

Smooth Body Sensors

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### Smooth Body Sensors

#### Product Description

Type E53 Capacitive Proximity Sensors from Eaton’s electrical sector are self-contained devices designed to detect both metallic and nonmetallic targets. They are ideally suited for liquid level control and for sensing powdered or granulated material. For best operation, they should be used in an environment having relatively constant temperature and humidity.

#### Features

- Detect liquids, powders and other materials that are difficult or impossible to detect with other sensor types
- Plastic body is corrosion resistant
- Sensitivity adjustment

#### DANGER

**THIS SENSOR IS NOT A SAFETY DEVICE AND IS NOT INTENDED TO BE USED AS A SAFETY DEVICE. This sensor is designed only to detect and read certain data in an electronic manner and perform no use apart from that, specifically no safety-related use. This sensor product does not include self-checking redundant circuitry, and the failure of this sensor product could cause either an energized or de-energized output condition, which could result in death, serious bodily injury, or property damage.**


For the most current information on this product, visit our Web site: [www.eaton.com](http://www.eaton.com)

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.


Product Selection

E53 Smooth Body Sensors

Two-Wire Sensors




	Operating Voltage	Sensing Range (Sn)	Shielding	Connection Type	NO Output Catalog Number	NC Output Catalog Number
34 mm Diameter 	<b>34 mm Diameter</b> ①					
	20–250 Vac	1.38 in (35 mm)	Unshielded	2-meter cable	E53KAL34A2E	E53KBL34A2E
3-pin micro AC connector				E53KAL34A2EA ☹	E53KBL34A2EA ☹	

Three-Wire Sensors

	Operating Voltage	Sensing Range (Sn)	Shielding	Connection Type	NO Output Catalog Number	NC Output Catalog Number
34 mm Diameter 	<b>34 mm Diameter</b> ①					
	10–30 Vdc	0.98in (25 mm)	Shielded (NPN)	2-meter cable	E53KAL34T110	E53KBL34T110
				4-pin micro DC connector	E53KAL34T110SD ☹	E53KBL34T110SD ☹
			Shielded (PNP)	2-meter cable	E53KAL34T111	E53KBL34T111
				4-pin micro DC connector	E53KAL34T111SD ☹	E53KBL34T111SD ☹
	1.38 in (35 mm)	Unshielded (NPN)	Unshielded (NPN)	2-meter cable	E53KAL34T110E	E53KBL34T110E
				4-pin micro DC connector	E53KAL34T110ED ☹	E53KBL34T110ED ☹
			Unshielded (PNP)	2-meter cable	E53KAL34T111E	E53KBL34T111E
4-pin micro DC connector				E53KAL34T111ED ☹	E53KBL34T111ED ☹	

Compatible Connector Cables

Standard Cables ②

Micro-Style Straight Female 	Current Rating at 600V	Voltage Style	Number of Pins	Gauge	Length	Pin Configuration/Wire Colors (Face View Female Shown)	Catalog Number
<b>Micro-Style, Straight Female</b>							
13A	AC	3-pin, 4-wire	22 AWG	6 ft (2m)		1-Green 2-Red/Black 3-Red/White	CSAS3F3CY2202
						1-Brown 2-No Wire 3-Blue 4-Black	CSDS4A3CY2202
10A	DC	4-pin, 3-wire	22 AWG	6 ft (2m)		1-Brown 2-White 3-Blue 4-Black	CSDS4A4CY2202
		4-pin, 4-wire				1-Brown 2-White 3-Blue 4-Black	CSDS4A4CY2202

Notes

- ☹☹ See listing of compatible connector cables above.
- ① Includes mounting bracket.
- ② For a full selection of connector cables, see **Tab 10, section 10.1**.

#### Technical Data and Specifications

##### Smooth Body Sensors

Description	AC Models	DC Models
Residual current	2.5 mA maximum	—
Maximum load current	300 mA	300 mA
Switching rate	15 operations per second	250 operations per second
Circuit protection	—	Short circuit and reverse polarity
Output indicator LED	Lights when output is ON	Lights when output is ON
Ambient temperature range	-13° to 158°F (-25° to 70°C)	-13° to 158°F (-25° to 70°C)
Enclosure ratings	NEMA 1, 2, 3, 3S, 4, 12, 13 (IEC IP65)	NEMA 1, 2, 3, 3S, 4, 12, 13 (IEC IP65)
Sensitivity adjustment	Included	Included

#### Wiring Diagrams

Pin numbers are for reference, rely on pin location when wiring.

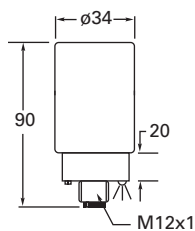
##### Smooth Body Sensors

Operating Voltage	Output	Cable Models	Micro-Connector Models (Face View Male Shown)
<b>Two-Wire Sensors</b>			
20–250 Vac	NO and NC		
<b>Three-Wire Sensors</b>			
10–30 Vdc	NO (NPN)		
	NO (PNP)		
	NC (NPN)		
	NC (PNP)		

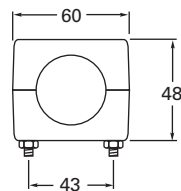
#### Dimensions

Approximate Dimensions in mm

##### 34 mm Diameter Smooth Body Sensor



##### Mounting Bracket (Included with Sensor)



##### 34 mm Cable

