

### Overview



The communication, open-loop and closed-loop control functions for one or more Motor Modules and the Line Module are executed in a CU320 Control Unit. The CU320 Control Unit is designed for multi-axis operation.

### Design



CU320 Control Unit, without guard cover

CU320 Control Unit features the following interfaces as standard:

- 4 x DRIVE-CLiQ sockets for communication with other DRIVE-CLiQ devices, e.g., Motor Modules, Active Line Modules, Sensor Modules, Terminal Modules
- 1 PROFIBUS interface with PROFIdrive V4 profile
- 8 parameterizable digital inputs (floating)
- 8 parameterizable bidirectional digital inputs/digital outputs (non-floating), of which 6 are high-speed digital inputs
- 1 serial RS232 interface
- 1 interface for the BOP20 Basic Operator Panel
- 1 slot for the CompactFlash Card on which firmware and parameters are stored
- 1 slot for mounting an option module (e.g. TB30 Terminal Board)
- 3 test sockets and one reference ground for commissioning support
- 1 connection for the electronics power supply via the 24 V DC power supply connector
- 1 PE (protective earth) connection
- 1 ground connection

A shield connection for the signal cable shield on the option module is located on the CU320 Control Unit.

The available option slot is used to expand the interfaces, for example, to include additional terminals or for communication purposes.

The status of the CU320 Control Unit is indicated via multi-color LEDs.

As the firmware and parameter settings are stored on a plug-in CompactFlash card, the Control Unit can be changed without the need for software tools.

The CU320 Control Unit can be mounted on the side of the Line Module in booksize format via brackets integrated in a Line Module. The CU320 Control Unit can also be fixed to the wall of the control cabinet using the integrated fixing lugs. As the CU320 Control Unit is not as deep as the Line Modules, suitable spacers are available to increase the depth of the CU320 Control Unit to 270 mm (10.63 in).

### Integration

DRIVE-CLiQ components, for example, Motor Modules and Active Line Modules, can be connected to a CU320 Control Unit. The number of modules depends on the performance required, including duty type and additional functions.

The BOP20 panel can also be snapped onto the CU320 Control Unit during operation to perform troubleshooting procedures.

The CU320 Control Unit and other connected components are commissioned and diagnosed with the STARTER commissioning tool.

Communication between a CU320 Control Unit and the connected components takes place via DRIVE-CLiQ.

If an application requires more than one Control Unit, the number can be increased accordingly. The Control Units are then interconnected on a higher-level controller via PROFIBUS with the PROFIdrive V4 profile.

The integrated safety functions such as e.g. "Safe brake control" ("Safe standstill") must be selected in two channels. Two digital inputs are required for this purpose.

#### Technical data

##### CU320 Control Unit

Max. current requirements (at 24 V DC) without taking account of digital outputs, option slot expansion and DRIVE-CLiQ supply	0.8 A
Max. connectable cross section	2.5 mm <sup>2</sup>
Max. fuse protection	20 A
Digital inputs	8 x floating digital inputs 8 bidirectional non-floating digital inputs/digital outputs
• Voltage	– 3 V to 30 V
• Low level (an open digital input is interpreted as "low")	– 3 V to 5 V
• High level	15 V to 30 V
• Current consumption (typ. at 24 V DC)	10 mA
• Signal propagation delays for digital inputs <sup>1)</sup>	L → H: approx. 50 µs H → L: approx. 100 µs
• Signal propagation delays for high-speed digital inputs <sup>1)</sup> (high-speed digital inputs can be used for position detection)	L → H: approx. 5 µs H → L: approx. 50 µs
• Max. connectable cross section	0.5 mm <sup>2</sup>
Digital outputs (continued-short-circuit-proof)	8 bidirectional non-floating digital inputs/digital outputs
• Voltage	24 V DC
• Max. load current per digital output	500 mA
• Max. connectable cross section	0.5 mm <sup>2</sup>
Power loss	20 W
PE connection	On housing with M5 screw
Ground connection	On housing with M5 screw
Width	50 mm (1.97 in)
Height	270 mm (10.93 in)
Depth	226 mm (8.9 in)
Weight, approx.	1.5 kg (3 lb)
Approvals	cULus (File No.: E164110)

#### Selection and ordering data

Description	Order No.
<b>CU320 Control Unit</b> (without CompactFlash card)	<b>6SL3040-0MA00-0AA1</b>

#### Accessories

Description	Order No.
PROFIBUS connector <u>without</u> PG/PC connection	<b>6ES7972-0BA41-0XA0</b>
PROFIBUS connector <u>with</u> PG/PC connection	<b>6ES7972-0BB41-0XA0</b>
Spacers (2 x), for increasing the depth of the CU320 Control Unit to 270 mm (10.63 in) (if the brackets on the side are not to be used, the depth still has to be 270 mm (10.63 in)).	<b>6SL3064-1BB00-0AA0</b>
STARTER commissioning tool	<b>6SL3072-0AA00-0AG0</b>

<sup>1)</sup> The specified signal propagation delays refer to the hardware. The actual reaction time depends on the time slot in which the digital input or output is processed.