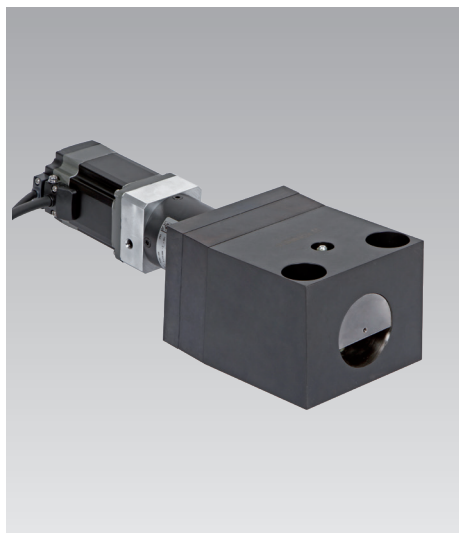




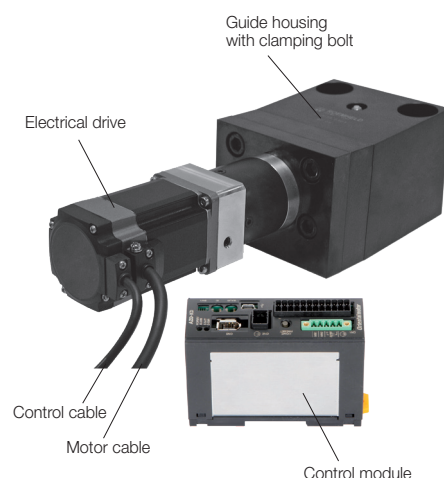
Wedge Clamps for Flat or Tapered Clamping Edge

electro-mechanical, max. operating force 240 kN
 self-locking, with position monitoring



Advantages

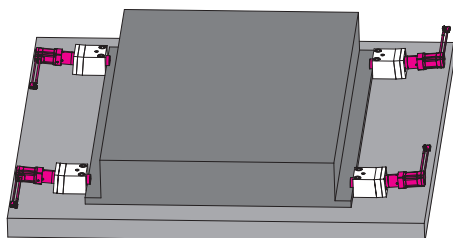
- Increased operating safety by mechanical self-locking and monitoring of the clamping position
- Control of the following functions: clamping and unclamping position, clamping force and speed of the clamping bolt
- Compact electro-mechanical force package
- Reclamping on the clamping point of yielding clamping edges possible
- Even in case of power failure, safe and self-locking clamped
- Optimum automation element
- High-quality corrosion protection for drive and housing



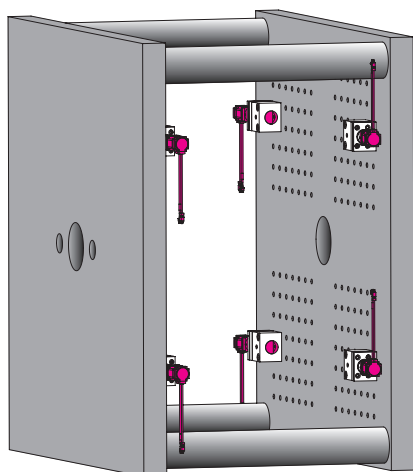
Application

Electro-mechanical wedge clamps are used for hydraulic free clamping of dies on sliding tables, in injection moulding machines and presses on bed and ram.

Application examples



Sliding tables



Injection moulding machines

Description

The clamping bolt of the wedge clamps is operated by a 24 VDC direct current drive via a snail transmission and a spindle stroke transmission.

The self-locking spindle lifting gear stops the drive in case of power failure and maintains it safely in the reached position.

During clamping, the clamping bolt is moved with low inclination onto the flat clamping edge. The clamping bolt is completely retracted in the guide housing in off-position.

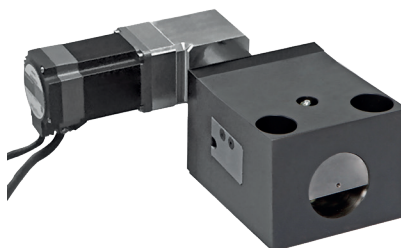
The wedge clamp is equipped with an integrated position monitoring. In addition, fault messages can be output.

The wedge clamp is controlled via a control module equipped with different data interfaces.

Version with angular gear

By default, the electrical drive is mounted at the rear of the guide housing.

Alternatively, a version with angular gear is available. (see page 3)



Delivery

● Wedge clamp with drive

Electrical connection:

- motor cable, firmly connected (L = 280 mm)
- control cable, firmly connected (L = 280 mm) (extension cable: see page 3)

● Control module

Position monitoring

The position monitoring is integrated in the drive. The following positions are reported on the control module:

- Clamping bolts in off-position (retracted)
- Clamping bolts in clamping position (extended)

Possible fault messages

- Outside the clamping range
- Cable break
- Current peaks
- Over temperature
- Clamping force is not reached

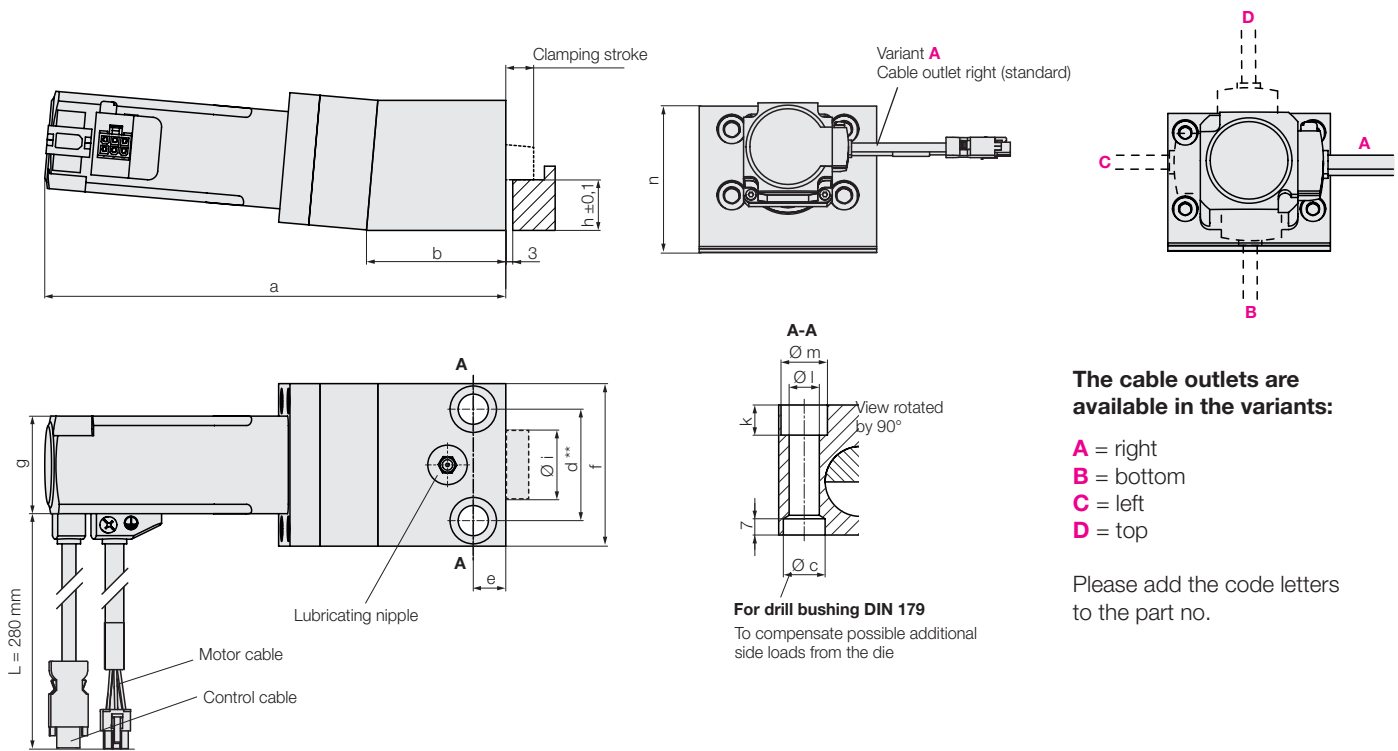
Possible motor variants

24 VDC stepper motors from Oriental are used. Motors from other manufacturers can also be installed on request (such as Siemens or Beckhoff).

Possible variants

- with 20° clamping bolt
- as pull or push cylinder
- as block cylinder
- as locking element
- as positioning cylinder in the range +/- 0.5

Version for flat clamping edge
without angle drive / cable outlets A B C D



The cable outlets are available in the variants:

A = right
B = bottom
C = left
D = top

Please add the code letters to the part no.

Version for flat clamping edge without angle drive

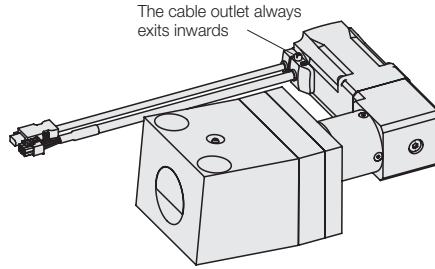
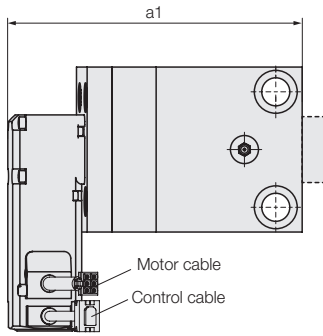
| | | | | | |
|---|-------------|--------------------|--------------------|--------------------|--------------------|
| Adm. operating force for screws 8.8 (DIN 912) | [kN] | 35 | 60 | 130 | 190 |
| Adm. operating force for screws 10.9 (DIN 912) | [kN] | 50 | 90 | 160 | 240 |
| Fastening screw | | M 12 | M 16 | M 20 | M 24 |
| Total stroke | [mm] | 20 | 25 | 25 | 28 |
| Clamping stroke | [mm] | 12 | 16 | 17 | 20 |
| Max. temperature | [°C] | 70 | 70 | 70 | 70 |
| Clamping force max. | [kN] | 10 | 20 | 35 | 35 |
| a | [mm] | 199 | 309 | 335 | 350 |
| b | [mm] | 60 | 95 | 109 | 125 |
| Ø c H7 x depth | [mm] | 18/7 | 26/9 | 30/11 | 35/11 |
| d** (when using drill bushings ± 0.02) | [mm] | 48 | 70 | 85 | 105 |
| e | [mm] | 14 | 16 | 20 | 25 |
| f | [mm] | 70 | 100 | 120 | 150 |
| g | [mm] | 55 | 55 | 73 | 73 |
| h (±0.1) | [mm] | 22 | 25 | 35 | 40 |
| Ø i | [mm] | 30 | 40 | 55 | 70 |
| k | [mm] | 13 | 17 | 20 | 26 |
| Ø l | [mm] | 13 | 17 | 21 | 26 |
| Ø m | [mm] | 20 | 26 | 32 | 40 |
| n | [mm] | 60 | 78 | 100 | 110 |
| Weight | [kg] | 3.3 | 10 | 15 | 22 |
| Rated voltage | [V DC] | 24 | 24 | 24 | 24 |
| Current for empty running | [A] | 1.5 | 1.5 | 1.5 | 1.5 |
| Max. current | [A] | 3.8 | 3.8 | 3.8 | 3.8 |
| Code class | | IP 54 | IP 54 | IP 54 | IP 54 |
| Lifting speed | [mm/s] | 2 | 2 | 2 | 2 |
| Part no. Cable outlet right | | 826730101 A | 826740101 A | 826750101 A | 826760101 A |
| Cable outlet bottom | | B | B | B | B |
| Cable outlet left | | C | C | C | C |
| Cable outlet top | | D | D | D | D |

** on request also available with Euromap grid

Accessories

| | | | | |
|------------------------|----------------|----------------|----------------|----------------|
| Drill bushings DIN 179 | 12 x 12 | 17 x 16 | 21 x 20 | 26 x 20 |
| Part no. | 3300285 | 3300287 | 3300288 | 3300289 |

Version for flat clamping edge
with angle drive / motor alignment A B C D

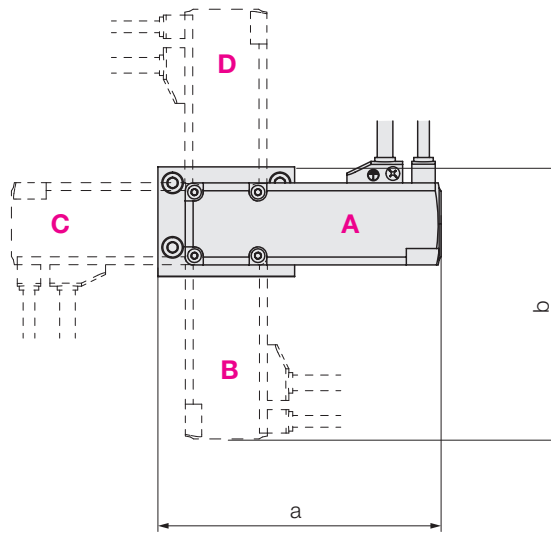


Variant with motor alignment

The motor alignment is available in the variants:

- A** = right
- B** = bottom
- C** = left
- D** = top

Please add the code letters to the part no.

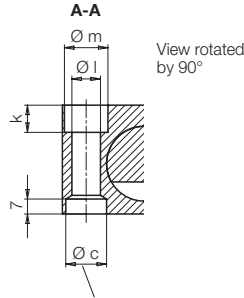
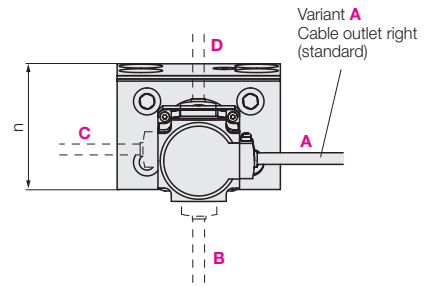
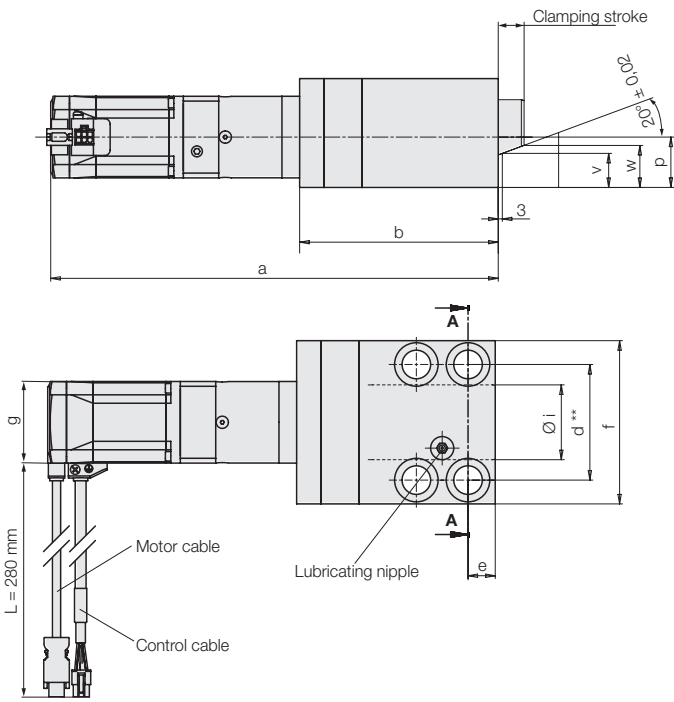


All dimensions in [mm]

Version for flat clamping edge with angle drive

| | | | | |
|---|--------------------|--------------------|--------------------|--------------------|
| Adm. operating force for screws 8.8 (DIN 912) [kN] | 35 | 60 | 130 | 190 |
| Adm. operating force for screws 10.9 (DIN 912) [kN] | 50 | 90 | 160 | 240 |
| a [mm] | 145 | 194.5 | 220 | 235 |
| a1 [mm] | 140 | 233 | 276 | 292 |
| b [mm] | 137 | 181 | 212 | 216 |
| Clamping force max. [kN] | 3.5 | 20 | 35 | 35 |
| Part no. Motor alignment right | 826730201 A | 826740201 A | 826750201 A | 826760201 A |
| Motor alignment bottom | B | B | B | B |
| Motor alignment left | C | C | C | C |
| Motor alignment top | D | D | D | D |

**Version for tapered clamping edge
without angle drive / cable outlets A B C D**



For drill bushing DIN 179
To compensate possible additional side loads from the die

The cable outlets are available in the variants:

- A** = right
- B** = bottom
- C** = left
- D** = top

Please add the code letters to the part no.

Version for tapered clamping edge without angle drive

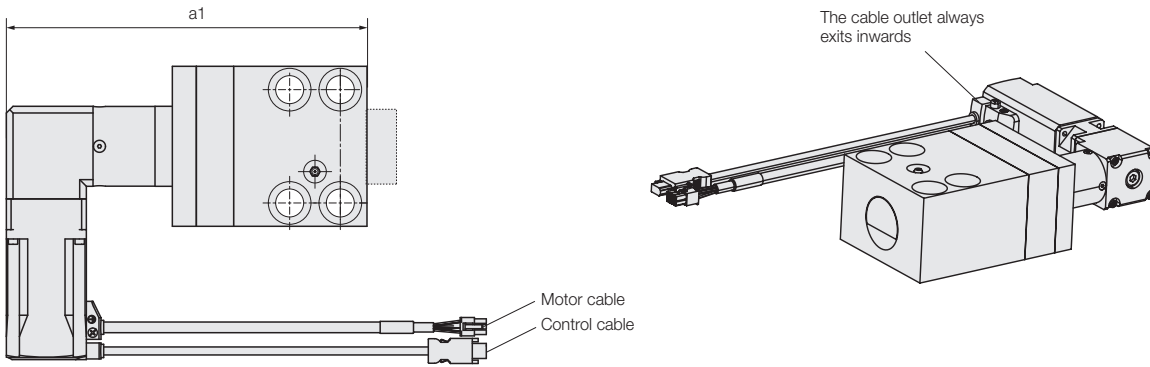
| Adm. operating force for screws 8.8 (DIN 912) | [kN] | 30 | 50 |
|---|--------|-------------------|-------------------|
| Fastening screw | | M 16 | M 20 |
| Total stroke | [mm] | 25 | 25 |
| Clamping stroke | [mm] | 18 – 22 | 19 – 22 |
| Max. temperature | [°C] | 70 | 70 |
| Clamping force max. | [kN] | 12.5 | 25 |
| a | [mm] | 312 | 329 |
| b | [mm] | 137 | 146 |
| Ø c H7 x depth | [mm] | 26/9 | 30/11 |
| d** (when using drill bushings ± 0.02) | [mm] | 70 | 85 |
| e/e1 | [mm] | 16/30 | 20/38 |
| f | [mm] | 100 | 120 |
| g | [mm] | 55 | 73 |
| h | [mm] | 67 | 80 |
| Ø i | [mm] | 40 | 55 |
| k | [mm] | 17 | 20 |
| Ø l | [mm] | 17 | 21 |
| Ø m | [mm] | 26 | 32 |
| n | [mm] | 67 | 100 |
| p | [mm] | 30 | 37 |
| v (± 0.1) | [mm] | 18 | 25 |
| w | [mm] | 23.5 | 30.5 |
| Weight | [kg] | 10 | 15 |
| Rated voltage | [V DC] | 24 | 24 |
| Current for empty running | [A] | 1.5 | 1.5 |
| Max. current | [A] | 3.8 | 3.8 |
| Code class | | IP 54 | IP 54 |
| Lifting speed | [mm/s] | 2 | 2 |
| Part no. Cable outlet right | | 826740102A | 826750102A |
| Cable outlet bottom | | B | B |
| Cable outlet left | | C | C |
| Cable outlet top | | D | D |

** on request also available with Euromap grid

Accessories

| | | |
|------------------------|----------------|----------------|
| Drill bushings DIN 179 | 17 x 16 | 21 x 20 |
| Part no. | 3300287 | 3300288 |

**Version for tapered clamping edge
with angle drive / motor alignment A B C D**

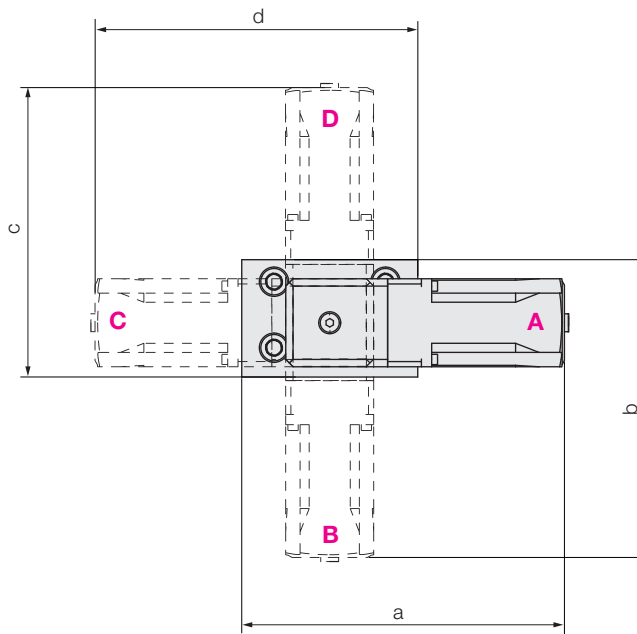


Variant with motor alignment

The motor alignment is available in the variants:

- A** = right
- B** = bottom
- C** = left
- D** = top

Please add the code letters to the part no.



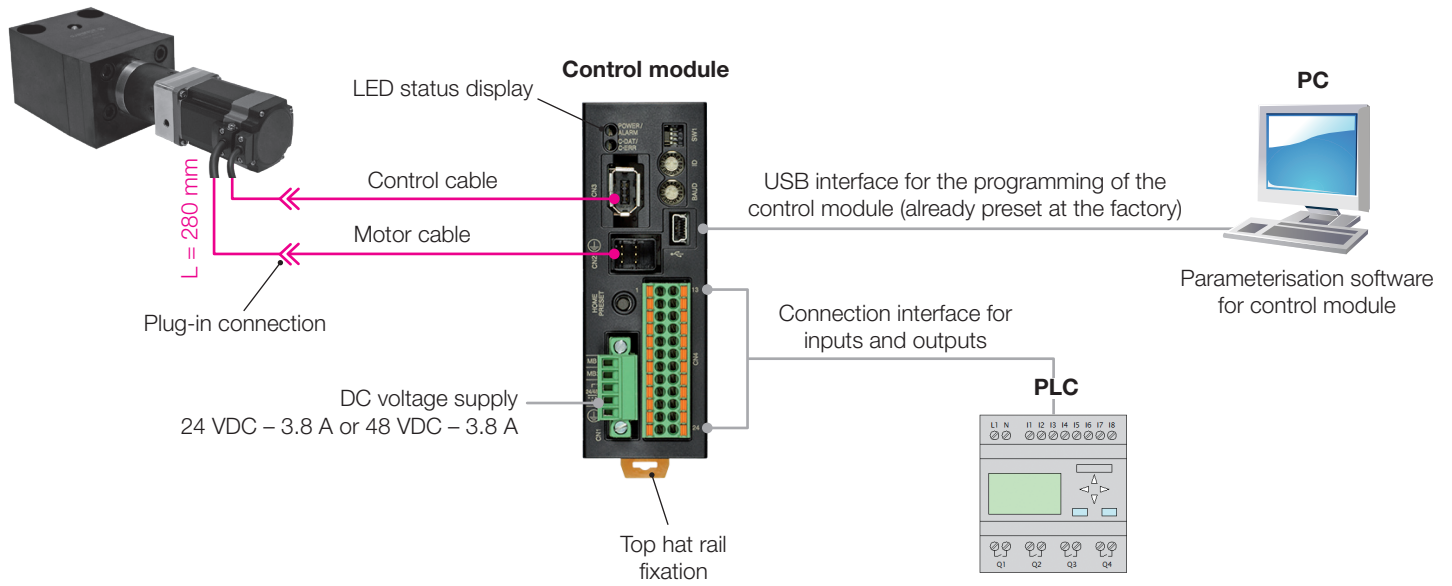
All dimensions in [mm]

Version for tapered clamping edge with angle drive

| Adm. operating force for screws 8.8 (DIN 912) | [kN] | 30 | 50 |
|---|-------------------------------|-------------------|-------------------|
| a | [mm] | 194.5 | 220 |
| a1 | [mm] | 235 | 270 |
| b | [mm] | 181.5 | 203 |
| c | [mm] | 194.5 | 220 |
| d | [mm] | 174.5 | 197 |
| Clamping force max. | [kN] | 12.5 | 25 |
| Part no. | Motor alignment right | 826740202A | 826750202A |
| | Motor alignment bottom | B | B |
| | Motor alignment left | C | C |
| | Motor alignment top | D | D |

Block diagram and Accessories

Wedge clamping element



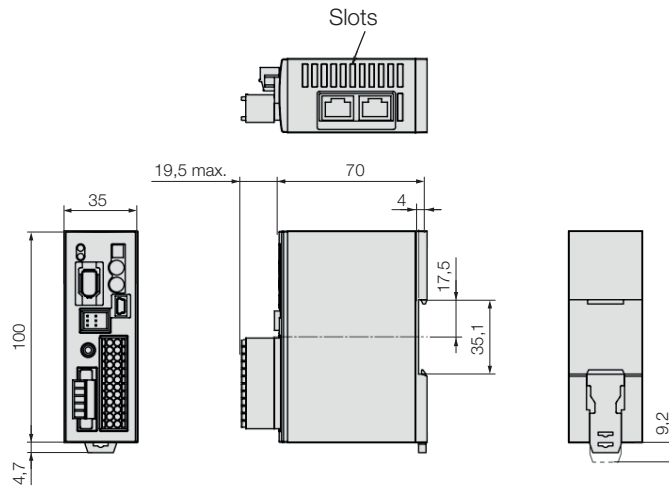
Control module

Weight: 0.15 kg

Accessory for control module

Plug for power supply
electromagnetic brake
MC1.5/5-STF-3.5

Plug for input/
output signals
DFMC1.5/12-ST-3.5



Accessories

Extension cable

Control cable and motor cable as set



| Length of cable | 5 m | 10 m | 15 m | 20 m |
|-----------------|-----------|-----------|-----------|-----------|
| Part no. | 209750046 | 209750047 | 209750048 | 209750049 |

Options

on request

- Electromagnetic brake in the clamping element
- Drive laterally angled with angular gear
- Network-converter for CC-Link 1.1, mechatronics II and III and EtherCAT
- Ethernet/network connector RJ45 as the connection between the control modules