



MEM520



MEM540



MEM620

MEM SINGLE & MULTITURN MEM-V ABSOLUTE ENCODERS

- SSI serial or push pull parallel output
- Different configurations available
- Metal case

- Series MEM single & multiturn 30 μ s typical monoflop time
- Series MEM-V singleturn 16 μ s typical monoflop time
- High resolution, Binary or Gray code

MECHANICAL VERSIONS

MEM520/MEM520V	MEM540/MEM540V	MEM620/MEM620V	MEM410/MEM410V	MEM450/MEM450V
Ø 58 mm round flange	Ø 58 mm round flange	63.5x63.5 mm square flange	Hollow shaft for motor shaft coupling	Hollow shaft for motor shaft coupling
Servo coupling	Ø 36 mm centering mask	Ø 31.75 mm centering mask		
Ø 50 mm centering mask	3 M4 holes 120° on Ø 48 mm	Shaft Ø 6, 8, 9.52 or 10 mm	Hole Ø 8, 10, 12, 14 or 15 mm	Hole Ø 8, 10, 12, 14 or 15 mm
Shaft Ø 6, 8, 9.52 or 10 mm	Shaft Ø 6, 8, 9.52 or 10 mm		Antirotational fixing	Fxing by elastic support
Synchro flange	Clamping flange			

MECHANICAL & ENVIRONMENTAL SPECIFICATIONS

TYPE	MEM/MEM-V	520/540/620	410/450
• Weight		400 g ca.	450 g ca.
• Materials: case		aluminium	
• shaft		stainless steel	
• Shaft/Hollow shaft diameter		6, 8, 9.52 or 10	8, 10, 12, 14, 15 mm
• Revolutions/minute		6000	
• Starting torque		≤ 0.8 Ncm	
• Inertia		≤ 25 g cm ²	
• Max. load		80 N axial / 1000 N radial	
• Shock resistance (11 ms)		50 G	
• Vibrations resistance (10÷2000 Hz)		100 m/sec ²	
• Protection degree		IP65, optional IP66 (version K)	
• Operating temperature		-30 ÷ +70°C	
• Stocking temperature		-30 ÷ +85°C	

ELECTRICAL & OPERATING SPECIFICATIONS

• Resolution	5 ÷ 13 bit (32÷8192 info/rev.)
• Steps/revolution	2÷15 bit (4÷32768)
• Code	Binary or Gray
• Output signals	SSI serial (RS422) Push pull parallel
• Supply voltage	5 ÷ 28 Vdc Protection against polarity reversal
• Power consumption	1.2 W
• I max parallel outputs	50 mA
• SSI Clock max. frequency	1 MHz
• Accuracy	±1/2 LSB
• Interference immunity	EN 61000-6-2
• Emitted interference	EN 61000-6-4
• Connections	axial or radial cable 1 m lg or axial/radial 12-pin M23 connector

PUSH PULL PARALLEL OUTPUT

SIGNALS	CABLE COLOURS	16-PIN M23 CONNECTOR*	SIGNALS	CABLE COLOURS	16-PIN M23 CONNECTOR*
BIT 1 (LSB)	Black	PIN 3	BIT 9	Grey	PIN 11
BIT 2	Brown	PIN 4	BIT 10	White/Green	PIN 12
BIT 3	Red	PIN 5	BIT 11	Brown/Green	PIN 13
BIT 4	Grey/Pink	PIN 6	BIT 12	White/Yellow	PIN 14
BIT 5	Yellow	PIN 7	BIT 13 (MSB)	Yellow/Brown	PIN 15
BIT 6	Green	PIN 8	UP/DOWN	White/Grey	PIN 16
BIT 7	Red/Blue	PIN 9	0V	Blue	PIN 1
BIT 8	Purple	PIN 10	+ Vdc	Pink	PIN 2

* M23 connector: 12 pin for resolution up to 8 bit – 16 pin for resolution 9 to 13 bit



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MEM410



MEM450

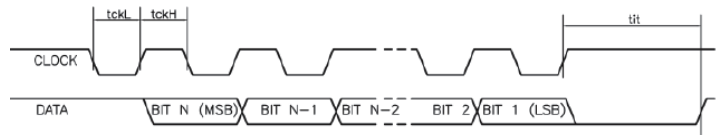
INPUT & OUTPUT SIGNALS

SSI SERIAL OUTPUT

SIGNALS	CABLE COLOURS	12-PIN M23 CONNECTOR*
Clock-	Brown	PIN 1
Clock+	White	PIN 2
Data+	Green	PIN 3
Data-	Yellow	PIN 4
Reset	Pink	PIN 5
Up/Down	Grey	PIN 6
0V	Blue	PIN 12
+Vdc	Red	PIN 11

* M23 connector: 12 pin

SSI INTERFACE SIGNALS



MSB: Most Significant Bit
 LSB: Less Significant Bit
 tckL: 0.5 µs min.
 tckH: 0.5 µs max

(tit: when the tit time lag expires the encoder considers the interrogation ended)

Encoder MEM = tit: 30 µs typical
 Encoder MEM-V = tit 16 µs typical

The output code is increasing with shaft rotating clockwise (shaft side sight).

PNP COUNT RESET INPUT

Applying a high logic level to this input (5÷28 Vdc) resets the position data.

UP/DOWN INPUT

Applying a low logic level to this input (0 V) sets the output code decreasing with the shaft rotating clockwise.

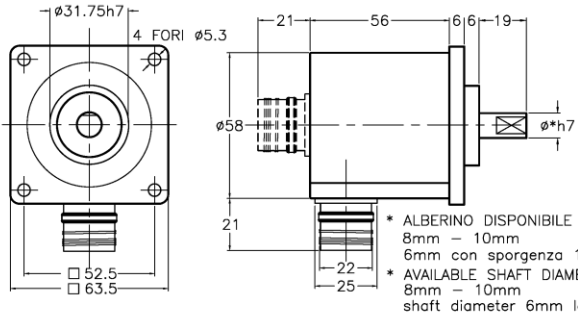
ORDERING INFORMATION

MEM520	-	13	15B	5/28	A	8	SSI
							<p>OUTPUT SIGNALS SSI = SSI Serial PP = Push-pull parallel</p> <p>SHAFT DIAMETER/HOLLOW SHAFT Shaft 6 – 8 – 9.52 – 10 mm Hollow shaft 8 – 10 – 12- 14 – 15 mm</p> <p>CONNECTIONS OUTLET A axial /R radial Standard: M23 connector Cable 1 m lg.on request</p> <p>SUPPLY 5÷28 Vdc</p> <p>REVOLUTIONS NO. & CODE 00 single turn / 4÷15 bit B Binary code/ G Gray code</p> <p>RESOLUTION/REVOLUTION 5÷13 bit</p> <p>MECHANICAL PECULIARITIES (Optional Field) - = Standard version C = Cable Outlet K = Sealing O-ring</p> <p>TYPE MEM520 – MEM540 - MEM520V – MEM540V Round flange MEM620 – MEM620V Square flange MEM410 – MEM450 – MEM410V – MEM450V Hollow shaft</p>

Connector Outlet

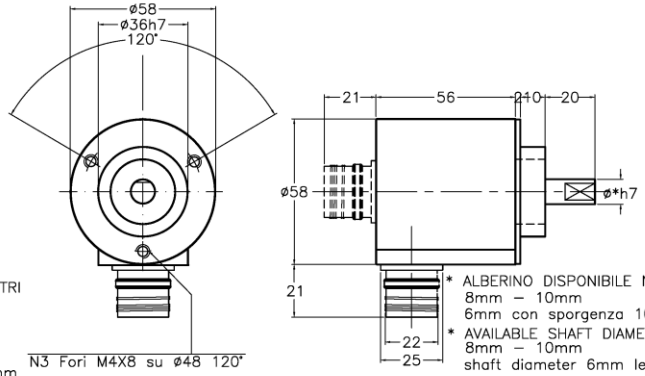
Rif.M1386

MEM620



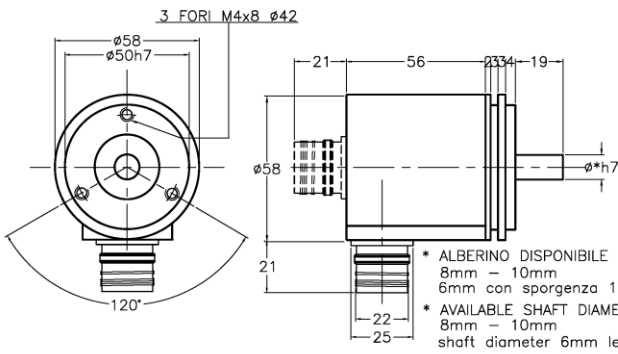
* ALBERINO DISPONIBILE NEI DIAMETRI
8mm - 10mm
6mm con sporgenza 10mm
* AVAILABLE SHAFT DIAMETERS
8mm - 10mm
shaft diameter 6mm lenght 10mm

MEM540



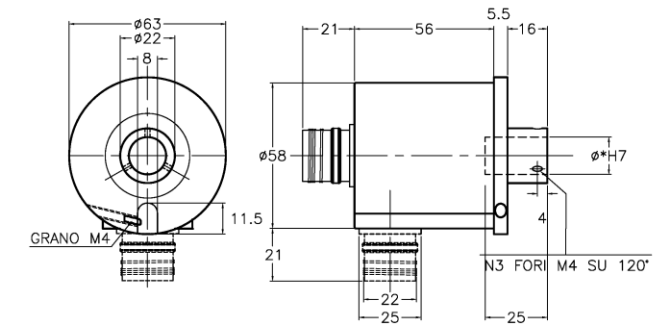
* ALBERINO DISPONIBILE NEI DIAMETRI
8mm - 10mm
6mm con sporgenza 10mm
* AVAILABLE SHAFT DIAMETERS
8mm - 10mm
shaft diameter 6mm lenght 10mm

MEM520



* ALBERINO DISPONIBILE NEI DIAMETRI
8mm - 10mm
6mm con sporgenza 10mm
* AVAILABLE SHAFT DIAMETERS
8mm - 10mm
shaft diameter 6mm lenght 10mm

MEM410

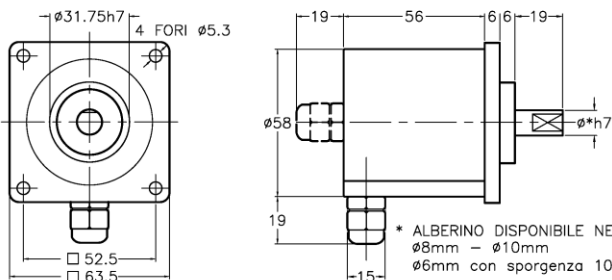


* FORO DISPONIBILE NEI DIAMETRI
8mm - 10mm - 12mm - 14mm - 15mm
* AVAILABLE HOLE DIAMETERS
8mm - 10mm - 12mm - 14mm - 15mm

Cable Outlet

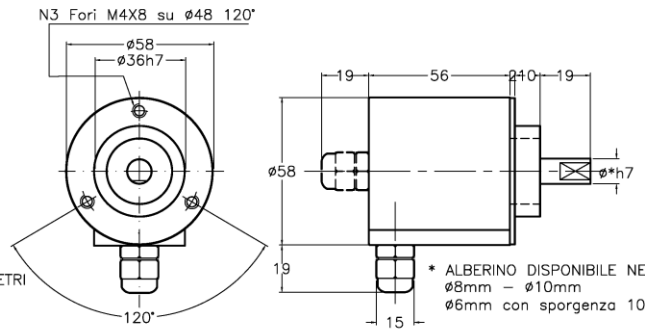
Rif.M1385

MEM620



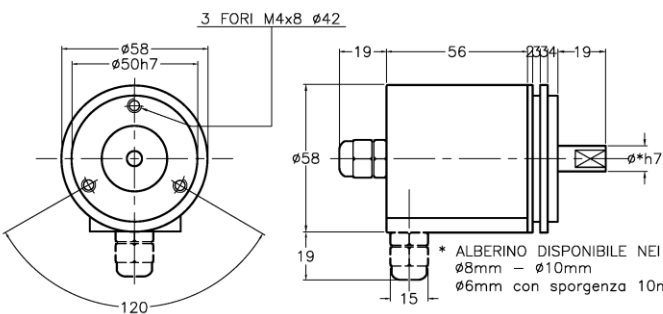
* ALBERINO DISPONIBILE NEI DIAMETRI
ø8mm - ø10mm
ø6mm con sporgenza 10mm

MEM540



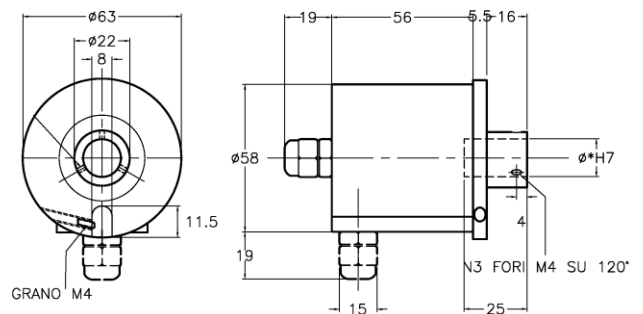
* ALBERINO DISPONIBILE NEI DIAMETRI
ø8mm - ø10mm
ø6mm con sporgenza 10mm

MEM520



* ALBERINO DISPONIBILE NEI DIAMETRI
ø8mm - ø10mm
ø6mm con sporgenza 10mm

MEM410

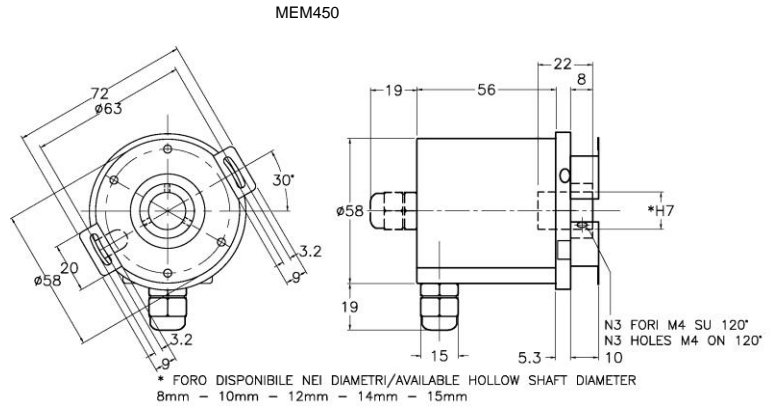
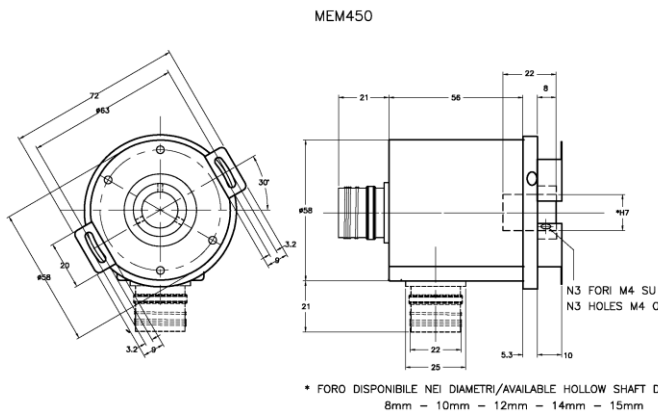


* FORO DISPONIBILE NEI DIAMETRI
8mm - 10mm - 12mm - 14mm - 15mm

DIMENSIONS

Connector Outlet

Cable Outlet



Rif.M2110

Rif. M2045



REFERENCES

Further info and dimensional drawings at:

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



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