PRECIZIKA METROLOGY

ABSOLUTE MAGNETIC ROTARY ENCODER

AM08

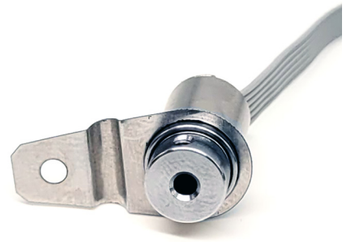
Magnetic Technology

Absolute Encoder

Hollow Shaft

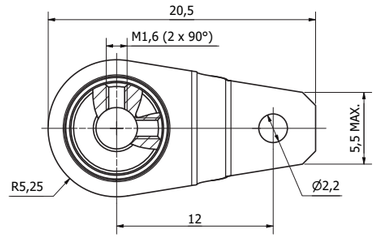
BiSS protocol

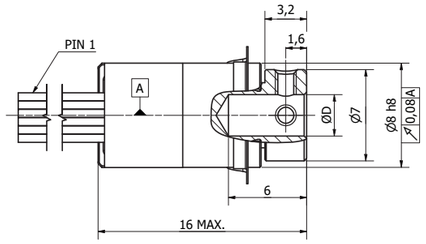
SSI protocol

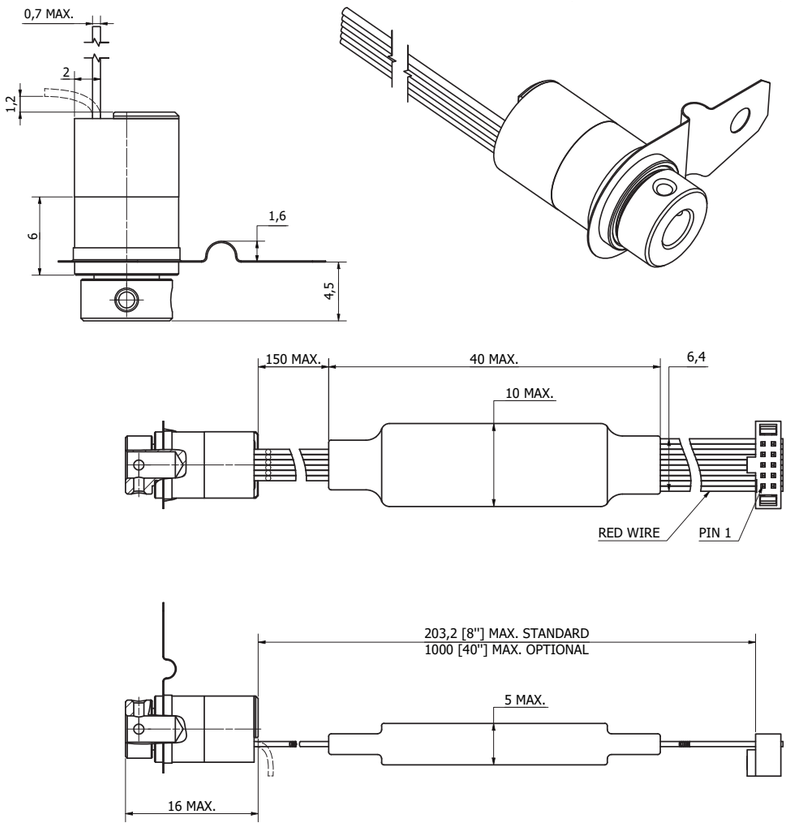


The AM08 is a miniature absolute magnetic rotary encoder.

- Miniature size (∅ 8 mm)
- Various diameter options for solid and blind hollow shafts
- External electronics attached to ribbon cable
- Designed for light industrial applications with limited installation space







Ø "D" TABLE
Ø2 H7
Ø2,5 H7
Ø3 F8
Ø3.175 H7

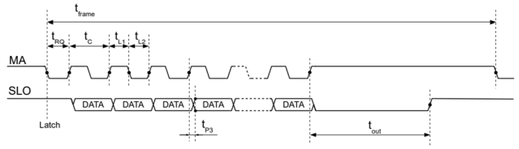
ELECTRICAL DATA

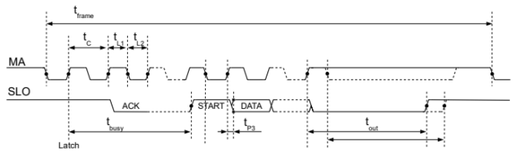
Eletrical interface	SSI / BiSS
Resolution	up to 13 bit
Accuracy	up to ± 60 arcmin
Output code	Binary / Gray (for SSI only)
Supply voltage	+ 5V ± 5%
Current consumption (without load)	Max 50 mA

ABSOLUTE DIGITAL INTERFACE

DESCRIPTION	DATA
$T_{timeout}$	typical 20 µs
Clock frequency	50 kHz - 4 MHz

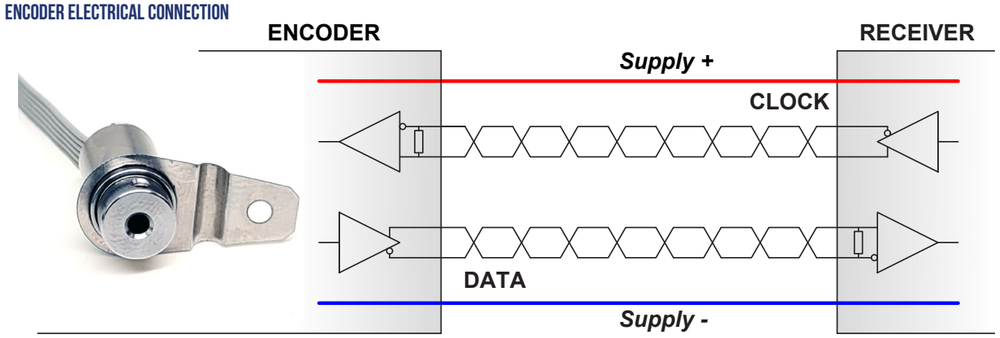
DESCRIPTION	DATA
$T_{timeout}$	0.8 us - 20 us
Clock frequency	50 kHz - 10 MHz





SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
SSI Protocol					
t_{frame}	Permissible Frame Repetition		(*)	indefinite	
t_C	Permissible Clock Period		250		ns
t_{L1}	Clock Signal hi Level Duration		125	t_{out}	ns
t_{L2}	Clock Signal lo Level Duration		125	t_{out}	ns
t_{RQ}	REQ Signal lo Level Duration		125		ns
t_{P3}	Propagation Delay: SLO stable after MA lo → hi	Rline > 10 000 Ω	10	50	ns
BISS C Protocol					
t_{frame}	Permissible Frame Repetition		(*)	indefinite	
t_C	Permissible Clock Period		100		ns
t_{L1}	Clock Signal hi Level Duration		50	t_{out}	ns
t_{L2}	Clock Signal lo Level Duration		50	t_{out}	ns
t_{busy}	Processing Time with Start Bit Delay			$3t_C$	
t_{P3}	Propagation Delay: SLO stable after MA lo → hi	Rline > 10 000 Ω		60	ns
t_{S1}	Setup Time: SLI stable before MA hi → lo		25		ns
t_{H1}	Hold Time: SLI stable after MA hi → lo		10		ns

ENCODER ELECTRICAL CONNECTION



MECHANICAL SPECIFICATIONS

Maximum shaft speed	6 000	rpm
Shaft load (at shaft end): - Axial - Radial	 3 3	 N N
Starting torque at 20°C	< 2 x 10^{-3}	Nm
Moment of inertia of rotor	< 1.1 x10^{-6}	kgm^2
Maximum weight (without cable)	X	kg
Type of protection	IP50	-
Permissible vibration (55 to 2000 Hz)	≤ 50	m/s^2
Permissible shock (6 ms)	≤ 100	m/s^2
Operating temperature	-40...+85	°C
Storage temperature	-40...+85	°C

ACCESSORIES

CONNECTORS FOR CABLE	IDC1.27-10 (1.27×2.54) 10-pins connector

IDC1.27-10 (1.27×2.54) 10-PINS CONNECTOR

SPECIAL CAPABILITIES

We offer exceptional flexibility in our design and manufacturing processes, allowing us to create tailor-made encoders to meet specific customer needs. We can also modify our standard encoders to accommodate different shaft diameters or designs, special wiring configurations, different mechanical interfaces, etc. Additionally, we can incorporate other custom features, such as specialized connectors, couplings, and various accessories, to ensure seamless integration into your application. Furthermore, we can adapt the design and conduct testing for various environmental conditions, including higher ingress protection levels, extended temperature ranges, and resistance to intensive mechanical vibrations or shock.

ORDER CODE

AM08X1 - X2 - X3 - X4 - X5 - X6 - X7

Type (X1):	Output signals interface (X2):	Singleturn bit number (X3):	Output code (X4):	Shaft diameter (X5):	Cable length (X6):	Connector or flange Socket type (X7):
S - solid shaft **H** - blind hollow shaft	**S** - SSI **B** - BiSS-C	**B01** - 1 bit ... **B13** - 13 bits	**B** - Binary **G** - Gray* *only for SSI output signal.	**02M** - Ø 2 mm H7 **25M** - Ø 2.5 mm H7 **03M** - Ø 3 mm F8 **02E** - Ø 3.175 mm (1/8") H7	**RC005** - 500 mm **RC01** - 1 000 mm **RC02** - 2 000 mm	**W** - without connector **IDC1**- IDC1.27-10 10-pins connector

ORDER EXAMPLES: 1) AM08-S-B13-B-02M-RC02-W
2) AM08-B-B01-G-03M-RC01-W