

20 Series



## 11.1 Photoelectric Sensors—Legacy

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Unless otherwise noted, the products contained in this section should not be used for functional safety applications. These products were not designed or tested to IEC 60947-5-3 or recommended for functional safety.

E65 Miniature Series



E65 Miniature Series



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.

## Volume 8—Sensing Solutions, CA08100010E

Tab 11—Legacy Sensor Products

Revision date	Section	Change page(s)	Description
09/08/2017	11.1	V8-T11-1, V8-T11-2	Content deletion, How To Order; content edits
09/08/2017	11.1	V8-T11-7	Content deletion, E58 Series
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# 11.1

## Legacy Sensor Products

### Photoelectric Sensors—Legacy

#### Photoelectric Sensors—Legacy



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##### Description

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### Photoelectric Sensors—Legacy

#### Product Overview

The products shown in this section are still offered for sale by Eaton, however, the catalog pages have been moved online. Visit [www.eaton.com/legacysensors](http://www.eaton.com/legacysensors) for electronic product and ordering information.

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.  
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### Product Selection Guide

#### E64 Terminal Base Series



##### Overview

This flexible sensor family provides stability indication, high current relay output and easy terminal wiring

##### Sensing Types and Ranges

Thru-beam: 33 ft  
 Reflex: 16.4 ft  
 Polarized reflex: 11.5 ft  
 Diffuse reflective: 35 in

##### Product Features

High performance optics  
 Built-in multi-voltage power supply for use in AC or DC applications  
 Terminal connections with 1/2 in NPT conduit entrance  
 Available with optional delay timer, adjustable from 0.6 to 16 seconds and field settable for Normal, ON Delay, OFF Delay, ON-OFF Delay or One Shot Delay

##### Approvals

CE



##### Notes

For additional product detail, see Technical Data and Specifications on **Page V8-T11-5**.

① Range varies with fiber.

#### E65 Miniature Series



##### Overview

These compact sensors are ideal for a wide variety of applications including reliable detection of clear objects

##### Sensing Types and Ranges

Thru-beam: 16.5 ft  
 Polarized reflex: 5.8 ft  
 Diffuse reflective: 4 and 20 in  
 Fixed focus diffuse: 0.5 in  
 Plastic fiber optic: ①  
 Clear object sensor: 24 in

##### Product Features

Complete line of miniature sensors including clear object detection models  
 Forward or right-angle viewing with identical optical performance  
 Stability indicator  
 Fiber optic models include built-in DIN rail mounting clip

##### Approvals

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#### 11 Series



##### Overview

The 11 Series is a highly configurable photoelectric sensor with multiple output options including a high current DPDT relay

##### Sensing Type and Range

Reflex: 20 and 30 ft

##### Product Features

Quick disconnect base for easy installation and maintenance  
 Optional logic module provides time delay functions for ON, OFF or both ON/OFF

##### Approvals

UL® Listed, E66026  
 CSA® Certified, 50513



Listed

#### 20 Series



##### Overview

These heavy-duty sensors are designed for use in harsh environments with constant exposure to weather and physical abuse

##### Sensing Types and Ranges

Thru-beam: 700 ft  
 Reflex: 35 and 75 ft  
 Diffuse reflective: 8 ft  
 Defined range diffuse reflective: 15 in

##### Product Features

Sets the industry standard for rugged construction and long range performance  
 Interchangeable logic modules and output devices are contained inside the sealed housing  
 Ideal for outdoor use

##### Approvals

UL Listed, E66026 (1320, 1321, and 1420 only)  
 CSA Certified, 30639



Listed

#### 50 Series



##### Overview

These high performance sensors feature interchangeable outputs and logic functions in a fully sealed, self-contained package

##### Sensing Types and Ranges

Thru-beam: 100 ft  
 Reflex: 30 ft  
 Polarized reflex: 15 ft  
 Diffuse reflective: 10, 24 and 72 in  
 Glass fiber optic: ①

##### Product Features

Interchangeable, plug-in output devices and logic modules  
 Built-in 360° rotation. 10° tilt ball-swivel base  
 Fully potted construction for use in areas subject to wash-down, high shock and/or vibration  
 Four output options including a 2A SPDT relay

##### Approvals

UL Listed, E82537  
 CSA Certified, 50513



##### Notes

For additional product detail, see Technical Data and Specifications on **Page V8-T11-5**.

① Range varies with fiber.

#### 55 Series



##### Overview

These durable sensors offer high optical performance and a built-in swivel bracket for easy and precise alignment

##### Sensing Types and Ranges

Thru-Beam: 100 ft  
 Reflex: 30 ft  
 Polarized Reflex: 15 ft  
 Diffuse Reflective: 10, 24 and 72 in  
 Glass fiber optic: ①

##### Product Features

Identical to 50 Series except without provision for interchangeable output or logic functions.  
 Ideal for direct connection to programmable controllers  
 Available in universal voltage AC/DC versions as well as DC only models  
 Built-in, 360° rotation. 10° tilt ball-swivel base  
 Fully potted construction for use in areas subject to wash-down, high shock and/or vibration

##### Approvals

UL Listed, E82537  
 CSA Certified, 50513  
 (except relay output models)



#### 70 Series



##### Overview

This high performance family offers a wide choice of sensor heads, control units, output devices, logic modules and accessories to solve virtually any sensing problem

##### Sensing Types and Ranges

Thru-beam: 15, 32, 369 and 743 ft  
 Reflex: 23 ft  
 Curtain-of-light reflex: 6 ft  
 Diffuse reflective: 36 in  
 Focused diffuse reflective: 2.5 in  
 Glass fiber optic: ①

##### Product Features

Ultra-versatile photoelectric control family  
 Wide choice of sensor heads, control units, output devices, logic modules, and accessories to solve virtually any sensing problem  
 Sensor heads may be mounted up to 1000 ft from the control unit  
 Multiple sensor heads can be connected to a single control unit for special sensing applications  
 Analog control unit provides a voltage level output proportional to the amount of light received by the sensor detector

##### Approvals

CSA Certified, 30639 (some models)



#### 80 Series



##### Overview

These sensors provide extremely long sensing ranges and the flexibility of interchangeable sensor heads and logic modules

##### Sensing Types and Ranges

Reflex: 50 ft  
 Diffuse reflective: 12 ft  
 Focused diffuse reflective: 6 in  
 Glass fiber optic: ①

##### Product Features

Combines the advantages of self-contained packaging with the flexibility of interchangeable sensor heads  
 Nine sensor heads, seven control base units, and three logic modules are available to customize the sensor for your application

##### Approvals

UL Listed, E82537  
 CSA Certified, 50513 (except 1384B-6501)



## Technical Data and Specifications

### Photoelectric Sensors—Legacy

Description	E64 Terminal Base Series	E65 Miniature Series	11 Series	20 Series
Operating voltage	16–240 Vac/dc	10–30 Vdc	115–125 Vac 230 Vac	95–130 Vac 100–125 Vac 200–250 Vac
Output function	Selectable light or dark operate	Selectable light or dark operate	Selectable light or dark operate	Selectable light or dark operate
Maximum load current	1 A at 250 Vac 2 A at 30 Vdc	100 mA NPN or PNP	Varies by output device from 5 mA to 10 A	Varies by output device from 5 mA to 10 A
Enclosure ratings	NEMA 1, 3, 4, 12 and 13 IP66	NEMA 1, 3, 4, 12 and 13 IP66	NEMA 4 and 13	NEMA 3, 4, 6 and 13
Response time range	20 ms	330 microseconds to 2 ms	7 ms	1 ms to 30 ms
Description	50 Series	55 Series	70 Series	80 Series
Operating voltage	90–132 Vac at 60 Hz 100–132 Vac at 50 Hz 180–264 Vac at 60 Hz 200–264 Vac at 50 Hz 10–30 Vdc	20–264 Vac and 15–30 Vdc 10–30 Vdc	Self-contained control units: 115 Vac or 230 Vac versions Modular control units: 9–18 Vdc	97–130 Vac 204–255 Vac 22–26 Vac 10–30 Vdc
Output function	Selectable light or dark operate	Light and dark operate models available	Selectable light or dark operate	Light or dark operate (switch-selected on control unit)
Maximum load current	Varies from 50 mA to 2 A	AC/DC units: 300 mA DC units: 250 mA (NPN), 100 mA (PNP) Optional three amp SPDT relay (AC/DC models)	Varies by output device from 5 mA to 10 A	Varies by model from 50 mA to 1 A
Enclosure ratings	NEMA 1, 3, 4, 12 and 13	NEMA 1, 3, 4, 6, 12 and 13	Varies with control unit or sensor head selected	NEMA 1, 3, 4, 12 and 13
Response time range	2 ms to 18 ms	1 ms to 11 ms	0.5 ms to 14 ms	5 ms to 18 ms