

Motor controllers CMMB-AS, for servo motors

FESTO



Key features

Features

- Extremely small dimensions
- Complete integration of all components for controller and power unit, including RS232 and pulse direction interface
- Control of a holding brake
- Compliance with the latest CE, EN and UL standards
- Digital single-turn absolute encoder
- Can be operated as a torque, rotational speed or position controller
- Integrated positioning control
- Time-optimised (trapezoidal) or jerk-free (S-shaped) positioning
- Absolute and relative movements
- Point-to-point positioning with and without motion path smoothing
- Position synchronisation
- Electronic gear unit
- 32 position sets
- 8 acceleration profiles
- Wide range of homing methods

Input/output

- Freely programmable I/Os
- Simple coupling to a higher-level controller via an I/O interface
- Synchronous operation
- Master/slave mode

Integrated sequence control

- Automatic sequence of position sets without a higher-level controller
- Linear and cyclical position sequences
- Adjustable delay times

Motion program

- Linking of any number of position sets into a motion program
- Step enabling conditions for the motion program possible via digital inputs, for example
 - MC – motion complete
 - I/O – digital inputs

Type codes

| 001 | Series |
|-------------|------------------|
| CMMB | Motor controller |

| 002 | Motor type |
|-----------|----------------|
| AS | AC synchronous |

| 003 | Performance class |
|-----------|-------------------|
| 01 | 100 W |
| 02 | 200 W |
| 04 | 400 W |
| 07 | 750 W |

Data sheet



| General technical data | | 01 | 02 | 04 | 07 |
|------------------------------------|------|--|-----|-----|-----|
| CMMB-AS- | | | | | |
| Type of mounting | | Screwed onto connection plate | | | |
| Display | | Seven-segment display | | | |
| Parameterisation interface | | RS232 (up to 38400 bits/s) | | | |
| Encoder interface input | | Nikon A format | | | |
| Encoder interface output | | Actual value feedback via encoder signals in rotational speed control mode | | | |
| | | Setpoint specification for downstream slave drive | | | |
| | | Resolution 65536 ppr | | | |
| Braking resistor, integrated | [Ω] | 100 | | | |
| Braking resistor, external | [Ω] | 75 | | | |
| Impedance of setpoint input | [kΩ] | 350 | | | |
| Number of analogue inputs | | 2 | | | |
| Operating range of analogue inputs | [V] | ±10 | | | |
| Characteristics of analogue inputs | | Differential inputs | | | |
| | | Configurable for rotational speed / current | | | |
| Product weight | [g] | 740 | 740 | 760 | 760 |

| Technical data – I/O interface | |
|--|-----------------------------------|
| Number of digital logic outputs | 5 |
| Characteristics of digital logic outputs | Freely configurable in some cases |
| Number of digital logic inputs | 7 |
| Operating range of logic inputs | [V] 12.5 ... 30 |
| Characteristics of logic inputs | Freely configurable |
| Process interfacing | Pulse/direction |
| | For 32 position sets |

Data sheet

| Electrical data | | 01 | 02 | 04 | 07 |
|--|---------------------|------------------|------|------|------|
| CMMB-AS- | | | | | |
| Output connection data | | | | | |
| Output voltage range | [V AC] | 3x 0 ... 240 | | | |
| Nominal current | [A _{eff}] | 1.5 | 3 | 4.5 | 7 |
| Peak current at max. peak current duration | [A _{eff}] | 7 | 7 | 15 | 15 |
| Max. DC link voltage | [V DC] | 300 | | | |
| Output frequency | [Hz] | 0 ... 400 | | | |
| Load supply | | | | | |
| Nominal voltage phases | | 1 | | | |
| Input voltage range | [V AC] | 200 ... 240 ±10% | | | |
| Max. nominal input current | [A] | 1.5 | 3 | 4.5 | 7 |
| Nominal power | [VA] | 100 | 200 | 400 | 750 |
| Peak power | [VA] | 2100 | 2100 | 4500 | 4500 |
| Mains frequency | [Hz] | 50 ... 60 | | | |
| Logic supply | | | | | |
| Nominal voltage | [V DC] | 24 ±10% | | | |
| Nominal current ¹⁾ | [A] | 0.5 | | | |
| Max. current of digital logic outputs | [mA] | 100 | | | |

1) Without brake

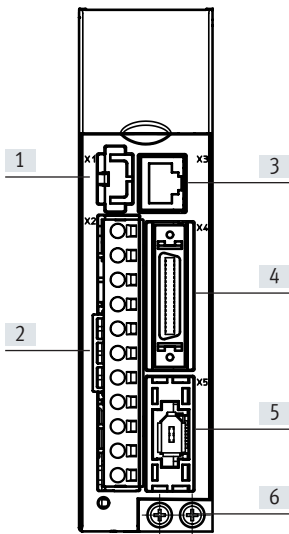
| Operating and environmental conditions | |
|--|--|
| Digital logic outputs | Galvanically isolated |
| Logic inputs | Galvanically isolated |
| Degree of protection | IP20 |
| Ambient temperature | [°C] 0 ... 40 |
| Storage temperature | [°C] -10 ... +70 |
| Relative humidity | [%] 5 ... 95 |
| Pollution degree | 2 |
| CE marking (see declaration of conformity) | To EU EMC Directive ¹⁾ |
| | To EU Low Voltage Directive |
| | To EU Machinery Directive |
| UKCA marking (see declaration of conformity) | To UK instructions for EMC |
| | To UK RoHS instructions |
| | To UK regulations for electrical equipment |
| Certification | c UL us Listed (OL) |
| PWIS conformity | VDMA24364 zone III |
| Note on materials | RoHS-compliant |

1) For information about the area of use, see the EC declaration of conformity at: www.festo.com/sp → Certificates.

If the devices are subject to usage restrictions in residential, commercial or light-industrial environments, further measures for the reduction of the emitted interference may be necessary.

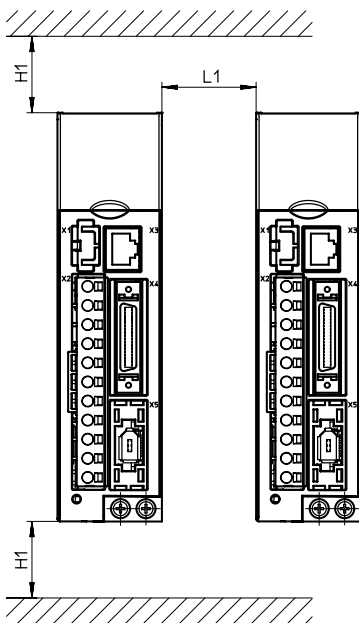
Data sheet

View of motor controller



- [1] Reserved connection
- [2] X2 power supply/motor connection
- [3] X3 interface RS232
- [4] Multi-functional connection:
 - Digital inputs/outputs
 - Analogue inputs
 - Encoder output
 - Pulse/direction input
- [5] X5 encoder input
- [6] PE connection

Installation clearance for motor controller

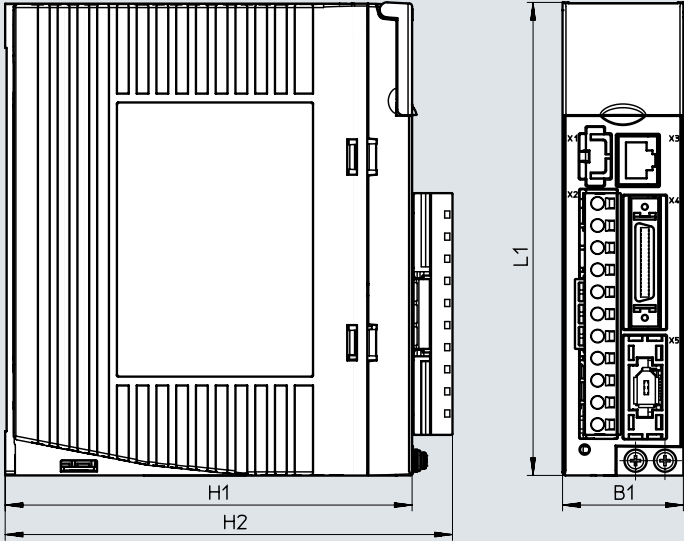


| H1 | L1 |
|----|----|
| 50 | 10 |

Data sheet

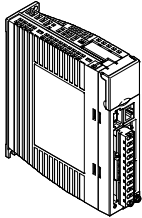
Dimensions

Download CAD data → www.festo.com



| Type | B1 | H1 | H2 | L1 |
|------------|----|-----|-----|-------|
| CMMB-AS-01 | 41 | 138 | 152 | 160.5 |
| CMMB-AS-02 | | | | |
| CMMB-AS-04 | | | | |
| CMMB-AS-07 | | | | |

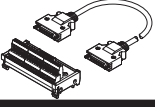
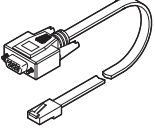
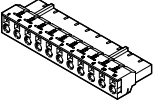
Ordering data



Description
The plug assortment NEKM-C-11 (→ page 8) is included in the scope of delivery of the motor controller

| Part no. | Type |
|----------|------------|
| 5105641 | CMMB-AS-01 |
| 5105642 | CMMB-AS-02 |
| 5105643 | CMMB-AS-04 |
| 5105644 | CMMB-AS-07 |

Accessories

| Ordering data – Connection options from I/O interface to the controller | | | | |
|---|---|------------------|----------------|------------------------------------|
| | Description | Cable length [m] | Part no. | Type |
| Manifold block with connecting cable | | | | |
|  | <ul style="list-style-type: none"> For I/O interface to any controller The terminal block ensures simple and clear wiring. The connection to the motor controller is established through the control cable NEBC-S2G36-... | 0.5 | 5105646 | NEBC-S2G36-K-0.5-N-C2W36-S7 |
| Ordering data – Cable | | | | |
| | | Cable length [m] | Part no. | Type |
| Programming cable | | | | |
|  | - | 1.5 | 5105645 | NEBC-S1G9-K-1.5-N-R3G8 |
| Ordering data – Assortment of plugs | | | | |
| | Description | | Part no. | Type |
|  | <ul style="list-style-type: none"> Comprising a plug for power supply and motor connection The assortment of plugs is included in the scope of delivery of the motor controller | | 5105647 | NEKM-C-11 |

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