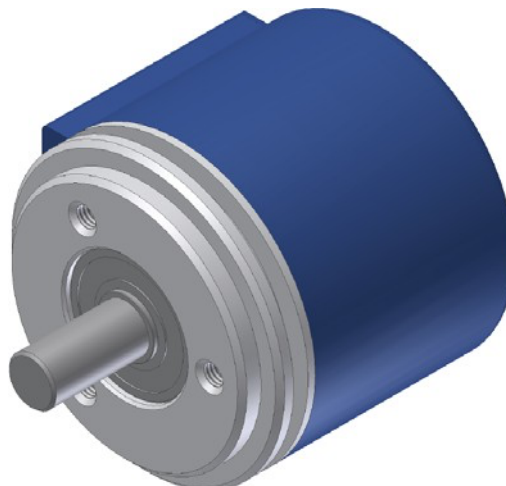


Code	Project	Release	Title
<b>ST19</b>	<b>A33</b>	<b>A</b>	<b>TECHNICAL DATASHEET</b>

## OPTICAL ENCODER EN5036

### 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>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>Code EN5036</b>	<b>PP</b>	<b>LD</b>	<b>OC</b>	
	<b>Pulses per revolution</b>	5 to 64000 ppr			
	<b>Max. rotating speed</b>	momentary	12000 rpm	permanent	8000 rpm
	<b>Max. load on shaft</b>	100 N (radial) – 100 N (axial)			
	<b>Shaft (diameter A x length L) mm</b>	Ø6x10-Ø8x20 -Ø9.52x20 -Ø10x20 others on request			
	<b>Protection class</b>	IP65 (standard) * IP67 (optional)			
	<b>Operating temperature</b>	0 ÷ 70°C			
	<b>Storage temperature</b>	-20 ÷ 80°C			
	<b>Relative humidity</b>	20 ÷ 90% (not condensed)			
	<b>Power supply</b>	5 V ± 5% 5 ÷ 28 V ± 5%			
	<b>Max. consumption at 5 V (with no load)</b>	25 mA			
	<b>Max. output current (each channel)</b>	30 mA			
	<b>Max. frequency</b>	300 kHz			
	<b>Output</b>	Push-Pull	Line Driver	Open Collector	
	<b>Standard length of cable</b>	1 m			
<b>Electrical connections</b>	see the rel. table				
<b>Electrical protection</b>	inversion of power supply polarity and short circuits on output port				
<b>Weight (according to model)</b>	280 ÷ 340 g				

\* It is important to note that shaft rotates more freely in the version with protection class IP65.

### ORDERING CODE

MODEL	CABLE/CONN. OUTPUT	ACCURACY	PPR	POWER SUPPLY	SHAFT Ø	CABLE / CONN.	OUTPUT	CONNECTION	OPTIONS
<b>EN5036</b>	<b>HR</b>	<b>S</b>	<b>xxxxx</b>	<b>05V</b>	<b>D06</b>	<b>CE</b>	<b>PP</b>	<b>2</b>	<b>V2</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

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

No code = . standard configuration  
V2 = protection class IP67

Code <b>ST19</b>	Project <b>A33</b>	Release <b>A</b>	Title <b>TECHNICAL DATASHEET</b>
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### CABLE AND ELECTRICAL CONNECTIONS

**Cable 8 cores  $\varnothing = 6.5$  mm, PVC external sheath**

**Wires section:**

- for power supply: 0.5 mm<sup>2</sup>
- for signals: 0.14 mm<sup>2</sup>

**Cable 5 cores  $\varnothing = 5.4$  mm, PVC external sheath**

**Wires section:**

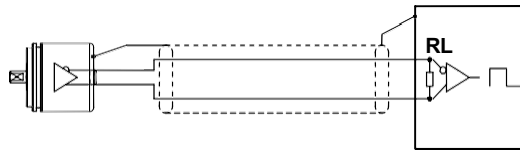
- for power supply: 0.22 mm<sup>2</sup>
- for signals: 0.14 mm<sup>2</sup>

NOTES:

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

PP / OC		LD	
SIGNAL	WIRE COLOUR	SIGNAL	WIRE COLOUR
A	Green	A	Green
B	White	B	White
Z	Brown	Z	Brown
		A	Orange
		B	Light Blue
		Z	Yellow
V+	Red	V+	Red
GND	Blue	GND	Blue
$\equiv$	Shield	$\equiv$	Shield

### SHIELDED CABLE

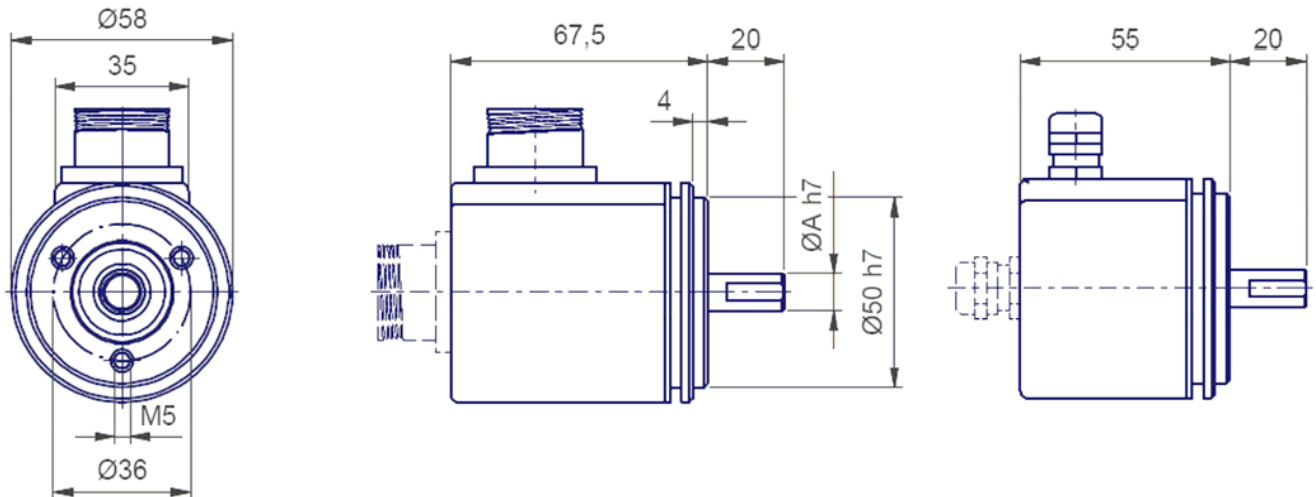


#### LINE DRIVER CONNECTION

POWER SUPPLY	RL
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



- Use an elastic coupling for shaft junction.

### WHAT TO AVOID

- Any type of mechanical working (cut, drill, mill, etc.)
- Any modification either on the body or on the shaft of the encoder
- Any kind of bad usage
- External hits or stresses

