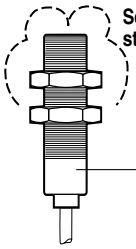
Magnetic

- Cylindrical housings
- NAMUR
- 3-wire DC
- 2.5 mm to 60 mm sensing range

P+F magnetic switches have the ability to see through nonferrous materials to a target magnet. A common application would be sensing the position of an air or hydraulic cylinder piston.



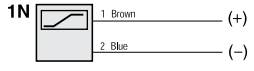
See pages 803-854 for cordsets

Wiring Diagrams

NAMUR

Cable Connection

Note: Output state is determined at controlling device or P+F amplifier



Quick Disconnect

Note: Wiring diagrams show quick disconnect pin numbers.

V1 Type

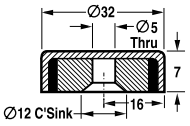
Note: Output state is determined at controlling device or P+F amplifier

Specifications	NAMUR	
SENSING RANGE	10 to 60 mm*	10 to 60 mm*
SHIELDED	Yes	Yes
MODEL NUMBER(S)	MC60-12GM50-1N •	MC60-12GM50-1N-V1 ϟ
	—	—
OUTPUT *Suffix -1N*	NAMUR	NAMUR
LOAD CURRENT *Target Present*	≥ 2.5 mA	≥ 2.5 mA
Target Absent	≤ 1 mA	≤ 1 mA
SHORT CIRCUIT AND OVERLOAD PROTECTION	Yes	Yes
REVERSE POLARITY PROTECTION	Yes	Yes
SUPPLY VOLTAGE	5-25 VDC	5-25 VDC
LED(s)	Yes (1)	Yes (1)
REPEATABILITY	≤ 0.01 mm	≤ 0.01 mm
HYSTERESIS	≈ 15-30%	≈ 15-30%
SWITCHING FREQUENCY	5 kHz	5 kHz
STANDARDS	EN 60947-5-2	EN 60947-5-2
PROTECTION (IEC)	IP67	IP67
AMBIENT TEMPERATURE	-13 °F to +158 °F (-25 °C to +70 °C)	-13 °F to +158 °F (-25 °C to +70 °C)
HOUSING MATERIAL	Stainless steel	Stainless steel
SENSING FACE	Stainless steel	Stainless steel
APPROVALS	CE cULus FM cSAus Ex	CE cULus FM cSAus Ex
ELECTRICAL CONNECTION	2-meter cable, PVC covered, 2-conductor, #22 AWG	Quick disconnect type V1

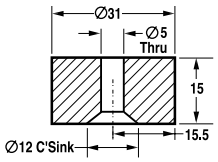
*Sensing range references magnetic target DM60-31-15

Target Sizes Available

Dimensions (mm) *unless otherwise specified*



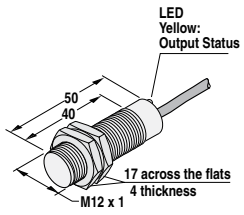
Model No. DM25-32-07



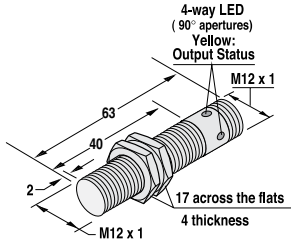
Model No. DM60-31-15

Dimensions (mm)

Classic Series
MC60-12GM50-1N



Classic Series
MC60-12GM50-1N-V1



2.5 mm Sensing Range

50FY Application Information

Graph 1 illustrates the extremes that 50FY cylindrical sensors operate and release (regardless of temperature and voltage) as well as typical operate and release points at 75°F. Graph 1 applies to all 50FY cylindrical sensors actuated with 51FY7 and 52FY11 magnets. The axis of the magnet should be parallel with the axis of the 50FY sensor. These operating characteristics apply only when all ferromagnetic material is at least a half-inch away from the sensing face and from any part of the magnet. Contact Pepperl+Fuchs for assistance with special applications.

For maximum reliability for slide-by actuation, the distance between the sensing face and magnet should be no more than 0.050 inches.

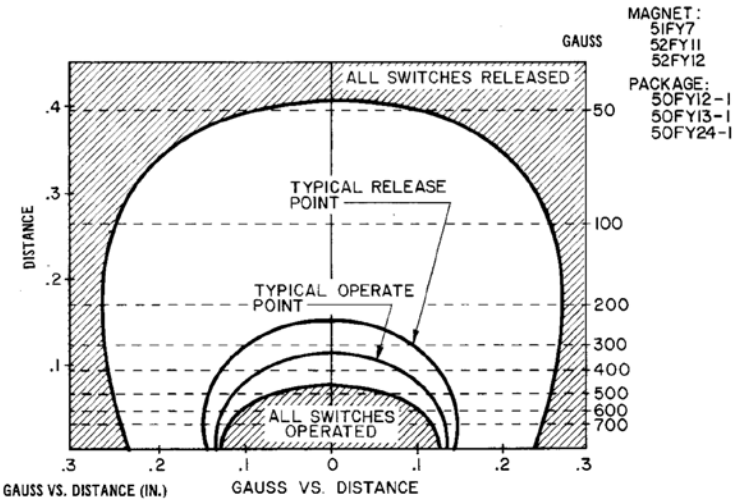
Magnetic Actuation

50FY sensors can be actuated by the south pole of any permanent magnet or electromagnet with sufficient flux density. To simplify application, Pepperl+Fuchs offers permanent magnets for use with 50FY sensors.

Magnets

Pepperl+Fuchs offers permanent bar magnets and self-mounting actuators for 50FY sensors. Refer to Graph 2 for magnetic characteristics.

Graph 1



Graph 2