EtherNet/IP™

ODVA CONFORMANT

CIP Sync

CERTIFICATION NO. 11803.01

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CERTIFICATION NO. E510647

▶ MEM620-BUS	▶ MEM540-BUS	▶ MEM520-BUS	▶ MEM440-BUS	▶ MEM450-BUS

▶ ETHERNET/IP™ COMMUNICATION PROTOCOL

Based on the industrial Ethernet communication protocol, **EtherNet/IP™ interface** allows a **steady, flexible and fast** communication between control systems and peripheral devices (such as sensors and actuators). **EtherNet/IP™** networks can effectively integrate multivendor multi-protocol devices to create articulated remote-controlled production systems, a pecularity which makes it one of the most widespread industrial communication protocols worldwide.

MEM-BUS EtherNet/IP™ encoders offer:

- High resolution (29 bit)
- DLR (Device Level Ring)
- IP addressing via hardware and software
- Synchronous Real Time transmission
- Parameter entering via TCP/IP
- Encoder status diagnostic
- Position, speed and alarms comprehensive data managed by assembly object 110

▶ ELECTRICAL & OPERATING SPECIFICATIONS

Operating principle	Magnetic
Resolution/revolution	8192 steps/rev – **13 bit**
Revolutions no.	65536 - **16 bit**
Initializing time	< 1s
Data memory	>20 years No motion – power off
Interface	EtherNet/IP™
Supply	10 ÷ 30 Vdc Protection against polarity reversal
Power consumption	2.5 W
Accuracy	± ½ LSB
Connection	2 M12 female connectors D-coding +1 M12 male connector
Interference immunity	EN 61000-6-2
Emitted interference	EN61000-6-4

▶ MECHANICAL & ENVIRONMENTAL SPECIFICATIONS

	520 - 540 - 620	440 - 450
Model:		
Materials: housing / shaft	Aluminium / Stainless steel	
Weight	500 g ca.	
Shaft/Hollow shaft Ø (mm)	6, 8,10	8, 10, 12, 14, 15
Revolutions/minute	6000	
Starting torque	≤ 0.8 Ncm	
Intertia	≤ 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	
Stocking temperature	-30 ÷ 85°C	

▶ ORDERING INFORMATION

TYPE
[ ] MEM620B - Square flange 63.5x63.5 mm
[✓] MEM540B - Round flange Ø 58 mm CLAMPING FLANGE
[ ] MEM520B - Round flange Ø 58 mm SYNCHRO FLANGE
[ ] MEM440B - Blind hollow shaft for motor coupling
[ ] MEM450B - Blind hollow shaft, fixing by elastic support

▼

INTERFACE
[✓] EIP - EtherNet/IP™

▼

NO. OF TURNS
[✓] M - Multiturn

▼

SHAFT Ø /HOLLOW SHAFT Ø
[ ] 6 mm
[ ] 8 mm
[✓] 10 mm
[ ] 12 mm
[ ] 14 mm
[ ] 15 mm

▼

MEM540B-EIP-M-10

▶ MEM-BUS EtherNet/IP™ ENCODER PROFILE

- **Ref IEC61784-1**
- Device profile: **CIP™ Protocol**, encoder profile 22H
- Physical layer: EtherNet/IP® 100Base-TX, Fast Ethernet, ISO/IEC 8802-3
- Output code: Binary
- Cycle time ≥ 1 ms
- Transmission rate: 100 Mbit/s
- Transmission: Cable CAT-5, shielded (STP), ISO/IEC 11801
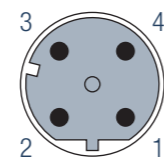- CIP SYNC™ protocol complying with standard IEEE-1588

▶ SETTABLE PARAMETERS VIA TCP/IP

- Steps/revolution
- Revolutions number
- Preset
- Rotation direction
- Speed unit:steps/s, steps/ms, rev./min.
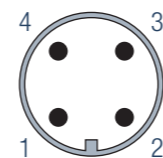- Position and speed alarm thresholds

▶ CONNECTIONS

Connector (port 1 and 2)
D code female M12 connector

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

SUPPLY CONNECTOR
A code male M12 connector

Pin	Signal
1	+V supply (10 - 30 Vdc)
2	N.C.
3	GND (0V)
4	N.C.

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Link 1   Link2

Port 1   Port 2   Supply

▶ PROGRAMMING & OPERATION

Parameters are entered via software via **TCP/IP**. Besides standard **Assembly Objects 1, 2 and 3**, the encoder supports the **proprietory object 110**, allowing a comprehensive view of **parameters and alarms relating to speed and position**.

Object **1**   It provides the factorized absolute position
Object **2**   It provides the factorized absolute position + warnigs and alarms
Object **3**   It provides the factorized absolute position + 32 bit instant speed
Object **110**   It provides the factorized absolute position + 32 bit instant speed + position state record + speed and position warnings

The speed measuring unit (step/s, step/ms, RPM), selected in the starting parameter entering phase, can be modified **run-time**.
IP addressing can be entered both by **rotary switches and via software (DHCP/BOOTP)**.
The function **DLR Device Level Ring** ensures operation even in case of errors or net interruptions.
CIP Sync™ provides the **increased control coordination** needed for control applications where absolute time synchronization is important to achieve real-time synchronization between distributed intelligent devices and systems.

* Elap reserves the right to upgrade the product without notice

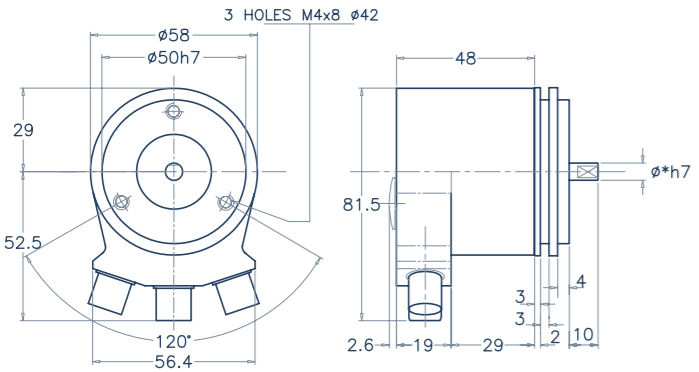## ▶ MEM620-BUS ETHERNET/IP™   ref. M2099
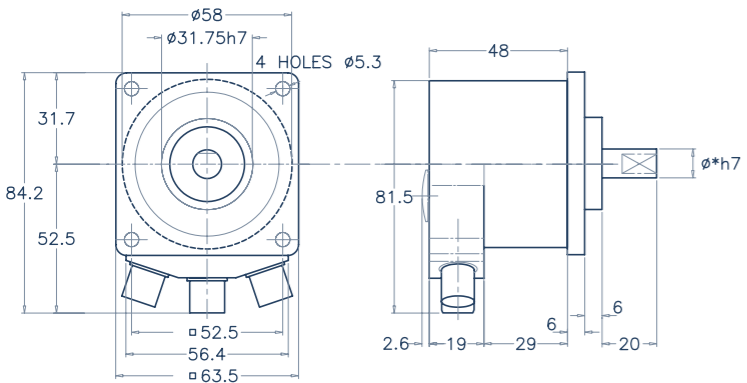
* AVAILABLE SHAFT DIAMETERS
8 − 10 length 20mm
6 length 10mm

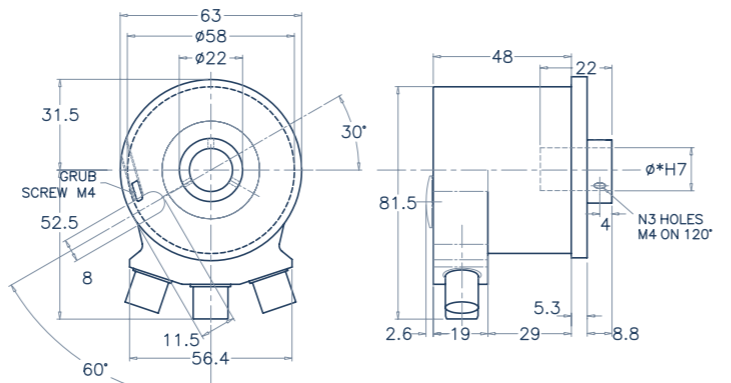## ▶ MEM540-BUS ETHERNET/IP™   ref. M2099
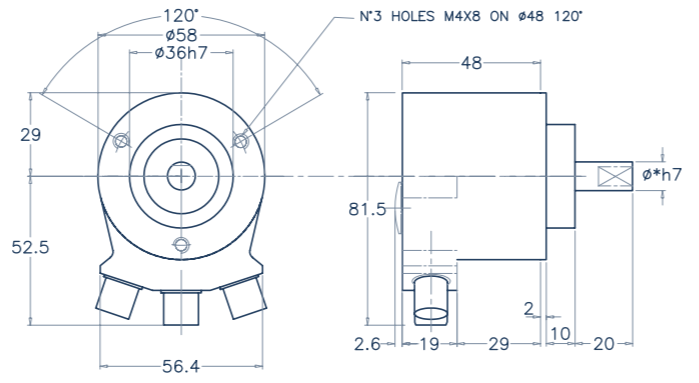
* AVAILABLE SHAFT DIAMETERS
8 − 10 length 20mm
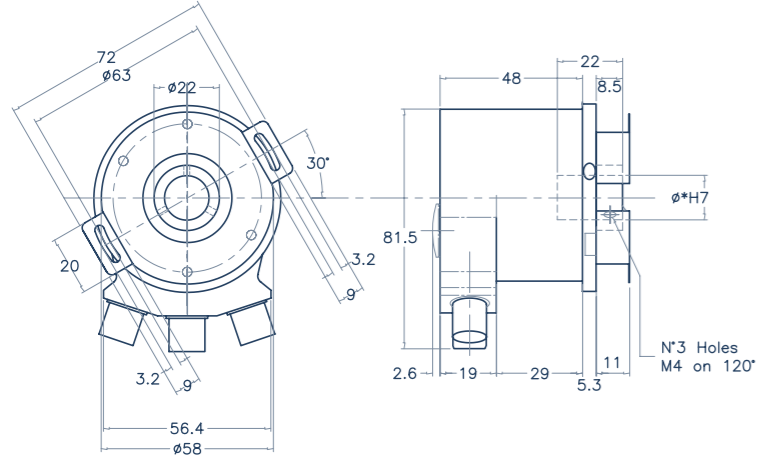6 length 10mm

▶ MEM520-BUS ETHERNET/IP™   ref. M2099

* AVAILABLE SHAFT DIAMETERS
8 − 10 length 20mm
6 length 10mm

▶ MEM440-BUS ETHERNET/IP™   ref. M2099

* AVAILABLE HOLES DIAMETER
8 − 10 − 12 − 14 − 15mm

▶ MEM450-BUS ETHERNET/IP™   ref. M2080

* AVAILABLE HOLE DIAMETERS
8mm−10mm−12mm−14mm−15mm

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ABSOLUTE ENCODER
WITH FIELDBUS INTERFACE

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