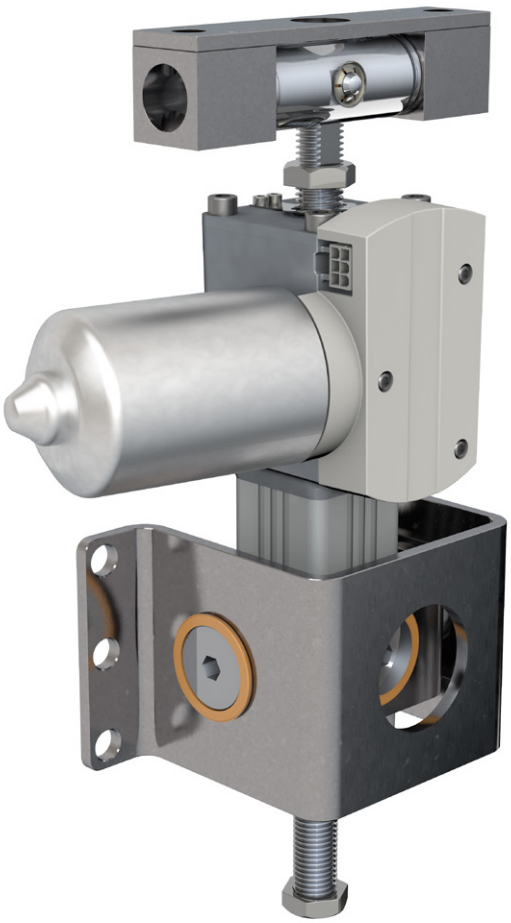
EWELLIX

A Schaeffler Company

Linear actuator CAMT

- Play–free motion
- Easy installation
- Compact design

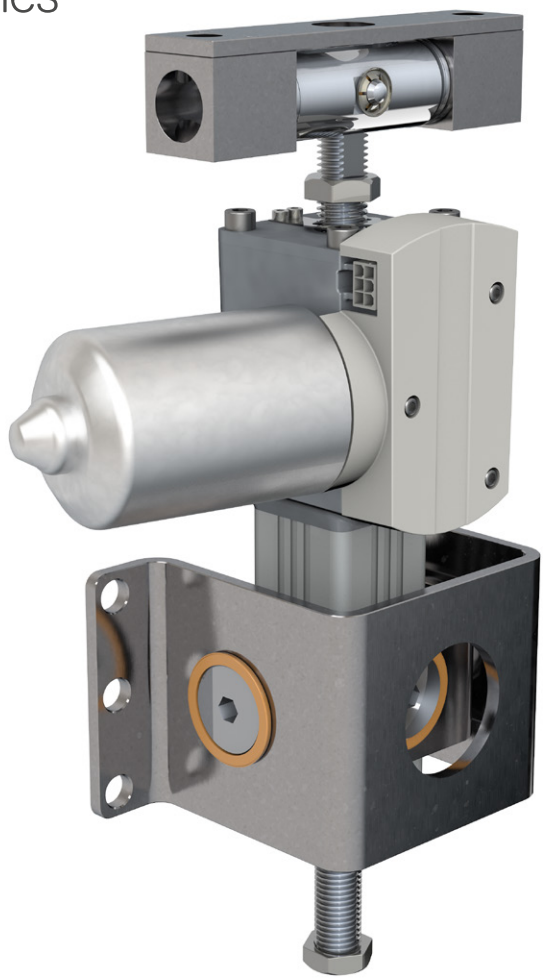


Standards
IEC/UL 60601-1 (Edition 3.1)
IEC/UL 60601-1-2 (Edition 4)

New medical solution

CAMT

Linear actuator for surgical tables and procedure chairs



Benefits

- Play free motion
- Easy installation
- Compact design

Standards

- IEC/UL 60601-1 (Edition 3.1)
- IEC/UL 60601-1-2 (Edition 4)

Technical data

	Unit	CAMT20
Rated push load	N	6 000
Rated pull load	N	6 000
Static load (push/pull) [1]	N	13 200
Safety factor on rated load [2] [3]	–	4
Speed (full load to no load) [4]	mm/s	5 to 6,5
Stroke	mm	50 to 250
Voltage	VDC	24
Current consumption	A	10
Duty cycle	%	10 (1/9 minutes)
Ambient temperature	°C	+10 to +40
Degree of protection	–	IP20
Noise level (max)	dB	≤ 55
Weight [5]	Kg	5,8

[1] Compliant with static load according to IEC/UL 60601-2-46
[2] Static safety factor to prevent mechanical hazards according to IEC/UL 60601-1
[3] Depending on stroke and attachment type, safe work load in push direction is reduced. For details, see diagram **Safety factor load conditions**
[4] Speed with 24 V DC, speed with V/SCU is higher. For details, see diagram **Load-Speed**
[5] For stroke 250 mm, without attachment

Product benefits

Play free motion – Extra comfort

Feel the smooth movement introduced by CAMT because all parts are play-free. Unlike common actuators which shake when the load direction changes, CAMT keeps the movement smooth throughout the whole process (↳ **diagram 1**).

Easy installation – Simplicity

It is easy to install thanks to the new design with extra front and rear attachment with 1 or 2 DOF in motion (↳ **fig. 1 and 2**).

Compact design – Perfect system integration

The compact design enables a perfect system integration. It can be installed as a single actuator or be combined with other CAMT actuators and a column (e.g. CPMT) to achieve combined motion in any direction (↳ **fig. 3**).

Fig. 1

Front attachment: play-free

Fig. 2

Rear attachment: play-free

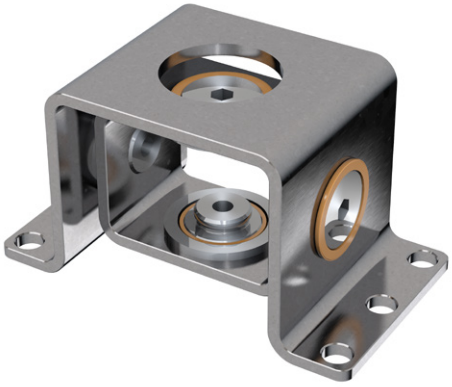


Fig. 3

Surgical module

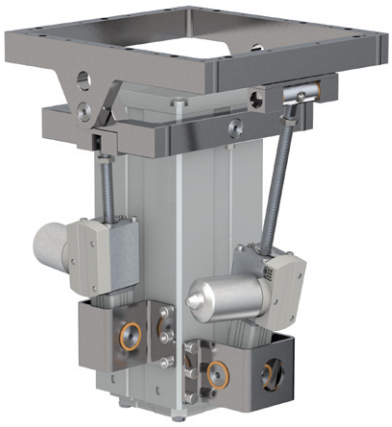
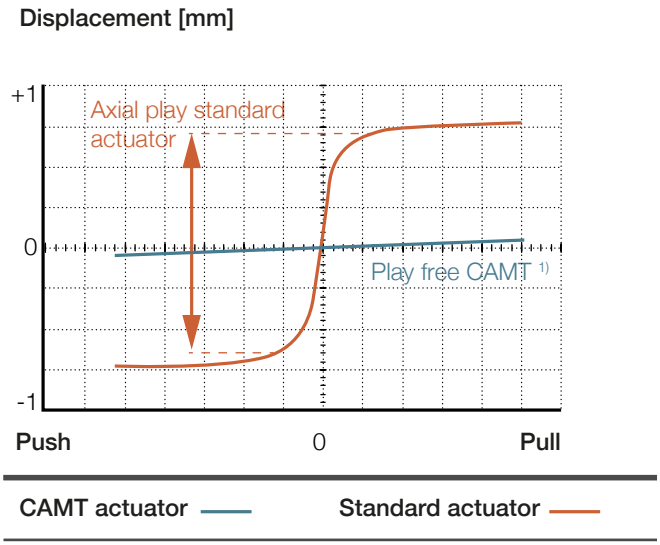


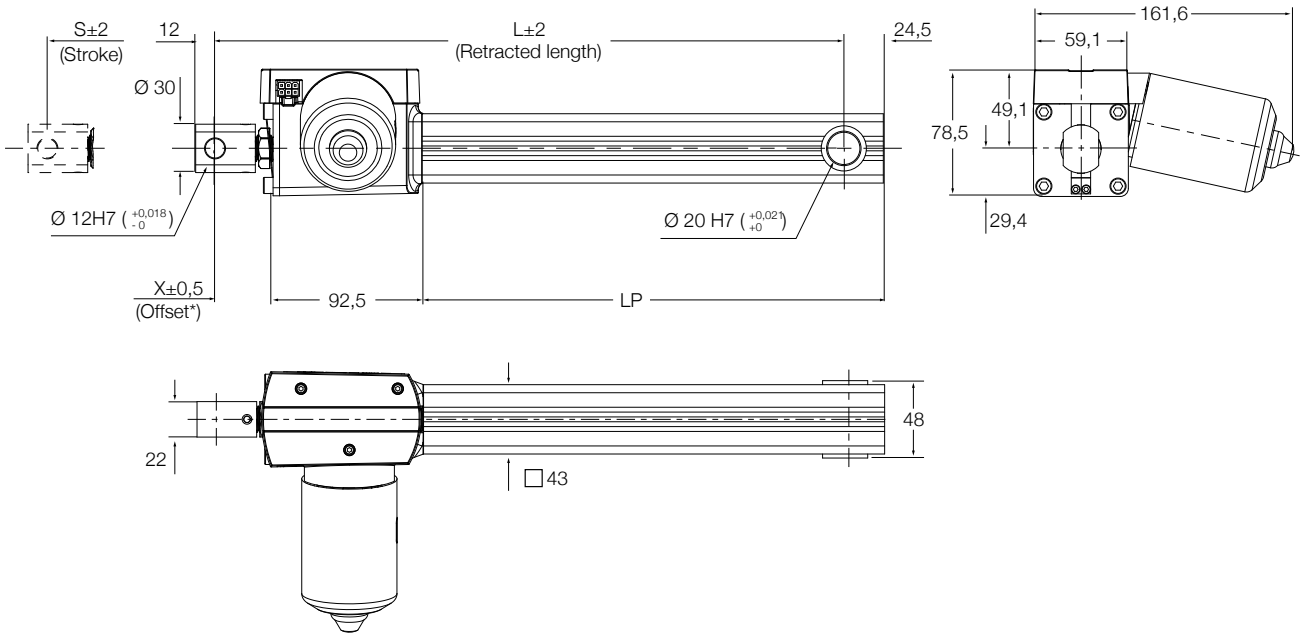
Diagram 1



1) Actuator after service life of 10 years in a typical medical procedure equipment application, with the meaning of 60 000 cycles at average load of 3 000 N and average stroke of 100 mm.

Dimensional drawing

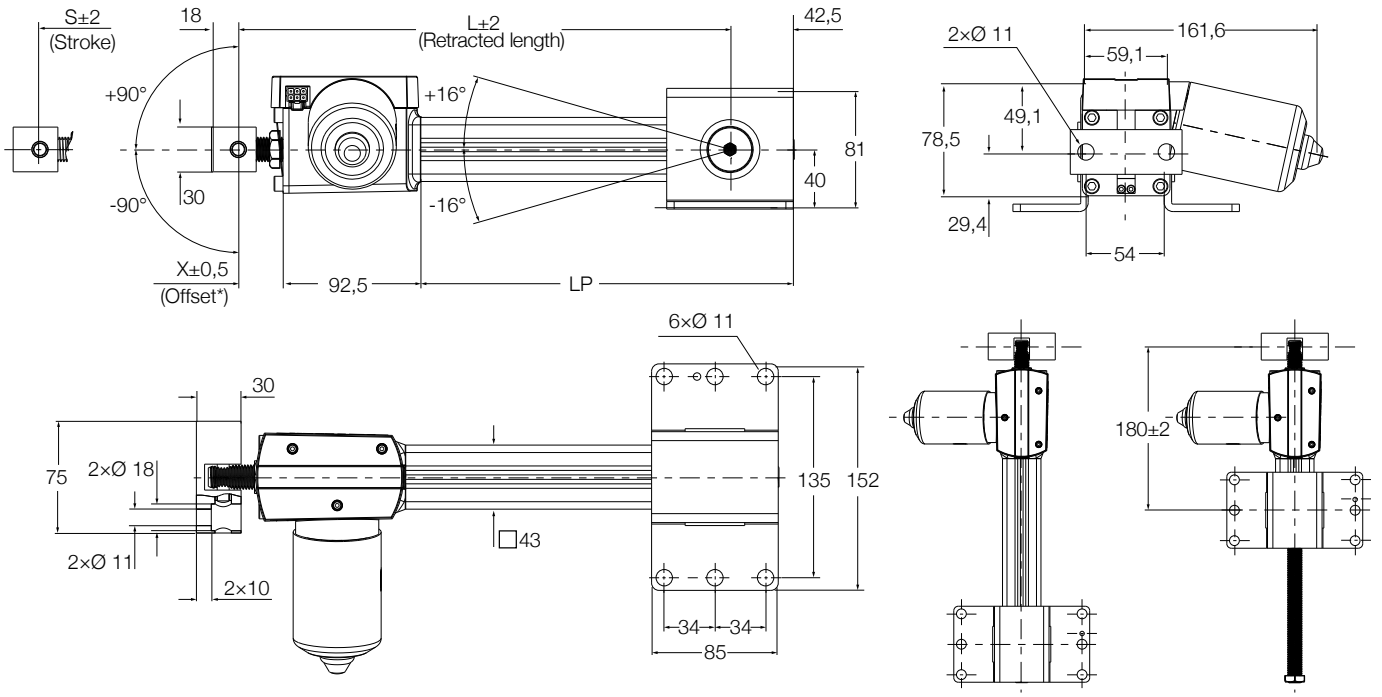
Clevis attachment (CAMT20-xxxxx-00L-AA-AFx-000)



Retracted length:
L = Stroke (S) + Offset (X) + 104

* Standard Offset = 36

1 DOF attachment (CAMT20-xxxxx-00x-BB-AFx-000)

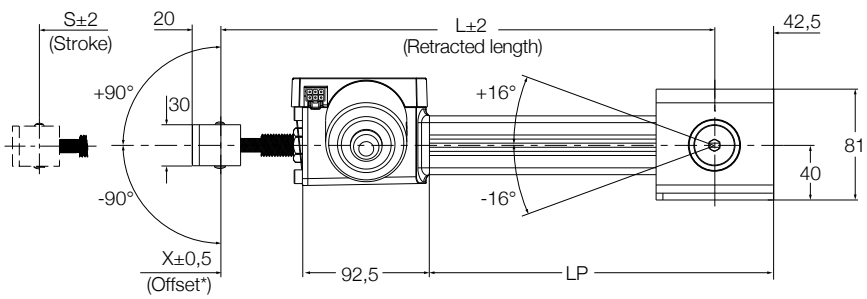


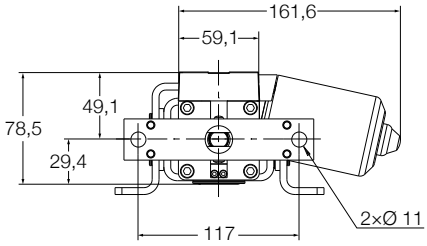
Long protection tube Short protection tube

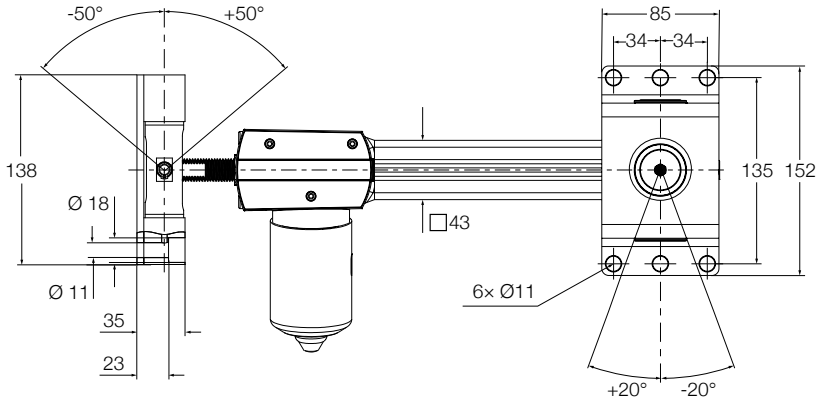
Retracted length:
L = Stroke (S) + Offset (X) + 50 (long protection tube)
L = Offset (X) + 150 (short protection tube)

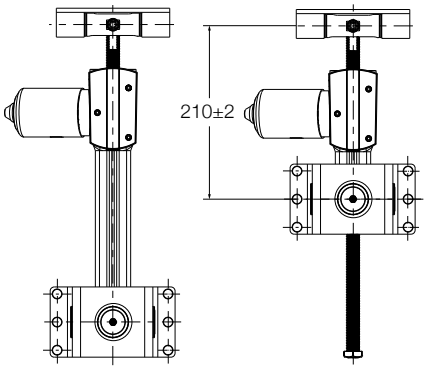
* Standard Offset = 30

2 DOF attachment (CAMT20-xxxxx-00x-CC-AFx-000)







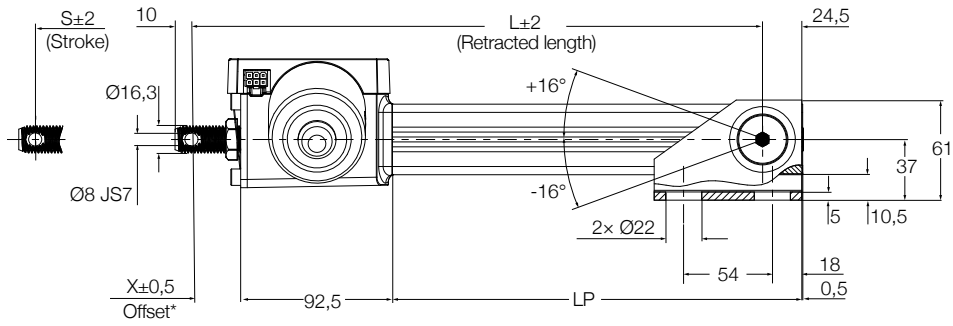


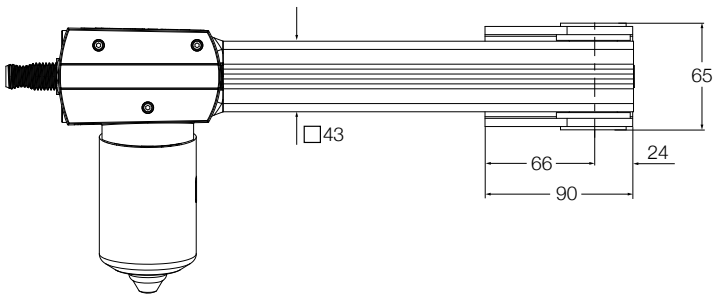
Long protection tube Short protection tube

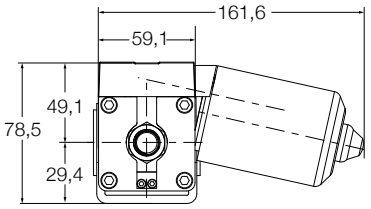
Retracted length:
L = Stroke (S) + Offset (X) + 50 (long protection tube)
L = Offset (X) + 150 (short protection tube)

* Standard Offset = 60

Rod with D8 JS7 bore (CAMT20-xxxxx-00x-DF-AFx-000)



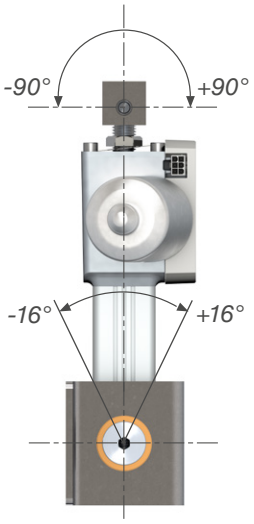




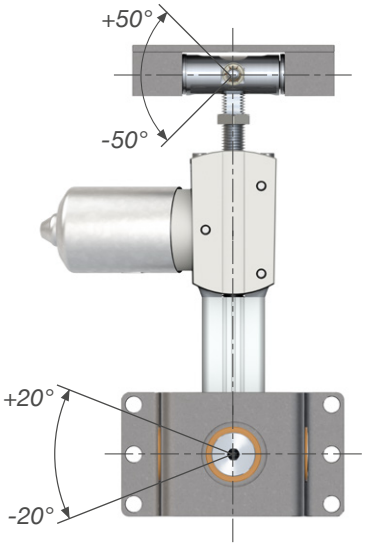
Retracted length:
L = Stroke (S) + Offset (X) + 68 (long protection tube)
L = Offset (X) + 168 (short protection tube)

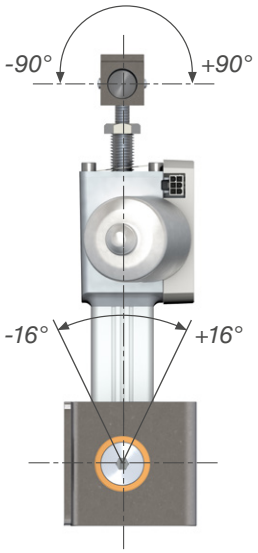
* Standard Offset = 30

Motion angles of play front and rear attachments



1 DOF



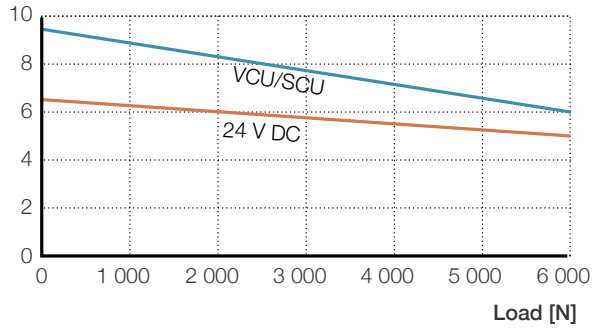


2 DOF

Performance diagrams

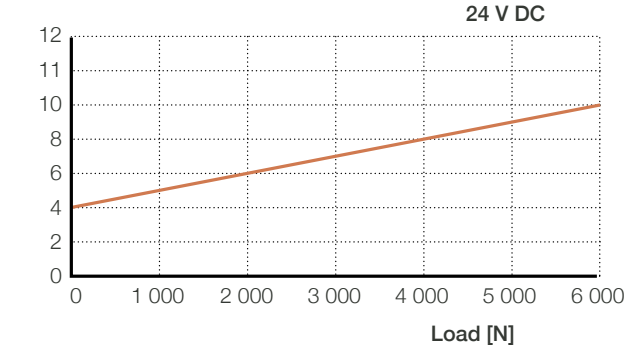
Speed-load diagram

Speed [mm/s]



Current-load diagram

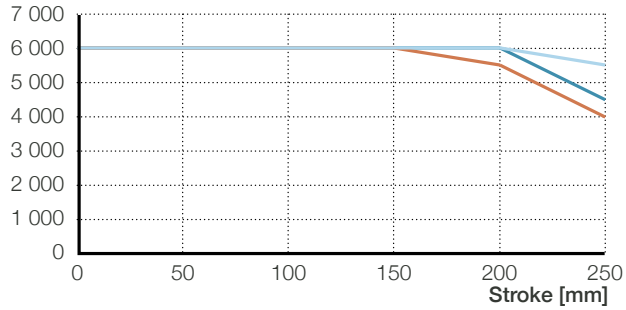
Current consumption [A]



Safety factor load conditions

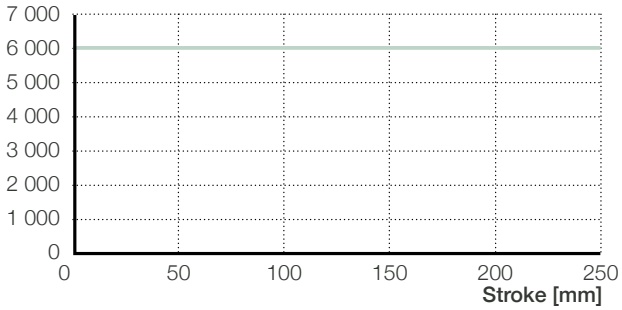
Push load reduction for static safety factor S=4 (IEC/UL 60601-1)

Load [N]



Safe push and pull load for static safety factor S=2.2 (IEC/UL 60601-2-46)

Load [N]

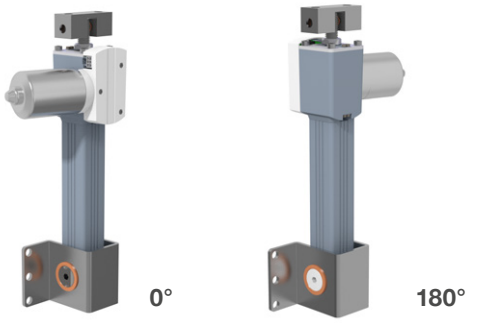


- Clevis attachment
- 1 DOF attachment, with long protection tube [1] [2]
- 2 DOF attachment, with long protection tube [1]
- Valid for all CAMT configurations

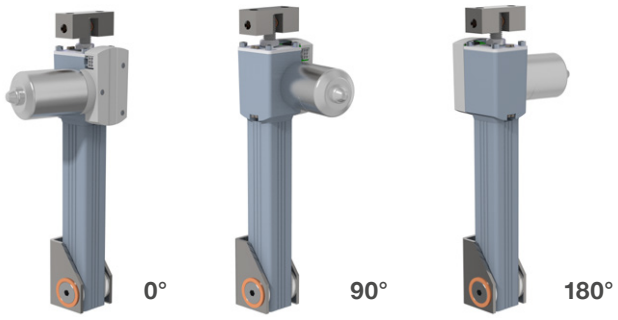
[1] No load reduction with short protection tube

[2] No load reduction for 1DOF U-bracket

Rear attachment orientation



Standard bracket (1 DOF and 2 DOF)



U-bracket (1 DOF)

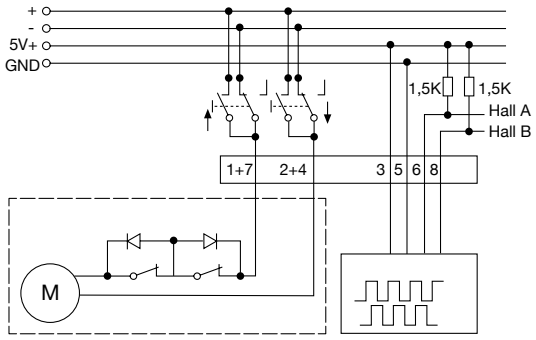
Suitable control units and accessories

	Control units							
CAMT	SCU 1	SCU 5	SCU 9	VCU 5	VCU 8	VCU 9	*BCU 5	*BCU 8
Operating switches								
EHA 3	•	•	•	•	•	•	•	•
STJ	•	•	•	•	•	•	•	•
STE	•	•	•	•	•	•	•	•

Hand switch Foot switch Desk switch

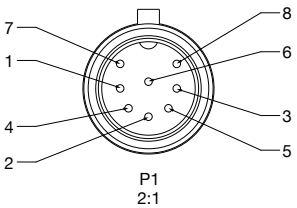
Connecting diagram

24 V DC

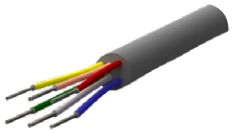


Encoder resolution 0,02127 mm/edge

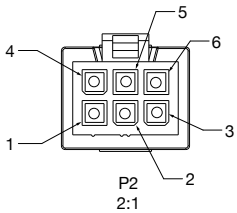
Electrical connection



Plug P1: DIN-8 connector



Flying leads



Plug P2: Molex Mini-fit Jr. 6-pole

Plug P1	Wire color	Section	Function	Plug P2
1+7	Blue	AWG 16	- on, + off	4
2+4	Red	AWG 16	+ on, - off	1
3	Pink	AWG 24	+ 5 V	2
5	Grey	AWG 24	gnd	5
6	Yellow	AWG 24	hall sensor 1 signal	3
8	Green	AWG 24	hall sensor 2 signal	6

Ordering key

Type

Load

2 6 000 N

Voltage

0 24 VDC

Stroke length

0 5 0 50 mm
1 0 0 100 mm
1 5 0 150 mm
2 0 0 200 mm
2 5 0 250 mm
x x x Customised (10 mm steps)

Distance between front pivot and gear box (Offset "X", see dimensional drawing)

0 0 Standard
x x Customised (10 mm steps)

Protection tube length (LP, see dimensional drawing)

0 0 S Short (shortest possible length)
0 0 L Long (lead screw covered when retracted)
x x x Customised (10 mm steps)

Front attachment

A Rod clevis D12 H7 bore
B 1 DOF attachment
C 2 DOF attachment
D Rod with D8 JS7 bore

Rear attachment

A Rear clevis D20 H7 bore 0° (only with long protection tube)
B 1 DOF attachment 0°
C 2 DOF attachment 0°
D Rear clevis D20 H7 90° (only with long protection tube)
E 1 DOF attachment 180°
F 1 DOF U-bracket attachment 0°
G 1 DOF U-bracket attachment 90°
H 1 DOF U-bracket attachment 180°
I 2 DOF attachment 180°

Mechanical options

A Backup nut

Electrical options

F End limit switches

Cable options

A 1 m straight with DIN8 plug
B 2,3 m straight with DIN8 plug
C 2,3 m straight with flying leads
0 Without cable

■ Options shown in red are only available on request. Contact Ewellix for more information on minimum quantities and additional costs.

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