

Code <b>ST05</b>	Project <b>E04-A</b>	Release <b>B</b>	<b>TECHNICAL DATASHEET</b>
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## ABSOLUTE OPTICAL ENCODER AEN536 (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

<b>MECHANICAL</b> <ul style="list-style-type: none"> <li>• Round flange, with centering <math>\varnothing</math> 36 mm.</li> <li>• Aluminium housing.</li> <li>• Stainless steel shaft.</li> <li>• Ball bearings with special high-sealed screens.</li> <li>• High protection even in harsh environmental conditions.</li> </ul> <b>ELECTRICAL</b> <ul style="list-style-type: none"> <li>• Diagnostic LED.</li> <li>• Input (direction).</li> <li>• Output data: status, preset.</li> </ul>	<b>Cod. AEN536</b>	
	<b>Resolution</b> continuous      10000 rpm momentary        12000 rpm	10-17 Bit Singleturn      12 Bit Multiturn
	<b>Max. rotating speed</b> 40 N (axial) - 60 N (radial)	
	<b>Max. shaft load</b> $\varnothing$ 9.52 - $\varnothing$ 10	
	<b>Shaft diameter (mm)</b> -40 °C $\pm$ 100 °C	
	<b>Operating temperature</b> -25 °C $\pm$ 85 °C (due to packaging)	
	<b>Storage temperature</b> 100 m/s <sup>2</sup> (10 $\pm$ 2000 Hz)	
	<b>Vibration resistance (EN 60068-2-6)</b> 1000 m/s <sup>2</sup> (6 ms)	
	<b>Shock resistance (EN 60068-2-27)</b> IP 64 standard      IP 67 optional	
	<b>Protection class (EN 60529)</b> $\leq$ 0.01 Nm	
	<b>Torque</b> $3.8 \times 10^{-6}$ kgm <sup>2</sup>	
	<b>Moment of inertia</b> 10 $\pm$ 30 V or 5 V $\pm$ 10%	
	<b>Power supply</b> 100 mA (ST), 150 mA (MT), 250 mA (SP)	
	<b>Current consumption</b> BiSS-C, SSI (with or without SinCos 1 Vpp)	
	<b>Protocol</b> Binary, Gray	
	<b>Output code</b> see related table	
	<b>Electrical connections</b> 260 g (ST), 310 g (MT)	
	<b>Weight</b>	

### ORDERING CODE

MODEL	TYPE / OUTPUT	RESOL. Bit (MT)	RESOL. Bit (ST)	POWER SUPPLY	$\varnothing$ SHAFT	CONNECTOR	SIGNAL	CONNECTION	OPTIONS
<b>AEN536</b>	<b>M R</b>	<b>12</b>	<b>12</b>	<b>1030</b>	<b>D10</b>	<b>CG</b>	<b>SG</b>	<b>11</b>	<b>V2</b>

**S** = singleturn    **00** = if ST    **10** = 10 Bit \*    **1030** = 10 $\pm$ 30 V    **952** =  $\varnothing$ 9.52 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 \*\*    **D10** =  $\varnothing$ 10 mm    **CT** = M12 8 Pin \*\*    **BV** = BiSS-C+1Vpp    **V2** = IP 67  
**R** = radial        **13** = 13 Bit    **13** = 13 Bit    **SB** = SSI Binary    **SG** = SSI Gray  
**A** = axial        **14** = 14 Bit    **14** = 14 Bit    **SC** = SSI Gray+1Vpp    **SP** = SSI program.  
                       **17** = 17 Bit    **17** = 17 Bit    **SR** = SSI Binary+    **SH** = SSI Gray+  
                       **0360** = 360    **0360** = 360                       Preset active high  
                       increment ST \*    increment ST \*                       Preset active high  
                       **0720** = 720    **0720** = 720  
                       increment ST \*    increment ST \*

\* Only singleturn version  
 \*\* Not available for SP version

**Example**  **ABSOLUTE OPTICAL ENCODER AEN536 MR 1212 1030 D10 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 **

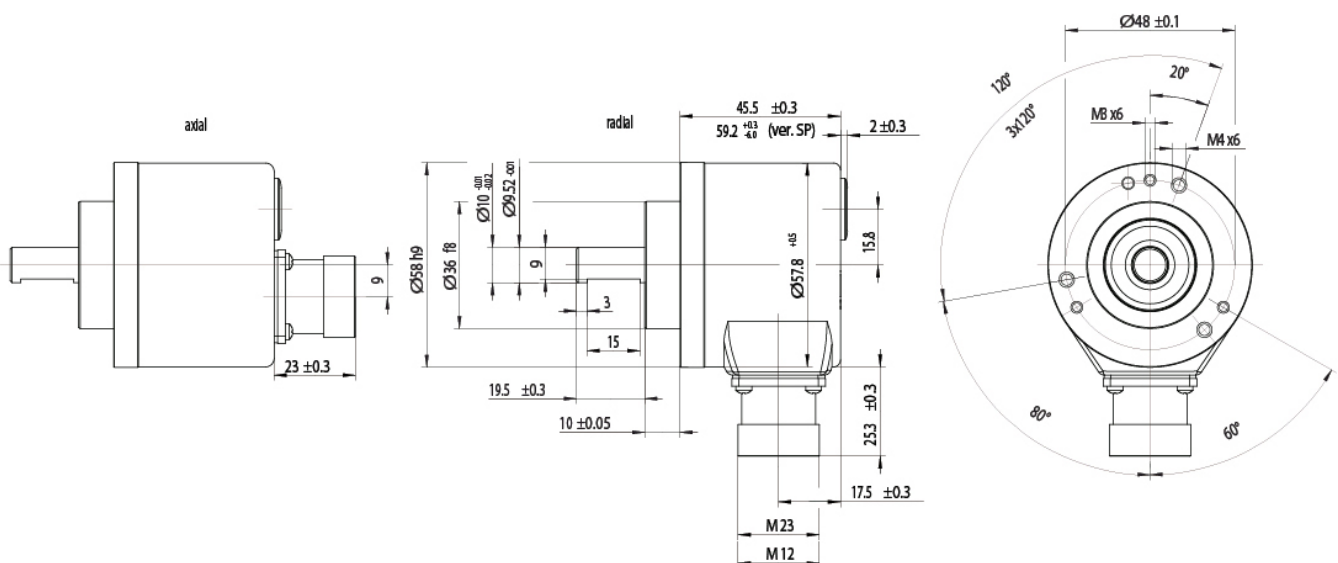
Encoder supplied with M12 (8 Pin) connector

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.

