



MAGNUM 400[®]

STAND ALONE BRUSHLESS SERVODRIVE



MAGNUM 400[®]

Stand alone full digital servodrive 220÷480 VAc power supply range. Direct off-line. Driving motor ranges up to 32 Nm encoder or resolver feedback.

STANDARD FEATURES

- ✓ On-board 3 PH, power supply 220÷480 VAc with EMC line filter and in-rush circuit
- ✓ Regen circuit with internal power resistors
- ✓ Motor-holding brake controlled directly by servodrive
- ✓ Ventilation on board (internally) when required
- ✓ Fully programmable via RS232 (optoisolated), Mod Bus-RTU based
- ✓ **Speeder-One[®]** software interface (Windows 98/2000/XP based)
- ✓ Parameter setting by four keys on the front panel or RS232
- ✓ Shielding cable connection directly to the front panel
- ✓ Optical isolation between power stage and signals
- ✓ Two motor feedback modes:
 - from resolver (2-4-6-8 poles) with encoder emulation (software)
 - from encoder (max 250 KHz) with emulation resolution divided (software)

OPTIONS

- ✓ CAN BUS - CAN V2.0B standard (°⚡ Optocoupled)
- ✓ CAN OPEN protocol implementations:
 - part of the DS301-V4.02
 - part of the DSP402-V2.0
- ✓ RS 485 interface, Mod Bus-RTU based (°⚡ Optocoupled), 230 kbps max
- ✓ Slot for expansion card (many additional features available)
- ✓ Multidrop interface RS232 to CAN BUS
- ✓ Boosted dumping resistors (external)

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 follower
- ✓ 9 digital input opto-isolated: 24 Vdc - 7mA (PLC compatible)
- ✓ 2 digital output opto-isolated: 24 Vdc - 50mA max (PLC compatible)
- ✓ 2 analog output (programmable)
- ✓ Motor current monitor: ±10Vdc (at peak current)
- ✓ Motor speed monitor
 - encoder feedback: ±10Vdc (at 200 KHz)
 - resolver feedback (2 poles): ±10Vdc (at 6000 Rpm motor)
- ✓ 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:**
 - Ssax 1000: 0.35÷30 Nm
- ✓ **MOTOR CABLES:**
 - CBL5: pre-assembled shielded power and feedback cables
- ✓ **PLANETARY GEARBOXES:**
 - Rex 1000: 4 flange sizes, Ratios 3/1 to 100/1
 - 5' standard backlash
- ✓ **MOTOR CHOKE:**
 - LXT: for power cable longer than 25 m
- ✓ **EXPANSION CARDS:**
 - under development
- ✓ **EXTERNAL REGEN RESISTORS**
- ✓ **EXTERNAL 24 Vdc POWER SUPPLY**
 - for logic supply

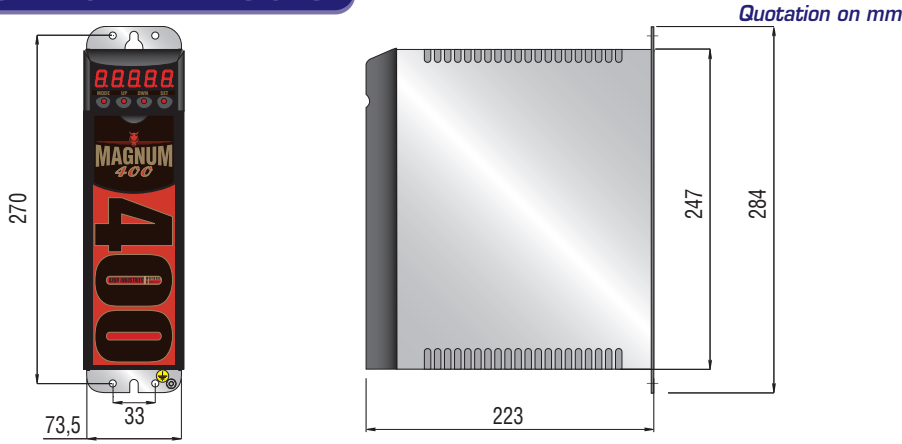
NOTE:

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

| MODEL | MAGNUM 400 | | | | | |
|---|---|-----------|-----------|------------|------------|------------|
| SIZE | 1.5 / 3 | 3.5 / 7 | 7 / 14 | 10 / 20 | 14 / 28 | 20 / 40 |
| Rated Current (Arms) | 1.5 | 3.5 | 7 | 10 | 14 | 20 |
| Peak Current (Arms) x 5 sec. | 3 | 7 | 14 | 20 | 28 | 40 |
| F1: Supply Line Fuses (T-type = time-lag) | 4A / 500V | 6A / 500V | 8A / 500V | 10A / 500V | 16A / 500V | 20A / 500V |
| Power Supply (VAc) (3PH) (grounded systems only) | 3 x 220 VAc (-10%) ÷ 480 VAc (+10%) 50/60 Hz (single-ph permitted for setup only) | | | | | |
| Logic Supply (from insulating transformer) | 24 Vdc (-0% +15%) - 1 Adc (3 Adc with brake) | | | | | |

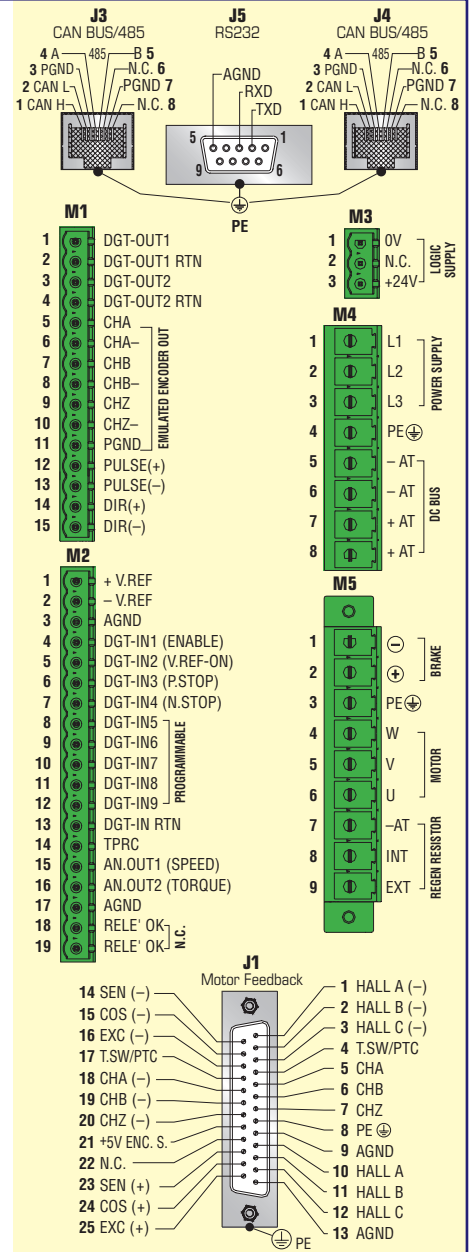
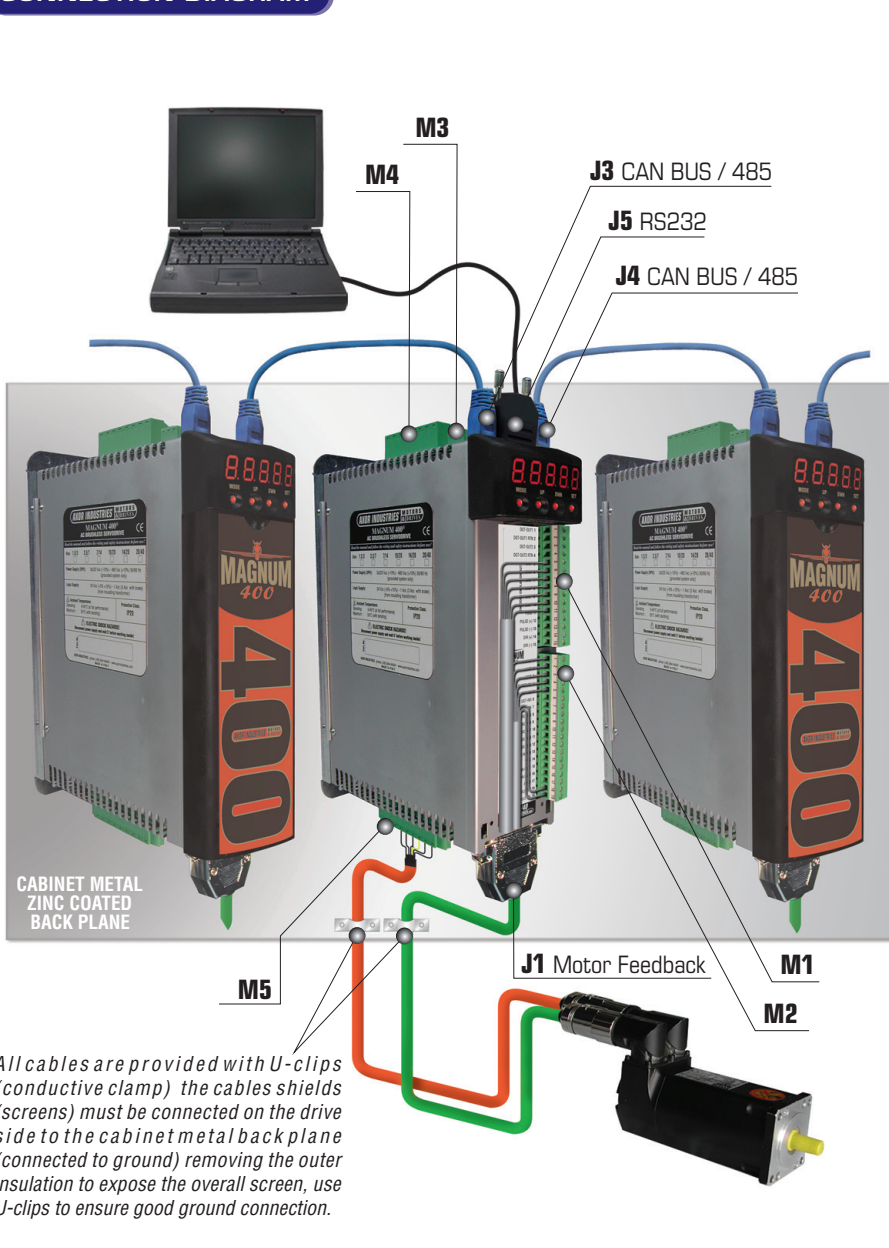
Drawings are not to scale

MECHANICAL DIMENSIONS



| REFERENCES | WEIGHT |
|-------------------|-----------|
| MAGNUM 400 | |
| SIZE | kg |
| 1.5 / 3 | 4.2 |
| 3.5 / 7 | |
| 7 / 14 | |
| 10 / 20 | 4.6 |
| 14 / 28 | |
| 20 / 40 | |

CONNECTION DIAGRAM



All cables are provided with U-clips (conductive clamp) the cables shields (screens) must be connected on the drive side to the cabinet metal back plane (connected to ground) removing the outer insulation to expose the overall screen, use U-clips to ensure good ground connection.

ORDERING CODE **MAGNUM 400 - 20 / 40 - RXX - S - 1000 / RO - XXXX - 00**

Example: **NAME:** Ac Brushless Servodrive
AMPLIFIER TYPE: _____
SIZE: 1.5/3 - 3.5/7 - 7/14 - 10/20 - 14/28 - 20/40
DUMPING SIZE: _____
RXX: Internal standard resistor
R5: 500W external resistor (opt) 66Ω (for 1.5/3 to 7/14 sizes) 33Ω (for 10/20 to 20/40 sizes)
R10: 1000W external resistors (opt) 33Ω + 33Ω 500W (for 1.5/3 to 7/14 sizes) 66Ω // 66Ω 500W (for 10/20 to 20/40)

PROTECTION: S= Standard, T= Tropicalized
AXOR: adjustment identification number
FEEDBACK: EC = Commutation encoder, RO = Resolver
EXPANSION CARDS: 00 = Not present (std)
ADDITIONAL FEATURES: XXXX = no options (std), R485 = RS485 interface, CBUS = CAN BUS/CAN OPEN, MDRP = Multidrop interface (RS232 to CAN BUS)

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Part number: D.S./03.03./MAGNUM400/02