

E57 Premium+ Series
Inductive Proximity Sensors
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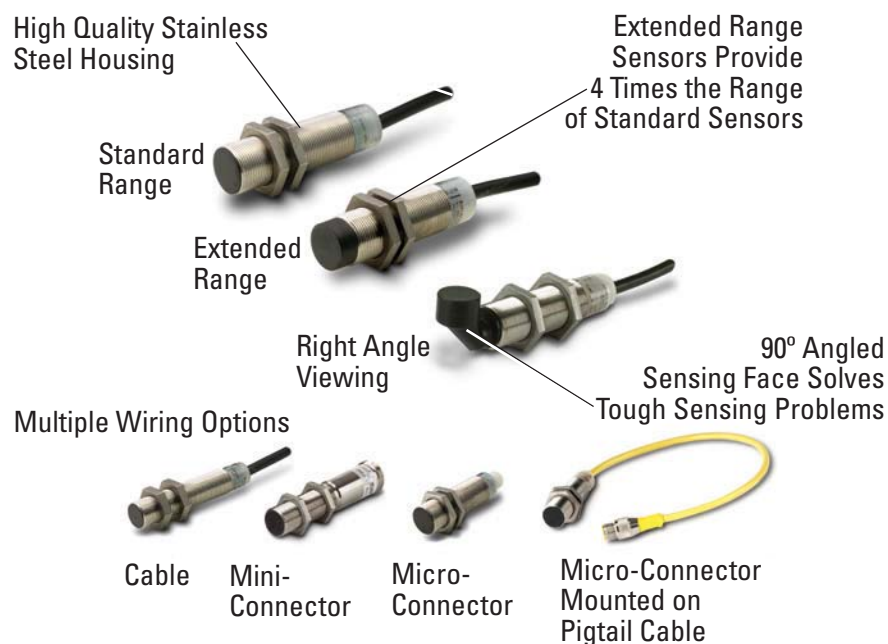
The Cutler-Hammer® Premium+ Series Inductive Proximity Sensors by Eaton's electrical business have improved sensing performance, product durability and selection. This improved line of sensors carries the Premium+ Series name because we have upgraded the design to a rugged stainless steel body, shock-resistant front caps and impact-absorbing potting compound. Plus, the Premium+ Series line now includes a choice of AC, AC/DC and DC-only, 12, 18 and 30 mm sensors with unmatched noise immunity of greater than 20V/meter.

Approvals

■ C-UL Listed

ⒸⒺ (AC/DC and DC-only models)

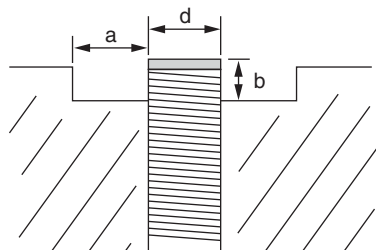
For the most current information
on this product, visit our web site:
www.EatonElectrical.com

High Performance Inductive Sensors Include Stainless Steel Models, Extended Ranges and Right Angle Sensing

Product Features

- New expanded offering of 2-wire, 3-wire, AC, DC, and AC/DC multiple range sensor models
- Manufactured to take the physical and environmental abuse
- Designed with stainless steel barrel and new potting compound for robust, high temperature, high pressure washdown, as well as intense shock and vibration applications
- Unmatched high noise immunity eliminates problems associated with electrical noise (all models > 20V/meter)
- 360° output status indicator is visible from any angle and in any light condition
- Resettable short circuit protection and reverse polarity in select models
- Right angle sensing models offer unique problem-solving capabilities
- Wide temperature range -13 to 158°F (-25 to 70°C) on cable, micro-style connections

Recommended Mounting Clearances

For unshielded standard range sensors and extended range sensors, clearance must be provided around the sensor when mounting for reliable performance. ("Sn" is the sensing range of the sensor, "d" is the sensor diameter.)



Type	Shielding	a	b
Standard Range	Shielded	0	0
	Unshielded	Cap Height	2 x Sn
Extended Range	Semi-shielded	d	Sn
	Non-embeddable	Cap Height	2 x Sn

For Customer Service in the
U.S. call **1-877-ETN CARE (386-2273)**,
in Canada call **1-800-268-3578**.
For Application Assistance in the U.S. and Canada
call **1-800-426-9184**.

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Model Selection — E57 Premium+ Sensors

		Operating Voltage	Sensing Range (Sn)	Shielding	Connection Type ①	Catalog Number	
						N.O. Output	N.C. Output
2-Wire Sensors							
12 mm Diameter End Sensing Standard Range Extended Range	20 – 250V AC	2 mm (Standard Range)	Shielded	2-meter Cable	E57LAL12A2	E57LBL12A2	
				3-pin Micro AC Connector	E57LAL12A2SA ☺	E57LBL12A2SA ☺	
				3-pin Micro AC Pigtail Connector	E57LAL12A2SP ☺	E57LBL12A2SP ☺	
				4 mm (Standard Range)	Unshielded	2-meter Cable	E57LAL12A2E
				3-pin Micro AC Connector	E57LAL12A2EA ☺	E57LBL12A2EA ☺	
				3-pin Micro AC Pigtail Connector	E57LAL12A2EP ☺	E57LBL12A2EP ☺	
	20 – 132V AC			6 mm (Extended Range)	Semi-shielded	2-meter Cable	E57-12LE06-A
				3-pin Micro AC Connector	E57-12LE06-AA ☺	E57-12LE06-A1A ☺	
				3-pin Micro AC Pigtail Connector	E57-12LE06-AP ☺	—	
				10 mm (Extended Range)	Non-embeddable	2-meter Cable	E57-12LE10-A
		3-pin Micro AC Connector	E57-12LE10-AA ☺			E57-12LE10-A1A ☺	
		3-pin Micro AC Pigtail Connector	E57-12LE10-AP ☺			E57-12LE10-A1P ☺	
	40 – 250V AC 50/60 Hz ② 20 – 250V DC	2 mm (Standard Range)	Shielded	2-meter Cable	E57SAL12A2	E57SBL12A2	
				3-pin Micro AC Connector	E57SAL12A2SA ☺	E57SBL12A2SA ☺	
		4 mm (Standard Range)	Unshielded	3-pin Mini-Connector	E57MAL12A2B1 ☺	—	
				2-meter Cable	E57SAL12A2E	E57SBL12A2E	
			3-pin Micro AC Connector	E57SAL12A2EA ☺	E57SBL12A2EA ☺		
18 mm Diameter End Sensing Standard Range Extended Range	20 – 250V AC	5 mm (Standard Range)	Shielded	2-meter Cable	E57LAL18A2	E57LBL18A2	
				3-pin Micro AC Connector	E57LAL18A2SA ☺	E57LBL18A2SA ☺	
				3-pin Micro AC Pigtail Connector	E57LAL18A2SP ☺	E57LBL18A2SP ☺	
				3-pin Mini-Connector	E57MAL18A2B1 ☺	E57MBL18A2B1 ☺	
		8 mm (Standard Range)	Unshielded	2-meter Cable	E57LAL18A2E	E57LBL18A2E	
				3-pin Micro AC Connector	E57LAL18A2EA ☺	E57LBL18A2EA ☺	
	3-pin Micro AC Pigtail Connector			E57LAL18A2EP ☺	E57LBL18A2EP ☺		
	3-pin Mini-Connector			E57MAL18A2EB1 ☺	E57MBL18A2EB1 ☺		
	20 – 132V AC	12 mm (Extended Range)	Semi-shielded	2-meter Cable	E57-18LE12-A	E57-18LE12-A1	
				3-pin Micro AC Connector	E57-18LE12-AA ☺	E57-18LE12-A1A ☺	
				3-pin Micro AC Pigtail Connector	E57-18LE12-AP ☺	E57-18LE12-A1P ☺	
				3-pin Mini-Connector	E57-18LE12-AB ☺	E57-18LE12-A1B ☺	
		20 mm (Extended Range)	Non-embeddable	2-meter Cable	E57-18LE20-A	E57-18LE20-A1	
				3-pin Micro AC Connector	E57-18LE20-AA ☺	E57-18LE20-A1A ☺	
	40 – 250V AC 50/60 Hz ② 20 – 250V DC	5 mm (Standard Range)	Shielded	3-pin Micro AC Pigtail Connector	E57-18LE20-AP ☺	E57-18LE20-A1P ☺	
				3-pin Mini-Connector	E57-18LE20-AB ☺	E57-18LE20-A1B ☺	
8 mm (Standard Range)		Unshielded	2-meter Cable	E57SAL18A2	E57SBL18A2		
			3-pin Micro AC Connector	E57SAL18A2SA ☺	E57SBL18A2SA ☺		
			2-meter Cable	E57SAL18A2E	E57SBL18A2E		
			3-pin Micro AC Connector	E57SAL18A2EA ☺	E57SBL18A2EA ☺		
18 mm Diameter Right Angle Sensing 	20 – 250V AC	5 mm	Shielded	2-meter Cable	E57RAL18A2	E57RBL18A2	
				3-pin Micro AC Connector	E57RAL18A2SA ☺	E57RBL18A2SA ☺	
				3-pin Micro AC Pigtail Connector	E57RAL18A2SP ☺	E57RBL18A2SP ☺	
				3-pin Mini-Connector	E57RAL18A2B1 ☺	E57RBL18A2B1 ☺	
		8 mm	Unshielded	2-meter Cable	E57RAL18A2E	E57RBL18A2E	
				3-pin Micro AC Connector	E57RAL18A2EA ☺	E57RBL18A2EA ☺	
				3-pin Micro AC Pigtail Connector	E57RAL18A2EP ☺	E57RBL18A2EP ☺	
				3-pin Mini-Connector	E57RAL18A2EB1 ☺	E57RBL18A2EB1 ☺	

① For cable lengths longer than 2 meters, add the number of the desired length in meters to the end of the listed Catalog Number (for Catalog Numbers ending with a number, add an **S** and then the length). Examples for a 5 meter cable: E57-18LE12-A becomes E57-18LE12-A5; E57LAL12A2 becomes E57LAL12A2S5.

② Avoid wiring these AC/DC models in series as the sensors may not perform reliably. Contact Eaton's Cutler-Hammer Applications Engineering at 1-800-426-9184 with questions.

☐ Fast turn product with typical one business day lead-time to shipment.

■ Stocked product, typical order quantities guaranteed in stock.

☺ See listing of compatible connector cables on **Page 3-20**.

Model Selection — E57 Premium+ Sensors (Continued)

		Operating Voltage	Sensing Range (Sn)	Shielding	Connection Type ①	Catalog Number	
						N.O. Output	N.C. Output
2-Wire Sensors (Continued)							
 Standard Range  Extended Range	20 – 250V AC	10 mm (Standard Range)	Shielded	2-meter Cable	E57LAL30A2	E57LBL30A2	
				3-pin Micro AC Connector	E57LAL30A2SA ☼	E57LBL30A2SA ☼	
				3-pin Micro AC Pigtail Connector	E57LAL30A2SP ☼	E57LBL30A2SP ☼	
				3-pin Mini-Connector	E57MAL30A2B1 ☼	E57MBL30A2B1 ☼	
		15 mm (Standard Range)	Unshielded	2-meter Cable	E57LAL30A2E	E57LBL30A2E	
				3-pin Micro AC Connector	E57LAL30A2EA ☼	E57LBL30A2EA ☼	
				3-pin Micro AC Pigtail Connector	E57LAL30A2EP ☼	E57LBL30A2EP ☼	
				3-pin Mini-Connector	E57MAL30A2EB1 ☼	E57MBL30A2EB1 ☼	
	20 – 132V AC	22 mm (Extended Range)	Semi-shielded	2-meter Cable	E57-30LE22-A	E57-30LE22-A1	
				3-pin Micro AC Connector	E57-30LE22-AA ☼	E57-30LE22-A1A ☼	
				3-pin Micro AC Pigtail Connector	E57-30LE22-AP ☼	E57-30LE22-A1P ☼	
				3-pin Mini-Connector	E57-30LE22-AB ☼	E57-30LE22-A1B ☼	
		40 – 250V AC 50/60 Hz ② 20 – 250V DC	10 mm (Standard Range)	Shielded	2-meter Cable	E57SAL30A2	E57SBL30A2
					3-pin Micro AC Connector	E57SAL30A2SA ☼	E57SBL30A2SA ☼
			15 mm (Standard Range)	Unshielded	2-meter Cable	E57SAL30A2E	E57SBL30A2E
					3-pin Micro AC Connector	E57SAL30A2EA ☼	E57SBL30A2EA ☼
3-Wire Sensors							
 Standard Range  Extended Range	6 – 48V DC	2 mm (Standard Range)	Shielded (NPN)	2-meter Cable	E57LAL12T110	E57LBL12T110	
				4-pin Micro DC Connector	E57LAL12T110SD ☼	E57LBL12T110SD ☼	
				4-pin Micro DC Pigtail Connector	E57LAL12T110SP ☼	E57LBL12T110SP ☼	
			Shielded (PNP)	2-meter Cable	E57LAL12T111	E57LBL12T111	
				4-pin Micro DC Connector	E57LAL12T111SD ☼	E57LBL12T111SD ☼	
				4-pin Micro DC Pigtail Connector	E57LAL12T111SP ☼	E57LBL12T111SP ☼	
		4 mm (Standard Range)	Unshielded (NPN)	2-meter Cable	E57LAL12T110E	E57LBL12T110E	
				4-pin Micro DC Connector	E57LAL12T110ED ☼	E57LBL12T110ED ☼	
				4-pin Micro DC Pigtail Connector	E57LAL12T110EP ☼	E57LBL12T110EP ☼	
			Unshielded (PNP)	2-meter Cable	E57LAL12T111E	E57LBL12T111E	
				4-pin Micro DC Connector	E57LAL12T111ED ☼	E57LBL12T111ED ☼	
				4-pin Micro DC Pigtail Connector	E57LAL12T111EP ☼	E57LBL12T111EP ☼	
		6 mm (Extended Range)	Semi-shielded (NPN)	2-meter Cable	E57-12LE06-C	E57-12LE06-C1	
				4-pin Micro DC Connector	E57-12LE06-CD ☼	E57-12LE06-C1D ☼	
				4-pin Micro DC Pigtail Connector	E57-12LE06-CP ☼	E57-12LE06-C1P ☼	
			Semi-shielded (PNP)	2-meter Cable	E57-12LE06-B	E57-12LE06-B1	
				4-pin Micro DC Connector	E57-12LE06-BD ☼	E57-12LE06-B1D ☼	
				4-pin Micro DC Pigtail Connector	E57-12LE06-BP ☼	E57-12LE06-B1P ☼	
		10 mm (Extended Range)	Non-embeddable (NPN)	2-meter Cable	E57-12LE10-C	E57-12LE10-C1	
				4-pin Micro DC Connector	E57-12LE10-CD ☼	E57-12LE10-C1D ☼	
				4-pin Micro DC Pigtail Connector	E57-12LE10-CP ☼	—	
			Non-embeddable (PNP)	2-meter Cable	E57-12LE10-B	E57-12LE10-B1	
				4-pin Micro DC Connector	E57-12LE10-BD ☼	E57-12LE10-B1D ☼	
				4-pin Micro DC Pigtail Connector	E57-12LE10-BP ☼	—	

① For cable lengths longer than 2 meters, add the number of the desired length in meters to the end of the listed Catalog Number (for Catalog Numbers ending with a number, add an **S** and then the length). Examples for a 5 meter cable: E57-18LE12-A becomes E57-18LE12-A5; E57LAL12A2 becomes E57LAL12A2S5.

② Avoid wiring these AC/DC models in series as the sensors may not perform reliably. Contact Eaton's Cutler-Hammer Applications Engineering at 1-800-426-9184 with questions.

☼ Fast turn product with typical one business day lead-time to shipment.

☼☼ See listing of compatible connector cables on **Page 3-20**.

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Model Selection — E57 Premium+ Sensors (Continued)

	Operating Voltage	Sensing Range (Sn)	Shielding	Connection Type ①	Catalog Number	
					N.O. Output	N.C. Output
3-Wire Sensors (Continued)						
18 mm Diameter End Sensing  Standard Range  Extended Range	6 – 48V DC	5 mm (Standard Range)	Shielded (NPN)	2-meter Cable	E57LAL18T110	E57LBL18T110
				4-pin Micro DC Connector	E57LAL18T110SD ☹	E57LBL18T110SD ☹
				4-pin Micro DC Pigtail Connector	E57LAL18T110SP ☹	E57LBL18T110SP ☹
				4-pin Mini-Connector	E57MAL18T110B1 ☹	E57MBL18T110B1 ☹
			Shielded (PNP)	2-meter Cable	E57LAL18T111	E57LBL18T111
				4-pin Micro DC Connector	E57LAL18T111SD ☹	E57LBL18T111SD ☹
				4-pin Micro DC Pigtail Connector	E57LAL18T111SP ☹	E57LBL18T111SP ☹
				4-pin Mini-Connector	E57MAL18T111B1 ☹	E57MBL18T111B1 ☹
		8 mm (Standard Range)	Unshielded (NPN)	2-meter Cable	E57LAL18T110E	E57LBL18T110E
				4-pin Micro DC Connector	E57LAL18T110ED ☹	E57LBL18T110ED ☹
				4-pin Micro DC Pigtail Connector	E57LAL18T110EP ☹	E57LBL18T110EP ☹
				4-pin Mini-Connector	E57MAL18T110EB1 ☹	E57MBL18T110EB1 ☹
			Unshielded (PNP)	2-meter Cable	E57LAL18T111E	E57LBL18T111E
				4-pin Micro DC Connector	E57LAL18T111ED ☹	E57LBL18T111ED ☹
				4-pin Micro DC Pigtail Connector	E57LAL18T111EP ☹	E57LBL18T111EP ☹
				4-pin Mini-Connector	E57MAL18T111EB1 ☹	E57MBL18T111EB1 ☹
		12 mm (Extended Range)	Semi-shielded (NPN)	2-meter Cable	E57-18LE12-C	E57-18LE12-C1
				4-pin Micro DC Connector	E57-18LE12-CD ☹	E57-18LE12-C1D ☹
				4-pin Micro DC Pigtail Connector	E57-18LE12-CP ☹	E57-18LE12-C1P ☹
				4-pin Mini-Connector	E57-18LE12-CB ☹	E57-18LE12-C1B ☹
			Semi-shielded (PNP)	2-meter Cable	E57-18LE12-B	E57-18LE12-B1
				4-pin Micro DC Connector	E57-18LE12-BD ☹	E57-18LE12-B1D ☹
				4-pin Micro DC Pigtail Connector	E57-18LE12-BP ☹	E57-18LE12-B1P ☹
				4-pin Mini-Connector	E57-18LE12-BB ☹	E57-18LE12-B1B ☹
		20 mm (Extended Range)	Non-embeddable (NPN)	2-meter Cable	E57-18LE20-C	E57-18LE20-C1
				4-pin Micro DC Connector	E57-18LE20-CD ☹	E57-18LE20-C1D ☹
				4-pin Micro DC Pigtail Connector	E57-18LE20-CP ☹	E57-18LE20-C1P ☹
				4-pin Mini-Connector	E57-18LE20-CB ☹	E57-18LE20-C1B ☹
			Non-embeddable (PNP)	2-meter Cable	E57-18LE20-B	E57-18LE20-B1
				4-pin Micro DC Connector	E57-18LE20-BD ☹	E57-18LE20-B1D ☹
				4-pin Micro DC Pigtail Connector	E57-18LE20-BP ☹	E57-18LE20-B1P ☹
				4-pin Mini-Connector	E57-18LE20-BB ☹	E57-18LE20-B1B ☹
18 mm Diameter Right Angle Sensing 		5 mm	Shielded (NPN)	2-meter Cable	E57RAL18T110	E57RBL18T110
				4-pin Micro DC Connector	E57RAL18T110SD ☹	E57RBL18T110SD ☹
				4-pin Micro DC Pigtail Connector	E57RAL18T110SP ☹	E57RBL18T110SP ☹
				4-pin Mini-Connector	E57RAL18T110B1 ☹	E57RBL18T110B1 ☹
			Shielded (PNP)	2-meter Cable	E57RAL18T111	E57RBL18T111
				4-pin Micro DC Connector	E57RAL18T111SD ☹	E57RBL18T111SD ☹
				4-pin Micro DC Pigtail Connector	E57RAL18T111SP ☹	E57RBL18T111SP ☹
				4-pin Mini-Connector	E57RAL18T111B1 ☹	E57RBL18T111B1 ☹
		8 mm	Unshielded (NPN)	2-meter Cable	E57RAL18T110E	E57RBL18T110E
				4-pin Micro DC Connector	E57RAL18T110ED ☹	E57RBL18T110ED ☹
				4-pin Micro DC Pigtail Connector	E57RAL18T110EP ☹	E57RBL18T110EP ☹
				4-pin Mini-Connector	E57RAL18T110EB1 ☹	E57RBL18T110EB1 ☹
			Unshielded (PNP)	2-meter Cable	E57RAL18T111E	E57RBL18T111E
				4-pin Micro DC Connector	E57RAL18T111ED ☹	E57RBL18T111ED ☹
				4-pin Micro DC Pigtail Connector	E57RAL18T111EP ☹	E57RBL18T111EP ☹
				4-pin Mini-Connector	E57RAL18T111EB1 ☹	E57RBL18T111EB1 ☹

① For cable lengths longer than 2 meters, add the number of the desired length in meters to the end of the listed Catalog Number (for Catalog Numbers ending with a number, add an **S** and then the length). Examples for a 5 meter cable: E57-18LE12-A becomes E57-18LE12-A5; E57LAL12A2 becomes E57LAL12A2S5.

□ Fast turn product with typical one business day lead-time to shipment.

■ Stocked product, typical order quantities guaranteed in stock.

⊕ See listing of compatible connector cables on **Page 3-20**.

Model Selection — E57 Premium+ Sensors (Continued)

	Operating Voltage	Sensing Range (Sn)	Shielding	Connection Type ①	Catalog Number	
					N.O. Output	N.C. Output
3-WireSensors (Continued)						
 Standard Range  Extended Range	6 – 48V DC	10 mm (Standard Range)	Shielded (NPN)	2-meter Cable	E57LAL30T110	E57LBL30T110
				4-pin Micro DC Connector	E57LAL30T110SD ②	E57LBL30T110SD ②
				4-pin Micro DC Pigtail Connector	E57LAL30T110SP ②	E57LBL30T110SP ②
				4-pin Mini-Connector	E57MAL30T110B1 ②	E57MBL30T110B1 ②
			Shielded (PNP)	2-meter Cable	E57LAL30T111	E57LBL30T111
				4-pin Micro DC Connector	E57LAL30T111SD ②	E57LBL30T111SD ②
				4-pin Micro DC Pigtail Connector	E57LAL30T111SP ②	E57LBL30T111SP ②
				4-pin Mini-Connector	E57MAL30T111B1 ②	E57MBL30T111B1 ②
		15 mm (Standard Range)	Unshielded (NPN)	2-meter Cable	E57LAL30T110E	E57LBL30T110E
				4-pin Micro DC Connector	E57LAL30T110ED ②	E57LBL30T110ED ②
				4-pin Micro DC Pigtail Connector	E57LAL30T110EP ②	E57LBL30T110EP ②
				4-pin Mini-Connector	E57MAL30T110EB1 ②	E57MBL30T110EB1 ②
			Unshielded (PNP)	2-meter Cable	E57LAL30T111E	E57LBL30T111E
				4-pin Micro DC Connector	E57LAL30T111ED ②	E57LBL30T111ED ②
				4-pin Micro DC Pigtail Connector	E57LAL30T111EP ②	E57LBL30T111EP ②
				4-pin Mini-Connector	E57MAL30T111EB1 ②	E57MBL30T111EB1 ②
		22 mm (Extended Range)	Semi-shielded (NPN)	2-meter Cable	E57-30LE22-C	E57-30LE22-C1
				4-pin Micro DC Connector	E57-30LE22-CD ②	E57-30LE22-C1D ②
				4-pin Micro DC Pigtail Connector	E57-30LE22-CP ②	E57-30LE22-C1P ②
				4-pin Mini-Connector	E57-30LE22-CB ②	E57-30LE22-C1B ②
			Semi-shielded (PNP)	2-meter Cable	E57-30LE22-B	E57-30LE22-B1
				4-pin Micro DC Connector	E57-30LE22-BD ②	E57-30LE22-B1D ②
				4-pin Micro DC Pigtail Connector	—	E57-30LE22-B1P ②
				4-pin Mini-Connector	E57-30LE22-BB ②	E57-30LE22-B1B ②

① For cable lengths longer than 2 meters, add the number of the desired length in meters to the end of the listed Catalog Number (for Catalog Numbers ending with a number, add an **S** and then the length). Examples for a 5 meter cable: E57-18LE12-A becomes E57-18LE12-A5; E57LAL12A2 becomes E57LAL12A2S5.

■ Fast turn product with typical one business day lead-time to shipment.

⊕ See listing of compatible connector cables below.

Model Selection — Compatible Connector Cables ②

	Voltage Style	Number of Pins	Gauge	Length	Catalog Number			Pin Configuration/Wire Colors (Face View Female Shown)
					PVC Jacket	PUR Jacket	IRR PUR Jacket	

Standard Cables — Micro Style

Micro Style Straight Female 	AC	3-pin 3-wire	22 AWG	6.0 feet (2m)	CSAS3F3CY2202	CSAS3F3RY2202	—	 1-Green 2-Red/Black 3-Red/White
	DC	4-pin 4-wire	22 AWG	6.0 feet (2m)	CSDS4A4CY2202	CSDS4A4RY2202	CSDS4A4I02202	 1-Brown 2-White 3-Blue 4-Black

	Voltage Style	Number of Pins	Gauge	Length	Catalog Number	Pin Configuration/Wire Colors (Face View Female Shown)
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Standard Cables — Mini Style

Mini Style Straight Female Current Rating @ 600V 3-pin: 13A 4-pin: 10A 	—	3-pin	16 AWG	6 feet (2m)	CSMS3F3CY1602	 1-Green 2-Black 3-White
	AC/DC	4-pin, 4-wire	16 AWG	6 feet (2m)	CSMS4A4CY1602	 1-Black 2-Blue 3-Brown 4-White

② For a full selection of connector cables, see **Section 10**.

■ Stocked product, typical order quantities guaranteed in stock.

August 2007

Wiring Diagrams (Pin numbers are for reference, rely on pin location when wiring)

Operating Voltage	Output	Cable Models	Connector Models (Face View Male Shown)	
			Micro	Mini

2-Wire Sensors

20 – 250V AC	N.O. and N.C.			
--------------	---------------	--	--	--

3-Wire Sensors

6 – 48V DC	N.O. (NPN)			
	N.O. (PNP)			
	N.C. (NPN)			
	N.C. (PNP)			

Specifications — E57 Premium+ Series

	2-Wire AC Sensors	2-Wire Sensors	3-Wire Sensors
		AC/DC	DC Only Models
Operating Voltage	20 – 250V AC	40 – 240V AC ① 20 – 250V DC	6 – 48V DC
Maximum Load Current	500 mA @ 25°C 250 mA @ 70°C	250 mA @ 25°C 200 mA @ 70°C	500 mA @ 6 – 30V DC
Switching Frequency	20 Hz	60 Hz	12 mm: 800 Hz 18 mm: 500 Hz 30 mm: 300 Hz
Leakage Current	1.7 mA maximum @ 70°C	≤2.0 mA	≤100 µA
Voltage Drop	7V maximum	12V @ <10 mA ≤4V @ >25 mA	≤2.5V
Holding Current	5 mA minimum	5 mA minimum	—
Burden Current	—	—	≤10 mA
Protection	—	Resettable short circuit; overload protection	Auto reset
Switching Hysteresis	2 to 20% of rated sensing range	<15% rated sensing distance	
Repeat Accuracy	<3% sensing distance	Shielded models: <1% sensing distance; unshielded and extended range: <3%	
Time Delay Before Availability	—	<200 mS	
Output Indicator LED	360° viewable LED		
Operating Temperature	-13° to 158°F (-25° to 70°C) Mini: -13° to 122°F (-25° to 50°C)		
Enclosure Ratings	NEMA 4, 4X, 6, 6P, 12 and 13 (IP67)		
Shock	30g, 11 mS per IEC 68-2-76		
Vibration	10 to 55 Hz, 1 mm amplitude		
Housing Material	303 stainless steel ②; Polycarbonate end bells; Ryton® front ends		
Cable	AWM Style 20387 (PVC)		

Ryton® is a registered trademark of Phillips Chemical (division of Phillips Petroleum).

① Note: 40 – 240V AC @ <-20°C.

② Semi-shielded models are nickel-plated brass.

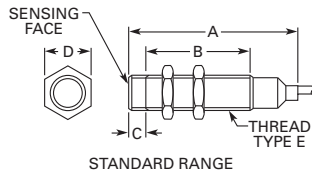
Model Selection — Accessories

Description	Reference
Mounting Brackets	See Section 8
Replacement Mounting Nuts and Other Accessories	See Section 8
Connector Cables	See Section 10

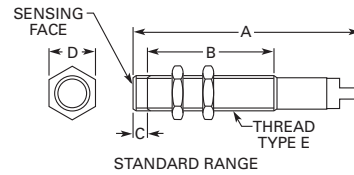
August 2007

Approximate Dimensions — E57 Premium+ Series, End Sensing Models in Inches (mm)^{①②}

Cable Models



Connector Models



Size	Shielding	Dimensions in Inches (mm)				
		Overall Length A	Threaded Length B	C	Nut Width D	Thread Size E

2-Wire AC Sensors — Cable Models

12 mm	Shielded	2.46 (62.4)	1.98 (50.3)	—	0.67 (16.8)	M12 x 1
	Semi-shielded	2.87 (72.8)	2.28 (57.9)	0.06 (1.62)	0.67 (16.8)	M12 x 1
	Unshielded	2.87 (72.7)	1.98 (50.3)	0.36 (9.14)	0.67 (16.8)	M12 x 1
18 mm	Shielded	2.54 (64.5)	2.00 (50.9)	—	0.94 (23.8)	M18 x 1
	Semi-shielded	2.60 (66.1)	1.90 (48.2)	0.10 (2.54)	0.94 (23.8)	M18 x 1
	Unshielded	2.60 (66.0)	1.47 (37.2)	0.56 (14.1)	0.94 (23.8)	M18 x 1
30 mm	Shielded	2.73 (69.3)	1.98 (50.3)	—	1.41 (35.9)	M30 x 1.5
	Semi-shielded	2.67 (67.8)	1.90 (48.2)	0.13 (3.30)	1.41 (35.9)	M30 x 1.5
	Unshielded	2.73 (69.3)	1.49 (37.8)	0.52 (13.26)	1.41 (35.9)	M30 x 1.5

2-Wire AC Sensors — Micro-Connector Models

12 mm	Shielded	2.69 (68.4)	1.98 (50.3)	—	0.67 (16.8)	M12 x 1
	Semi-shielded	3.04 (77.2)	2.28 (57.9)	0.06 (1.62)	0.67 (16.8)	M12 x 1
	Unshielded	3.06 (77.7)	1.98 (50.3)	0.36 (9.14)	0.36 (9.14)	M12 x 1
18 mm	Shielded	2.72 (69.06)	2.00 (50.9)	—	0.94 (23.8)	M18 x 1
	Semi-shielded	2.72 (69.1)	1.90 (48.2)	0.10 (2.54)	0.94 (23.8)	M18 x 1
	Unshielded	2.74 (69.4)	1.47 (37.2)	0.56 (14.1)	0.94 (23.8)	M18 x 1
30 mm	Shielded	2.91 (73.8)	1.98 (50.3)	—	1.41 (35.9)	M30 x 1.5
	Semi-shielded	2.78 (70.6)	1.90 (48.2)	0.13 (3.30)	1.41 (35.9)	M30 x 1.5
	Unshielded	2.91 (73.8)	1.49 (37.8)	0.52 (13.26)	1.41 (35.9)	M30 x 1.5

2-Wire AC/DC Sensors — Cable Models

12 mm	Shielded	2.45 (62.4)	1.98 (50.3)	—	0.67 (16.8)	M12 x 1
		2.45 (62.4)	1.80 (45.8)	0.20 (5)	0.67 (16.8)	M12 x 1
18 mm	Shielded	2.54 (64.5)	2.00 (50.9)	—	0.94 (23.8)	M18 x 1
		2.54 (64.5)	1.75 (44.4)	0.28 (7)	0.94 (23.8)	M18 x 1
30 mm	Shielded	2.72 (69.3)	1.98 (50.3)	—	1.41 (35.9)	M30 x 1.5
		2.72 (69.3)	1.49 (37.8)	0.52 (13.26)	1.41 (35.9)	M30 x 1.5

2-Wire AC/DC Sensors — Micro-Connector Models

12 mm	Shielded	2.69 (68.4)	1.98 (50.3)	—	0.67 (16.8)	M12 x 1
		2.69 (68.4)	1.80 (45.8)	0.20 (5)	0.67 (16.8)	M12 x 1
18 mm	Shielded	2.72 (69.06)	2.00 (50.9)	—	0.94 (23.8)	M18 x 1
		2.72 (69.06)	1.75 (44.4)	0.28 (7)	0.94 (23.8)	M18 x 1
30 mm	Shielded	2.91 (73.8)	1.98 (50.3)	—	1.41 (35.9)	M30 x 1.5
		2.91 (73.8)	1.49 (37.8)	0.52 (13.26)	1.41 (35.9)	M30 x 1.5

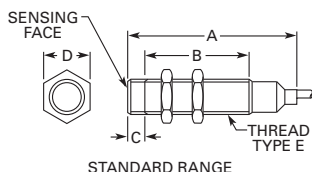
2-Wire AC/DC Sensors — Mini-Connector Models

12 mm	Shielded	3.36 (85.3)	1.98 (50.3)	0.02 (0.5)	0.67 (16.8)	M12 x 1
18 mm	Shielded	3.39 (86.1)	2.00 (50.8)	0.02 (0.5)	0.94 (23.8)	M18 x 1
	Semi-shielded	3.39 (86.0)	1.90 (48.2)	0.10 (2.54)	0.94 (23.8)	M18 x 1
	Unshielded	3.39 (86.1)	1.46 (37.0)	0.57 (14.5)	0.94 (23.8)	M18 x 1
30 mm	Shielded	3.39 (86.1)	2.1 (53.3)	0.03 (0.8)	1.41 (35.9)	M30 x 1.5
	Semi-shielded	3.44 (87.4)	1.90 (48.2)	0.13 (3.30)	1.41 (35.9)	M30 x 1.5
	Unshielded	3.39 (86.1)	1.55 (39.4)	0.55 (14.0)	1.41 (35.9)	M30 x 1.5

^① These dimensions apply to the Premium+ Series models in this section. Not indicated Premium Series models.^② For short barrel model dimensions (E57SAL ...) refer to **Page 3-25**.

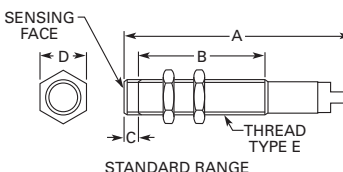
Approximate Dimensions — E57 Premium+ Series, End Sensing Models in Inches (mm) (Continued) ①②

Cable Models



STANDARD RANGE

Connector Models



STANDARD RANGE

Size	Shielding	Dimensions in Inches (mm)				
		Overall Length A	Threaded Length B	C	Nut Width D	Thread Size E

3-Wire DC Sensors — Mini-Connector Models

18 mm	Shielded	3.39 (86.1)	2.00 (50.8)	0.02 (0.5)	0.94 (23.8)	M18 x 1
	Semi-shielded	3.39 (86.0)	1.90 (48.2)	0.10 (2.54)	0.94 (23.8)	M18 x 1
	Unshielded	3.39 (86.1)	1.46 (37.0)	0.57 (14.5)	0.94 (23.8)	M18 x 1
30 mm	Shielded	3.39 (86.1)	2.1 (53.3)	0.03 (0.8)	1.41 (35.9)	M30 x 1.5
	Semi-shielded	3.44 (87.4)	1.90 (48.2)	0.13 (3.30)	1.41 (35.9)	M30 x 1.5
	Unshielded	3.39 (86.1)	1.55 (39.4)	0.55 (14.0)	1.41 (35.9)	M30 x 1.5

3-Wire DC Sensors — Cable Models

12 mm	Shielded	2.46 (62.4)	1.98 (50.3)	—	0.67 (16.8)	M12 x 1
	Semi-shielded	2.87 (72.8)	2.28 (57.9)	0.06 (1.62)	0.67 (16.8)	M12 x 1
	Unshielded	2.87 (72.7)	1.98 (50.3)	0.36 (9.14)	0.67 (16.8)	M12 x 1
18 mm	Shielded	2.54 (64.5)	2.00 (50.9)	—	0.94 (23.8)	M18 x 1
	Semi-shielded	2.60 (66.1)	1.90 (48.2)	0.10 (2.54)	0.94 (23.8)	M18 x 1
	Unshielded	2.60 (66.0)	1.47 (37.2)	0.56 (14.1)	0.94 (23.8)	M18 x 1
30 mm	Shielded	2.73 (69.3)	1.98 (50.3)	—	1.41 (35.9)	M30 x 1.5
	Semi-shielded	2.67 (67.8)	1.90 (48.2)	0.13 (3.30)	1.41 (35.9)	M30 x 1.5
	Unshielded	2.73 (69.3)	1.49 (37.8)	0.52 (13.26)	1.41 (35.9)	M30 x 1.5

3-Wire DC Sensors — Micro-Connector Models

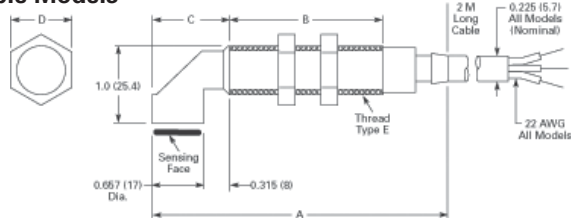
12 mm	Shielded	2.71 (68.7)	1.98 (50.3)	—	0.67 (16.8)	M12 x 1
	Semi-shielded	3.04 (77.2)	2.28 (57.9)	0.06 (1.62)	0.67 (16.8)	M12 x 1
	Unshielded	3.06 (77.7)	1.98 (50.3)	0.36 (9.14)	0.67 (16.8)	M12 x 1
18 mm	Shielded	2.73 (69.3)	2.00 (50.9)	—	0.94 (23.8)	M18 x 1
	Semi-shielded	2.72 (69.1)	1.90 (48.2)	0.10 (2.54)	0.94 (23.8)	M18 x 1
	Unshielded	2.74 (69.4)	1.47 (37.2)	0.56 (14.1)	0.94 (23.8)	M18 x 1
30 mm	Shielded	2.92 (74.1)	1.98 (50.3)	—	1.41 (35.9)	M30 x 1.5
	Semi-shielded	2.78 (70.6)	1.90 (48.2)	0.13 (3.30)	1.41 (35.9)	M30 x 1.5
	Unshielded	2.92 (74.1)	1.49 (37.8)	0.52 (13.26)	1.41 (35.9)	M30 x 1.5

① These dimensions apply to the Premium+ Series models in this section. Not indicated Premium Series models.

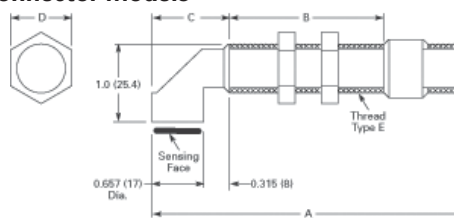
② For short barrel model dimensions (E57SAL ...) refer to **Page 3-25**.

Approximate Dimensions — E57 Premium+ Series, Right Angle Sensing Models in Inches (mm)

Cable Models



Connector Models



Size	Dimensions in Inches (mm)				
	Overall Length A	Thread B	Cap C	Nut Width D	Thread Size E
Cable Models					
18 mm	3.465 (88)	1.97 (50)	0.98 (25)	0.94 (24)	M18 x 1
Micro-Connector Models					
18 mm	3.65 (93)	1.97 (50)	0.98 (25)	0.94 (24)	M18 x 1
Mini-Connector Models					
18 mm	4.303 (109)	1.97 (50)	0.98 (25)	0.94 (24)	M18 x 1

**Premium+ Series Short Barrel
Inductive Proximity Sensors****Contents**

Overview	3-25
Model Selection, Sensors	3-26
Model Selection, Compatible Connector Cables	3-27
Wiring Diagrams	3-27
Specifications	3-28
Model Selection, Accessories ..	3-28
Dimensions	3-29

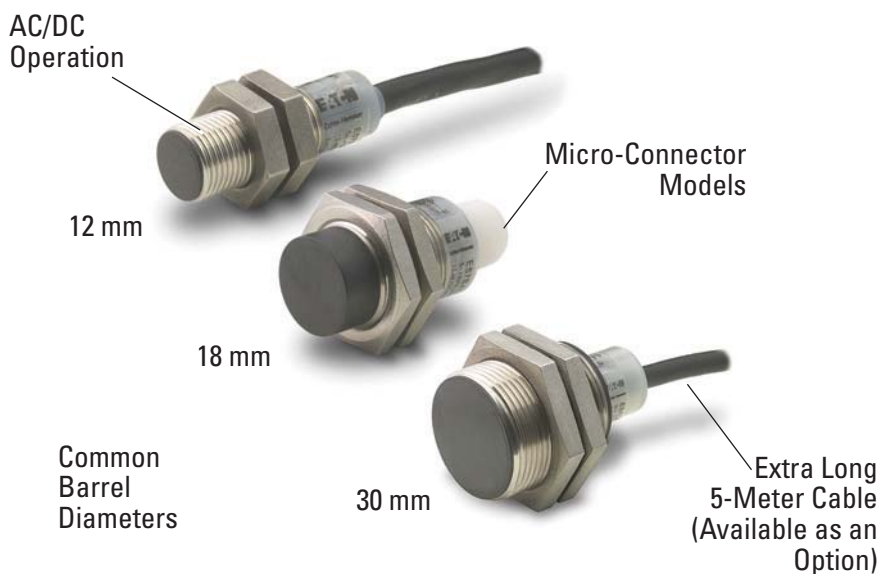
The new Cutler-Hammer® Premium+ Series Short Barrel Inductive Proximity Sensors from Eaton's electrical business feature the same sensing ranges as our standard length sensors, but in a body with a substantially shorter length. This allows the sensors to be used in applications where mounting space is limited.

Our robust Premium+ Series design has been added to the short barrel line. This means these sensors have been upgraded to include rugged stainless steel barrels, polycarbonate end bells, shock-resistant front cap and potting compound. Plus, the short barrel line now includes a choice of AC, AC/DC and DC-only, 12, 18 and 30 mm sensors. Cable models feature an optional extra long 5-meter cable. Every sensor is designed with 360° LED.

Approvals

- C-UL Listed
 (AC/DC and DC-only models)

For the most current information
on this product, visit our web site:
www.EatonElectrical.com

**These Sensors Feature a Short Barrel Length to Fit into
Tight Locations****Product Features**

- Manufactured to take physical and environmental abuse
- Designed with stainless steel barrel and impact-absorbing new potting compound for robust, high temperature, high pressure washdown, as well as intense shock and vibration applications
- Unmatched high noise immunity eliminates problems associated with electrical noise (all models > 20V/meter)
- 360° output status indicator is visible from any angle and in any light condition
- Resettable short circuit protection in AC/DC and DC models
- Reverse polarity protection in 3-wire DC versions
- Small size to fit in tight spaces
- Choice of cable for low cost wiring, or micro-connector for quick installation or replacement
- Cable models include an extra long 5-meter cable as option

For Customer Service in the U.S. call **1-877-ETN CARE (386-2273)**,
in Canada call **1-800-268-3578**.
For Application Assistance in the U.S. and Canada
call **1-800-426-9184**.

Model Selection — Short Barrel Length Proximity Sensors

	Operating Voltage	Sensing Range (Sn)	Shielding	Connection Type ①	Catalog Number	
					N.O. Output	N.C. Output
2-Wire Sensors						
12 mm Diameter 	20 – 250V AC	2 mm	Shielded	2-meter Cable	E57SAL12A4	E57SBL12A4
				3-pin Micro AC Connector	E57SAL12A4SA ☺	E57SBL12A4SA ☺
		4 mm	Unshielded	2-meter Cable	E57SAL12A4E	E57SBL12A4E
				3-pin Micro AC Connector	E57SAL12A4EA ☺	E57SBL12A4EA ☺
	40 – 250V AC 50/60 Hz ☺ 20 – 250V DC	2 mm	Shielded	2-meter Cable	E57SAL12A2	E57SBL12A2
				3-pin Micro AC Connector	E57SAL12A2SA ☺	E57SBL12A2SA ☺
4 mm		Unshielded	2-meter Cable	E57SAL12A2E	E57SBL12A2E	
			3-pin Micro AC Connector	E57SAL12A2EA ☺	E57SBL12A2EA ☺	
18 mm Diameter 	20 – 250V AC	5 mm	Shielded	2-meter Cable	E57SAL18A4	E57SBL18A4
				3-pin Micro AC Connector	E57SAL18A4SA ☺	E57SBL18A4SA ☺
		8 mm	Unshielded	2-meter Cable	E57SAL18A4E	E57SBL18A4E
				3-pin Micro AC Connector	E57SAL18A4EA ☺	E57SBL18A4EA ☺
	40 – 250V AC 50/60 Hz ☺ 20 – 250V DC	5 mm	Shielded	2-meter Cable	E57SAL18A2	E57SBL18A2
				3-pin Micro AC Connector	E57SAL18A2SA ☺	E57SBL18A2SA ☺
8 mm		Unshielded	2-meter Cable	E57SAL18A2E	E57SBL18A2E	
			3-pin Micro AC Connector	E57SAL18A2EA ☺	E57SBL18A2EA ☺	
30 mm Diameter 	20 – 250V AC	10 mm	Shielded	2-meter Cable	E57SAL30A4	E57SBL30A4
				3-pin Micro AC Connector	E57SAL30A4SA ☺	E57SBL30A4SA ☺
		15 mm	Unshielded	2-meter Cable	E57SAL30A4E	E57SBL30A4E
				3-pin Micro AC Connector	E57SAL30A4EA ☺	E57SBL30A4EA ☺
	40 – 250V AC 50/60 Hz ☺ 20 – 250V DC	10 mm	Shielded	2-meter Cable	E57SAL30A2	E57SBL30A2
				3-pin Micro AC Connector	E57SAL30A2SA ☺	E57SBL30A2SA ☺
15 mm		Unshielded	2-meter Cable	E57SAL30A2E	E57SBL30A2E	
			3-pin Micro AC Connector	E57SAL30A2EA ☺	E57SBL30A2EA ☺	
3-Wire Sensors						
12 mm Diameter 	6 – 48V DC	2 mm	Shielded (NPN)	2-meter Cable	E57SAL12T110	—
				4-pin Micro DC Connector	E57SAL12T110SD ☺	—
			Shielded (PNP)	2-meter Cable	E57SAL12T111	E57SBL12T111
				4-pin Micro DC Connector	E57SAL12T111SD ☺	E57SBL12T111SD ☺
		4 mm	Unshielded (NPN)	2-meter Cable	E57SAL12T110E	E57SBL12T110E
				4-pin Micro DC Connector	E57SAL12T110ED ☺	E57SBL12T110ED ☺
Unshielded (PNP)			2-meter Cable	E57SAL12T111E	E57SBL12T111E	
			4-pin Micro DC Connector	E57SAL12T111ED ☺	E57SBL12T111ED ☺	
18 mm Diameter 	6 – 48V DC	5 mm	Shielded (NPN)	2-meter Cable	E57SAL18T110	E57SBL18T110
				4-pin Micro DC Connector	E57SAL18T110SD ☺	E57SBL18T110SD ☺
			Shielded (PNP)	2-meter Cable	E57SAL18T111	E57SBL18T111
				4-pin Micro DC Connector	E57SAL18T111SD ☺	E57SBL18T111SD ☺
		8 mm	Unshielded (NPN)	2-meter Cable	E57SAL18T110E	E57SBL18T110E
				4-pin Micro DC Connector	E57SAL18T110ED ☺	E57SBL18T110ED ☺
Unshielded (PNP)			2-meter Cable	E57SAL18T111E	E57SBL18T111E	
			4-pin Micro DC Connector	E57SAL18T111ED ☺	E57SBL18T111ED ☺	
30 mm Diameter 	6 – 48V DC	10 mm	Shielded (NPN)	2-meter Cable	E57SAL30T110	E57SBL30T110
				4-pin Micro DC Connector	E57SAL30T110SD ☺	E57SBL30T110SD ☺
			Shielded (PNP)	2-meter Cable	E57SAL30T111	E57SBL30T111
				4-pin Micro DC Connector	E57SAL30T111SD ☺	E57SBL30T111SD ☺
		15 mm	Unshielded (NPN)	2-meter Cable	E57SAL30T110E	E57SBL30T110E
				4-pin Micro DC Connector	E57SAL30T110ED ☺	E57SBL30T110ED ☺
Unshielded (PNP)			2-meter Cable	E57SAL30T111E	E57SBL30T111E	
			4-pin Micro DC Connector	E57SAL30T111ED ☺	E57SBL30T111ED ☺	

① Cable models are supplied as standard with a 2-meter cable. A 5-meter cable is available by adding **S5** to the Catalog Number.
Example: E57SAL12T110 becomes E57SAL12T110S5.

② Avoid wiring these AC/DC models in series as the sensors may not perform reliably. Contact Eaton's Cutler-Hammer Applications Engineering at 1-800-426-9184 with questions.

☐ Fast turn product with typical one business day lead-time to shipment.

▒ Stocked product, typical order quantities guaranteed in stock.

☺☺ See listing of compatible connector cables on **Page 3-27**.

August 2007

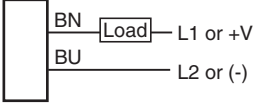
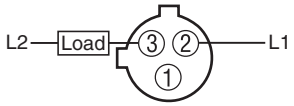
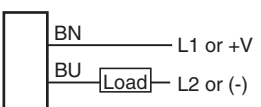
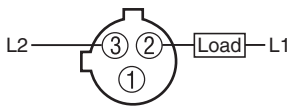
Model Selection — Compatible Connector Cables ^①

	Voltage Style	Number of Pins	Gauge	Length	Catalog Number			Pin Configuration/Wire Colors (Face View Female Shown)
					PVC Jacket	PUR Jacket	IRR PUR Jacket	
Standard Cables — Micro Style								
 Micro Style Straight Female	AC	3-pin 3-wire	22 AWG	6.0 feet (2m)	CSAS3F3CY2202	CSAS3F3RY2202	—	 1-Green 2-Red/Black 3-Red/White
	DC	4-pin 4-wire	22 AWG	6.0 feet (2m)	CSDS4A4CY2202	CSDS4A4RY2202	CSDS4A4IO2202	 1-Brown 2-White 3-Blue 4-Black

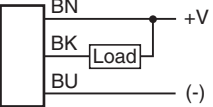
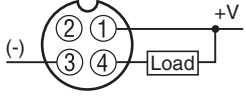
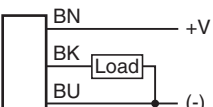
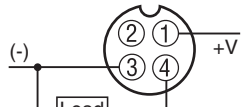
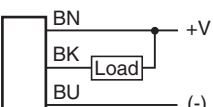
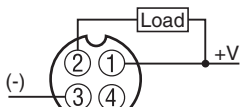
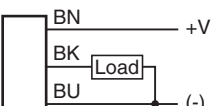
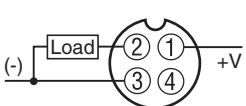
^① For a full selection of connector cables, see **Section 10**. Stocked product, typical order quantities guaranteed in stock.**Wiring Diagrams** (Pin numbers are for reference, rely on pin location when wiring)

Operating Voltage	Output	Cable Models	Micro-Connector Models (Face View Male Shown)
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2-Wire Sensors

20 – 250V AC/DC 45/65 Hz	N.O. and N.C. (NPN)		
	N.O. and N.C. (PNP)		

3-Wire Sensors

6 – 48V DC	N.O. (NPN)		
	N.O. (PNP)		
	N.C. (NPN)		
	N.C. (PNP)		

Specifications

	2 Wire AC Sensors	2-Wire AC/DC Sensors		3-Wire DC Sensors
		AC Operation	DC Operation	
Operating Voltage	40 – 250V AC	40 – 250V AC	20 – 250V DC	6 – 48V DC
Maximum Load Current	500 mA @ 25°C; 250 mA @ 70°C	250 mA @ 25°C ① 200 mA @ 70°C	250 mA @ 25°C 200 mA @ 70°C	500 mA @ 6 – 32V DC 250 mA @ 32 – 48V DC
Switching Frequency	20 Hz	60 Hz	60 Hz	12 mm: 800 Hz 18 mm: 500 Hz 30 mm: 300 Hz
Leakage Current	1.7 mA maximum @ 70°C	1.7V mA maximum @ 120V AC	≤2.0 mA	100 µA maximum
Voltage Drop	7V maximum	≤4V @ >25 mA	12V @ <10 mA	≤2.5V
Holding Current	5 mA minimum	5 mA minimum	5 mA maximum	≤10 mA
Protection	—	Resettable short circuit; overload protection	Resettable short circuit; overload protection	Auto reset
Switching Hysteresis	2 – 20% of rated sensing distance			
Repeat Accuracy	<3% sensing distance			
Output Indicator LED	360° viewable LED			
Operating Temperature	-13° to 158°F (-25° to 70°C) ①			
Enclosure Ratings	NEMA 4, 4X, 6, 6P, 12 and 13 (IP67)			
Shock	30g sine wave, 11 mS per IEC68-2-76			
Vibration	10 to 55 Hz, 1 mm amplitude			
Material of Construction	Stainless steel, Polycarbonate end bells, Ryton® front cap			
Cable	AWM Style 20387 (PVC)			

Ryton® is a registered trademark of Phillips Chemical (division of Phillips Petroleum).

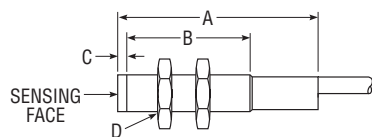
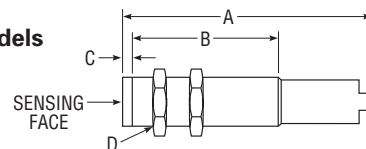
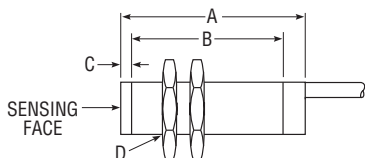
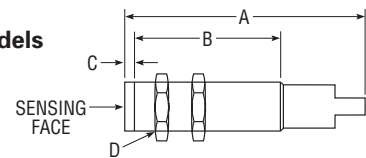
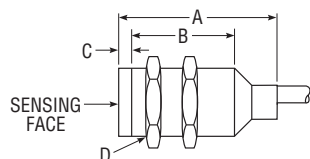
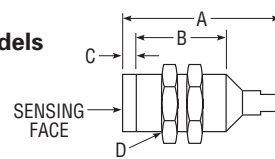
① Note: 240V AC operation is limited to less than 50°C in 2-wire AC/DC models.

Model Selection — Accessories

Description	Reference
Mounting Brackets	See Section 8
Replacement Mounting Nuts and Other Accessories	See Section 8
Connector Cables	See Section 10

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Approximate Dimensions in Inches (mm)

12 mm
Cable Models12 mm
Micro-Connector Models18 mm
Cable Models18 mm
Micro-Connector Models30 mm
Cable Models30 mm
Micro-Connector Models

Size	Shielding	Dimensions in Inches (mm)			
		Overall Length A	Threaded Length B	C	Thread Size D

2-Wire AC Sensors — Cable Models

12 mm	Shielded	2.04 (51.7)	1.56 (39.6)	0.02 (0.5)	M12 x 1
	Unshielded	2.04 (51.7)	1.38 (35.1)	0.20 (5)	M12 x 1
18 mm	Shielded	1.39 (35.4)	0.86 (21.82)	0.02 (0.5)	M18 x 1
	Unshielded	1.39 (35.4)	0.60 (15.32)	0.28 (7)	M18 x 1
30 mm	Shielded	1.58 (40.2)	0.99 (25.15)	0.03 (0.8)	M30 x 1.5
	Unshielded	1.77 (44.9)	0.68 (17.27)	0.52 (13.26)	M30 x 1.5

2-Wire AC Sensors — Micro-Connector Models

12 mm	Shielded	2.27 (57.8)	1.56 (39.6)	0.02 (0.5)	M12 x 1
	Unshielded	2.27 (57.8)	1.38 (35.1)	0.20 (5)	M12 x 1
18 mm	Shielded	1.57 (40.0)	0.86 (21.82)	0.02 (0.5)	M18 x 1
	Unshielded	1.57 (40.0)	0.60 (15.32)	0.28 (7)	M18 x 1
30 mm	Shielded	1.76 (44.8)	0.99 (25.15)	0.03 (0.8)	M30 x 1.5
	Unshielded	1.95 (49.5)	0.68 (17.27)	0.52 (13.26)	M30 x 1.5

2-Wire AC/DC Sensors — Cable Models

12 mm	Shielded	2.46 (62.4)	1.98 (50.27)	—	M12 x 1
	Unshielded	2.46 (62.4)	1.80 (45.77)	0.20 (5)	M12 x 1
18 mm	Shielded	2.54 (64.5)	2.00 (50.9)	—	M18 x 1
	Unshielded	2.54 (64.5)	1.75 (44.4)	0.28 (7)	M18 x 1
30 mm	Shielded	2.72 (69.3)	2.12 (53.8)	—	M30 x 1.5
	Unshielded	2.72 (69.3)	1.63 (41.4)	0.52 (13.26)	M30 x 1.5

2-Wire AC/DC Sensors — Micro-Connector Models

12 mm	Shielded	2.69 (68.4)	1.98 (50.27)	—	M12 x 1
	Unshielded	2.69 (68.4)	1.80 (45.77)	0.20 (5)	M12 x 1
18 mm	Shielded	2.72 (69.06)	2.00 (50.9)	—	M18 x 1
	Unshielded	2.72 (69.06)	1.75 (44.4)	0.28 (7)	M18 x 1
30 mm	Shielded	2.91 (73.8)	2.12 (53.8)	—	M30 x 1.5
	Unshielded	2.91 (73.8)	1.63 (41.4)	0.52 (13.26)	M30 x 1.5

3-Wire DC Sensors — Cable Models

12 mm	Shielded	1.39 (35.2)	0.91 (23.09)	0.02 (0.5)	M12 x 1
	Unshielded	1.39 (35.2)	0.73 (18.59)	0.20 (5)	M12 x 1
18 mm	Shielded	1.39 (35.4)	0.86 (21.82)	0.02 (0.5)	M18 x 1
	Unshielded	1.39 (35.4)	0.60 (15.32)	0.28 (7)	M18 x 1
30 mm	Shielded	1.58 (40.2)	0.84 (21.26)	0.03 (0.8)	M30 x 1.5
	Unshielded	1.77 (44.9)	0.53 (13.46)	0.52 (13.26)	M30 x 1.5

3-Wire DC Sensors — Micro-Connector Models

12 mm	Shielded	1.64 (41.5)	0.91 (23.09)	0.02 (0.5)	M12 x 1
	Unshielded	1.64 (41.5)	0.73 (18.59)	0.20 (5)	M12 x 1
18 mm	Shielded	1.59 (40.3)	0.86 (21.82)	0.02 (0.5)	M18 x 1
	Unshielded	1.59 (40.3)	0.60 (15.32)	0.28 (7)	M18 x 1
30 mm	Shielded	1.77 (45.0)	0.84 (21.26)	0.03 (0.8)	M30 x 1.5
	Unshielded	1.96 (49.7)	0.53 (13.46)	0.52 (13.26)	M30 x 1.5