

4 Technical data

4.1 Markings

4.1.1 Basic device

Mark	Definition
	The CE marking indicates compliance with the following European directives: • Low Voltage Directive 2014/35/EU¹⁾ • EMC Directive 2014/30/EU • Machinery Directive 2006/42/EC • Directive 2011/65/EU for limiting the use of certain hazardous substances in electrical and electronic equipment • Ecodesign Regulation 2019/1781
	The waste disposal of this product is performed in compliance with the WEEE Directive 2012/19/EU.
	The EAC mark indicates compliance with the requirements of the technical regulations of the Customs Union (Eurasian Economic Union), Armenia, Belarus, Kazakhstan, Kyrgyzstan, and Russia.
	The RCM mark indicates compliance with the technical regulations of the Australian Communications and Media Authority (ACMA).
	The China RoHS mark indicates compliance with the directive SJ/T 11364-2014 regarding the restriction of use of certain hazardous substances in electrical and electronic equipment and its packaging.
	The NM mark states compliance with the following Moroccan directives ²⁾ : • Low Voltage Directive no. 2573-14 (July 16, 2015) • EMC Directive N° 2574-14 (July 16, 2015)
	The UA.TR mark declares conformity with the technical regulations of Ukraine.
	The KC mark declares compliance with §3 of Article 58-2 for the Korean Radio Wave Act.
	The UKCA mark indicates compliance with British directives (see UK declaration of conformity or UK declaration of incorporation).
	The UL and cUL mark indicates the granting of UL approval. cUL is equal to approval according to CSA. The UL/cUL mark is currently in preparation.

1) For products with functional safety, the requirements from the Low Voltage Directive are fulfilled by the Machinery Directive.

2) The selectable approvals UKCA (Great Britain) and NM (Morocco) are mutually exclusive.

4.1.2 Accessories

CNF.. line filter

Mark	Definition
	The CE mark states compliance with the following European directives: • Low Voltage Directive 2014/35/EU • Directive 2011/65/EU for limiting the use of certain hazardous substances in electrical and electronic equipment
	The waste disposal of this product is performed in compliance with the WEEE Directive 2012/19/EU.
	The EAC mark indicates compliance with the requirements of the technical regulations of the Customs Union (Eurasian Economic Union), Armenia, Belarus, Kazakhstan, Kyrgyzstan, and Russia.
	The China RoHS mark indicates compliance with the directive SJ/T 11364-2014 regarding the restriction of use of certain hazardous substances in electrical and electronic equipment and its packaging.
	The UKCA mark states the compliance with the following British guidelines: • Low Voltage Directive S. I. 2016/1101 • Directive S. I. 2012/3032 for limiting the use of certain hazardous substances in electrical and electronic equipment
	The UL and cUL mark indicates the granting of UL approval. cUL is equal to approval according to CSA. The UL/cUL mark is currently in preparation.

4.2 General technical data

Interference immunity	Meets EN 61800-3; 2nd environment
Interference emission	Limit class C3 according to EN 61800-3. The interference suppression level can be improved using appropriate measures. Refer to chapter "EMC-compliant installation according to EN 61800-3" (→ 67) for further information.
Ambient temperature ϑ_{amb}	-10 – 40 °C without derating 40 – 55 °C with derating For further information, refer to chapter "Project planning" > "Selection of an inverter" > "Power reducing factors" (→ 65).
Type of cooling	Natural convection: • MCB91A-0025-5D3.. • MCB91A-0034-2D1.. Forced convection by means of a temperature-controlled fan: • MCB91A-0040-5D3.. • MCB91A-0042-2D1..

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Short-circuit current	The uninfluenced short-circuit current according to EN 61800-5-1 is 65 kA.
Degree of protection	IP20 in accordance with EN 60529, only with power connectors plugged in for grid and motor
Pollution class	2 in accordance with IEC 60664-1
Overvoltage category	III in accordance with IEC 60664-1
Installation altitude above sea level:	No restrictions apply to altitudes ≤ 1000 m. The following restrictions apply to altitudes > 1000 m: - From 1000 m to max. 3800 m: I_N reduction by 1% per 100 m - From 2000 m to max. 3800 m: To maintain protective separation and the air gaps and creepage distances according to EN 61800-5-1, an overvoltage protection device must be connected upstream to reduce the overvoltages from category III to category II.

4.3 Environmental conditions

4.3.1 Climatic conditions

Extended storage	Weatherproof IEC 60721-3-1 class 1K21, non-condensing, no condensation Deviating from the standard: Temperature $-25\text{ °C} - +70\text{ °C}^{1)}$
Transport	Weatherproof IEC 60721-3-2 class 2K11, non-condensing, no condensation Deviating from the standard: Temperature $-25\text{ °C} - +70\text{ °C}^{1)}$
Operation	Stationary use, weatherproof IEC 60721-3-3; class 3K22, non-condensing, no condensation Deviating from the standard: Temperature 0 °C to $+40\text{ °C}$

1) Depending on the configuration.

4.3.2 Special climatic conditions

Extended storage	Weatherproof IEC 60721-3-1 class 1Z1
Operation	Stationary use, weatherproof IEC 60721-3-3 class 3Z1

4.3.3 Biological conditions

Extended storage	Weatherproof IEC 60721-3-1 class 1B1
Transport	Weatherproof IEC 60721-3-2 class 2B1
Operation	Stationary use, weatherproof IEC 60721-3-3 class 3B1

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4.3.4 Chemically active substances

Extended storage	Weatherproof IEC 60721-3-1 class 1C2 Deviating from the standard: no corrosive gases, no salt mist
Transport	Weatherproof IEC 60721-3-2 class 2C2, no sea water Deviating from the standard: no corrosive gases, no salt mist
Operation	Stationary use, weatherproof ISO 9223 class C3 Deviating from the standard: no corrosive gases, no salt mist

4.3.5 Mechanically active substances

Extended storage	Weatherproof IEC 60721-3-1 class 1S10, no conductive dust
Transport	Weatherproof IEC 60721-3-2 class 2S1, no conductive dust
Operation	Stationary use, weatherproof IEC 60721-3-3 class 3S5, no conductive dust

4.3.6 Mechanical requirements

The specifications are characteristic values for the device test. The specifications are based on the test characteristic values according to IEC 60721-3-3 and correspond to class 3M5 according to EN 60721-3-3:1995.

The tests carried out in this context are time-limited vibration cycles.

Vibration (sinusoidal)	2 – 200 Hz: 1 g
Vibration (noise)	10 – 200 Hz: 0.3 m ² /s ³ 200 – 500 Hz: 0.1 m ² /s ³ Corresponds to approx. 0.95 g _{rms} (g _{rms} = r.m.s. acceleration value)
Shocks (half sine)	10 g at 11 ms shock duration

4.4 Technical data of the MCB91A.. basic device 3 × AC 200 – 500 V

All technical data refers to a nominal line voltage of AC 400 V.

4.4.1 Input

	Unit	MCB91A-....-5D3-2..	
Size		0XS	
Type		0025	0040
Nominal line voltage V_{line} (in accordance with EN 50160)	V	3 × AC 200 – 500	
Nominal line current AC I_{line}	A	2.25	3.6
Line frequency f_{line}	Hz	50 – 60 ± 5%	
Controlled rectifier	–	No	
Connection contacts X1	–	"Connector " (→ 102)	

4.4.2 Output

	Unit	MCB91A-....-5D3-2..	
Size		0XS	
Type		0025	0040
Output voltage V_A	V	$0 - V_{line}^{1)}$	
Motor power ASM P_{Mot}	kW	0.75	1.5
Nominal output current I_N at the smallest possible PWM frequency	A	2.5	4
Overload capacity	–	$150\% \times I_N$ for 30 s at $f_{PWM} = 4$ kHz	$150\% \times I_N$ for 15 s at $f_{PWM} = 4$ kHz
Continuous output current at $f = 0$ Hz	–	$75\% \times I_N$ at $f_{PWM} = 4$ kHz	
Apparent output power S_N	kVA	1.7	2.7
Nominal DC link voltage V_{DCL_nom}	V	DC 560 at $V_{line} = 400$ V	
Maximum DC link voltage V_{DCL_max}	V	DC 980	
PWM frequency f_{PWM}	kHz	4, 8, 16 (adjustable)	
Maximum output frequency f_{max}	Hz	LVFC: 500	
X2 connection contacts	–	"Connector " (→ 102)	

1) In inverter operation, it is technically impossible to provide the full line voltage (with direct power supply) at the output. The output voltage is generated from the DC link circuit and depends, among other things, on the level of its voltage, the control mode, and the operating point. Typically, the maximum output voltage in motor operation is approx. 8% below the line voltage.

4.4.3 General

	Unit	MCB91A-....-5D3-2..	
Size		0XS	
Type		0025	0040
Power section nominal power loss ¹⁾	W	25	38
Power consumption 24 V	W	1	
Interference suppression	–	EMC filter limit value category C3 in accordance with EN 61800-3	

	Unit	MCB91A-....-5D3-2..	
Size		0XS	
Type		0025	0040
PE connection	–	M4 screw	
Permitted number of times power may be switched on/off per minute	min ⁻¹	1	
Minimum switch-off time for power off	s	10	
Mass	kg	1.25	

1) To calculate the thermal power loss, add the values of "24 V power consumption" and "Nominal power loss of the power section".

4.5 Technical data of the MCB91A.. basic device 1 × AC 200 – 240 V

All technical data refers to a nominal line voltage of AC 230 V.

4.5.1 Input

	Unit	MCB91A-....-2D1-2..	
Size		0XS	
Type		0034	0042
Nominal line voltage V_{line} (in accordance with EN 50160)	V	1 × AC 200 – 240	
Nominal line current AC I_{line}	A	8.5	9.9
Line frequency f_{line}	Hz	50 – 60 ± 5%	
Controlled rectifier	–	No	
Connection contacts X1	–	"Connector " (→ 102)	

4.5.2 Output

	Unit	MCB91A-....-2D1-2..	
Size		0XS	
Type		0034	0042
Output voltage V_A	V	0 – $V_{line}^{1)}$	
Motor power ASM P_{Mot}	kW	0.55	0.75
Nominal output current I_N at the smallest possible PWM frequency	A	3.4	4.2
Overload capacity	–	150% × I_N for 30 s at $f_{PWM} = 4$ kHz	150% × I_N for 15 s at $f_{PWM} = 4$ kHz
Continuous output current at $f = 0$ Hz	A	75% × I_N at $f_{PWM} = 4$ kHz	
Apparent output power S_N	kVA	1.35	1.7
Nominal DC link voltage V_{DCL_nom}	V	DC 326 at $V_{line} = 230$ V	
Maximum DC link voltage V_{DCL_max}	V	DC 420	

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	Unit	MCB91A-....-2D1-2..	
Size		0XS	
Type		0034	0042
PWM frequency f_{PWM}	kHz	4, 8, 16 (adjustable)	
Maximum output frequency f_{max}	Hz	LVFC: 500	
X2 connection contacts	–	"Connector " (→ 102)	

1) In inverter operation, it is technically impossible to provide the full line voltage (with direct power supply) at the output. The output voltage is generated from the DC link circuit and depends, among other things, on the level of its voltage, the control mode, and the operating point. Typically, the maximum output voltage in motor operation is approx. 8% below the line voltage.

4.5.3 General

	Unit	MCB91A-....-2D1-2..	
Size		0XS	
Type		0034	0042
Power section nominal power loss ¹⁾	W	50	60
Power consumption 24 V	W	1	
Interference suppression	–	EMC filter limit value category C3 in accordance with EN 61800-3	
PE connection	–	M4 screw	
Permitted number of times power may be switched on/off per minute	min ⁻¹	0.5	
Minimum switch-off time for power off	s	30	
Mass	kg	1.28	

1) To calculate the thermal power loss, add the values of "24 V power consumption" and "Nominal power loss of the power section".

4.6 Electronics data

If inductive loads are connected to outputs, you must install an external protective element (freewheeling diode).

4.6.1 X20: Digital inputs

	Specification
Quantity	4
Design	Type 2 according to IEC 61131-2
Cycle time	2 ms
Response time	175 µs plus cycle time
Connection	X20:1 – 4: Digital inputs DI01 – DI04: Selectable, see parameter menu, current consumption per digital input 6 mA X20:5: VO24: DC 24 V voltage output $I_{\max} = 50$ mA X20:6: GND: Reference potential
Connection contacts	"Cage clamp terminal" (→ 102)
Maximum cable length	30 m

4.6.2 X20: Digital input or digital output DIO01 – DIO02

	Specification
Quantity	2
Design	Type 2 according to IEC 61131-2
Cycle time	2 ms
Response time	175 µs plus cycle time
Maximum output current	50 mA
Short-circuit protection	Yes
Connection	X20:7– 8: DIO01 – DIO02: Selectable, see parameter menu as digital input: Current consumption per digital input 6 mA as digital output: Permanently short-circuit proof and protected against external voltage up to 30 V Total current (both as digital outputs): 50 mA X20:9: TF1: Sensor input for temperature sensor X20:10: GND: Reference potential
Connection contacts	"Cage clamp terminal" (→ 102)
Maximum cable length	30 m

4.6.3 X20: Sensor input for temperature evaluation of the TF1 motor

	Specification
Quantity	1
Temperature sensors with evaluation capability	PTC thermistor (TF) Bimetallic temperature switch (TH)
Response threshold TF	1830 Ω
Connection	X20:9: TF1 X20:10: GND
Connection contacts	"Cage clamp terminal" ($\rightarrow$ 102)

4.6.4 X23: Analog input AI1 and analog input/analog output AIO1

	Specification
Quantity	2 (1 input and 1 input/output)
Cycle time	2 ms
Response time	175 μ s plus cycle time
Current output	$I_{\max} = 50$ mA
Resolution	10 bits
Short-circuit protection	Yes
Connection	X23:1: REF reference voltage output: 10 V, $I_{\max} = 3$ mA X23:2: Analog input AI1: Voltage input 0 – 10 V Input resistance $R_i \geq 20$ kΩ Current input 0 (4) – 20 mA Input resistance $R_i = 250$ Ω The input is referenced to GND, analog input voltage or current, switchable via DIP switch S4. X23:3: GND: Reference potential X23:4: AIO1 Analog input or analog output AIO1 parameterizable: - AIO1 as analog input: 0 – 10 V, input resistance $R_i \geq 20$ kΩ - AIO1 as analog output: 0 – 10 V, load resistance $R_{\text{Last}} \geq 10$ kΩ $I_{\max} = 1$ mA
Connection contacts	"Cage clamp terminal" ($\rightarrow$ 102)
Maximum cable length	30 m

4.6.5

X22: Relay output DOR

	Specification
Quantity	1
Current-carrying capacity of relay contacts	$V_{max} = \text{DC } 30 \text{ V}$, $I_{max} = \text{DC } 0.8 \text{ A}$
Connection	X22:1: DOR-C, shared relay contact X22:2: DOR-NO, NO contact X22:3: DOR-NC, NC contact Selectable, see parameter menu
Connection contacts	"Cage clamp terminal" (→ 102)
Maximum cable length	30 m

4.7

CFX11A-E gateway for EtherNet/IP™ and Modbus TCP

4.7.1

Information



INFORMATION

The gateway for EtherNet/IP™ and Modbus TCP is available as an option.



INFORMATION

Only MOVITRAC® basic inverters with a delivery date from 07.04.2025 onwards are compatible with the CFX11A.. gateways and the CFC11A communication module.

4.7.2

Description

The gateway makes it possible to connect the inverter to EtherNet/IP™- or Modbus TCP-based higher-level automation, project planning, and visualization systems. The gateway has the following characteristics:

- EtherNet/IP™ or Modbus TCP
 - Media redundancy
 - Integrated switch with cut-through procedure

When using the gateway, you can communicate directly with the devices via Ethernet and use the MOVISUITE® engineering software for startup, diagnostics, and parameterization purposes.

Seven additional inverters can be connected to the gateway using the CFC11A communication module.

Only the CBG21A keypad can be used with the gateway (prerequisite: Keypad firmware FW7.00).

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4.7.3 Technical data

CFX11A-E gateway for EtherNet/IP™ and Modbus TCP	
Ambient temperature	-10 – 55 °C ¹⁾
Application protocols	EtherNet/IP™, Modbus TCP, HTTP, SNMP, DHCP, SEW Application Services
Degree of protection	IP20 in accordance with EN 60529
Power consumption	3 W
Network protocols	ARP
Media redundancy (DLR)	Yes
Baud rate	100 Mbaud/10 Mbaud, full duplex/half duplex
Connection technology	2 × RJ45
Ethernet switch	Integrated
Ethernet switch switching technology	Cut through
Ethernet switch latency period	5.5 µs
Manufacturer ID	013B _{hex} (EtherNet/IP™)
EDS file name	SEW MOVI-C MOVITRAC Gateway CFX.eds
Port numbers used	Port overview, see Online Support
Purchase order number	28315049
Dimensions in mm (W × H × D)	53 × 158 × 39

1) At clock frequency of basic device > 4 kHz: -10 – 50 °C.

4.8 CFX11A-N gateway for PROFINET

4.8.1 Information

INFORMATION

The CFX11A-N gateway for PROFINET is available as an option.

INFORMATION

Only MOVITRAC® basic inverters with a delivery date from 07.04.2025 onwards are compatible with the CFX11A.. gateways and the CFC11A communication module.

4.8.2 Description

The gateway makes it possible to connect the inverter to PROFINET-based, higher-level automation, project planning, and visualization systems.

When using the gateway, you can communicate directly with the devices via Ethernet and use the MOVISUITE® engineering software for startup, diagnostics, and parameterization purposes.

Seven additional inverters can be connected to the gateway using the CFC11A communication module.

Only the CBG21A keypad can be used with the gateway (prerequisite: Keypad firmware FW7.00).

4.8.3 Technical data

CFX11A-N gateway for PROFINET	
Ambient temperature	-10 – 55 °C ¹⁾
PROFINET	RT, IRT ²⁾ (Isochronous Realtime)
Degree of protection	IP20 in accordance with EN 60529
Power consumption	3 W
Conformance class	C
Netload class	3
Topology detection (LLDP)	Yes
Automatic addressing (LLDP, DCP)	Yes
Media redundancy (MRP)	Yes
I&M data	I&M0 – I&M5
Manufacturer ID	010A _{hex}
Baud rate	100 MBaud, full duplex
Connection technology	2 × RJ45
Ethernet switch	Integrated
Ethernet switch switching technology	Cut through
Ethernet switch latency period	5.5 µs
EtherType 8892 _{hex}	PROFINET
EtherType 88B5	Address Editor from SEW-EURODRIVE
GSD file name	GSDML-V2.43-SEW-MOVI-C-MOVITRAC-gateway-20240411-074616
SEW engineering (firmware update, diagnostics)	Yes
Port numbers used	Port overview, see Online Support
Purchase order number	28315022
Dimensions in mm (W × H × D)	53 × 158 × 39

1) At clock frequency of basic device > 4 kHz: -10 – 50 °C.

2) IRT up to gateway, no forwarding to lower-level axes with communication module.

4.9 CFX11A-S gateway for EtherCAT®/SBusPLUS (in preparation)

4.9.1 Information



INFORMATION

CFX11A-S gateway for EtherCAT®/SBusPLUS is available as an option.



INFORMATION

Only MOVITRAC® basic inverters with a delivery date from 07.04.2025 onwards are compatible with the CFX11A.. gateways and the CFC11A communication module.

4.9.2 Description

The CFX11A-S gateway establishes a powerful EtherCAT®/SBusPLUS connection to MOVI-C® CONTROLLERS. EtherCAT® stations from SEW-EURODRIVE or other manufacturers can now be controlled and diagnosed by a MOVI-C® CONTROLLER.

The functions of the MOVI-C® CONTROLLER are:

- Freely programmable sequence control according to IEC 61131 for automating drive and logic tasks
- Central data storage for all inverters of the MOVI-C® modular automation system from SEW-EURODRIVE on EtherCAT®/SBusPLUS
- Plug-and-play device replacement through automatic data recovery
- Central setpoint input
- EtherCAT®/SBusPLUS master for SEW-EURODRIVE components and for peripheral devices with EtherCAT® interface
- Fieldbus device interface to higher-level control systems
- Diagnostics and visualization of the automation system

Seven additional inverters can be connected to the gateway using the CFC11A communication module.

Only the CBG21A keypad can be used with the gateway.

4.9.3 Technical data

CFX11A-S gateway for EtherCAT®/SBus ^{PLUS}	
Ambient temperature	-10 – 55 °C ¹⁾
Power consumption	2 W
Degree of protection	IP20 in accordance with EN 60529
Automatic baud rate detection	Yes, full duplex
Supported baud rate	100 MBaud
Connection technology	2 × RJ45
Product code	B _{hex}
Manufacturer ID	59 _{hex}
Device family	MOVI-C®
Application protocols	EtherCAT®, SdO, FoE
Permitted cable types	Category 5 and higher, class D according to IEC 11801
Maximum cable length	100 m
Purchase order number	28315030
Dimensions in mm (W × H × D)	53 × 158 × 39

1) At clock frequency of basic device > 4 kHz: -10 – 50 °C.

4.10 CFC11A communication module

4.10.1 Information

INFORMATION



The CFC11A communication module is available as an option.

INFORMATION



Only MOVITRAC® basic inverters with a delivery date from 07.04.2025 onwards are compatible with the CFX11A.. gateways and the CFC11A communication module.

4.10.2 Description

The CFC11A communication module forms the extended communication connection of up to 7 additional inverters for the CFX11A-E, CFX11A-N, and CFX11A-S gateways. No keypads can be used with the CFC11A communication module. Operation and engineering are performed via the gateway.

The communication connection between the gateway and all other communication modules is established via a ribbon cable, which is included with the CFC11A communication module.

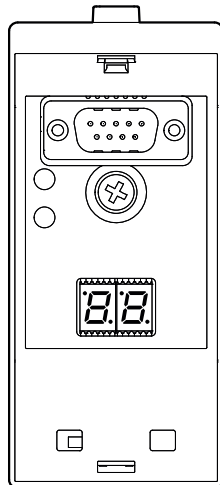
4.10.3 Technical data

CFC11A communication module	
Ambient temperature	-10 – 60 °C
Degree of protection	IP20 in accordance with EN 60529
Power consumption	0.4 W
Purchase order number	28315138
Dimensions in mm (W × H × D)	45 × 100 × 20

4.11 CDM11A diagnostic module

4.11.1 Description

The CDM11A diagnostic module is the interface to the MOVISUITE® engineering software. The module contains two 7-segment displays for displaying the device status. The module is required to use the CBG11A, CBG21A, and CBG22A keypads.

**CDM11A properties:**

- 2-digit 7-segment display
- Output of fault codes and status
- Engineering interface

4.11.2 Technical data

INFORMATION

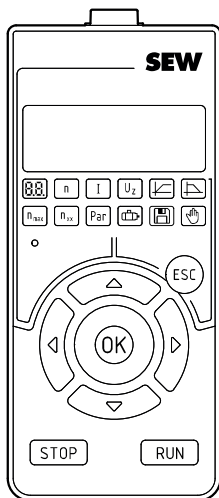
The CDM11A diagnostic module can only be plugged directly onto the inverter.

CDM11A diagnostic module	
Power consumption	0.25 W
Dimensions in mm (W × H × D)	46 × 100 × 20
Screen type	2-digit 7-segment display
Engineering interface	D-sub, 9-pin
Part number	28265092

4.12 CBG01A keypad

4.12.1 Description

The CBG01A keypad enables operation, parameterization, and output of fault codes for the inverters. The keypad is connected directly to the basic device.



CBG01A properties:

- 5-digit 7-segment display
- Output of fault codes, status and operating state
- Startup of asynchronous motors:
 - with or without brake (firmware-dependent)
 - with or without temperature sensors (depending on firmware)
 - without encoder
- Simple diagnostics
- Saving and copying a parameter set
- Language: none (7-segment display)

For more information, refer to the "Keypad CBG01A" manual.

4.12.2 Technical data

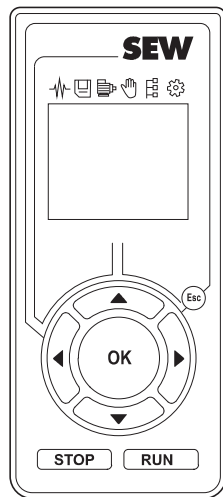
CBG01A keypad	
Ambient temperature	0 to 60 °C
Degree of protection	IP40 in accordance with EN 60529
Power consumption	0.25 W
Dimensions in mm (W × H × D)	45 × 100 × 19
Screen type	5-digit 7-segment display
Part number	28269993

4.13 CBG11A keypad

4.13.1 Description

The keypad enables convenient startup, operation, parameterization, and diagnostics of inverters of the MOVI-C® modular automation system due to the full-text display.

The keypad has a mini USB interface with gateway function. A connection from the inverter to a PC can be established using this interface for engineering with MOVISUITE®.



CBG11A properties:

- 38 mm monochrome display (1.5")
- Startup of asynchronous motors:
 - with or without brake
 - with or without temperature sensors
 - without encoder
- Diagnostics
- Saving and copying a parameter set
- Firmware update of the inverter via USB connection
- Connection to MOVISUITE® engineering software via keypad
- Determination of load moment of inertia
- Access to all parameters
- Language: EN
- Door mounting frame COG11A available

The CDM11A diagnostic module is required to plug the keypad directly onto the inverter.

A COG11A door mounting frame is available for using the keypad remotely on a control panel or control cabinet door. In this case, the UKS52A cable is also required.

4.13.2 Technical data

CBG11A keypad	
Part number	28233646
Ambient temperature	0 – 60 °C
Degree of protection	IP40 according to EN 60529
Power consumption	0.6 W
Dimensions in mm (W × H × D)	45 × 100 × 20
Display dimensions in mm (W × H)	28.5 × 23
Diagonal screen measurement	38 mm (1.5")
Screen resolution in pixels (W × H)	78 × 64
Screen type	Monochrome display
Engineering interface	USB 2.0 mini B, female
Connection interface	D-sub 9-pin, female

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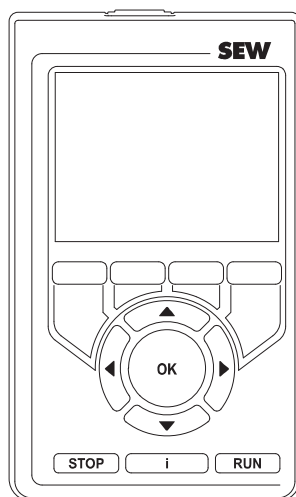
CBG11A keypad	
Mechanical strength	3M5 according to DIN EN 60721-3-3: 1995 5M1 according to DIN EN 60721-3-5: 1997

4.14 CBG21A keypad

4.14.1 Description

The keypad enables convenient startup, operation, parameterization, and diagnostics of inverters of the MOVI-C® modular automation system due to the full-text display.

The keypad has a mini USB interface with gateway function. A connection from the inverter to a PC can be established using this interface for engineering with MOVISUITE®.



CBG21A properties:

- 61 mm color display (2.4")
- Startup of asynchronous and synchronous motors:
 - with or without brake
 - with or without temperature sensors
 - with or without encoder
- Diagnostics
- Saving and copying several parameter sets
- Firmware update of the inverter via USB connection
- Connection to MOVISUITE® engineering software via keypad
- Determination of load moment of inertia
- Optimization of the drive train in terms of clearance and stiffness
- Access to all parameters
- Languages: DE/EN/FR/IT/ES/KO/PT/HU/ZH/RU
- Door mounting frame COG11A available

The CDM11A diagnostic module is required to plug the keypad directly onto the inverter.

A COG11A door mounting frame is available for using the keypad remotely on a control panel or control cabinet door. In this case, the UKS22A cable is also required.

4.14.2 Technical data

CBG21A keypad	
Part number	28238133
Ambient temperature	-10 – 60 °C
Degree of protection	IP40 in accordance with EN 60529
Power consumption	1.4 W

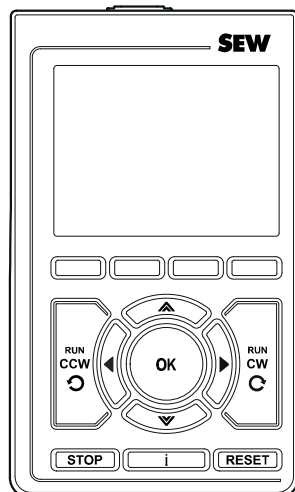
CBG21A keypad	
Dimensions in mm (W × H × D)	65 × 110 × 20
Display dimensions in mm (W × H)	49 × 37
Diagonal screen measurement	61 mm (2.4")
Screen resolution in pixels (W × H)	320 × 240
Screen type	Color display
Engineering interface	USB 2.0 mini B, female
Connection interface	D-sub 9-pin, female
Mechanical strength	3M5 according to DIN EN 60721-3-3: 1995 5M1 according to DIN EN 60721-3-5: 1997
Internal memory	128 MB (sufficient for several hundred data sets) The memory can also be used for im- ages, documents, projects, etc.

4.15 CBG22A local keypad

4.15.1 Description

The full-text display of the local keypad enables a convenient display of customer-specific information texts of the higher-level controller. It also enables the operator to perform diagnostics and manual operation.

The local keypad has a mini USB interface with gateway function. A connection from the inverter to a PC can be established using this interface for engineering with MOVISUITE®.



CBG22A properties:

- 61 mm color display (2.4")
- Display of customer-specific information texts of the higher-level controller, diagnostics and manual mode by the operator
- Simple and intuitive manual mode¹⁾ for continued operation in the event of a system failure
- Comprehensive diagnostics methods
- Exclusively read-only access to parameters in order to protect against incorrect use
- Optional access to functions and states of the control elements and data transfer for Ethernet-based communication methods of the drive systems
- Connection to MOVISUITE® engineering software via keypad
- COG11A door mounting frame available
- Languages: DE, EN, FR, ES, PT, ZH, RU

1) Only in combination with devices with key switch

The CDM11A diagnostic module is required to plug the keypad directly onto the inverter.

The CBG22A local keypad can either be plugged directly onto the inverter or used remotely. The COG11A door mounting frame is available for using the keypad remotely on a control panel or control cabinet door. In this case, the UKS52A cable is also required. If the CBG22A local keypad is plugged directly onto the inverter, manual mode cannot be used.

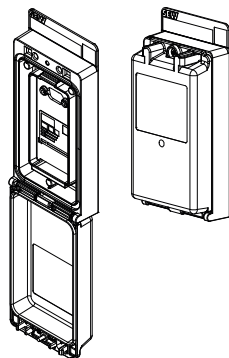
4.15.2 Technical data

CBG22A local keypad	
Part number	28277554
Ambient temperature	-10 – 60 °C
Degree of protection	IP40 in accordance with EN 60529
Power consumption	1.4 W
Dimensions in mm (W × H × D)	65 × 110 × 20
Display dimensions in mm (W × H)	49 × 37
Diagonal screen measurement	61 mm (2.4")
Screen resolution in pixels (W × H)	320 × 240

CBG22A local keypad	
Screen type	Color display
Engineering interface	USB 2.0 mini B, female
Connection interface	D-sub 9-pin, female
Mechanical strength	3M5 according to DIN EN 60721-3-3: 1995 5M1 according to DIN EN 60721-3-5: 1997

4.16 COG11A door mounting frame

4.16.1 Description



The COG11A door mounting frame allows the CBG11A, CBG21A, and CBG22A keypads to be used remotely from the inverter, e.g. on the control cabinet door or an operating panel.

The UKS22A and UKS52A prefabricated cables are required for the connection between the COG11A and the inverter and must be ordered separately.

4.16.2 Technical data

Door mounting frame COG11A	
Part number	28265688
Purpose of use	Door mounting frame for the following keypads: • CBG11A, part number 28233646 • CBG21A, part number 28238133 • CBG22A, part number 28277554
Scope of delivery	• COG11A (door mounting frame with cover) • Seal • Drilling template • 3 screws Ø 4 mm × 16 mm
Connection	D-sub connector, 9-pin, female
Protection class	IP65 with tightening torque of 1.2 – 1.4 Nm for the cover screw Enclosure UL Type I

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Door mounting frame COG11A	
Dimensions in mm (H × W × D)	- Closed: 169 × 79.6 × 42 - Open: 315 × 79.6 × 29
Maximum metal thickness of the control cabinet door	7 mm
Space required to open the cover	200 mm

For further information, refer to the installation instructions "Door mounting frame COG11A".

Prefabricated cables

Only use cables provided by SEW-EURODRIVE. Use the UKS22A cable for the CBG11A and CBG21A keypads. The UKS52A cable also has a contact for a switch or key switch. As long as this contact is not closed, the inverter cannot be operated in manual mode with the CBG22A keypad. This allows the CBG22A keypad to be locked against unauthorized access.

Length	Part number	Type
5 m	25721763	UKS22A
Variable, 1 – 10 m ¹⁾	28149963	UKS52A ²⁾
2 m	28152751	
5 m	28152646	
10 m	28156870	

1) In 1 m increments.

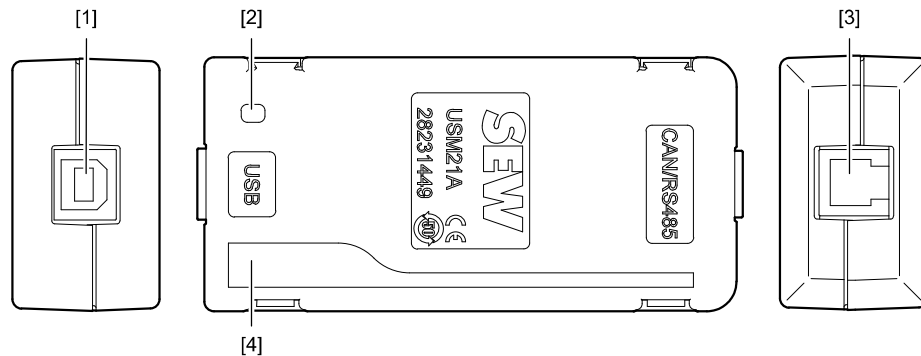
2) A port saver is required for this cable type. This is included in the scope of delivery.

4.17 USM21A interface adapter

4.17.1 Description

The USM21A interface adapter is used to connect a PC to the X32 service interface of the CDM11A diagnostic module on the inverter.

The following figure shows the USM21A interface adapter:



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- [1] USB socket type B
- [2] Bus status display
- [3] RJ10 socket
- [4] Interface adapter status display

4.17.2 Technical data

USM21A interface adapter	
Part number	28231449
Interference immunity	Complies with EN 61800-3
Ambient temperature	0 – 40 °C
Storage temperature	-25 – 70 °C according to EN 60721-3-3, class 3K3
Degree of protection	IP20 in accordance with EN 60529
Interfaces	RJ10 socket (device connection) USB socket type B (PC connection)
Mass	200 g
Dimensions in mm (L × W × H)	92.5 × 43 × 25

An order using part number 28231449 includes the following parts:

- USM21A interface adapter
- USB connection cable for the USM21A – PC connection
- Serial interface cable with 2 RJ10 connectors

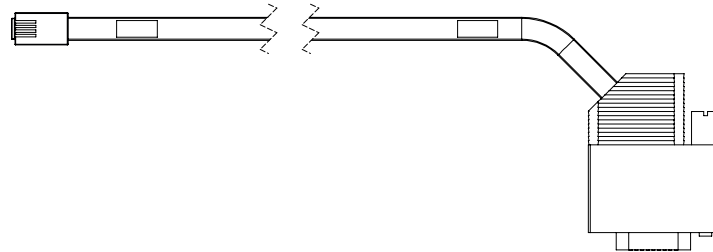
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INFORMATION



To connect the inverter to the USM21A, you need an additional serial interface cable with an RJ10 connector and a 9-pin D-sub connector, part number 18123864.

This cable must be ordered separately.



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The CDM11A diagnostic module is required to connect the inverter to the USM21A interface adapter.

4.18 CNF.. line filter

4.18.1 Description

CNF.. line filters are used to suppress electromagnetic interference between the supply system and the inverter. Line filters are required in order to comply with the interference emissions of limit class C2 according to EN 61800-3.

INFORMATION



Do not switch between the CNF.. line filter and inverter.

4.18.2 Technical data

Line filter	Unit	CNF11A	CNF31A
Part number	—	28296311	28296354
Nominal line voltage V_{line} (in accordance with EN 50160)	V	1 × AC 200 – 240 V	3 × AC 200 – 500 V
Line frequency f_{line}	Hz	50 – 60 ± 5%	
Nominal current I_N	A	10	3.6
Nominal power loss	W	4.5	2.5
Ambient temperature ϑ_A	°C	0 – 55 °C	
Derating at ambient temperature > 45 °C	—	-3% I_N/K up to maximum 60 °C	
Connection contact L1/L2/L3 – L1'/L2'/L3'	—	Connector: - 1 conductor: 0.25 – 2.5 mm ² - 2 conductors: 0.25 – 1.0 mm ² (twin AEH) ¹⁾	
Cross section L1/L2/L3 – L1'/L2'/L3'	mm ²	2.5	
Tightening torque L1/L2/L3 - L1'/L2'/L3'	Nm	0.5 – 0.6	
PE connection contact	—	M4 screw	
Tightening torque PE	Nm	1.2 – 1.5	
Degree of protection	—	IP20	
Mass	kg	0.33	0.34

1) AEH: Wire ferrule

4.18.3 Assignment to inverter

Line filter	CNF11A	CNF31A
MCB91A-....-5D3..	—	0025 0040
MCB91A-....-2D1..	0034 0042	—

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4.18.4 Dimension drawings and dimensions

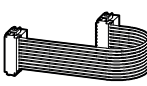
For a dimension sheet and the dimensions of the line filter, refer to chapter "Dimension drawings" (→ 56).

4.19 Standard accessories

Inverter	Contents	Quantity	Scope of delivery	Part number accessory pack
MCB91A.. 3-phase	Shield plate for motor cable, shield plate for control cable, power plug and motor connector, insulating disk for converting to IT system operation	1	Included in the scope of delivery	28296370
MCB91A.. 1-phase	Shield plate for motor cable, shield plate for control cable, power plug and motor connector, insulating disk for converting to IT system operation	1	Included in the scope of delivery	28289552

4.20 Connectors and connections

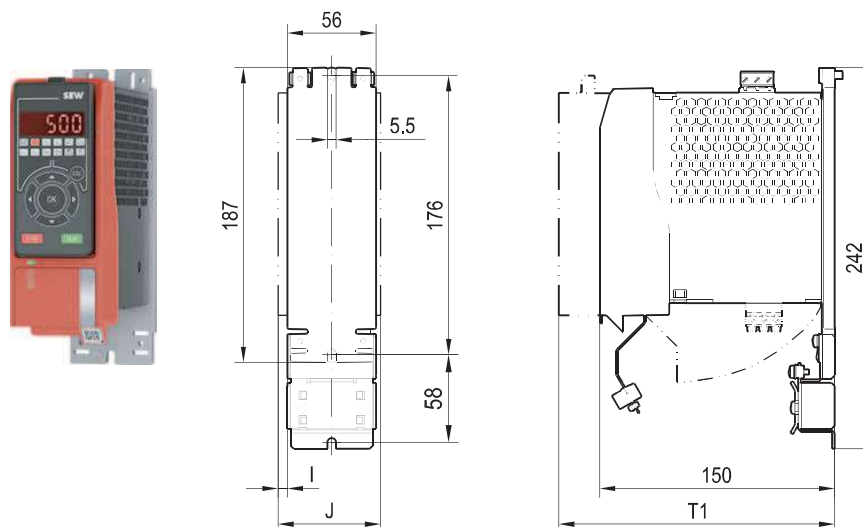
The following list is used for re-ordering connectors:

Representation	Slot	Function	Size	Part number
	X1	Line connection	MCB91A-.... -5D3..	13289780
	X1	Line connection	MCB91A-.... -2D1..	13289772
	X2	Motor connection	All	17975239
	X5	DC 24 V supply voltage	Gateway	19148410
	X34 IN/OUT	Ribbon cable for connecting the gateway with the communication module	Communication module	28174631

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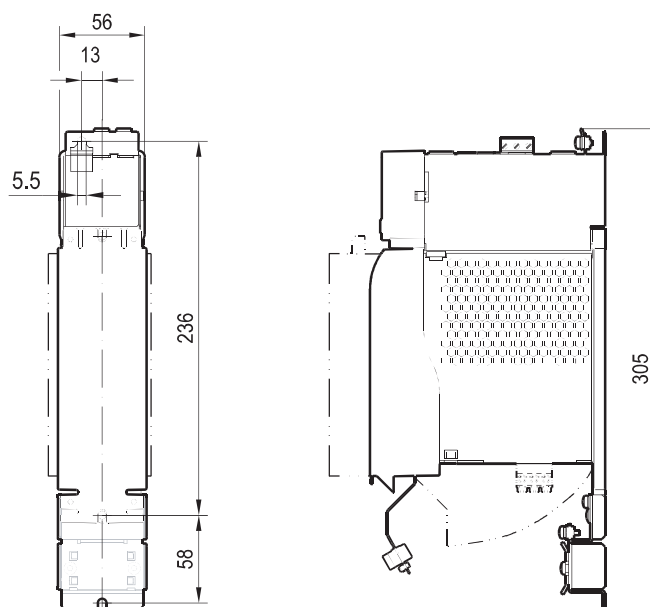
4.21 Dimension drawings

4.21.1 MCB91A-0025-5D3-2.., MCB91A-0040-5D3-2.., MCB91A-0034-2D1-2.., MCB91A-0042-2D1-2..



	CBG01A	CDM11A	CDM11A+CBG11A	CDM11A+CBG21A	CFC11A	CFX11A..
I	-	-	-	6	-	-
J	-	-	-	65	-	-
T1	156	157	175	175	160	175

CNF11A CNF31A



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