

Photoelectric and Proximity Sensors, Sensor Accessories

Photoelectric Sensors



Conveyor Sensors



Proximity Sensors



Sensor Accessories



Consult the Sensing Solutions Product Guide **PG08301004E** for complete information on these Photoelectric and Proximity Sensors and Accessories.

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Online Publications

For the most current information on all Photoelectric and Proximity Sensors and Accessories from Eaton's electrical sector, visit www.eaton.com

Photoelectric Sensors

IntelliView Series



Publication: CA05305002E

Overview

The IntelliView™ Series from Eaton is a family of compact, high performance specialty photoelectric sensors designed to solve a wide array of sensing challenges.

Sensing Types and Ranges

Foreground/background suppression
Distance sensing
Color, contrast, luminescence, and grayscale sensing

Product Features

Sensing technologies for detecting color, contrast, luminescence and distance— with great accuracy
Available in either compact rectangular or flat-tubular package sizes
Most models include a teach mode, allowing for quick and simple installation and setup
For the first time, Eaton offers a fully field-adjustable background suppression photoelectric sensor capable of detecting targets as far as 3.9 ft (47 in) away

Technical Data and Specifications

Input voltage—
Foreground models: 10–30 Vdc
Distance models: 16–28 Vdc
Output saturation voltage—
All models: < 2V max.
Enclosure ratings—
Foreground models:
E75-PPA_: IP65
E75-PP1_: IP67
Distance models: IP67
Response time range—
Varies by model

Approvals

UL Listed
cUL Listed
CE



NanoView Series



Publication: CA05305003E

Overview

The NanoView™ Series from Eaton is a family of miniature rectangular photoelectric sensors designed for optimum value and sensing performance in a wide range of applications.

Sensing Types and Ranges

Thru-beam: 20 ft
Polarized reflex: 8.2 ft
Diffuse reflective: 13 ft
Fixed focus diffuse: 4 in
Clear object detector: 2.6 ft

Product Features

Less than 1.5 in long and half an in deep
Fixed focus diffuse models sense very small targets at a 4-in focal point
Clear object detection models are ideal for sensing plastic bottles, molds, cartons, films and glass objects

Technical Data and Specifications

Input voltage—
10–30 Vdc
Output saturation voltage—
2V max.
Enclosure ratings—
Thru-beam: IP67
Polarized reflex: IP66
Diffuse reflective: IP66
Fixed focus diffuse: IP67
Clear object detector: IP66
Response time range—
1 ms max.

Approvals

UL Listed
cUL Listed
CE



Enhanced 50 Series



Publication: PG05E25TE

Overview

The Enhanced 50 Series family provides outstanding optical performance and application flexibility in a self-contained, industry-standard package.

Sensing Types and Ranges

Thru-beam: 200 and 500 ft
Reflex: 30 ft
Polarized reflex: 16 ft
Diffuse reflective: 5 and 10 ft
Clear object detector: 45 in
Infrared fiber optic: range varies with fiber
Visible fiber optic: range varies with fiber

Product Features

High optical performance including 10 ft diffuse and 500 ft thru-beam versions
Output options include a high-current 10 Amp SPDT relay
Built-in light/dark selection on all models
Logic options include ON-delay, OFF-delay and one-shot delay
Multiple connector and cable options
Industry standard package size

Technical Data and Specifications

Operating voltage—
24–240 Vac and 12–240 Vdc; 10–40 Vdc
Output function—
Selectable light or dark operate
Maximum load current—
DC units: 250 mA
AC/DC units: 300 mA to 10A
Enclosure ratings—
IP67, IP69K
Response time range—
DC operation: 2 ms
AC operation: 15 ms

Approvals

CSA Approved
Certified to UL Standard, UL 508
CE



SM Series



Publication: PG05E18TE

Overview

SM Series photoelectric sensors provide high performance and ease of use in an economical, compact package.

Sensing Types and Ranges

Thru-beam: 50 ft
Polarized reflex: 10 ft
Diffuse reflective: 8 in
Perfect Prox® background rejection: 2 and 4 in

Product Features

Highly visible LED indicators for power, output and alignment (TargetLock™)
TargetLock™ simplifies setup and ensures that the sensor operates at the highest level of reliability possible
Perfect Prox® models sense different colored targets at the same range and ignore objects in the background
Visible beam on all models lets you see exactly where the sensor is pointing
Small size
Reverse polarity, overload and short circuit protection on all models

Technical Data and Specifications

Operating voltage—
18–264 Vac and 18–50 Vdc; 10–30 Vdc
Output function—
Light and dark operate models available
Maximum load current—
AC/DC units—200 mA
DC units—100 mA (NPN or PNP)
Enclosure ratings—
NEMA 1, 3, 4, 4X, 6, 6P, 12 and 13
IP68, IP69K
Response time range—
DC operation: 1 ms
AC operation: 16 ms

Approvals

UL Listed
cUL Listed
CE



Consult the Sensing Solutions Product Guide, **PG08301004E**, for complete information on sensors, limit switches and machine safety products.

Comet Series



Publication: PG05E02TE

Overview

This high performance, 18 mm tubular sensor family features a wide variety of models in all sensing modes to solve all of your sensing problems.

Sensing Types and Ranges

Thru-beam: 20 and 80 ft
 Reflex: 25 ft
 Polarized reflex: 15 and 10 ft
 Diffuse reflective: 8 and 24 in
 Focused diffuse reflective: 1.6 in
 See **PG05E02TE** for wide angle diffuse and Perfect Prox[®] information

Product Features

The 18 mm tubular body has flat sides for added mounting flexibility
 Available in universal voltage AC/DC versions as well as DC only models
 Short circuit protection on all models
 RIM (Reaction Injection Molding) process completely encapsulates circuits and produces a rugged package

Technical Data and Specifications

Operating voltage—
 90–132 Vac and 18–50 Vdc
 20–264 Vac and 15–30 Vdc; 10–30 Vdc
 Output function—
 Selectable light or dark operate
 Maximum load current—
 AC/DC units—300 mA
 DC units—250 mA (NPN), 100 mA (PNP)
 Enclosure ratings—
 NEMA 1, 2, 3, 4, 4X, 6, 12, 13 and IP69K
 Response time range—
 DC operation: 1 ms/AC operation: 10 ms
 2W AC/DC operation: 32 ms

Approvals

UL Recognized
 cUL Recognized
 CE



Prism Series



Publication: PG05E13TE

Overview

Prism is a cost-effective line of 18 mm tubular photoelectric sensors with twice the optical gain of other sensors in this product class.

Sensing Types and Ranges

Thru-beam: 20 ft
 Reflex: 15 ft
 Polarized reflex: 10 ft
 Diffuse reflective: 8 in
 Glass fiber optic: range varies with fiber

Product Features

Isolated output simplifies wiring and allows each sensor to switch AC or DC loads, sink or source
 Forward or right angle viewing units have identical optical performance
 The 18 mm tubular body has flat sides for added mounting flexibility
 Short circuit protection for loads less than 32 Vac or Vdc
 High noise immunity
 AC/DC and DC-only versions available

Technical Data and Specifications

Operating voltage—
 20–132 Vac and 15–30 Vdc; 10–30 Vdc
 Output function—
 Isolated VMOS solid-state relay output
 Light and dark operate models available
 Maximum load current—
 80 mA AC load
 110 mA at 132 Vdc
 Enclosure ratings—
 NEMA 1, 2, 3, 4, 4X, 6, 12 and 13
 Response time range—
 3 ms

Approvals

UL Recognized
 cUL Recognized
 CE



OEM Prism Series



Publication: PG05E20TE

Overview

OEM Prism Sensors are similar to our standard cost-effective Prism family and are optimized for high volume OEM use.

Sensing Types and Ranges

Polarized reflex: 10 ft
 Diffuse reflective: 8 and 24 in

Product Features

The 18 mm tubular body has flat sides for added mounting flexibility
 Forward or right angle viewing units have identical optical performance
 Sensors are shipped bulk-packaged for the convenience of high volume users
 Dual discrete outputs for simple wiring
 All models 10–30 Vdc only to meet the evolving needs of your customers

Technical Data and Specifications

Operating voltage—
 10–30 Vdc
 Output function—
 Light and dark operate models available
 Maximum load current—
 100 mA
 Enclosure ratings—
 NEMA 1, 2, 3, 4, 4X, 6, 12 and 13
 Response time range—
 1.2 ms

Approvals

CE



E58 Harsh Duty Series



Publication: PG05E04TE

Overview

E58 Harsh Duty Photoelectric Sensors were designed to withstand your harshest physical, chemical and optical environments, 18 and 30 mm tubular enclosures.

Sensing Types and Ranges

Thru-beam: 800 ft
 Reflex: 59 ft
 Polarized reflex: 34 ft
 Perfect Prox[®] background rejection: 2, 4, 6 and 11 in

Product Features

Designed to be the most rugged photoelectric sensor available
 Perfect Prox[®] background rejection technology for unmatched optical performance
 Output status indicator is the brightest available and is visible from any angle and in any lighting condition
 Available in universal voltage AC/DC versions as well as DC only models
 18 mm and 30 mm models available

Technical Data and Specifications

Operating voltage—
 See **PG05E04TE** for more information
 Output function—
 Light and dark operate models available
 Maximum load current—
 AC/DC units—300 mA (100 mA for 18 mm diameter units)
 DC units—250 mA (NPN), 100 mA (PNP)
 Enclosure ratings—
 NEMA 1, 2, 3, 3R, 3S, 4, 4X, 6, 6P, 12, 12K, 13 and IP69K
 Response time range—
 2 ms to 35 ms

Approvals

UL Listed
 cUL Listed



Consult the Sensing Solutions Product Guide, **PG08301004E**, for complete information on sensors, limit switches and machine safety products.

**E67 Long Range
Perfect Prox Series****Publication:** PG05E23TE**Overview**

This is the highest performance long-range sensor you can buy with background rejection.

Sensing Types and Ranges

Perfect Prox®: 24 to 96 in
Standard model pre-set at 6 ft. Fixed ranges of 2–8 ft are available.

Product Features

Extended sensing ranges (up to 8 ft) available with background rejection technology
No user adjustments required
Dual indicators communicate both output and power status from easy-to-see location on the top of the sensor
AC/DC models offer isolated contact output for wiring flexibility
DC sensors offer both NPN and PNP output
Two mounting options for maximum flexibility

Technical Data and Specifications

Operating voltage—
18–30 Vdc and 20–132 Vac/Vdc
Output function—
NPN and PNP (DC)
Solid-state relay, 1500V isolation (AC/DC)
Light and dark operate models available
Maximum load current—
100 mA DC
75 mA AC/DC
Enclosure ratings—
NEMA 1, 2, 3, 4, 4X, 6, 12 and 13
Response time range—
50 ms (AC/DC) and 15 ms (DC)

Approvals**E51 Limit Switch Style,
Modular****Publication:** PG05E21TE**Overview**

This versatile sensing family features modular construction, a variety of operating modes and a familiar limit switch style housing.

Sensing Types and Ranges

Thru-beam: 300 ft
Reflex: 18 and 35 ft
Polarized reflex: 15 ft
Diffuse reflective: 8, 18 and 40 in
Glass fiber optic: range varies with fiber

Product Features

Modular construction consisting of a head, sensor body and receptacle
Most E51 photoelectric and inductive heads are interchangeable on all E51 sensor bodies for substantial inventory reduction
Same general configurations and dimensions as the E50 limit switch
Order as complete assemblies or components for stocking and manufacturing flexibility
Keyed, for directional head positioning

Technical Data and Specifications

Operating voltage—
20–264 Vac/Vdc; 120 Vac; 10–30 Vdc
Output function—
NO or NC (programmable); or NO and NC (complementary) sensor bodies are available
Maximum load current—
AC—1.0A continuous
DC—0.6A continuous
Enclosure ratings—
NEMA 3, 3S, 4, 4X, 6, 6P and 13
Class I, II, III, Division 2, Groups A, B, C, D, F and G (conduit entry only)
Response time range—
1 ms to 30 ms

Approvals

UL Listed
CSA Certified
CE (where shown)

**Legacy Products**

See Sensing Solutions Product Guide **PG08301004E** for product information and ordering information for these legacy products:

- E58 18 mm Tubular Series
- E64 Terminal Base Series
- E65 Miniature Series
- 11 Series
- 20 Series
- 50 Series
- 55 Series
- 60 Series
- 70 Series
- 80 Series

Consult the Sensing Solutions Product Guide, **PG08301004E**, for complete information on sensors, limit switches and machine safety products.

E68 Integral Sensor Valve



Publication: PG05E24TE

Overview

A complete Zero Pressure Accumulation (ZPA) sensing and control solution. This system solves the problem of product damage and mishandling caused by mechanical sensor rollers on outdated ZPA conveyors.

Conveyor Systems

Self-contained package includes sensor, logic, air valve, and wiring
 Non-contact, true Zero Pressure Accumulation
 Multiple algorithms available to provide the exact functionality you require
 Multiple wiring options available—including NEMA 4 and NEMA 1 varieties
 Low installation costs
 Integrated "beam status" contact available to allow direct integration into AC or DC control systems
 One-touch air fittings for quick installation
 Low-profile package allows easy integration into conveyor side-channel
 System designed with sub-4A 24 Vdc wiring for safety and reduced installation costs
 Easily interfaced to external control systems for singulated discharge and/or slug release
 Highly optimized, low-cost power supply

Technical Data and Specifications

Operations—Warranted for up to 60 million operations (3 years)
 Electrical ratings—100 mA current switching capacity; 132 Vac/Vdc maximum switching voltage; 400V isolation; 10 mA maximum off-state leakage; 25W maximum on-state resistance
 Enclosure ratings—NEMA 1 and NEMA 4 (by model)

Approvals

200 Series Zero Pressure Accumulation



Publication: PG05E14TE

Overview

A fully engineered non-contact, photoelectric sensor system with built-in accumulation control. This sensor system solves the problem of product damage and mishandling caused by mechanical sensor rollers on outdated ZPA conveyors.

Conveyor Systems

Non-contact, true Zero Pressure Accumulation control without a PLC
 Multiple algorithms available to provide the exact functionality you require
 Additional gap and compression timing versions available
 Low installation costs with pre-measured and connectorized wiring
 Fits zone lengths between 18 and 60 inches in 6-inch increments and conveyors up to 60 inches wide
 Compatible with commonly available solenoid-operated air valves
 Sensors are short circuit protected with automatic reset of sensor when short is removed
 System designed with sub-4A 24 Vdc wiring for safety and reduced costs
 Easily interfaced to external control systems for singulated discharge and/or slug release

Technical Data and Specifications

Operations—Warranted for up to 60 million operations (3 years)
 Electrical ratings—18 to 30 Vdc, 100 mA current switching capacity; 10 mA maximum off-state leakage; 8 mS response time; NPN or PNP
 Enclosure ratings—NEMA 1
 Material—Polycarbonate lens, cyclool and lexan body, glass-filled PCT connector

Approvals

Sensor Power Supply—NEMA 4 Universal Voltage



Publication: PG0511TE

Overview

Designed to be used with the 200 Series and E68 Series Zero Pressure Accumulation Systems, but is also suitable for use in a wide variety of general material handling applications. The unit delivers 100W output at 27 Vdc and supports easy, Class II wiring

Sensors

Integrated AC junction box features for one-step mounting and wiring without the need for additional accessories or enclosures
 Built-in DC power health contact allows easy monitoring of power supply status
 Unique design features a tamper-proof sealed construction to reduce the risk of damage associated with conventional open control-panel type supplies
 Built-in slug-release input converts an AC or DC input to the appropriate DC signal for integration with the 200 Series and E68 Series Zero Pressure Accumulation Systems
 Dual output connection terminals to make it easy and convenient to locate the power supply at the center of the cable run

Technical Data and Specifications

Electrical ratings—100 to 250 Vac operating voltage; 27 Vdc, 100 watt output; 15–132 Vac/Vdc 3 mA minimum slug input; PNP or NPN, switch selectable
 Enclosure ratings—NEMA 4X
 Material—Aluminum

Approvals

UL Listed



Sensor Power Supply—NEMA 1 120 Vac



Publication: PG0506TE

Overview

Designed to be used with the 200 Series and E68 Series Zero Pressure Accumulation Systems, but is also suitable for use in a wide variety of general material handling applications. The unit delivers 100W output at 27 Vdc and supports easy, Class II wiring

Sensors

Integrated AC junction box for one-step mounting and wiring without the need for additional accessories
 Built-in DC power health contact allows easy monitoring of power supply status
 Unitized design features a tamper-proof encapsulated construction to reduce the risk of damage associated with conventional open control-panel type construction
 Built-in slug-release input converts an AC or DC input to the appropriate DC signal for integration with the 200 Series and E68 Series Zero Pressure Accumulation Systems
 Dual output connection terminals to make it easy and convenient to locate the power supply at the center of the cable run

Technical Data and Specifications

Electrical ratings—105 to 132 Vac operating voltage; 27 Vdc, 100 watt output; 15–132 Vac/Vdc 3 mA minimum slug input; PNP or NPN, switch selectable
 Enclosure ratings—NEMA 1
 Material—Die-cast aluminum

Approvals

UL Listed
 cUL Approved



Consult the Sensing Solutions Product Guide, **PG08301004E**, for complete information on sensors, limit switches and machine safety products.

Inductive Proximity Sensors

iProx



Publication: PG05D17TE

Overview

Designed to be the highest performing tubular inductive sensor. Standard features include extended sensing ranges, high noise-immunity, extreme durability and includes Autoconfigure Technology. Advanced features include output delay, speed detection and cloning with ProxView Software.

Applications

Automotive, machine tool, material handling where high sensing performance and inventory consolidation is a priority

Product Features

Auto-configure technology automatically detects a sinking (NPN) or sourcing (PNP) connection and switches the sensor accordingly, without any user intervention
Optional computer programming cable and Windows-based ProxView configuration software makes it easy to customize sensors
Clone the sensor to match the characteristics of more than 4,800 competitive models, or configure it to match your specific application needs
Advanced programmable features such as dual outputs, output delay, speed detection and more

Technical Data and Specifications

Current ratings—
AC: 250–500 mA
DC: 300–500 mA

Enclosure ratings—
NEMA 4, 4X, 6, 6P, 12, 13
IEC IP67, IP69K

Construction—
Stainless steel

Approvals

cUL Listed



E57 Premium+ Series



Publication: PG05D06TE

Overview

High performance inductive sensors include stainless steel models, extended ranges and right-angle sensing.

Applications

A wide variety of applications including those where customers require AC/DC universal inventory sensors

Product Features

12, 18 and 30 mm diameters
Two- and three-wire AC and DC sensors
360° LED indicators standard
NO or NC outputs
Variety of terminations
Resettable short circuit protected and reverse polarity on select models
Robust stainless steel tubes, shock-resistant front caps, polycarbonate end bells, and impact-absorbing potting compound are resistant to physical and environmental abuse in high temperature, high pressure washdown and high shock and vibration applications

Technical Data and Specifications

Current ratings—
AC: 250–500 mA
DC: 200 mA

Enclosure ratings—
NEMA 4, 4X, 6, 6P, 12, 13
IEC IP6, IP69K7

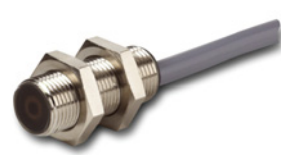
Construction—
Stainless steel

Approvals

cUL Listed
CE (AC/DC and DC-only models)



E57 Premium+ Series Short Barrel



Publication: PG05D12TE

Overview

Full featured sensors with shorter overall length than standard tubular sensors.

Applications

Automation, robotics, transfer lines, conveyors, material handling

Product Features

Available in 12, 18 and 30 mm diameters
Two-wire sensors offer 20–250 Vac or Vdc operation; AC only 20–135 Vac
Three-wire models operate on 6–30 Vdc
360° LED indicators
Same sensing ranges as standard sensors
High flex extra long 5m cable or pigtail micro-pin connector
Short circuit protection on AC/DC and DC-only versions

Technical Data and Specifications

Current ratings—
AC mode—250–500 mA continuous
DC mode—200 mA continuous

Enclosure ratings—
NEMA 4, 4X, 6, 6P, 12, 13
IEC IP67

Construction—
Stainless steel
Semi-shielded models: nickel plated brass

Approvals

UL Listed
CSA Certified
CE (AC/DC and DC-only models)



Global Proximity



Publication: PG05D03TE

Overview

This full-line, tubular proximity sensor family provides a cost-effective solution for high volume OEM use.

Applications

Machine tool detection, press applications, cam detection, material handling, valve and shaft position, automotive assembly

Product Features

8, 12, 18 and 30 mm diameters
Two-wire sensors available in AC or DC versions
Three-wire sensors available in DC versions
Shielded and unshielded models
LED indicators standard
Cable, micro-connector and nano-connector terminations
Short circuit protection on DC models
NO or NC outputs

Technical Data and Specifications

Current ratings—
AC mode—200 mA
DC mode—100 mA

Enclosure ratings—
IEC IP67, IP69K

Construction—
Nickel plated brass
8 mm Nano: stainless steel

Approvals

cCSAus
CE (DC-only models)



Consult the Sensing Solutions Product Guide, **PG08301004E**, for complete information on sensors, limit switches and machine safety products.

AccuProx



Publication: CA05301001E

Overview

AccuProx™ sensors feature analog outputs that change linearly as the target moves closer or further from the sensor face.

Applications

Part positioning, distance, size and thickness measurement, general inspection and error proofing (such as material imperfection or blemish detection), eccentricity or absolute angle detection, identification of different metals

Product Features

Extended linear sensing range of up to 25 mm—three times longer than standard tubular analog inductive sensors
 Outputs available in current (4–20 or 0–20 mA) and voltage (0–10V)
 High output resolution and repeatability for applications requiring precision sensing performance
 Robust stainless steel barrel, shock-resistant front cap, polycarbonate end bell and impact-absorbing potting compound
 Ideal for extreme temperature or high pressure washdown environments

Technical Data and Specifications

Current ratings—
 0–10 Vdc, 0–20 mA, 4–20 mA
 Enclosure ratings—
 NEMA 4, 4X, 6, 6P, 13
 Construction—
 Stainless steel

Approvals

cUL Listed



Ferrous Only Tubular



Publication: PG05D08TE

Overview

Sensors designed to detect only ferrous metals (steel/iron).

Applications

Workcell applications, automotive and aircraft production

Product Features

18 mm diameters
 Two-wire AC or three-wire DC
 NO or NC outputs
 Micro- and mini-pin terminations
 LED indicators

Technical Data and Specifications

Current ratings—
 AC: 500 mA continuous
 DC: 200 mA continuous
 Enclosure ratings—
 NEMA 4, 4X, 6, 6P, 12, 13
 IEC IP67
 Construction—
 Stainless steel

Approvals

UL Listed
 CSA Certified



Metal Face



Publication: PG05D09TE

Overview

Tough sensors with thick stainless steel sensing faces and barrels.

Applications

Metal cutting operations where damage to sensor face could occur

Product Features

12, 18 and 30 mm diameters
 Two-wire AC or three-wire DC
 20 mil thick stainless steel face
 303 stainless steel barrel
 LED indicator
 2-meter cable, micro- and mini-pin connections

Technical Data and Specifications

Current ratings—
 AC: 500 mA continuous
 DC: 200 mA continuous
 Enclosure ratings—
 NEMA 4, 4X, 6, 6P, 12, 13
 IEC IP67
 Construction—
 Stainless steel

Approvals

UL Listed
 CSA Certified



High Current Output



Publication: PG05D05TE

Overview

DC sensors which can carry extremely large continuous inrush current.

Applications

Heavy-duty vehicles, cement mixers, lift trucks, front end loaders, farm equipment

Product Features

30 mm diameter stainless steel housing
 Solid-state output for 12 ampere continuous, 50 ampere inrush capacity
 –40° to 158°F (–40° to 70°C) temperature range
 NO and NC isolated outputs
 Heavy gauge SJO cable

Technical Data and Specifications

Current ratings—
 Varies by model
 Enclosure ratings—
 NEMA 4, 4X, 6, 6P, 12, 13
 IEC IP67
 Construction—
 Stainless steel

Approvals

—

Consult the Sensing Solutions Product Guide, **PG08301004E**, for complete information on sensors, limit switches and machine safety products.

Miniature Short Body



Publication: PG05D13TE

Overview

Small diameter and short body (4, 5, 6.5 and 8 mm) tubular housings for tight sensing applications.

Applications

Automation equipment, robotics, machine tool, counting, sorting

Product Features

Variety of diameters in stainless steel housings
PVC cable, micro- and nano-pin connections
LED indicators standard
Short overall lengths
Short circuit and reverse polarity protection

Technical Data and Specifications

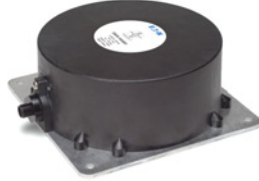
Current ratings—
DC: 200 mA maximum
Enclosure ratings—
NEMA 4, 4X, 6, 6P, 12, 13
IEC IP67
Construction—
Stainless steel

Approvals

CE



E56 Pancake



Publication: PG05D02TE

Overview

Self-contained sensors capable of sensing up to 3.94 inches (100 mm).

Applications

Oil rig operations, floor conveyors, automotive assembly, overhead cranes

Product Features

40, 50, 70 and 100 mm sensing distances
Four-wire DC models have complementary outputs (1 NO/1 NC)
Four-wire DC models use auto-configure technology, which allows the sensor to automatically adapt for NPN or PNP without user intervention
Available in two-wire AC/DC versions
Power and output LED indicator
Quick disconnect option
Short circuit protected in DC
Longest sensing distances available

Technical Data and Specifications

Current ratings—
AC: 500 mA continuous
DC: 200 mA continuous
Enclosure ratings—
NEMA 4, 4X, 12, 13
(some models also rated NEMA 6)
IEC IP66
Construction—
PPS

Approvals

cULus Listed



Tubular, Nonmetallic Housing



Publication: PG05D07TE

Overview

Tubular sensors with nonmetallic housings offer high corrosion resistance.

Applications

Food processing lines, high washdown environments

Product Features

12, 18 and 30 mm diameters shielded and unshielded sensing
Normally open or closed outputs
AC and DC voltages
Tough ABS plastic housing
Output LED on all models

Technical Data and Specifications

Current ratings—
AC: 150 mA
DC: 200 mA
Enclosure ratings—
NEMA 3, 3S, 4, 4X, 13
IEC IP66
Construction—
ABS plastic

Approvals

—

E52 Cube Style



Publication: CA05301004E

Overview

A family of industry-standard, cube-sized inductive sensors with long range capabilities.

Applications

Automotive, manufacturing, machinery OEMs

Product Features

Long inductive proximity ranges available (up to 40 mm sensing distance)
Four-wire DC models have complementary outputs (1 NO/1 NC)
Four-wire DC models use auto-configure technology, which allows the sensor to automatically adapt for NPN or PNP without user intervention
Available in two-wire AC/DC versions
Robust design featuring vibration and impact-absorbing potting compound
Ideal for extreme temperatures or high pressure washdown environments

Technical Data and Specifications

Current ratings—
AC: 400 mA maximum
DC: 300 mA maximum
Enclosure ratings—
NEMA 4, 4X, 6, 6P, 12, 13
IEC IP67
Construction—
Zinc alloy/PPS, PL

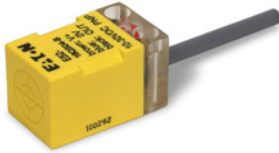
Approvals

cULus Listed



Consult the Sensing Solutions Product Guide, **PG08301004E**, for complete information on sensors, limit switches and machine safety products.

E52 Rectangular Style



Publication: PG05D04TE

Overview

A variety of small rectangular sensors for limited space applications.

Applications

Tight applications where conventional sensor are too large

Product Features

Variety of housing styles R12, R18, Q16, Q25
10 to 30 Vdc
NPN and PNP output
Short circuit protection
LED indicator for output status

Technical Data and Specifications

Current ratings—
DC: 100 mA maximum
Enclosure ratings—
NEMA 1, 2, 3, 3S, 4, 12
IEC IP66
Construction—
PBT composition housing

Approvals

E55 Limit Switch Style, Nonmetallic Housing



Publication: PG05D10TE

Overview

These nonmetallic sensors provide corrosion resistance in a limit switch style housing.

Applications

Food processing lines, high washdown environments

Product Features

5 position head can be top mounted or in any of four side positions
Long sensing ranges up to 40 mm
Normally open or closed outputs
AC voltages
Tough PBT resin housing

Technical Data and Specifications

Current ratings—
AC: 400 mA
Enclosure ratings—
NEMA 4, 4X, 6, 12, 13
IEC IP67
Construction—
PBT resin

Approvals

E51 Limit Switch Style, Factory Sealed 6P +



Publication: PG05D14TE

Overview

Completely epoxy filled in unitized, one piece limit switch style construction for reliable performance under the most adverse of environmental conditions.

Applications

All corrosive environments: Coolants/ cutting oils, automotive applications

Product Features

One piece housing on switch body/ receptacle
Head and housing totally epoxy encapsulated
Side sensing head can be unfastened and moved to any of four positions
Quick disconnect options
Corrosive resistant epoxy coated housing

Technical Data and Specifications

Current ratings—
AC: 1 ampere continuous
DC: 0.6 ampere continuous
Enclosure ratings—
NEMA 3, 3S, 4, 4X, 6, 6P, 12, 13
IEC IP67
Construction—
Die cast zinc
Gasket material: Viton

Approvals

cUL Listed



E51 Limit Switch Style, Modular



Publication: PG05D11TE

Overview

Modular design allows maximum use of inventories in these limit switch style housings. Solid-state circuitry in a variety of sensing ranges.

Applications

Machine tool, punch presses, automotive, conveyor systems

Product Features

Modular heads, switch bodies, receptacles
Shielded or unshielded sensing ranges
Solid-state electronics
Viton gasket seals
LED indicators for power and output status
Top and side sensing heads
Alternate frequency for side by side operation
Components individually labeled for easy identification

Technical Data and Specifications

Current ratings—
AC: 1 ampere continuous
DC: 0.6 ampere continuous
Enclosure ratings—
NEMA 3, 3S, 4, 4X, 6, 6P, 12, 13
IEC IP67
Class I, Class II, Division 2
Groups A, B, C, D, F and G; Class III
Construction—
Die cast zinc
Gasket material: Viton

Approvals

UL Listed
CSA Certified (most models)



Consult the Sensing Solutions Product Guide, **PG08301004E**, for complete information on sensors, limit switches and machine safety products.

Threaded Body Capacitive Proximity Sensors**Publication:** PG05A01TE**Overview**

These self-contained devices will detect both metallic and nonmetallic targets. A full threaded housing provides ease of mounting.

Applications

Liquid level control
Nonmetallic targets

Product Features

18 and 30 mm diameters with threaded housing
Shielded and unshielded sensing
Two-wire AC—20 to 250V
Three-wire DC—10 to 30V, NPN and PNP
2-meter PVC cable or 4-pin micro-connector
Short circuit and reverse polarity protected (DC models)
LED indicator
Sensitivity adjustment

Technical Data and Specifications

Contact ratings—
AC: 300 mA
DC: 300 mA
Enclosure ratings—
NEMA 1, 2, 3, 3S, 4, 12, 13
IP65
Construction—
POM
Nuts, nylon 66

Approvals

CE

**Smooth Body Capacitive Proximity Sensors****Publication:** PG05A02TE**Overview**

Smooth body capacitive models feature longer ranges than our threaded body models and include a convenient mounting bracket.

Applications

Liquid level control
Nonmetallic targets

Product Features

34 mm diameter
Shielded and unshielded sensing
Two-wire AC—20 to 250V
Three-wire DC—10 to 30V, NPN and PNP
2-meter PVC cable or 4-pin micro-connector
Short circuit and reverse polarity protected (DC models)
LED indicator
Sensitivity adjustment
Includes mounting bracket

Technical Data and Specifications

Contact ratings—
AC: 300 mA
DC: 300 mA
Enclosure ratings—
NEMA 1, 2, 3, 3S, 4, 12, 13
IP65
Construction—
POM
Nuts, nylon 66

Approvals

CE



Consult the Sensing Solutions Product Guide, **PG08301004E**, for complete information on sensors, limit switches and machine safety products.

Sensor Accessories



Publication: PG0504TE ①

Overview

Connector cables, fiber optic cables, retroreflectors, retroreflective tape, sensor mounting brackets, sensor accessories, and pilot devices for sensor products.

Sensors

Connectivity: Variety of single- and double-ended connector cables in Nano (M8), Micro (M12) and Mini terminations

Fiber optic cables: Flexible, cost-effective plastic and durable, high-performance glass fiber optic cables

Retroreflectors: Wide selection of corner cube and embedded glass bead retroreflectors, with tape options as well

Mounting brackets: Selection of mounting brackets in a wide variety of configurations, for tubular sensors ranging from 8 to 30 mm in diameter

Accessories: Battery testers and spare mounting nuts for sensor products

Pilot devices: Designed for use with amplifier built-in sensors to provide an SPDT relay contact output (in addition to the solid-state output of the sensor), and to convert an AC input voltage to stable 12 Vdc, permitting operation of a DC sensor from an AC input

Technical Data and Specifications

Varies by model

Approvals

Varies by model

Note

- ① Publication for Accessories, additional publications available—
- Retroreflectors and Retroreflective Tape: PG05E17TE
- Sensor Mounting Brackets: PG0503TE
- Pilot Devices: PG0510TE
- Plastic Fiber Optic Cables: PG05E16TE
- Glass Fiber Optic Cables: PG05E15TE

Global Plus Connector Cables



Publication: PG0505TE

Overview

Finish your sensor installation with high quality Connector Cables from Eaton's electrical sector. Our Global Plus line is designed to give you everything you want without paying extra for the features you don't want. It includes a wide variety of single- and double-connector cables in a variety of sizes (mini, micro, nano), lengths and jacket materials to fit any application

Sensing Types and Ranges

Nano (M8)

Micro (M12)

Mini

Double-ended, straight, right-angle, and field-installable connector styles

Product Features

Industry standard connector types

Industrial-duty polymer jackets consisting of PVC, PUR, or Irradiated PUR

Stranded copper conductors and polymer jackets provide a high resistance to bending motions

Right angle units for applications that have constricted space

Technical Data and Specifications

Operating voltage—
0–600 Vac/Vdc

Maximum load current—
0–13A

Enclosure ratings—
NEMA 6P, IP68

Approvals

UL
cUL
CSA



Multi-Connector Blocks



Publication: CA05310001E

Overview

Junction Blocks from Eaton's electrical sector allow users to quickly connect multiple sensors through one source of power

Sensing Types and Ranges

4, 6, or 8 ports

Cable or connector models

Micro connector style

Product Features

LED status indicators for power and output status

Molded PUR cable models provide added protection from moisture and most cutting fluids

Pluggable terminal blocks provide easy and quick installation

Technical Data and Specifications

Operating voltage—
0–30 Vdc

Maximum load current—
4A per port

Enclosure ratings—
IP65

Approvals

cUL



Consult the Sensing Solutions Product Guide, **PG08301004E**, for complete information on sensors, limit switches and machine safety products.

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Photoelectric and Proximity Sensors, Sensor Accessories

Sensor Accessories

Consult the Sensing Solutions Product Guide, **PG08301004E**, for complete information on sensors, limit switches and machine safety products.