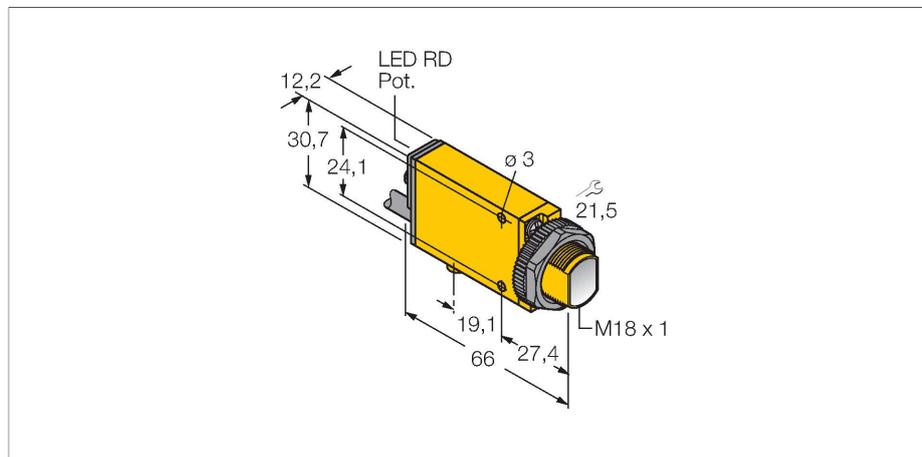


# MIAD9LVAG

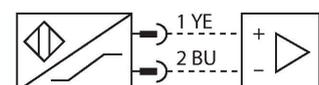
## Photoelectric Sensor – Retroreflective Sensor with Polarizing Filter



### Features

- Cable, PVC, 2 m
- Protection class IP67
- Sensitivity adjustable via potentiometer
- Alignment indicator
- Operating voltage: 5...15 VDC (NAMUR)
- NAMUR output in accordance with DIN 19234 (IEC/EN 60947-5-6)
- ATEX category II 1 G, Ex zone 0

### Wiring diagram



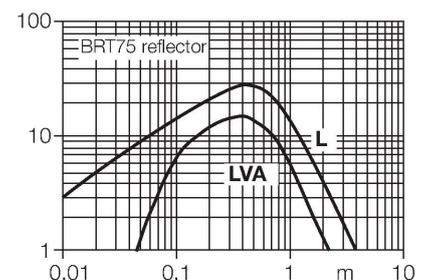
### Technical data

Type	MIAD9LVAG
ID	3037716
<b>Optical data</b>	
Function	Retroreflective Sensor
Operating mode	Polarized
Reflector included in delivery	no
Light type	Red polarized
Wavelength	650 nm
Range	50...2000 mm
<b>Electrical data</b>	
Operating voltage	5...15 VDC
Voltage	Nom. 8.2 VDC
Current consumption non-actuated	≤ 1.2 mA
Actuated current consumption	≥ 2.1 mA
Output function	Light operation, NAMUR
Switching frequency	≤ 100 Hz
Readiness delay	≤ 0 ms
Response time typical	< 5 ms
Setting option	Potentiometer
<b>Mechanical data</b>	
Design	Rectangular with thread, Mini Beam
Dimensions	Ø 18 x 66 x 12.3 x 30.7 mm
Housing material	Plastic, Thermoplastic material, Yellow
Lens	plastic, Acrylic
Electrical connection	Cable, 2 m, PVC
Number of cores	2

### Functional principle

Retro-reflective sensors incorporate emitter and receiver in a single compact housing. The light beam of the emitter is directed towards a reflector which returns the light back to the receiver. An object is detected when it interrupts this beam. Retro-reflective sensors incorporate some of the advantages of opposed mode sensors (good contrast and high excess gain). Further it is merely required to install and wire a single device. A smaller sensing range and susceptibility of devices without polarisation filter can be of disadvantage when shiny objects have to be detected.

Excess gain curve  
Excess gain in relation to the distance



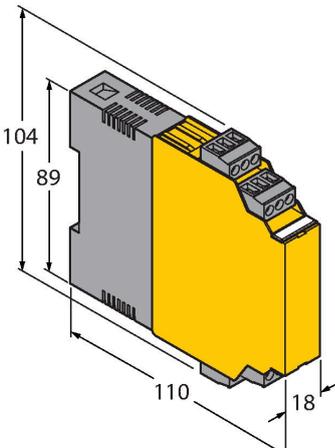
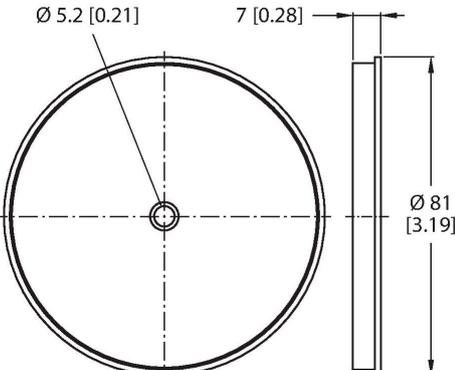
## Technical data

Core cross-section	0.5 mm <sup>2</sup>
Ambient temperature	-40...+70 °C
Protection class	IP67
Special features	Encapsulated
Switching state	LED, Red
Excess gain indication	LED, red, flashing
<b>Tests/approvals</b>	
Approvals	CE, FM, CSA
Approvals	ATEX II 1G ATEX II 2G ATEX II 3G
Device marking	Ⓔ II 1 G Ex ia IIC T5 Ga
Ignition protection category	Ex ia IIC T5 Ga
Ex approval acc. to conformity certificate	FM12ATEX0094X

## Accessories

<p><b>SMB18A</b></p>	<p><b>3033200</b></p> <p>Mounting bracket, rectangular, stainless steel, for sensors with 18 mm thread</p>	<p><b>SMB18AFAM10</b></p>	<p><b>3012558</b></p> <p>Mounting bracket, material VA 1.4401, for M10 x 1.5 thread, thread length 18 mm</p>
<p><b>SMB18SF</b></p>	<p><b>3052519</b></p> <p>Mounting bracket, PBT black, for sensors with 18 mm thread, rotatable</p>	<p><b>SMB312B</b></p>	<p><b>3025519</b></p> <p>Mounting bracket, stainless steel, for MINI-BEAM NAMUR</p>
<p><b>SMB3018SC</b></p>	<p><b>3053952</b></p> <p>Mounting bracket, PTB black, for sensors with 18 mm thread</p>		

Accessories

Dimension drawing	Type	ID	
	IM1-22EX-R	7541231	<p>Isolating switching amplifier, 2-channel; 2 relay outputs; input NAMUR signal; selectable ON/OFF mode for wire-break and short-circuit monitoring; adjustable output mode (NO / NC mode); removable terminal blocks; width 18 mm; universal power supply unit</p>
	BRT-3	3016164	<p>Round reflector, reflection coefficient 1.0, material acrylic, ambient temperature -20...+60 °C</p>

## Operating Instructions

Intended use	This device fulfills the directive 94/9/EC and is suited for use in explosion hazardous areas according to EN60079-0:2009, -11:2012, -26:2007. In order to ensure correct operation to the intended purpose it is required to observe the national regulations and directives.
For use in explosion hazardous areas conform to classification	II 1 G (Group II, Category 1 G, electrical equipment for gaseous atmospheres).
Marking (see device or technical data sheet)	⊕ II 1 G and Ex ia IIC T5 Ga acc. to EN60079-0, -11 and -26
Local admissible ambient temperature	-25...+70 °C
Installation/Commissioning	<p>These devices may only be installed, connected and operated by trained and qualified staff. Qualified staff must have knowledge of protection classes, directives and regulations concerning electrical equipment designed for use in explosion hazardous areas. Please verify that the classification and the marking on the device comply with the actual application conditions.</p> <p>This device is only suited for connection to approved Exi circuits according to EN 60079-0 and EN 60079-11. Please observe the maximum admissible electrical values. After connection to other circuits the sensor may no longer be used in Exi installations. When interconnected to (associated) electrical equipment, it is required to perform the "Proof of intrinsic safety" (EN60079-14).</p>
Installation and mounting instructions	Avoid static charging of cables and plastic devices. Please only clean the device with a damp cloth. Do not install the device in a dust flow and avoid build-up of dust deposits on the device. If the devices and the cable could be subject to mechanical damage, they must be protected accordingly. They must also be shielded against strong electro-magnetic fields. The pin configuration and the electrical specifications can be taken from the device marking or the technical data sheet. In order to avoid contamination of the device, please remove possible blanking plugs of the cable glands or connectors only shortly before inserting the cable or opening the cable socket.
Service/Maintenance	Repairs are not possible. The approval expires if the device is repaired or modified by a person other than the manufacturer. The most important data from the approval are listed.