



MACK
NANO

MKN

SERVODRIVE



USB

CANopen

RS 485 RTU

| | | |
|--------------|------------|----------|
| 12-48 VDC | 15 ARMS | 600 W |
|--------------|------------|----------|

P.N. : D.S. / 24.03.17 / MKN / P02

| DRIVE MODEL | | MKN 48 | | | | |
|----------------------|----------|--|----|----|-----|------|
| SIZE | | 1 | 5 | 8 | 10 | 15 |
| Rated Current | (Arms) | 1 | 5 | 8* | 10* | 15** |
| Peak Current x 3 sec | (Arms) | 2 | 10 | 16 | 20 | 30 |
| Power Supply | | 12 - 48 V _{DC} (9 V _{DC} min - 65 V _{DC} max) | | | | |
| Backup Logic Supply | | 12 - 24 V _{DC} - 0.1 A _{DC} max (9 V _{DC} min - 30 V _{DC} max) | | | | |
| WEIGHT | | 60 g | | | | |

NOTE * : Rated current refers to drive mounted on cabinet metal plate.

** : Rated current refers to drive mounted on alluminium plate or heat-sink (65°C max). Contact AXOR for details.

STANDARD FEATURES

- ◆ Driving motor range up to **600W**
- ◆ Sinusoidal waveform current
- ◆ **BL** Brushless and **DC** Brushed Motor Control
- ◆ **EI** Incremental Encoder feedback for **DC** brushed motors, **SM** stepper motors
- ◆ **EIS** Incremental Serial Encoder feedback for **BL** brushless motors
- ◆ **EC** Commutation Encoder feedback for **BL** brushless motors
- ◆ **HS** Hall feedback for **BL** brushless motors
- ◆ **RA** Armature feedback for **DC** brushed motors
- ◆ **DT** Tachogenerator Feedback for **DC** brushed motors
- ◆ **SL** Sensorless feedback for **BL** brushless, **SM** stepper motors
- ◆ **CD** Clock and Direction Command
- ◆ **RD** Differential analog ref. velocity command ±10V (12 bit)
- ◆ **CB** Can BUS
- ◆ Single ended analog ref. torque ±10V (12 bit)
- ◆ Over/Undervoltage, overtemperature, overcurrent and I²t monitoring
- ◆ **Speeder-One**[®] software interface (Windows based)
- ◆ **USB** access for setting and monitoring
- ◆ 4 INPUT / 2 OUTPUT programmable
- ◆ Operating frequency 8KHz (default) / 16KHz* / 24KHz*
- ◆ Loop Bandwidth: 2,5 / 5 / 7,5 KHz current / 200Hz speed
- ◆ Ambient temp.¹:.....- operating at rated data: 0 - 40°C(no derating)
 - rated & pk current derating: 40 - 55°C max (2.5% / °C)
 - storage -20 - 55°C
- ◆ Ambient Humidity¹:.....- operating & storage 85% RH max
- ◆ Altitude (a.m.s.l.):.....- operating & storage 1000m
 - rated & pk current derating: up to 2500m (1.5% / 100m)
- ◆ Protection rating:.....IP20 ◆ Storage time:.....1 year²

NOTE: * 16KHz / 24KHz with derating of drive performances. Contact AXOR for details.

¹ Free from condensation ² After one year storage the electrolytic capacitors must be reformed. Contact AXOR for details.

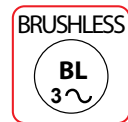
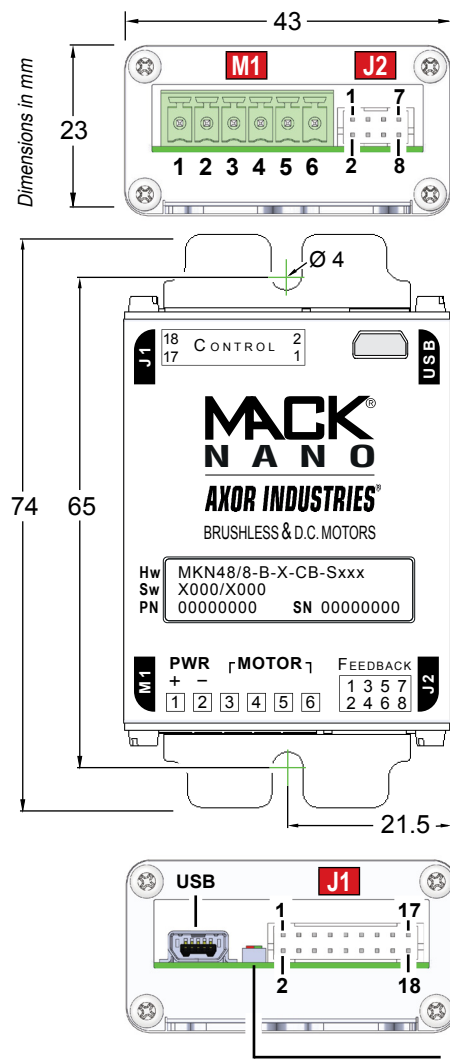
OPTIONS

- ◆ **S** Stepper Motor Control
- ◆ **MB** ModBus-RTU, RS 485 Interface

APPLICATIONS

- ◆ Printing Machines
- ◆ Textile Machines
- ◆ Coding Machines
- ◆ Conveyors
- ◆ Machine Tools
- ◆ Battery operated Machines
- ◆ Upgrade replacement for stepper system
- ◆ Packaging Machines
- ◆ Sewing Machines
- ◆ Jewellery Machines
- ◆ Actuators
- ◆ Door operators
- ◆ Antenna positioners
- ◆ CNC axis control





MOTOR

| M1 | BRUSHLESS |
|----|------------|
| 1 | +AT POWER |
| 2 | -AT SUPPLY |
| 3 | U |
| 4 | V MOTOR |
| 5 | W |
| 6 | N.C. |



MOTOR

| M1 | BRUSHED |
|----|------------|
| 1 | +AT POWER |
| 2 | -AT SUPPLY |
| 3 | N.C. |
| 4 | +M MOTOR |
| 5 | -M |
| 6 | N.C. |



MOTOR

| M1 | STEPPER |
|----|------------|
| 1 | +AT POWER |
| 2 | -AT SUPPLY |
| 3 | A |
| 4 | B |
| 5 | A- |
| 6 | B- |

CONTROL MODE

| J1 | CB (Can BUS) | MB (ModBUS) |
|----|----------------------------|----------------------------|
| 1 | + Bkup Supply | + Bkup Supply |
| 2 | AGND | AGND |
| 3 | D. IN 1 | D. IN 1 |
| 4 | D. IN 2 | D. IN 2 |
| 5 | D. IN 3 | D. IN 3 |
| 6 | D. IN 4 | D. IN 4 |
| 7 | An / D. OUT 1 | An / D. OUT 1 |
| 8 | An / D. OUT 2 | An / D. OUT 2 |
| 9 | An.IN 1 + | An.IN 1 + |
| 10 | An.IN 1 - | An.IN 1 - |
| 11 | An.IN Ref. Torque / +Tacho | An.IN Ref. Torque / +Tacho |
| 12 | AGND / -Tacho | AGND / -Tacho |
| 13 | Clock IN | Clock IN |
| 14 | Dir. IN | Dir. IN |
| 15 | Can H | RS485 B |
| 16 | Can H | RS485 B |
| 17 | Can L | RS485 A |
| 18 | Can L | RS485 A |

FEEDBACK

| J2 | FEEDBACK |
|----|--------------------|
| 1 | + Ch. A |
| 2 | + Ch. B |
| 3 | + Ch. Z / + Ch. Zs |
| 4 | Hall U |
| 5 | Hall V |
| 6 | Hall W |
| 7 | AGND |
| 8 | +5Vs |

| MACK® NANO | | | | HARDWARE CODE | | | SOFTWARE CODE | |
|---------------|---------------|----------------|------------------------------|--------------------|----------|-------------|---------------|--|
| MKN | 48 / 5 | - B - X | - CB - Sxxx | X000 | / | X000 | | |
| DRIVE LINE | MODEL | SIZE | | FIRMWARE VERSION | | CONFIG FILE | | |
| MOTOR TYPE: | | FEEDBACK: | CONTROL MODE: | SPEC. NUMBER (opt) | | | | |
| B = Standard: | | X = Standard | CB = Can BUS (std) | | | | | |
| BL Brushless | | | MB = RS 485 MODBUS-RTU (opt) | | | | | |
| DC Brushed | | | | | | | | |
| S = Optional: | | | | | | | | |
| SM Stepper | | | | | | | | |
| BL Brushless | | | | | | | | |
| DC Brushed | | | | | | | | |