

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

GENERAL FEATURES

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



MECHANICAL AND ELECTRICAL CHARACTERISTICS

<p>MECHANICAL</p> <ul style="list-style-type: none"> • Round flange, with centering Ø 50 mm. • Aluminium housing. • Stainless steel shaft. • Ball bearings with special high-sealed screens. • High protection even in harsh environmental conditions. <p>ELECTRICAL</p> <ul style="list-style-type: none"> • Input (direction). • Option: 1 Vpp analog signal. 	Cod. AEN500	
	Resolution	360 / 720 cpr 10-17 Bit Singleturn 12 Bit Multiturn
	Max. rotating speed	momentary 12000 rpm continuous 10000 rpm
	Centering (mm)	Ø 50
	Max. shaft load	40 N (axial) - 60 N (radial)
	Shaft diameter (mm)	Ø 6 others on request
	Operating temperature	0 °C + 70 °C others on request
	Storage temperature	-25 °C + 85 °C
	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, 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** = ø6 mm **CG** = M23 12 Pin **BE** = BiSS
M = multiturn **12** = 12 Bit **12** = 12 Bit **05V** = 5 V ** **CT** = M12 8 Pin ** **BV** = BiSS+1Vpp
R = radial **13** = 13 Bit **14** = 14 Bit **17** = 17 Bit **SB** = SSI Binary
A = axial **14** = 14 Bit **17** = 17 Bit **SG** = SSI Gray
0360 = 360 increment ST * **SC** = SSI Gray+1Vpp
0720 = 720 increment ST * **SP** = SSI program.
SR = SSI Binary+ Preset active high
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

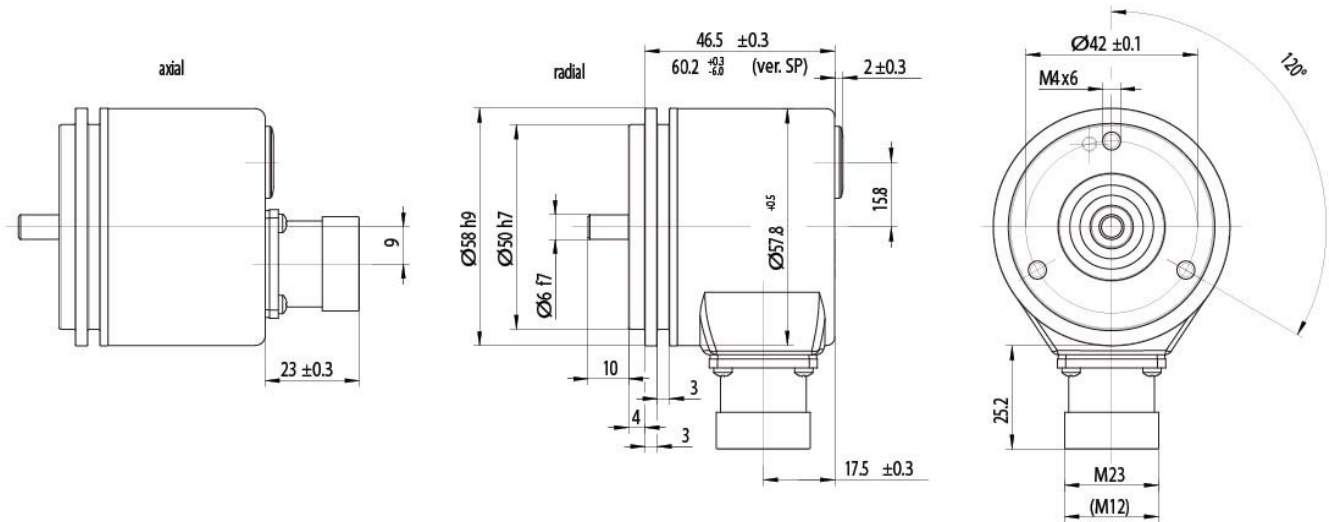
Encoder supplied with M12 (8 Pin) connector

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 Tx/D	Direction **
6	n.c.	B	RS 232 Rx/D	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)	0 V (signal output)	0 V (supply voltage)	Preset **

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.

