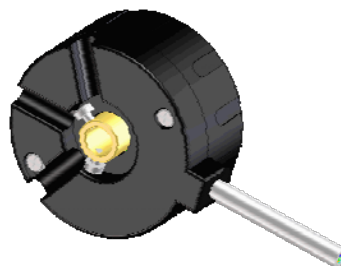


Code <b>ST10</b>	Project <b>A04</b>	Release <b>A</b>	Title <b>TECHNICAL DATASHEET</b>
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## OPTICAL ENCODER EN413

### GENERAL FEATURES

- Optical rotary encoder of small overall dimensions.
- Bi-directional signals with zero pulse.
- Up to 500 pulses per revolution.
- High rotational accuracy.
- Flange and cover made of zama.
- Cable output in radial position.



### MECHANICAL AND ELECTRICAL FEATURES

<b>CABLES AND ELECTRICAL CONNECTIONS</b> Cable 9 cores Ø = 4.1 mm, PVC external sheath <b>Wires section:</b> - for power supply: 0.08 mm <sup>2</sup> - for signals: 0.08 mm <sup>2</sup>  Cable 5cores Ø = 4.1 mm, PVC external sheath <b>Wires section:</b> - for power supply: 0.35 mm <sup>2</sup> - for signals: 0.14 mm <sup>2</sup>  NOTES: Do not exceed the minimum cable bending radius of 30 mm.					<b>Code EN413</b> <table border="1"> <tr><td>Pulses</td><td>50 ÷ 500 ppr</td></tr> <tr><td>Max. rotation speed</td><td>6000 rpm</td></tr> <tr><td>Shaft (diameter hole A)</td><td>Ø 6 mm (standard)    Ø 6.35 mm (special)</td></tr> <tr><td>Protection class</td><td>IP 40</td></tr> <tr><td>Operating temperature</td><td>0 ÷ 70°C</td></tr> <tr><td>Storage temperature</td><td>-20 ÷ 80°C</td></tr> <tr><td>Relative humidity</td><td>20 ÷ 90% (not condensed)</td></tr> <tr><td>Power supply</td><td>5 Vdc ± 5%    or    12 ÷ 24 Vdc ± 5%</td></tr> <tr><td>Current consumption</td><td>45 mA</td></tr> <tr><td>Max. frequency</td><td>50 kHz</td></tr> <tr><td>Output</td><td>LINE DRIVER    PUSH-PULL</td></tr> <tr><td>Standard cable length</td><td>1 m</td></tr> <tr><td>Electrical connections</td><td>see the rel. table</td></tr> <tr><td>Weight</td><td>≈ 110 g</td></tr> </table>		Pulses	50 ÷ 500 ppr	Max. rotation speed	6000 rpm	Shaft (diameter hole A)	Ø 6 mm (standard)    Ø 6.35 mm (special)	Protection class	IP 40	Operating temperature	0 ÷ 70°C	Storage temperature	-20 ÷ 80°C	Relative humidity	20 ÷ 90% (not condensed)	Power supply	5 Vdc ± 5%    or    12 ÷ 24 Vdc ± 5%	Current consumption	45 mA	Max. frequency	50 kHz	Output	LINE DRIVER    PUSH-PULL	Standard cable length	1 m	Electrical connections	see the rel. table	Weight	≈ 110 g																													
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### ORDERING CODE

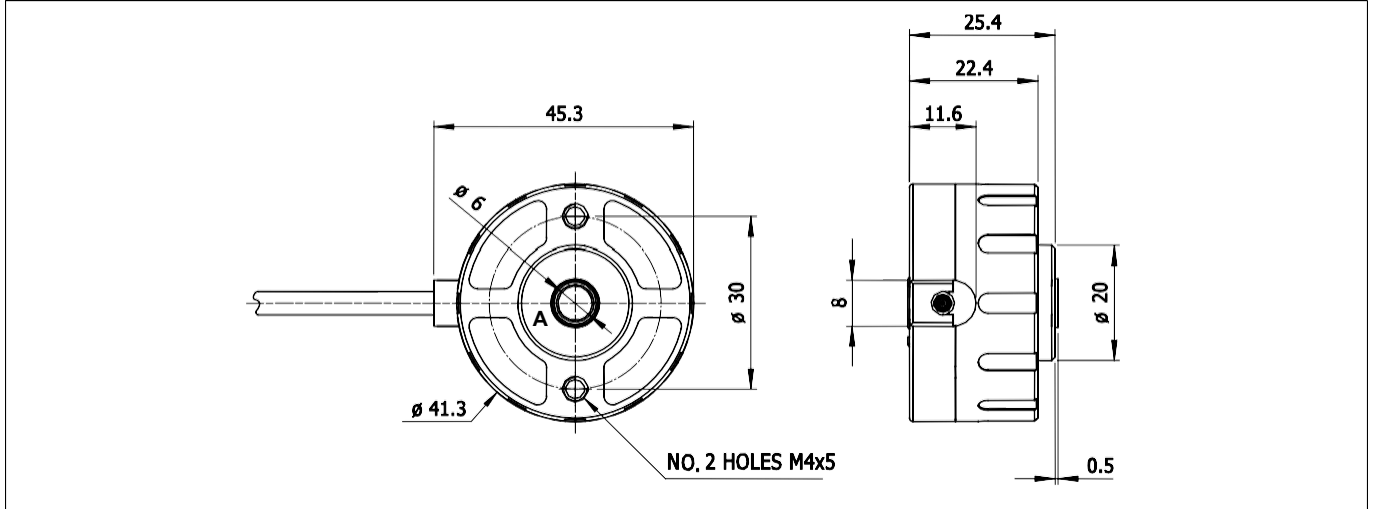
MODEL	TYPE	PPR	POWER SUPPLY	SHAFT Ø	CABLE	OUTPUT	CONN.
<b>EN413</b>	<b>BZR</b>	<b>00100</b>	<b>1224</b>	<b>D06</b>	<b>M01</b>	<b>PP</b>	<b>C</b>

**B0R** = bidirectional without zero    **00050** = 50 ppr    **05V** = 5V    **D06** = Ø6mm    **Mxx** = cable length in metres    **L5** = LINE DRIVER    **C** = cable  
**BZR** = bidirectional with zero    **00100** = 100 ppr    **1224** = 12÷24V    **635** = Ø6.35mm    **PP** = PUSH-PULL  
 .....  
**00500** = 500 ppr    **M0.5** = 0.5m  
**M01** = 1m  
**M40** = 40mMAX

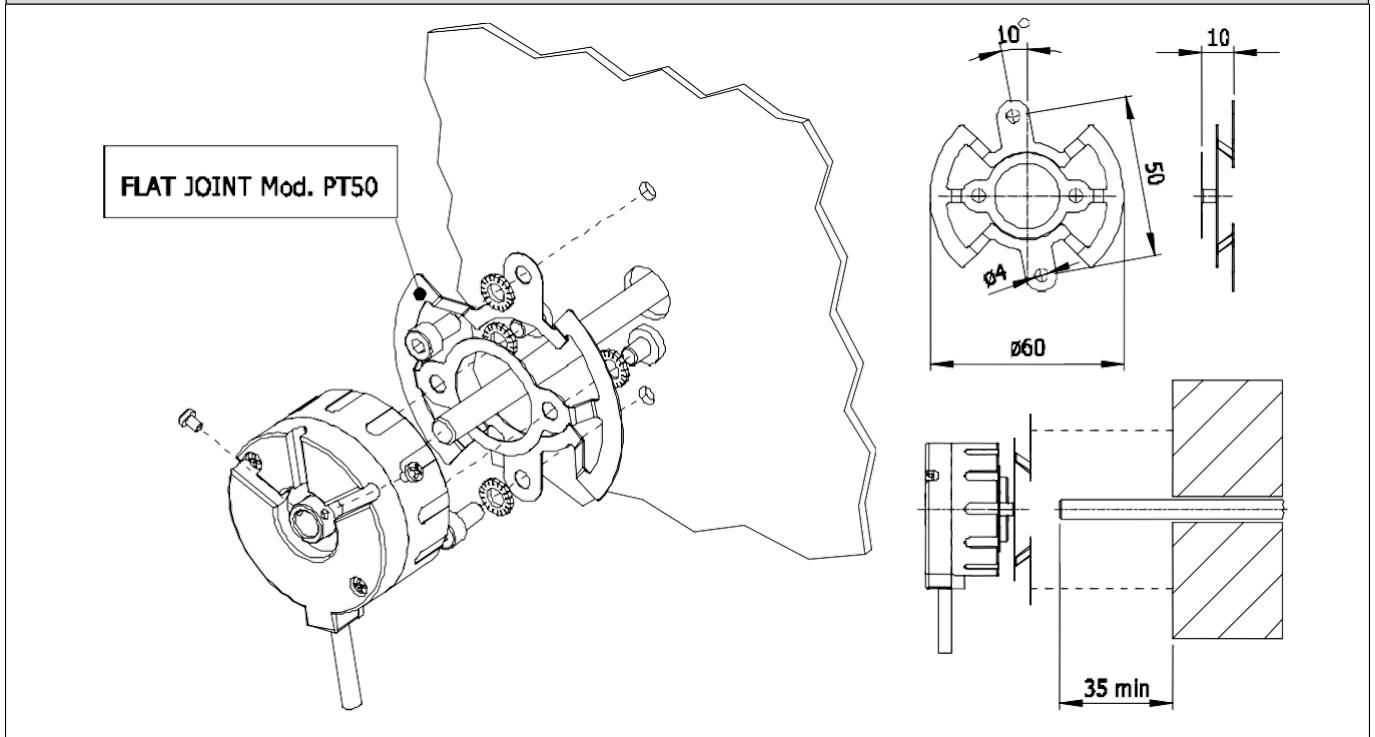
Example **OPTICAL ENCODER EN413 BZR 00100 1224 D06M01 PPC**

Code	Project	Release	Title
<i>ST10</i>	<i>A04</i>	<i>A</i>	<i>TECHNICAL DATASHEET</i>

**DIMENSIONS**



**RECOMMENDED FIXING**



**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

