



IMA18-05BE1ZW2S

IMA

INDUCTIVE PROXIMITY SENSORS

**SICK**  
Sensor Intelligence.



### Ordering information

Type	part no.
IMA18-05BE1ZW2S	1107335

Other models and accessories → [www.sick.com/IMA](http://www.sick.com/IMA)

Illustration may differ



### Detailed technical data

#### Features

<b>Housing</b>	Metric
<b>Thread size</b>	M18 x 1
<b>Diameter</b>	Ø 18 mm
<b>Sensing range <math>S_n</math></b>	0 mm ... 5 mm
<b>Installation type</b>	Flush
<b>Connection type</b>	Cable, 4-wire, 2 m
<b>Output function</b>	Analog
<b>Repeatability (<math>T_a</math> not constant)</b>	0.3 mm <sup>1) 2) 3)</sup>
<b>Repeatability (<math>T_a</math> constant)</b>	± 0.1 mm
<b>Enclosure rating</b>	IP67 <sup>4)</sup>
<b>Special features</b>	Analog output
<b>Items supplied</b>	Mounting nut, brass, nickel-plated (2x)

<sup>1)</sup> As per IEC 60947-5-2.

<sup>2)</sup>  $U_b = DC 20 V \dots 30 V$ .

<sup>3)</sup>  $T_A = 23 \text{ °C} \pm 5 \text{ °C}$ .

<sup>4)</sup> According to EN 60529: 2000-09.

#### Mechanics/electronics

<b>Supply voltage</b>	15 V DC ... 30 V DC
<b>Ripple</b>	≤ 20 % <sup>1)</sup>

<sup>1)</sup> Of  $V_S$ .

<sup>2)</sup> Without load.

<sup>3)</sup> -3 dB if  $S_n = 2.5 \text{ mm}$ .

<sup>4)</sup> QA1 loaded, QA2 unloaded.

<sup>5)</sup> QA1 loaded, QA2 loaded: see temperature reduction.

<b>Time delay before availability</b>	≤ 30 ms
<b>Temperature drift (of S<sub>i</sub>)</b>	≤ 10 %
<b>No load current</b>	≤ 12 mA <sup>2)</sup>
<b>Max. load resistance on Q<sub>A1</sub></b>	≥ 2 kΩ
<b>Max. load resistance on Q<sub>A2</sub></b>	400 Ω U <sub>b</sub> = 15 V
<b>Output voltage Q<sub>A1</sub></b>	s = 0 mm: 0 V -0/+0,6 V (23 °C) s = 2,5 mm: +5 V +/-0,6 V (23 °C) s = 5 mm: +10 V +/-0,6 V (23 °C)
<b>Output current Q<sub>A2</sub></b>	s = 0 mm: 4 mA +/-0,8 mA (23 °C) s = 5 mm: 20 mA +/-0,8 mA (23 °C)
<b>Output voltage</b>	0 V ... 10 V
<b>Output current</b>	4 mA ... 20 mA
<b>Bandwidth</b>	1,000 Hz <sup>3)</sup>
<b>Short-circuit protection</b>	✓
<b>Ambient operating temperature</b>	-25 °C ... +70 °C <sup>4) 5)</sup>
<b>Housing material</b>	Brass, chromium-plated
<b>Sensing face material</b>	Plastic
<b>Housing length</b>	67 mm
<b>Thread length</b>	52 mm

1) Of V<sub>S</sub>.

2) Without load.

3) -3 dB if S<sub>n</sub> = 2.5 mm.

4) QA1 loaded, QA2 unloaded.

5) QA1 loaded, QA2 loaded: see temperature reduction.

### Safety-related parameters

<b>MTTF<sub>D</sub></b>	1,149 years
<b>DC<sub>avg</sub></b>	0 %
<b>T<sub>M</sub> (mission time)</b>	20 years

### Installation note

<b>Remark</b>	Associated graphic see "Installation"
<b>B</b>	18 mm
<b>C</b>	18 mm
<b>D</b>	15 mm
<b>F</b>	40 mm

### Certificates

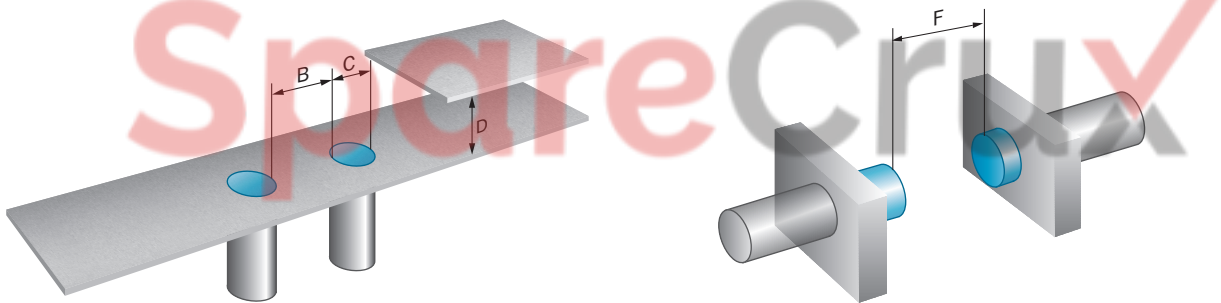
<b>EU declaration of conformity</b>	✓
<b>UK declaration of conformity</b>	✓
<b>ACMA declaration of conformity</b>	✓
<b>Moroccan declaration of conformity</b>	✓
<b>China RoHS</b>	✓

### Classifications

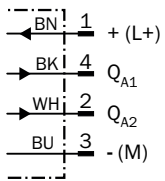
<b>ECLASS 5.0</b>	27270101
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<b>ECLASS 5.1.4</b>	27270101
<b>ECLASS 6.0</b>	27270101
<b>ECLASS 6.2</b>	27270101
<b>ECLASS 7.0</b>	27270101
<b>ECLASS 8.0</b>	27270101
<b>ECLASS 8.1</b>	27270101
<b>ECLASS 9.0</b>	27270101
<b>ECLASS 10.0</b>	27270101
<b>ECLASS 11.0</b>	27270101
<b>ECLASS 12.0</b>	27274001
<b>ETIM 5.0</b>	EC002714
<b>ETIM 6.0</b>	EC002714
<b>ETIM 7.0</b>	EC002714
<b>ETIM 8.0</b>	EC002714
<b>UNSPSC 16.0901</b>	39122230

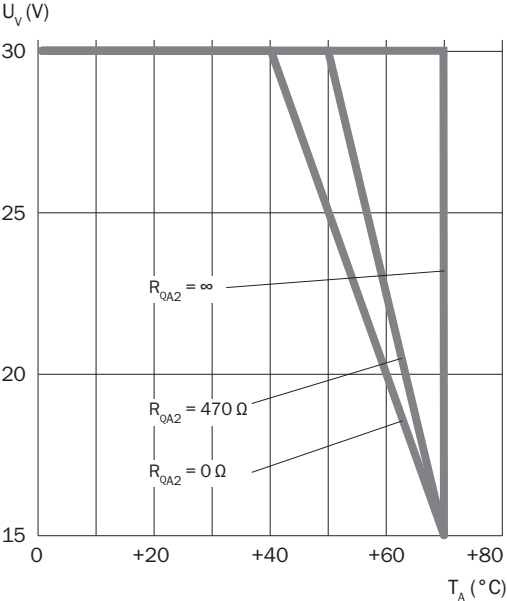
Installation note Flush installation



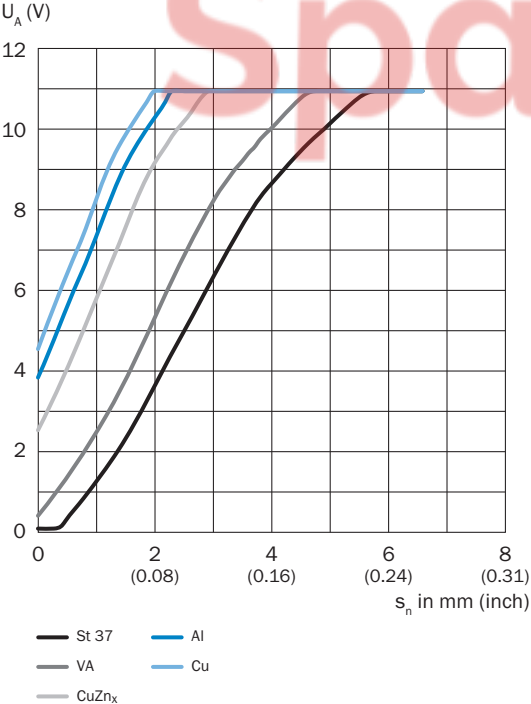
Connection diagram Cd-022



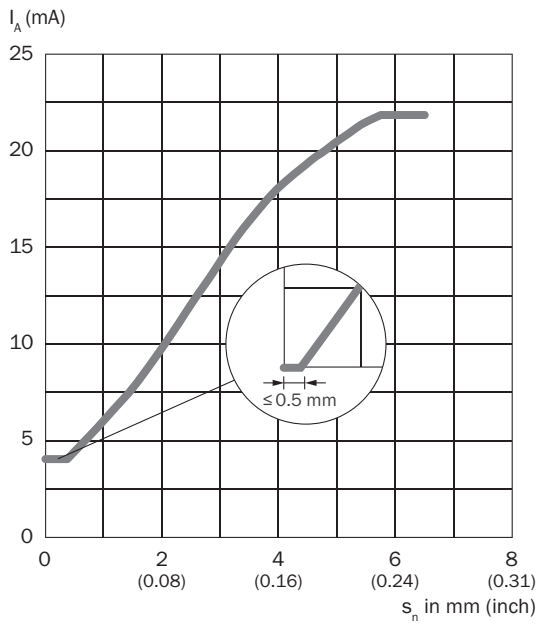
Temperature derating Temperature derating



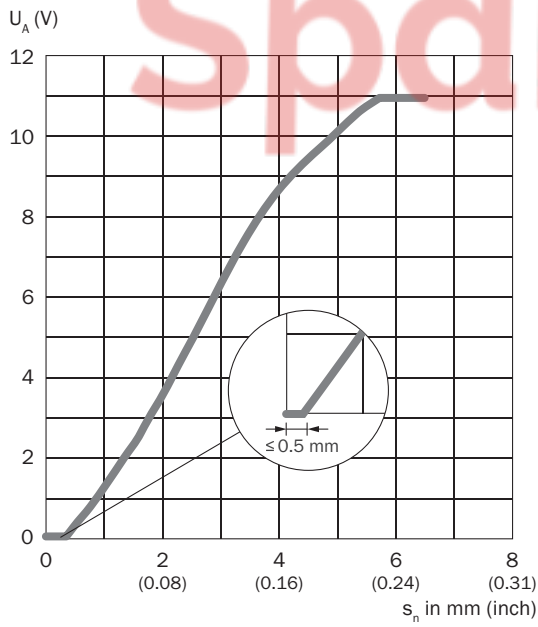
Response diagram Reduction factors



Response diagram Output current

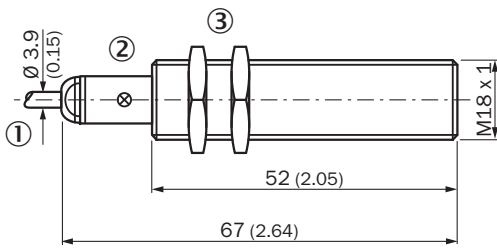


Response diagram Output voltage



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Dimensional drawing IME18 standard, cable, flush



Dimensions in mm (inch)



- ① Connection
- ② Display LED
- ③ Fastening nuts (2x); width across 24, metal

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Recommended accessories

Other models and accessories → [www.sick.com/IMA](http://www.sick.com/IMA)

	Brief description	Type	part no.
connectors and cables			
	<ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Female connector, M12, 4-pin, straight, A-coded</li> <li>• <b>Connection type head B:</b> Flying leads</li> <li>• <b>Signal type:</b> Sensor/actuator cable</li> <li>• <b>Cable:</b> 2 m, 4-wire, PVC</li> <li>• <b>Description:</b> Sensor/actuator cable, unshielded</li> <li>• <b>Application:</b> Zones with chemicals, Untaminated zones</li> </ul>	YF2A14-020VB3XLEAX	2096234
	<ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Female connector, M12, 4-pin, straight, A-coded</li> <li>• <b>Connection type head B:</b> Flying leads</li> <li>• <b>Signal type:</b> Sensor/actuator cable</li> <li>• <b>Cable:</b> 5 m, 4-wire, PVC</li> <li>• <b>Description:</b> Sensor/actuator cable, unshielded</li> <li>• <b>Application:</b> Zones with chemicals, Untaminated zones</li> </ul>	YF2A14-050VB3XLEAX	2096235
	<ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Female connector, M12, 4-pin, angled, A-coded</li> <li>• <b>Connection type head B:</b> Flying leads</li> <li>• <b>Signal type:</b> Sensor/actuator cable</li> <li>• <b>Cable:</b> 2 m, 4-wire, PVC</li> <li>• <b>Description:</b> Sensor/actuator cable, unshielded</li> <li>• <b>Application:</b> Zones with chemicals, Untaminated zones</li> </ul>	YG2A14-020VB3XLEAX	2095895
	<ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Female connector, M12, 4-pin, angled, A-coded</li> <li>• <b>Connection type head B:</b> Flying leads</li> <li>• <b>Signal type:</b> Sensor/actuator cable</li> <li>• <b>Cable:</b> 5 m, 4-wire, PVC</li> <li>• <b>Description:</b> Sensor/actuator cable, unshielded</li> <li>• <b>Application:</b> Zones with chemicals, Untaminated zones</li> </ul>	YG2A14-050VB3XLEAX	2095897
	<ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Female connector, M12, 4-pin, angled, A-coded</li> <li>• <b>Connection type head B:</b> Flying leads</li> <li>• <b>Signal type:</b> Sensor/actuator cable</li> <li>• <b>Cable:</b> 0.6 m, 4-wire, PVC</li> <li>• <b>Description:</b> Sensor/actuator cable, unshielded</li> <li>• <b>Application:</b> Zones with chemicals, Untaminated zones</li> </ul>	YG2A14- C60VB3XLEAX	2145709
	<ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Female connector, M12, 4-pin, angled, A-coded</li> <li>• <b>Connection type head B:</b> Flying leads</li> <li>• <b>Signal type:</b> Sensor/actuator cable</li> <li>• <b>Cable:</b> 1 m, 4-wire, PVC</li> <li>• <b>Description:</b> Sensor/actuator cable, unshielded</li> <li>• <b>Application:</b> Zones with chemicals, Untaminated zones</li> </ul>	YG2A14-010VB3XLEAX	2145710
	<ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Female connector, M12, 4-pin, straight, A-coded</li> <li>• <b>Connection type head B:</b> Flying leads</li> <li>• <b>Signal type:</b> Sensor/actuator cable</li> <li>• <b>Cable:</b> 0.6 m, 4-wire, PVC</li> <li>• <b>Description:</b> Sensor/actuator cable, unshielded</li> <li>• <b>Application:</b> Zones with chemicals, Untaminated zones</li> </ul>	YF2A14- C60VB3XLEAX	2145707
	<ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Female connector, M12, 4-pin, straight, A-coded</li> <li>• <b>Connection type head B:</b> Flying leads</li> <li>• <b>Signal type:</b> Sensor/actuator cable</li> <li>• <b>Cable:</b> 1 m, 4-wire, PVC</li> <li>• <b>Description:</b> Sensor/actuator cable, unshielded</li> <li>• <b>Application:</b> Zones with chemicals, Untaminated zones</li> </ul>	YF2A14-010VB3XLEAX	2145708
	<ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Male connector, M12, 4-pin, straight, A-coded</li> <li>• <b>Description:</b> Unshielded</li> <li>• <b>Connection systems:</b> Screw-type terminals</li> <li>• <b>Permitted cross-section:</b> ≤ 0.75 mm<sup>2</sup></li> </ul>	STE-1204-G	6009932

	Brief description	Type	part no.
Mounting systems			
	<ul style="list-style-type: none"> <li><b>Description:</b> Clamping block for round sensors M18, with fixed stop</li> <li><b>Material:</b> Plastic</li> <li><b>Details:</b> Plastic (PA12), glass-fiber reinforced</li> <li><b>Items supplied:</b> Mounting hardware included</li> <li><b>Suitable for:</b> GR18, MH15V, V180-2, V18</li> </ul>	BEF-KHF-M18	2051482
	<ul style="list-style-type: none"> <li><b>Description:</b> Clamping block for round sensors M18, without fixed stop</li> <li><b>Material:</b> Plastic</li> <li><b>Details:</b> Plastic (PA12), glass-fiber reinforced</li> <li><b>Items supplied:</b> Mounting hardware included</li> <li><b>Suitable for:</b> GR18, MH15V, V180-2, V18</li> </ul>	BEF-KH-M18	2051481
	<ul style="list-style-type: none"> <li><b>Description:</b> Mounting bracket for M18 sensors</li> <li><b>Material:</b> Steel</li> <li><b>Details:</b> Steel, zinc coated</li> <li><b>Items supplied:</b> Without mounting hardware</li> <li><b>Suitable for:</b> GR18, V180-2, V18, W15, Z1, Z2</li> </ul>	BEF-WN-M18	5308446
	<ul style="list-style-type: none"> <li><b>Description:</b> Plate N06 for universal clamp bracket, M18</li> <li><b>Material:</b> Steel, zinc diecast</li> <li><b>Details:</b> Zinc plated steel (sheet), Zinc die cast (clamping bracket)</li> <li><b>Items supplied:</b> Universal clamp (5322626), mounting hardware</li> <li><b>Usable for:</b> MH15, MH15V, V180-2, V18V, W15, GR18, V18, V18 Laser, V12-2, SimpleSense, SureSense, M18 round sensors</li> </ul>	BEF-KHS-N06	2051612
	<ul style="list-style-type: none"> <li><b>Description:</b> Mounting bracket with ball-and-socket</li> <li><b>Material:</b> Plastic</li> <li><b>Details:</b> Plastic</li> <li><b>Items supplied:</b> Mounting hardware included</li> <li><b>Suitable for:</b> GR18, MH15V, V180-2, V18</li> </ul>	BEF-WN-M18-ST02	5312973
	<ul style="list-style-type: none"> <li><b>Description:</b> Mounting bracket for M18 sensors</li> <li><b>Material:</b> Stainless steel</li> <li><b>Details:</b> Stainless steel</li> <li><b>Items supplied:</b> Without mounting hardware</li> </ul>	BEF-WN-M18N	5320947

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## SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

For us, that is “Sensor Intelligence.”

### WORLDWIDE PRESENCE:

Contacts and other locations – [www.sick.com](http://www.sick.com)

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