

# Motion Controllers

V2.5, 4-Quadrant PWM  
with RS232 or CAN interface

## MCBL 3002 P AES

| Values at 22°C                                |              | MCBL 3002 P AES |      |
|---|--------------|-----------------|------|
| Power supply electronic                       | $U_B/U_{EL}$ | 8 ... 30        | V DC |
| Power supply motor <sup>1)</sup>              | $-/U_B$      | 0 ... 30        | V DC |
| PWM switching frequency                       | $f_{PWM}$    | 78,12           | kHz  |
| Efficiency electronic                         | $\eta$       | 95              | %    |
| Max. continuous output current                | $I_{cont}$   | 2               | A    |
| Max. peak output current <sup>2)</sup>        | $I_{max}$    | 3               | A    |
| Standby current for electronic (@ $U_B=24V$ ) | $I_{el}$     | 0,04            | A    |
| Operating temperature range                   |              | -25 ... +85     | °C   |
| Mass  |              | 7               | g    |

<sup>1)</sup> Only available for option 3085 (separate power supply)

<sup>2)</sup> S2 mode for max. 5s

| Interfaces | MCBL 3002 P AES RS | MCBL 3002 P AES CO |
|------------|--------------------|--------------------|
| Interface  | RS232              | CAN (CiA)          |
| Protocol   | FAULHABER - ASCII  | CANopen            |

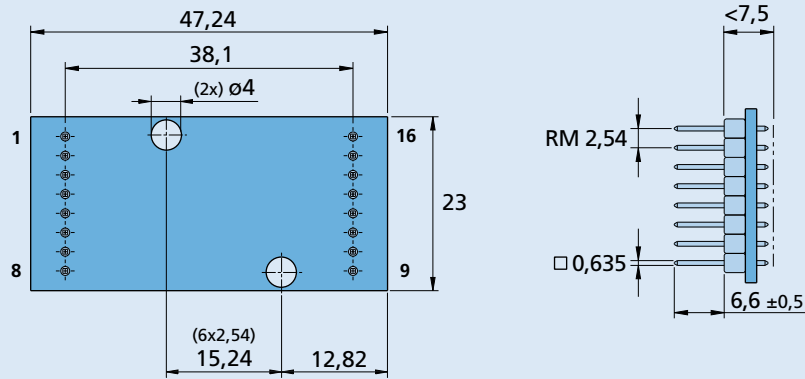
### Basic features

- Supported sensor systems: single-turn absolute encoders
- Positioning resolution when using absolute encoders as position encoder: 4096 steps per revolution
- Max. 3 digital inputs, max. 1 digital output, 1 analog input. Not all I/Os available depending on wiring
- Setpoint specification via fieldbus, quadrature signal, pulse and direction or analog inputs
- Optional stand-alone operation via application programs with the RS232 interface version

### Range of functions

|  |  |
|--|--|
| Operating modes (RS Versions)                                | Position, speed and torque control with setpoint specification via interface or analog. Position control with Gearing Mode or stepper motor operation. Operation as Servo Amplifier in voltage controller mode |
| Operating modes (CO Version)                                 | Profile Position Mode (PP), Profile Velocity Mode (PV), Homing Mode. Cyclic Synchronous Position Mode (CSP) acc. to IEC 61800-7-201 or IEC 61800-7-301.  |
| Speed range for brushless motors with number of pole pairs 1 | 5 min <sup>-1</sup> ... 30 000 min <sup>-1</sup> (with sinus commutation)  |
| Application programs   | Available in versions with RS232 interface   |
| Additional functions   | Overload protection for electronics and motor, self-protection from overheating, over-voltage protection in generator mode.  |
| Indicator  | Trace as logger  |
| Motor types  | Brushless DC-motors with absolute encoders and number of pole pairs 1 or 2   |

### Dimensional drawing



**MCBL 3002 P AES**

### Options and connection information

Example product designation: **MCBL 3002 P AES RS 3085**

| Option | Type   | Description                                     | Connection    |                               |
|--------|--------|---|---------------|-------------------------------|
|        |        |   | No. Function  | No. Function                  |
| 3085   | Supply | Separate power supply for motor and electronics | 1 TxD / CAN_H | 9 Sensor A / DATA             |
|        |        |   | 2 RxD / CAN_L | 10 Sensor B / $\overline{CS}$ |
|        |        |   | 3 AGND        | 11 Sensor C / CLK             |
|        |        |   | 4 Fault       | 12 $U_{cc}$                   |
|        |        |   | 5 AnIn        | 13 SGND                       |
|        |        |   | 6 $U_B$       | 14 Motor A                    |
|        |        |   | 7 GND         | 15 Motor B                    |
|        |        |   | 8 3. In       | 16 Motor C                    |

**Note:** For details on the connection assignment, see device manual MC.

### Product combination

| Brushless DC-Motors  | Cables / Accessories   |
|--|--|
| 0824 ... B<br>1028 ... B<br>2232 ... BX4<br>2250 ... BX4<br>3242 ... BX4 | To view our large range of accessory parts, please refer to the „Accessories“ chapter. |