20 Series

E65 Miniature Series

E65 Miniature Series

11.1   Photoelectric Sensors—Legacy

⚠ **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.**

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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.

Photoelectric Sensors—Legacy

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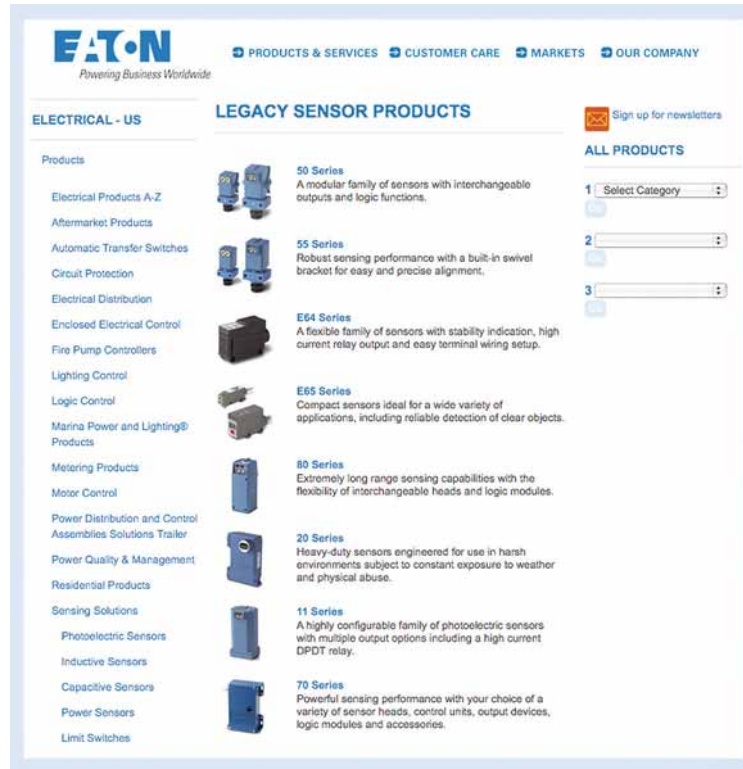
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Photoelectric Sensors—Legacy

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 for electronic product and ordering information.

How to Order

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.

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

Product Selection Guide

E58 18 mm Tubular Series

Overview

Industry standard 18 mm tubular sensors offer wide voltage ranges and reliable performance

Sensing Types and Ranges

Thru-beam: 80 ft

Reflex: 25 ft

Diffuse reflective: 8 in

Product Features

Industry standard 18 mm tubular housing has flat sides allowing it to be mounted against a flat surface

Solid polyurethane housing for high resistance to shock and vibration

AC/DC models operate up to 264 Vac

Select models have visible beams for quick setup and alignment

Gain adjustment ensures peak optical performance

LED output status indicator

Extra long 3m cable

Approvals

—

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

$C\epsilon$

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

UL® Recognized
CE

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Notes

For additional product detail, see Technical Data and Specifications on **Page V8-T11-6**.

[1] Range varies with fiber.

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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

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
CSA® Certified

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
CSA Certified

Listed

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

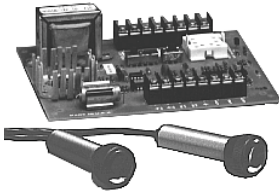Built-in, 360° rotation. 10° tilt ball-swivel base

Fully potted construction for use in areas subject to wash-down, high shock and/or vibration

Approvals

UL Listed
CSA Certified

Listed

Notes

For additional product detail, see Technical Data and Specifications on **Page V8-T11-6**.

[1] Range varies with fiber.

60 Series

Overview

Separate control units and sensor heads. Control units available in modular plastic units or self-contained with metal case

Sensing Type and Range

Thru-beam: 206 ft

Product Features

High performance thru-beam optics

Control unit can be mounted up to 1000 ft from sensor heads

High temperature sensor heads operate to 212°F (100°C)

Approvals

CSA

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

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

Notes

For additional product detail, see Technical Data and Specifications on **Page V8-T11-6**.

[1] Range varies with fiber.

Technical Data and Specifications

Photoelectric Sensors—Legacy

Description	E58 18 mm Tubular Series	E64 Terminal Base Series	E65 Miniature Series	11 Series	20 Series
Operating voltage	20–264 Vac 10–30 Vdc	16–240 Vac/dc	10–30 Vdc	115–125 Vac 230 Vac	95–130 Vac 100–125 Vac 200–250 Vac
Output function	Light and dark operate models available	Selectable light or dark operate	Selectable light or dark operate	Selectable light or dark operate	Selectable light or dark operate
Maximum load current	AC: 300 mA DC: 250 mA (NPN) 100 mA (PNP)	1A at 250 Vac 2A at 30 Vdc	100 mA NPN or PNP	Varies by output device from 5 mA to 10A	Varies by output device from 5 mA to 10A
Enclosure ratings	NEMA 1, 2, 3, 4, 4X, 6, 12 and 13	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	1 ms to 10 ms	20 ms	330 microseconds to 2 ms	7 ms	1 ms to 30 ms

Description	50 Series	55 Series	60 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	115 Vac 230 Vac 11–15.5 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	Selectable light or dark operate	Light or dark operate (switch-selected on control unit)
maximum load current	Varies from 50 mA to 2A	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 10A	Varies by output device from 5 mA to 10A	Varies by model from 50 mA to 1A
Enclosure ratings	NEMA 1, 3, 4, 12 and 13	NEMA 1, 3, 4, 6, 12 and 13	Heads: NEMA 3, 4, 6, 12 and 13 Control Units: NEMA 12 (enclosed) NEMA 1 (module)	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	1.6 ms to 16 ms	0.5 ms to 14 ms	5 ms to 18 ms

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