

Code ST05	Project E06-A	Release B	TECHNICAL DATASHEET
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ABSOLUTE OPTICAL ENCODER AEN500 (Serial)

GENERAL FEATURES

- Absolute optical encoder (singleturn or multiturn).
- Output protocol: **SSI, BiSS-C**.
- Aluminium flange and housing.
- Radial or axial output with connector M23 12 Pin or M12 8 Pin.



MECHANICAL AND ELECTRICAL CHARACTERISTICS

MECHANICAL <ul style="list-style-type: none"> • Round flange, with centering \varnothing 50 mm. • Aluminium housing. • Stainless steel shaft. • Ball bearings with special high-sealed screens. • High protection even in harsh environmental conditions. ELECTRICAL <ul style="list-style-type: none"> • Diagnostic LED. • Input (direction). • Output data: status, preset. 	Cod. AEN500	
	Resolution	10-17 Bit Singleturn 12 Bit Multiturn
	Max. rotating speed	continuous 10000 rpm momentary 12000 rpm
	Max. shaft load	40 N (axial) - 60 N (radial)
	Shaft diameter (mm)	\varnothing 6
	Operating temperature	-40 °C ÷ 100 °C
	Storage temperature	-25 °C ÷ 85 °C (due to packaging)
	Vibration resistance (EN 60068-2-6)	100 m/s ² (10 ÷ 2000 Hz)
	Shock resistance (EN 60068-2-27)	1000 m/s ² (6 ms)
	Protection class (EN 60529)	IP 64 standard IP 67 optional
	Torque	≤ 0.01 Nm
	Moment of inertia	3.8 x 10 ⁻⁶ kgm ²
	Power supply	10 ÷ 30 V or 5 V ± 10%
	Current consumption	100 mA (ST), 150 mA (MT), 250 mA (SP)
	Protocol	BiSS-C, SSI (with or without SinCos 1 Vpp)
	Output code	Binary, Gray
	Electrical connections	see related table
	Weight	260 g (ST), 310 g (MT)

ORDERING CODE

MODEL	TYPE / OUTPUT	RESOL. Bit (MT)	RESOL. Bit (ST)	POWER SUPPLY	Ø SHAFT	CONNECTOR	SIGNAL	CONNECTION	OPTIONS
AEN500	M R	12	12	1030	D06	CG	SG	11	V2

S = singleturn **00** = if ST **10** = 10 Bit * **1030** = 10-30 V **D06** = \varnothing 6 mm **CG** = M23 12 Pin **BE** = BiSS-C **n** = connection number **No cod.** = standard
M = multiturn **12** = 12 Bit **12** = 12 Bit **05V** = 5 V ** **CT** = M12 8 Pin ** **BV** = BiSS-C+1Vpp **V2** = IP 67
R = radial **13** = 13 Bit **13** = SSI Binary **SB** = SSI Binary
A = axial **14** = 14 Bit **SG** = SSI Gray **SC** = SSI Gray+1Vpp
 17 = 17 Bit **SP** = SSI program.
 0360 = 360 **SR** = SSI Binary+ **SR** = SSI Binary+ Preset active high
 increment ST * Preset active high
 0720 = 720 Preset active high
 increment ST * **SH** = SSI Gray+ Preset active high

* Only singleturn version
 ** Not available for SP version

Example  **ABSOLUTE OPTICAL ENCODER AEN500 MR 1212 1030 D06 CG SG 11 V2**

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ELECTRICAL CONNECTIONS

Encoder supplied with M23 (12 Pin) connector

CONNECTION				
N. Pin	Signals (BE, SB, SG)	Signals (SC, BV)	Signals (SP)	Signals (SR, SH)
1	0 V (supply voltage)	0 V (supply voltage)	Clock	0 V (supply voltage)
2	Data	Data	Clock	Data
3	Clock	Clock	Data	Clock
4	n.c.	A	Data	n.c.
5	Direction *	Direction *	RS 232 TxD	Direction **
6	n.c.	B	RS 232 RxD	n.c.
7	n.c.	A	0 V (signal output)	n.c.
8	+ V	+ V	Direction	+ V
9	n.c.	B	Preset 1	n.c.
10	Data	Data	Preset 2	Data
11	Clock	Clock	+ V	Clock
12	0 V (signal output)	Sense	0 V (supply voltage)	Preset **

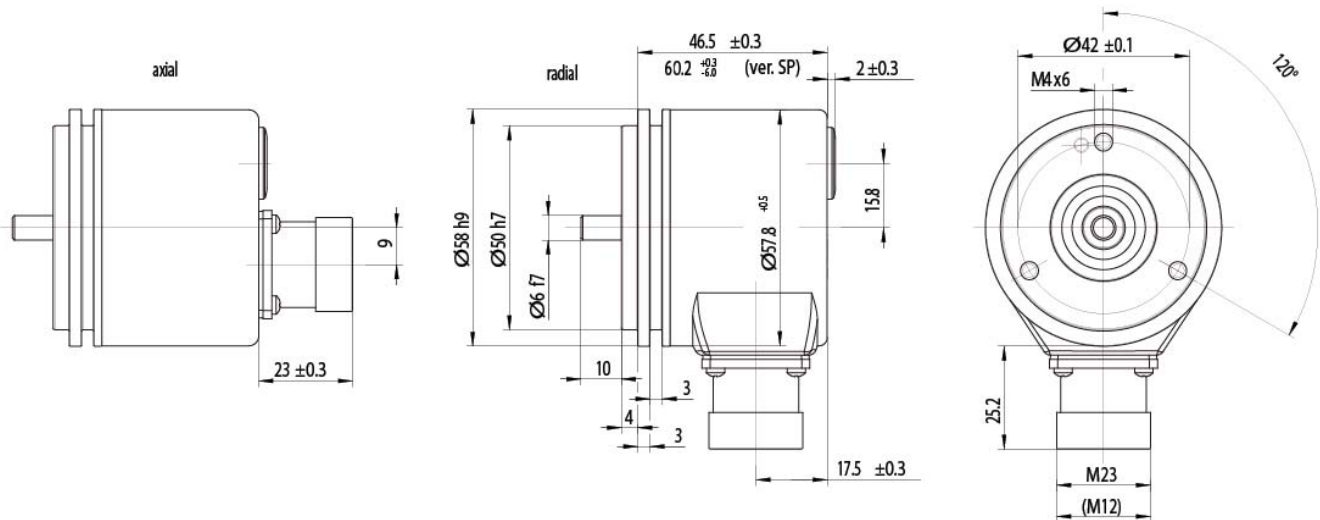
Encoder supplied with M12 (8 Pin) connector

CONNECTION	
N. Pin	Signals (BE, SB, SG)
1	+ V
2	0 V
3	n.c.
4	Clock
5	Data
6	Clock
7	Direction *
8	Data

* Not connected = ascending code values with clockwise rotation
 Connected to 0 V = descending code values with clockwise rotation

** Preset and Direction active with signal high

DIMENSIONS



WHAT TO AVOID

- Any mechanical working (cutting, drilling, milling, etc.).
- Any modification of the encoder body or shaft.
- Any improper use, not complying with the technical instructions provided by the Manufacturer.
- External shocks or stresses.

