



# TMS88A-PCI360

TMS/TMM88

INCLINATION SENSORS

**SICK**  
Sensor Intelligence.



Illustration may differ



### Ordering information

Type	Part no.
TMS88A-PCI360	1073802

Other models and accessories → [www.sick.com/TMS\\_TMM88](http://www.sick.com/TMS_TMM88)

### Detailed technical data

#### Performance

<b>Number of axis</b>	1
<b>Measuring range</b>	360°
<b>Resolution</b>	0.01°
<b>Static measurement accuracy</b>	Typ. ± 0.04°, max. ± 0.12°
<b>Temperature coefficient (zero point)</b>	Typ. ± 0.008°/K <sup>1)</sup>
<b>Limit frequency</b>	0.1 Hz ... 25 Hz, 8. range (with digital filter)
<b>Sampling rate</b>	80 Hz

<sup>1)</sup> Referring to the temperature of 25 °C.

#### Interfaces

<b>Communication interface</b>	CANopen
<b>Device profile</b>	CiA DS-301, DS-410 v4.2.0 CiA (Device profile for inclination sensors) CiA DSP-305 (Layer Setting Service (LSS) and protocols)
<b>Address setting</b>	0...127, default: 10
<b>Data transmission rate (baud rate)</b>	10 kbit/s ... 1,000 kbit/s, Default: automatic baud rate detection
<b>Status information</b>	CANopen status via status LED
<b>Bus termination</b>	Via external terminator
<b>Parameterising data</b>	Zerose Limit frequency Preset value Inverting of counting direction
<b>Programmable/configurable</b>	Over PGT-12-Pro
<b>Initialization time</b>	200 ms

#### Electrical data

<b>Connection type</b>	Male connector, 1x, M12, 5-pin Female connector, 1x, M12, 5-pin
<b>Supply voltage</b>	8 V DC ... 36 V DC
<b>Current consumption</b>	< 33 mA @ 24 V
<b>Reverse polarity protection</b>	✓

<sup>1)</sup> This product is a standard product and does not constitute a safety component as defined in the Machinery Directive. Calculation based on nominal load of components, average ambient temperature 40 °C, frequency of use 8760 h/a. All electronic failures are considered hazardous. For more information, see document no. 8015532.

<b>MTTFd: mean time to dangerous failure</b>	438 years (EN ISO 13849-1) <sup>1)</sup>
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### Mechanical data

<b>Dimensions</b>	66 mm x 90 mm x 36 mm
<b>Weight</b>	200 g
<b>Housing material</b>	Plastic (PBT)

### Ambient data

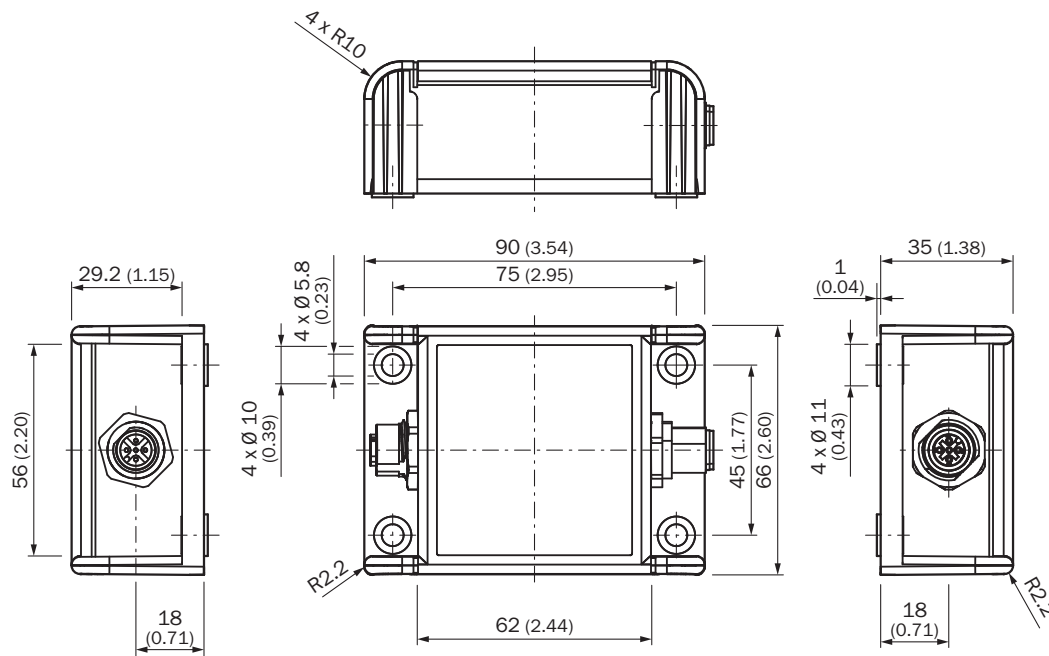
<b>EMC</b>	EN 61326-1, EN ISO 14982, EN ISO 13309
<b>Enclosure rating</b>	IP65 IP67
<b>Operating temperature range</b>	-40 °C ... +80 °C
<b>Storage temperature range</b>	-40 °C ... +85 °C
<b>Resistance to shocks</b>	100 g, 6 ms (according to EN 60068-2-27)
<b>Resistance to vibration</b>	10 g, 10 Hz ... 2,000 Hz (EN 60068-2-6)

### Classifications

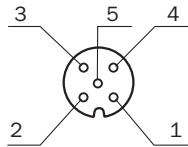
<b>eCl@ss 5.0</b>	27270790
<b>eCl@ss 5.1.4</b>	27270790
<b>eCl@ss 6.0</b>	27270790
<b>eCl@ss 6.2</b>	27270790
<b>eCl@ss 7.0</b>	27270790
<b>eCl@ss 8.0</b>	27270790
<b>eCl@ss 8.1</b>	27270790
<b>eCl@ss 9.0</b>	27270790
<b>eCl@ss 10.0</b>	27271101
<b>eCl@ss 11.0</b>	27271101
<b>eCl@ss 12.0</b>	27271101
<b>ETIM 5.0</b>	EC001852
<b>ETIM 6.0</b>	EC001852
<b>ETIM 7.0</b>	EC001852
<b>ETIM 8.0</b>	EC001852
<b>UNSPSC 16.0901</b>	41111613

### Dimensional drawing (Dimensions in mm (inch))

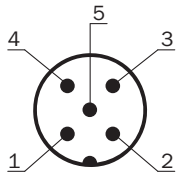
TMx88x-PxI



### PIN assignment



PIN Female connector M12, 5-pin	Signal	Function
1	CAN Shield	Shielding
2	VDC	Supply voltage
3	GND/CAN GND	0V (GND)
4	CAN high	CAN signal
5	CAN low	CAN signal











PIN Male connector M12, 5-pin	Signal	Function
1	CAN Shield	Shielding
2	VDC	Supply voltage

PIN	Signal	Function
Male connector M12, 5-pin		
3	GND/CAN GND	0V (GND)
4	CAN high	CAN signal
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### Recommended accessories

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	Brief description	Type	Part no.
<b>Programming and configuration tools</b>			
	Hand-held programming device for the programmable SICK AHS/AHM36 CANopen encoders, TMS/TMM61 CANopen inclination sensors, TMS/TMM88 CANopen, TMS/TMM88 Analog, and wire draw encoders with AHS/AHM36 CANopen. Compact dimensions, low weight, and intuitive operation.	PGT-12-Pro	1076313
<b>Distributors</b>			
	Head A: female connector, M12, 5-pin, A-coded Head B: male connector, M12, 5-pin, A-coded 5-pin	DSC-1205T000025KM0	6030664
	Head A: female connector, M12, 5-pin, straight, A-coded Head B: female connector, M12, 5-pin, straight, A-coded Male connector, M12, 5-pin, straight, A-coded Cable: CAN, Power, 0.5 m	Y-CAN cable	6027647
<b>Plug connectors and cables</b>			
	Head A: female connector, M12, 5-pin, straight, A-coded Head B: Flying leads Cable: Fieldbus, CANopen, DeviceNet™, PUR, halogen-free, shielded, 2 m	YF2A15-020C1BXLEAX	2106283
	Head A: female connector, M12, 5-pin, straight, A-coded Head B: Flying leads Cable: Fieldbus, CANopen, DeviceNet™, PUR, halogen-free, shielded, 5 m	YF2A15-050C1BXLEAX	2106284
	Head A: female connector, M12, 5-pin, straight, A-coded Head B: Flying leads Cable: Fieldbus, CANopen, DeviceNet™, PUR, halogen-free, shielded, 10 m	YF2A15-100C1BXLEAX	2106286
	Head A: female connector, M12, 5-pin, straight, A-coded Head B: male connector, M12, 5-pin, straight, A-coded Cable: Fieldbus, CANopen, DeviceNet™, PUR, halogen-free, shielded, 2 m	YF2A15-020C1BM2A15	2106279
	Head A: female connector, M12, 5-pin, straight, A-coded Head B: male connector, M12, 5-pin, straight, A-coded Cable: Fieldbus, CANopen, DeviceNet™, PUR, halogen-free, shielded, 5 m	YF2A15-050C1BM2A15	2106281
	Head A: female connector, M12, 5-pin, straight, A-coded Head B: male connector, M12, 5-pin, straight, A-coded Cable: Fieldbus, CANopen, DeviceNet™, PUR, halogen-free, shielded, 10 m	YF2A15-100C1BM2A15	2106282
	Head A: female connector, M12, 5-pin, straight Cable: CANopen, DeviceNet™, shielded	DOS-1205-GA	6027534
	Head A: male connector, M12, 5-pin, straight, A-coded Cable: CANopen, DeviceNet™, shielded	STE-1205-GA	6027533

	Brief description	Type	Part no.
	Head A: male connector, M12, 5-pin, straight Cable: CANopen, unshielded	CAN male connector	6021167

## 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)