


E57 Premium+ Series Inductive Proximity Sensors

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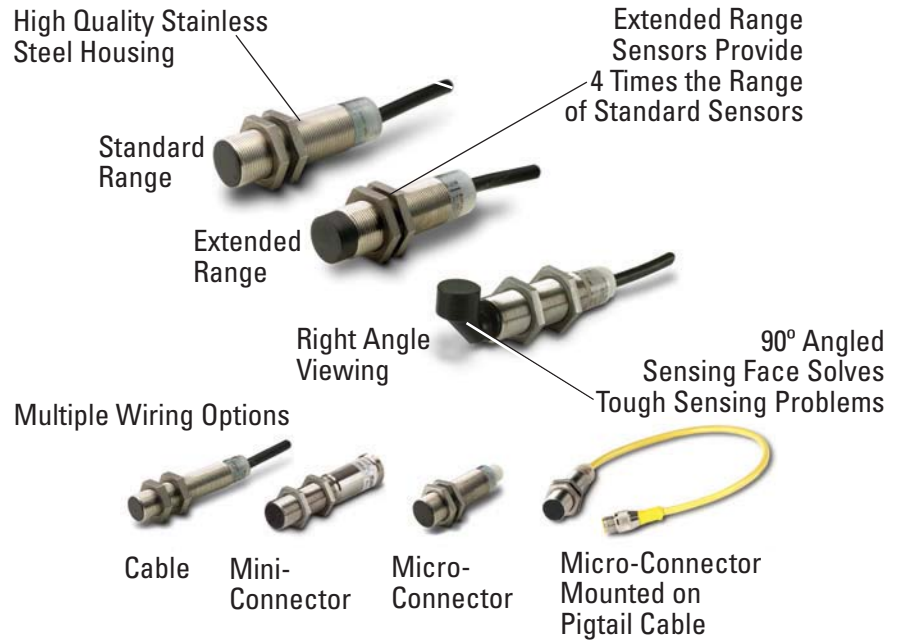
The Cutler-Hammer® Premium+ Series Inductive Proximity Sensors by Eaton's electrical business have improved sensing performance, product durability and selection. This improved line of sensors carries the Premium+ Series name because we have upgraded the design to a rugged stainless steel body, shock-resistant 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

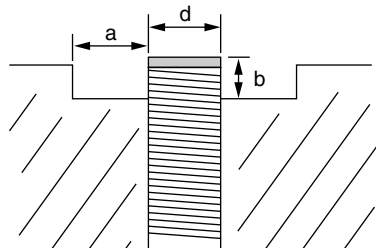


Product Features

- 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**.

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						
 <p>Standard Range</p> <p>Extended Range</p>	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	E57LBL12A2E
				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	E57-12LE06-A1
				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	E57-12LE10-A1
				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 ☺	
			3-pin Mini-Connector	E57MAL12A2B1 ☺	—	
	4 mm (Standard Range)	Unshielded	2-meter Cable	E57SAL12A2E	E57SBL12A2E	
			3-pin Micro AC Connector	E57SAL12A2EA ☺	E57SBL12A2EA ☺	
 <p>Standard Range</p> <p>Extended Range</p>	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 ☺
				3-pin Micro AC Pigtail Connector	E57-18LE20-AP ☺	E57-18LE20-A1P ☺
				3-pin Mini-Connector	E57-18LE20-AB ☺	E57-18LE20-A1B ☺
40 – 250V AC 50/60 Hz ② 20 – 250V DC	5 mm (Standard Range)	Shielded	2-meter Cable	E57SAL18A2	E57SBL18A2	
			3-pin Micro AC Connector	E57SAL18A2SA ☺	E57SBL18A2SA ☺	
	8 mm (Standard Range)	Unshielded	2-meter Cable	E57SAL18A2E	E57SBL18A2E	
			3-pin Micro AC Connector	E57SAL18A2EA ☺	E57SBL18A2EA ☺	
	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 Ⓜ			
	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
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**.

August 2007

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-Wire Sensors (Continued)						
30 mm Diameter End Sensing  Standard Range  Extended Range	6 – 48V DC	10 mm (Standard Range)	Shielded (NPN)	2-meter Cable	E57LAL30T110	E57LBL30T110
				4-pin Micro DC Connector	E57LAL30T110SD ⊕	E57LBL30T110SD ⊕
				4-pin Micro DC Pigtail Connector	E57LAL30T110SP ⊕	E57LBL30T110SP ⊕
			4-pin Mini-Connector	E57MAL30T110B1 ⊕	E57MBL30T110B1 ⊕	
			Shielded (PNP)	2-meter Cable	E57LAL30T111	E57LBL30T111
				4-pin Micro DC Connector	E57LAL30T111SD ⊕	E57LBL30T111SD ⊕
		4-pin Micro DC Pigtail Connector		E57LAL30T111SP ⊕	E57LBL30T111SP ⊕	
		15 mm (Standard Range)	Unshielded (NPN)	2-meter Cable	E57LAL30T110E	E57LBL30T110E
				4-pin Micro DC Connector	E57LAL30T110ED ⊕	E57LBL30T110ED ⊕
				4-pin Micro DC Pigtail Connector	E57LAL30T110EP ⊕	E57LBL30T110EP ⊕
			Unshielded (PNP)	4-pin Mini-Connector	E57MAL30T110EB1 ⊕	E57MBL30T110EB1 ⊕
				2-meter Cable	E57LAL30T111E	E57LBL30T111E
	4-pin Micro DC Connector			E57LAL30T111ED ⊕	E57LBL30T111ED ⊕	
	22 mm (Extended Range)	Semi-shielded (NPN)	4-pin Micro DC Pigtail Connector	E57LAL30T111EP ⊕	E57LBL30T111EP ⊕	
			4-pin Mini-Connector	E57MAL30T111EB1 ⊕	E57MBL30T111EB1 ⊕	
			2-meter Cable	E57-30LE22-C	E57-30LE22-C1	
		Semi-shielded (PNP)	4-pin Micro DC Connector	E57-30LE22-CD ⊕	E57-30LE22-C1D ⊕	
			4-pin Micro DC Pigtail Connector	E57-30LE22-CP ⊕	E57-30LE22-C1P ⊕	
			4-pin Mini-Connector	E57-30LE22-CB ⊕	E57-30LE22-C1B ⊕	
	2-meter Cable	E57-30LE22-B	E57-30LE22-B1			
4-pin Micro DC Connector	E57-30LE22-BD ⊕	E57-30LE22-B1D ⊕				
4-pin Micro DC Pigtail Connector	—	E57-30LE22-B1P ⊕				
4-pin Mini-Connector	E57-30LE22-BB ⊕	E57-30LE22-B1B ⊕				

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

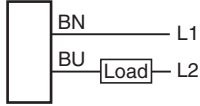
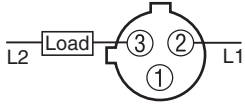
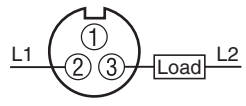
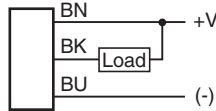
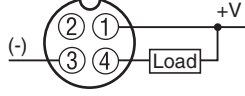
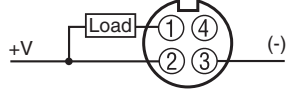
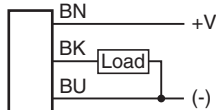
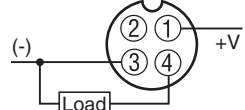
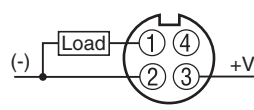
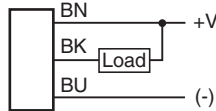
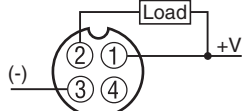
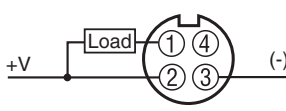
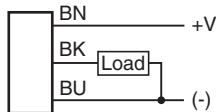
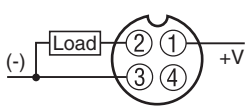
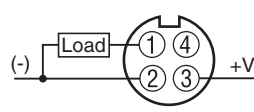
Mini Style Straight Female Current Rating @ 600V 3-pin: 13A 4-pin: 10A 	—	3-pin	16 AWG	6 feet (2m)	CSMS3F3CY1602	 1-Green 2-Black 3-White
	AC/DC	4-pin, 4-wire	16 AWG	6 feet (2m)	CSMS4A4CY1602	 1-Black 2-Blue 3-Brown 4-White

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.

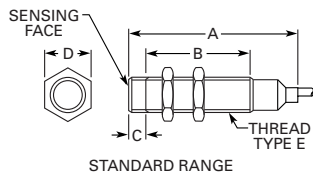
② Semi-shielded models are nickel-plated brass.

Model Selection — Accessories

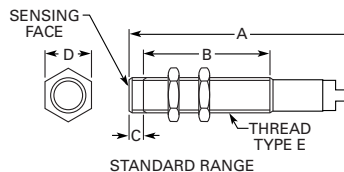
Description	Reference
Mounting Brackets	See Section 8
Replacement Mounting Nuts and Other Accessories	See Section 8
Connector Cables	See Section 10

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)	0.67 (16.8)	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
	Unshielded	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
	Unshielded	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
	Unshielded	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
	Unshielded	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
	Unshielded	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
	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 — Mini-Connector Models

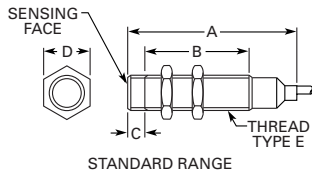
12 mm	Shielded	3.36 (85.3)	1.98 (50.3)	0.02 (0.5)	0.67 (16.8)	M12 x 1
18 mm	Shielded	3.39 (86.1)	2.00 (50.8)	0.02 (0.5)	0.94 (23.8)	M18 x 1
	Semi-shielded	3.39 (86.0)	1.90 (48.2)	0.10 (2.54)	0.94 (23.8)	M18 x 1
	Unshielded	3.39 (86.1)	1.46 (37.0)	0.57 (14.5)	0.94 (23.8)	M18 x 1
30 mm	Shielded	3.39 (86.1)	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.

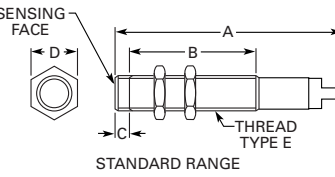
② For short barrel model dimensions (E57SAL ...) refer to Page 3-25.

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

Cable Models



Connector Models



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

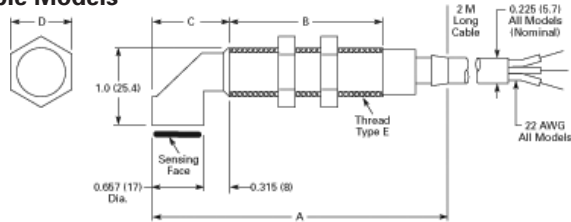
12 mm	Shielded	2.71 (68.7)	1.98 (50.3)	—	0.67 (16.8)	M12 x 1
	Semi-shielded	3.04 (77.2)	2.28 (57.9)	0.06 (1.62)	0.67 (16.8)	M12 x 1
	Unshielded	3.06 (77.7)	1.98 (50.3)	0.36 (9.14)	0.67 (16.8)	M12 x 1
18 mm	Shielded	2.73 (69.3)	2.00 (50.9)	—	0.94 (23.8)	M18 x 1
	Semi-shielded	2.72 (69.1)	1.90 (48.2)	0.10 (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.

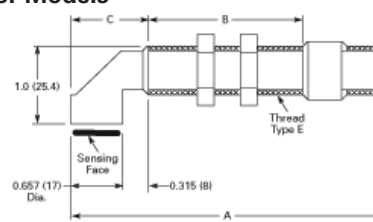
② For short barrel model dimensions (E57SAL ...) refer to **Page 3-25**.

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
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Micro-Connector Models

18 mm	3.65 (93)	1.97 (50)	0.98 (25)	0.94 (24)	M18 x 1
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Mini-Connector Models

18 mm	4.303 (109)	1.97 (50)	0.98 (25)	0.94 (24)	M18 x 1
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Premium+ Series Short Barrel Inductive Proximity Sensors


Contents

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 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.

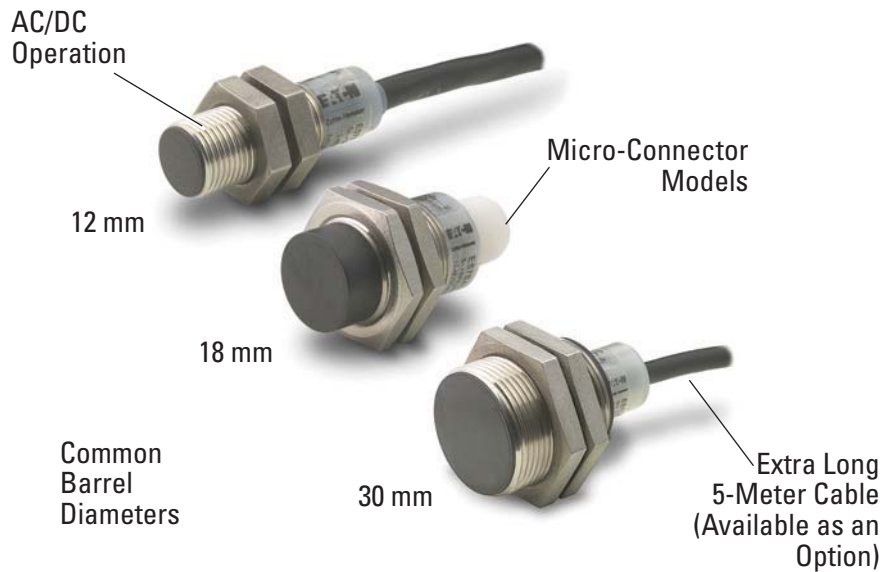
Our robust Premium+ Series design has been added to the short barrel line. This means these sensors have been upgraded to include rugged stainless steel barrels, polycarbonate end bells, shock-resistant front cap and potting compound. Plus, the short barrel line now includes a choice of AC, AC/DC and 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
			Unshielded	3-pin Micro AC Connector	E57SAL12A4SA ☺	E57SBL12A4SA ☺
		4 mm	Shielded	2-meter Cable	E57SAL12A4E	E57SBL12A4E
	Unshielded		3-pin Micro AC Connector	E57SAL12A4EA ☺	E57SBL12A4EA ☺	
	20 – 250V AC 50/60 Hz ^② 20 – 250V DC		2 mm	Shielded	2-meter Cable	E57SAL12A2
		Unshielded		3-pin Micro AC Connector	E57SAL12A2SA ☺	E57SBL12A2SA ☺
4 mm		Shielded	2-meter Cable	E57SAL12A2E	E57SBL12A2E	
	Unshielded	3-pin Micro AC Connector	E57SAL12A2EA ☺	E57SBL12A2EA ☺		
18 mm Diameter 	20 – 250V AC	5 mm	Shielded	2-meter Cable	E57SAL18A4	E57SBL18A4
			Unshielded	3-pin Micro AC Connector	E57SAL18A4SA ☺	E57SBL18A4SA ☺
		8 mm	Shielded	2-meter Cable	E57SAL18A4E	E57SBL18A4E
	Unshielded		3-pin Micro AC Connector	E57SAL18A4EA ☺	E57SBL18A4EA ☺	
	40 – 250V AC 50/60 Hz ^② 20 – 250V DC		5 mm	Shielded	2-meter Cable	E57SAL18A2
		Unshielded		3-pin Micro AC Connector	E57SAL18A2SA ☺	E57SBL18A2SA ☺
8 mm		Shielded	2-meter Cable	E57SAL18A2E	E57SBL18A2E	
	Unshielded	3-pin Micro AC Connector	E57SAL18A2EA ☺	E57SBL18A2EA ☺		
30 mm Diameter 	20 – 250V AC	10 mm	Shielded	2-meter Cable	E57SAL30A4	E57SBL30A4
			Unshielded	3-pin Micro AC Connector	E57SAL30A4SA ☺	E57SBL30A4SA ☺
		15 mm	Shielded	2-meter Cable	E57SAL30A4E	E57SBL30A4E
	Unshielded		3-pin Micro AC Connector	E57SAL30A4EA ☺	E57SBL30A4EA ☺	
	40 – 250V AC 50/60 Hz ^② 20 – 250V DC		10 mm	Shielded	2-meter Cable	E57SAL30A2
		Unshielded		3-pin Micro AC Connector	E57SAL30A2SA ☺	E57SBL30A2SA ☺
15 mm		Shielded	2-meter Cable	E57SAL30A2E	E57SBL30A2E	
	Unshielded	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
			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
			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
			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

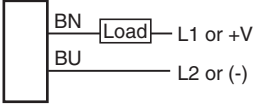
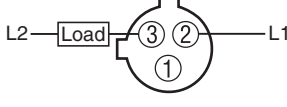
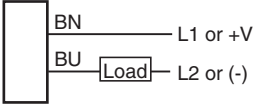
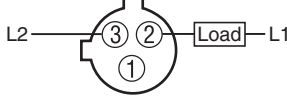
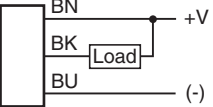
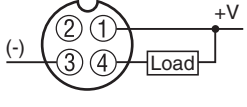
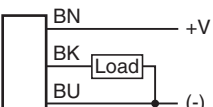
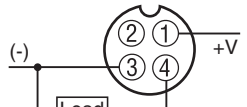
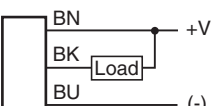
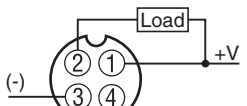
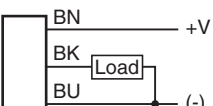
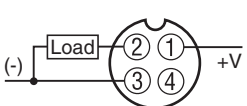
Model Selection — Compatible Connector Cables ^①

	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								
	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

^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)
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).

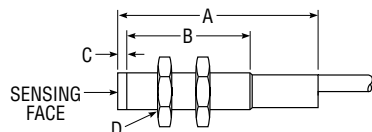
① Note: 240V AC operation is limited to less than 50°C in 2-wire AC/DC models.

Model Selection — Accessories

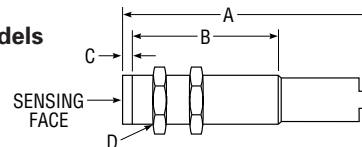
Description	Reference
Mounting Brackets	See Section 8
Replacement Mounting Nuts and Other Accessories	See Section 8
Connector Cables	See Section 10

Approximate Dimensions in Inches (mm)

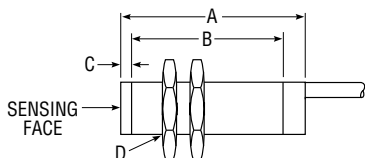
12 mm Cable Models



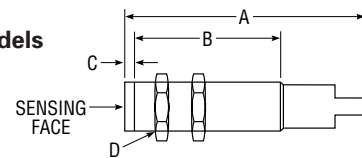
12 mm Micro-Connector Models



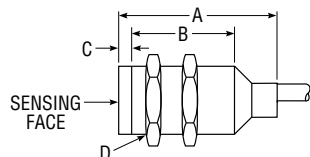
18 mm Cable Models



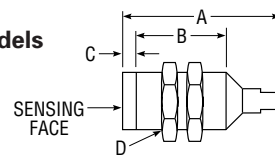
18 mm Micro-Connector Models



30 mm Cable Models



30 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

Global Inductive Proximity Sensors

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Model Selection, Compatible Connector Cables	3-33
Model Selection, Accessories	3-33
Wiring Diagrams	3-34
Specifications	3-34
Dimensions	3-35

The Cutler-Hammer® Global Proximity Sensor Family was created by Eaton's electrical business with the high volume OEM in mind. It has been optimized to include only those functions necessary for basic, reliable sensing. Why pay for extra features when you don't need them? That's not to say these sensors lack the performance or features you expect. Our DC units are short circuit protected and will sense up to 2,000 operations per second. Plus, all sensors include a bright LED indicator to show output status.

There's no need to design your machine around these sensors. The Global family includes models in a variety of diameters so they will fit right where you need them. Select models from 8 mm diameter all the way up to 30 mm, for just the size or sensing range that you require. Need something smaller? Our standard line includes inductive proximity sensors as small as 4 mm in diameter.

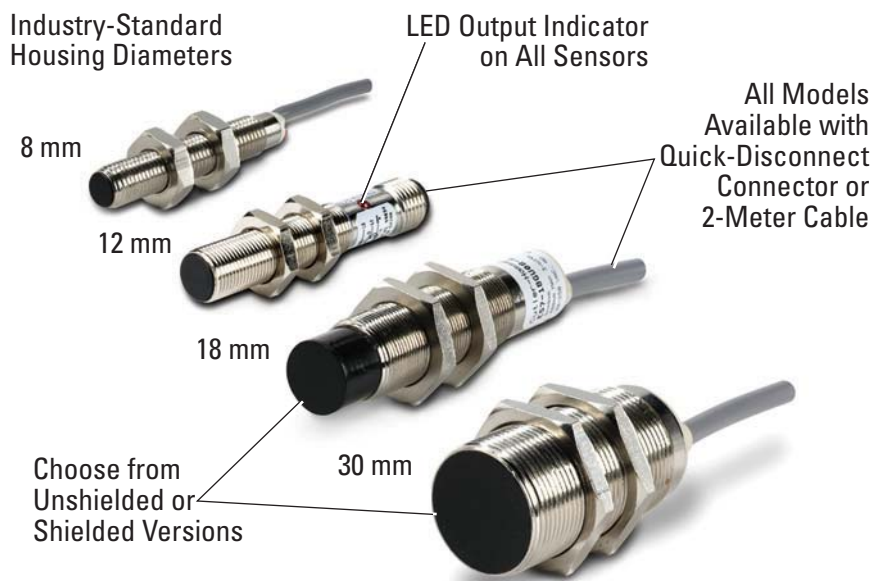
The Global Proximity is available in AC or DC, 2-wire or 3-wire, and NPN or PNP. You can even choose between cable wiring or quick-disconnect connectors. For power handling, our DC units feature a 100 mA load current rating and AC units are rated up to 200 mA.

Approvals

CE (DC models only)
cCSAus

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

Cost-Effective Inductive Proximity Sensing for High Volume Use







Product Features

- The Global Proximity Line features solid performance and a basic feature set for reliable, cost-effective sensing
- Available in a variety of sizes to fit in all of your applications: 8 mm, 12 mm, 18 mm and 30 mm diameters
- DC sensors operate on 10 – 30V DC in 2-wire and 3-wire (NPN or PNP) configurations
- AC sensors operate on 20 – 250V AC in 2-wire configuration
- Switching frequency of 2 kHz for DC models
- Shielded and unshielded versions available
- Terminations include 2-meter cable, micro-connector and nano-connector
- DC units include short circuit protection

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.

August 2007

Model Selection — Global Proximity Sensors




	Operating Voltage	Sensing Range	Shielding	Output Type	Connection Type	Catalog Number	
2-Wire Sensors							
 <p>12 mm Diameter</p>	20 – 250V AC	2 mm	Shielded	N.O.	2-meter Cable	E57-12GS02-A	
		4 mm	Unshielded	N.O.	3-pin Micro AC Connector	E57-12GS02-AAB ☺	
		10 – 30V DC	2 mm	Shielded	N.O. (NPN/PNP)	2-meter Cable	E57-12GU04-A
			4 mm	Unshielded	N.O. (NPN/PNP)	3-pin Micro AC Connector	E57-12GU04-AAB ☺
			8 mm (Extended Range)	N.O. (NPN/PNP)	2-meter Cable	E57-12GS02-D	
				N.C. (NPN/PNP)	4-pin Micro DC Connector	E57-12GS02-DBB ☺	
	18 mm Diameter	20 – 250V AC	5 mm	Shielded	N.O.	2-meter Cable	E57-12GU04-D
			8 mm	Unshielded	N.O.	4-pin Micro DC Connector	E57-12GU04-DDB ☺
			10 – 30V DC	5 mm	Shielded	N.O. (NPN/PNP)	2-meter Cable
		8 mm		Unshielded	N.O. (NPN/PNP)	4-pin Micro DC Connector	E57-12GE08-DBB ☺
		16 mm (Extended Range)		N.O. (NPN/PNP)	2-meter Cable	E57-12GE08-D1	
			N.C. (NPN/PNP)	4-pin Micro DC Connector	E57-12GE08-DBB ☺		
 <p>18 mm Diameter</p>	20 – 250V AC	5 mm	Shielded	N.O.	2-meter Cable	E57-12GE08-D1DB ☺	
		8 mm	Unshielded	N.O.	3-pin Micro AC Connector	E57-18GS05-A	
		16 mm	Unshielded	N.O.	3-pin Micro AC Connector	E57-18GS05-AAB ☺	
	10 – 30V DC	5 mm	Shielded	N.O. (NPN/PNP)	2-meter Cable	E57-18GU08-A	
			Unshielded	N.O. (NPN/PNP)	3-pin Micro AC Connector	E57-18GU08-AAB ☺	
			Unshielded	N.O. (NPN/PNP)	4-pin Micro AC Connector	E57-18GU08-AAB ☺	
		8 mm	Shielded	N.O. (NPN/PNP)	2-meter Cable	E57-18GS05-D	
			Unshielded	N.O. (NPN/PNP)	4-pin Micro DC Connector	E57-18GS05-DBB ☺	
			Unshielded	N.O. (NPN/PNP)	4-pin Micro DC Connector	E57-18GS05-DBB ☺	
	30 mm Diameter	20 – 250V AC	5 mm	Shielded	N.O.	2-meter Cable	E57-18GE16-D
			8 mm	Unshielded	N.O. (NPN/PNP)	4-pin Micro DC Connector	E57-18GE16-DBB ☺
			16 mm (Extended Range)	Unshielded	N.C. (NPN/PNP)	2-meter Cable	E57-18GE16-D1
10 – 30V DC		10 mm	Shielded	N.O. (NPN/PNP)	4-pin Micro DC Connector	E57-18GE16-D1DB ☺	
			Unshielded	N.O. (NPN/PNP)	2-meter Cable	E57-30GS10-A	
			Unshielded	N.O. (NPN/PNP)	3-pin Micro AC Connector	E57-30GS10-AAB ☺	
 <p>30 mm Diameter</p>	20 – 250V AC	15 mm	Unshielded	N.O.	2-meter Cable	E57-30GS10-A	
		10 – 30V DC	10 mm	Shielded	N.O. (NPN/PNP)	3-pin Micro AC Connector	E57-30GS10-AAB ☺
				Unshielded	N.O. (NPN/PNP)	2-meter Cable	E57-30GU15-A
	Unshielded			N.O. (NPN/PNP)	3-pin Micro AC Connector	E57-30GU15-AAB ☺	
	25 mm (Extended Range)	10 mm	Shielded	N.O. (NPN/PNP)	2-meter Cable	E57-30GS10-D	
			Unshielded	N.O. (NPN/PNP)	4-pin Micro DC Connector	E57-30GS10-DBB ☺	
Unshielded			N.O. (NPN/PNP)	4-pin Micro DC Connector	E57-30GS10-DBB ☺		
 <p>8 mm Diameter</p>	10 – 30V DC	1 mm	Shielded	N.O. (NPN)	2-meter Cable	E57-08GS01-C	
				N.O. (PNP)	3-pin Nano-Connector	E57-08GS01-CNB ☺	
				N.O. (NPN)	4-pin Micro DC Connector	E57-08GS01-CDB ☺	
				N.O. (PNP)	2-meter Cable	E57-08GS01-G	
				N.O. (NPN)	3-pin Nano-Connector	E57-08GS01-GNB ☺	
				N.O. (PNP)	4-pin Micro DC Connector	E57-08GS01-GDB ☺	
		3 mm (Extended Range)	N.O. (NPN)	2-meter Cable	E57-08GE03-C		
			N.C. (NPN)	3-pin Nano-Connector	E57-08GE03-CNB ☺		
			N.O. (PNP)	4-pin Micro DC Connector	E57-08GE03-CDB ☺		
			N.O. (NPN)	2-meter Cable	E57-08GBE03-C		
			N.O. (PNP)	3-pin Nano-Connector	E57-08GBE03-CNB ☺		
			N.O. (PNP)	4-pin Micro DC Connector	E57-08GBE03-CDB ☺		
2 mm	Unshielded	N.O. (NPN)	2-meter Cable	E57-08GU02-C			
		N.O. (PNP)	3-pin Nano-Connector	E57-08GU02-CNB ☺			
		N.O. (NPN)	4-pin Micro DC Connector	E57-08GU02-CDB ☺			
		N.O. (PNP)	2-meter Cable	E57-08GU02-G			
		N.O. (NPN)	3-pin Nano-Connector	E57-08GU02-GNB ☺			
		N.O. (PNP)	4-pin Micro DC Connector	E57-08GU02-GDB ☺			
6 mm (Extended Range)	Unshielded	N.O. (NPN)	2-meter Cable	E57-08GE06-C			
		N.O. (PNP)	4-pin Micro DC Connector	E57-08GE06-CDB ☺			
		N.O. (NPN)	2-meter Cable	E57-08GE06-G			
		N.O. (PNP)	4-pin Micro DC Connector	E57-08GE06-GDB ☺			
		N.O. (NPN)	2-meter Cable	E57-08GE06-G			
		N.O. (PNP)	4-pin Micro DC Connector	E57-08GE06-GDB ☺			

☺☺ See listing of compatible connector cables on **Page 3-33**.

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

☐ Stocked product, typical order quantities guaranteed in stock.

Model Selection — Global Proximity Sensors (Continued)

	Operating Voltage	Sensing Range	Shielding	Output Type	Connection Type	Catalog Number
3-Wire Sensors (Continued)						
12 mm Diameter 	10 – 30V DC	2 mm	Shielded	N.O. (NPN)	2-meter Cable	E57-12GS02-C
					4-pin Micro DC Connector	E57-12GS02-CDB ☼
				N.O. (PNP)	2-meter Cable	E57-12GS02-G
					4-pin Micro DC Connector	E57-12GS02-GDB ☼
				N.O. (NPN)	2-meter Cable	E57-12GE05-C
					4-pin Micro DC Connector	E57-12GE05-CDB ☼
		N.O. (PNP)	2-meter Cable	E57-12GE05-G		
			4-pin Micro DC Connector	E57-12GE05-GDB ☼		
		5 mm (Extended Range)	Unshielded	N.O. (NPN)	2-meter Cable	E57-12GU04-C
					4-pin Micro DC Connector	E57-12GU04-CDB ☼
				N.O. (PNP)	2-meter Cable	E57-12GU04-G
					4-pin Micro DC Connector	E57-12GU04-GDB ☼
N.O. (NPN)	2-meter Cable			E57-12GE10-C		
	4-pin Micro DC Connector			E57-12GE10-CDB ☼		
N.O. (PNP)	2-meter Cable	E57-12GE10-G				
	4-pin Micro DC Connector	E57-12GE10-GDB ☼				
18 mm Diameter 	10 – 30V DC	5 mm	Shielded	N.O. (NPN)	2-meter Cable	E57-18GS05-C
					4-pin Micro DC Connector	E57-18GS05-CDB ☼
				N.O. (PNP)	2-meter Cable	E57-18GS05-G
					4-pin Micro DC Connector	E57-18GS05-GDB ☼
				N.O. (NPN)	2-meter Cable	E57-18GE08-C
					4-pin Micro DC Connector	E57-18GE08-CDB ☼
		N.O. (PNP)	2-meter Cable	E57-18GE08-G		
			4-pin Micro DC Connector	E57-18GE08-GDB ☼		
		8 mm (Extended Range)	Unshielded	N.O. (NPN)	2-meter Cable	E57-18GU08-C
					4-pin Micro DC Connector	E57-18GU08-CDB ☼
				N.O. (PNP)	2-meter Cable	E57-18GU08-G
					4-pin Micro DC Connector	E57-18GU08-GDB ☼
N.O. (NPN)	2-meter Cable			E57-18GE18-C		
	4-pin Micro DC Connector			E57-18GE18-CDB ☼		
N.O. (PNP)	2-meter Cable	E57-18GE18-G				
	4-pin Micro DC Connector	E57-18GE18-GDB ☼				
30 mm Diameter 	10 – 30V DC	10 mm	Shielded	N.O. (NPN)	2-meter Cable	E57-30GS10-C
					4-pin Micro DC Connector	E57-30GS10-CDB ☼
				N.O. (PNP)	2-meter Cable	E57-30GS10-G
					5-meter Cable	E57-30GS10-G5
				N.O. (NPN)	4-pin Micro DC Connector	E57-30GS10-GDB ☼
					2-meter Cable	E57-30GE15-C
		N.O. (PNP)	4-pin Micro DC Connector	E57-30GE15-CDB ☼		
			2-meter Cable	E57-30GE15-G		
		N.O. (PNP)	4-pin Micro DC Connector	E57-30GE15-GDB ☼		
			15 mm (Extended Range)	N.O. (NPN)	2-meter Cable	E57-30GU15-C
		4-pin Micro DC Connector			E57-30GU15-CDB ☼	
		N.O. (PNP)		2-meter Cable	E57-30GU15-G	
4-pin Micro DC Connector	E57-30GU15-GDB ☼					
N.O. (NPN)	2-meter Cable	E57-30GE29-C				
	4-pin Micro DC Connector	E57-30GE29-CDB ☼				
N.O. (PNP)	2-meter Cable	E57-30GE29-G				
	4-pin Micro DC Connector	E57-30GE29-GDB ☼				
15 mm	Unshielded	N.O. (NPN)	2-meter Cable	E57-30GU15-C		
			4-pin Micro DC Connector	E57-30GU15-CDB ☼		
		N.O. (PNP)	2-meter Cable	E57-30GU15-G		
			4-pin Micro DC Connector	E57-30GU15-GDB ☼		
		N.O. (NPN)	2-meter Cable	E57-30GE29-C		
			4-pin Micro DC Connector	E57-30GE29-CDB ☼		
N.O. (PNP)	2-meter Cable	E57-30GE29-G				
	4-pin Micro DC Connector	E57-30GE29-GDB ☼				
29 mm (Extended Range)	Unshielded	N.O. (NPN)	2-meter Cable	E57-30GU15-C		
			4-pin Micro DC Connector	E57-30GU15-CDB ☼		
		N.O. (PNP)	2-meter Cable	E57-30GU15-G		
			4-pin Micro DC Connector	E57-30GU15-GDB ☼		
		N.O. (NPN)	2-meter Cable	E57-30GE29-C		
			4-pin Micro DC Connector	E57-30GE29-CDB ☼		
N.O. (PNP)	2-meter Cable	E57-30GE29-G				
	4-pin Micro DC Connector	E57-30GE29-GDB ☼				

☼ See listing of compatible connector cables on **Page 3-33**.




☐ Stocked product, typical order quantities guaranteed in stock.

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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


	AC	3-pin 3-wire	22 AWG	6.0 feet (2m)	CSAS3F3CY2202	CSAS3F3RY2202	—	 <ul style="list-style-type: none"> 1-Green 2-Red/Black 3-Red/White
	DC	4-pin 3-wire	22 AWG	6.0 feet (2m)	CSDS4A3CY2202	CSDS4A3RY2202	—	 <ul style="list-style-type: none"> 1-Brown 2-No Wire 3-Blue 4-Black

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

Standard Cables — Nano Style

	—	3-pin	24 AWG	6.0 feet (2m)	CSNS3A3CY2402	CSNS3A3RY2402	—	 <ul style="list-style-type: none"> 1-Brown 3-Blue 4-Black
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^① For a full selection of connector cables, see **Section 10**.

 Stocked product, typical order quantities guaranteed in stock.

Model Selection — Accessories

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

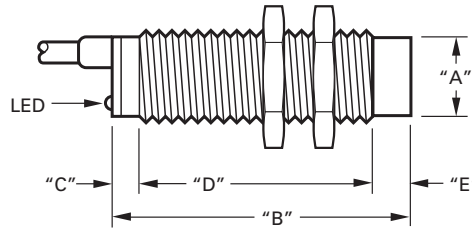
Wiring Diagrams (Pin numbers are for reference only, rely on pin location when wiring)

Operating Voltage	Output	Cable Models	Connector Models (Face View Male Shown)	
			Micro	Nano
2-Wire Sensors				
20 – 250V AC	N.O.	<p>* Internally connected to housing (use of this wire is optional)</p>	<p>* Internally connected to housing (use of this wire is optional)</p>	—
10 – 30V DC	N.O. (NPN)			—
	N.O. (PNP)			—
3-Wire Sensors				
10 – 30V DC	N.O. (NPN)			
	N.O. (PNP)			

Specifications

	2-Wire		3-Wire
	AC Models	DC Models	DC Models
Operating Voltage	20 – 250V AC	10 – 30V DC	10 – 30V DC
Off-State Leakage	<1.8 mA	<0.8 mA	<0.01 mA
Maximum Load Current	200 mA	100 mA	100 mA
Minimum Load Current	5 mA	3 mA	—
Surge Current	5A (20 mS)	—	—
Voltage Drop	<8V AC at 400 mA	<6V	<1.5V
Switching Frequency	8 mm Diameter: — 12 mm Diameter: 25 Hz 18 mm Diameter: 25 Hz 30 mm Diameter: 25 Hz	— 1 kHz (shielded); 1 kHz (unshielded) 1 kHz (shielded); 500 Hz (unshielded) 500 Hz (shielded); 200 Hz (unshielded)	2 kHz (shielded and unshielded) 2 kHz (shielded); 1 kHz (unshielded) 1 kHz (shielded); 500 Hz (unshielded) 300 Hz (shielded); 150 Hz (unshielded)
Short Circuit Protection	No	Yes	Yes
Overload Trip Point	—	>120 mA	220 mA
Time Delay Before Availability	—	—	<10 mS
Transient Protection	—	2 kV, 1 mS, 1KΩ	1kV, 0.1 mS, 1KΩ
Repeat Accuracy	Shielded: <1.0% / Unshielded: <3.0% (Sr)	<2.0% (Sr)	<1.0% (Sr)
Switching Hysteresis	<15%		
Operating Temperature	-25° to 70°C (0° to 60°C for 8 mm diameter models)		
Temperature Drift	<10% (Sr)		
Protection	IP67		
Housing Material	Nickel plated brass (stainless steel for 8 mm diameter, nano-connector models)		
Cable	PVC jacket, 2-meter length		

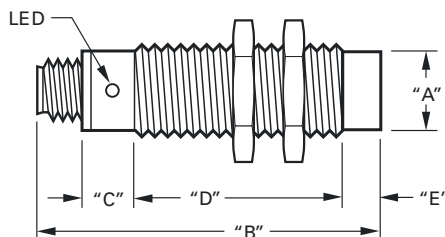
Approximate Dimensions in mm — Cable Models



Operating Voltage	Catalog Number	Approximate Dimensions in mm				
		A	B	C	D	E
2-Wire Sensors						
20 – 250V AC	E57-12GS02-A	M12x1	65	15	50	0
	E57-12GU04-A	M12x1	60	15	42	8
	E57-18GS05-A	M18x1	80	20	60	0
	E57-18GU08-A	M18x1	80	20	48	12
	E57-30GS10-A	M30	80	20	60	0
	E57-30GU15-A	M30	80	20	45	15
10 – 30V DC	E57-12GS02-D	M12x1	50	0	50	0
	E57-12GU04-D	M12x1	50	0	42	8
	E57-12GE08-D	M12x1	50	0	42	8
	E57-12GE08-D1	M12x1	50	0	42	8
	E57-18GS05-D	M18x1	55	5	50	0
	E57-18GU08-D	M18x1	55	5	38	12
	E57-18GE16-D	M18x1	55	5	38	12
	E57-18GE16-D1	M18x1	55	5	38	12
	E57-30GS10-D	M30	55	5	50	0
	E57-30GU15-D	M30	55	5	35	15
	E57-30GE25-D	M30	55	5	35	15
	E57-30GE25-D1	M30	55	5	35	15

Operating Voltage	Catalog Number	Approximate Dimensions in mm				
		A	B	C	D	E
3-Wire Sensors						
10 – 30V DC	E57-08GE03-C	M8x1	46	6	40	0
	E57-08GE03-G	M8x1	46	6	40	0
	E57-08GS01-C	M8x1	45	0	45	0
	E57-08GS01-G	M8x1	45	0	45	0
	E57-08GU02-C	M8x1	45	0	41	4
	E57-08GU02-G	M8x1	45	0	41	4
	E57-12GE05-C	M12x1	51	2	49	0
	E57-12GE05-G	M12x1	51	2	49	0
	E57-12GE10-C	M12x1	50.5	1.7	41	7.8
	E57-12GE10-G	M12x1	50.5	1.7	41	7.8
	E57-12GS02-C	M12x1	50	0	50	0
	E57-12GS02-G	M12x1	50	0	50	0
	E57-12GU04-C	M12x1	50	0	42	8
	E57-12GU04-G	M12x1	50	0	42	8
	E57-18GE08-C	M18x1	67.5	2.5	65	0
	E57-18GE08-G	M18x1	65.5	2.5	65	0
	E57-18GE18-C	M18x1	66	2.5	52	11.5
	E57-18GE18-G	M18x1	66	2.5	52	11.5
	E57-18GS05-C	M18x1	55	5	50	0
	E57-18GS05-G	M18x1	55	5	50	0
	E57-18GU08-C	M18x1	55	5	38	12
	E57-18GU08-G	M18x1	55	5	38	12
	E57-30GE15-C	M30	69	5	64	0
	E57-30GE15-G	M30	69	5	64	0
	E57-30GE29-C	M30	83	5	64	15
	E57-30GE29-G	M30	83	5	64	15
	E57-30GS10-C	M30	55	5	50	0
	E57-30GS10-G	M30	55	5	50	0
	E57-30GU15-C	M30	55	5	35	15
	E57-30GU15-G	M30	55	5	35	15

Approximate Dimensions in mm — Connector Models



Operating Voltage	Catalog Number	Approximate Dimensions in mm				
		A	B	C	D	E

2-Wire Sensors

20 – 250V AC	E57-12GS02-AAB	M12x1	68	16	42	0
	E57-12GU04-AAB	M12x1	68	16	34	8
	E57-18GS05-AAB	M18x1	91	20	60	0
	E57-18GU08-AAB	M18x1	91	20	48	12
	E57-30GS10-AAB	M30	80	20	60	0
	E57-30GU15-AAB	M30	91	20	45	15
10 – 30V DC	E57-12GS02-DDB	M12x1	69	16	42	0
	E57-12GU04-DDB	M12x1	68	16	34	8
	E57-12GE08-D1DB	M12x1	68	10	50	8
	E57-12GE08-D1DB	M12x1	68	10	50	8
	E57-18GS05-DDB	M18x1	76	15	61	0
	E57-18GU08-DDB	M18x1	80	15	49	12
	E57-18GE16-DDB	M18x1	79	15	52	12
	E57-18GE16-D1DB	M18x1	79	15	52	12
	E57-30GS10-DDB	M30	75	15	60	0
	E57-30GU15-DDB	M30	79	15	45	15
	E57-30GE25-DDB	M30	78	15	48	15
	E57-30GE25-D1DB	M30	78	15	48	15

Operating Voltage	Catalog Number	Approximate Dimensions in mm				
		A	B	C	D	E

3-Wire Sensors

10 – 30V DC	E57-08GE03-CDB	M8x1	71	26	36	0
	E57-08GE03-CNB	M8x1	61	19	42	0
	E57-08GE03-GDB	M8x1	71	26	36	0
	E57-08GE03-GNB	M8x1	61	19	42	0
	E57-08GS01-CD	M8x1	70	21	49	0
	E57-08GS01-CN	M8x1	60	20	40	0
	E57-08GS01-GD	M8x1	70	21	49	0
	E57-08GS01-GN	M8x1	60	20	40	0
	E57-08GU02-CD	M8x1	70	21	45	4
	E57-08GU02-CN	M8x1	60	20	36	4
	E57-08GU02-GD	M8x1	70	21	45	4
	E57-08GU02-GN	M8x1	60	20	36	4
	E57-12GE05-CDB	M12x1	69	24	45	0
	E57-12GE05-GDB	M12x1	69	24	45	0
	E57-12GE10-CDB	M12x1	68.5	10.3	36	7.8
	E57-12GE10-GDB	M12x1	68.5	10.3	36	7.8
	E57-12GS02-CDB	M12x1	68	16	52	0
	E57-12GS02-GDB	M12x1	68	16	52	0
	E57-12GU04-CDB	M12x1	68	20	31	8
	E57-12GU04-GDB	M12x1	68	20	31	8
	E57-18GS05-CDB	M18x1	76	15	61	0
	E57-18GS05-GDB	M18x1	76	15	61	0
	E57-18GU08-CDB	M18x1	76	15	49	12
	E57-18GU08-GDB	M18x1	80	15	49	12
	E57-30GS10-CDB	M30	79	15	60	0
	E57-30GS10-GDB	M30	75	15	60	0
	E57-30GU15-CDB	M30	75	15	45	15
	E57-30GU15-GDB	M30	75	15	45	15

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Ferrous Only Tubular Inductive Proximity Sensors

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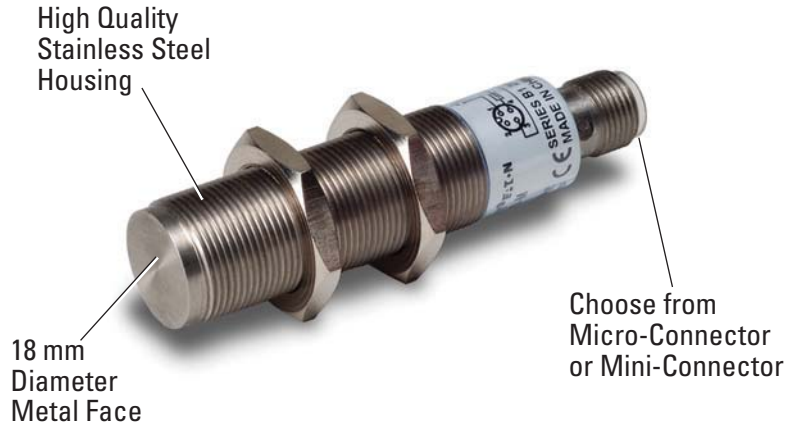
These unique Cutler-Hammer® Inductive Proximity Sensors have been specially made by Eaton's electrical business to detect only a specific type of metal. Ferrous Only models will detect only ferrous metals such as steel, iron, nickel or cobalt.

A typical application for **Ferrous Only** sensors would be in workcell applications where cutting tools, tool pallets and fixtures must be detected for proper workpiece manipulation. The sensors detect ferrous objects while ignoring aluminum.

These sensors are available in a standard 18 mm diameter, and are epoxy filled for shock/vibration resistance and heat tolerance.

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

These Problem-Solving Sensors Will Sense One Type of Metal While Completely Ignoring Another Type





Product Features

- Ferrous Only sensors detect ferrous metals, such as steel or iron, while ignoring non-ferrous metals
- Selection of 2-wire and 3-wire, AC/DC and DC-only sensor models
- Wide operating temperature range: -13° to 158°F (-25° to 70°C)

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 — Ferrous Metal Sensing Only

	Operating Voltage	Sensing Range (Sn)	Shielding	Connection Type	Catalog Number
					N.O. Output
2-Wire Sensors					
18 mm Diameter 	20 – 250V AC/DC 50/60 Hz	5.0 mm	Shielded	3-pin Micro AC Connector	E57FAL18A2SA ⊕
				3-pin Mini-Connector	E57FAL18A2B1 ⊕
3-Wire Sensors					
18 mm Diameter 	10 – 30V DC	5.0 mm	Shielded (PNP)	4-pin Micro DC Connector	E57FAL18T111SD ⊕

■ Stocked product, typical order quantities guaranteed in stock.

⊕⊕ See listing of compatible connector cables below.

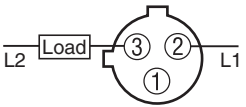
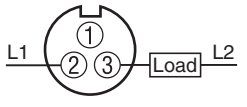
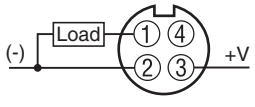
Model Selection — Compatible Connector Cables ①

	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 3-wire	22 AWG	6.0 feet (2m)	CSDS4A3CY2202	CSDS4A3RY2202	—	 1-Brown 2-No Wire 3-Blue 4-Black
	Voltage Style	Number of Pins	Gauge	Length	Catalog Number		Pin Configuration/Wire Colors (Face View Female Shown)	
Standard Cables — Mini Style								
Mini Style Straight Female Current Rating @ 600V 3-pin: 13A 	—	3-pin	16 AWG	6 feet (2m)	CSMS3F3CY1602		—	 1-Green 2-Black 3-White

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	Connector Models (Face View Male Shown)	
		Micro	Mini
2-Wire Sensors			
20 – 250V AC/DC 50/60 Hz	N.O.		
3-Wire Sensors			
10 – 30V DC	N.O. (PNP)	—	

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Specifications

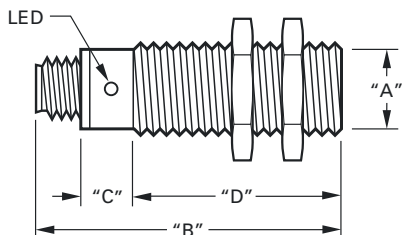
	2-Wire Sensors — AC/DC Models	3-Wire Sensors — DC Models
Operating Voltage	20 – 250V AC/DC	10 – 30V DC
Maximum Load Current	100 mA	100 mA
Switching Frequency	15 Hz	1000 Hz
Leakage Current	2.5 mA maximum	< 0.01 mA
Voltage Drop	10V maximum	1.5V maximum
Holding Current	5 mA minimum	—
Burden Current	—	17 mA
Protection	Transient, power on false pulse suppression	Short circuit protection
Switching Hysteresis	<15% rated sensing distance	
Repeat Accuracy	<1% sensing distance	
Time Delay Before Availability	<10 mS	
Output Indicator LED	Lights when output is ON	
Operating Temperature	-13° to 131°F (-25° to 55°C)	
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 in all three planes	
Housing Material	Stainless steel	

Model Selection — Accessories

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

Approximate Dimensions in Inches (mm)

Connector Models



Model	Catalog Number	A	B	C	D	E
2-Wire	E57FAL18A2SA	M18 x 1	3.11 (79)	1.38 (35)	1.73 (44)	0
	E57FAL18A2B1	M18 x 1	3.90 (99)	1.34 (34)	2.56 (65)	0
3-Wire	E57FAL18T111SD	M18 x 1	3.11 (79)	1.14 (29)	1.97 (50)	0

Metal Face Inductive Proximity Sensors

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Cutler-Hammer® Metal Face Inductive Proximity Sensors by Eaton's electrical business incorporate tough stainless steel sensing faces in place of the plastic faces found in standard sensors. This provides a higher level of protection for more reliable operation and longer life in harsh environments.

The sensors stand up to abrasion and impact caused by flying metal chips, grit, and misaligned or vibrating targets. In addition, the stainless steel body resists corrosion and chemical attack.

Common sensor diameters, voltage styles and wiring connections make it easy to retrofit your existing, damaged sensors. Solve the problem of damaged sensors permanently with Eaton's Cutler-Hammer Metal Face Sensors.

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

The Thick Metal Face Protects Against Damage from Impact and Abrasion



Extra Thick
20 mil
Stainless Steel
Sensing Face

12 mm, 18 mm and
30 mm Diameters to
Fit Where You Need It





Product Features

- 2-wire AC/DC models and 3-wire DC models are compatible with your existing wiring
- Common 12 mm, 18 mm and 30 mm housing diameters allow easy change-out of existing damaged sensors
- The 20 mil stainless steel sensing face is thicker than competing units for a higher level of protection
- The stainless steel body is damage and corrosion resistant
- Wide operating temperature range: -13° to 158°F (-25° to 70°C)

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 — Metal Face Proximity Sensors

	Operating Voltage	Sensing Range (Sn)	Shielding	Connection Type	Catalog Number
					N.O. Output
2-Wire Sensors					
12 mm Diameter 	20 – 250V AC/DC 50/60 Hz	2 mm	Shielded	3-pin Micro AC Connector	E57FAL12A2SA-M ☼
30 mm Diameter 	20 – 250V AC/DC 50/60 Hz	10 mm	Shielded	3-pin Micro AC Connector	E57FAL30A2SA-M ☼
3-Wire Sensors					
12 mm Diameter 	10 – 30V DC	2 mm	Shielded (PNP)	4-pin Micro DC Connector	E57FAL12T111SD-M ☼
18 mm Diameter 	10 – 30V DC	5 mm	Shielded (PNP)	4-pin Micro DC Connector	E57FAL18T111SD-M ☼

☼ Stocked product, typical order quantities guaranteed in stock.

☼☼ See listing of compatible connector cables below.

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	Connector Models (Face View Male Shown)
		Micro

2-Wire Sensors

20 – 250V AC/DC 50/60 Hz	N.O.	
-----------------------------	------	--

3-Wire Sensors

10 – 30V DC	N.O. (NPN)	
	N.O. (PNP)	

Specifications

	2-Wire Sensors	3-Wire Sensors
	AC/DC Models	DC Only Models
Operating Voltage	20 – 250V AC/DC	10 – 30V DC
Maximum Load Current	100 mA	100 mA
Switching Frequency	15 Hz	12 mm: 2000 Hz 18 mm: 1000 Hz 30 mm: 300 Hz
Leakage Current	2.5 mA maximum	600 μ A maximum
Voltage Drop	10V maximum	1.5V maximum
Holding Current	5 mA minimum	—
Burden Current	—	17 mA
Protection	Transient, power on false pulse suppression	Short circuit protection
Switching Hysteresis	<15% rated sensing distance	
Repeat Accuracy	<1% sensing distance	
Time Delay Before Availability	<200 mS	
Output Indicator LED	Lights when output is ON	
Operating Temperature	-13° to 131°F (-25° to 55°C)	
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 in all three planes	
Housing Material	303 stainless steel	
Face Thickness	20 mils	

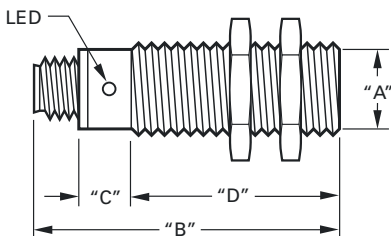
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Model Selection — Accessories

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

Approximate Dimensions in Inches (mm)

Connector Models



Model	Catalog Number	A	B	C	D
2-Wire	E57FAL12A2SA-M	M x 12	2.67 (68)	1.10 (28)	1.58 (40)
	E57FAL30A2SA-M	M x 30	3.70 (94)	1.34 (34)	2.36 (60)
3-Wire	E57FAL12T111SD-M	M x 12	2.67 (68)	1.02 (26)	1.65 (42)
	E57FAL18T110SD-M	M x 18	3.11 (79)	1.14 (29)	1.97 (50)
	E57FAL18T111SD-M	M x 18	3.11 (79)	1.14 (29)	1.97 (50)

High Current Output Inductive Proximity Sensors

Non-contact Sensing with the Ability to Handle High Currents in a Solid-State Output

Contents

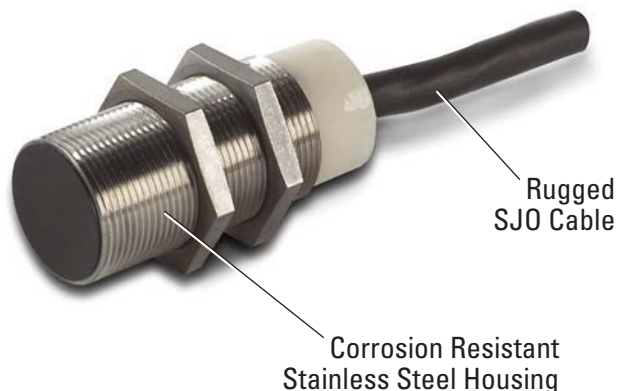
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Now there is an alternative to limit switches for position sensing on industrial vehicles. Cutler-Hammer® High Current Output features a continuous output current rating from 2 to 8A. These sensors from Eaton's electrical business are ideally suited to handle high current loads found on such industrial vehicles as aerial lift trucks, fork lifts, refuse trucks, cement mixers, dump trucks, hook and ladder trucks, front end loaders, farm equipment and hundreds of other vehicles that are constantly subjected to mechanical (shock, vibration, collisions) and environmental abuse (dirt, grease, ice, rain) that create havoc with mechanical devices.

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

Product Features

- Solid-state output can handle up to 8A continuous
- Ideal for vehicle use to replace mechanical limit switches, typically required to handle high currents
- Wide voltage and temperature range covers most vehicle power supplies and operating environments
- Normally Open and Normally Closed isolated outputs
- SJO cable is available in custom lengths
- Dual colored 360° LED indicating light, green as power ON and red as output



Model Selection — High Current Output Sensors

	Operating Voltage	Sensing Range	Shielding	Output Type	Output Rating		Connection Type ①	Catalog Number
					Continuous	<100 mS Pulse		
4-Wire Sensors								
30 mm Diameter	10 – 55V DC	10 mm	Shielded	N.O. and N.C. (PNP)	3.5A	20A	2-Meter Cable	E57-30JS10-H
6-Wire Sensors ②								
30 mm Diameter	10 – 30V DC	10 mm	Shielded	N.O. and N.O., or N.C. and N.C. (NPN or PNP)	8A	50A	2-Meter Cable	E57-30HS10-K

① For additional cable length other than 2-meter, add desired length in meters to listed Catalog Number. Example: For an E57-30JS10-H with a 5-meter cable, order E57-30JS10-H5.

② 50 Amps surge, 12 Amp at 50% duty cycle and 8 Amp continuous.

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

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**.

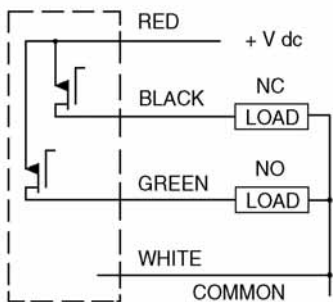
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Model Selection — Accessories

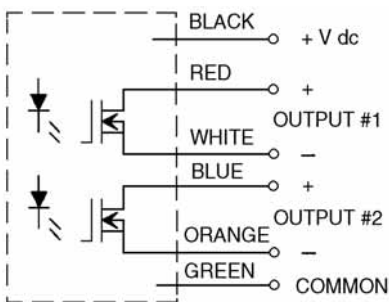
Description	Reference
Mounting Brackets and Other Accessories	See Section 8

Wiring Diagrams

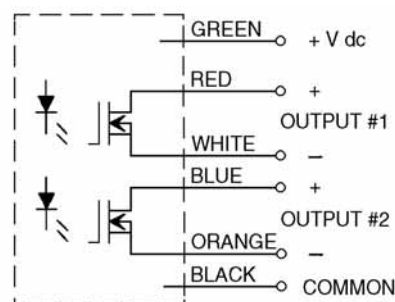
4-Wire PNP



N.O./N.O. Output Configuration — 6-Wire



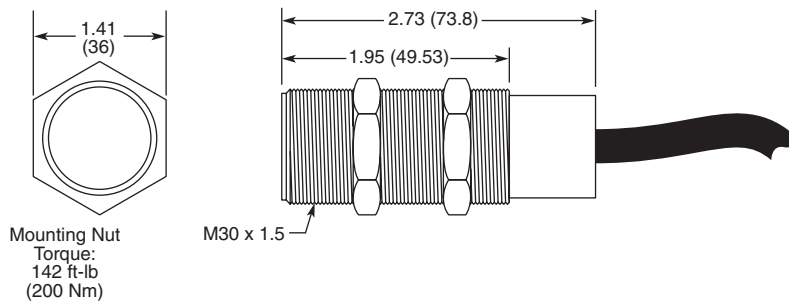
N.C./N.C. Output Configuration — 6-Wire



Specifications

	4-Wire Sensors	6-Wire Sensors
Operating Voltage	10 to 55V DC	10 to 30V DC
Switching Rate	250 Hz	100 Hz
Off-state Current	100 A μ maximum	
Voltage Drop	1.2V	2.0V
Burden Current	10 mA @ 55 volts	30 mA @ 30 volts
Time Delay Before Availability	<100 mS	
Output Indicator LED	360 visibility	
Output Type	Solid-state	Solid-state, isolated
Protection	Transient and power on false pulse	
Enclosure Ratings	NEMA 4, 4X, 6, 6P, 12 and 13 (IEC IP67)	
Ambient Temperature Range	-40° to 158°F (-40° to 70°C)	
Barrel Material	303 stainless steel	
Cable	2m standard SJO water resistive (18 AWG)	
Shock	30g sine wave, 11 ms	
Vibration	10 to 55 Hz, 2 mm amplitude in all 3 planes	

Approximate Dimensions in Inches (mm)



Miniature Short Body Inductive Proximity Sensors

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These unique Cutler-Hammer® Inductive Proximity Sensors by Eaton's electrical business are designed to be used in extremely small spaces. A wide variety of models are available with housing diameters from 8 mm all the way down to 4 mm, allowing you to choose the one that best fits your application. The sensors are 3-wire devices that operate from 10 to 30V DC. Both shielded and unshielded versions are available.

Approvals



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

These Tiny Tubular Sensors Deliver Reliable Performance Where Space Is Limited

High Quality
Stainless Steel
Housings

4 mm



5 mm



6.5 mm



Mounting
Bracket
Included on
6.5 mm Models

8 mm



A Variety of
Small Diameters
to Fit Almost Anywhere

Choose from Cable
or Nano-Connector
on All Sizes

Micro-Connector
Available on 6.5 mm
and 8 mm Sizes

5 mm and 8 mm Models Are
Threaded; 4 mm and 6.5 mm
Models Are Unthreaded

Product Features

- Small 4, 5, 6.5 and 8 mm diameters for use in applications with limited space for mounting sensors
- Stainless steel housings
- All models include an LED indicator to show output status
- Short circuit and reverse polarity protection
- Rated NEMA 4, 4X, 6, 6P, 12 and 13 (IP67) for high resistance to environmental factors


Applications

- Automation equipment
- Robotics
- Machine tool
- Counting
- Sorting

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 — Miniature Short Body Sensors

	Operating Voltage	Sensing Range (Sn)	Shielding	Connection Type	Catalog Number	
					N.O. Output	N.C. Output
3-Wire Sensors						
4 mm Diameter (Unthreaded) 	10 – 30V DC	0.8 mm	Shielded (NPN)	2-meter Cable	E57EAL4T110SP	—
				3-pin Nano Connector	E57EAL4T110SN ☺	—
				4-pin Micro DC Connector	E57EAL4T110SD ☺☺	—
			Shielded (PNP)	2-meter Cable	E57EAL4T111SP	—
				3-pin Nano Connector	E57EAL4T111SN ☺	—
				4-pin Micro DC Connector	E57EAL4T111SD ☺☺	—
5 mm Diameter 	10 – 30V DC	0.8 mm	Shielded (NPN)	2-meter Cable	E57EAL5T110SP	—
				3-pin Nano Connector	E57EAL5T110SN ☺	—
				4-pin Micro DC Connector	E57EAL5T110SD ☺☺	—
			Shielded (PNP)	2-meter Cable	E57EAL5T111SP	—
				3-pin Nano Connector	E57EAL5T111SN ☺	—
				4-pin Micro DC Connector	E57EAL5T111SD ☺☺	—
6.5 mm Diameter (Unthreaded) 	10 – 30V DC	1 mm	Shielded (NPN)	2-meter Cable	E57EAL6T110SP	—
				3-pin Nano Connector	E57EAL6T110SN ☺	—
				4-pin Micro DC Connector	E57EAL6T110SD ☺☺	—
			Shielded (PNP)	2-meter Cable	E57EAL6T111SP	—
				3-pin Nano Connector	E57EAL6T111SN ☺	—
				4-pin Micro DC Connector	E57EAL6T111SD ☺☺	—
		2 mm	Unshielded (NPN)	2-meter Cable	E57EAL6T110EP	—
				3-pin Nano Connector	E57EAL6T110EN ☺	—
				4-pin Micro DC Connector	E57EAL6T110ED ☺☺	—
			Unshielded (PNP)	2-meter Cable	E57EAL6T111EP	—
				3-pin Nano Connector	E57EAL6T111EN ☺	—
				4-pin Micro DC Connector	E57EAL6T111ED ☺☺	—
8 mm Diameter 	10 – 30V DC	1 mm	Shielded (NPN)	2-meter Cable	E57EAL8T110SP	E57EBL8T110SP
				3-pin Nano Connector	E57EAL8T110SN ☺	E57EBL8T110SN ☺
				4-pin Micro DC Connector	E57EAL8T110SD ☺☺	E57EBL8T110SD ☺☺
			Shielded (PNP)	2-meter Cable	E57EAL8T111SP	E57EBL8T111SP
				3-pin Nano Connector	E57EAL8T111SN ☺	E57EBL8T111SN ☺
				4-pin Micro DC Connector	E57EAL8T111SD ☺☺	E57EBL8T111SD ☺☺
		2 mm	Unshielded (NPN)	2-meter Cable	E57EAL8T110EP	E57EBL8T110EP
				3-pin Nano Connector	E57EAL8T110EN ☺	E57EBL8T110EN ☺
				4-pin Micro DC Connector	E57EAL8T110ED ☺☺	E57EBL8T110ED ☺☺
			Unshielded (PNP)	2-meter Cable	E57EAL8T111EP	E57EBL8T111EP
				3-pin Nano Connector	E57EAL8T111EN ☺	E57EBL8T111EN ☺
				4-pin Micro DC Connector	E57EAL8T111ED ☺☺	E57EBL8T111ED ☺☺




☐ Stocked product, typical order quantities guaranteed in stock.

☺☺ See listing of compatible connector cables below.

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 	DC	4-pin 3-wire	22 AWG	6.0 feet (2m)	CSDS4A3CY2202	CSDS4A3RY2202	—	 1-Brown 2-No Wire 3-Blue 4-Black
		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)
					PVC Jacket	PUR Jacket	

Standard Cables — Nano Style

Nano Style Straight Female 	—	3-pin	24 AWG	6.0 feet (2m)	CSNS3A3CY2402	CSNS3A3RY2402	 1-Brown 3-Blue 4-Black
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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	Connector Models (Face View Male Shown)	
			Micro	Nano
3-Wire Sensors				
10 – 30V DC	N.O. (NPN)			
	N.O. (PNP)			
	N.C. (NPN)			
	N.C. (PNP)			

Specifications

	DC Only Models
Operating Voltage	10 – 30V DC
Maximum Load Current	200 mA
Switching Frequency	2 kHz
Leakage Current	0.01 mA maximum
Voltage Drop	1.5V maximum
Burden Current	10 mA maximum
Protection	Transient, power on false pulse suppression, auto-reset short circuit
Switching Hysteresis	<15% rated sensing distance
Repeat Accuracy	<1% sensing distance
Time Delay Before Availability	<50 mS
Output Indicator LED	Lights when output is ON
Operating Temperature	-13° to 158°F (-25° to 70°C)
Enclosure Ratings	NEMA 4, 4X, 6, 6P, 12 and 13 (IP67)
Housing Material	Stainless steel
Cable	PVC high flex, oil/water resistant, 22 AWG

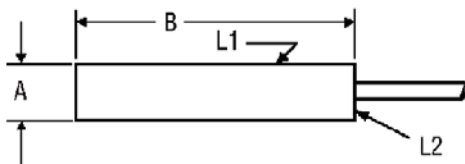
Model Selection — Accessories

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

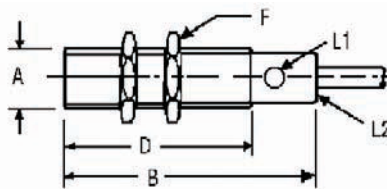
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Approximate Dimensions in Inches (mm)

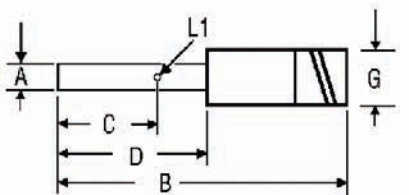
Cable Models —
Unthreaded Barrel



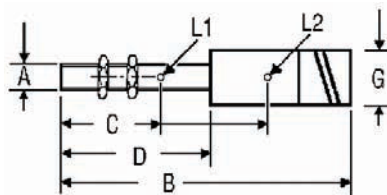
Cable Models —
Threaded Barrel



Connector Models —
Unthreaded Barrel




Connector Models —
Threaded Barrel



Size A	Barrel Type	Length B	C	D	Thread Size E	Nut Width F	Connector Diameter G	LED Location
Cable Models								
4 mm	Unthreaded	1.0 (25)	—	—	—	—	—	L1
5 mm	Threaded	1.0 (25)	—	0.8 (21)	M5 x 1	SW8	—	L1
6.5 mm	Unthreaded	1.8 (45)	—	—	—	—	—	L2
8 mm	Threaded	1.2 (30)	—	1.2 (30)	M8 x 1	SW13	—	L2
Nano-Connector Models								
4 mm	Unthreaded	1.6 (40)	0.7 (18)	0.8 (21)	—	—	0.31 (8)	L1
5 mm	Threaded	1.6 (40)	0.7 (18)	0.8 (21)	M5 x 0.5	SW8	0.31 (8)	L1
6.5 mm	Unthreaded	2.4 (60)	1.5 (39)	2.0 (50)	—	—	0.31 (8)	L1
8 mm	Threaded	1.8 (45)	1.0 (25)	1.4 (36)	M8 x 1	SW13	0.31 (8)	L1
Micro-Connector Models								
6.5 mm	Unthreaded	2.9 (70)	1.4 (36)	1.5 (39)	—	—	0.47 (12)	L1
8 mm	Threaded	2.0 (50)	1.6 (40)	1.0 (25)	M8 x 1	SW13	0.47 (12)	L2

Model Selection — Accessories

	Description	Catalog Number	Approximate Dimensions in Inches (mm)
<p data-bbox="54 321 768 393">Plastic Mounting Nuts</p> 	<p data-bbox="1207 321 2140 486">Plastic mounting nuts (set of 2 for replacement only)</p>	<p data-bbox="2634 321 2963 393">E57KNC18</p>	