



MEM520-Bus



MEM540-Bus



MEM620-Bus

ABSOLUTE ENCODERS WITH FIELDBUS INTERFACE



Ethernet-based communication underwent a huge development in recent years. **PROFINET communication protocol**, in particular, has become the **leading standard in industrial field**, thanks to its high performance in **safety, accuracy and data transmission speed**.

MEM-BUS PROFINET encoders grant:

- **High precision measurement**
- **Rapid data transfer**
- **System state diagnostic**
- **Early error detection**
- **Network topology configuration**
- **Parameter entering via TCP/IP**
- **Easy operation through user telegram 860**



ENCODER PROFILE	SETTABLE PARAMETERS	STATE INDICATORS
• Encoder Profile V4.1 version 3.162 • Application class 3 – 4 • RT real-time & IRT real-time isochronous transmission mode • Parameter entering via TCP/IP • Standard Telegram 81, 82, 83, 84 –User Telegram 860	• Steps/revolution • Revolutions number • Preset • Rotation direction	• 4 signalling LEDs for: • Link 1 • Link 2 • Error • Ready

OPERATION & PROGRAMMING

The encoder **MEM-BUS PROFINET** can be software run by means of **standard telegrams 81, 82, 83 and 84**, or by means of the **simplified telegram 860**.

- **Simplified telegram 860:** *Perfectly similar to PROFIBUS telegrams*, it provides the **position (32 bit)** and enables to manage the absolute **preset**.
- **Telegram 81:** It provides the **absolute position, the factorized preset position vale** or possible **error**; it allows to manage the **main commands**.
- **Telegram 82:** equivalent to telegram 81, il provides the **16-bit instant speed value**, too.
- **Telegram 83:** equivalent to telegram 82, il provides the **32-bit instant speed value**.
- **Telegram 84:** equivalent to telegram 83, it provides **the 64-bit factorized absolute position**

The speed measuring unit (step/s, step/100ms, step/10ms, RPM), selected in the starting parameter entering phase, **can be modified run-time**.

MECHANICAL VERSIONS				
MEM620-Bus	MEM520-Bus	MEM540-Bus	MEM440-Bus	MEM450-Bus
Ø 58 mm body 63,5x63,5 mm square flange Ø 31,75 mm centering mask Shaft Ø 6, 8 or 10 mm	Ø 58 mm body Ø 58 mm round flange Servo coupling Ø 50 mm centeing mask Shaft Ø 6, 8 or 10 mm <i>Synchro Flange</i>	Ø 58 mm body Ø 58 mm round flange Ø 36 mm centering mask- 3 holes M4 a 120° on Ø 48 mm Shaft Ø 6, 8 or 10 mm <i>Clamping flange</i>	Ø 58 mm body Blind hollow shaft for motor fixing Hollow shaft Ø 8, 10, 12, 14 or 15 mm Antirotational fixing	Ø 58 mm body Blind hollow shaft for motor fixing Hollow shaft Ø 8, 10, 12, 14 or 15 mm Fixing by elastic metal support



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MEM440-Bus



MEM450-Bus



Connettori assiali

MECHANICAL & ENVIRONMENTAL SPECIFICATIONS

MEM-Bus	620/520/540	440/450
• Materials: housing shaft	Aluminium	Stainless steel
• Weight	500 g ca.	
• Shaft/hollow shaft Ø	6, 8, 10 mm	8, 10, 12, 14, 15 mm
• Revolutions/minute	6000	
• Starting torque	≤0.8 Ncm	
• Inertia	≤25 g cm ²	
• Max load	80 N axial/100 N radial	
• Vibrations resistance (10÷2000 Hz)	100 m/sec ²	
• Shock (11 ms)	50 G	
• Protection degree	IP67 – IP65 shaft side	
• Operating temperature	-30 ÷ 70°C	
• Stacking temperature	-30 ÷ 85°C	

ELECTRICAL & OPERATING SPECIFICATIONS

• Operating principle	Magnetic
• Resolution/revolution	8192 steps/rev – 13 bit
• Revolutions no. (multiturn)	65536 - 16 bit
• Initializing time	< 1 s
• Data memory	>20 years No motion – power off
• Fieldbus	PROFINET
• Supply	10 ÷ 30 Vdc Protection against polarity reversal
• Power consumption	2 W
• Accuracy	± ½ LSB
• Connection	2 M12 female connectors +1 M12 male connector
• Interference immunity	EN 61000-6-2
• Emitted interference	EN61000-6-4

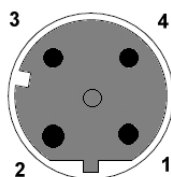
CONNECTIONS



Port 1 Port 2 Supply
Connectors and LEDs position

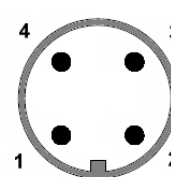
PROFINET connectors port 1 and port 2 M12 female type, D code

Pin	Signal
1	Tx +
2	Rx +
3	Tx -
4	Rx -



SUPPLY CONNECTOR M12 male type, A code

Pin	Signal
1	Supply voltage (10-30 V DC)
2	N.C.
3	GND (0V)
4	N.C.



ORDERING INFORMATION

MEM520B	PNT	M	10	A
CONNECTORS POSITION - = Radial outlet A = Axial outlet				
SHAFT/HOLLOW SHAFT Ø 6 – 8 – 10- 12 – 14 – 15 mm				
No. of TURNS M = Multiturn				
INTERFACE PNT = PROFINET				
TYPE MEM520-B = Round flange Ø 58 mm MEM540-B = Round flange Ø 58 mm MEM620-B = Square flange 63.5x63.5 mm MEM440-B = Blind hollow shaft for motor coupling MEM450-B = Blind hollow shaft, fixing by elastic support				



PROFIBUS • PROFINET
CERTIFICATE NO. Z10989



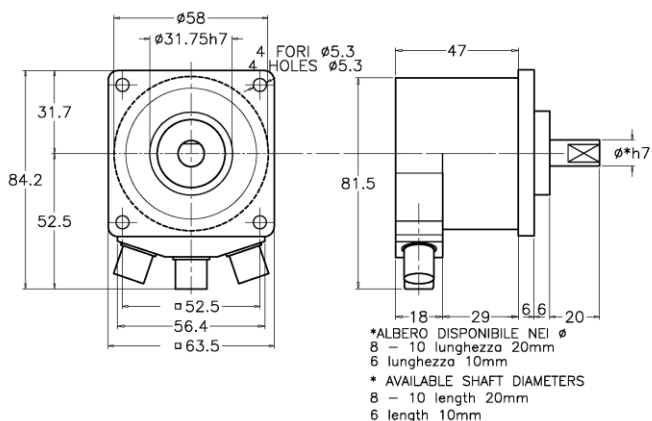
CERTIFICATE NO.E510647

Elap reserves the right to upgrade the product without notice

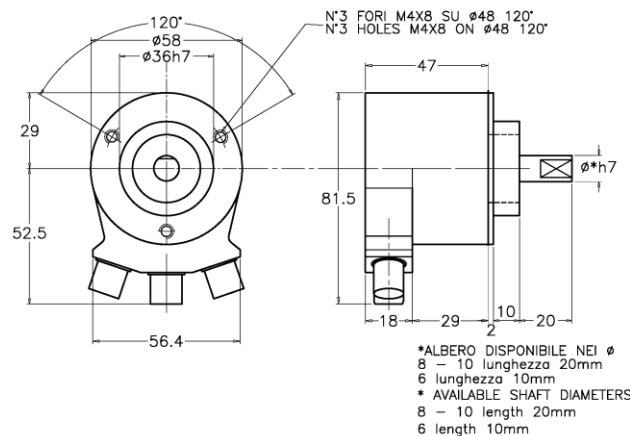
MEM-BUS PROFINET – Radial Connectors

Ref.M1551B

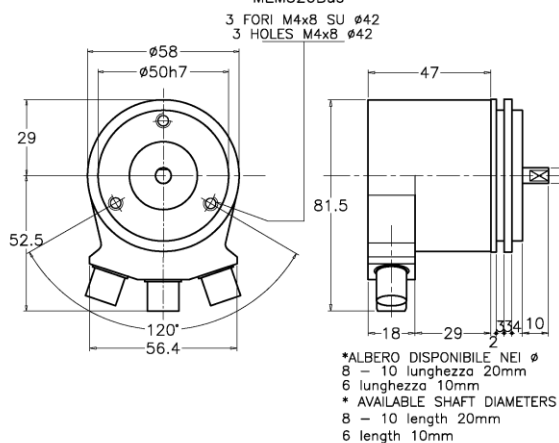
MEM620Bus



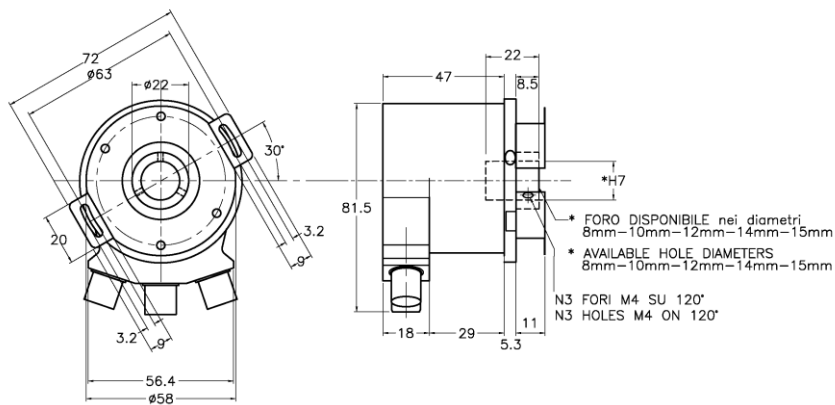
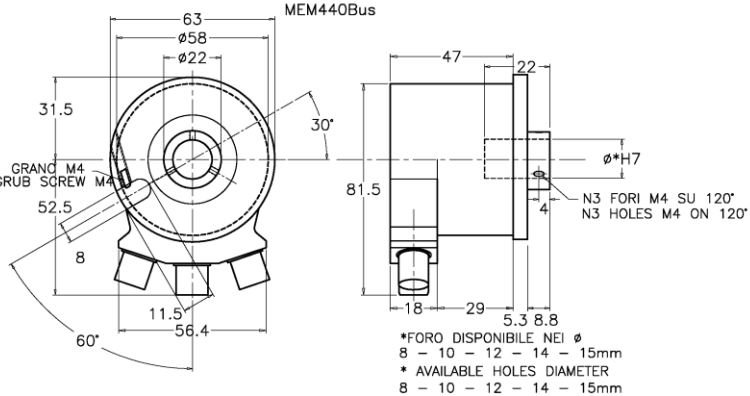
MEM540Bus



MEM520Bus



MEM440Bus



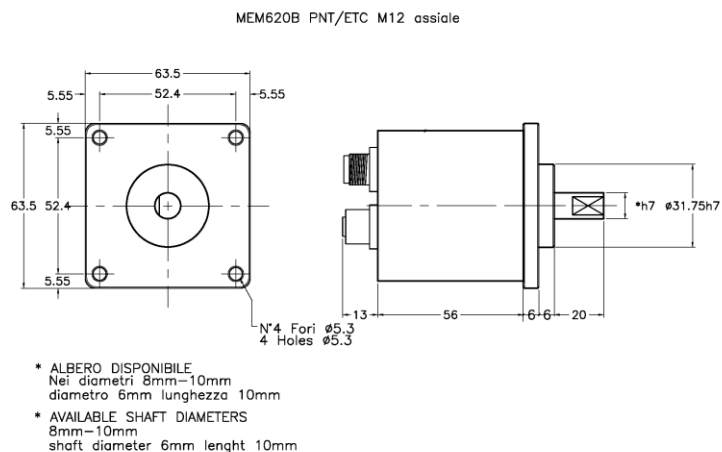
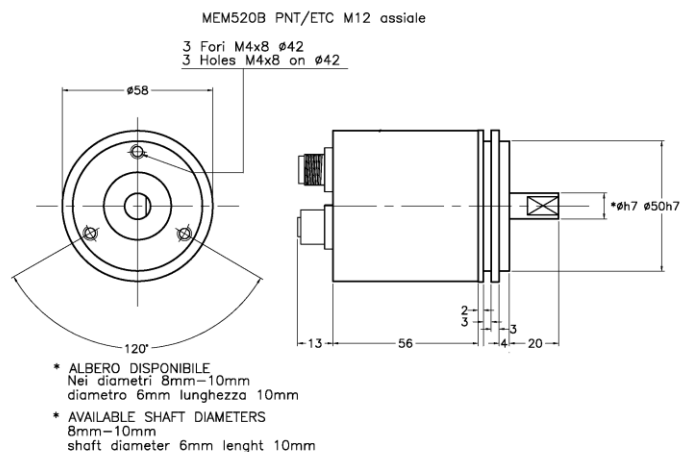
Ref.M1553



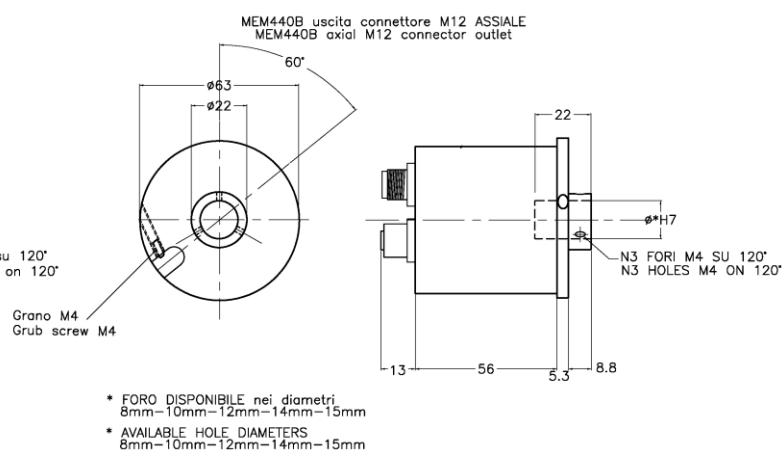
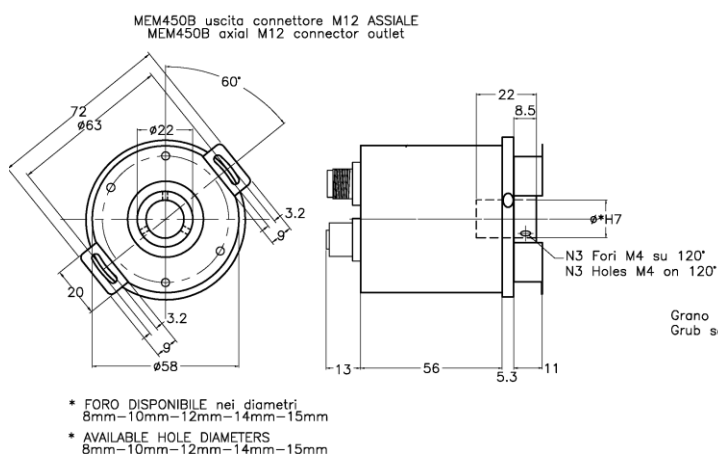
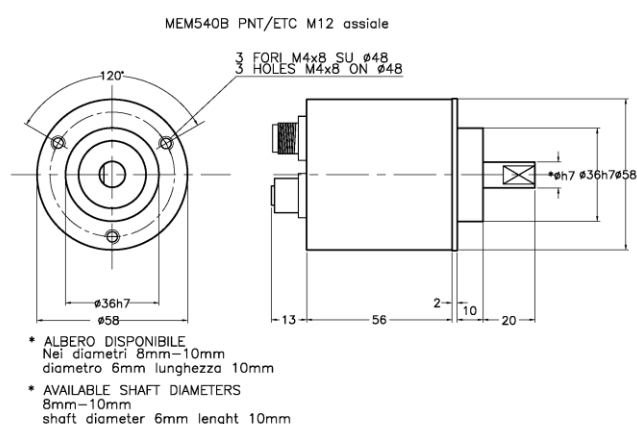
PROFI
NET

DIMENSIONS

MEM-BUS PROFINET – Axial Connectors



Ref.M2103



Ref.M2108

REFERENCES

MANUALS, SOFTWARE and DIMENSIONAL DRAWINGS can be downloaded at:

<https://www.elap.it/absolute-encoders/encoder-mem-bus-profinet/>



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