3G3RX-A2007-V1
	1.5	7.5	2.2	9.4	3G3RX-A2015-V1
	2.2	10.5	4	12	3G3RX-A2022-V1
	4	16.5	5.5	19.6	3G3RX-A2037-V1
	5.5	24	7.5	30	3G3RX-A2055-V1
	7.5	32	11	44	3G3RX-A2075-V1
	11	46	15	58	3G3RX-A2110-V1
	15	64	18.5	73	3G3RX-A2150-V1
	18.5	76	22	85	3G3RX-A2185-V1
	22	95	30	113	3G3RX-A2220-V1
	30	121	37	140	3G3RX-A2300-V1
	37	145	45	169	3G3RX-A2370-V1
	45	182	55	210	3G3RX-A2450-V1
55	220	75	270	3G3RX-A2550-V1	
Three-phase 400 V	0.4	1.5	0.75	1.9	3G3RX-A4004-V1
	0.75	2.5	1.5	3.1	3G3RX-A4007-V1
	1.5	3.8	2.2	4.8	3G3RX-A4015-V1
	2.2	5.3	4	6.7	3G3RX-A4022-V1
	4	9	5.5	11.1	3G3RX-A4040-V1
	5.5	14	7.5	16	3G3RX-A4055-V1
	7.5	19	11	22	3G3RX-A4075-V1
	11	25	15	29	3G3RX-A4110-V1
	15	32	18.5	37	3G3RX-A4150-V1
	18.5	38	22	43	3G3RX-A4185-V1
	22	48	30	57	3G3RX-A4220-V1
	30	58	37	70	3G3RX-A4300-V1
	37	75	45	85	3G3RX-A4370-V1
	45	91	55	105	3G3RX-A4450-V1
	55	112	75	135	3G3RX-A4550-V1
	75	149	90	160	3G3RX-B4750-V1
90	176	110	195	3G3RX-B4900-V1	
110	217	132	230	3G3RX-B411K-V1	
132	260	160	290	3G3RX-B413K-V1	

# LD Series – Autonomous Mobile Robots

- Simplified programming and navigation using digital mapping
- In compliance with safety standards ISO 12100, ISO 14121-2 and ISO 13849-1
- Rechargeable battery with autonomy of 12 to 15 hours and self-management for recharging
- Connectivity with factory management software (MES/WMS)
- Cleanroom and ESD options available



## Part Number Configurator 37 □ □ □ - □ (1) (2) (3) (4)

No.	Item	Specification		Symbol
1	Robot Type	LD 60/LD 90		0
		Cart Transporter		1
		D 250		2
2	Speed & Payload	0.9m/s (Excludes LD 250)	90Kg (LD90)	6
			130Kg (Cart transporter)	
		1.2m/s (LD 250 Only)	250Kg	2
		1.3m/s (Excludes LD 250)	90Kg (LD90)	4
105Kg (Cart transporter)				
3	Laser Version	SICK (Excludes LD 250)		1
		Omron		2
4	Standard LD60 / LD 90 / LD 250	Robot	00000	
		Robot, Dock	00002	
		Robot, Dock, Joystick, Top Plate	10004	
	Cart Transporter	Robot	00010	
		Robot, Dock	00012	
		Robot, Dock, Joystick, Top Plate	01014	
	ESD LD 60 / LD 90	Robot	20000	
		Robot, Dock	20002	
		Robot, Dock, Joystick, Top Plate	20004	

## Accessories

Item	Description	Model
Battery	Power battery	20452000
Fleet Manager	LD Mobile robot fleet supervisor	20271-900-OEI-5

Note: The battery 20452000 must be purchased separately.

# HD-1500 – Autonomous Mobile Robot

- Natural feature navigation: Automatically plans efficient routes and prevents collisions
- Fleet management: Operates in coordination with a fleet of up to 100 mobile robots
- Easy deployment: Installs quickly, without facility modifications
- 1500 Kg large capacity payload
- Dynamic intelligent 360° safety
- Integrated automation controller



**Part Number Configurator** 37    -   
 (1) (2) (3) (4)

No.	Item	Specification		Symbol
1	Robot Type	HD-1500		4
2	Speed & Payload	1.8 m/s	1500 Kg	8
3	Laser Version	Omron (HD)		0
4	Configuration	Standard HD-1500	Robot	00000
			Robot, Dock	00002
			Robot, Side Lasers	00010
			Robot, Single HAPS	00100
			Robot, Single HAPS, Side Lasers	00110
			Robot, Double HAPS	00200
			Robot, Double HAPS, Side Lasers	00210
			Robot, Dock, Joystick/Pendant, Top Plate	10004
			Robot, Dock, Single HAPS, Joystick/Pendant, Top Plate	10104
			Robot, Dock, Single HAPS, Joystick/Pendant, Top Plate, Side Lasers	10114
			Robot, Dock, Double HAPS, Joystick/Pendant, Top Plate	10204
Robot, Dock, Single HAPS, Joystick/Pendant, Top Plate, Side Lasers	10214			

## Accessories

Item	Description	Model
Battery	Power battery	68330000
Fleet Manager	HD Mobile robot fleet supervisor	20271-900-OEI-5

Note: Vehicle Battery (68330000) must be purchased separately from the robot and is shipped separate from the HD Vehicle.

Note: Tables include representative part numbers. Bold models: Preferred Availability. Please consult the product page for more details.

# Omron TM - Collaborative Robots

- Designed to promote a safe and harmonious workplace between humans and machines.
- Easy-to-use graphical programming environment for quick startup and operation.
- Built-in vision-based robot control enables visual servoing, inspection, and measurement operations.
- TMvision and landmark allows truly flexible, fast changeover.



**Part Number Configurator** RT6-          
 (1) (2) (3) (4) (5) (6) (7) (8)

No.	Item	Specifications	Symbol
(1)	Omron TM Collaborative Robots		
(2)	Model Type	TM5	0
		TM12	1
		TM14	2
(3)	Power Supply	AC	0
		DC	1
(4)	Vision System	Integrated Camera	0
		No Camera (X Model)	1
(5)(6)	Arm Length	700 (TM5)	70
		900 (TM5)	90
		1300 (TM12)	13
		1100 (TM14)	11
(7)	Semi	Standard	0
		Semi	1
(8)	Cable Length	Standard Length (3m/1.5m)*	1
		Extended Length (12m)*	2

Note: 1.5m cable is only standard on DC models. 12m cable is not available on DC models.

## Accessories

Type	Notes	Model
<a href="#">Landmark</a>	3D position referencing label (2 units included in the robot code)	RT6-A000008
<a href="#">Mobile Station</a>	Compatible with OMRON TM5 only	RT6-A000010
<a href="#">Portable Pedestal</a>	Compatible only with OMRON TM5/Adjustable Height	RT6-A000009
<a href="#">SSD Card with cable</a>	128 GB of memory with SATA cable	RT6-A000012
<a href="#">Calibration kit</a>	Required for TCP calibration and manual vision	RT6-A000002
<a href="#">Pneumatic Box</a>	. Recommended to attach to the robot pedestal	RT6-A000015

Note: Tables include representative part numbers. Bold models: Preferred Availability. Please consult the product page for more details.

# Hornet 565 - Parallel Robots

- Ethernet capability to control the robot through the familiar programming language (IEC 61131-3) of Machine Automation
- Controller NJ/NX/NY Series
- The amplifier and controller built into the robot reduces the number of cables
- Tracks up to a conveyor speed of 1.4 m/s



Item	Number of Axes	IP	Maximum Payload	Working volume		
				X,Y axis (stroke)	Z axis (stroke)	theta axis (rotation angle)
Hornet 565	3 axes	Standard	8 kg	1130 mm	425 mm	-
		IP65/67				
	4 axes	Standard	3 kg			±360°
		IP65/67				

**Part Number Configurator** 1720-□-456□□  
 (1) (2) (3)

No.	Item	Specification	Symbol	
1	Bundle Type	Without Smart Controller EX	eV+	0
			ePLC	1
			Add-On	3
		With Smart Controller EX	eV+	2
PLC	4			
2	IP Rating (Topside/Underside/Platform & Arms)	IP20/IP65/IP67	0	
		IP65/IP65/IP67	1	
3	Number of Axes & Max Payload	3 Axis / 8kg	0	
		4 Axis / 3kg	4	

Note: Tables include representative part numbers. Bold models: Preferred Availability. Please consult the product page for more details.



# Quattro Parallel Robot

- Patented four-arm design
- Robust components and design
- High-resolution, absolute encoders
- High-efficiency, low-inertia drives and lightweight arms
- 8 kHz servo update rate yields high accuracy, superior slow-speed following, and easy calibration



Item	Number of Axes	Type	IP	Maximum Payload	Working volume		
					X,Y axis (stroke)	Z axis (stroke)	theta axis (rotation angle)
Quattro 650H/HS	4	H	Standard	6 kg (P30: 15 kg)	1300 mm	500 mm	0° (fixed) (P30) ±46.25° (P31) ±92.5° (P32) ±185° (P34)
			IP65/67				
HS		3 kg (P30: 12 kg)					
Quattro 800H/HS		H	Standard	4 kg (P30:10 kg)			
	IP65/67		1 kg (P30: 7 kg)				

**Part Number Configurator** 1721-□-26□□□  
 (1) (2) (3) (4)

No.	Item	Specification		Symbol
1	Bundle Type	Without Smart Controller EX	Add-On	3
		With Smart Controller EX	eV+	2
			ePLC	4
2	Reach		650mm (1300mm total)	0
			800mm (1600mm total)	3
3	Max Payload (650mm/800mm)	"3kg/1kg (12kg/7kg with P30)"	IP65/IP65/IP67, Stainless Steel Platform (HS)	1
	IP Rating (Topside/Underside/Platform & Arms)	"6kg/4kg (12kg/10kg with P30)"	IP20/IP65/IP67 (H)	0
			IP66/IP66/IP67 (H)	2
4	Platform Type / Rotation		(P30) / No Rotation	0
			(P31) / ± 46.25°	1
			(P32) / ± 92.5°	2
			(P34) / ± 185°	4

## eCobra - SCARA Robots

- Ethernet capability to control the robot through the familiar programming language (IEC 61131-3) of Machine Automation Controller NJ/NX/NY Series
- Reach is extended to 800 mm without compromising repeatability
- High payload for screw-driving tools



Item	Type	IP	Mounting	Reach	Max payload	Cycle times *1 (Payload 2.0 kg)	
						Burst	Sustained
eCobra 600	600 Lite	Standard Cleanroom	Table/floor	600 mm	5.5 Kg	0.66 s	0.66 s
	600 Standard					0.55 s	0.55 s
	600 Pro					0.39 s	0.45 s
eCobra 800 & eCobra 800 Inverted	800 Lite	Standard Cleanroom IP65	Table/Floor or Inverted	800 mm		0.73 s	0.73 s
	800 Standard					0.62 s	0.62 s
	800 Pro					0.44 s	0.54 s

### Part Number Configurator 17□1□-1□□0

(1) (2) (3) (4)

No.	Item	Specification	Symbol	
1	License Type	Lite	0	
		Standard	1	
		Pro	2	
2	Bundle Type	Without Smart Controller EX	eV+	0
			ePLC (Excludes Lite)	1
			Add-On (Excludes Lite)	3
		With Smart Controller EX	eV+ (Excludes Lite)	2
			ePLC (Excludes Lite)	4
3	Reach / Mounting	600mm / Floor,Table	60	
		800mm / Floor,Table	80	
		800mm / Inverted	84	
4	Protection Rating	IP20	0	
		IP65 (800mm Only)	3	
		Cleanroom Class 10 (IP20)	1	

## Cobra - SCARA Robots

- ACE software deploys your applications through a user-friendly interface
- High-resolution, absolute encoders give you high accuracy, superior slow-speed following, and easy calibration
- High-efficiency, low-inertia Harmonic Drives and a lightweight arm deliver maximum acceleration



Item	Reach	Maximum Payload	Protection	Conveyor tracking input	Model
Cobra 450	450 mm	5 kg	IP20	2	17201-14500
Cobra 500	500 mm				17201-15000
Cobra 650	650 mm				17201-16500

Note: Tables include representative part numbers. Bold models: Preferred Availability. Please consult the product page for more details.

## Viper - Articulated Robots

- Rapid deployment using familiar ladder logic programming languages of existing PLC (IEC 61131-3)
- Diagnostics display enables faster trouble shooting
- Ethernet TCP/IP capability to control the robot through a PC, PLC, or robot controller



Item	IP	Number of axes	Reach	Maximum Payload	Repeatability XYZ	Conveyor tracking input	Programming environment
Viper 650	Standard	6	653 mm	5 kg	±0.02 mm	2	ACE, PackXpert, ePLC
	Cleanroom						
	IP54/65						
Viper 850	Standard	6	855 mm	5 kg	±0.03 mm	2	ACE, PackXpert, ePLC
	Cleanroom						
	IP54/65						

**Part Number Configurator** 1720□-3□0□0  
 (1) (2) (3)

No.	Item	Specification	Symbol	
1	Bundle Type	Without Smart Controller EX	eV+	0
			ePLC	1
			Add-On	3
		With Smart Controller EX	eV+	2
			PLC	4
			650mm	6
2	Reach	850mm	8	
		IP40	0	
3	Protection Rating	IP54 (IP65 on J4,J5,J6)	1	
		Cleanroom Class 10 (IP40)	2	

Note: Tables include representative part numbers. Bold models: Preferred Availability. Please consult the product page for more details.

## Anyfeeder - Automatic Feeder

- Integration with robots, vision system and conveyors
- Flexibility in setting up different products
- Vibration control allows management of part movement



Model	SXM-100	SXM-140	SX-240	SX-340
Part Number	09725-500	18819-500	12480-500	14269-500
Pick area	100 x 134 mm	140 x 193 mm	240 x 320 mm	340 x 453 mm
Maximum weight in field of vision	500g		1500g	
Connections	Electric	1	1	1
	Pneumatic	-	-	1
	Serial	1	1	1

### Accessories

Corresponding Model	SXM-100	SXM-140	SX-240	SX-340
Red Backlight Lighting type	09725-201	14630-001	05284-206	14269-002
White Smooth surface	09725-101	09725-301	05284-101	14269-003

Note: For other specifications of backlights and surface, refer to the product datasheet.

Note: Tables include representative part numbers. Bold models: Preferred Availability. Please consult the product page for more details.

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