

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					
CMMB-AS-		01	02	04	07
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
	[s]	5			
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

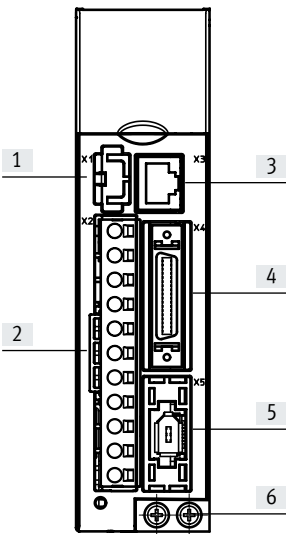
Operating and environmental conditions	
Digital logic outputs	Galvanically isolated
Logic inputs	Galvanically isolated
Degree of protection	IP20
Ambient temperature	[°C] 0 ... 40
Storage temperature	[°C] -10 ... +70
Relative humidity	[%] 5 ... 95
Pollution degree	2
CE marking (see declaration of conformity)	To EU EMC Directive ¹⁾
	To EU Low Voltage Directive
	To EU Machinery Directive
Certification	c UL us Listed (OL)
Note on materials	Contains paint-wetting impairment substances
	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.

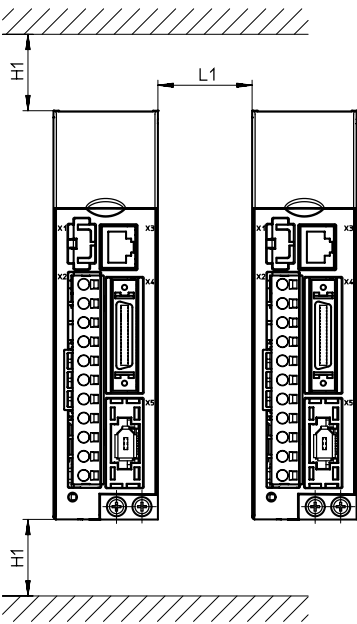
Data sheet

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

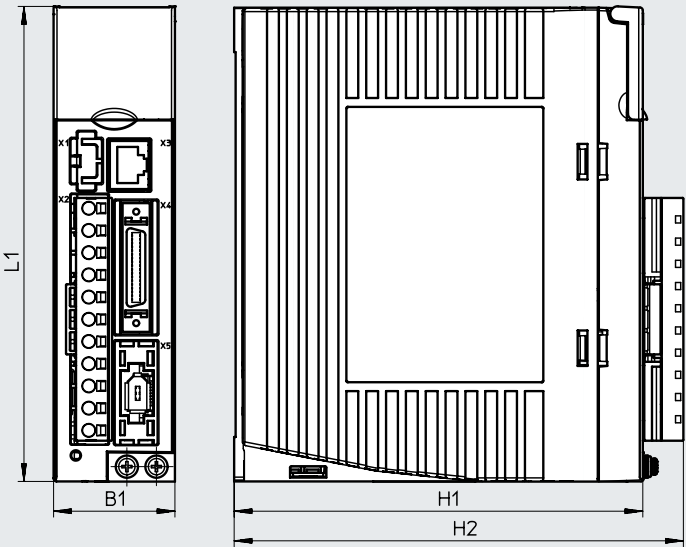


H1	L1
50	10

Data sheet

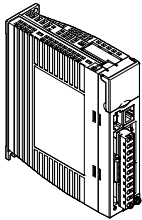
Dimensions

Download CAD data → www.festo.com

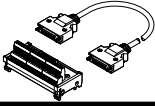
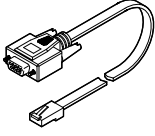
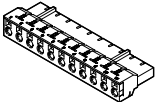


Type	B1	H1	H2	L1
CMMB-AS-01	41	138	152	160.5
CMMB-AS-02				
CMMB-AS-04				
CMMB-AS-07				

Ordering data

	Description	Part no.	Type
	The plug assortment NEKM-C-11 (→ page 8) is included in the scope of delivery of the motor controller	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