

norelem controls

Electromechanical

84000 / 85000

Cable screw connections



84100
Page 1158



Cable screw connections plastic



84100-05
Page 1159



Cable screw connections
nickel-plated brass



84100-10
Page 1160



Cable screw connections
stainless steel



84100-13
Page 1161



Cable fasteners stainless steel
or plastic in Hygienic DESIGN



84100-15
Page 1162



Cable screw connections
EMC nickel-plated brass



84100-20
Page 1163



Cable screw connections EMC
stainless steel



84100-30
Page 1164



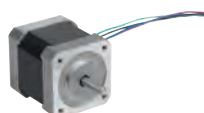
Hexagon nuts
for cable screw connections



Motors Lifting columns



85000
Page 1170



Stepper motor

85000-10
Page 1175



Stepper motors
with integrated positioning control

85000-15
Page 1176



Accessories for stepper motors
with integrated positioning control

85300
Page 1177



Lifting columns aluminium
electrically adjustable

85300-10
Page 1178



Controls for lifting columns

85300-15
Page 1179



Hand switch for lifting columns

 New/Expanded Items

85000

Motors Lifting columns



41000

80000

82000

83000

84000

85000

95000

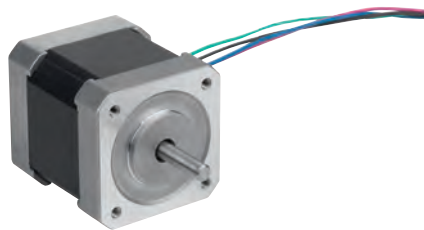
96000

97000



A-Z

Stepper motor



Version:

2-phase high-torque stepper motor in NEMA 17, NEMA 23 and NEMA 34 sizes with flat-milled shaft (D-shaft). 1.8° increment angle (full increment) with 4-wired connection cable.

Sample order:

nlm 85000-230180

Note:

The stepper motors deliver high torque, high precision and simple control. They function reliably in diverse ambient conditions. The stepper motors can be connected to conventional motor controllers via stranded cables.

When selecting a suitable motor, using just the retaining torque is not enough, as the motor's torque decreases with the speed. It is therefore essential to select the correct motor according to the torque curve.

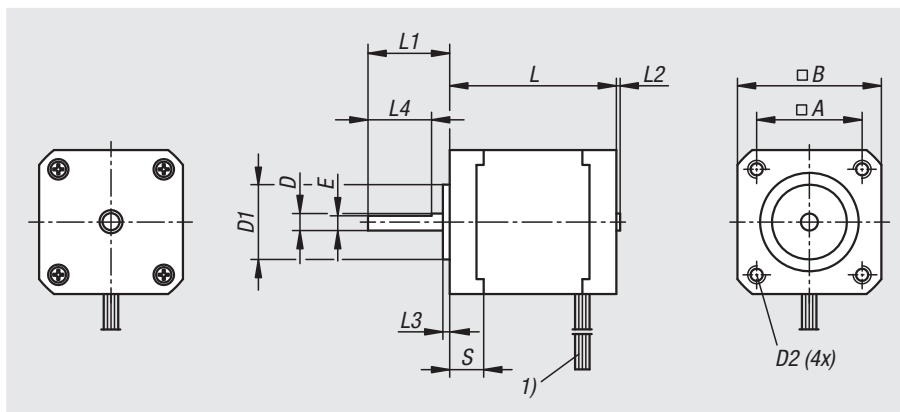
Temperature range:

-10 °C to +50 °C

Drawing reference:

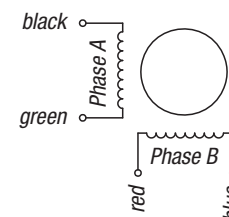
1) AWG24 UL 3265

4 braid



Connection diagram:

Pin	Colour	Phase
1	black	A
2	green	A
3	red	B
4	blue	B



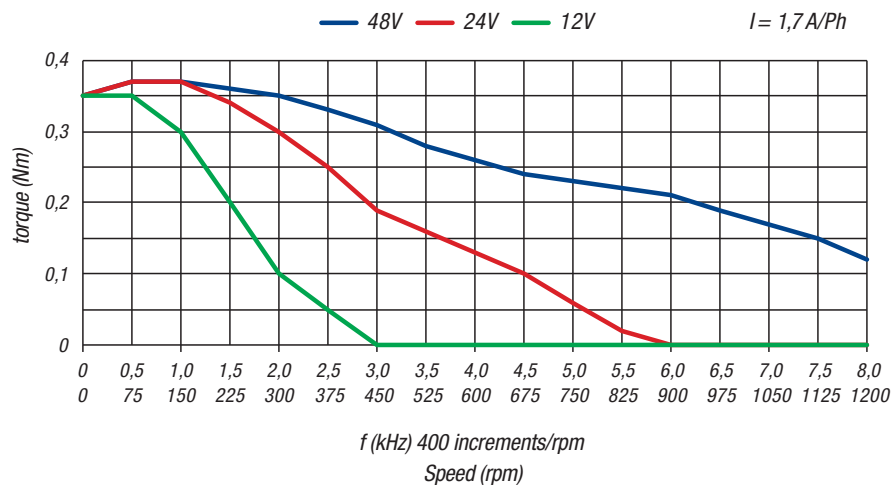
Order No.	Size	A	B	D	D1	D2	E	L max.	L1	L2	L3	L4	S
85000-170043	NEMA 17	31	42	5	22	M03x4,5	4,5	47	20	0,9	2	15	-
85000-230180	NEMA 23	47,14	57	6,35	38,1	5,1	5,8	80	20,6	-	1,6	15	5
85000-340820	NEMA 34	69,6	86	14	73	6,5	13	120	37	-	1,6	25	9

Order No.	Nom. tension VDC	Retaining torque Nm	Phase current A	Phase resistance Ohm	Inductivity mH	Moment of inertia kgcm ²	Step angle	No. of braids
85000-170043	5,6	0,43	1,7	1,65	2,8	0,068	1,8	4
85000-230180	6	2	3	1	3,8	0,48	1,8	4
85000-340820	7,2	8,4	6	0,6	5,8	3,2	1,8	4

Stepper motor

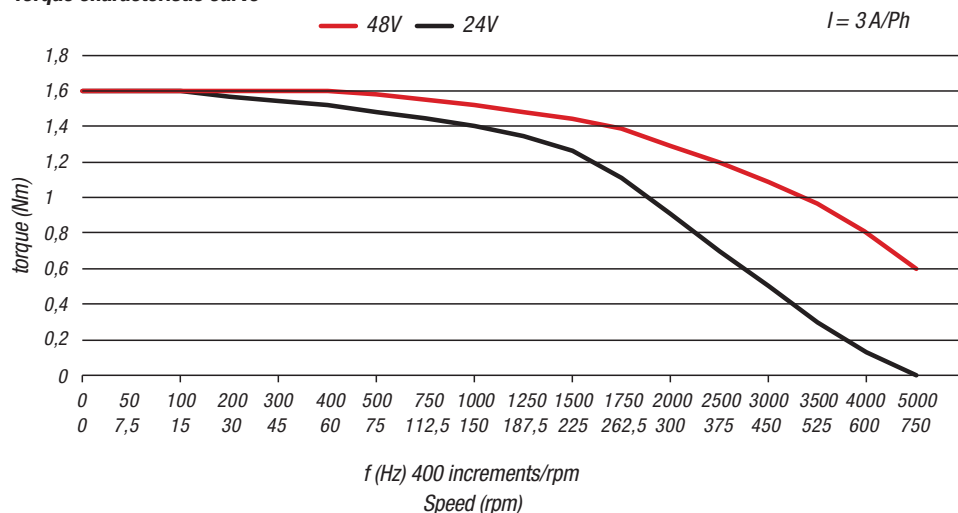
85000-170043

Torque characteristic curve



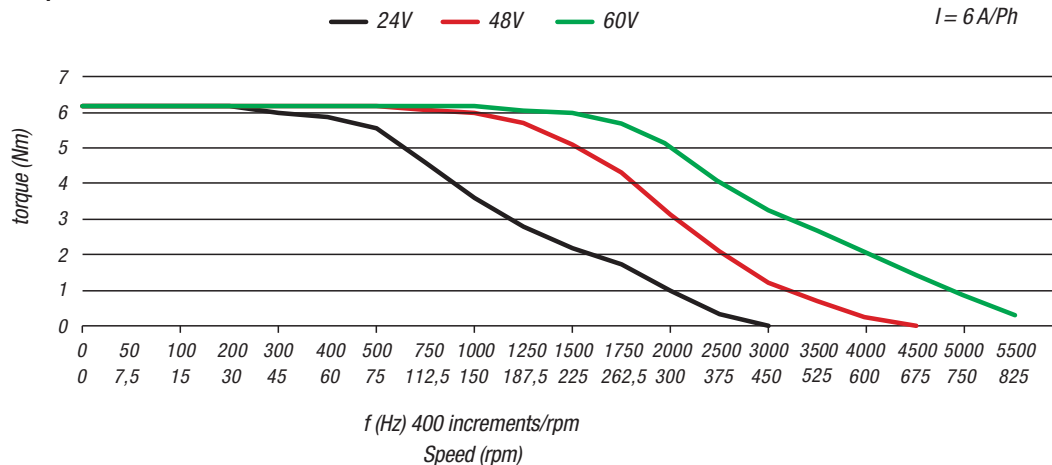
85000-230180

Torque characteristic curve



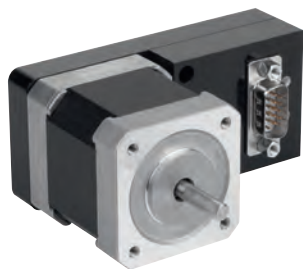
85000-340820

Torque characteristic curve



Stepper motors

with integrated positioning control



Version:

2-phase high-torque stepper motor in NEMA 17, NEMA 23 and NEMA 34 sizes with flat-milled shaft (D-shaft). 1.8 ° increment angle (full increment) with integrated positioning control.

Sample order:

n1m 85000-10-230200

Note:

Stepper motor with integrated positioning control. It forms a convenient unit consisting of stepper motor and intelligent controller. Reference travel is possible on a block with reduced electric current without proximity switch. Integrated rotational monitoring. Smooth running through dynamic switching of increment trip.

Actuation via single I/O interface, 31 position configurations and call-ups.

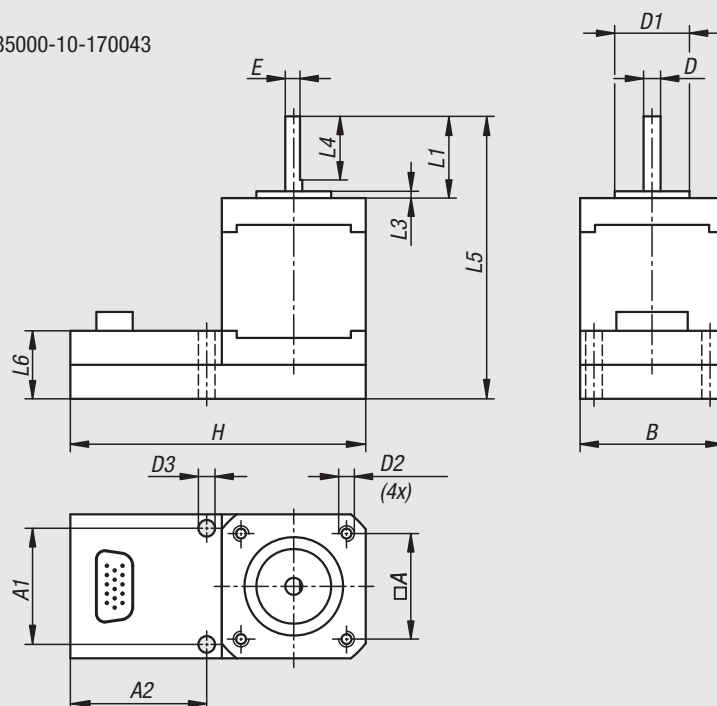
Control unit can be parametrised quickly and conveniently with the software. The software and manual for programming the positioning control are available as free download.

When selecting a suitable motor, using just the retaining torque is not enough, as the motor's torque decreases with the speed. It is therefore essential to select the correct motor according to the torque curve.

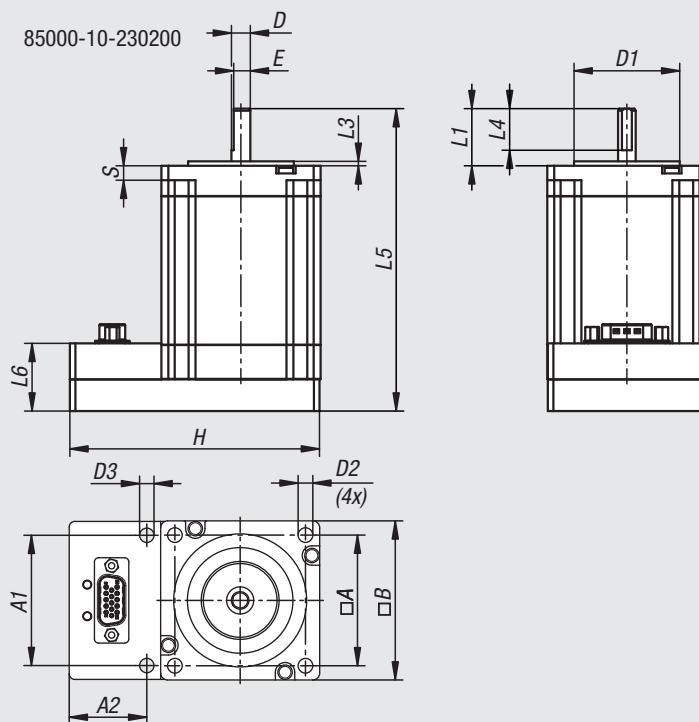
Temperature range:

0 °C to +50 °C.

85000-10-170043

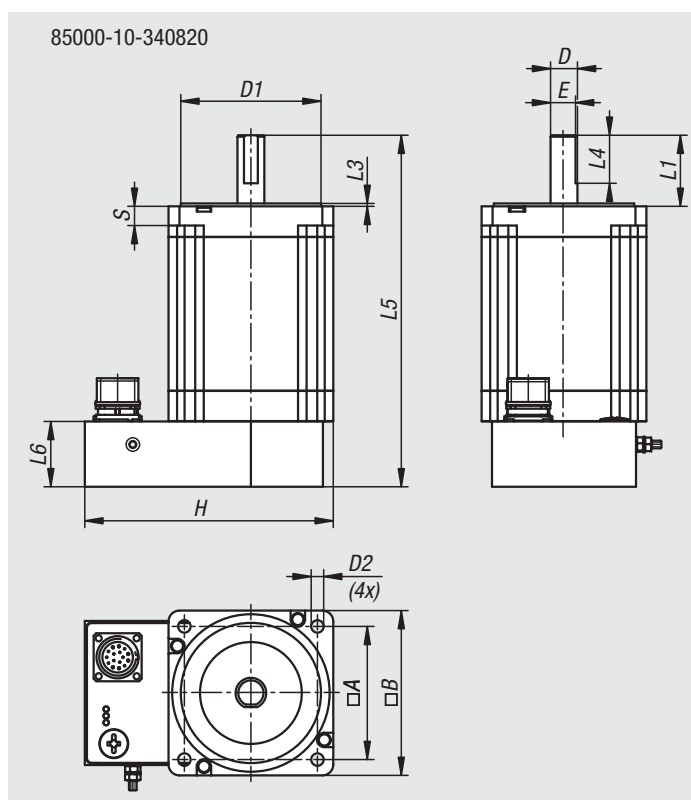


85000-10-230200



Stepper motors

with integrated positioning control



85000-10-170043

85000-10-230200

Pin	Digital I/O BAC	
1	Motor supply +24 V to +48 V DC	
2	Control voltage supply +24 V to +36 V DC	
3	GND	
4	Output "Ready" (RDY)	
5	Output "Motor standing" (MOST)	
6	Input "Start" or "Frequency"	
7	Input I5, or direction, or reference point or analog value	
8	Input 1 (binary 0)	
9	Input 2 (binary 1)	
10	Input 3 (binary 2)	
11	Input 4 (binary 3)	
12	Supply converter	
13	TxD	
14	RxD	
15	n.c.	

85000-10-340820

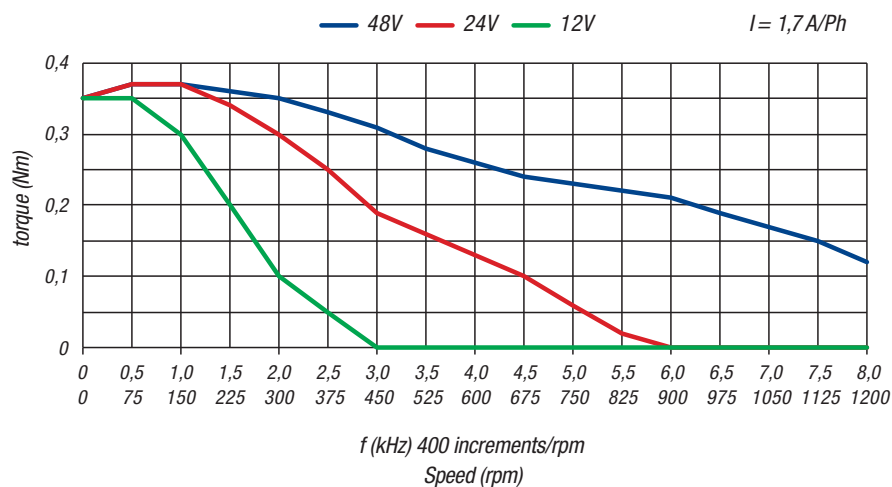
Pin	16-pin M23 plug, supply voltage/digital I/O	
1	+24 V to +36 V DC control voltage	
2	n.c.	
3	+24 V to +60 V DC motor voltage	
4	GND	
5	Output "Motor standing" (MOST)	
6	Output "Ready" (RDY)	
7	Input "Start" or "Frequency"	
8	n.c.	
9	Input I5, or direction, or reference point or analog value	
10	n.c.	
11	n.c.	
12	Input 1 (binary 0)	
13	Input 2 (binary 1)	
14	Input 3 (binary 2)	
15	Input 4 (binary 3)	
16	n.c.	

Stepper motors

with integrated positioning control

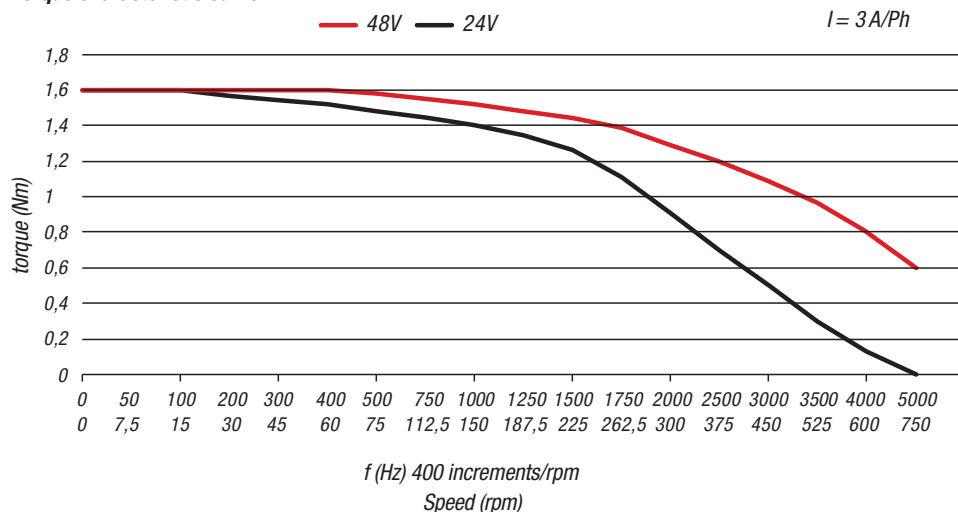
85000-10-170043

Torque characteristic curve



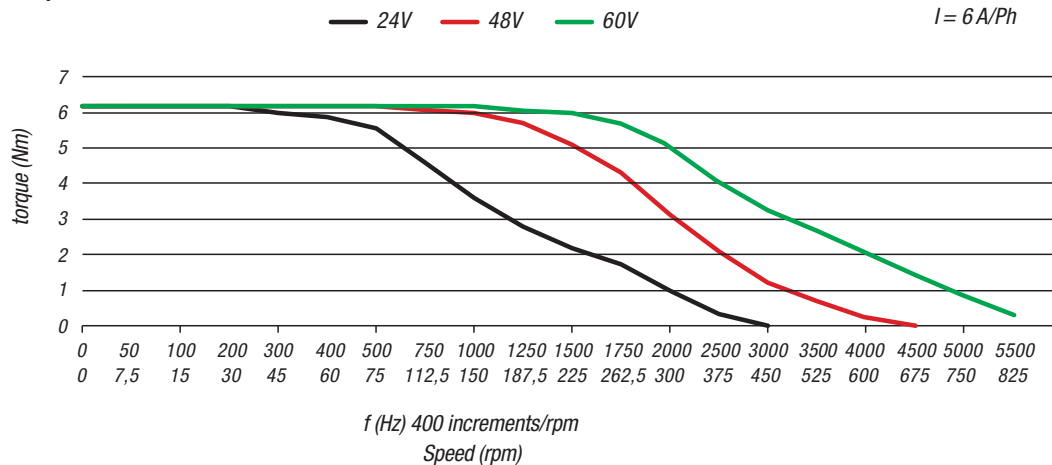
85000-10-230200

Torque characteristic curve



85000-10-340820

Torque characteristic curve



Stepper motors

with integrated positioning control

Order No.	Size	A	A1	A2	B	D	D1	D2	D3	E	H	L1	L3	L4	L5	L6	S	Control voltage VDC	Motor voltage VDC
85000-10-170043	NEMA 17	31	33	43,5	42	5	22	M03x4,5	5,2	4,5	90	20	2	15	78	24	-	+24 - +36	+24 - +48
85000-10-230200	NEMA 23	47,14	47	28	57,4	6,35	38,1	4,5	5,2	5,8	90	20,6	1,6	15	109	24,4	5	+24 - +36	+24 - +48
85000-10-340820	NEMA 34	69,6	-	-	86	14	73	6,5	-	13	129,2	37	1,6	25	183	34	9	+24 - +36	+24 - +60

Order No.	Retaining torque Nm	Phase current A	Moment of inertia kgcm ²	Interfaces
85000-10-170043	0,43	adjustable up to 1,7	0,068	DIGITAL I/O BAC, CYCLE/DIRECTION BAC
85000-10-230200	2	adjustable up to 3	0,39	DIGITAL I/O BAC, CYCLE/DIRECTION BAC
85000-10-340820	8,2	adjustable up to 6,3	3,6	DIGITAL I/O OR CYCLE/DIRECTION

Order No.	Current reduction	Inputs	Outputs	Step resolution	Encoder
85000-10-170043	AJUSTABLE	6 (+24 - +36 V DC)	2 (+24 V DC)	1/8, 1/4, 1/2, 1/1	INTEGRATED FOR MONITORING THE POSITION
85000-10-230200	AJUSTABLE	6 (+24 - +36 V DC)	2 (+24 V DC)	1/8, 1/4, 1/2, 1/1	INTEGRATED FOR MONITORING THE POSITION
85000-10-340820	AJUSTABLE	6 (+24 - +36 V DC)	2 (+24 V DC)	1/8, 1/4, 1/2, 1/1	INTEGRATED FOR MONITORING THE POSITION

Accessories for stepper motors

with integrated positioning control



Sample order:

nln 85000-15-92

Note:

The stepper motor has a dialog interface for configuration via a superordinate computer. The controllers are configured using this interface.

The standard interface is executed as a TTL interface. A converter (USB converter) must therefore be used so that the stepper motor can be configured via a PC (with the help of the programming software) or controlled remotely. To prevent the controller from being destroyed by excessive differences in potential or compensating currents, the USB converters supplied feature galvanic isolation.

85000-15-91: USB on RS-232 (9-pin SUB-D connector). This USB stick transfers serial TTL level data to the PC or notebook via the USB interface. Length ca. 500 mm with 1.8 m USB extension cable.

85000-15-92: USB on RS-232 (9-pin SUB-D connector). This USB stick transfers serial TTL level data to the PC or notebook via the USB interface. Length ca. 500 mm with 1.8 m USB extension cable. With adapter to mini DIN connector.

85000-15-95: 15-pin SUB-D bush on 15-pin SUB-D connector and 9-pin SUB-D bush, length ca. 170 mm.

85000-15-910X05000: 15-pin SUB-D HD bush, length 5 m. Drag chain compatible.

85000-15-911X05000: 16-pin, M23, straight bush, length 5 m. Drag chain compatible.



Order No.	Image	Item	Suitable for
85000-15-91		Converter	stepper motor NEMA 17/23
85000-15-92		Converter	stepper motor NEMA 34
85000-15-95		Adapter	stepper motor NEMA 17/23
85000-15-910X05000		Connection Cable	stepper motor NEMA 17/23
85000-15-911X05000		Connection Cable	stepper motor NEMA 34

Lifting columns aluminium

electrically adjustable



Material:

Aluminium.

Sample order:

n1m 85300-355

Note:

The lifting column is an electrically driven system with fully integrated technology, which is maintenance-free and operated according to the plug & work principle.

With a maximum speed of 8 mm/s, up to two lifting columns can be driven synchronously between 355 mm and 500 mm using the control (85300-10-90). Optionally, two controls can be connected together with a connection cable (85300-10-91X1000) so that four lifting columns can be driven synchronously.

These lifting columns are suitable for thrust and traction loads.

At least one control (85300-10-90) and one hand switch (85300-15-1) are required for commissioning the lifting columns.

The mounting plate (85300-930040) enables the lifting column to be easily installed into the customer's application.

On request:

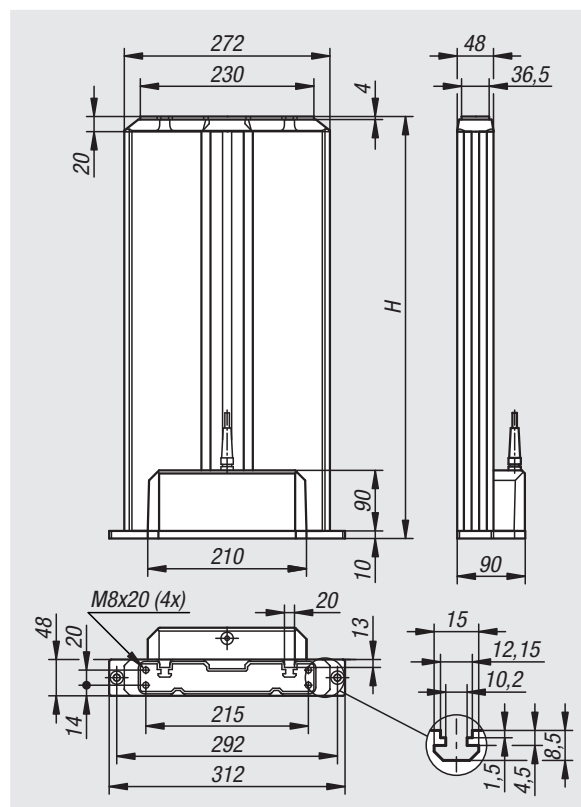
Lifting column ESD, lifting columns with damping, lifting columns for overhead applications, and lifting columns for cleanroom applications.

Supplied with:

- 1x lifting column, aluminium, electrically adjustable.
- 4x slot nuts for easy integration of the lifting column in the customer's application.

Accessories:

Control (85300-10-90)
Connection cable (85300-10-91X1000)
Hand switch (85300-15-1)
Power supply cable (85300-10-92X1800)
Mounting bracket (85300-930040)



Order No.	Item	Main material	H	H1	Travel S	Stroke speed (mm/s)	Traction force F1 N	Thrust force F2 N
85300-355	Lifting column	aluminium	558	203	355	8	3000	3000
85300-400	Lifting column	aluminium	603	203	400	8	3000	3000
85300-452	Lifting column	aluminium	658	203	455	8	3000	3000
85300-497	Lifting column	aluminium	703	203	500	8	3000	3000
-	Mounting Plate	zinc	-	-	-	-	-	-

Controls for lifting columns


Sample order:

nlm 85300-10-91X1000

Note:

Controls to operate lifting columns 85300.
Up to two drives can be connected to the controls. The controls can be operated by a hand switch with LCD display 85300-15-01. Two controls can be connected together with connection cable 85300-10-91X1000 so that four lifting columns can be driven synchronously.

On request:

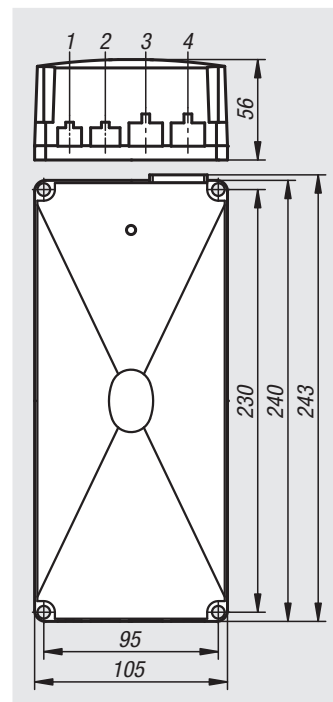
Power supply cable (Swiss version).
Power supply cable (UK version).
Power supply cable (Japanese version).
Power supply cable (USA version).

Accessories:

Connection cable 85300-10-91X1000
Power supply cable 85300-10-92X1800
Hand switch with LCD display 85300-15-1
Hand switch drawer 85300-15-91

Drawing reference:

1. Manual switch port
2. Interface for sensors
3. Motor port 2
4. Motor port 1



Order No.	Item	Version 1
85300-10-90	Control	-
85300-10-91X1000	Connecting Cable	-
85300-10-92X1800	Power supply cable	EU

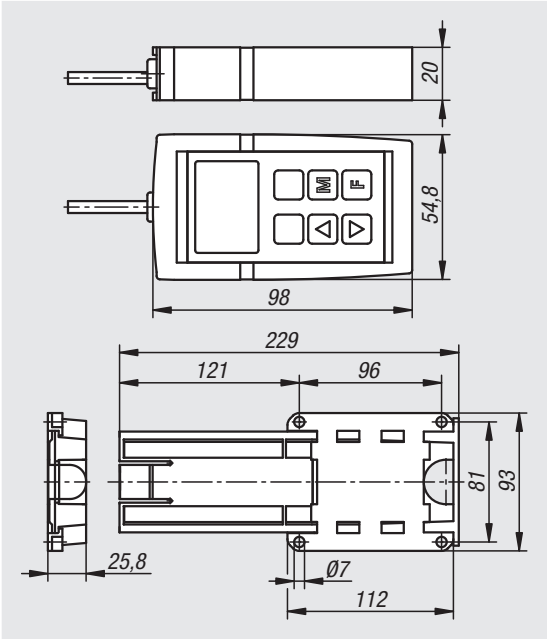
Hand switch for lifting columns



Sample order:
nlm 85300-15-91

Note:
Hand switch to operate the control 85300-10-90 and adjust lifting columns 85300.
Lifting columns 85300 are operated intuitively using the hand switch with display (85300-15-1).
Intermediate positions can also be stored and switched between different users.
The hand switches can be fixed to a table using hand switch drawer 85300-15-91.

Accessories:
Hand switch drawer 85300-15-91



Order No.	Item	Version 1	Function keys
85300-15-1	Hand switch	with display	6
85300-15-91	Hand switch drawer	-	-

Notes

