

Sonar Proximity Switches

SIMATIC PXS200

M18S compact series

Overview



M18 S design

The Sonar proximity switches of the M18 S compact series are ready-to-connect complete units in a cylindrical enclosure.

- Can be operated as diffuse sensors or reflex sensors
- Adjustable via teach-in (switching output only)
- Electronic outputs:
 - Switching output
 - Frequency output, suitable for connection to LOGO!
- Connected via M12 plug
 - 4-pin, type F (1 output)
 - 5-pin, type G (2 outputs)

Design

Compact range M18 S can be supplied with an aligned sensor head or an angled sensor head. The small physical size of the sensors makes them ideal for applications where space is limited.

Function

Available as diffuse sensors and reflex sensors. The sensors can be supplied with switching or frequency outputs. Due to their wide range and a minimized close range, they are suitable for a wide variety of applications.

Programming

The sensors with a switching output can be set via the device terminals by means of a teach-in function. For the sensors with a frequency output, the range can be set via the wiring. Evaluation can be performed in a PLC or in a LOGO! mini PLC.

Technical specifications

| Type M18 S | 3RG64 22, 3RG64 32 | 3RG64 21, 3RG64 31 | 3RG64 23, 3RG64 33 |
|--|--|---------------------------------|----------------------------------|
| Number of outputs | 1 | 1 | 1 |
| Sensing range | 30 ... 200 mm or 0 ... 200 mm | 50 ... 400 mm or 0 ... 400 mm | 100 ... 700 mm or 0 ... 700 mm |
| Adjustment range | 50 ... 200 mm or 120 ... 220 mm | 60 ... 400 mm or 155 ... 435 mm | 150 ... 700 mm or 350 ... 750 mm |
| Standard target | 2 cm × 2 cm | 2 cm × 2 cm | 2 cm × 2 cm |
| Hysteresis <i>H</i> | 10 mm or 2 mm | 10 mm or 2 mm | 10 mm or 3 mm |
| Repeat accuracy <i>R</i> | ± 1 (frequency output ± 2.5) | | |
| Operating voltage (DC) | 20 ... 30 V (including ± 10% residual ripple) | | |
| Rated operating current <i>I_e</i> | 150 mA | | |
| No-load supply current <i>I₀</i> | Max. 20 mA | | |
| Ultrasonic frequency | 400 kHz | 300 kHz | 200 kHz |
| Switching frequency <i>f</i> | 10 Hz | 8 Hz | 5 Hz |
| Response time | 50 ms | 100 ms | 100 ms |
| Power-up delay | 20 ms | 20 ms | 20 ms |
| Switching status display | Yellow LED | | |
| Enclosure material | Brass, nickel-plated; CRAFTIN converter cover; epoxy resin converter surface | | |
| Degree of protection | IP67 | | |
| Ambient temperature | | | |
| • Operation | -25 ... +70 °C | | |
| • Storage | -40 ... +85 °C | | |



| Type M 18 S | 3RG64 21, 3RG64 31 | 3RG64 23, 3RG64 33 |
|--|--|--------------------|
| Number of outputs | 2 | 2 |
| Sensing range | 25 ... 400 mm | 50 ... 700 mm |
| Adjustment range | 40 ... 400 mm | 75 ... 700 mm |
| Standard target | 2 cm × 2 cm | 2 cm × 2 cm |
| Hysteresis <i>H</i> | 10 mm | 10 mm |
| Repeat accuracy <i>R</i> | ± 1 (frequency output ± 2.5) | |
| Operating voltage (DC) | 20 ... 30 V (including ± 10% residual ripple) | |
| Rated operating current <i>I_e</i> | 375 mA | |
| No-load supply current <i>I₀</i> | Max. 20 mA | |
| Ultrasonic frequency | 300 kHz | 200 kHz |
| Switching frequency <i>f</i> | 10 Hz | 5 Hz |
| Response time | 50 ms | 100 ms |
| Power-up delay | 20 ms | 20 ms |
| Switching status display | 2 yellow LEDs | |
| Ultrasonic frequency | 300 kHz | 200 kHz |
| Enclosure material | Brass, nickel-plated; CRAFTIN converter cover; epoxy resin converter surface | |
| Degree of protection | IP67 | |
| Ambient temperature | | |
| • Operation | -25 ... +70 °C | |
| • Storage | -40 ... +85 °C | |

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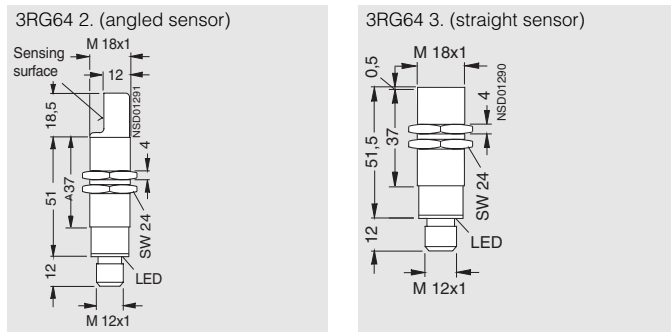
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Selection and Ordering data

| | Sensing range | Rated operational current | Switching output | Operating mode/ frequency output | Order No. |
|---|--------------------------|---------------------------|------------------|-------------------------------------|-------------------------|
| | cm | mA | pnp | | |
| Straight sensor | | | | | |
|  | 3 ... 20 | 150 | 1 NO | Diffuse sensor | 3RG64 32-3AB00 |
| | 5 ... 40 | 150 | 1 NO | Diffuse sensor | 3RG64 31-3AB00 |
| | 10 ... 70 | 150 | 1 NO | Diffuse sensor | 3RG64 33-3AB00 |
| | 0 ... 20 | 150 | 1 NO | Reflex sensor | 3RG64 32-3BB00 |
| | 0 ... 40 | 150 | 1 NO | Reflex sensor | 3RG64 31-3BB00 |
| | 0 ... 70 | 150 | 1 NO | Reflex sensor | 3RG64 33-3BB00 |
| | 3 ... 20 | 150 | - | 400 ... 1600 Hz 200 ... 800 Hz | 3RG64 32-3RS00 |
| | 5 ... 40 | 150 | - | 240 ... 1600 Hz 60 ... 400 Hz | 3RG64 31-3RS00 |
| | 10 ... 70 | 150 | - | 300 ... 1400 Hz 150 ... 700 Hz | 3RG64 33-3RS00 |
| | 2,5 ... 40 | 375 | 2 NO | Diffuse sensor | A 3RG64 31-3AH00 |
| | 5 ... 70 | 375 | 2 NO | Diffuse sensor | A 3RG64 33-3AH00 |
| | 2,5 ... 40 | 375 | 1 NC, 1 NO | Diffuse sensor | A 3RG64 31-3AJ00 |
| 5 ... 70 | 375 | 1 NC, 1 NO | Diffuse sensor | A 3RG64 33-3AJ00 | |
| Angled sensor | | | | | |
|  | 3 ... 20 | 150 | 1 NO | Diffuse sensor | 3RG64 22-3AB00 |
| | 5 ... 40 | 150 | 1 NO | Diffuse sensor | 3RG64 21-3AB00 |
| | 10 ... 70 | 150 | 1 NO | Diffuse sensor | 3RG64 23-3AB00 |
| | 0 ... 20 | 150 | 1 NO | Reflex sensor | 3RG64 22-3BB00 |
| | 0 ... 40 | 150 | 1 NO | Reflex sensor | 3RG64 21-3BB00 |
| | 0 ... 70 | 150 | 1 NO | Reflex sensor | 3RG64 23-3BB00 |
| | 3 ... 20 | 150 | - | 400 ... 1600 Hz 200 ... 800 Hz | A 3RG64 22-3RS00 |
| | 5 ... 40 | 150 | - | 240 ... 1600 Hz 60 ... 400 Hz | 3RG64 21-3RS00 |
| | 10 ... 70 | 150 | - | 300 ... 1400 Hz 150 ... 700 Hz | 3RG64 23-3RS00 |
| | 2,5 ... 40 | 375 | 2 NO | Diffuse sensor | A 3RG64 21-3AH00 |
| | 5 ... 70 | 375 | 2 NO | Diffuse sensor | A 3RG64 23-3AH00 |
| | 2,5 ... 40 | 375 | 1 NC, 1 NO | Diffuse sensor | 3RG64 21-3AJ00 |
| 5 ... 70 | 375 | 1 NC, 1 NO | Diffuse sensor | 3RG64 23-3AJ00 | |
| Accessories | | | | | |
| | Teach-In adapter, 4 pole | | | | 3RX4 010 |
| | Teach-In adapter, 5 pole | | | A | 3RX4 020 |

A: Subject to export regulations: AL = N and ECCN = EAR99H

Dimensions



Schematics

