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## Proximity Sensor SIEN-M8NB-PS-S-L

With standard switching distance.

Inductive sensors are signal generators which detect function-related movements at processing machines, robots, production lines, conveyor systems etc. in a contactless fashion, and transform them into electrical signals.

An electrical signal is generated when a metallic object approaches the active (grey) surface within the specified switching distance.

Inductive sensors detect and acquire all electrically conductive objects which pass through or remain within the high-frequency magnetic field of the oscillator, without making contact with the sensor.

Inductive sensors function in a contactless fashion, i.e. no mechanical force acts upon the control device or the parts to be sensed.

Inductive sensors do not require any sensing mechanisms. Rollers, stems or lever arms commonly used for mechanical limit switches are unnecessary.

Inductive sensors operate without mechanically actuated electrical contacts. Switching is accomplished by means of electronic components.

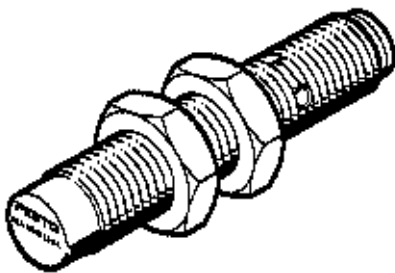
### Variants

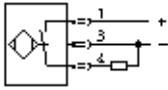
#### Size

- 4 mm outside diameter
- 6.5 mm outside diameter
- M5 external thread
- M8x1 external thread
- M12x1 external thread
- M18x1 external thread
- M30x1.5 external thread
- Block-shaped

#### Voltages

- 10 ... 30 V DC
- 15 ... 34 V DC
- 20 ... 265 V AC





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- Choice of PNP or NPN output
- NC, NO or antivalent contacts
- Flush or non-flush mounting
- Great switching distances
- Plug or cable connection, or terminal connection
- Two-wire variants

**Features**

- No mechanical wear and tear, resulting in long service life
- No downtime due to dirty or welded-together contacts
- No contact bounce, and thus no switching errors
- High switching frequencies of up to 3000 Hz
- Vibration-resistant
- Any desired mounting position
- Yellow LED as switching status display
- Fully encapsulated, providing a high degree of protection

**Sensor tester SM-TEST-1**

The sensor tester is used to test and adjust sensors and proximity switches. The sensor tester facilitates commissioning and service work.

- Voltage supply for testing operation of proximity switches
- Adjustment of proximity switches while attached to cylinders
- Identification of switching outputs of proximity switches and sensors with PNP, NPN, NC and NO functions by means of the appropriate LED.

**Note- Nominal switching distance  $S_n$ :**

Characteristic value with no allowance for production tolerances or deviations due to temperature or voltage.

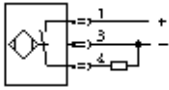
**Actual switching distance  $S_r$ :**

The actual switching distance is determined at the rated operating voltage and at an ambient temperature of 293 K (20 °C). May deviate from nominal switching distance by a maximum of  $\pm 10\%$ .

**Effective switching distance  $S_u$ :**

This is the switching distance for a given sensor within defined voltage and temperature ranges. It may deviate from the actual switching distance by a maximum of  $\pm 10\%$ .

**Guaranteed switching distance  $S_a$ :**



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This is the switching distance at which the sensor will operate throughout the entire range of permissible operating conditions. It lies between 0 and the lowest value for useful switching distance.

**Normally open contact:**

When the sensor is attenuated, current flows through the load, when the sensor is not attenuated, the flow of current is interrupted.

**Normally closed contact:**

When the sensor is attenuated, the flow of current is interrupted, when the sensor is not attenuated, current flows through the load.

**Antivalent:**

Both outputs (NC and NO contacts) are available.

**Type of installation:**

Flush-mounted sensors can be surrounded by metal right up to the level of the active surface.

Non-flush-mounted sensors require a metal-free zone around their active surface.

Sensors without threads should be bonded into place with adhesive if possible.

Sensors can be clamped in with moderate pressure, which should be distributed over as large an area as possible.

**Concentrated**

pressure, e.g. produced by grub screws, can easily cause damage to sensors.

Inductive sensors may not be used as end stops.

The sensors are class A products. They may cause radio interference in domestic environments. Users should implement suitable counter-measures if necessary.

## SIEN-M8NB-PS-S-L

Proximity Sensor

Data sheet

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Feature	Data/description
EU conformity (CE)	<b>CE</b>
Note on EU conformity	<b>Electromagnetic compatibility</b>
Signal processing/type of contact	<b>Inductive</b>
Function on actuation	<b>N/O contact</b>
Output potential (el. output)	<b>PNP</b>
Nominal switching distance [sn]	<b>2,5 mm</b>
Actual switching distance min. (sr)	<b>2,25 mm</b>
Actual switching distance max. (sr)	<b>2,75 mm</b>
Effective switching distance min. [su]	<b>2,03 mm</b>
Effective switching distance max. [su]	<b>3,03 mm</b>
Guaranteed switching distance [sa]	<b>2,03 mm</b>
Reproducibility	<b>0,125 mm</b>
Ambient temperature min. standard	<b>-25 °C</b>
Ambient temperature max. standard	<b>85 °C</b>
Air connection type elec.	<b>Plug</b>
Thread for connector	<b>M 8x1</b>
Number of pins, plug connection	<b>3</b>
Operating status display	<b>Yellow LED</b>
Short-circuit strength	<b>Pulsed</b>
Protection against incorrect polarity	<b>integrated</b>
Type of mounting	<b>Thread + lock nut</b>
Type of installation	<b>Not flush</b>
Mounting thread	<b>M 8x1</b>
Material of housing	<b>Stainless high-alloy steel</b>
Material, cable sheath	<b>TPE-U(PU)</b>
CT criterion	<b>Free of copper and teflon</b>
Product weight	<b>0,02 kg</b>
Voltage type	<b>DC</b>
Nominal operating voltage [DC]	<b>24 V</b>
Operating voltage min. (DC)	<b>15 V</b>
Operating voltage max. (DC)	<b>34 V</b>

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<b>Feature</b>	<b>Data/description</b>
Maximum voltage drop	<b>3,2 V</b>
Idle current max.	<b>30 mA</b>
Maximum switching frequency	<b>900 Hz</b>
Degree of protection	<b>IP67</b>