Industrial Automation Products

Master Selection Guide





An Industry Leader Makes a Great Automation Partner

Trust your automation needs to Omron, a global leader and innovator in industrial automation controls and systems. Your investment in Omron systems and training repays itself quickly with improved productivity, continued profitability and competitive manufacturing advantage.

What Makes Omron Different? Quality

- · All products 100% quality-tested before shipping
- Designed and manufactured to the highest ISO 9001, IPC and JIS standards

Stability

- Over 70 years in the controls business, founded in 1933
- \$6 billion USD global technology leader
- 40% of business comes from industrial automation; social systems, electronic components, automotive components and healthcare make up the balance

Technology

- 7% of sales reinvested annually in R&D ensures leading edge solutions that improve our customers' productivity and profits
- Products offer security features to prevent tampering

Ease of use

- Simple menus enable quick setup, operation and changeover for controllers, inspection systems and communications
- Helpful software tools provide data tracking and production monitoring
- One software package programs all Omron PLCs

Flexibility

- More than 300,000 products help you design a complete automation solution from one source
- Easy forward/backward migration maintains the value of your automation investment

Support

- Global, regional and local support in 65 countries through 1,500 offices
- Documentation available on-line
- Training, phone support, 24/7 emergency services give you peace of mind

Contents

Photoelectric Sensors	. 1
Amplified Photomicrosensors	14
Proximity Sensors	18
Limit Switches	24
Other Sensors	27
Pressure Sensors	28
Encoders	30
Ultrasonic Sensors	32
Pushbuttons, Switches and Pilot Devices	33
Power Supplies	36
Timers, Counters, Digital Panel Meters	38
Timers	39
Counters	41
Digital Panel Meters	42
Terms and Conditions of Sales	44

Omron Delivers End-to-End Automation from a Single Source

Our large global installed base of plant automation solutions combine sensors, programmable controllers, human machine interface terminals, RFID and other track-and-trace code readers, motion control and products to complete control panel installation.

Only the Best Products

This Master Selection Guide contains our latest and most popular products, and represents a fraction of what is available.

For More Information...

Internet

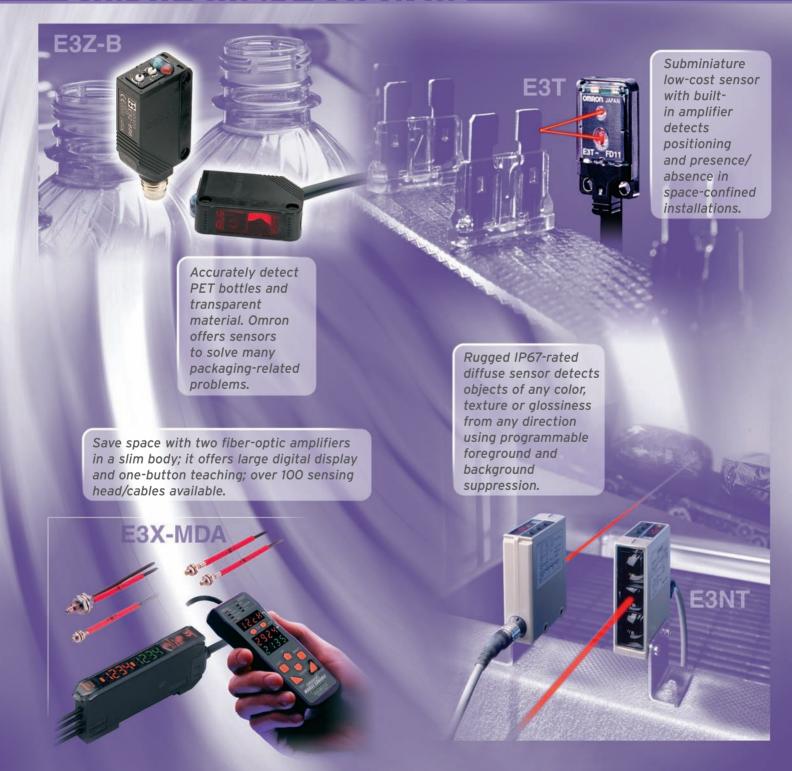
Visit www.components.omron,com
For Data sheets and technical bulletins call phone number below.

Phone

Call us: 847.882.2288 Monday through Friday, 7:30 AM to 6:00 PM Central Time for more detailed product information, the location of your local sales office or Omron distributor.

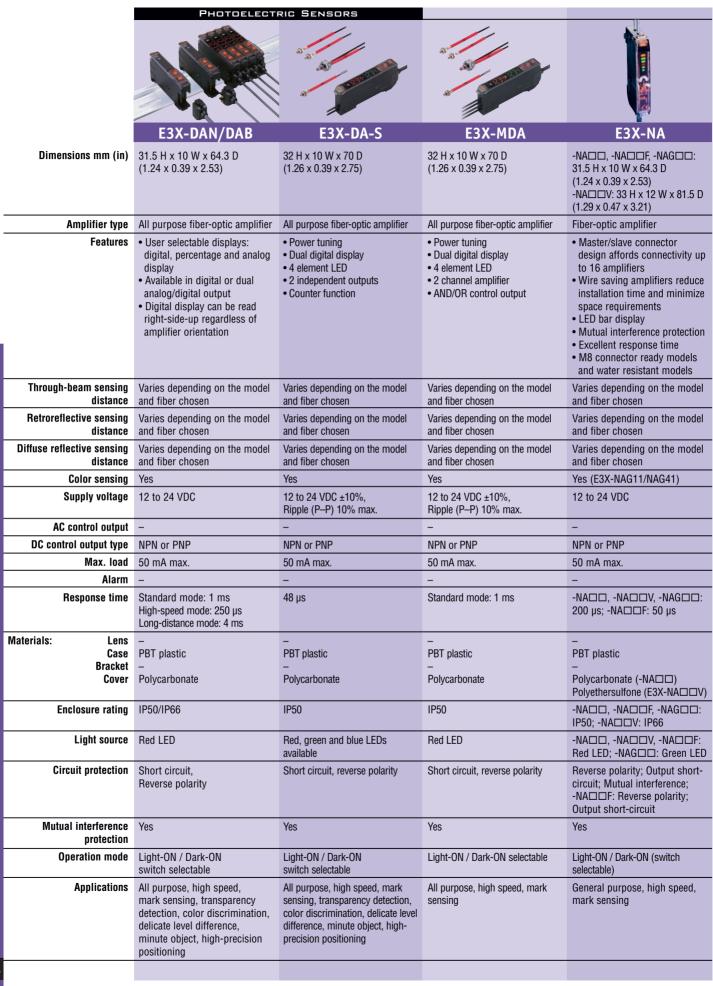
email: components@omron.com

Photoelectric Sensors



		PHOTOELECT	RIC SENSORS		
		E3Z	E3Z-LS	E3Z-B	E3T
	Dimensions mm (in)	31 H x 10.8 W x 20 D (1.22 x 0.43 X 0.79)	31 H x 10.8 W x 20 D (1.22 x 0.43 x 0.79)	31 H x 10.8 W x 20 D (1.22 x 0.43 x 0.79)	19 H x 12 W x 4 D (0.74 x 0.47 x 0.15)
	Amplifier type	Built-in DC amplifier	Built-in DC amplifier	Built-in DC amplifier	Built-in DC amplifier
	Features	Sub-miniature sensor offers long sensing distances and high noise immunity IP67 rated Connector models available	Foreground/background suppression Pre-wired 2 m cable or M8 connector Distance settable Stable sensing regardless of target's color	Detects PET bottles	Micro-miniature space saving Watertight IP67 Pinpoint beam for detection of extremely small targets 1 meter range Hyper LED smallest visible red LED Flat and rectangular body styles CE conformance
	Through-beam sensing distance	15 m (49.2 ft)	-	-	1 m (3.28 ft)
	Retroreflective sensing distance	4 m (13.12 ft)		500 mm – 2 m depends on reflector	Polarized: 200 mm (7.88 in)
	Diffuse reflective sensing distance	1 m (3.28 ft) or 5 to 100 mm (0.2 to 3.94 in)	20 mm to 200 mm (BGS) 40 mm to 200 mm (FGS)	-	30 mm (1.18 in) 15 mm on certain convergent beam models
ח	Color sensing	-	-	-	-
4	Supply voltage	12 to 24 VDC	12 to 24 VDC	12 to 24 VDC	12 to 24 VDC
	AC control output	- NDM DMD	NDN DND	NDN - DND	- NDN DND
מ ב ב	DC control output type	NPN or PNP 100 mA	NPN or PNP	NPN or PNP	NPN or PNP
П	Max. load Alarm	TOU IIIA	100 mA max.	100 mA max.	50 mA max. at 24 VDC
,	Response time	1 ms max.	Operation or reset: 1 ms max.	Operation or reset: 1 ms max.	2 ms ON/OFF
	Materials: Lens	Denatured polyallylate	Denatured polyallylate	Denatured polyallylate	Polycarbonate
ב כ	Case Bracket	PBT plastic	PBT plastic	PBT plastic	PBT plastic
4	Cover	- IDC7 1000 DCI (NEMA ICCE	- IFC COEOO IDC7 1000 DCI	- IFO COEGO IDOZ 1000 DOI	Polycarbonate
		IP67, 1200 PSI (NEMA ICS5, ANNEXF)	IEC 60529 IP67, 1200 PSI (NEMA ICS5, ANNEXF)	IEC 60529 IP67, 1200 PSI (NEMA ICS5, ANNEXF)	IP67
	Light source	Pulse modulated infrared LED (860 nm) or visible red LED (680 nm)	Red LED (680 nm)	Red LED (680 nm)	Red "Pin Point" LED (670 nm)
	Circuit protection	Load short circuit and reverse polarity	Reverse polarity, output short-circuit	Reverse polarity, output short-circuit	Load short circuit and reverse polarity
	Mutual interference protection	On all except through-beam models	Yes	Yes	On all except through-beam models
	Operation mode	Light-ON / Dark-ON switch selectable	Light-ON / Dark-ON switch selectable	Light-ON / Dark-ON switch selectable	Light-ON / Dark-ON separate models
	Applications	General purpose sensing; Sub-miniature, long detection distances, noise immunity; IP67 rated; CE approved	General purpose; Material handling; Packaging; Background suppression	PET bottles and transparent objects	Flat or rectangular micro- miniature package; Washdown environments; Pinpoint beam for extremely small target detection; CE conformance; Latest generation technologies
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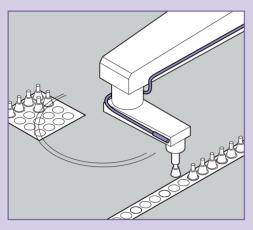
	PHOTOELECTRIC SENSORS				
	E3NT	E3F2	E3G-L1/L3	E3S-A	
Dimensions mm (in)	88.7 H x 27 W x 65.1 D (3.49 x 1.06 x 2.56)	18.5 dia. x 65 L (0.73 x 2.56)	40 H x 18.4 W x 27 D (1.57 x 0.72 x 1.06)	22.3 H x 12.4 W x 44 or 50 D (0.88 x 0.49 x 1.73 or 1.97)	
Amplifier type	Built-in DC amplifier	Built-in AC or DC amplifier	Built-in DC amplifier	Built-in DC amplifier	
Features	 Programmable BGS/FGS diffuse sensor Digital, software configurable Detects any color, texture, or glossiness from any direction Double-triangulated optics Rugged housing withstands extreme environment 	 Rugged stainless, nickel plate brass, and plastic models are chemical resistant Wide operating voltage range AC/DC UL, CSA, CE certified Connector models available 	Distance settable pinpoint beam TEACH mode for reliable detection of minute objects any color, material, or glossiness IP67; NEMA 4; CE approved	 Fast response time Selectable Light-ON / Dark-ON operation Alarm output indicates deteriorating sensing conditions Timer versions available 	
Through-beam sensing distance	-	To 7 m (22.97 ft)	-	7 m (23 ft)	
Retroreflective sensing distance	-	To 2 m (6.56 ft)	-	Polarized: 0.1 to 2 m (0.33 to 6.56 ft)	
Diffuse reflective sensing distance	0.2 m to 2 m	To 300 mm (11.81 in)	5 to 200 mm (0.19 to 7.87 in)	0 to 100 mm (0 to 3.94 in) 10 to 200 mm (0.04 to 7.87 in) 0 to 700 mm (0 to 27.56 in)	
Color sensing	-	-	-	-	
Supply voltage	10 to 30 VDC	24 to 240 VAC 50/60 Hz. or 10 to 30 VDC	10 to 30 VDC	10 to 30 VDC	
AC control output	-	SCR 200 mA max.	-	-	
DC control output type	NPN or PNP or complementary	NPN/PNP separate models	NPN or PNP	NPN or PNP	
Max. load	100 mA max.	100 mA max. at 30 VDC	100 mA max. at 30 VDC	100 mA max. at 30 VDC	
Alarm	Yes	-	-	50 mA max. NPN/PNP	
Response time	≤ 2.5 ms	30 ms AC models; 2.5 ms DC models	1.5 ms or 2.5 ms model dependent	0.5 ms max.	
Materials: Lens Case Bracket Cover	Housing: Powder-coated aluminum Front pane: Glass Keyboard: HTV silicone Seals: RTV silicone	Plastic ABS or nickel-plated brass or stainless steel	Acrylic (PMMA) PBT plastic Stainless steel 304	Denatured polyarylate PBT plastic Stainless steel	
Enclosure rating	IP67 (EN 60529/IEC 529)	NEMA 1, 2, 4 (indoor) IP66 AC models; IP67 NEMA 6 Metal versions, IP66 NEMA 4 Plastic	IP67 NEMA 4	NEMA 4X, 6, IP67	
Light source	Infrared LED (850-880 nm)	Infrared LED or Red LED	Infrared LED (860 nm) or red LED (670 nm)	Pulse modulated red and infrared LED	
Circuit protection	Reverse polarity, overload, short-circuit	Reverse polarity, short circuit on DC power supply models only	Short-circuit, reverse polarity	Load short circuit and reverse polarity	
Mutual interference protection	Yes	-	Yes	On all except through-beam models	
Operation mode	Light-ON / Dark-ON programmable	Light-ON / Dark-ON selectable with control wire	Light-ON / Dark-ON switch selectable	Light-ON / Dark-ON switch selectable	
Applications	Extreme conditions; Food & Beverage; Packaging; Material Handling; Car wash	General purpose sensing; Chemical resistant ABS version; Stainless or nickel-plated brass versions; Connector types; Cylindrical design; M18 mounting	Food and Bev, material handling, packaging applications; Multiple object detection	General purpose sensing; Washdown environment; Miniature size; High speed sensing 0.5 ms; Timers, vertical or horizontal mount versions	



Over 100 Fiber-Optic Sensor Cables

One exactly matches your requirements

Constant Flexing Applications



The special construction of these fiber-optic cables resists breaking and enables them to withstand the punishing effects of constant flexing or tight bending. The stranded fiber core can be bent to a radius as small as 4 mm with no loss in light intensity. They are ideal for use on moving and articulating equipment such as robotic arms.

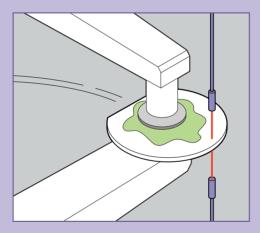
AVAILABLE MODELS

Through-Beam

E32-T11 (680 mm sensing distance, M4 threaded head) E32-T21 (200 mm sensing distance, M3 threaded head) E32-T22B (200 mm sensing distance, 1.5 mm dia, head)

E32-D11 (170 mm sensing distance, M6 threaded head) E32-D21 (30 mm sensing distance, M3 threaded head) E32-D21B (70 mm sensing distance, M4 threaded head) E32-D22B (30 mm sensing distance, 1.5 mm dia, head)

Chemical Resistant Applications



Teflon[®] coated fiber optic cables provide long lasting reliability in sensing environments where corrosive fluids and gasses are present. They are designed for use where strong chemicals are manufactured or being used for processing or cleaning.

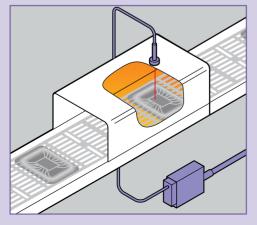


Through-Beam

E32-T11F (2000 mm sensing distance, 7.2 mm dia. head) E32-T12 F (3000 mm sensing distance, 5 mm dia. head) E32-T14F (400 mm sensing distance, 5 mm dia., side view head) E32-T81F-S (700 mm sensing distance, 6 mm dia. head, to 200°C)

E32-D12F (95 mm sensing distance, 6 mm dia. head)

High Temperature Applications



Omron offers a variety of heat resistant fiber optic cables that can operate reliably in temperatures up to 400°C (752°F). The fluororesin and armored stainless steel sheaths protect the fibers for use in ovens and other high heat applications.



Through-Beam

E32-T51 (760 mm sensing distance, M4 threaded head, to 150°C) E32-T54 (230 mm sensing distance, 2 mm dia., side view head, to 150°C) E32-T61-S (450 mm sensing distance, M4 threaded head, stainless steel sheath, to 350°C)

E32-T84S-S (1300 mm sensing distance, 3 mm dia. L-shaped head, to 200°C)

Diffuse

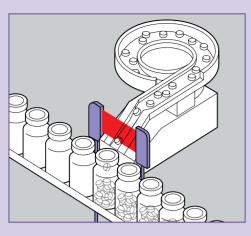
E32-D51 (230 mm sensing distance, M6 threaded head, to 150°C)

E32-D61-S (90 mm sensing distance, M6 threaded heads, stainless steel sheath, to 350°C)

E32-D73-S (60 mm sensing distance, M4 threaded head, stainless steel probe,

E32-D81R-S (90 mm sensing distance, M6 threaded head, to 200°C)

Wide Area Sensing Applications



Applications that require a larger target area for sensing small, randomly positioned objects are ideal for Omron's wide area sensing fiber optic cables. They project a wide plane of light that can detect very small objects anywhere within the width of the beam. Use them for detecting pills in packaging and similar applications.

AVAILABLE MODELS



Through-Beam

E32-M21 (610 mm sensing distance, four M3 heads)

E32-T16 (2800 mm sensing distance, 10 mm wide beam)

E32-T16P (1100 mm sensing distance, 11 mm wide beam)

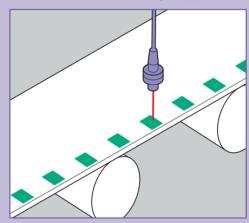
E32-T16W (1800 mm sensing distance, 30 mm wide beam)

E32-T16J (1000 mm sensing distance, 11 mm wide beam, side view)

Diffuse

E32-D36P1 (100 mm sensing distance, 10.85 mm wide beam)

Precise Positioning Applications



When it is critical to position objects or machinery accurately and consistently, Omron provides a solution with a unique coaxial cable design that surrounds the light emitting fiber with light detection fibers.

AVAILABLE MODELS



Diffuse

E32-CC200 (300 mm sensing distance, M6 threaded head, 16 receivers)

E32-D32L (150 mm sensing distance, 3 mm dia. head, 16 receivers)

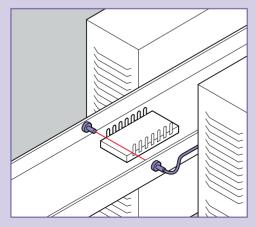
E32-D32 (75 mm sensing distance, 2 mm dia. head, 4 receivers)

E32-C31 (75 mm sensing distance, M3 threaded head, 4 receivers)

E32-C41 (35 mm range, M3 threaded head, 6 receivers)

E32-C42 (35 mm range, 2 mm dia. head, 6 receivers)

Detect Minute Objects



Detect extremely small objects, as small as 0.5 mm, in very space-restricted areas. Most are available with bendable "probe" tips that let you mount the head away from the detection area and bend the probe tip to the precise sensing area.

AVAILABLE MODELS



Through-Beam

E32-T22 (220 mm sensing distance, 2 mm dia. head)

E32-TC200B (760 mm sensing distance, 1.2 mm dia. head, probe tip)

E32-TC200E (220 mm sensing distance, M3 threaded head)

E32-TC200F (220 mm sensing distance, 0.9 mm dia. head, probe tip)

Diffuse

E32-DC200B (300 mm sensing distance, 2.5 mm dia. head, probe tip)

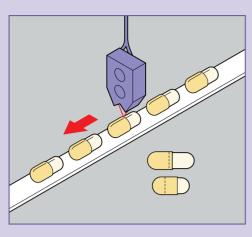
E32-DC200E (80 mm sensing distance, M3 threaded head)

E32-DC200F (80 mm sensing distance, 1.2 mm dia. head, probe tip)

E32-D33 (16 mm sensing distance, 0.8 mm dia. head, probe tip)

E32-D331 (3 mm sensing distance, 0.5 mm dia. head, probe tip)

Background Suppression Applications



Fiber optic cables with convergent beam head configurations solve the problem of background reflections in space-restricted areas. These special cables can also be used for precise positioning of objects or machinery. Left- and right-side emitter models eliminate interference when using two or more E32-L56 sensing heads.

AVAILABLE MODELS



Convergent Beam

E32-L24L (4±2 mm range, side view head, to 105°C)

E32-L24S (0-4 mm range, side view head)

E32-L25 (3.3 mm range, side view head)

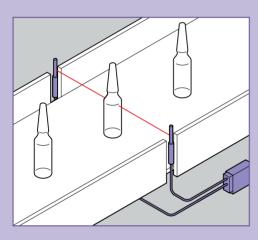
E32-L25L (7.2±1.8 mm range)

E32-L25A (3.3 mm range)

E32-L56E□ (4-12 mm range)

E32-L66 (5-18 mm range, sensing head to 300°C)

Long Range Detection of Small Objects



A wide variety of fiber optic cables with special sensing heads and lenses are available for detecting small objects over longer distances in space-confined areas. They are available in through-beam or diffuse versions with threaded and non-threaded heads for more versatile mounting.

AVAILABLE MODELS



Through-Beam

E32-T11L (1330 mm sensing distance, M4 threaded head)

E32-T12L (1330 mm sensing distance, 3 mm dia. head)

E32-T14L (460 mm sensing distance, 3 mm dia., side view head)

E32-T17L (20,000 mm sensing distance, M14 threaded head)

E32-T21L (440 mm sensing distance, M3 threaded head)

E32-T22L (440 mm sensing distance, 2 mm dia. head)

Diffuse

E32-D11L (400 mm sensing distance, M6 threaded head)

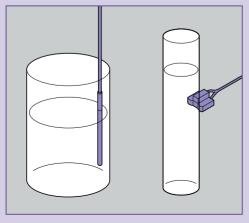
E32-D12 (230 mm sensing distance, 3 mm dia. head)

E32-D16 (40 to 700 mm sensing distance, 17.5 mm square head)

E32-D21L (130 mm sensing distance, M4 threaded head)

E32-D22L (130 mm sensing distance, 3 mm dia. head)

Fluid Level Detection



Omron offers two fiber optic sensing solutions for fluid level detection in space-confined areas: immersion style sensing heads can be submerged in the fluid to be monitored, and a tube-mounted sensing heads that can sense fluids through a clear tube.

AVAILABLE MODELS



E32-D82F1 (Immersion type, 150 mm length)

E32-D82F2 (Immersion type, 350 mm length)

E32-A01 (External mount; 3.2, 6.4, 9.5 mm clear tube)

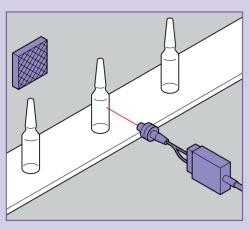
E32-A02 (External mount; 6 to 13 mm clear tube)

E32-L25T (External mount, 8 to 10 mm clear tube)

E32-D36F (External mount; clear tube, no diameter restriction)

Also consider EE-SPX613 Amplified Photomicrosensor

Transparent Object Detection



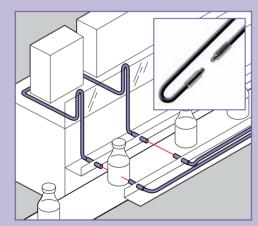
Sensing transparent objects is always a challenge.
Omron solves this problem with fiber optic cables that are polarized and reflectors specially designed for sensing small transparent objects in tight spaces.
They are ideal for sensing lenses, clear plastics, and transparent packaging materials.

AVAILABLE MODELS



E32-R21 (Retroreflective, 10–250 mm range) E32-R16 (Retroreflective, 150–1,500 mm range)

Extreme Bending Applications



For machine applications that require extreme bending of fiber optic cables to conform to tight spaces, Omron offers a variety of cables that feature a unique multi-core construction. Unlike singlecore cables that can lose their light transmission capability when bent tightly, the multi-core design ensures optimal light transmission even when bent 180° with a bending radius of 1 mm.

AVAILABLE MODELS

Through Beam

E32-T11R (530 mm sensing distance, M4 threaded head)

E32-T12R (530 mm sensing distance, 3 mm dia. head)

E32-T14LR (210 mm sensing distance, 3 mm dia. head)

E32-T21R (130 mm sensing distance, M3 threaded head)

E32-T16WR (1300 mm sensing distance, 30 mm wide beam)

E32-T16JR (750 mm sensing distance, 11 mm wide beam, side view)

E32-T16PR (840 mm sensing distance, 11 mm wide beam)

E32-T22R (130 mm sensing distance, 2 mm dia. head)

E32-T24R (50 mm sensing distance, 1 mm dia. head, side view)

Diffuse

E32-D11R (170 mm sensing distance, M6 threaded head)

E32-D12R (170 mm sensing distance, 3 mm dia. head)

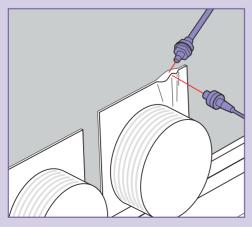
E32-D14LR (45 mm sensing distance, 6 mm dia. head, side view)

E32-D21R (30 mm sensing distance, M3 threaded head)

E32-D22R (30 mm sensing distance, 3 mm dia. head)

E32-D24R (15 mm sensing distance, 2 mm dia. head, side view)

General-Purpose Industrial Applications



For most sensing applications, the space-saving combination of a fiber-optic amplifier and general-purpose fiber unit provides an economical solution.

AVAILABLE MODEL



Through-Beam

E32-TC200 (760 mm sensing distance, M4 threaded head)
E32-TC200A (680 mm sensing distance, M3 threaded head)

Diffuse

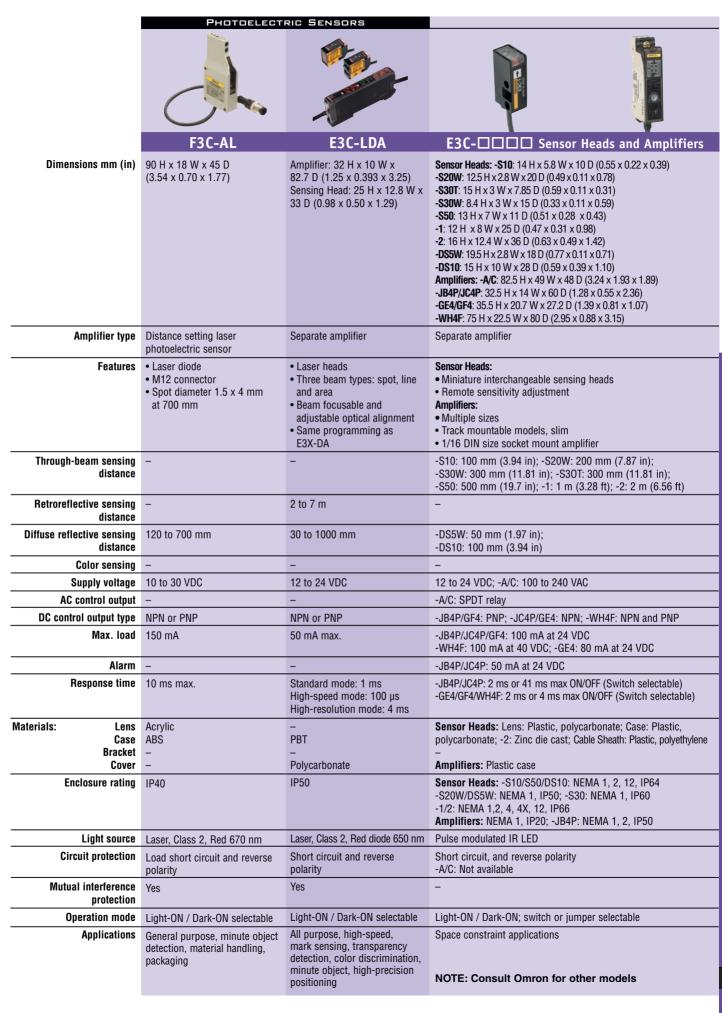
E32-DC200 (300 mm sensing distance, M6 threaded head)



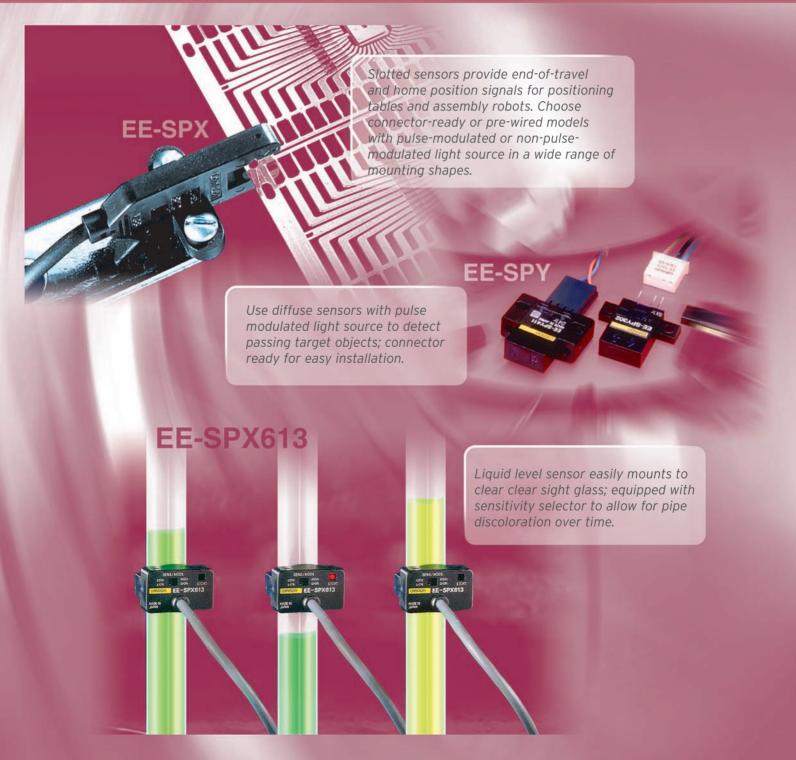


	PHOTOELECT	RIC SENSORS		
			C SECTION OF SECTION O	
	E3S-C	E3S-CR	E3MC	E3M-V
Dimensions mm (in)	Horizontal: 23 H x 20.4 W x 57.5 D (0.91 x 0.80 x 2.24) Vertical: 57.5 H x 20.4 W x 23 D (2.24 x 0.80 x 0.91)	Horizontal: 57 H x 20.4 W x 23 D (2.24 x 0.80 x 0.91)	53.2 H x 30.4 W x 98 D (2.09 x 1.19 x 3.85)	68.5 H x 21 W x 47.7 D (2.70 x 0.83 x 1.46)
Amplifier type	Built-in DC amplifier	Built-in DC amplifier	Self-contained	Self-contained
Features	Rugged metal body to times normal sensing distance NEMA 4X, 6P, IP67 Vertical and horizontal body styles Fuzzy logic mutual interference protection CE conformance	Clear material detection specially tuned for glass and plastic bottles Compensates for "lens effects" IP67 rating, versatile NPN/PNP, L.O., D.O., in one unit Rugged die cast metal housing	RGB color sensor detects subtle color differences Remote TEACH function Four-color storage capability Lensed and fiber-optic versions	Color mark sensor Remote control setup Green LED detects yellow on white Stable operation on shiny surfaces
Through-beam sensing distance	30 m (98.43 ft)	-	Varies depending on the model and fiber chosen	-
Retroreflective sensing distance	Polarized: 3 m (9.84 ft)	250 mm (9.84 in) or 1 m (3.28 ft)	-	-
Diffuse reflective sensing distance	700 mm (27.56 in) and 2 m (6.56 ft)	-	Varies depending on the model and fiber chosen	10 mm ±3 mm
Color sensing	-	-	Yes	Yes
Supply voltage	10 to 30 VDC	10 to 30 VDC	24 to 240 VDC	10 to 30 VDC, 10% Ripple max.
AC control output	-	-	-	-
DC control output type	NPN or PNP selectable	NPN/PNP switch selectable	NPN, PNP	NPN/PNP
Max. load	100 mA max. at 30 VDC	100 mA at 30 VDC	100 mA	100 mA
Alarm	-	-	-	-
Response time	1 ms ON/OFF (2 ms ON/OFF for short range diffuse models)	2 ms ON/OFF	1 output: standard - 3 ms high-speed - 1 ms 4 output: standard - 6 ms high-speed - 2 ms	50 μs
Materials: Lens Case Bracket Cover	Acrylic Zinc die cast Stainless steel Op. panel: Sulfonated Polyether	Acrylic Zinc die cast Stainless steel Panel: Sulfonated polyether	– Zinc-diecast Fiber Head: -X/MX: ABS PES	Acrylic PBT - -
Enclosure rating	NEMA 1,4X, 6P, 12, 13, IP67	NEMA 6P, IP67	IP66 w/ protective cover in place	IP67
Light source	Pulse mod. infrared (880 nm) Red LED (700 nm) on retro	Red LED (670 nm)	Red, green, and blue LED	Green LED
Circuit protection	Load short circuit and reverse polarity	Reverse polarity and load short circuit	Reverse polarity, short-circuit	Short circuit, reverse polarity
Mutual interference protection	On all except through-beam models	Provided	-	-
Operation mode	Light-ON / Dark-ON switch selectable	Light-ON / Dark-ON switch selectable	Light-ON / Dark-ON switch selectable	Light-ON / Dark-ON, switch selectable
Applications	Washdown environments; Long range sensing 30 m; NPN /PNP selectable; CE conformance requirements; Highly shock resistant 100 g; Metal body	Clear material sensor; Rugged; Detects clear bottles reliably even with "lens effects"; Connector versions available	Color differentiation, Food and Bev, material handling, packaging applications	High-speed mark detection

	PHOTOELECTRIC SENSORS			
		Blacker	NA PARIS	
	E3S-LS3N	E3C-V	E3HF	F3C-AA41
Dimensions mm (in)	19.0 H x 10.0 W x 34.0 D (0.79 x 0.39 x 1.33)	E3C-VS1G/ E3C-VS3R: 15 H x 10 W x 28 D (0.59 x 0.39 x 1.10) E3C-VM35R/ E3C-VS7R: 20 H x 10 W x 47 D (0.78 x 0.39 x 1.85)	28 H x 50 W x 7 D (1.10 x 1.97 x 0.28)	90 H x 18 W x 45 D (3.54 x 0.70 x 1.77)
Amplifier type	Printed circuit board sensor	Pinpoint/mark sensing head (Use separate amplifier)	Built-in DC amplifier	Roller conveyor sensor
Features	Stable detection without being affected by holes or notches Will detect any color PC board	Accurately detects color marks against many different backgrounds Pinpoint beam enables it to detect small objects, marks and wires as small as 0.2 mm	Thin profile 7 mm thick flat pack style sensor Can detect 0.5 mm (0.02 in) objects with included slits Light-ON or Dark-ON versions Top and side through holes for easy mounting	Detects objects from underneath roller conveyor M12 connector Unique optical system for setting distance, eliminates background influences
Through-beam sensing distance	-	-	1 m (3.28 ft)	-
Retroreflective sensing distance	-	-	-	-
Diffuse reflective sensing distance	10 – 60 mm	E3C-VS1G: 10 ±2 mm E3C-VS3R: 30 ±5 mm E3C-VM35R: 35 ±5 mm (mark) 20 to 80 mm (spot) E3C-VS7R: 70 ±10 mm (mark) 40 to 110 mm (spot)	50 mm (1.97 in)	0 to 750 mm
Color sensing	Yes	Yes	-	-
Supply voltage	12 to 24 VDC ±10% Ripple max.	See E3C amplifiers	12 to 24 VDC	10 to 30 VDC
AC control output		See E3C amplifiers	_	-
DC control output type	NPN	See E3C amplifiers	NPN with pull-up resistor	NPN or PNP
Max. load	50 mA	See E3C amplifiers	NPN 80 mA relay sink logic NPN 3 mA voltage source logic	150 mA
Alarm	-	See E3C amplifiers	-	-
Response time	1 ms	See E3C amplifiers	6 ms ON/OFF or 10 ms ON/OFF on some models	10 ms max.
Materials: Lens	Acrylic	E3C-VS1G/VS3R: Plastic, polycarb.; E3C-VM35R/VS7R: Glass	Plastic	Acrylic
Case	ABS	Plastic	Plastic	ABS
Bracket Cover	-	-	-	-
Enclosure rating	IP40	E3C-VS1G/VS3R: IP64	NEMA 1, 3, 4X, 12 IP64	IP40
Light source	Red LED	E3C-VM35R/VS7R: IP50 E3C-VS1G: Pulse modulated Green LED E3C-VS3R/VM35R/VS7R: Pulse modulated Red LED	Pulse modulated infrared LED	Infrared LED
Circuit protection	-	See E3C amplifiers	Reverse polarity and load short circuit	Load short circuit and reverse polarity
Mutual interference protection	-	See E3C amplifiers	-	Yes
Operation mode	Light-ON	See E3C amplifiers	Light-ON / Dark-ON separate versions	Light-ON / Dark-ON selectable
Applications	PC board detection	Color mark applications, inspection and accurate positioning	Thin profile 7 mm photoelectric sensor; Ideal for space constrained applications; Good for small object detection	Packaging, roller conveyor object detection, material handling



Amplified Photomicrosensors



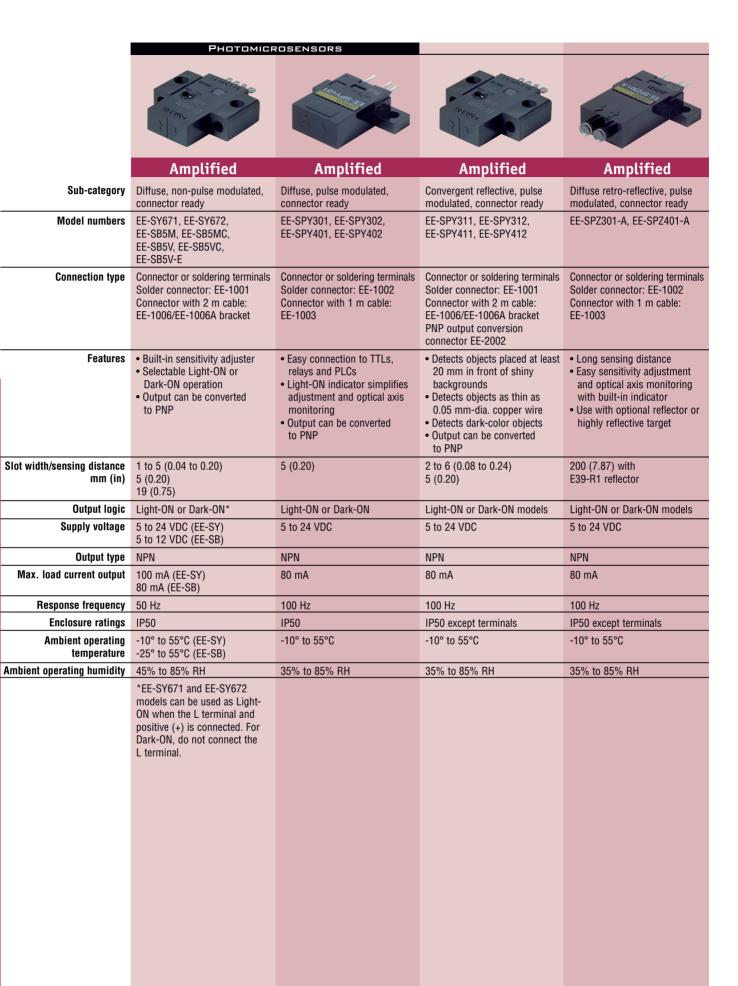


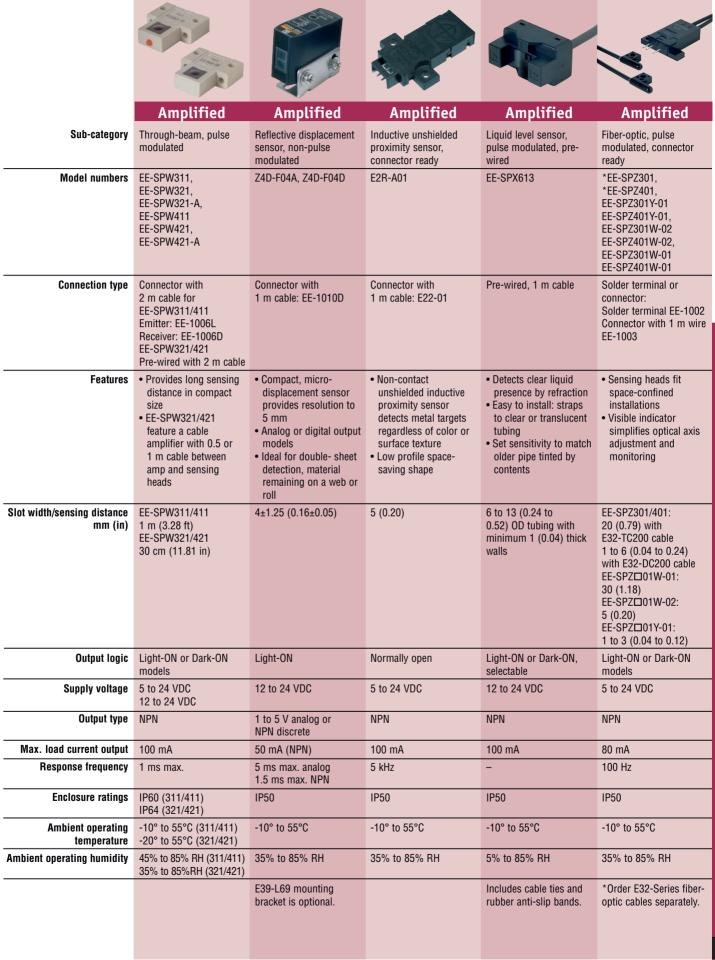






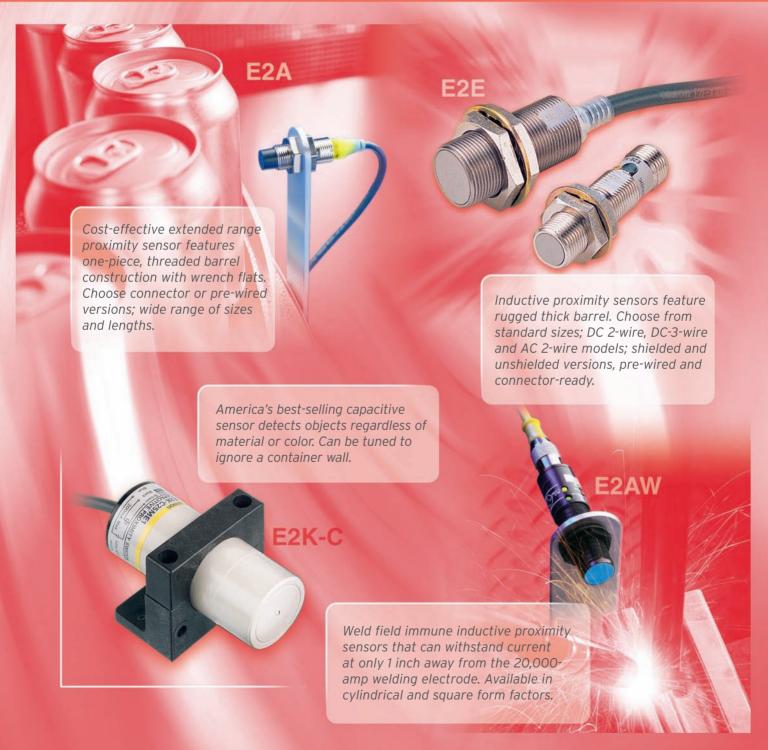
	Amplified	Amplified	Amplified	Amplified
Sub-category	Slotted, non-pulse modulated, connector ready	Slotted, non-pulse modulated, pre-wired	Slotted, pulse modulated, connector ready	Slotted, pulse modulated, pre-wired
Model numbers	EE-SX470, EE-SX471, EE-SX472, EE-SX473, EE-SX474, EE-SX670, EE-SX671, EE-SX672, EE-SX673, EE-SX674, EE-SX670A, EE-SX671A, EE-SX672A, EE-SX673A, EE-SX674A, EE-SX470P, EE-SX471P, EE-SX472P, EE-SX473P, EE-SX474P, EE-SX670P, EE-SX671P, EE-SX672P, EE-SX673P, EE-SX674P	EE-SX770, EE-SX771, EE-SX772, EE-SX870, EE-SX871, EE-SX872, EE-SX770A, EE-SX771A, EE-SX772A, EE-SX870A, EE-SX871A, EE-SX872A, EE-SX770P, EE-SX71P, EE-SX772P, EE-SX870P, EE-SX871P, EE-SX872P, EE-SX770R, EE-SX71R, EE-SX772R, EE-SX870R, EE-SX871R, EE-SX872R	EE-SPX301, EE-SPX303, EE-SPX401, EE-SPX403, EE-SPX303-1, EE-SPX740, EE-SPX840, EE-SPX741, EE-SPX841, EE-SPX742, EE-SPX842, EE-SPX743, EE-SPX843	EE-SPX302-W2A, EE-SPX304-W2A, EE-SPX305-W2A, EE-SPX306-W2A, EE-SPX402-W2A, EE-SPX404-W2A, EE-SPX405-W2A, EE-SPX406-W2A
Connection type	Connector or soldering terminals Available connectors:** Solder connector EE-1001, Connector with 2 m cable EE-1006/EE-1006A bracket	Pre-wired cable	Connector or soldering terminals Available connectors:** Solder connector EE-1001, Connector with 2 m cable EE-1006/EE-1006A bracket Connector with 1 m cable for 740/840 series EE-1013	Pre-wired cable
Features	Standard, L-shaped, T-shaped and close mounting models Built-in indicator	Standard, L-shaped, and T-shaped models UL, EMC and CE approvals Compact size Built-in indicator and optical axis guide	Easily connects to TTLs, relays and PLCs Range of slot widths Built-in indicator Light modulation reduces external light interference Output of SPX301 / SPX401 / SPX303 / SPX403 can be converted to PNP	Compact sensing heads Built-in indicator Light modulation reduces external light interference
Slot width/sensing distance mm (in)	5 (0.20)	5 (0.20)	3.6 (0.14) 5 (0.20) 13 (0.51)	3.6 (0.14) 5 (0.20)
Output logic	Light-ON/Dark-ON*	Light-ON or Dark-ON models	Light-ON or Dark-ON models	Light-ON or Dark-ON models
Supply voltage	5 to 24 VDC	5 to 24 VDC	5 to 24 VDC	5 to 24 VDC
Output type	NPN or PNP models	NPN or PNP models	NPN	NPN
Max. load current output	100 mA (NPN); 50 mA (PNP)	100 mA (NPN); 50 mA (PNP)	80 mA; 50 mA (SPX74/SPX84)	80 mA
Response frequency	1 kHz (3 kHz typical)	1 kHz	500 Hz	500 Hz
Enclosure ratings	()1 /	IP60	IP50	IP50 except terminals
Ambient operating temperature	-25° to 55°C	-25° to 55°C	-10° to 55°C	-10° to 55°C
Ambient operating humidity	5% to 85% RH	5% to 85% RH	35% to 85% RH; 5% to 85% RH (SPX74/SPX84)	35% to 85% RH
	*The EE-SX67□ Series can be used as Light-ON when the L terminal and positive (+) are connected. For Dark-ON, do not connect the L terminal.			





PHOTOMICROSENSORS

Proximity Sensors



	E2E	E2E2	E2A
Product type	Short Barrel Cylindrical	Long Barrel Cylindrical	Extended Range OEM Proximity Sensor
Dimensions mm (in)	Dia. 4 x 25 (0.16 x 0.98); M5 x 25 (0.20 x 0.98); Dia. 5.4 x 25 (0.21 x 0.98); M8 x 26 (0.31 x 1.02); M12 x 33 (0.47 x 1.30); M18 x 38 (0.71 x 1.50); M30 x 43 (1.18 x 1.69)	M12 x 55 (0.47 x 2.17); M18 x 60 (0.71 x 2.36); M30 x 65 (1.18 x 2.56)	M8 Long and short barrel M12 Long and short barrel M18 Long and short barrel M30 Long and short barrel
Features	Omron's flagship highest quality proximity sensor family Vacuum potted internal circuitry Multiple connector versions Wrench flats for easy installation Superior barrel thickness and highest tightening torques available Pre-wired 2 m or 5 m cables Multiple pigtail versions Highly visible LED	Vacuum potted internal circuitry Multiple connector versions Same solid construction and high quality as E2E with long barrel bodies Fully threaded body Pre-wired 2 m or 5 m cables Multiple pigtail versions Highly visible LED indication	Extended sensing distances Economical large quantity OEM pricing Vacuum potted internal circuitry One-piece housing Stainless steel M8 barrel versions Wrench flats for easy installation Superior barrel thickness and highest tightening torques available Easily customized Pre-wired or connector versions
Shielded sensing distances	0.8, 1, 1.5, 2, 3, 5, 7, and 10 mm	2, 3, 5, 7, and 10 mm	2, 4, 8, and 15 mm
Unshielded sensing distances	2, 4, 5, 8, 10, 14, 18, and 20 mm	5, 8, 10, 14, 18, and 20 mm	4, 8, 16, 20, and 30 mm
DC supply voltage	12 to 24 VDC (10-30 VDC operating)	12 to 24 VDC (10-55 VDC operating)	12 to 24 VDC (10-32 VDC operating)
AC supply voltage	24 to 240 VAC or 90 to 140 VAC 50/60 Hz	24 to 240 VAC 50/60 Hz	N/A
2-wire DC output	NO, NC; 100 mA max.	NO, NC; 100 mA max.	N/A
3-wire DC output	NPN-NO, NPN-NC, PNP-NO, PNP-NC; 100 or 200 mA max.	NPN-NO, NPN-NC Open Collector PNP-NO, PNP-NC Open Collector 200 mA max.	NPN-NO, NPN-NC Open Collector PNP-NO, PNP-NC Open Collector 200 mA max
AC 2-wire output	NO, NC; 300 mA max.	NO, NC; 200 or 300 mA max.	N/A
Response frequency	25 Hz to 3 kHz	25 Hz to 1.5 kHz	100 Hz to 1.5 kHz
Connections	PVC Cables / Robotic Cables; Multiple M12 Micro Change [®] or M8 Nano Change [®] connectors; Multiple pigtail connectors	PVC Cable 2 m or 5 m; M12 Micro Change [®] connector	PVC Cable 2 m or 5 m; M12 Micro Change [®] connectors 4 Pin; M8 Nano Change [®] connectors 3 Pin; M8 only stainless steel or NPB barrel
Enclosure	Nickel plated brass barrel; Stainless steel barrel on M8 and smaller models; Sensing face is PBT; IEC IP67 / 1200 PSI Washdown; NEMA 1, 3, 4, 6, 12, 13	Nickel plated brass barrel; Sensing face is PBT; IEC: IP67/ 1200 PSI Washdown; NEMA: 1, 4, 6, 12, 13	Nickel plated brass barrel; Sensing face is PBT; IEC IP67
Agency approvals	UL, CSA, CE	UL, CSA, CE	UL, CSA, CE
Circuit protection	Output short circuit, surge absorber, reverse polarity specific model dependent	Output short circuit, surge absorber, reverse polarity specific model dependent	Output short circuit, surge absorber, power source reverse polarity, and output reverse polarity
Other	Self diagnostic versions; AC/DC versions; Alternate frequency versions; Custom cable lengths and connectors	Alternate frequency versions; Custom cable lengths and connectors	Yellow LED 4 x 90° on connector types; Highly visible yellow LED on pre-wired types; World standard prox
Application	Use when high quality, high reliability is needed; Standard distance inductive prox for ferrous metal sensing; 1200-PSI Washdown rated; Connector or pigtail versions; Easily customized; DC2W, DC3W, AC2W, AC/DC	Use when high quality, high reliability is needed in a long barrel body; Standard distance inductive prox for ferrous metal sensing; 1200-PSI Washdown Rated; DC2W, DC3W, AC2W	Use when extended range general purpose sensing is required; Extended distance inductive prox for ferrous metal sensing; Large quantity OEM pricing available Easily customized; DC3W

INDUCTIVE PROXIMITY SENSORS
THREADED CYLINDRICAL

INDUCTIVE PROXIMITY SENSORS THREADED CYLINDRICAL WELD FIELD IMMUNE



	E2F	E2AW	E2QW
Product type	Threaded Plastic Cylindrical	Weld Field Immune Inductive	Weld Field Immune 9-Way Configurable Inductive
Dimensions mm (in)	M8 x 40 (0.31 x 1.57) M8 x 30 (0.31 x 1.18) M12 x 40 (0.47 x 1.57) M12 x 35 (0.47 x 1.38) M18 x 40 (0.71 x 1.57) M30 x 50 (1.18 x 1.97)	M12 x 76 M18 x 76 M30 x 76 M30 x 67	40 mm wide x 68.5 mm high
Features	 IP68 watertight construction withstands washdown Plastic cylindrical inductive AC 2-wire or DC 3-wire-NPN models DC models have short-circuit protection and reverse polarity protection 	 Weld field and noise immune WFI circuitry is designed to operate within 1 inch of a resistance welding electrode at 20,000 Amperes RMS NEMA 1, 3, 4, 6, 13 AC/DC2W or DC3W-PNP type M12, M18 M30 Barrel Sizes 	Weld field and noise immune IP67 AC/DC2W or DC3W-PNP type Extended Range WFI Proximity Rotatable head configurable in 9 different sensing directions 15 mm to 35 mm sensing ranges
Shielded sensing distances	1.5, 2, 5, 10 mm	M12-2 mm, M18-5 mm, M30-10 mm	15 mm, 20 mm, 25 mm
Unshielded sensing distances	N/A	M12-4 mm, M18-8 mm, M30-15 mm	25 mm, 35 mm
DC supply voltage	12 to 24 VDC (10-30 VDC operating)	10 to 30 VDC	10 to 30 VDC
AC supply voltage	24 to 240 VAC (20 to 264 VAC operating)	20 to 230 VAC/DC	20 to 150 VAC/DC
2-wire DC output	N/A	-	-
3-wire DC output	NPN-NO, NPN-NC, PNP-NO, PNP-NC; 200 mA max.	PNP-NO, 200 mA max.	PNP-NO, 200 mA max.
AC 2-wire output		N.O. 500 mA max.	N.O. 200 mA max.
Response frequency	25 Hz to 2 kHz	16 Hz	AC/DC-10 Hz, DC3W-150 Hz
Connections	PVC Cable 2 m standard, 5 or 10 m optional	4 Pin Euro for DC3W models 4 Pin Micro for DC3W models 3 Pin Micro for AC/DC models	4 Pin Euro for DC3W models 3 Pin Micro for AC/DC models
Enclosure	Polyallylate; IEC IP68; NEMA: 1, 3, 4, 6, 12, 13	Weld flash proof, hard coated metal housing; High temperature abrasion-resistant sensing face; NEMA: 1, 3, 4, 6, 13	Weld flash proof, hard coated metal housing; High temperature abrasion-resistant sensing face; NEMA: 1, 3, 4, 6, 13
Agency approvals	UL (on US models), CSA	UL, CSA	UL, CSA
Circuit protection	DC Models: Output short circuit, surge absorber, reverse polarity; AC Models: Add –53 for short circuit protection and add –US for UL listed version	DC models have non-latching short-circuit protection and reverse polarity protection; AC/DC2W models are latching SCP type with reverse polarity protection	DC models have non-latching short-circuit protection and reverse polarity protection; AC/DC2W models are latching SCP type with reverse polarity protection
Other	Alternate frequency versions; 5 m or 10 m cable lengths; Optional short circuit protection models; Optional UL listed AC versions	Cordsets available 2M, 5M, 10M straight or 90's PVC with E-coated or SS coupling nuts; PUR Black with E-coated or SS coupling nuts; TPE coated cables with E-coated or SS coupling nuts	Cordsets available 2M, 5M, 10M straight or 90's PVC with E-coated or SS coupling nuts; PUR Black with E-coated or SS coupling nuts; TPE coated cables with E-coated or SS coupling nuts
Application	Use when IP68 rating is needed; Use where metal barrels will corrode; Standard distance inductive prox for ferrous metal sensing DC3W or AC2W	Standard sensing distance; Weld field immune inductive proximity sensors for automotive weld lines and extremely harsh environments	Extended sensing distance; Weld field immune inductive proximity sensors for automotive weld lines and extremely harsh environments

	INDUCTIVE BROX	KIMITY SENSORS		
	HARSH ENVIRONMENT	KIMITT JENSUKS	MINIATURE	
			PACORECT NO PARTY CONTROL STREET	
	E2EQ	E2KQ	E2EC	E2S
Product type	Teflon-Coated Cylindrical Inductive	Teflon Cylindrical Capacitive	Subminiature Prox with In-Line Amp	Subminiature Rectangular Inductive Prox
Dimensions mm (in)	M12 x 38 (0.47 x 1.50) M18 x 47 (0.71 x 1.85) M30 x 56 (1.18 x 2.20)	M18 x 61.8 (0.71 x 2.43)	Dia. 3 x 12 (0.12 x 0.47) Dia. 5.4 x 18 (0.21 x 0.71) Dia. 8 x 18 (0.31 x 0.71) M12 x 18 (0.47 x 0.71)	5.5 x 5.5 x 19 (0.22 x 0.22 x 0.75) 7.4 x 8 x 23 (0.29 x 0.31 x 0.91) 8 x 8 x 26 (0.31 x 0.31 x 1.02)
Features	Teflon-coated metal housing ensures high-tightening torque Prewired versions available Resistant to weld spatter DC 2-wire M12, M18, M30 barrel sizes Long sensing distance type available: 4 mm to 15 mm	Oil-resistant cable Sensitivity adjustment allows sensing range from 6 to 10 mm Teflon mounting nuts and brass washers allow easy installation/maintenance	Subminiature cylindrical inductive prox with in-line amplifier Robot cable for high-flex applications DC 2-wire version reduces wiring time Operation and stability indicator allows easy set-up and monitoring	Extended sensing distances Economical large quantity OEM pricing Vacuum potted internal circuitry One-piece housing Stainless steel M8 barrel versions Wrench flats for easy installation Superior barrel thickness and highest tightening torques available Easily customized Pre-wired or connector versions
Shielded sensing distances	3, 7, 10 mm (standard)	_	0.5, 0.8, 1.5, 2.5, 3, 4 mm	2, 4, 8, and 15 mm
Unshielded sensing distances	-	6 to 10 mm	N/A	4, 8, 16, 20, and 30 mm
DC supply voltage	12 to 24 VDC	12 to 24 VDC	12 to 24 VDC	12 to 24 VDC (10-32 VDC operating)
AC supply voltage	-	-	N/A	N/A
2-wire DC output	NO; 100 mA max.	-	NO, NC; 100 mA max.	NO, NC; 50 mA max.
3-wire DC output		NPN-NO; 100 mA max.	NPN-NO, NPN-NC, PNP-NO, PNP-NC; 100 mA max.N/A	NPN-NO, NPN-NC, PNP-NO,PNP-NC; 50 mA max.
AC 2-wire output	-	-	N/A	N/A
Response frequency	0.4 kHz, 0.5 kHz, 1 kHz	-	1 kHz to 1.5 kHz	1 kHz
Connections	PVC cable, 2 m M12 Micro Change [®] connector	PVC cable, 2 m	Robotic Cable 2 m or optional 5 m; Optional pigtail versions	1 m cable standard
Ambient operating temperature	-13°F to 158°F	-13°F to 158°F	-13°F to 135°F	-13°F to 135°F
Enclosure	IEC: IP67	IEC: IP66	IEC: IP67 (IP64 for DC 3-wire); NEMA: 1, 3, 4, 6, 12, 13 (for DC 2-wire only)	IEC: IP67
Agency approvals	-	-	-	-
Circuit protection	Surge absorber and output short circuit	Reverse polarity connection and surge absorber	Surge absorber and output short circuit (DC 2-wire); Surge absorber (DC 3-wire)	Reverse polarity connection and surge absorber
Other	-	-	Alternate frequency versions	Alternate frequency versions; Front and end sensing models
Application	Automotive welding, machine tool	Oil and chemical resistant for use in metal cutting, chemical hardening and welding operations	Sub-miniature sensing head with in-line separate amplifier; Use when space is confined; Use in high-flex applications like robotic grippers; DC2W or DC3W	Smallest rectangular sensor available; Extremely economical; Use when space is confined DC2W or DC3W

		INDUCTIVE PRO	XIMITY SENSORS
		RECTANGULAR	RING SENSOR
		Hard San Control of the Control of t	<u>O</u> _
		TL-W	F2LP-W
	Product type	Miniature Rectangular Inductive	Ring-Shaped Inductive Sensing Head
	Dimensions mm (in)	27 x 10 x 6 (1.06 x 0.39 x 0.24); 30 x 18 x 10 (1.18 x 0.71 x 0.39); 50 x 25 x 10 (1.97 x 0.98 x 0.39); 53 x 40 x 23 (2.09 x 1.57 x 0.91);	Amp: 75 x 67.5 x 74 (2.95 x 2.66 x 2.91) Sensors: 10 (0.39) ID: 37 x 24 x 10 (1.46 x 0.94 x 0.39) 20 (0.79) ID: 65 x 50 x 16 (2.56 x 1.97 x 0.63) 50 (1.97) ID: 96 x 110 x 26 (3.78 x 4.33 x 1.02) 75 (2.95) ID: 155 x 130 x 40 (6.10 x 5.12 x 1.57) 100 (3.94) ID: 185 x 170 x 45
	Features	Space-saving, flat-pack DC sensor fits tight spaces Rugged diecast metal or low-profile plastic housing models available Mounts directly to metal base or rail DC 3-wire and DC 2-wire models	(7.28 x 6.69 x 1.77) Detects moving metal objects anywhere inside of the ring Separate amplifier, can be surface or track mounted Ideal for counting parts
	Chielded consinu distance		0.2 2 2.5 2 mm min
	Shielded sensing distances	5 mm	0.3, 2, 2.5, 3 mm min.
?	Unshielded sensing distances	3, 5, 20 mm	
ŧ	DC supply voltage	10 to 30 VDC	100 +- 040 VAO
í	AC supply voltage		120 to 240 VAC
3	2-wire DC output	MDN NO NIDN NO DND NO DND NO.	-
	3-wire DC output	NPN-NO, NPN-NC, PNP-NO,PNP-NC; 100 or 200 mA max.	-
	AC 2-wire output	-	SPDT relay; 3A max. NPN-NO; 100 mA max.
3	Response frequency	40 Hz to 600 Hz	75 to 125 ms between objects
	Connections	2 m cable standard	Amp: Screw terminals; Sensors: 3 m cable standard
-	Ambient operating temperature	-13°F to 158°F	Amp: 14°F to 131°F Sensors: -13°F to 158°F
	Enclosure	IEC: IP67 NEMA: 1, 2, 3, 4X, 6, 12, 13	IEC: IP67 (IP30 for amplifier)
	Agency approvals	UL, CSA, CE	UL, CSA
	Circuit protection	Reverse polarity connection and surge absorber (DC 3-wire); short circuit protection (DC 2-wire)	-
	Other	-	Amplifier has 40 ms OFF delay and one-shot timing functions
	Application	Space confined installations in conveyor rails, and end-of-travel and home position robotic applications	Small parts assembly, electronics assembly, automotive applications
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	The state of the s			
	E2K-F	E2K-X	E2K-C	E2J
Product type	Flat-Pack Rectangular Capacitive	Threaded Cylindrical Capacitive	Adjustable Cylindrical Capacitive	Adjustable Flat Rectangular Capacitive
Dimensions mm (in)	50 x 20 x 10 (1.97 x 0.79 x 0.39)	M12 x 80 (0.47 x 3.15); M18 x 80 (0.71 x 3.15); M30 x 80 (1.18 x 3.15)	34 Dia. x 82 (1.34 x 3.23)	Amp: 59 x 12 x 29 (2.32 x 0.47 x 1.14) Sensors: 30 x 20 x 5.5 (1.18 x 0.79 x 0.22) 40 x 30 x 5.5 (1.57 x 1.18 x 0.22)
Features	Flat, thin capacitive sensor fits space confined installations Ideal for mounting directly to metal walls Detects glass, plastic, wood, water, oil and metals Fixed distance or adjustable models	Threaded-body sensors detect glass, wood, water oil, plastic and metal Fixed sensitivity for simple installation Operation indicator, all models AC 2-wire and DC 3-wire models	Built-in amplifier allows adjustable detecting distances Allows indirect detection of objects inside non-metallic containers AC 2-wire and DC 3-wire models	Separate amplifier with adjustable sensitivity Compact sensing heads Highly flexible robotic-grade cable DC 3-wire NPN open collector
Shielded sensing distances	-	_	-	-
Unshielded sensing distances	10 mm	4, 8, 15 mm	3 to 25 mm adjustable	10 mm, 20 mm
DC supply voltage		10 to 30 VDC	10 to 40 VDC	24 VDC
AC supply voltage		90 to 250 VAC	90 to 250 VAC	_
2-wire DC output		_	_	-
3-wire DC output	100 mA max.	NPN-NO, NPN-NC, PNP-NO,PNP-NC; 200 mA max.	NPN-NO, NPN-NC, PNP-NO, PNP-NC; 200 mA max.	NPN-NO/NC; 100 mA max.
AC 2-wire output		NO, NC; 200 mA max.	NO, NC; 200 mA max.	-
Response frequency	100 Hz	10 Hz to 100 Hz	10 Hz to 70 Hz	70 Hz
Connections	3 m cable standard	2 m cable	2 m cable	Amp: 2 m cable; Sensor: 1 m cable
Ambient operating temperature	14°F to 131°F	-13°F to 158°F	-13°F to 158°F	14°F to 131°F
Enclosure	IEC: IP66 NEMA: 1, 4, 12, 13	IEC: IP66 NEMA: 1, 4, 12, 13	IEC: IP66 NEMA: 1, 4, 12, 13	IEC: IP66 (IP50 for amplifier)
Agency approvals	-	UL	UL	-
Circuit protection	Reverse polarity connection	AC2W: Surge absorber; DC3W: Reverse polarity connection and surge absorber	AC2W: Surge absorber; DC3W: Reverse polarity connection and surge absorber	Output short circuit, surge absorber, reverse polarity connection
Other	New adjustable sensing distance models available	-	Mounting bracket included	-
Application	Sensing non-metallic target, ideal for semiconductor and plastics, level control applications	General purpose type for plastics, level control	Tank sight glass for level control; non-metallic container fill inspection	Ideal for robot hands and various built-in applications for material handling and assembly verification such as CD-ROMs in jewel cases

CAPACITIVE PROXIMITY SENSORS

Limit Switches

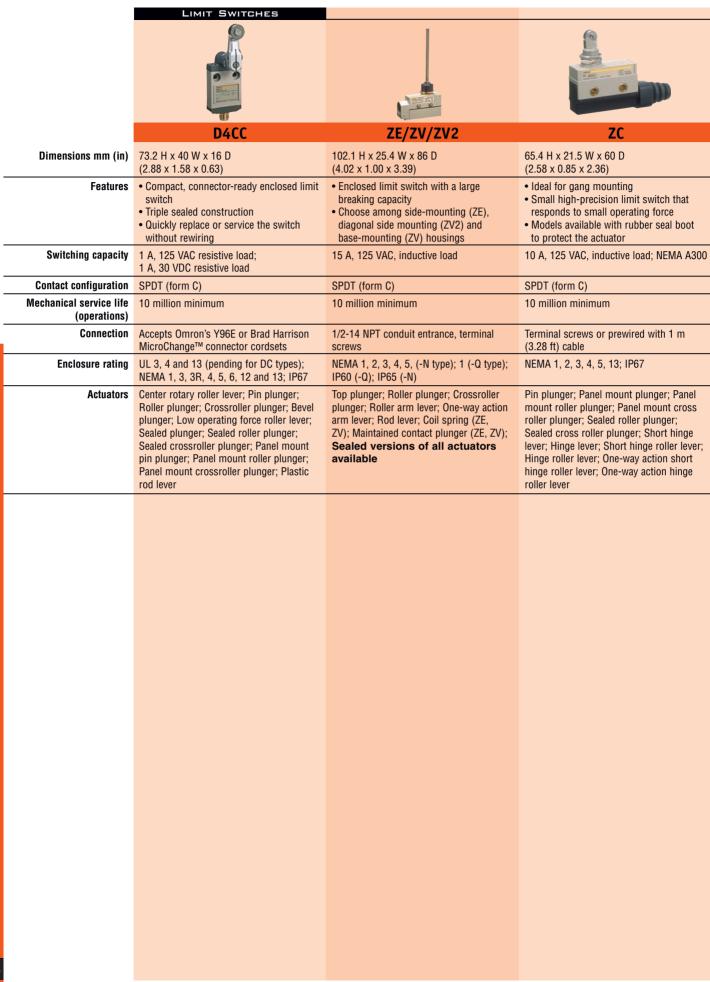
Omron Smart Solutions



ZE/ZV/ZV2

25

	LIMIT SWITCHES		
	D4A-N	WL	D4C
Dimensions mm (in)	(4.11 x 1.65 x 1.73)	94.1 H x 40.0 W x 41.5 D (3.70 x 1.57 x 1.63)	55 H x 40 W x 16 D (2.17 x 1.58 x 0.63)
Features	Heavy-duty, general-purpose limit switch Convenient plug-in construction for easy installation and field maintenance Waterproof and oil-tight	CE approved General-purpose single pole/double break limit switch Wide variety of standard, high-precision and overtravel types Waterproof, oil-tight and dust-proof construction	 CE approved Compact, high-precision prewired enclosed limit switch Slim-line body design ideal for limited access areas and gang mounting
Switching capacity	10 A continuous – 120, 240, 480, 600 VAC, NEMA A600 (SPDT without indicator); 10 A continuous - 120, 240 VAC NEMA A300 (SPDT with indicator); 5 A continuous – 120, 240, 480 600 VAC NEMA B600 (DPDT, without indicator)	10 A, 125 VAC inductive load; NEMA A600	5 A, 125 VAC, resistive load; NEMA B300
Contact configuration		SPDT double break	SPDT (form C)
Mechanical service life (operations)	50 million minimum (SPDT); 30 million minimum (DPDT)	15 million minimum	10 million minimum
Connection		1/2-14 NPT conduit entrance, terminal screws	Prewired with 3 meters (9.8 ft.) cable
Enclosure rating	UL 3, 4, 4X, 6P and 13; NEMA 1, 2, 3, 3R, 4X, 5, 6P, 12 and 13; IP67	UL 3, 4 and 13; NEMA 1, 2, 3, 3R, 4X, 5 6P, 12 and 13; IP67	UL 3, 4 and 13; NEMA 1, 3, 3R, 4, 5, 6, 12 and 13; IP67
Actuators	Side rotary, use separate levers; Plain side plunger; Vertical side roller plunger; Horizontal side roller plunger; Adjustable side plunger; Plain top plunger; Top roller plunger; Adjustable roller plunger; Spring wire wobble lever; Plastic rod wobble lever; Cat whisker wobble lever; Coil spring wobble lever	Short, medium and long roller levers; Flush mounting roller lever; Flange mounting roller lever; Adjustable roller lever; Adjustable roller levers; Plain top plunger; Top roller plunger; Top ball plunger; Plain side plunger; Side roller plunger; Side ball plunger; Steel wire wobble lever; Nylon rod wobble lever; Coil spring wobble levers	Pin plunger; Sealed plunger; Roller plunger; Sealed roller plunger; Crossroller plunger; Sealed cross roller plunger; Bevel plunger; Coil spring; Roller lever



Other Sensor Solutions

Omron Smart Solutions



Detect products regardless of color, texture or glossiness at long range. Also detects powder in storage tanks.

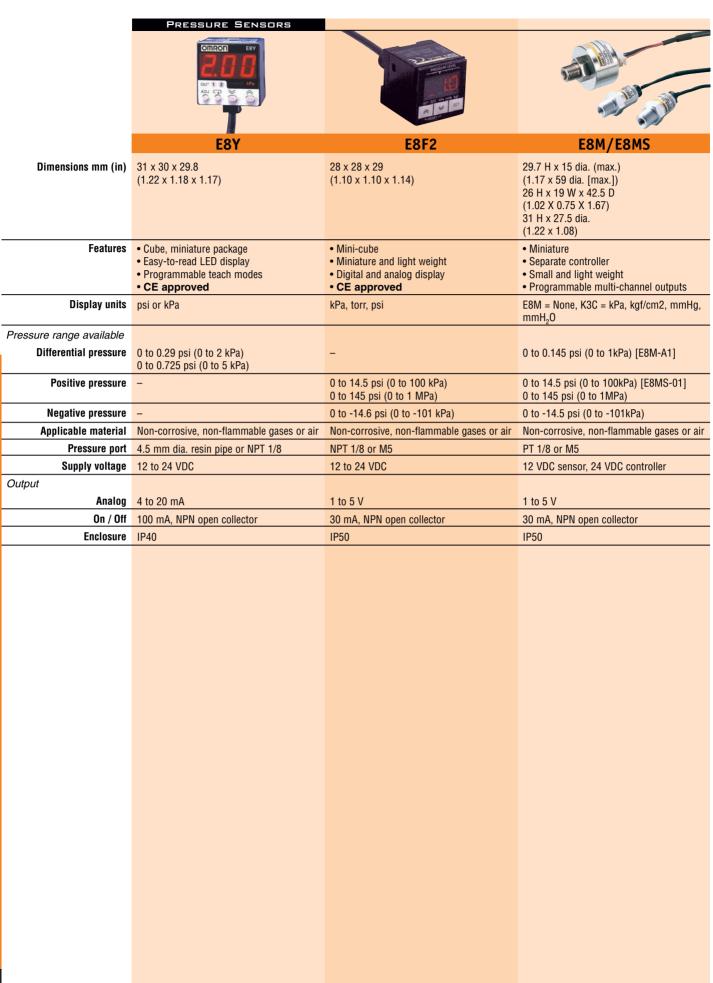
Ultrasonic

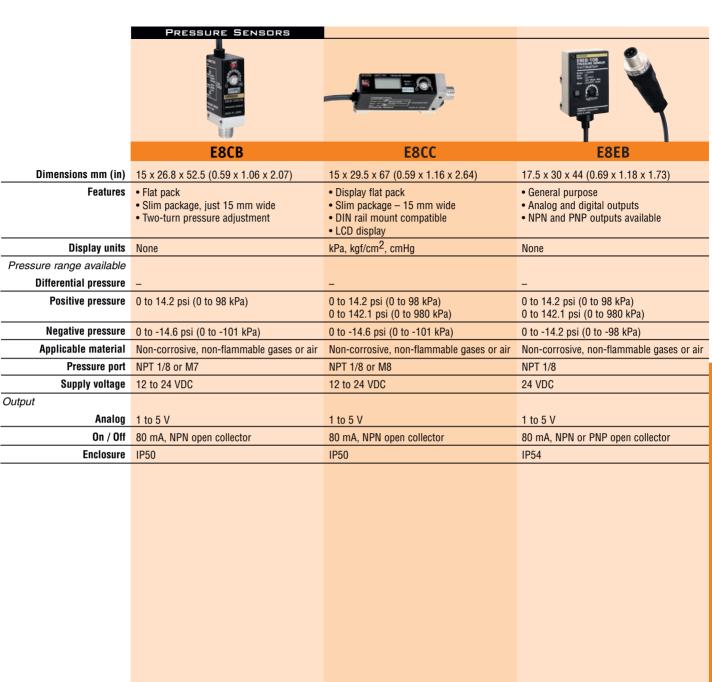


Encoders



Incremental and absolute encoders provide reliable positioning feedback for motors, lifts and other rotating equipment.











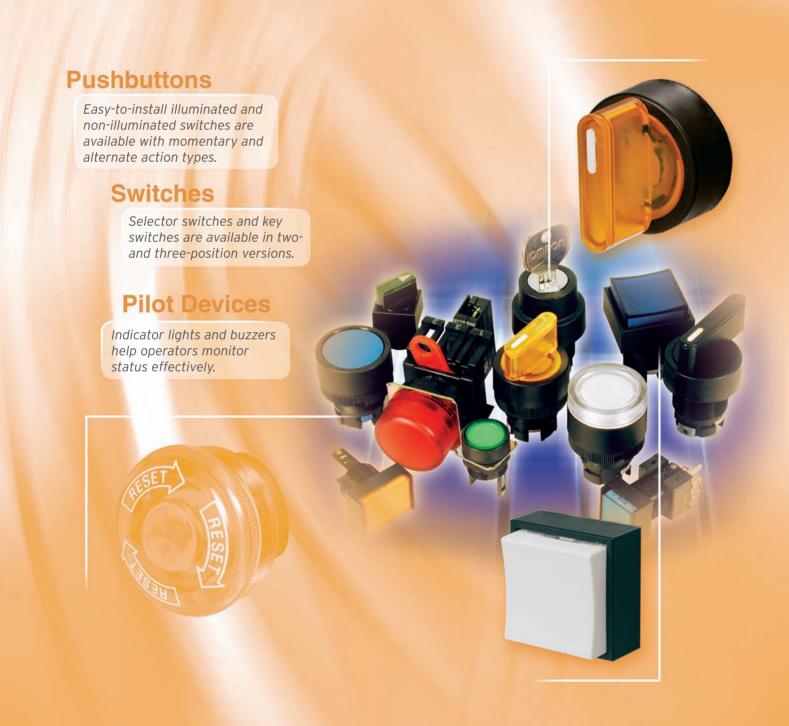


		whether the control of the control o	TAY (FOR ALL AND	The second secon
	E6A2	E6B2	E6C2-C	E6C3-CWZ□□H
Dimensions mm (in)	25 dia. x 29 L (0.98 x 1.14)	40 dia. x 39 L (1.57 x 1.54)	50 dia. x 60 L (1.97 x 2.36)	50 dia. x 38 L (1.97 x 1.50)
Shaft diameter mm (in)	4 (0.16)	6 (0.24)	6 (0.24)	8 (0.32)
Туре	Incremental	Incremental	Incremental	Incremental
Features	CE approved miniature sized encoder Small operating torque Ideal for small and high-density equipment Zero index function for positioning applications available	CE approved Ideal for most general-purpose applications Extended signal transmission distances Zero phase can be easily adjusted using origin indicating function Line driver output available	 Drip-proof construction Shaft withstands heavy loads, 5 kgf radially, 3 kgf thrust (axially) Short circuit protection Space-saving, A-slant cable protrusion for ease of mounting 	CE approved and available with complimentary outputs for interfacing to NPN or PNP inputs Drip-proof construction Surge protection Ideal for tough environments
Resolution	10 to 360 pulses/revolution	10 to 2,000 pulses/revolution	10 to 2,000 pulses/revolution	100 to 3,600 pulses/revolution
Output phase(s)	Output A; Outputs A & B (100, 200 pulses/rev only); Outputs A, B & Z (100, 200 pulses/rev only)	Outputs A, B and Z (reversible)	Outputs A, B, and Z (reversible) Line driver AĀ, BĒ, and ZĀ	Outputs A, B and Z (reversible)
Output phase difference	90°±45°	90°±45°	90°±45°	90°±45°
Maximum response frequency	300 kHz (30,000 pulses/sec)	100 kHz (100,000 pulses/sec)	100 kHz (100,000 pulses/sec)	100 kHz (100,000 pulses/sec)
Maximum rpm	5,000 rpm	3,000 rpm	6,000 rpm	6,000 rpm
Supply voltage	5 to 12 VDC, 12 to 24 VDC	5 to 12 VDC; 5 to 24 VDC; 5 VDC	5 to 12 VDC; 5 to 24 VDC; 5 VDC; 12 to 24 VDC	5 to 24 VDC
Current consumption	50 mA max.	50 mA max.	160 mA max.	100 mA
Output form and capacity	2 kΩ output impedance (voltage output); 30 mA (NPN open collector output)	2 kΩ output impedance (voltage output); 35 mA (NPN open collector output); -20 to 20 mA (line driver)	35 mA max. (NPN or PNP open collector); 2 kΩ output impedance (voltage output); -20 to 20 mA (line driver)	35 mA max. (NPN or PNP open collector)
Shaft loading: radial	1 kgf (7.2 ft-lbs.)	3 kgf (21.7 ft-lbs.)	5 kgf (11.0 ft-lbs.)	80 N
Shaft loading: axial	0.5 kgf (3.6 ft-lbs.)	2 kgf (14.5 ft-lbs.)	3 kgf (21.7 ft-lbs.)	50 N
Starting torque	10 g-cm (0.14 ozinch)	10 g-cm (0.14 ozinch)	100 gf x cm (9.8 mN x m) max. (7.2 m ft x lbf)	100 g-cm (1.39 ozinch)
Degree of protection: IEC 144	IP50	IP50	IEC IP64	IEC60925 IP65
Ambient operating temperature	-10° to 55°C (14° to 131°F)	-10° to 70°C (14° to 158°F)	-10° to 70°C (14° to 158°F) with no icing	-10° to 70°C (14° to 158°F)
Shaft coupler	E69-C04B supplied; two 4 mm dia. shafts	E69-C06B supplied, two 6 mm dia. shafts. Optional couplers for 8 and 10 mm dia. shafts	Order separately. E69-C06B 6 mm; E69-C68B 6 to 8 mm; E69-C06M metal 6 mm	Order separately. Choose E69-C08B for the 8 mm dia. shaft

	Encoders			
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	E6D	E6C3-A	E6CP	E6F
Dimensions mm (in)	55 dia x 50 L (2.17 x 1.97)	50 dia. x 38 L (1.97 x 1.50)	56 dia. x 50 L (2.21 x 1.97)	60 dia. x 60 L (2.36 x 2.36)
Shaft diameter mm (in)	6 (0.24)	8 (0.32)	6 (0.24)	10 (0.39)
Type Features	Super accuracy and high	Absolute CE approved and now	Absolute • Reliable 8-bit resolution and	Absolute Gray code binary output with
	response frequency	available with PNP outputs for interfacing to allow more flexible interfacing to other devices • High resistance to shock • Drip-proof construction • Heavy duty absolute encoder	gray code binary output	8-bit resolution or BCD output with 10-bit resolution • Direct connections to high-speed counters, position control modules for PLCs or Omron's H8PS cam positioner
Resolution	720 to 6,000 pulses/revolution	256, 360, 720, 1,024 pulses/ revolution	256 pulses/revolution	256 or 360 pulses/revolution
Output phase(s)	Outputs A, B, and Z (reversible)	Gray code	Gray code binary	Gray code binary or BCD (detects in gray-codes; converts to BCD)
Output phase difference	90°±25°	-	_	-
Maximum response frequency (pulses per second)	200 kHz (200,000 pulses/sec)	20 kHz (20,000 pulses per second)	5 kHz (5,000 pulses per second)	5 (E6F-AB3C) or 10 (E6F-AG5C) kHz (5,000 or 10,000 pulses per sec.)
Maximum rpm	12,000 rpm	5,000 rpm	1,000 rpm	5,000 rpm
Supply voltage	5 VDC (voltage output); 12 VDC (open collector output)	12 to 24 VDC	5 to 12 VDC (A6CP-AG3C); 12 to 24 VDC (E6CP-AG5C)	5 to 12 VDC (E6F-AB3C); 12 to 24 VDC (E6F-AG5C)
Current consumption	150 mA max.	70 mA	90 mA max. (A6CP-AG3C); 70 mA (E6CP-AG5C)	50 mA max (E6F-AB3C); 70 mA (E6F-AG5C)
Output form and capacity	35 mA max. (voltage and NPN open collector output)	35 mA (NPN and PNP open collector)	16 mA (NPN open collector transistor)	35 mA (NPN open collector transistor)
Shaft loading: radial	5 kgf (36.2 ft-lbs.); 2 kgf (14.5 ft-lbs.) typical	80 N	3 kgf (21.7 ft-lbs.)	10 kgf (72.3 ft-lbs.)
Shaft loading: axial	1 kgf (7.2 ft-lbs.) typical	50 N	2 kgt (14.5 ft-lbs.)	3 kgf (21.7 ft-lbs.)
Starting torque	100 g-cm (1.39 ozinch)	100 g-cm (1.39 ozinch)	10 g-cm (0.14 ozinch)	100 g-cm (1.39 ozinch)
Degree of protection: IEC 144	IP50	IEC60925 IP65	IP50	IP52
Ambient operating temperature	-10° to 70°C (14 to 158°F)	-10° to 70°C (14° to 158°F)	-10° to 70°C (14 to 158°F)	-10° to 70°C (14° to 158°F)
Shaft coupler	E69-C06B supplied, two 6 mm dia. shafts	Order separately. Choose E69-C08B for the 8 mm dia. shaft	E6CP-AG3C - E-69-C06B supplied, two 6 mm dia. shafts. Optional couplers for 8 and 10 mm dia. shafts. E6CP-AG5C – Order separately. Choose 6 mm dia. couplers for 6, 8, 10 mm dia. shafts	2 options: For E6F-AG5C, order sep. Choose 6 mm dia. couplers for 6, 8 & 10 mm dia. shafts. For E6F-AB3C, E69-C06B supplied, Two 6 mm dia. shafts. Optional couplers for 8 & 10 mm dia. shafts

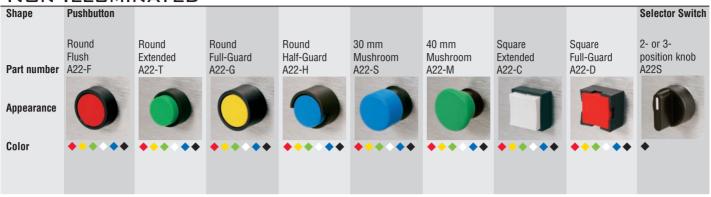


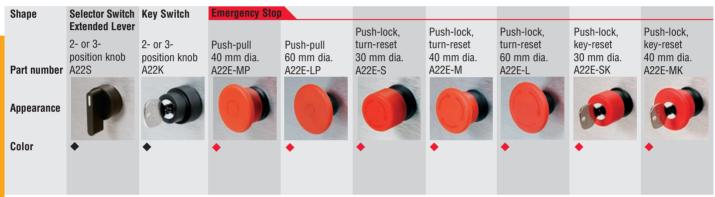
Pushbuttons, Switches and Pilot Devices



22 mm Pushbuttons, Switches and Pilot Devices

Non-Illuminated





ILLUMINATED

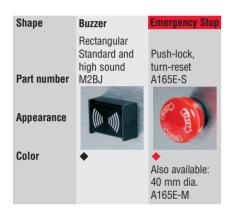


PUSHBUTTONS, SWITCHES, AND PILOT DEVICES

16 mm Pushbuttons, Switches and Pilot Devices

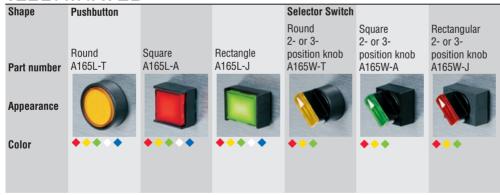
Non-Illuminated

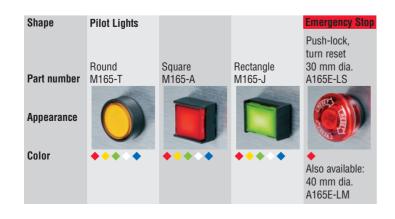




NOTE:A16 - IP40
A165 - IP65 oiltight

ILLUMINATED

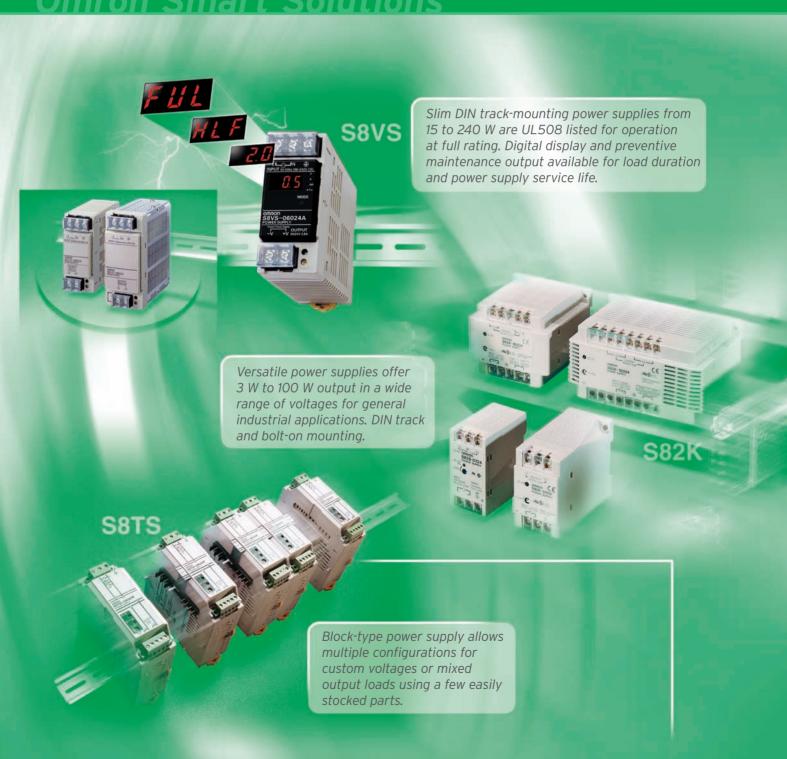


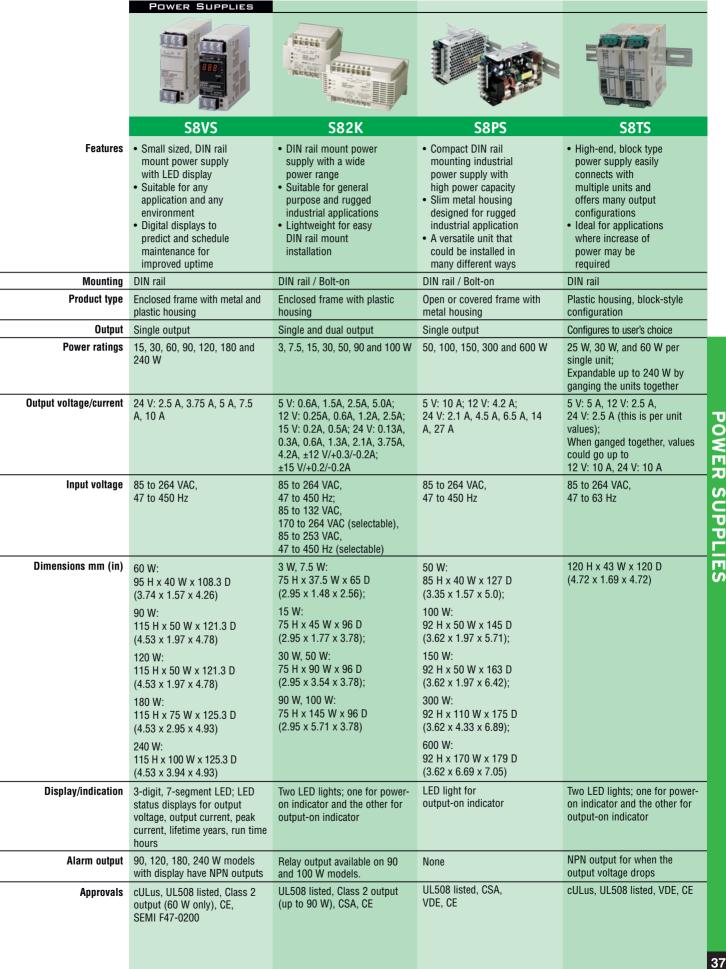


NOTE: A16 - IP40 A165 - IP65 oiltight

Power Supplies

Omron Smart Solutions





Timers, Counters, and Panel Meters

Omron Smart Solutions

Digital 1/16 DIN counter with preset, total, batch and dual counting functions offers bi-color display to alert changes in output status. NEMA 4/IP66 front panel needs no additional protection.



Digital multifunction timer in 1/16 DIN size has a shallow mounting depth and NEMA 4/IP66 front panel without additional protection. Bi-color present value display can change from red to green to alert changes in output status.



Digital Panel Meters

Display the results of analog inputs and get control outputs indicating good/ no good status with Omron's 1/8 DIN size process, temperature, rate and weight meters.



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	H5CX	H3CA	H5BR	H3CR-A	H3CR-F
Dimensions mm (in)	48 H x 48 W x 100 D (1.89 x 1.89 x 3.94)	48 H x 48 W x 63.7 D (1.89 x 1.89 x 2.51)	72 H x 72 W x 100 D (2.83 x 2.83 x 3.94)	48 H x 48 W x 68 D (1.89 x 1.89 x 2.68)	48 H x 48 W x 66 D (1.89 x 1.89 x 2.62)
Features	 Advanced programmable display with twin timer function PNP/NPN input Programmable via front or dip switches on back NEMA 4 front 	 Digital set, solid-state timer LCD time remaining bar graph and output status indicators Switch selectable time unit, control mode and time limit setting 1/16 DIN plug-in unit 	Batch counting function records the number of completed cycles Nine field-selectable timing modes Scroll-through menus access from front panel	Shallow mounting depth and wide range of panel covers Analog set, 1/16 DIN sized solid-state timer NPN/PNP input Wide AC/DC supply voltage	 Analog set, solid-state timer with combinations of independent ON/OFF time settings in a compact 1/16 DIN size Models with ON start or OFF start operating functions Fits standard 8- or 11-pin sockets
Product type	Multi-mode	ON-delay/Multi-mode	Multi-mode	ON-delay and one-shot Interval/Multi-mode	Twin timer
Control outputs	Time limit - SPDT, 5A at 250 VAC, Transistor, NPN, 100 mA at 30 VDC	Time limit - DPDT or SPDT, 3A 250 VAC; Instantaneous - SPDT, 3A, 250 VAC (H3CA-8H only)	1 SPDT relay and 2 NPN open collector transistor outputs	Time limit - DPDT, 5A, 250 VAC Transistor, 100 mA, 30 VDC (PNP/NPN) Instantaneous - DPDT, 5A, 250 VAC Transistor, 100 mA, 30 VDC (NPN/ PNP)	Time limit - DPDT, 5A, 250 VAC; Instantaneous - DPDT, 5A, 250 VAC
Operation modes	12 selectable modes including ON-delay, repeat cycle, signal OFF-delay, interval, cumulative, ON/OFF duty adjustable cycle, twin timer	8 selectable modes including ON-delay only or multi-mode model with ON-delay, repeat cycle, signal interval/ OFF-delay, 2 types of signal OFF-delay, interval, cycle and signal ON-delay/OFF-delay	9 selectable modes including ON-delay, repeat cycle, signal OFF-delay, interval, cumulative	Select 2-4-6 function models including ON- delay and one-shot, interval or selectable ON-delay, repeat cycle (two types), signal ON/OFF delay, signal OFF delay, interval	Repeat cycle: Independent ON or OFF time
Ranges	0.001 second to 9999 hours	0.1 second to 9990 hours (field selectable time units from 0.1 sec to 10 h x 3 digits)	0.001 second to 9999 hours (field selectable)	0.05 second to 300 hours or 0.1 second to 600 hours	0.05 second to 30 hours; 1.2 second to 300 hours
Display/indication	4-digit negative transmissive LCD; Programmable display color for output indication	LCD output status and percent time remaining bar graph	Alphanumeric 4-digit LCD display has 12 mm high characters and built-in backlight	Power ON, Output ON LEDs	Output ON and Output OFF LEDs
Supply voltage	100 to 240 VAC or 24 VAC / 12 to 24 VDC	24 to 240 VAC, 50/60 Hz and 12 to 240 VDC (8-pin model) 24, 100/110/120, 200/220/240 VAC, 50/60 Hz 12, 24, 48, 110 VDC	100 to 240 VAC, 50/60 Hz or 24 VAC, 50/60 HZ and 12 to 24 VDC	AC 100 – 240/ DC 100-125; DC 24 to 48/ DC 12 - 48	100 to 240 VAC, 50/60 Hz 12 VDC; 24 VAC/VDC
Mounting	Panel, track, surface	Panel, track, surface	Panel	Panel, track, surface	Panel, track, surface
Accessories	Sockets, panel mounting adapter, DIN rail	Sockets, protective covers, adapters for panel mounting, DIN rail	NEMA 4 waterproof cover, soft cover, shock prevention terminal cover	Sockets, panel covers in three colors, time setting ring, protective covers, adapters for panel mounting, DIN rail	Sockets, panel covers in three colors, time setting ring, protective covers, adapters for panel mounting, DIN rail
Approvals	cULus, cURus, CE	UL, CSA, SEV	UL, CSA, SEV, CE	UL, CSA, SEV, CE, VDE	UL, CSA, CE (LV)

Bill

		TIMERS			
				7: 15 10 10 10 10 10 10 10 10 10 10 10 10 10	
		H3DE	H3YN	H5S	H5L
_	Dimensions mm (in)	75 H x 22.5 W x 100 D (2.95 x 0.89 x 3.94)	28 H x 21.5 W x 56.6 D (1.10 x 0.85 x 2.23)	72 H x 72 W x 49 D (2.83 x 2.83 x 1.93)	96 H x 96 W x 56.5 D (3.78 x 3.78 x 2.22)
_	Features	Slim analog set timers with field-selectable ranges and multiple operation modes Built-in DIN rail clamp for easy track mounting	Subminiature analog solid- state time delay relay Multiple time ranges and operating modes Track solder terminal or wire- wrap terminal mounting via sockets Fits MY socket	• AM/PM display with 24 program steps and quartz accuracy • ON/OFF, cycle and pulse operations • LCD shows output status and current or next program step	Two independent 15-amp circuits Manual override of outputs Simple prompted programming Fits 1/4 DIN panel cut out
_	Product type	Multi-mode	ON-delay/Interval/Repeat Cycle	Weekly timer	Weekly timer
	Control outputs	Time limit - SPDT, 5A, 250 VAC or SPDT x 2 - programmable between time limiting and instantaneous	Time limit - DPDT, 5A, 250 VAC; 4PDT, 3A, 250 VAC	Time limit - SPST x 2, 15A, 250 VAC	Time limit - 15A, 125 VAC
0	Operation modes	ON-delay, Repeat cycle/signal OFF start, Repeat cycle/signal ON start, Signal ON/OFF-delay, Signal OFF-delay, Interval, one shot	ON-delay/Interval/Repeat Cycle	ON/OFF, repeat cycle, pulse	Repeat cycle, individual program for each circuit
1	Ranges	0.1 second to 120 hours	0.1 second to 10 minutes or 0.1 minute to 10 hours	1 week	1 minute to 23 hours 59 minutes
	Display/indication	Power and Output ON LEDs	Power ON LED; Time UP LED	LCD; time, day, output status, program step	LCD; day, time, program, circuit status
	Supply voltage	24- 230 VAC/VDC	24, 100/120, 200/230 VAC; 50/60 Hz; 12, 24 VDC	100 to 240 VAC, 50/60 Hz	100 to 240 VAC, 50/60 Hz
7	Mounting	Track	Panel, track, surface	Panel, surface, track	Panel, track, surface
5	Accessories	DIN rail	Sockets, panel mounting adapter, DIN rail	Protective cover, track adapter, DIN rail	Protective cover, DIN rail
	Approvals	UL, CSA, CE	UL, CSA, CE (LV)	UL, CSA	UL, CSA, SEV
O IIMERS, COONIERS AND	Approvals	UL, CSA, CE	UL, CSA, CE (LV)	UL, CSA	UL, CSA, SEV

	Counters				
	123428 123428	COUNTER 136 J	REVISERS REVISERS	999999	3899
	H7CX	H7BR	H7EC	H7ET	H7ER
Dimensions mm (in)	48 H x 48 W x 100 D (1.89 x 1.89 x 3.94)	72 H x 72 W x 100 D (2.83 x 2.83 x 3.94)	24 H x 48 W x 53.5 D (0.94 x 1.89 x 2.11)	24.0 H x 48 W x 53.5 D (0.94 x 1.89 x 2.11)	24.0 H x 48 W x 53.5 D (0.94 x 1.89 x 2.11)
Features	Advanced programmable display PNP/NPN input Prescaling function Up/down counting Programmable via front or dip switches on back NEMA 4 front	Multi-function digital counter with backlit LCD display Single and double preset and ± range Batch counter Contact and transistor outputs available	7 segment LCD with or without backlight Large display height 8.6 mm (0.338 in.) NEMA 4 front	7 segment LCD with or without backlight Large display height 8.6 mm (0.338 in.) NEMA 4 front	7 segment LCD with or without backlight Large display height 8.6 mm (0.338 in.) NEMA 4 front
Number of digits	4 or 6	6	8	7	4 or 5
Operation modes	UP, DOWN, reversible, tachometer, totalizer, dual-counter, batch, single or dual presets	UP, DOWN, reversible	UP counting	UP counting	UP counting
Counter input	NPN/PNP selectable	No voltage or voltage	PNP/NPN DC voltage; AC voltage; No-voltage contact	PNP/NPN DC voltage; AC voltage; No-voltage contact	PNP/NPN DC voltage; No voltage contact
Count speed	30 cps, 5 Kcps, 10 Kcps (prescale)	30 cps, or 1, 5, or 10 Kcps	20 cps (AC/DC voltage); 30 cps/1 Kcps selectable (NPN/PNP DC voltage)	1 sec.	1 Kcps or 10 Kcps; 1 pulse/rev., 60 pulses/ rev., or 600 pulses/rev.
Ranges	0 to 9999 (4 digits) 0 to 999,999 (6 digits)	0 to 999,999 for preset models, and -99,999 to 999,999 for ±	0 to 99,999,999	Selectable between 999,999.9 hrs. and 3,999 days 23.9 hrs.; 999 hrs. 59 min. 59 sec. and 9,999 hrs. 59.9 min.	0 to 1,000 rps; 1,000.0 rpm; 1,000.0 rps; 10,000 rpm
Supply voltage	100-240 VAC or 24 VAC / 12 to 24 VDC	100 to 240 VAC, 50/60 Hz or 24 VAC/ 12 to 24 VDC	Not required for non- backlight models; 24 VDC required for backlight models	Not required for non- backlight models; 24 VDC required for backlight models	Not required for non- backlight models; 24 VDC required for backlight models
Control output	Contact, transistor or both (programmable)	Contacts: 3A, 250 VAC; Transistor: Open collector, 100 mA at 30 VDC max. Residual voltage 2 V Max.	-	-	-
Connections	Screw terminals or 11-pin socket	Screw terminals	Screw terminals or wire wrap; 8 solder terminals	Screw terminals or wire wrap	Screw terminals
Mounting	Panel, track or surface	Flush mount	Panel	Panel	Panel
Approvals	cULus, cURus, CE	UL, CSA, CE	UL, CE, CSA, VDE	UL, CE, CSA, VDE	UL, CSA, CE, VDE











		K3HB-S	КЗНВ-Х	КЗНВ-Н	K3HB-V
Dimen	nsion	48 H x 96 W x 95 D (1.89 x 3.78 x 3.74)	48 H x 96 W x 95 D (1.89 x 3.78 x 3.74)	48 H x 96 W x 95 D (1.89 x 3.78 x 3.74)	48 H x 96 W x 95 D (1.89 x 3.78 x 3.74)
Feat	tures	 Advanced inspection controller with high speed response of 2,000 times per second This is ideal for high-speed measurement with discrimination from 1 or 2 independent analog inputs Sampling period is measured at 0.5 ms with an output response time of 1 ms max. 	 Intelligent signal processor for AC or DC signal or voltage Multiple ranges can be covered by a single meter Programmable via serial communications or front panel Field replaceable output 	High-speed temperature indicator with high accuracy input resolution for both Platinum resistance and Thermocouples This unit is also equipped with simple input shift using two points, hysteresis, peak/hold value, and more	 Ideal weighing indicator for making good/no-good judgments Could measure pressure, load, torque, and weight by using load cell signal input
Product	type	Linear Sensor Indicator	Process Meter	Temperature Meter	Weighing Meter
Input	type	Dual analog inputs: DC current: 0-20 mA, 4-20 mA DC voltage: 0-5 V, 1-5 V, ±5 V, ±10 V	DC voltage: 199.99 V, 19,999 V, 1.9999 V, 1.0000 to 5.0000 V; AC voltage: 0.0 to 400.0 V, 0.00 to 199.99 V, 0.000 to 19.999 V, 0.000 to 1.9999 V; DC current: 199.99 mA, 19.999 mA, 1.9999 mA, 4.000 to 20.000 mA; AC current: 0.000 to 10.000 A, 0.0000 to 19.999 mA, 0.000 to 19.999 mA	Thermocouples: K, J, T, E, L, U, N, R, S, B, W; Platinum resistance: Pt100	DC voltage: 0.00 to 199.99 mV, 0.000 to 19.999 mV, ±100.00 mV, ±199.99 mV
Dis	splay	5-digit, 7-segment Negative Transmissive LCD	5-digit, 7-segment Negative Transmissive LCD	5-digit, 7-segment Negative Transmissive LCD	5-digit, 7-segment Negative Transmissive LCD
Setting Opt	tions	Front pushbuttons or Serial communications	Front pushbuttons or Serial communications	Front pushbuttons or Serial communications	Front pushbuttons or Serial communications
Event In	nputs	5 point NPN; 8 point NPN; 5 point PNP; 8 point PNP	5 point NPN; 8 point NPN; 5 point PNP; 8 point PNP	5 point NPN; 8 point NPN; 5 point PNP; 8 point PNP	5 point NPN; 8 point NPN; 5 point PNP; 8 point PNP
Control outputs					
Combination output bo with Power Supply		SPDT and 12 VDC PS; SPDT and 10 VDC PS; 0-20 mA and 12 VDC PS; 0-20 mA and 10 VDC PS; 0-5, 0-10 VDC and 12 VDC PS; RS-232C and 12 VDC PS; RS-232C and 10 VDC PS; RS-485 and 12 VDC PS; RS-485 and 10 VDC PS	SPDT and 12 VDC PS; SPDT and 10 VDC PS; 0-20 mA and 12 VDC PS; 0-20 mA and 10 VDC PS 0-5, 0-10 VDC and 12 VDC PS; RS-232C and 12 VDC PS; RS-232C and 10 VDC PS; RS-485 and 12 VDC PS; RS-485 and 10 VDC PS	SPDT and 12 VDC PS; SPDT and 10 VDC PS; 0-20 mA and 12 VDC PS; 0-20 mA and 10 VDC PS; 0-5, 0-10 VDC and 12 VDC PS; RS-232C and 12 VDC PS; RS-232C and 10 VDC PS; RS-485 and 12 VDC PS; RS-485 and 10 VDC PS	SPDT and 12 VDC PS; SPDT and 10 VDC PS; 0-20 mA and 12 VDC PS; 0-20 mA and 10 VDC PS; 0-5, 0-10 VDC and 12 VDC PS; RS-232C and 12 VDC PS; RS-232C and 10 VDC PS; RS-485 and 12 VDC PS; RS-485 and 10 VDC PS
Power Su	ıpply	12 VDC only or 10 VDC only	12 VDC only or 10 VDC only	12 VDC only or 10 VDC only	12 VDC only or 10 VDC only
	Relay	2-SPDT; 4-SPST	2-SPDT; 4-SPST	2-SPDT; 4-SPST	2-SPDT; 4-SPST
Trans		5-NPN; 5-PNP	5-NPN; 5-PNP	5-NPN; 5-PNP	5-NPN; 5-PNP
Devic		Yes	Yes	Yes	Yes
Аррго	JVAIS	cULus, CE	cULus, CE	cULus, CE	cULus, CE



DIGITAL PANEL METERS





	K3MA-J K3MA-L		K3MA-F	
Dimensions mm (in)	48 H x 96 W x 97 D (1.89 x 3.78 x 3.81)	48 H x 96 W x 97 D (1.89 x 3.78 x 3.81)	48 H x 96 W x 97 D (1.89 x 3.78 x 3.81)	
Features	Multi-range DC voltage/current input Front-panel key operation Scaling, front-panel forced-zero, zero-limit functions Short 80 mm depth front panel Water and dust-proof NEMA 4X front panel 2-color LEDs	Wide input range 2 types of platinum-resistance thermometers and 10 types of thermocouples Front-panel key operation Water and dust-proof NEMA 4X front panel 2-color LEDs Temperature input shift and temperature unit selection functions Short 80 mm depth front panel	Wide input range: contact, NPN, PNP, or voltage pulse Front-panel key operation Scaling, auto-zero time, startup compensation time functions Short 80 mm depth front panel Water and dust-proof NEMA 4X front panel - 2-color LEDs	
Product type	Process meter	Temperature meter	Frequency/rate meter	
Input type	DC voltage: 1.000 to 3.000 V, 0.000 to 5.000 V, -5.000 to 5.000 V, -10.000 to 10.00 V; DC current: 4.00 to 20.00 mA, 0.00 to 20.00 mA	Thermocouple: K, J, T, E, L, U, N R, S, B RTD: Pt100, JPt100	Rotary pulse	
Display	7-segment LCD backlit, red and green LEDs	7-segment LCD backlit, red and green LEDs	7-segment LCD backlit, red and green LEDs	
Setting options	Front-panel key	Front-panel key	Front-panel key	
Control outputs Relay	2 SPST-NO	1 SPDT	2 SPST-NO	
Transistor	N/A	N/A	N/A	
BDC	N/A	N/A	N/A	
Linear	N/A	N/A	N/A	
Alarm	N/A	N/A	N/A	
Serial communications outputs	N/A	N/A	N/A	
PC software	N/A	N/A	N/A	
Approvals	cULus, CE	cULus, CE	cULus, CE	

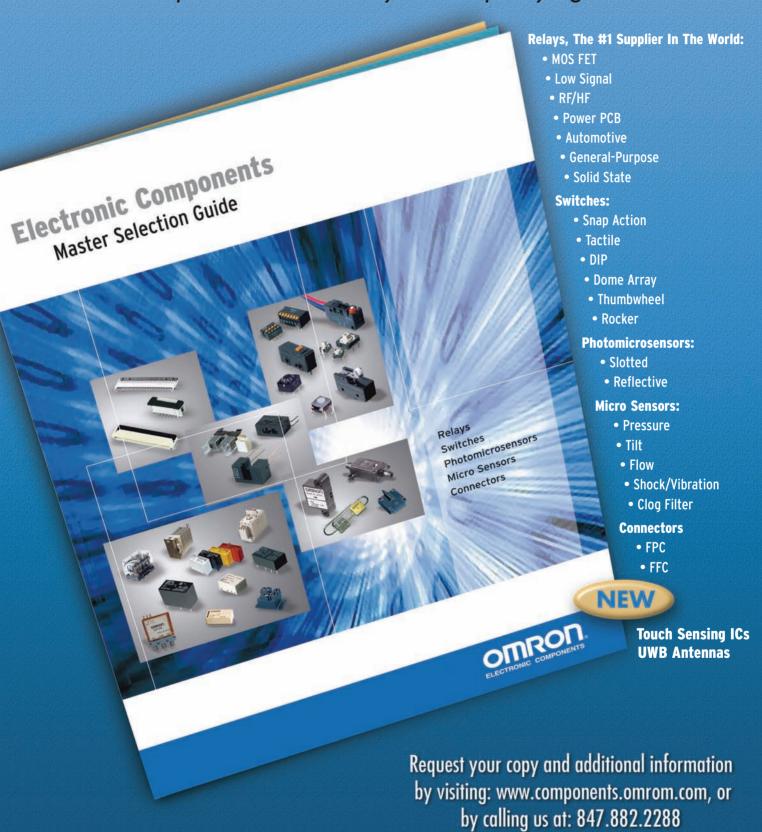
Terms and Conditions of Sales

- 1. Definitions: The words used herein are defined as follows.
 - (a)Terms: These terms and conditions
 - (b)Seller: Omron Electronic Components LLC and its subsidiaries
 - (c)Buyer: The buyer of Products, including any end user in section III through VI
 - (d)Products: Products and/or services of Seller (e)Including: Including without limitation
- Offer; Acceptance: These Terms are deemed part of all quotations, acknowledgments, invoices, purchase orders and other documents, whether electronic or in writing, relating to the sale of Products by Seller. Seller hereby objects to any Terms proposed in Buyer's purchase order or other documents which are inconsistent with, or in addition to, these Terms
- <u>Distributor</u>: Any distributor shall inform its customer of the contents after and including section III of these Terms.
- 1. Prices; Payment: All prices stated are current, subject to change without notice by Seller. Buyer agrees to pay the price in effect at time of shipment. Payments for Products received are due net 30 days unless otherwise stated in the invoice. Buyer shall have no right to set off any amounts against the amount owing in respect of this invoice.
- 2. <u>Discounts</u>: Cash discounts, if any, will apply only on the net amount of invoices sent to Buyer after deducting transportation charges, taxes and duties, and will be allowed only if (a) the invoice is paid according to Seller's payment terms and (b) Buyer has no past due amounts owing to Seller.
- 3. Interest: Seller, at its option, may charge Buyer 1.5% interest per month or the maximum legal rate, whichever is less, on any balance not paid within the stated terms.
- 4. Orders: Seller will accept no order less than 200 U.S. dollars net billing
- 5. Currencies: If the prices quoted herein are in a currency other than U.S. dollars, Buyer shall make remittance to Seller at the then current exchange rate most favorable to Seller; provided that if remittance is not made when due, Buyer will convert the amount to U.S. dollars at the then current exchange rate most favorable to Seller available during the period between the due date and the date remittance is actually made.
- Governmental Approvals: Buyer shall be responsible for all costs involved in obtaining any government approvals regarding the importation or sale of the Products.
- 7. Taxes: All taxes, duties and other governmental charges (other than general real property and income taxes), including any interest or penalties thereon, imposed directly or indirectly on Seller or required to be collected directly or indirectly by Seller for the manufacture, production, sale, delivery, importation, consumption or use of the Products sold hereunder (including customs duties and sales, excise, use, turnover and license taxes) shall be charged to and remitted by Buyer to Seller.
- 8. Financial: If the financial position of Buyer at any time becomes unsatisfactory to Seller, Seller reserves the right to stop shipments or require satisfactory security or payment in advance. If Buyer fails to make payment or otherwise comply with these Terms or any related agreement, Seller may (without liability and in addition to other remedies) cancel any unshipped portion of Products sold hereunder and stop any Products in transit until Buyer pays all amounts, including amounts payable hereunder, whether or not then due, which are owing to it by Buyer. Buyer shall in any event remain liable for all unpaid accounts.
- Cancellation; Etc: Orders are not subject to rescheduling or cancellation unless Buyer indemnifies Seller fully against all costs or expenses arising in connection therewith.
- 10. Force Majeure: Seller shall not be liable for any delay or failure in delivery resulting from causes beyond its control, including earthquakes, fires, floods, strikes or other labor disputes, shortage of labor or materials, accidents to machinery, acts of sabotage, riots, delay in or lack of transportation or the requirements of any government authority.
- 11. Shipping: Delivery: Unless otherwise expressly agreed in writing by Seller:
 - (a) All sales and shipments of Products shall be FOB shipping point (unless otherwise stated in writing by Seller), at which point title to and all risk of loss of the Products shall pass from Seller to Buyer, provided that Seller shall retain a security interest in the Products until the full purchase price is paid by Buyer;
 - (b) Delivery and shipping dates are estimates only, and
 - (c) Seller will package Products as it deems proper for protection against normal handling and extra charges apply to special conditions.
- 12. Claims: Any claim by Buyer against Seller for shortage or damage to the Products occurring before delivery to the carrier must be presented in detail in writing to Seller within 30 days of receipt of shipment.
- 1. Suitability: IT IS THE BUYER'S SOLE RESPOINSIBILITY TO ENSURE THAT ANY OMRON PRODUCT IS FIT AND SUFFICIENT FOR USE IN A MOTORIZED VEHICLE APPLICATION. BUYER SHALL BE SOLELY RESPONSIBLE FOR DETERMINING APPROPRIATENESS OF THE PARTICULAR PRODUCT WITH RESPECT TO THE BUYER'S APPLICATION INCLUDING (A) ELECTRICAL OR ELECTRONIC COMPONENTS, (B) CIRCUITS, (C) SYSTEM ASSEMBLIES, (D) END PRODUCT, (E) SYSTEM, (F) MATERIALS OR SUBSTANCES OR (G) OPERATING ENVIRONMENT. Buyer acknowledges that it alone has determined that the Products will meet their requirements of the intended use in <u>all</u> cases. Buyer must know and observe all prohibitions of use applicable to the Products.
- 2. Use with Attention: The followings are some examples of applications for which particular attention must be given. This is not intended to be an exhaustive list of all possible use of any Product, nor to imply that any use listed may be suitable for any Product:
 - (a) Outdoor use, use involving potential chemical contamination or electrical interference.
 - (b) Use in consumer Products or any use in significant quantities.

- (c) Energy control systems, combustion systems, railroad systems, aviation systems, medical equipment, amusement machines, vehicles, safety equipment, and installations subject to separate industry or government regulations.
- (d) Systems, machines, and equipment that could present a risk to life or property.
- 3. Prohibited Use: NEVER USE THE PRODUCT FOR AN APPLICATION INVOLVING SERIOUS RISK TO LIFE OR PROPERTY WITHOUT ENSURING THAT THE SYSTEM AS A WHOLE HAS BEEN DESIGNED TO ADDRESS THE RISKS, AND THAT THE PRODUCT IS PROPERLY RATED AND INSTALLED FOR THE INTENDED USE WITHIN THE OVERALL EQUIPMENT OR SYSTEM.
- 4. Motorized Vehicle Application: USE OF ANY PRODUCT/S FOR A MOTORIZED VEHICLE APPLICATION MUST BE EXPRESSLY STATED IN THE SPECIFICATION BY SELLER.
- Programmable Products: Seller shall not be responsible for the Buyer's programming of a programmable Product.
- 1. Warranty: Seller's exclusive warranty is that the Products will be free from defects in materials and workmanship for a period of twelve months from the date of sale by Seller (or such other period expressed in writing by Seller). SELLER MAKES NO WARRANTY OR REPRESENTATION, EXPRESS OR IMPLIED, ABOUT ALL OTHER WARRANTIES, NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OF THE PRODUCTS.
- 2. Buyer Remedy: Seller's sole obligation hereunder shall be to replace (in the form originally shipped with Buyer responsible for labor charges for removal or replacement thereof) the non-complying Product or, at Seller's election, to repay or credit Buyer an amount equal to the purchase price of the Product; provided that there shall be no liability for Seller or its affiliates unless Seller's analysis confirms that the Products were handled, stored, installed and maintained and not subject to contamination, abuse, misuse or inappropriate modification. Return of any Products by Buyer must be approved in writing by Seller before shipment.
- 3. Limitation on Liability: SELLER AND ITS AFFILIATES SHALL NOT BE LIABLE FOR SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES, LOSS OF PROFITS OR PRODUCTION OR COMMERCIAL LOSS IN ANY WAY CONNECTED WITH THE PRODUCTS, WHETHER SUCH CLAIM IS BASED IN CONTRACT, WARRANTY, NEGLIGENCE OR STRICT LIABILITY. FURTHER, IN NO EVENT SHALL LIABILITY OF SELLER OR ITS AFFILITATES EXCEED THE INDIVIDUAL PRICE OF THE PRODUCT ON WHICH LIABILITY IS ASSERTED.
- 4. Indemnities: Buyer shall indemnify and hold harmless Seller, its affiliates and its employees from and against all liabilities, losses, claims, costs and expenses (including attorney's fees and expenses) related to any claim, investigation, litigation or proceeding (whether or not Seller is a party) which arises or is alleged to arise from Buyer's acts or omissions under these Terms or in any way with respect to the Products.
- 1. Intellectual Property: The intellectual property embodied in the Products is the exclusive property of Seller and its affiliates and Buyer shall not attempt to duplicate it in any way without the written permission of Seller. Buyer (at its own expense) shall indemnify and hold harmless Seller and defend or settle any action brought against Seller to the extent that it is based on a claim that any Product made to Buyer specifications infringed intellectual property rights of another party.
- 2. Property: Confidentiality: Notwithstanding any charges to Buyer for engineering or tooling, all engineering and tooling shall remain the exclusive property of Seller. All information and materials supplied by Seller to Buyer relating to the Products are confidential and proprietary, and Buyer shall limit distribution thereof to its trusted employees and strictly prevent disclosure to any third party.
- 3. Performance Data: Performance data is provided as a guide in determining suitability and does not constitute a warranty. It may represent the result of Seller's test conditions, and the users must correlate it to actual application requirements.
- 4. Change In Specifications: Product specifications and description may be changed at any time based on improvements or other reasons. It is Seller's practice to change part numbers when published ratings or features are changed, or when significant engineering changes are made. However, some specifications of the Product may be changed without any notice.
- 5. Errors And Omissions: The information on Seller's website or in other documentation has been carefully checked and is believed to be accurate; however, no responsibility is assumed for clerical, typographical or proofreading errors or omissions.
- 6. Export Controls: Buyer shall comply with all applicable laws, regulations and licenses regarding (a) export of the Products or information provided by Seller; (b) sale of Products to forbidden or other proscribed persons or organizations; (c)disclosure to non-citizens of regulated technology or information.
- Waiver: No failure or delay by Seller in exercising any right and no course of dealing between Buyer and Seller shall operate as a waiver of rights by Seller.
- 2. Assignment: Buyer may not assign its rights hereunder without Seller's written consent.
- <u>Law</u>: These Terms are governed by Illinois law (without regard to conflict of laws). Federal and state courts in Illinois have exclusive jurisdiction for any dispute hereunder.
- Amendment: These Terms constitute the entire agreement between Buyer and Seller relating to the Products, and no provision may be changed or waived unless in writing signed by the parties.
- Severability: If any provision hereof is rendered ineffective or invalid, such provision shall not invalidate any other provision.

Omron Electronic Components Master Selection Guide...

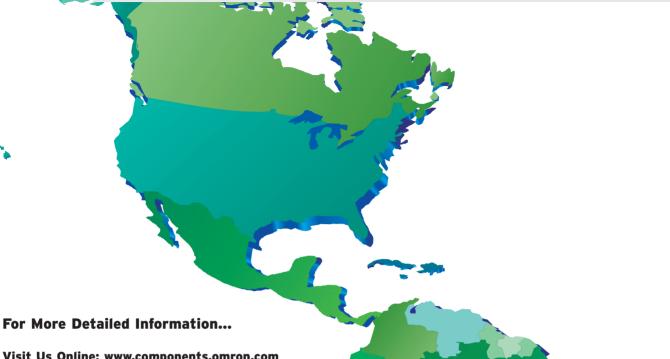
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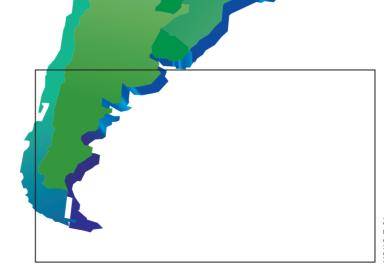
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Email Us:

components@omron.com

OMRON ELECTRONICS COMPONENTS LLC

55 Commerce Drive • Schaumburg, IL 60173



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OOO «ЛайфЭлектроникс" "LifeElectronics" LLC

ИНН 7805602321 КПП 780501001 P/C 40702810122510004610 ФАКБ "АБСОЛЮТ БАНК" (ЗАО) в г.Санкт-Петербурге К/С 3010181090000000703 БИК 044030703

Компания «Life Electronics» занимается поставками электронных компонентов импортного и отечественного производства от производителей и со складов крупных дистрибьюторов Европы, Америки и Азии.

С конца 2013 года компания активно расширяет линейку поставок компонентов по направлению коаксиальный кабель, кварцевые генераторы и конденсаторы (керамические, пленочные, электролитические), за счёт заключения дистрибьюторских договоров

Мы предлагаем:

- Конкурентоспособные цены и скидки постоянным клиентам.
- Специальные условия для постоянных клиентов.
- Подбор аналогов.
- Поставку компонентов в любых объемах, удовлетворяющих вашим потребностям.
- Приемлемые сроки поставки, возможна ускоренная поставка.
- Доставку товара в любую точку России и стран СНГ.
- Комплексную поставку.
- Работу по проектам и поставку образцов.
- Формирование склада под заказчика.
- Сертификаты соответствия на поставляемую продукцию (по желанию клиента).
- Тестирование поставляемой продукции.
- Поставку компонентов, требующих военную и космическую приемку.
- Входной контроль качества.
- Наличие сертификата ISO.

В составе нашей компании организован Конструкторский отдел, призванный помогать разработчикам, и инженерам.

Конструкторский отдел помогает осуществить:

- Регистрацию проекта у производителя компонентов.
- Техническую поддержку проекта.
- Защиту от снятия компонента с производства.
- Оценку стоимости проекта по компонентам.
- Изготовление тестовой платы монтаж и пусконаладочные работы.



Тел: +7 (812) 336 43 04 (многоканальный) Email: org@lifeelectronics.ru