



## Absolute encoders ATM90 PROFIBUS

ATM90-PXG13X13



**Model Name** > ATM90-PXG13X13  
**Part No.** > 1030047



*Illustration may differ*

**At a glance**

- Extremely rugged, tried-and-tested absolute multiturn encoder with a resolution of up to 26 bits
- Mechanical interface: through hollow shaft with shallow installation depth
- Zero-set and preset functions via hardware or software
- No battery required
- Electrical interface: PROFIBUS DP as per IEC61158 / RS -485 , electrically isolated
- Electronically adjustable, configurable resolution
- Magnetic scanning

**Your benefits**

- Fewer variants are required since one freely programmable encoder offers all singleturn and multiturn resolutions
- Easy setup due to various electrical connection adapters (cable, M23)
- Application flexibility due to easily interchangeable collets for the blind hollow shaft
- Quick commissioning using the zero set/preset function either at the press of the button on the device or via software
- Increased productivity due to highly reliable shock and vibration resistance
- Worldwide availability and service ensure quick and reliable customer service



**Performance**

Max. number of steps per revolution:	8,192
Max. number of revolutions:	8,192
Resolution power:	8,192 x 8,192
Resolution:	13 bit x 13 bit
Error limits:	± 0.25 °
Repeatability (Ta not constant):	0.1 °
Measuring step:	0.043 °
Initialization time:	1,250 ms <sup>1)</sup>

<sup>1)</sup> Valid positional data can be read once this time has elapsed

**Mechanical data**

Mechanical interface:	Through hollow shaft
Shaft diameter:	16 mm
Mass:	0.8 kg

Start up torque:	0.5 Ncm
Operating torque:	0.4 Ncm
Moment of inertia of the rotor:	153 gcm <sup>2</sup>
Bearing lifetime:	3.6 x 10 <sup>9</sup> revolutions
Max. angular acceleration:	600,000 rad/s <sup>2</sup>
Shaft material:	Stainless steel
Flange material:	Aluminum
Housing material:	Die-cast aluminum

### Electrical data

---

Operating voltage range:	10 V ... 32 V
Power consumption max.:	2 W
MTTFd: mean time to dangerous failure:	150 a (EN ISO 13849-1) <sup>1)</sup>

<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.

### Interfaces

---

Electrical interface:	Bus adaptor with 3 cable screw fixings
SET (electronic adjustment):	Via PRESET push button or protocol
Bus:	PROFIBUS DP
Bus interface:::	RS-485 <sup>1) 2) 3)</sup>
Data protocol:	Profile for encoders (07hex) - Class 2
Address setting:	0 ... 127, DIP-switches or protocol
Data transmission rate (baud rate):	9.6 kBaud/12 MBaud/automatic detection
Status information:	LED green (operation), LED red ( bus activity)
Bus termination:	DIP switch

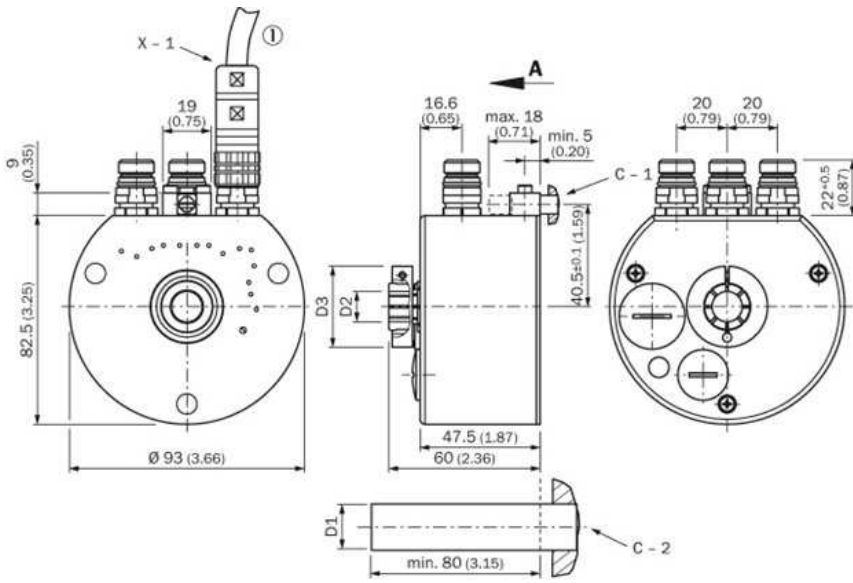
<sup>1)</sup> EN 50 170-2 <sup>2)</sup> DIN 19245 part 1-3 <sup>3)</sup> DC isolated via opto-couplers

### Ambient data

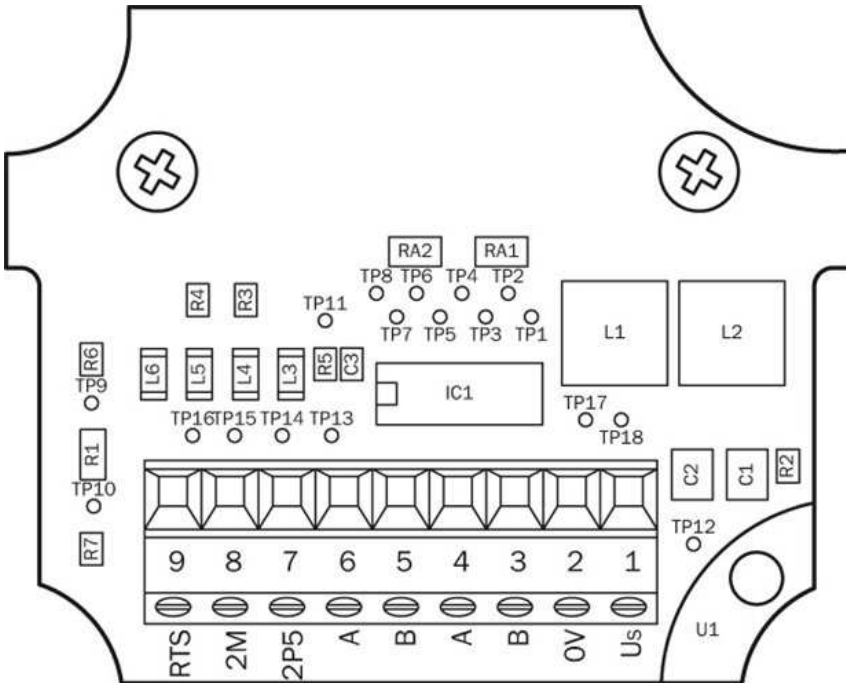
---

EMC:	(according to EN 61000-6-2 and EN 61000-6-3)
Enclosure rating:	IP 65 (according to IEC 60529), with shaft seal
Permissible relative humidity:	98 %
Working temperature range:	-20 °C ... 80 °C
Storage temperature range:	-40 °C ... 125 °C, without package
Resistance to shocks:	6 g (according to EN 60068-2-27)
Resistance to vibration:	20 g, 10 Hz ... 2,000 Hz

## Dimensional drawing



## Adjustments



**Australia**

Phone +61 3 9457 0600  
1800 33 48 02 – tollfree  
E-Mail sales@sick.com.au

**Belgium/Luxembourg**

Phone +32 (0)2 466 55 66  
E-Mail info@sick.be

**Brasil**

Phone +55 11 3215-4900  
E-Mail marketing@sick.com.br

**Canada**

Phone +1 905 771 14 44  
E-Mail information@sick.com

**Česká republika**

Phone +420 2 57 91 18 50  
E-Mail sick@sick.cz

**China**

Phone +86 4000 121 000  
E-Mail info.china@sick.net.cn  
Phone +852-2153 6300  
E-Mail ghk@sick.com.hk

**Danmark**

Phone +45 45 82 64 00  
E-Mail sick@sick.dk

**Deutschland**

Phone +49 211 5301-301  
E-Mail info@sick.de

**España**

Phone +34 93 480 31 00  
E-Mail info@sick.es

**France**

Phone +33 1 64 62 35 00  
E-Mail info@sick.fr

**Great Britain**

Phone +44 (0)1727 831121  
E-Mail info@sick.co.uk

**India**

Phone +91-22-4033 8333  
E-Mail info@sick-india.com

**Israel**

Phone +972-4-6881000  
E-Mail info@sick-sensors.com

**Italia**

Phone +39 02 27 43 41  
E-Mail info@sick.it

**Japan**

Phone +81 (0)3 5309 2112  
E-Mail support@sick.jp

**Magyarország**

Phone +36 1 371 2680  
E-Mail office@sick.hu

**Nederland**

Phone +31 (0)30 229 25 44  
E-Mail info@sick.nl

**Norge**

Phone +47 67 81 50 00  
E-Mail sick@sick.no

**Österreich**

Phone +43 (0)22 36 62 28 8-0  
E-Mail office@sick.at

**Polska**

Phone +48 22 837 40 50  
E-Mail info@sick.pl

**România**

Phone +40 356 171 120  
E-Mail office@sick.ro

**Russia**

Phone +7-495-775-05-30  
E-Mail info@sick.ru

**Schweiz**

Phone +41 41 619 29 39  
E-Mail contact@sick.ch

**Singapore**

Phone +65 6744 3732  
E-Mail sales.gsg@sick.com

**Slovenija**

Phone +386 (0)1-47 69 990  
E-Mail office@sick.si

**South Africa**

Phone +27 11 472 3733  
E-Mail info@sickautomation.co.za

**South Korea**

Phone +82 2 786 6321/4  
E-Mail info@sickkorea.net

**Suomi**

Phone +358-9-25 15 800  
E-Mail sick@sick.fi

**Sverige**

Phone +46 10 110 10 00  
E-Mail info@sick.se

**Taiwan**

Phone +886 2 2375-6288  
E-Mail sales@sick.com.tw

**Türkiye**

Phone +90 (216) 528 50 00  
E-Mail info@sick.com.tr

**United Arab Emirates**

Phone +971 (0) 4 88 65 878  
E-Mail info@sick.ae

**USA/México**

Phone +1(952) 941-6780  
1 (800) 325-7425 – tollfree  
E-Mail info@sickusa.com

More representatives and agencies  
at [www.sick.com](http://www.sick.com)