



# MINI MAGNUM®

## SMALL PACKAGE BRUSHLESS SERVODRIVE



### MINI MAGNUM®

Very compact full digital servodrive 110÷480 Vac power supply range.  
Driving motor ranges up to 7.5 Nm, encoder or resolver feedback.

#### STANDARD FEATURES

- ✓ 110÷480 Vac power supply with EMC line filter and in-rush circuit on board
- ✓ Regen circuit with internal power resistor
- ✓ **Speeder-One®** software interface (Windows 98/2000/XP based)
- ✓ Parameter setting by four keys on the front panel or RS232 (optoisolated)
- ✓ Shielding cable connection directly to the front panel
- ✓ Optical isolation between power stage and signals
- ✓ Feedback modes: - resolver (2-4-6-8 poles) encoder emulation (sw)  
- encoder (max 250 KHz) dividble encoder emulation (sw)

#### OPTIONS

- ✓ **CBMD CAN BUS** - CAN V2.0B (⚡) + RS232 to CAN BUS multidrop  
CAN OPEN protocol implementations: DS301-V4.02 - DSP402-V2.0
- ✓ **RS 485** interface, Mod Bus-RTU based (⚡), 230 kbps max
- ✓ **ER** Encoder and Resolver feedbacks (both)
- ✓ Boosted dumping resistors (external)
- ✓ **SEF** Safety Enable Function (according to EN954-1/cat.3)
- ✓ **RXDB** Black-out dynamic brake function (with internal power resistor)
- ✓ **M3 I/O** Inputs/Outputs additional functions
- ✓ **HBD** Holding Brake Drive Card
- ✓ Switching frequency 16 KHz
- ✓ **230 M:** 110÷230 Vac single PH power supply

#### SPECIFICATIONS

- ✓ Nominal switching frequency: 8 KHz
- ✓ Output frequency: 0 ÷ 500 Hz
- ✓ Current loop bandwidth: 2 KHz
- ✓ Velocity loop bandwidth: 200 Hz
- ✓ Operating mode
  - Velocity reference (differential): ±10 Vdc (15 bit resolution)
  - Pulse /direction (for stepper motor controls)\*
  - Torque control
  - Position control
  - Encoder following\*
- ✓ 4+5\* opto-isolated digital inputs: 24 Vdc - 7mA (PLC compatible)
- ✓ 1+1\* opto-isolated digital outputs: 24 Vdc - 50mA max (PLC compatible)
- ✓ 2 analog outputs (programmable)
- ✓ Motor current monitor: ±10Vdc (at peak current)
- ✓ Motor speed monitor: ±10Vdc (at max speed)
- ✓ Relé ok output contacts: 30 Vac/dc - 500 mA max
- ✓ Ambient temperature
  - operating at rated data: 0 ÷ 45°C (no derating)
  - rated and peak current derating: 45 ÷ 55°C (2.5% / °C)
  - maximum operating: 55°C max
  - storage: -20 ÷ 55°C
- ✓ Humidity (w/out condensation): 85% max (operating & storage)
- ✓ Altitude A.M.S.L.
  - operating at rated data: 1000 m
  - rated and peak current derating: 1000 ÷ 2500 m (1.5 %/100m)
- ✓ Enclosure protection: IP20
- ✓ Storage duration: 1 year max\*



**Typical Applications are:**  
Conveyors, Medical, Textile Equipment,  
Packaging Machinery, Positioners,  
Converting Machinery, Feeders.

#### ACCESSORIES

(see specific data sheets for details)

- ✓ **SERVOMOTORS:**
  - SUPER SAX: 0.35÷7.5 Nm
  - SUPER SAY: 2.4÷8.4 Nm
- ✓ **MOTOR CABLES:**
  - CBL5-CBLY: pre-assembled shielded power and feedback cables
- ✓ **MOTOR CHOKE:**
  - LXT: for power cable longer than 25 m

#### NOTE:

⚡: Optocoupled

\*: After 1 year storage duration the internal electrolytic power capacitors must be re-formed.  
Contact Axor's technical department for details.

•: Additional features with optional "M3" connector.

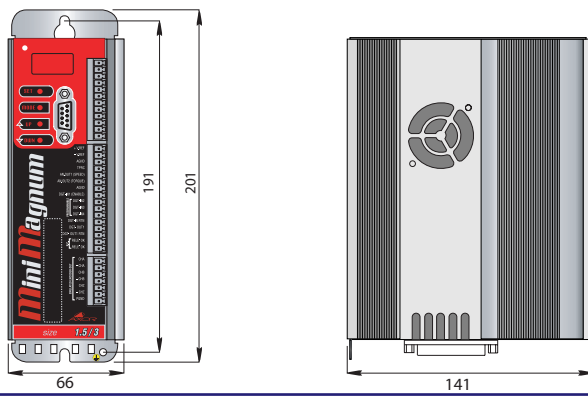
<sup>1)</sup>: 30% derating with 16 KHz PWM

<sup>2)</sup>: Single phase does not allow you to obtain the rated performances (torque and speed of motor).  
Contact Axor's technical department for details.

MODEL	MINI MAGNUM 400 T			MINI MAGNUM 230 T			MINI MAGNUM 230M			
	SIZE	1.5/3	3.5/7	6/12	1.5/3	3.5/7	6/12	1.5/3	3.5/7 <sup>2)</sup>	6/12 <sup>2)</sup>
<b>Rated Current</b> (8 KHz PWM) <sup>1)</sup> (Arms)		1.5	3.5	6	1.5	3.5	6	1.5	3.5	6
<b>Peak Current x 5<sup>2)</sup></b> (8 KHz PWM) <sup>1)</sup> (Arms)		3	7	12	3	7	12	3	7	12
<b>F1: Supply Line Fuses</b> (T-type = time-lag)		4A / 500V	6A / 500V	10A / 500V	3A / 250V	5A / 250V	8A / 250V	3A / 250V	5A / 250V	8A / 250V
<b>Power Supply</b> (3PH) 50/60 Hz (grounded systems only)		3x380VAC (-10%) ÷ 480 VAC (+10%)			3x110 VAC (-10%) ÷ 230 VAC (+10%)			1x110 VAC (-10%) ÷ 230 VAC (+10%)		
<b>Logic Supply</b> (from insulating transformer)		24 Vdc (-0%+15%) - 1 Adc (2 Adc with brake)								

Drawings are not to scale

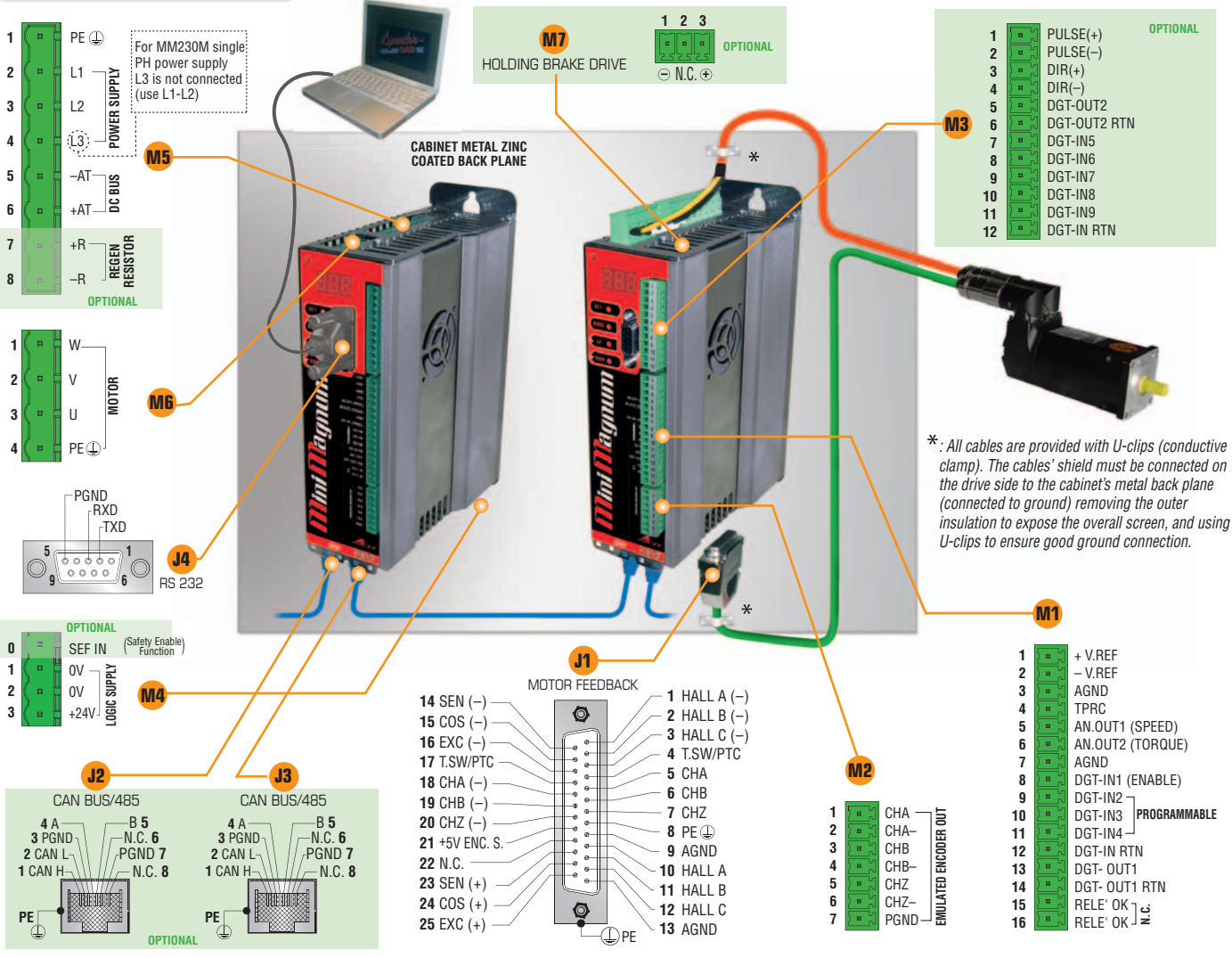
## MECHANICAL DIMENSIONS



Quotes in mm

REFERENCES	WEIGHT
MINI MAGNUM	kg
SIZE	
1.5 / 3	1.750
3.5 / 7	
6 / 12	

## CONNECTION DIAGRAM



## ORDERING CODE

Example:

HARDWARE

SOFTWARE

**MM 400T - 3.5 / 7 - RXX - S-RO - 0000X - OX - Sxxx 00000 / 00000**

NAME: Drives Line

POWER SUPPLY:

400T = 380 ÷ 480Vac 3PH (std)

230T = 110 ÷ 230Vac 3PH (std)

230M = 110 ÷ 230Vac 1PH (opt)

SIZE: 1.5/3 3.5/7 6/12

DUMPING SIZE:

RXX = Internal standard resistor

R05 = 500W-66Ω external resistor (opt)

R10 = 1000W-33Ω+33Ω 500W external resistors (opt)

PROTECTION:

S = Standard

T = Tropicalized

FEEDBACK:

RO = Resolver

EC = Commutation encoder

ER = Commutation encoder or resolver (both)

ADDITIONAL FEATURES:

0 0 0 0 0 X

CBMD CAN BUS+ MULTIDROP Interface

1= Present (opt)

0= Not present (std)

RS485 Interface

1= Present (opt)

0= Not present (std)

RXDB Black Out dynamic brake function

1= Present (opt)

0= Not present (std)

EXPANSION CARDS:

0 X

Not in use

HBD Holding Brake Drive

1= Present (opt)

0= Not Present (std)

SEF Safety Enable Function

1= Present (opt)

0= Not Present (std)

SPECIFIC NUMBER PRESENCE (opt):

S xxx

001÷999= specific number

FIRMWARE VERSION

SETTING FILE

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