

Code ST07	Project A04-B	Release A	Title TECHNICAL DATASHEET
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ELECTRONIC HANDWHEEL VN413FQ

GENERAL FEATURES

- Incremental bidirectional encoder which allows to manually vary axis shifting typically on NC manufacturing machines.
- Up to 500 pulses/revolution.
- Cable output (in radial position) or terminal board.
- Square flange of reduced size.
- Knob available in silver or dark grey colours.



MECHANICAL AND ELECTRICAL FEATURES

Code VN413FQ	
Pulses	50 - 100 - 500 ppr
Protection class	IP40
Operating temperature	0 ÷ 70°C
Storing temperature	-20 ÷ 80°C
Humidity	20 ÷ 90% (not condensed)
Power supply	5 V ± 5% or 12 ÷ 24 V ± 5%
Current consumption	45 mA
Max. frequency	50 kHz
Output signals	LINE DRIVER
Standard length of the cable	1 m
Electrical connections	see rel. table
MTBF (hours)	350.000
Weight	≈ 450 g

ORDERING CODE

MODEL	TYPE	PPR	POWER SUPPLY	CABLE OUTPUT / TERMINAL BOARD	OUTPUT SIGNALS	COLOUR	FLANGE
VN413FQ	B0R	00100	05V	M01	L5	W	7

B0R = bidirectional

00050 = 50 ppr
00100 = 100 ppr
00500 = 500 ppr

05V = 5V
1224 = 12÷24V

Mxx = cable length in meters
M0.5 = 0.5m
M01 = 1m
M40 = 40m_{MAX}
MR = terminal board

L5 = LINE DRIVER

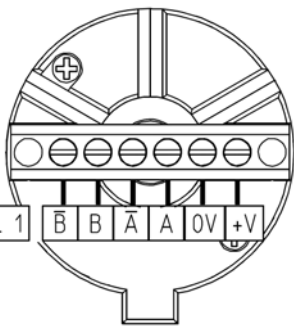
W = silver
B = dark grey

7 = standard
8 = bigger size

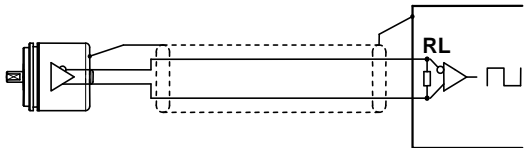
Example  **HANDWHEEL VN413FQ B0R 00100 05V M01 L5 W7**

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ST07	A04-B	A	TECHNICAL DATASHEET

CABLE AND ELECTRICAL CONNECTIONS

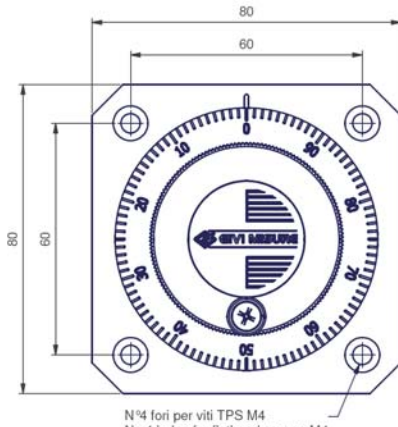
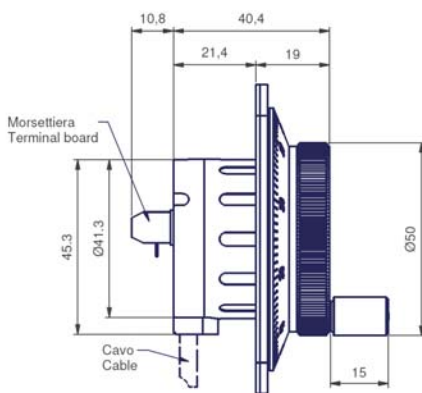
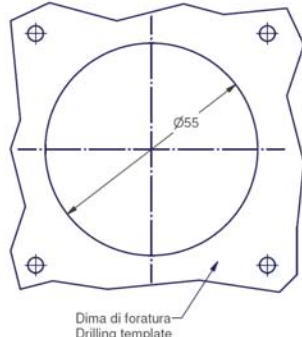
TERMINAL BOARD	CABLE																					
 <p>SCHEMA/CONNECT. 1</p>	<p>Cable 9 cores $\varnothing = 4.1$ mm, PVC external sheath</p> <p>Wires section:</p> <ul style="list-style-type: none"> - for power supply: 0.08 mm² - for signals: 0.08 mm² <p>NOTES: Do not exceed the minimum cable bending radius of 30 mm.</p>																					
	<p>LINE DRIVER</p> <table> <tr> <th>SIGNAL</th><th>WIRE COLOUR</th></tr> <tr><td>A</td><td>Green</td></tr> <tr><td>B</td><td>White</td></tr> <tr><td>NC</td><td>Brown</td></tr> <tr><td>A negative</td><td>Orange</td></tr> <tr><td>B negative</td><td>Light Blue</td></tr> <tr><td>NC</td><td>Yellow</td></tr> <tr><td>V+</td><td>Red</td></tr> <tr><td>GND</td><td>Blue</td></tr> <tr><td>Housing *</td><td>Violet</td></tr> <tr><td></td><td>Shield</td></tr> </table> <p>* Connect these conductors to GND</p>	SIGNAL	WIRE COLOUR	A	Green	B	White	NC	Brown	A negative	Orange	B negative	Light Blue	NC	Yellow	V+	Red	GND	Blue	Housing *	Violet	
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SHIELDED CABLE

	LINE DRIVER CONNECTION	
	POWER SUPPLY	RL
	5 V	120 Ω
	12 V	330 Ω
	24 V	1000 Ω

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

DIMENSIONS AND RECOMMENDED FIXING

 <p>N°4 fori per viti TPS M4 No.4 holes for flathead screws M4</p>	 <p>Morsettiera Terminal board</p> <p>Cavo Cable</p>	 <p>Dima di foratura Drilling template</p>
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WHAT TO AVOID

- All mechanical reworks (cutting, drilling, face milling etc.).
- Any modification either on the body or on the shaft of the encoder
- Any kind of bad usage
- External hits or stresses

