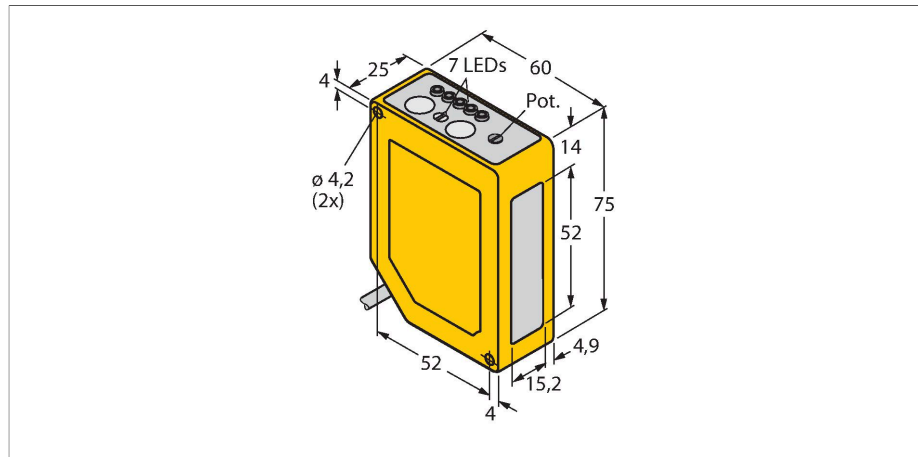# Q60VR3LAF2000QPMA3
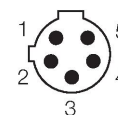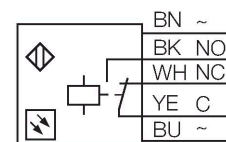# Photoelectric Sensor – Laser Sensor, Diffuse Mode, with Adjustable Background Suppression

Features

- Cable with male end 1/2", 4-pin, PUR, 150 mm
- Protection class IP67
- 5-segement LED display
- Signal indication
- Keylock
- Switch ON/OFF delay, adjustable between 8…16 ms
- Operating voltage: 12…250 VDC or 24…250 VAC
- Relay output

Wiring diagram

Technical data

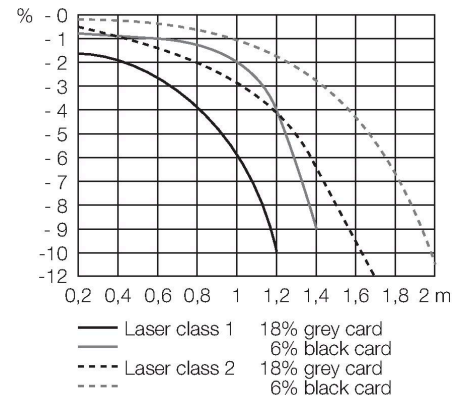| Type	Q60VR3LAF2000QPMA3
ID no.	3071971
Optical data	
Function	Proximity switch
Operating mode	Background suppression, adjustable
Light type	Red
Wavelength	650 nm
Laser class	⚠ 2
Range	200…2000 mm
Electrical data	
Operating voltage	12…250 VDC
Operating voltage	24…250 VAC
DC rated operational current	≤ 200 mA
No-load current	≤ 50 mA
Output function	Complementary contact, Relay output
Switching frequency	≤ 33 Hz
Readiness delay	≤ 1000 ms
Response time typical	< 15 ms
Setting option	Screw Adjustment
Mechanical data	
Design	Rectangular, Q60
Dimensions	60 x 25 x 75 mm
Housing material	Plastic, Thermoplastic material, Yellow
Lens	plastic, Acrylic
Electrical connection	Cable with connector, 1/2", 0.15 m, PUR
Number of cores	5

Functional principle

Diffuse mode sensors with background suppression operate with a single emitter and several receiver elements. The target position and the photoelectric structure of the sensor determine which of the receiving elements receives the most light. The sensor electronics determine whether the reflecting object is within or outside the measuring range. The sensors come with an adjustable or fixed cut-off point.

Deviation curve
Deviation of the cut-off point of a 18 % grey or 6 % black target relative to the cut-off point of a white target
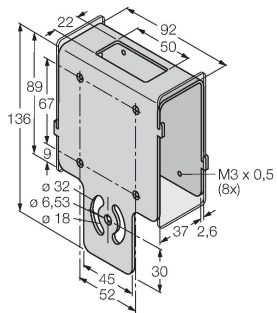
Technical data

Ambient temperature	-10…+45 °C
Protection class	IP67
Special features	keep/defer
Power-on indication	LED, Green
Switching state	LED, Yellow
Error indication	LED
Excess gain indication	LED, green, flashing
Tests/approvals	
MTTF	19 years acc. to SN 29500 (Ed. 99) 40 °C
Approvals	CE, cURus

Laser class 1 — 18% grey card / 6% black card
Laser class 2 --- 18% grey card / 6% black card

Accessories

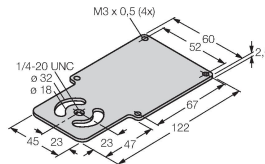| SMBAMSQ60IP	3073441

Protective housing with safety glas panel, stainless steel, for Q60
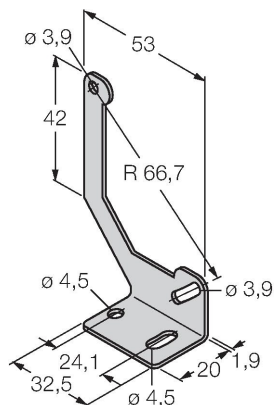
SMBAMSQ60P	3073133

Backplane, stainless steel, for Q60 series

SMBQ60	3067592

Mounting bracket, stainless steel, for Q60 series