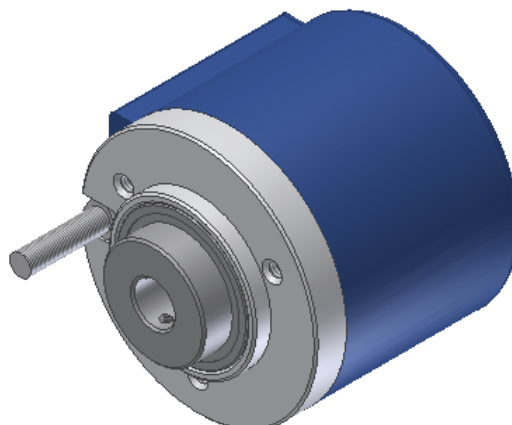


Code <b>ST14</b>	Project <b>A33</b>	Release <b>A</b>	Title <b>TECHNICAL DATASHEET</b>
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## OPTICAL ENCODER EN58SC

### GENERAL FEATURES

- Optical rotary encoder.
- Bi-directional signals with zero pulse.
- Flange and body made of aluminium.
- Output by connector or cable (with sealing fairlead), radial or axial.



### MECHANICAL AND ELECTRICAL FEATURES

<b>MECHANICAL</b> <ul style="list-style-type: none"> <li>• Flange and body made of aluminium.</li> <li>• Shaft made of stainless steel.</li> <li>• Ball bearings with special high-sealed screens.</li> <li>• High protection even in harsh environmental conditions.</li> </ul>	<b>Code EN58SC</b>	<b>PP</b>	<b>LD</b>	<b>OC</b>
	<b>Pulses per revolution</b>	5 to 64000 ppr		
<b>ELECTRICAL</b> <ul style="list-style-type: none"> <li>• Protection against short-circuits.</li> <li>• Protection against inversion of polarity.</li> <li>• High stability of output signals.</li> <li>• Reading device with an infra-red light emitter and receiving photodiodes.</li> <li>• A and B output signals with phase displacement of 90° electrical.</li> </ul>	<b>Max. rotating speed</b>	momentary	12000 rpm	
	<b>Max. load on shaft</b>	permanent	8000 rpm	
	<b>Shaft (diameter A) mm</b>	100 N (radial) – 100 N (axial)		
	<b>Hole diameter A depth</b>	Ø6 - Ø8 - Ø9.52 - Ø10 - Ø12 - Ø14 Ø15 - others on request		
	<b>Protection class</b>	15 mm		
	<b>Operating temperature</b>	IP 65		
	<b>Storage temperature</b>	0 ÷ 70°C		
	<b>Humidity</b>	-20 ÷ 80°C		
	<b>Power supply</b>	20 ÷ 90% (not condensed)		
	<b>Max. consumption at 5V (with no load)</b>	5 V ± 5%		
	<b>Max. output current (each channel)</b>	5 ÷ 28 V ± 5%		
	<b>Max. frequency</b>	25 mA		
	<b>Output</b>	30 mA		
	<b>Standard length of cable</b>	300 kHz		
<b>Electrical connections</b>	Push-Pull	Line Driver	Open Collector	
<b>Electrical protection</b>	1 m			
<b>Weight (according to model)</b>	see rel. table			
	inversion of power supply polarity and short-circuits on output port			
	300 ÷ 360 g			

### ORDERING CODE

MODEL	CABLE / CONN. OUTPUT	ACCURACY	PPR	POWER SUPPLY	SHAFT Ø	CABLE / CONN.	OUTPUT	CONNECTION
<b>EN58SC</b>	<b>HR</b>	<b>S</b>	<b>xxxxx</b>	<b>05V</b>	<b>D06</b>	<b>M01</b>	<b>LD</b>	<b>C</b>

 HR = radial  
 HA = axial

 No code = standard  
 S = special

 05V = 5V  
 0528 = 5÷28V

 D06 = ø6 mm  
 D08 = ø8 mm  
 9.52 = ø9.52 mm  
 D10 = ø10 mm  
 D12 = ø12 mm  
 D14 = ø14 mm  
 D15 = ø15 mm

 M.5 = 0.5m  
 M01 = 1m  
 CE = 7P Amph.  
 CF = 10P Amph.  
 CG = 12P Connei

 LD = LINE DRIVER  
 PP = PUSH-PULL  
 ON = OC NPN  
 OP = OC PNP

 C = cable  
 n = no. wiring

Example  **OPTICAL ENCODER EN58SC HRS 01000 05V D08CE PP2**

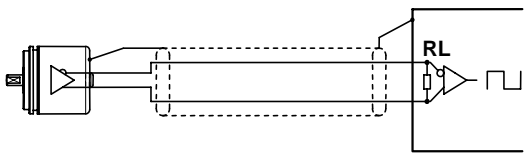
Code	Project	Release	Title
<b>ST14</b>	<b>A33</b>	<b>A</b>	<b>TECHNICAL DATASHEET</b>

### CABLE AND ELECTRICAL CONNECTIONS

<b>Cable 8 cores <math>\varnothing = 6.5</math> mm, PVC external sheath</b> <b>Wires section:</b> - for power supply: 0.5 mm <sup>2</sup> - for signals: 0.14 mm <sup>2</sup> <b>Cable 5 cores <math>\varnothing = 5.4</math> mm, PVC external sheath</b> <b>Wires section:</b> - for power supply: 0.22 mm <sup>2</sup> - for signals: 0.14 mm <sup>2</sup>	<b>PP / OC</b>		<b>LD</b>	
	<b>SIGNAL</b>	<b>WIRE COLOUR</b>	<b>SIGNAL</b>	<b>WIRE COLOUR</b>
	A	Green	A	Green
	B	White	B	White
	Z	Brown	Z	Brown
			$\bar{A}$	Orange
			$\bar{B}$	Light Blue
			$\bar{Z}$	Yellow
	V+	Red	V+	Red
	GND	Blue	GND	Blue
		Shield		Shield

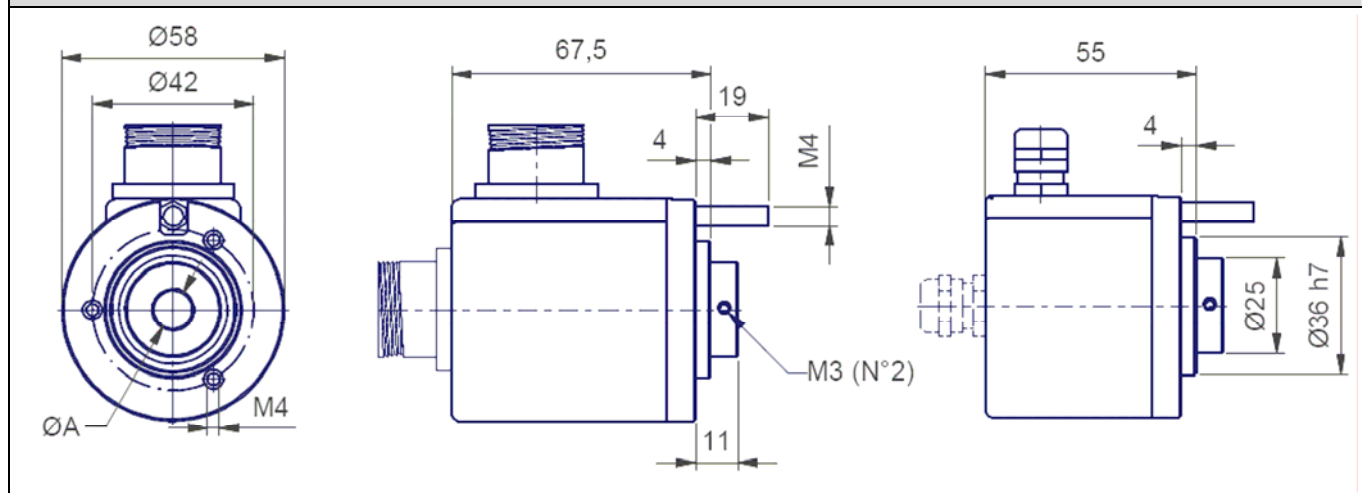
**NOTES:**  
Do not exceed the minimum cable bending radius of 30 mm.

### SHIELDED CABLE


	<b>LINE DRIVER CONNECTION</b>	
	<b>POWER SUPPLY</b>	<b>RL</b>
	5 V	120 $\Omega$
	12 V	330 $\Omega$
	24 V	1000 $\Omega$

In case of cable extension, the electrical connection between the body of connectors must be ensured.

### DIMENSIONS AND RECOMMENDED FIXING



### WHAT TO AVOID

<ul style="list-style-type: none"> <li>Any type of mechanical working (cut, drill, mill, etc.)</li> <li>Any modification either on the body or on the shaft of the encoder</li> <li>Any kind of bad usage</li> <li>External hits or stresses</li> </ul>	
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