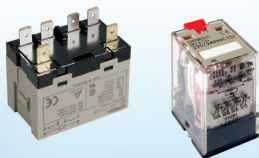


# Industrial Components

We have it all - now make the right choice!

## General Purpose Relays



Page 1

### Replace these brands

IDEC
Carlo Gavazzi
Allen Bradley
Magnecraft
TE Connectivity

## Solid State Relays



Page 2

### Replace these brands

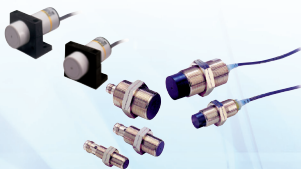
Crydom
Carlo Gavazzi
Crouzet
OPTO 22
IDEC

## Limit and Basi



Page 3

## Proximity Sensors



Page 5-6

### Replace these brands

Balluff
IFM Effector
P&F
Turck
Telemecanique

## Fiber-Optic Sensors



Page 7-8

### Replace this brand



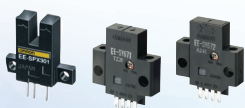
Keyence

## Photoelectric



Page 9

## Photomicrosensors



Page 11-12

### Replace these brands

Sunx
Keyence

## Power Supplies



Page 13-14

### Replace these brands

IDEC
Phoenix Contact
Weidmueller
Murr

## Temperature C



Page 15

## Industrial Timers



Page 17

### Replace these brands

IDEC
Carlo Gavazzi
Allen Bradley
Panasonic

## Industrial Counters



Page 18

### Replace these brands

Carlo Gavazzi
Red Lion
Hengstler
Veeder-Root

## Pushbutton



Page 19

# General Purpose Relays

Navigation



Product Line	G7L	LY	MY
Selling Tips	<ul style="list-style-type: none"> <li>• Ideal for pump and motor loads</li> <li>• Most cost effective solution in its class for cost competitive applications</li> <li>• Has UL ratings of 3 HP @ 277 VAC and 20 FLA/120 LRA 120 VAC for pump requirements</li> <li>• No contact chattering for voltage drops up to 50% of rated voltage for longer life</li> </ul>	<ul style="list-style-type: none"> <li>• Ideal for HVAC and Appliance applications</li> <li>• Economical, compact power relay for cost competitive applications</li> <li>• LED, bifurcated contacts, surge suppression and test button features for longer life</li> <li>• PCB, Panel and Plug-in models available for wide variety of applications</li> </ul>	<ul style="list-style-type: none"> <li>• Ideal for Elevator applications</li> <li>• Exceptional reliability for long life</li> <li>• Mechanical indicator for trouble shooting</li> <li>• Name plate available for marking identification</li> <li>• Options include LED Indicator and lockable test button for trouble shooting</li> <li>• Cage Clamp sockets available for quicker installation</li> </ul>
Switching Current (resistive) (max.)	1 pole: 30A @ 220VAC 2 pole: 25A @ 220VAC	1 pole: 15A @ 110VAC 15A @ 24VDC 2-4 pole: 10A @ 110VAC 10A @ 24VDC	2 pole: 5A @ 250VAC 5A @ 30VDC 4 pole: 3A @ 250VAC 3A @ 30VDC
Contact Form	SPST-NO DPST-NO	SPDT 3PDT DPDT 4PDT	DPDT 4PDT
Electrical Service Life (@ 1800 ops./hr.) (resistive load)	100,000 cycles @ rated load Screw Terminal and Quick Connect PCB: 20 A @ 220 VAC	200,000 cycles @ rated load 1 pole, 3 pole, and 4 pole 500,000 cycles @ rated load 2 pole	500,000 cycles @ rated load 2 pole 200,000 cycles @ rated load 4 pole 100,000 cycles @ rated load 4 pole bifurcated
Key Accessories	P7LF-06 Track Mount Socket P7LF-D Track Mount Adapter R99-07G5D E-Bracket	Track Mount Sockets PTF08A-E 1-2 pole PTF11A 3 pole, PTF14A-E 4 pole	Track Mount Sockets PYF08A-E 2 pole, PYF14A-E 4 pole PYF08-S 2 pole, Screwless PYF14-S 4 pole Screwless
Popular Part Numbers	G7L-1A-TUBJ-CB AC24 (Quick Connect) G7L-2A-TUBJ-CB AC100/120 (Quick Connect) G7L-2A-BUBJ-CB DC24 (Screw Terminal) PCB Mount models also available.	LY2 AC110/120 (Plug in) LY2N AC110/120 (Plug in) LY2-O AC110/120 (PCB) Panel Mount models also available.	MY4N AC110/120 (S) (Plug in) MY4N DC24 (S) (Plug in) MY4ZN AC110/120 (S) (Plug in)

# Solid State Relays

Navigation



Product Line	G3NA	G3NE	G3R
Selling Tips	<ul style="list-style-type: none"> <li>• Ideal for industrial and appliance applications</li> <li>• "Hockey Puck" industry standard size</li> <li>• Zero cross for AC models reducing in rush current for longer life</li> <li>• AC and DC load models available for wide range of applications</li> <li>• -UTU models have UL, CSA and TUV approvals for world wide applications</li> <li>• Protective cover standard for greater safety</li> </ul>	<ul style="list-style-type: none"> <li>• Ideal for medical applications</li> <li>• Economical solution for cost competitive application</li> <li>• Low Profile of 11.5mm height for restricted space applications</li> <li>• Available in random fire operation for faster switching</li> <li>• -US models have UL, CSA, and TUV approvals for world wide applications</li> </ul>	<ul style="list-style-type: none"> <li>• Ideal for PLC logic applications</li> <li>• 1/2 inch wide relay to maximize space on din rail</li> <li>• 4 kV isolation between input and output offers safety from high voltage I/O differences</li> <li>• High speed models capable of managing frequency &gt; than 60Hz for wider range of applications</li> <li>• -UTU models have UL, CSA and TUV approvals for world wide applications</li> </ul>
Switching Current (resistive) (max.)	10A, 20A, 25A, 40A, 50A, 75A, 90A @ 240VAC and 480VAC Additional models available.	5A, 10A, 20A @ 240VAC	Input: 100mA @ 32VDC Output: AC 2A @ 240V, DC 1.5A @ 200V, 2A @ 48V
Key Accessories	Variety of DIN track heat sinks avail. R99-12 FOR G3NA DIN adapter	DIN track heat sinks Y92B-N50 5A-10 Y92B-N100 20A	P2RF-05-E DIN track socket G70A Terminal blocks available
Popular Part Numbers	G3NA-210B DC5-24 (Screw Terminal) G3NA-220B DC5-24 (Screw Terminal) G3NA-D210B DC5-24 (Screw Terminal)	G3NE-205T-US DC5 (Quick Connect) G3NE-210T-US DC5 (Quick Connect) G3NE-210T-US DC24 (Quick Connect)	G3R-OA202SZN DC5-24 (Plug-in) G3R-OD201SN DC5-24 (Plug-in) G3R-ODX02SN DC5-24 (Plug in)

# General Purpose Basic Switches

Navigation



Product Line	Z	A	X	TZ
Selling Tips	High Precision and wide variety of styles meet wide range of applications. High reliability reduces maintenance costs. Standard mounting holes allow installation or replacement for wide range of applications.	Compact size capable of handling 20A loads, no need for contactor or breaker. Resist 75 Amps of inrush current no need contact protective circuit. High-capacity load can be switched directly without additional components for lower cost installation.	Can be used for either load rating of DC or AC for wide variety of applications. Most manufactures only produce DC version. Standard mounting holes allow for wide range of applications.	Stable operation at an temperature of 400°C in extreme applications. Platinum contacts insure reliability for long life.
Typical Applications	Heavy duty vehicle, pressure gauge, power transformer, elevator.	Heater, motor, dryer, home appliance, mower, forklift, pressure switch.	Power transformer, pressure gauge, forklift, elevator.	Boiler, power plant, heater, level switch, temperature switch.
Switching Current (Resistive)	15A @ 250VAC 6A @ 30VDC 0.5A @ 125VDC	20A @ 250VAC 6A @ 30VDC 0.5A @ 125VDC	10A @ 125VDC/AC 3A @ 250VDC/AC	1A @ 250VAC 1A @ 30VDC
Contact Form	SPDT	SPDT	SPDT	SPDT
Mechanical Service Life	20,000,000 cycles (for pin plunger type)	1,000,000 cycles	1,000,000 cycles	100,000 cycles
Electrical Service Life	500,000 cycles @ rated load	500,000 cycles @ rated load	100,000 cycles @ rated load	50,000 cycles @ rated load
Popular Part No.	Z-15GW22-B, Z-15GQ-B	A-20GV-B, A-20GV2-B	X-10G-B,X-10GW22-B,	TZ-1G,TZ-1GV
Actuator Types (Typical types)	Pin plunger, slim plunger, short plunger, hinge lever, panel mount plunger, roller lever, flexible rod.	Pin plunger, short plunger hinge lever, panel mount plunger, roller lever, short hinge lever, panel mount cross roller.	Pin plunger, hinge lever, slim plunger, short plunger, panel mount plunger, leaf spring lever, short hinge roller lever.	Pin plunger, hinge lever, roller lever, short hinge roller lever.

# General Purpose Limit Switches

Navigation



Product Line	ZE	D4C	D4A	WL
Selling Tips	Long service life, High Breaking Capacity, which saves on maintenance cost. Three mounting options for ease of application. Terminal arrangement of built-in switch makes easy wiring.	Sealed compact and slim-bodied switch offers choice of many actuators which meet wide range of application. Plunger versions can be gang mounted for space restricted applications. Optional indicator lights available for ease of trouble shooting.	Robust metal housing for industrial applications. Wide temperature range -40°C to +100°C (standard type) for use in heavy duty applications. Easy mounting for short installation time.	Two-circuit switch for reliable switching. Standard models, Environment-resistant models, Spatter-prevention models and Long Life models offer wide range applica
Typical Applications	Heavy duty vehicle, machine tool, forklift.	Parking equipment, assembly machine, machine tool.	Processing equipment, assembly machine, machine tool.	Machine tool, welding machine, automotive assembly.
Switching Current (Resistive)	15A @ 250VAC 6A @ 30VDC 0.5A @ 125VDC	5A @ 250VAC 4A @ 30VDC 0.4A @ 125VDC	10A @ 250VAC 6A @ 30VDC 0.4A @ 125VDC	10A @ 500VAC 6A @ 30VDC 0.8A @ 125VDC
Contact Form	SPDT	SPDT	SPDT, DPDT	Single Pole/Double Bre
Mechanical Service Life	10,000,000 cycles	10,000,000 cycles	50,000,000 cycles (SPDT), 30,000,000 cycles (DPDT)	15,000,000 cycles
Electrical Service Life	500,000 cycles @ rated load	200,000 cycles @ rated load	1,000,000 cycles @ rated load (SPDT), 750,000 cycles @ rated load (DPDT)	750,000 cycles @ rated load - Standard type
Popular Part No.	ZE-Q22-2, ZE-N-2	D4C-1220, D4C-1220	D4A-3101N, D4A-3E01N	WL-CA2, WLCL
Actuator Types (Typical types)	Plunger, roller plunger, roller arm lever.	Plunger, roller plunger, roller lever, seal plunger.	Plunger, side rotary lever.	Plunger, roller lever, variable rod lever.

# Proximity Sensors

## Navigation

### Inductive Sensors



Product Line	E2E	E2E2	E2A	E2FM	E2A3
Selling Tips	<ul style="list-style-type: none"> <li>Omron's flagship highest quality proximity sensor family</li> <li>Vacuum potted internal circuitry</li> <li>Multiple connector versions</li> <li>Wrench flats for easy installation</li> <li>Superior barrel thickness</li> <li>Highly visible LED indication</li> </ul>	<ul style="list-style-type: none"> <li>Long-barrel inductive proximity sensor</li> <li>Cable protectors provided as a standard feature</li> <li>Fully threaded body</li> <li>A milled section for wrench flats on all models</li> <li>Highly Visible LED indication</li> </ul>	<ul style="list-style-type: none"> <li>Designed and tested for extra long life</li> <li>DC 3-wire and DC 2-wire models</li> <li>Normally open (NO), normally closed (NC) and light-on/dark-on (NO+NC) models</li> <li>Pre-wired versions with different cable materials &amp; diameters, M8 &amp; M12 connector types, pre-wired types with cable end connectors</li> </ul>	<ul style="list-style-type: none"> <li>Completely stainless-steel housing</li> <li>Aluminum chip immunity</li> <li>Flush mounting in metal mountings</li> <li>Chemical resistance certified by Ecolab Europe</li> <li>Stainless Steel body with fluororesin coating available</li> </ul>	<ul style="list-style-type: none"> <li>Triple distance sensors for mounting re</li> <li>360° angle</li> <li>Highly visible indication</li> </ul>
Applications	Use for high quality, highly reliable detection of ferrous metals.	Use for high quality, highly reliable detection of ferrous metals. Easy to install long barrel body.	Use for general purpose sensing of ferrous metals.	The stainless steel housing withstands: Sodium chloride, Gasoline, Dilute sodium hydroxide, Dilute hydrochloric acid, Mineral oil, Barium hydroxide, and many others	Use for external general purpose ferrous metal
Model	DC 2-Wire; DC 3-Wire; AC 2-Wire	DC 2-Wire; DC 3-Wire; AC 2-Wire	DC 2-Wire; DC 3-Wire; DC 4-Wire	DC 2-Wire; DC 3-Wire	DC 3-Wire
Sensing Distance	1.5 mm, 2 mm, 3 mm, 4 mm, 5 mm, 8 mm, 7 mm, 10 mm, 14 mm, 10 mm, 18 mm, 20 mm	2 mm, 3 mm, 5 mm, 7 mm, 8 mm, 10 mm, 14 mm, 20 mm	2 mm, 4 mm, 8 mm, 15 mm, 16 mm, 20 mm	1.5 mm, 2 mm, 5 mm, 10 mm	3 mm, 6 mm, 20 mm
Housing Size	M8, M12, M18, M30	M12, M18, M30	M8, M12, M18, M30	M8, M12, M18, M30	M8, M12, M18
Housing Material	Nickel Plated Brass - (NPB) Stainless Steel - (SUS)	Nickel Plated Brass - (NPB)	Nickel Plated Brass - (NPB) Stainless Steel - (SUS)	Stainless Steel - (SUS 303)	Nickel Plated Stainless Steel
Mounting Characteristics	Shielded - Flush Mountable Non-Shielded - Standard Mountable	Shielded - Flush Mountable Non-Shielded - Standard Mountable	Shielded - Flush Mountable Non-Shielded - Standard Mountable	Shielded - Flush Mountable	Shielded - Flush Non-Shielded Mountable
Output State	NO - Normally Open (Stocked) NC - Normally Closed (Available) NPN or PNP	NO - Normally Open (Stocked) NC - Normally Closed (Available) NPN or PNP	NO - Normally Open (Stocked) NC - Normally Closed (Available) NPN or PNP	NO - Normally Open NPN or PNP	NO - Normally NC - Normal (Available) N
Supply Voltage	12 - 24 VDC, 24 - 240 VAC	12 - 24 VDC, 24 - 240 VAC	12 - 24 VDC	12 - 24 VDC	12 - 24 VDC
Connection	Pre-Wired or Connector Cord set style	Pre-Wired or Connector Cord set style	Pre-Wired or Connector Cord set style	Pre-Wired or Connector Cord set style	Pre-Wired or Connector C
Environment Protection Degree	IP67	IP67	IP67, IP69K	IP67	IP67
Key Accessories	M8 Cord set, M12 Cord set, Mounting brackets	M8 Cord set, M12 Cord set, Mounting brackets	M8 Cord set, M12 Cord set, Mounting brackets	M8 Cord set, M12 Cord set, Mounting brackets	M8 Cord set, Mounting bra
Popular Part Numbers	• E2E-X2D1-N • E2E-X3D1-N • E2E-X1R5E1 • E2E-X2E1	• E2E2-X3D1 • E2E2-X7D1 • E2E2-X2C1 • E2E2-X2B1	• E2A-M12S04-WP-81-2M • E2A-M12KS04-WP-C1-2M	• E2FM-X2DT • E2FM-X5DT	• E2E3-M12K • E2A3-M12K

# Proximity Sensors

Navigation

## Inductive Sensors




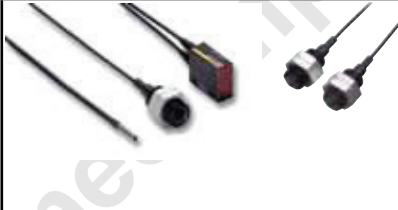




## Capacitive Sensors



Product Line	E2Q2	TL-W	E2S	E2K-F	E2K-X
Selling Tips	<ul style="list-style-type: none"> <li>Sensing face easily adjusts to one of five directions</li> <li>Easy to install and same mounting dimensions as a standard limit switch</li> <li>Plastic body with stainless steel screws</li> <li>Conduit openings 1/2"– NPT</li> </ul>	<ul style="list-style-type: none"> <li>Space saving flat pack sensor fits tight spaces</li> <li>Rugged die cast metal or plastic housing</li> <li>Mounts directly to metal base or rail</li> <li>Front and side facing sensing surface</li> </ul>	<ul style="list-style-type: none"> <li>Miniature housing with long sensing ranges</li> <li>Front and side facing sensing surfaces</li> <li>Simple mounting with one screw or bracket</li> </ul>	<ul style="list-style-type: none"> <li>Non-contact detection of metallic and non-metallic targets including water, oil, glass, plastic and wood</li> <li>Unshielded sensor has LED indicator and fixed sensitivity for simple installation</li> </ul>	<ul style="list-style-type: none"> <li>Detects both metallic and non-metallic targets (glass, lumber, plastic, etc.) with direct contact</li> <li>Fixed sensitivity for simple installation</li> <li>Operation indicator on all models</li> </ul>
Applications	Standard limit switch mounting will fit on conveyors and packaging equipment. Best replacement for limit switch applications for a non-contact solution.	Space confined installations in conveyor rails, and end of travel and home positions robotic applications.	Smallest rectangular sensor available.	Sensing non-metallic targets. Ideal for semiconductor and plastics, level controls applications.	General purpose sensor. Can be used for various targets including water, oil, glass, wood etc.
Model	DC 2-Wire; AC 2 Wire	DC 2-Wire; DC 3-Wire	DC 2-Wire; DC 3-Wire	DC 3-Wire	DC-3-Wire; AC 2
Sensing Distance	15 mm, 20 mm, 30 mm	1.5 mm, 3 mm, 5 mm, 20 mm	1.6 mm, 2.5 mm	10 mm, 4 - 10 mm	4 mm, 8 mm, 15
Housing Size	Rectangular	Rectangular	Square Surface mount	10 mm Thick, Rectangular body	M12, M18, M30 T
Housing Material	Plastic Body and Aluminum Base	ABS Plastic, Die-cast Aluminum	Polyarylate	ABS	ABS
Mounting Characteristics	Surface mount	Surface mount	Surface mount	Direct mounting onto a metallic surface	Threaded body
Output State	NPN, PNP both with 1NO + 1NC Contact	NPN, PNP Normally open or Normally Closed	NPN, PNP NO - Normally Open (Stocked) NC - Normally Closed	NPN Normally open or Normally Closed	NPN, PNP Normally open or Normally Closed
Supply Voltage	10 to 60 VDC 20 to 253 VAC	12 - 24 VDC	12 - 24 VDC	12 - 24 VDC	12 - 24 VDC, 100
Connection	1/2" Conduit opening	Pre-Wired	Pre-Wired	Pre-Wired	Pre-Wired
Environment Protection Degree	IP67	IP67	IP67	IP66	IP66
Key Accessories	N/A	N/A	Mounting Brackets	N/A	Mounting Nuts, Mounting Brackets
Popular Part Numbers	<ul style="list-style-type: none"> <li>E2Q2-N2DE3-U</li> <li>E2Q2-N2DF3-U</li> </ul>	<ul style="list-style-type: none"> <li>TL-W3MC1</li> <li>TL-W5MC1</li> </ul>	<ul style="list-style-type: none"> <li>E2S W21</li> <li>E2S-W22</li> </ul>	<ul style="list-style-type: none"> <li>E2K-F10MC1</li> <li>E2K-F10MC2</li> </ul>	<ul style="list-style-type: none"> <li>E2K-X4ME1</li> <li>E2K-X4MF1</li> </ul>

# Fiber-Optic Sensing Heads

## Navigation

Product Line	Standard Models	Special Beam Models	Environment-Resistant Models	A
<b>Application</b>	These fiber units can be used in a variety of applications, such as detecting the presence of workpieces and positioning.	A variety of fiber units incorporating the latest optical technology makes it possible to solve common problems related to detection in dusty and dirty areas, detecting small workpieces and in high vibration applications.	These fiber units for adapting to a variety of environmental conditions. These fiber units enable detection in high-temperature, splattering chemicals and vacuums.	Fi • • • • • • •
<b>Sensor Type</b>	Through-Beam, Diffused Reflective	Through-Beam, Diffused Reflective, Retro-reflective, Convergent reflective	Through-Beam, Diffused Reflective	TH
<b>Sensing Distances</b>	Standard Mode Shortest Distance 0-8 mm, Longest Distance 0-1000 mm	Standard Mode Shortest Distance 0-3 mm, Longest Distance 0-20,000 mm	Standard Mode Shortest Distance 0-40 mm, Longest Distance 0-3400 mm	St SH Lo
<b>IP Rating</b>	IP67, IP50, IP40	IP67, IP50, IP54, IP40	IP67	IP
<b>Minimum Bending Radius</b>	1 mm, 4 mm, 10 mm, 25 mm	1 mm, 4 mm, 10 mm, 25 mm	4 mm, 10 mm, 25 mm, 30 mm, 35 mm, 40 mm	1 r
<b>Material</b>				NI FI
	<b>Head</b> Nickel-Plated Brass (NPB) Stainless Steel (SUS)	Nickel-Plated Brass, Stainless Steel, Fluororesin, Aluminum	Nickel-Plated Brass, Stainless Steel, Fluororesin, Aluminum	PH
	<b>Fiber</b> PMMA (polymethylmethacrylate)	PMMA (polymethylmethacrylate), Glass	PMMA (polymethylmethacrylate), Glass, Fluororesin	PH
	<b>Sheath</b> Polyethylene Coating, PVC Coating	Polyethylene Coating, PVC Coating	Fluororesin Coating, Fluororesin, Stainless Steel, Polyethylene Coating	PH
<b>Selection</b>	Standard Models - Cylindrical	Special Beam - Long Distance	Heat Resistant	PH
<b>Appearance</b>				PH
<b>Standard Part Numbers</b>	• E32-TC200 • E32-TC200E • E32-T11N • E32-DC200 • E32-D11N • E32-DC200E • E32-CC200	• E32-T16J • E32-T17L • E32-D16	• E32-T51 • E32-T61-S • E32-T81F-S • E32-T84S-S • E32-D61-S • E32-D73-S	• •
<b>Selection</b>	Standard Model - Square	Special Beam - Miniature	Vacuum Resistant	SP
<b>Appearance</b>				SP
<b>Standard Part Numbers</b>	• E32-T15X • E32-T15Y • E32-D15X • E32-D15Y • E32-D15Z	• E32-TC-200B • E32-TC200F • E32-DC200B • E32-DC200F • E32-D21L • E32-D33	• E32-VF4 (thru-wall fitting) • E32-T15V • E32-T54V • E32-T84SV (in-chamber) • E32-T10V 2M (external)	• •

Additional fiber-optic sensing heads can be found online at [www.omron247.com](http://www.omron247.com), search E251-E-0



# Fiber-Optic Sensor Amplifiers

Navigation



Quick Link  
B334



Quick Link  
B329

Product Line	Easy-Teach Digital Amplifier	Bar Graph Display for Gain	High Function
Selection	E3X-SD, E3X-DA-SE-S	E3X-NA, E3X-NA-F	E3X-DA-S
Description	<b>E3X-DA-SE-S and E3X-SD allow easy one button setting and provide the best value performance ratio for standard applications.</b>	<b>Fiber amplifier with potentiometer adjustment.</b> The E3X-NA is the ideal amplifier for standard fiber applications providing quick & easy potentiometer adjustment and bargraph display. <b>E3X-NA□F Fast response amplifier with potentiometer</b> provides a very fast response time and is the ideal amplifier for high speed detection applications.	<b>High function timing, LED power</b> providing high performance in most challenging applications.
Features	<ul style="list-style-type: none"> <li>• Auto-teaching during machine operation</li> <li>• Object or 2-point teaching within a few seconds</li> <li>• Simple threshold adjustment with up/down keys</li> <li>• Digital double display for incident level and threshold (E3X-DA-SE-S [Quick Link B337]) or reduced size with one display (E3X-SD [Quick Link B334])</li> </ul>	<b>E3X-NA</b> [Quick Link B329] <ul style="list-style-type: none"> <li>• Easy adjustment with potentiometer</li> <li>• Mutual interference prevention</li> <li>• Enhanced water resistance types</li> </ul> <b>E3X-NA□F</b> [Quick Link B339] <ul style="list-style-type: none"> <li>• Short turn on time of only 20 μs</li> <li>• Easy adjustment with potentiometer</li> </ul>	<ul style="list-style-type: none"> <li>• Power tuning maximum, m</li> <li>• Auto power operational</li> <li>• Two outputs (e.g. object &amp; ...)</li> </ul>



Quick Link  
B326



Quick Link  
B325

Product Line	2-in-1 Digital Fiber Amplifier	Color (RGB) Digital Fiber Amplifier	Infrared Digital
Selection	E3X-MDA	E3X-DAC-S	E3X-DAH-S
Description	<b>E3X-MDA incorporates 2 digital fiber amplifiers</b> in one slimline housing. For applications requiring the detection of two objects simultaneously the E3X-MDA provides an easy to use operation saving space and set-up time.	<b>The E3X-DAC-S detects the color and returned light intensity of a mark or object</b> and compares it with a stored RGB ratio or intensity value. The RGB ratio or contrast difference allows the stable detection of differently colored, black, grey or white marks or objects.	<b>Digital fiber amplifier</b> for detection applications where visible light processing is required.
Features	<ul style="list-style-type: none"> <li>• Two digital amplifiers in one slimline housing</li> <li>• Twin output models - on/off or area (between two threshold values)</li> <li>• Signal comparison functions (AND, OR, etc.)</li> </ul>	<ul style="list-style-type: none"> <li>• White LED for color independence</li> <li>• Fast response time of min. 60 μs</li> <li>• Timer function for variable ON or OFF delay up to 5 seconds</li> <li>• Remote teaching or easy one-button teaching</li> </ul>	<ul style="list-style-type: none"> <li>• Infrared LED</li> <li>• LED power c</li> </ul>

# Photoelectric Sensors

Navigation



Product Line	General Purpose	Stainless Steel Housing	Laser Sensor	Oil Resistant
	E3Z	E3ZM	E3Z-LASER	E3ZM-C
Selling Tips	<ul style="list-style-type: none"> <li>The E3Z product line is among the world's most popular photoelectric sensor</li> <li>The E3Z series has a compact size allowing the sensor to fit in most applications</li> <li>Built in noise immunity allows the E3Z series to be used in circuit with inverters and other inductive loads</li> <li>Advanced high power LED allows use in brightly lit manufacturing applications</li> </ul>	<ul style="list-style-type: none"> <li>Rugged, detergent-resistant stainless steel housing for harsh environments</li> <li>Compact housing size and high power LED for excellent long life performance</li> <li>ECOLAB tested and certified for applications that require a wash down and scrub down cleaning</li> <li>Designed for high temperature and high pressure jet water spray cleaning</li> </ul>	<ul style="list-style-type: none"> <li>Compact plastic housing fits in most applications</li> <li>Class 2 LASER (FDA)</li> <li>Visible LASER light for easy installation, accurate positioning, small object detection and long range precision</li> <li>Precise background suppression and low black/white error for accurate detection</li> </ul>	<ul style="list-style-type: none"> <li>Oil and coolant resistant stainless steel housing in mechanically demanding environments</li> <li>High visibility orange through-beam model for alignment</li> <li>Sensors unaffected by oil</li> </ul>
Applications	<ul style="list-style-type: none"> <li>General purpose sensing; including long detection distance, noise immunity and transparent film or object</li> <li>Conveyors and distribution facilities</li> <li>Filling and packaging machines</li> <li>Product inspection from glass and plastic bottles to color and mark detection</li> </ul>	<ul style="list-style-type: none"> <li>Meat, poultry and fish processing</li> <li>Food packing plants</li> <li>Packaging applications</li> <li>General purpose sensing where rugged product can damage equipment</li> </ul>	<ul style="list-style-type: none"> <li>Jam prevention conveying at high speeds</li> <li>Precise positioning of product</li> <li>Detection of damage or worn equipment like drill bits or saw blades</li> <li>Textile mills and sheet good sensing (Start, end of roll and Mark detection along the way)</li> </ul>	<ul style="list-style-type: none"> <li>Machining and tool monitoring</li> <li>Automotive assembly</li> <li>Cleaning parts with high pressure water</li> <li>Applying grease to manufactured parts</li> </ul>
Housing Material	PBT (polybutylene terephthalate)	SUS316L (Stainless Steel 316)	PBT (polybutylene terephthalate)	SUS316L (Stainless Steel 316)
Through-Beam Sensing Range	10 m, 15 m, 30 m	15 m	60 m	15 m, 20 m
Retro-Reflective Sensing Range	5 m	4 m	15 m	4 m
Diffuse-Reflective Sensing Range	1 m	1 m	-	1 m
Power Supply Voltage	12 - 24 VDC	12 - 24 VDC	12 - 24 VDC	12 - 24 VDC
Light Source	Infrared LED, RED LED	Infrared LED, RED LED	Red LED FDA Class II	Infrared, Orange LED
Connection Method	Pre-Wired, Cable Connector style M8 4-pin, M8 3-pin, M12	Pre-Wired, Cable Connector style M8 4-pin, M8 3-pin, M12	Pre-Wired, Cable Connector style M8 4-pin, M8 3-pin, M12	Pre-Wired, Cable Connector style M8 4-pin, M12
Environment Protection	IP67	IP69	IP67	IP67 and IP69
Response Time	Operation or Reset 1ms max	Operation or Reset 1ms max	Operation or Reset 1ms max	Operation or Reset 1ms max
Popular Part Numbers	<ul style="list-style-type: none"> <li>E3Z-T66 • E3Z-T86 • E3Z-R65</li> <li>E3Z-R86 • E3Z-D62-M5J</li> <li>E3Z-D82-M5J</li> </ul>	<ul style="list-style-type: none"> <li>E3ZM-T66 • E3ZM-T86 • E3ZM-R66</li> <li>E3ZM-R86 • E3ZM-D67</li> <li>E3ZM-D87</li> </ul>	<ul style="list-style-type: none"> <li>E3Z-LT66 • E3Z-LT86 • E3Z-LR66</li> <li>E3Z-LR86 • E3Z-LL66 • E3Z-LL86</li> </ul>	<ul style="list-style-type: none"> <li>E3ZM-CT66 • E3ZM-CT86</li> <li>E3ZM-CR66 • E3ZM-CR86</li> <li>E3ZM-CD67 • E3ZM-CD87</li> </ul>
Accessories	Mounting Bracket, Adjustable Arm, Cable Connectors	Mounting Bracket, Cable Connector	Mounting Bracket, Adjustable Arm, Cable connector	Mounting Bracket, Adjustable Arm, Cable Connector

# Photoelectric Sensors

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Product Line	Transparent Object Detection E3Z-B	M18 Threaded Body E3F2	Easy mount M18 Housing E3FZ	Miniature Plastic housing E3T
Selling Tips	<ul style="list-style-type: none"> <li>Utilizes OMRON'S unique optical system ("Inner View") to detect various shapes of PET bottles and transparent objects</li> <li>Detects a wide range of bottles from single bottles to sets of stocked bottles</li> <li>Easy adjustment for detailed setup by potentiometer</li> </ul>	<ul style="list-style-type: none"> <li>High ambient light immunity can be used in bright light applications</li> <li>Easy installation with M18 threaded cylindrical body installs in standard sensor locations</li> <li>ECOLAB tested and certified for applications that require a wash down and scrub down cleaning</li> </ul>	<ul style="list-style-type: none"> <li>Easy Mounting photoelectric sensor to reduce installation cost</li> <li>High power LED for enhanced sensing distance</li> <li>Secure Click snap mounting for fast installation and reduced installation cost</li> </ul>	<ul style="list-style-type: none"> <li>Small size with precision pin space is crucial</li> <li>3.5 mm thick flat model with background suppression and black/white error</li> <li>Unique optical alignment technique minimal deviation of sensing</li> <li>High ambient light immunity floor applications</li> </ul>
Applications	<ul style="list-style-type: none"> <li>Plastic Bottle conveying</li> <li>Conveying and packaging PET plastic bottle</li> <li>Food and beverage packaging</li> </ul>	<ul style="list-style-type: none"> <li>General purpose sensing: including long detection distance, noise immunity and transparent film or object</li> <li>Conveyors and distribution facilities</li> <li>Filling and packaging machines</li> <li>Product inspection</li> </ul>	<ul style="list-style-type: none"> <li>Food and beverage packaging</li> <li>Filling and milling machines</li> <li>Quick change over applications to new materials or application setup</li> </ul>	<ul style="list-style-type: none"> <li>Sorting machines</li> <li>Applications where machine</li> <li>Sensing through small slits</li> <li>Electronic component sensing</li> </ul>
Housing Material	PBT (polybutylene terephthalate)	PBT (polybutylene terephthalate), NPB (Nickel Plated Brass), SUS (Stainless Steel)	PBT (polybutylene terephthalate)	PBT (polybutylene terephthalate)
Through-Beam Sensing Range	-	7 m	15 m	1 m
Retro-Reflective Sensing Range	500 mm, 2 m	4 m	4 m	200 mm
Diffuse-Reflective Sensing Range	-	1 m	1 m	30 mm
Power Supply Voltage	12 - 24 VDC	24 - 240 VAC, 10 - 30 VDC	10 - 30 VDC	12 - 24 VDC
Light Source	Red LED	Infrared LED, RED LED	Infrared LED, RED LED	Red LED
Connection Method	Pre-Wired, Cable Connector style M8 4-pin	Pre-Wired, M12 Connector	Pre-Wired, Cable Connector style M8 4-pin, M8 3-pin, M12	Pre-Wired
Environment Protection	IP67, IP69	IP67, IP69	IP67	IP67
Response Time	Shorter than 2.5ms	Operation or Reset 1ms max	Operation or Reset 1ms max	Operation or Reset 1ms max
Popular Part Numbers	<ul style="list-style-type: none"> <li>E3Z-B86 • E3Z-B66 • E3Z-B67</li> <li>E3Z-B87</li> </ul>	<ul style="list-style-type: none"> <li>E3F2-7C4 • E3F2-7B4</li> <li>E3F2-DS10C4-N • E3F2-DS10B4-N</li> </ul>	<ul style="list-style-type: none"> <li>E3FZ-D67 • E3FZ-D87</li> <li>E3FZ-T66H • E3FZ-T68H</li> <li>E3FZ-T61H • E3FZ-T81H</li> </ul>	<ul style="list-style-type: none"> <li>E3T-ST11 • E3T-ST12 • E3T-F</li> <li>E3TSL11 • E3T-SL21 • E3T-SR</li> </ul>
Accessories	Mounting Bracket, Adjustable Arm, Cable Connector	Mounting Brackets, Mounting Nuts, Cable Connector	Mounting Brackets, Mounting Nuts, Cable Connector	Mounting Brackets

# Photomicrosensors

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Product Line	EE-SX91	EE-SX77/87	EE-SX47/67	EE-SPX74/84	EE-SPX-W2A	EE-SX...
Selling Tips	<ul style="list-style-type: none"> <li>• 5 models</li> <li>• Visible indicator from many directions</li> <li>• Mount using M2 or M3 Screws</li> <li>• Robot Cable standard</li> </ul>	<ul style="list-style-type: none"> <li>• Compact size</li> <li>• Indicator visible from both sides</li> <li>• M3 mounting holes and slotted mounting holes for easy adjustment</li> </ul>	<ul style="list-style-type: none"> <li>• Visible indicator from many directions</li> <li>• Response frequency as high as 1kHz</li> <li>• Robot Cable standard on pre-wired models</li> </ul>	<ul style="list-style-type: none"> <li>• 4 models</li> <li>• Connectors with locks for vibration applications</li> <li>• Mount with M3 screws</li> </ul>	<ul style="list-style-type: none"> <li>• 4 models</li> <li>• Light modulation to reduce external light interference</li> <li>• Bright Light Indicator</li> </ul>	<ul style="list-style-type: none"> <li>• Wide...</li> <li>• Resi...</li> <li>• com...</li> </ul>
Housing Material	Polybutylene phthalate (PBT) (Case/Cover) Polycarbonate (PC) (Emitter/receiver)	Polybutylene phthalate (PBT)	Polybutylene phthalate (PBT) (Case/Cover) Polycarbonate (PC) (Emitter/receiver)	Polycarbonate (PC)	Polycarbonate (PC)	Polyc...
Sensing Distance	5 mm slot width	5 mm slot width	5 mm slot width	3.6 or 5 mm slot width	3.6 or 5 mm slot width	13 mm
Output Type	NPN, PNP	NPN, PNP	NPN, PNP	NPN	NPN	NPN
Output Configuration	Light-On or Dark-On	Light-On or Dark-On	Light-On/Dark-On (selectable)	Light-On or Dark-On	Light-On or Dark-On	Light-
Supply Voltage	5 - 24 VDC	5 - 24 VDC	5 - 24 VDC	5 - 24 VDC	5 - 24 VDC	12 - 2
Connection Type	<ul style="list-style-type: none"> <li>• Pre-wired (4 wire cable) (1 m std length)</li> </ul>	<ul style="list-style-type: none"> <li>• Pre-Wired (3 wire cable) (2 m std length)</li> </ul>	<ul style="list-style-type: none"> <li>• 4 wire cable (1 m std length)</li> <li>• Solder Connector</li> <li>• Connector with 1 m Cable</li> </ul>	<ul style="list-style-type: none"> <li>• Special Connector (EE-1013 with 1 m cable)</li> </ul>	<ul style="list-style-type: none"> <li>• Pre-wired (3 wire cable) (1 m std length)</li> </ul>	<ul style="list-style-type: none"> <li>• Con...</li> <li>• star...</li> <li>• Con...</li> <li>• robo...</li> <li>• NPN...</li> <li>• Con...</li> </ul>
Catalog Numbers	<ul style="list-style-type: none"> <li>• EE-SX911-R</li> <li>• EE-SX911P-R</li> <li>• EE-SX912-R</li> <li>• EE-SX912P-R</li> </ul>	<ul style="list-style-type: none"> <li>• EE-SX770</li> <li>• EE-SX770P</li> <li>• EE-SX771</li> <li>• EE-SX771P</li> </ul>	<ul style="list-style-type: none"> <li>• EE-SX670</li> <li>• EE-SX670P</li> <li>• EE-SX671</li> <li>• EE-SX671P</li> </ul>	<ul style="list-style-type: none"> <li>• EE-SPX740</li> <li>• EE-SPX742</li> <li>• EE-SPX743</li> <li>• EE-SPX741</li> </ul>	<ul style="list-style-type: none"> <li>• EE-SPX302-W2A</li> <li>• EE-SPX402-W2A</li> </ul>	<ul style="list-style-type: none"> <li>• EE-S...</li> <li>• EE-S...</li> </ul>

# Photomicrosensors

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Product Line	EE-SY671/672	EE-SPX301/401 EE-SPY301/401	EE-SPW311/411	EE-SPW321/421	EE-SPX613	EE-S
Selling Tips	<ul style="list-style-type: none"> <li>Built in sensitivity adjustment</li> <li>Built-in amplifier with 100 mA capacity</li> <li>Bright indicator light</li> </ul>	<ul style="list-style-type: none"> <li>Light Modulation, sensor not affected by external light</li> <li>Optical Axis mark for easy adjustment</li> </ul>	<ul style="list-style-type: none"> <li>Through Beam</li> <li>Easy-to wire connector</li> <li>Bright indicator light</li> </ul>	<ul style="list-style-type: none"> <li>Cable mounted amplifier for space savings mounting</li> <li>Through beam</li> <li>Both sensor head and amplifier have indicating lights</li> </ul>	<ul style="list-style-type: none"> <li>Can mount on 6 mm to 13 mm diameter pipe</li> <li>Liquid level indicator</li> <li>Built-in sensitivity selector</li> </ul>	<ul style="list-style-type: none"> <li>Retr</li> <li>Pho</li> <li>with</li> <li>Sup</li> <li>with</li> </ul>
Housing Material	Polybutylene phthalate (PBT) (Case) Polycarbonate (PC) (Emitter/receiver)	Polycarbonate (PC)	Polybutylene phthalate (PBT) (Case) Polycarbonate (PC) (Lens)	ABS Resin (case) Acrylic Resin (lens)	Polycarbonate (PC)	Polyc
Sensing Distance	1 to 5 mm	3 - 6 mm slot width or 5 mm distance	1 m through beam	300 mm slot width	6-13 mm dia. pipe	200 m
Output Type	NPN	NPN	NPN	NPN	NPN	NPN
Output Configuration	Light-On or Dark-On (Selectable)	Light-On or Dark-On	Light-On or Dark-On	Light-On or Dark-On	Light-On or Dark-On (Selectable)	Light
Supply Voltage	5 - 24 VDC	5 - 24 VDC	5 - 24 VDC	12 - 24 VDC	12 - 24 VDC	5 - 24
Connection Type	<ul style="list-style-type: none"> <li>Connector only</li> <li>Connector with cable</li> <li>Connector with robot cable</li> </ul>	<ul style="list-style-type: none"> <li>Connector only</li> <li>Connector with cable</li> <li>NPN to PNP converter</li> </ul>	<ul style="list-style-type: none"> <li>Connector with 2 m cable</li> </ul>	<ul style="list-style-type: none"> <li>Pre-wired 2 m cable</li> </ul>	<ul style="list-style-type: none"> <li>Pre-wired 1 m cable</li> </ul>	<ul style="list-style-type: none"> <li>Con</li> <li>Con</li> <li>NPN</li> </ul>
Catalog Numbers	<ul style="list-style-type: none"> <li>EE-SY671</li> <li>EE-SY672</li> </ul>	<ul style="list-style-type: none"> <li>EE-SPX301</li> <li>EE-SPX401</li> <li>EE-SPY301</li> <li>EE-SPY401</li> </ul>	<ul style="list-style-type: none"> <li>EE-SPW311</li> <li>EE-SPW411</li> </ul>	<ul style="list-style-type: none"> <li>EE-SPW321</li> <li>EE-SPW321-A</li> <li>EE-SPW421</li> <li>EE-SPW421-A</li> </ul>	<ul style="list-style-type: none"> <li>EE-SPX613</li> </ul>	<ul style="list-style-type: none"> <li>EE-S</li> <li>EE-S</li> </ul>

# Power Supplies

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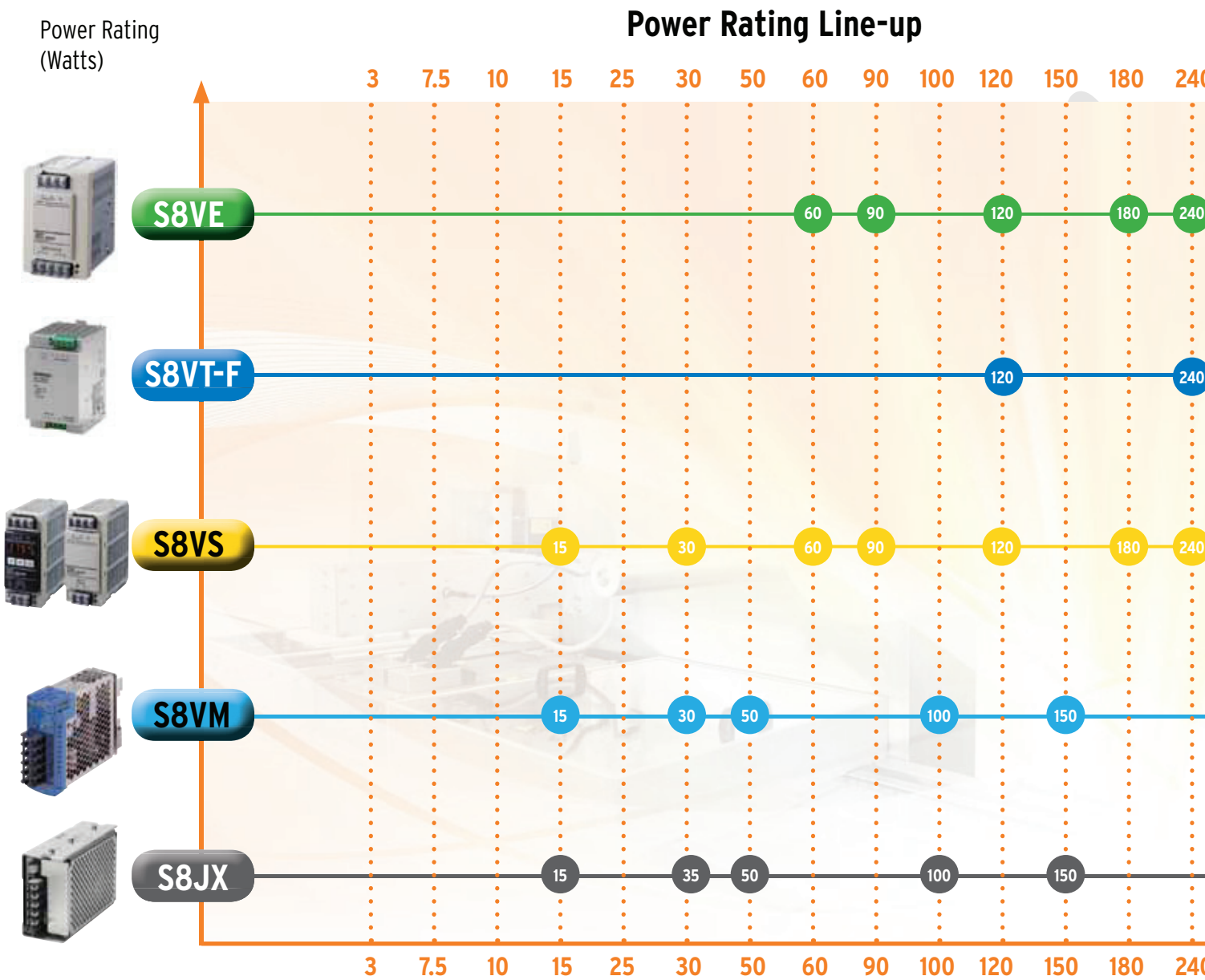
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Product Line	S8VE	S8VS	S8VM	S8JX
<b>Description</b>	Compact power supply without indication monitor	Compact power supplies with Smart Display models	Compact power supplies with dual undervoltage detection models	Cost effective power supply with multiple mounting options
<b>Selling Tips</b>	<ul style="list-style-type: none"> <li>All models maintain constant output even with 10% input voltage sag (SEMI F47-0200)</li> <li>3 year warranty</li> <li>Functionality equal to S82K power supplies. Need to review product specifications before selecting product</li> <li>Overload protection shuts down PS automatically if the outputs are shorted or if there is excessive current flow in the output</li> <li>Overvoltage Protection protects the power supply if there is an increase in the output voltage</li> </ul>	<ul style="list-style-type: none"> <li>Smart Display types show power supply lifetime or connected load time for quick diagnostics and increased equipment uptime</li> <li>Built-in functionality of a multimeter in the power supply: display shows output voltage, current, peak current</li> <li>UL Class 2 Output Models available, ideal for low noise applications</li> <li>Overvoltage, overload, and power factor correction standard</li> <li>All models maintain constant output even with 10% input voltage sag (SEMI F47-0200)</li> <li>3 year warranty</li> </ul>	<ul style="list-style-type: none"> <li>Dual undervoltage detection types help distinguish between input, load, and age related failure</li> <li>Wide 15 to 1500 W power range</li> <li>300-1500 W models feature Power Failure Alarm providing notification of output voltage errors</li> <li>UL Class I Division II approval</li> <li>Overvoltage, overload, and power factor correction standard</li> <li>All models have uniform height and maintain constant output even with 10% input voltage sag (SEMI F47-0200)</li> <li>3 year warranty</li> </ul>	<ul style="list-style-type: none"> <li>Multiple options for panel flexibility with DIN, front or side mounting</li> <li>Wide variety of output voltages: 12, 15, 24, and 48 VDC</li> <li>Select models accept input voltage of 80-370 VDC</li> <li>Overvoltage and overload protection standard</li> <li>Connect up to 5 units in parallel for 300 W or 600 W models</li> <li>All models maintain constant output even with 10% input voltage sag (SEMI F47-0200)</li> <li>2 year warranty</li> </ul>
<b>Application</b>	Electrical Panels, Plastic Injection Molding Machines, Blow Molding Machines, Packing and Sealing Machines	Electrical Panels, Plastic Injection Molding Machines, Blow Molding Machines, Packing and Sealing Machines	Electrical Panels, Plastic Injection Molding Machines, Blow Molding Machines, Packing and Sealing Machines	Electrical Panels, Plastic Injection Molding Machines, Blow Molding Machines, Packing and Sealing Machines
<b>Wattage</b>	60, 90, 120, 180, and 240	15, 30, 60, 90, 120, 180, 240, and 480	15, 30, 50, 100, 150, 300, 600, and 1500	15, 35, 50, 100, 150, 300, and 600
<b>Input Voltage Full Range</b>	100 to 240 VAC	85 to 264 VAC 80 to 370 VDC (-BE models)	85 to 264 VAC	85 to 264 VAC 80 to 370 VDC
<b>Output Voltage</b>	24 VDC	5, 12, and 24 VDC	5, 12, 15, and 24 VDC	5, 12, 15, 24, and 48 VDC
<b>Series Operation</b>	Connect 2 units	Connect 2 units	Connect 2 units	Connect 2 units
<b>Enclosure</b>	Covered	Covered	Open frame and covered	Open frame and covered
<b>Terminal Block Form</b>	Screw and cage clamp terminals	Screw and cage clamp terminals	Screw terminals	Screw terminals
<b>Mounting</b>	DIN	DIN, front, and side	DIN, front, and bottom	DIN, front, bottom, and side
<b>Approvals</b>	cULus Listed, cULus Recognized, VDE, and CE	cULus Listed, cULus Recognized, VDE, and CE	cULus Listed, cULus Recognized, TUV, and CE	cULus Listed, cULus Recognized, VDE, and CE
<b>Popular Part Numbers</b>	S8VE-06024, S8VE-12024	S8VS-06024, S8VS-12024	S8VM-05024CD, S8VM-03024CD	S8JX-G05012CD, S8JX-G05015CD

# Power Supplies

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# Temperature Controllers

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Product Line	E5C2 (1/16 DIN Plug-in)	E5CSV (1/16 DIN)	E5GN (1/32 DIN)	E5CN and E5CN-U Plug-in (1/16 DIN)
<b>Selling Tips</b>	<ul style="list-style-type: none"> <li>Analog dial allows user to easily select desired temperature range</li> <li>Socket mounting assists in quick wiring</li> <li>On/Off or PD models allows controller to be used in a variety of applications</li> <li>Dual scaling (C or F) allows user to select</li> <li>Large MRO customer installed base</li> </ul>	<ul style="list-style-type: none"> <li>Strong functionality and ease of use at a competitive price</li> <li>Deviation indicator illuminates when temperature goes above or below set point</li> <li>Quickly set controller functions using DIP and Selector switches</li> <li>Next generation for widely installed E5CSX</li> </ul>	<ul style="list-style-type: none"> <li>Compact size saves panel space</li> <li>Same functions and performance as different 1/4, 1/8 and 1/16 DIN E5_N controllers</li> <li>PID or On/Off control programmable</li> <li>Parameters can be configured using CX-Thermo</li> </ul>	<ul style="list-style-type: none"> <li>Omron's most popular selling micro-pro based 1/16 DIN temperature controller</li> <li>Can replace existing E5_K controllers due to upgraded processing capabilities</li> <li>3-color-switching display allows users to identify controller status from a distance</li> <li>Parameters can be configured using CX-Thermo</li> </ul>
<b>Typical Application</b>	Lab Equipment, Medical/Clinical Equipment, Environmental Equipment, Plastic Extrusion Equipment, Blow Molding Equipment, Industrial Ovens/Furnaces, Textile Mfg. Equipment, Food & Beverage Equipment, Packaging Equipment, Boilers			
<b>Supply Voltage</b>	100-120 VAC or 200-240 VAC, 50/60 Hz	100-240 VAC, 24 VAC/DC	100-240 VAC, 24 VAC/DC	100-240 VAC, 24 VAC/DC
<b>Input Types</b>	Thermocouple: J, K, Platinum RTD, Thermistor	Thermocouple: K, J, L, RTD: JPt100, Pt100, Multi-input: K, J, L, T, U, N, R, JPt100, Pt100	Thermocouple: K, J, T, E, L, U, N, R, S, B, W, or PLII, RTD: JPt100, Pt100, Infrared TS, Analog Input models: Current: 4 to 20mA or 0 to 20mA, Voltage: 1 to 5 VDC, 0 to 5 VDC, or 0 to 10 VDC	Thermocouple: K, J, T, E, L, U, N, R, S, B, W, or PLII, RTD: JPt100, Pt100, Infrared TS, Analog Input models: Current: 4 to 20mA or 0 to 20mA, Voltage: 1 to 5 VDC, 0 to 5 VDC, or 0 to 10 VDC
<b>Output Types</b>	Relay (SPDT, 3A @250 VAC) Voltage: (5 VDC @ 10 mA)	Relay: (SPST-NO, 3A @ 250 VAC), Voltage: (12 VDC @ 21 mA)	Relay: (SPST-NO, 2A @ 250 VAC), Voltage: (12 VDC @ 21 mA), Current: (4 to 20 mA or 0 to 20 mA)	Relay: E5CN: (SPST-NO, 3A @ 250 VAC), E5CN-U: (SPST-NO, 3A @ 250 VAC), Voltage: (12VDC @ 21mA), Current: (4 to 20 mA or 0 to 20 mA), Long Life E5CN: (SPST-NO, 3 A @ 250 VAC)
<b>Control</b>	On/Off, PD (separate models)	On/Off, 2-PID (with auto-tuning)	On/Off, 2-PID (with auto-tuning)	On/Off, 2-PID (with auto-tuning)
<b>Accuracy</b>	TC/RTD ( $\pm 2\%$ )	TC/RTD ( $\pm 0.5\%$ of indicated value or $\pm 1^\circ\text{C}$ , whichever is greater) $\pm 1$ digit max.	TC ( $\pm 0.3\%$ of indicated value), RTD ( $\pm 0.2\%$ of indicated value), Analog ( $\pm 0.2\%$ FS $\pm 1$ digit max.)	TC Term. Block: ( $\pm 0.3\%$ of indicated), Plug-in: ( $\pm 1\%$ of indicated value), RTD ( $\pm 0.2\%$ of indicated value), Analog ( $\pm 0.2\%$ FS $\pm 1$ digit max.)
<b>Sampling Rate</b>	20 s	500 ms	250 ms	250 ms
<b>Display</b>	Analog dial	4 digit; 7 segment, 13.5 mm height; 1 row	4 digit; 11 segment, PV: 7.5 mm height, SV: 3.6 mm height; 1 row	4 digit; 11 segment; PV: 11 mm height, SV: 6.1 mm height; 2 row
<b>Set-up Software (CX-Thermo)</b>	No	No	Yes	Yes
<b>Heater Burnout</b>	No	No	Yes	Yes
<b>Communications Available</b>	No	No	RS-232, RS-485 and USB (E58-CIF01), Protocol: CompoWay/F, SYSWAY, Modbus RTU	RS-232, RS-485 and USB (E58-CIF01), Protocol: CompoWay/F, SYSWAY, Modbus RTU
<b>Program Capacity (Ramp/Soak)</b>	No	No	No	No
<b>IP Rating (Front Cover)</b>	NEMA 4 rating only if Y92A-48B is used	NEMA 4X/IP66	NEMA 4X / IP66	NEMA 4X/IP66
<b>Approvals</b>	UL, CSA, SEV	UL, CSA	UL, CSA, CE	cULus, CE



# Temperature Controllers

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	Multi Loop Rack Mount Process/Temperature Controller		Multi Loop Panel
Product Line	EJ1	E5ZN	ESAR (1/4 DIN) and ESER (1/8 DIN)
<b>Selling Tips</b>	<ul style="list-style-type: none"> <li>For in-panel multiple loop temperature and process control for up to 256 loops</li> <li>Accepts 17 different input types</li> <li>Flexibility with easy communication with PLC. Programmable with CX-Thermal</li> <li>PID or On/Off control programmable</li> <li>Event inputs, Remote Setpoint, Transfer output</li> </ul>	<ul style="list-style-type: none"> <li>Can combine 16 units for 32 temperature loops</li> <li>Socket mountable</li> <li>Controller can be removed from socket during applications making it "Hot Swappable"</li> <li>Controllers and sockets can be ganged together</li> <li>Units can be programmed via setting display unit or via HMI using RS-485 and RS-232 communications.</li> </ul>	<ul style="list-style-type: none"> <li>50 ms sampling period allows controller to be used in applications requiring high-speed response</li> <li>Bar graph shows MV (manipulated variable), valve opening or deviation</li> <li>Calculation function allows controller to be used in applications where square root calculation and broken-line approximation is needed</li> <li>Available with RS-485 or DeviceNet communication</li> </ul>
<b>Typical Application</b>	Plastic Extrusion Equipment, Blow Molding Equipment, Industrial Ovens/Furnaces, Textile Mfg. Equipment, Food & Beverage Processing Equipment, Hot Runner Plastic Injection Equipment, Packaging Equipment		
<b>Product Type</b>	Multi Loop Rack Mount Process/Temperature Controller	Multi Loop Rack Mount Process/Temperature Controller	Multi Loop Panel Mount Process/Temperature Controller
<b>Supply Voltage</b>	24 VDC	24 VDC	100 to 240 VAC , 24 VAC, 24 VDC
<b>Input Types</b>	Thermocouple: K, J, T, E, L, U, N, R, S, B, W, or PL II, RTD: JPt100, Pt100, Current: 4 to 20mA or 0 to 20mA, Voltage: 1 to 5V, 0 to 5V, or 0 to 10V, Infrared TS	Voltage: (12 VDC @ 21 mA), Transistor: (30 VDC @ 100 mA), Current: 4 to 20 mA or 0 to 20 mA	Thermocouple: K,J,T,E,L,U,N,R S, B, W: Platinum resistance thermometer: Pt100; Current input: 4 to 20 mA DC, 0 to 20 mA DC
<b>Output Types</b>	Voltage: (12 VDC @ 21 mA), Transistor: (30 VDC @ 100 mA), Current: (4 to 20 mA or 0 to 20 mA)	Volt: 12 VDC, Transistor: 30 VDC , max load current: 100 mA, residual Voltage: 1.5V	Voltage (pulse) output: 12 VDC, 40 mA max. with short-circuit protection circuit; Current output: 0 to 20 mA DC, 4 to 20 mA DC; Relay output: Position proportional control type (open, closed) N.O. 250 VAC, 1 A (including inrush current)
<b>Control</b>	On/Off, 2-PID (with auto-tuning)	On/Off, 2-PID (with auto-tuning)	On/Off, 2-PID
<b>Accuracy</b>	TC/RTD ( $\pm 0.5\%$ of indicated value , Analog $\pm 0.5\%$ FS $\pm 1$ digit max.	TC ( $\pm 0.5\%$ of indicated value or $\pm 1^\circ$ C, whichever is greater) $\pm 1$ digit max. RTD ( $\pm 0.5\%$ of indicated value or $\pm 0.5^\circ$ C, whichever is greater) $\pm 1$ digit max., Analog $\pm 0.5\%$ FS $\pm 1$ digit max.	TC with cold junction compensation: $\pm 1\%$ PV or $\pm 1$ degree C (whichever is greater) $\pm 1$ digit max.; Analog input $\pm 0.1\%$ FS $\pm 1$ digit max., Position-proportional potentiometer input: $\pm 5\%$ FS $\pm 1$ digit max.
<b>Sampling Rate</b>	250 ms	500 ms	50 ms
<b>Display</b>	N/A	Optional 1/16 DIN setting display unit	7 segment
<b>Set-up Software (CX- Thermo)</b>	Yes	Yes	Yes
<b>Heater Burnout</b>	Yes	Yes	Yes
<b>Communications Available</b>	RS-232C, RS-422, RS-485 (CompoWay/F, Modbus)	RS-485 (CompoWay/F and/or DeviceNet)	RS-485 serial communication with Modbus or CompoWay/F
<b>Program Capacity (Ramp/Soak)</b>	No	No	RS-485 and DeviceNet
<b>IP Rating (Front Cover)</b>	N/A	N/A	NEMA 4X/IP66
<b>Approvals</b>	CE, RU	CE, RU	CE, cRUus

# Industrial Timers

Navigation



Quick Link  
T322



Quick Link  
T325



Quick Link  
T323

Product Line	H5CX-N	H3CA	H3CR
<b>Selling Tips</b>	<ul style="list-style-type: none"> <li>Digital timer with select models having 15 operating modes covering a wide variety of applications</li> <li>Wide viewing angle and 10-12 mm high character height allow for easy viewing of Present Value</li> <li>Present Value display comes in red, orange, and green colors and can be programmed to change color when a key condition is met</li> <li>Ultra short body depth of 59 mm for screw terminal 24 VAC types great for space constrained panels</li> <li>Universal NPN/PNP input</li> </ul>	<ul style="list-style-type: none"> <li>Digital timer with select models having 8 operating modes and supply voltage of 24-240 VAC/12-240 VDC ideal for managing a wide variety of applications</li> <li>LCD display features a bar graph showing percentage of time remaining plus output status</li> <li>Reliable operation having repeat accuracy of + or - 0.3% of range, + or - 0.05 seconds</li> <li>Time range of 0.1 second to 9,990 hours</li> </ul>	<ul style="list-style-type: none"> <li>Multi-function analog timer with select models having 6 operating modes covering a wide variety of applications</li> <li>Manage two circuits and up to 5 A current at 250 VAC with DPDT output models</li> <li>Short panel mounting depth of 80mm with socket allows for space efficient control panel design (H3CR-A, H3CR-F)</li> <li>Time ranges are easily changed with front panel field selectable settings</li> <li>Choice of no-voltage NPN or voltage input PNP models</li> </ul>
<b>Model Types</b>	Multi-mode H5CX-A (15 modes), Multi-mode H5CX-L (6 modes), Signal ON-delay Cumulative H5CX-B	Multi-mode H3CA-A (8 modes) Multi-mode H3CA-FA (8 modes), ON-delay H3CA-8, H3CA-8H	Multi-mode H3CR-A (2-6 modes), Twin H3CR-F, Star-Delta H3CR-G, Power OFF-delay H3CR-H
<b>Operating Functions For Multi-Mode Timer Models</b>	Signal ON-delay I, Signal ON-delay II, Power ON-delay I, Power Delay II, Repeat cycle I, Repeat Cycle II, Signal OFF-delay, Interval, Cumulative, ON/OFF duty, Stopwatch, Flicker OFF Start I, Flicker ON Start I, Flicker OFF Start II, Flicker ON Start II	ON-delay, Repeat cycle, Signal Interval/OFF-delay, Signal ON/OFF-delay, Signal OFF-delay I, Signal OFF-delay II, Interval, and Cycle	ON-delay, Flicker OFF Start, Flicker ON Start, Signal ON/OFF-delay, Signal OFF-delay, Interval, Signal ON/OFF-delay, One-shot
<b>Size (H x W in mm)</b>	48 x 48 (1/16 DIN)	H3CA-A: 48x48; H3CA-FA: 75x48	48 x 48 (1/16 DIN)
<b>Control Outputs</b>	Relay SPDT, 5 A at 250 VAC Transistor NPN, 100 mA at 30 VDC	Relay SPDT/DPDT, 3 A at 250 VAC Minimum Load 10 mA at 5 VDC	Relay SPDT/DPDT, 5 A at 250 VAC (SPST-NO for Star-Delta) Transistor NPN/PNP, 100 mA at 30 VDC (H3CR-A)
<b>Timing Range</b>	0.001 s to 9999 h	0.1 s to 9,990 h	0.1s to 600h ( H3CRA-A-301 model)
<b>Mounting</b>	Panel and Socket	DIN, Panel, and Socket	Panel and Socket
<b>Popular Part Number</b>	H5CX-AD-N AC24/DC12-24 H5CX-A-N AC100-240	H3CA-A, H3CA-8-AC100/110/120	H3CR-A8 AC100-240/DC100-125 H3CR-A AC100-240/DC100-125

# Industrial Counters

## Navigation



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T422



Quick Link  
T427



Quick Link  
T423

Product Line	H7CX-N	H7BX	H7EC Count Totalizer
<b>Selling Tips</b>	<ul style="list-style-type: none"> <li>Multi-function digital counter with select models having 7 counting modes for managing a variety of tasks</li> <li>Wide viewing angle and 10-12 mm high character height allow for easy viewing of Present Value</li> <li>Present Value display comes in red, orange, and green colors and can be programmed to change color when a key condition is met</li> <li>Set value limit key allows user to stop counting once set value is met helpful in preventing overflow</li> <li>59 mm body depth for screw terminal 12-24 VDC types ideal for space constrained panels</li> </ul>	<ul style="list-style-type: none"> <li>Multi-function digital counter with select models having 6 counting modes for managing a variety of tasks</li> <li>Easy to read display with 13.5 mm Present Value and 9 mm character height for Set Value</li> <li>Present Value display comes in red or green colors and can be programmed to change color when a key condition is met</li> <li>Counter display settings are easily retrieved during power outage thanks to EEPROM memory backup feature</li> <li>Counting methods include up, down, and 3 forms of up/down</li> </ul>	<ul style="list-style-type: none"> <li>Battery operated models eliminate need for using power supply</li> <li>Compact 1/32 DIN size ideal for use in tight spaces</li> <li>Backlit models available ideal for reading display in poorly lit environments</li> <li>Easily change input speed by using switch select models with choice of 30 Hz or 1 kHz</li> <li>Convenient choice of count input with PNP/NPN, AC/DC multi-voltage, or no voltage input</li> <li>Front panel has NEMA 4 and IP66 protection rating</li> </ul>
<b>Display Type</b>	4 or 6 digit 7-segment negative transmissive LCD Character height 12 mm 4 digit type Character height 10 mm 6 digit type	6 digit 7-segment negative transmissive LCD Character height 13.5 mm Set Value character height 9 mm	8 digit LCD Character height 8.6mm Backlight models available
<b>Model Type</b>	Multi-mode H7CX-A4W, Total and preset counter H7CX-A/A11/A4, Tachometer 1-stage H7CX-R, Tachometer 2-stage H7CX-AU/AW	Multi-mode H7BX-AW, Total and preset counter H7BX-A/AD1	PNP/NPN input H7EC-NV, AC/DC input H7EC-NFV, No voltage input H7EC-N
<b>Counting functions</b>	1-stage preset, 2-stage, preset, Total and preset, Batch, Dual, Twin, Tachometer	1-stage preset, 2-stage, preset, Total and preset, Batch, Dual, Tachometer	Total
<b>Size (H x W in mm)</b>	48 x 48 (1/16 DIN)	72 x 72	24 x 48 (1/32 DIN)
<b>Control Outputs</b>	Relay SPDT, 3 A at 250 VAC Transistor NPN, 100 mA at 30 VDC 1-stage (see datasheet for 2-stage outputs)	Relay SPDT, 3 A at 250 VAC Transistor NPN, 100 mA at 30 VDC 1-stage	N/A
<b>Character Range</b>	6 digit models -99999 to 999999 4 digit models -999 to 9999	-99999 to 999999	0 to 99999999
<b>Mounting</b>	Panel, DIN, or Surface	Panel, DIN, or Surface	Panel
<b>Popular Part No.</b>	H7CX-A-N AC100-240 H7CX-AW-N AC100-240	H7BX-AW AC100-240 H7BX-A AC100-240	H7EC-N-B H7EC-NV-B

# Pushbutton Switches

Navigation



Product Line	A16 - Lighted/Non-lighted	A22 - Lighted/Non-lighted	A22R - Lighted/Non-lighted	A165E - Lighted/Non-lighted
<b>Selling Tips</b>	<ul style="list-style-type: none"> <li>• Miniature design of 28.5 mm, the smallest class in the industry</li> <li>• Detachable switch unit</li> <li>• Easy-to-wire terminal</li> </ul>	<ul style="list-style-type: none"> <li>• Lever for easily mounting and removing the switch unit</li> <li>• Efficient wiring: Three-row mounting of switch blocks</li> </ul>	<ul style="list-style-type: none"> <li>• Robust and graceful design</li> <li>• Shining metal ring</li> <li>• Soft to the touch</li> <li>• Compact size</li> </ul>	<ul style="list-style-type: none"> <li>• Modular construction, easy installation</li> <li>• Quick and easy assembly snap-in switch</li> </ul>
<b>Typical Application</b>	<ul style="list-style-type: none"> <li>• Medical equipment</li> <li>• Robot</li> <li>• Production equipment</li> </ul>	<ul style="list-style-type: none"> <li>• Panel for power plant</li> <li>• Production equipment</li> <li>• Automotive</li> </ul>	<ul style="list-style-type: none"> <li>• Panel for power plant</li> <li>• Production equipment</li> <li>• Automotive</li> </ul>	<ul style="list-style-type: none"> <li>• Medical equipment</li> <li>• Robot</li> <li>• Production equipment</li> </ul>
<b>Switching Current (Resistive)</b>	5A 125VAC, 3A 250VAC 3A 30VDC	10A 24VAC, 3A 220VAC 2A 380VAC, 1A 440VAC	3A, 240VAC	5A 125VAC, 3A 250VAC 3A 30VDC
<b>Contact Form</b>	SPDT, DPDT	SPST-NO, SPST-NC, SPDT DPST-NO, DPST-NC	SPST-NO, SPST-NC, SPDT DPST-NO, DPST-NC	SPST-NC, DPST-NC 3PST-NC
<b>Mechanical Service Life</b>	Momentary: 2 million cycles minimum Alternate: 200K cycles minimum	Momentary: 5 million cycles minimum Non-light Selector: 500K cycles minimum	Momentary: 3 million cycles minimum Non-light Selector: 300K cycles minimum	100K cycles minimum
<b>Electrical Service Life</b>	100K cycles minimum	500K cycles minimum	500K cycles minimum	100K cycles minimum
<b>Pushbutton Colors</b>	 Pure White			
<b>Pushbutton Type / Panel Cutout</b>	Square, Rectangular, Round / 16 mm dia.	Round, Square, Mushroom / 22.3 mm dia.	Round / 22.3 mm dia.	Mushroom / 16 mm dia.
<b>Available Types</b>	<b>A16</b> Pushbutton, Non-lighted <b>A16L</b> Pushbutton, Lighted <b>A165</b> Pushbutton, Non-lighted, IP65 <b>A165L</b> Pushbutton, Lighted, IP65 <b>A165K</b> Keyed Selector Switch <b>A165S</b> Selector Switch, Non-lighted <b>A165W</b> Selector Switch, Lighted <b>M16</b> Pilot Light <b>M165</b> Pilot Light, IP65	<b>A22</b> Pushbutton, Non-lighted <b>A22L</b> Pushbutton, Lighted <b>A22K</b> Keyed Selector Switch <b>A22S</b> Selector Switch, Non-lighted <b>A22W</b> Selector Switch, Lighted <b>M22</b> Pilot Light	<b>A22R</b> Pushbutton, Non-lighted <b>A22RL</b> Pushbutton, Lighted <b>A22RK</b> Keyed Selector Switch <b>A22RS</b> Selector Switch, Non-lighted <b>A22RW</b> Selector Switch, Lighted <b>M22R</b> Pilot Light	<b>A165E</b> Emergency Stop, Non-lighted <b>A165EL</b> Emergency Stop, Lighted

# Pushbutton Switches

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Product Line	A3A - Lighted/Non-lighted	A3C - Lighted/Non-lighted	A3P - Lighted	A3S - Lighted
<b>Selling Tips</b>	<ul style="list-style-type: none"> <li>• Compact, High-capacity pushbutton switch</li> <li>• Capable of switching 6A at 125VAC</li> <li>• Requires only 14.5 mm behind the panel</li> </ul>	<ul style="list-style-type: none"> <li>• Short 20 mm mounting depth</li> <li>• Efficient wiring: terminals arranged on the same surface</li> <li>• All lamps, caps, and legend plates replaceable without tools</li> </ul>	<ul style="list-style-type: none"> <li>• Excellent operating sensitivity</li> <li>• Excellent lighting with even surface brightness</li> <li>• Chameleon color type (Green, Red and Orange) is available</li> </ul>	<ul style="list-style-type: none"> <li>• Easy panel mounting front</li> <li>• Simple lamp replacement without tools</li> </ul>
<b>Typical Application</b>	Control panel	Control panel	Power plant, ticket-vending machine	Power plant, ticket-vending machine
<b>Electrical Rating (Resistive)</b>	6A 125VAC, 2A 250VAC 4A 30VDC	0.5A 250VAC, 1A 125VAC 1A 30VDC	5A 125VAC, 3A 250VAC 4A 30VDC, 0.4A 125VDC, 0.2A 250VDC	3A 125VAC, 2A 250VAC 3A 14VDC, 2A 30VDC 0.4A 125VDC, 0.2A 250VDC
<b>Contact Form</b>	SPST-NO, SPDT	SPDT	SPDT, DPDT	SPDT, DPDT
<b>Mechanical Service Life</b>	Momentary: 1 million cycles minimum Alternate: 50K cycles minimum	Momentary: 1 million cycles minimum Alternate: 100K cycles minimum	Momentary: 1 million cycles minimum Alternate: 200K cycles min.	Momentary: 1 million cycles minimum Alternate: 100K cycles minimum
<b>Electrical Service Life</b>	50K cycles minimum	100K cycles minimum	100K cycles minimum	100K cycles minimum
<b>Pushbutton Colors</b>			 And 3-color type	
<b>Pushbutton Type / Panel Cutout</b>	Square / 11.5 X 11.5 mm Round / 11.5 mm dia.	Square, Rectangular, Round 12 mm diameter	Square / 23.5 X 22.5 mm Rectangular / 23.5X30.5 mm Round / 29 mm dia.	Square / 16.2 X 16.2 mm Rectangular / 16.2 X 16.2 mm
<b>Available Types</b>	A3A□-00 Non-lighted A3A□-00E Lighted	A3C□-90□0 Non-lighted A3C□-90□1 Lighted	A3P□-5011 Pushbutton, 1 Screen A3P□-5012 Horizontal 2-split Screen A3PJ-5013 Rect., Vertical 2-split Screen A3PJ-5016 Rectangular, 4-split Screen A3P□-5800 Pushbutton, Chameleon	A3SA-90□1 Square, A3SJ-90□1 Rectangular Screen A3SJ-90□3 Rect., Vertical 2-split Screen