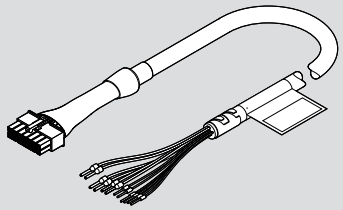
NEBM-L10G14-EH-...-Q...-LE12

Motor cable



FESTO

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Assembly instructions

8156480
2024-03
[8156482]

8156480

Original instructions

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1 Applicable documents

i

All available documents for the product ➔ www.festo.com/sp.

2 Safety

2.1 Safety instructions

– Before working on the product: Switch off the power supply, ensure that it is off and secure it against being switched on again.

2.2 Intended use

The motor cable connects the stepper motor EMMB-ST with the servo drive CMMT-ST.

2.3 Training of qualified personnel

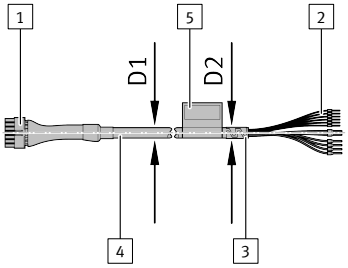
Work on the product may only be carried out by qualified personnel who can evaluate the work and detect dangers. The qualified personnel are trained in electrical engineering.

3 Additional information

– Contact the regional Festo contact if you have technical problems ➔ www.festo.com.
– Accessories ➔ www.festo.com/catalogue.

4 Structure

4.1 Product design



1 Hybrid socket L10
2 Wire end (12x)
3 Shielded connection
4 Cable
5 Contact assignment identification

Fig. 1: Product design

4.2 Contact assignment for motor and brake

Electrical connection 1 Field device side		Signal	Electrical connection 2 Controller side X6
[1] Hybrid socket			[2] Wire ends[1]
13 11 9 7 5 3 1 14 12 10 8 6 4 2	1	Phase A	RD
	2	Phase A/	BN
	3	BR+	GNWH
	4	BR-	BUWH
	5	Shielding	–
	6	Not assigned	–
	13	Phase B	BK
	14	Phase B/	WH

1) Colour code in accordance with IEC 60757:2021-06

Tab. 1: Contact assignment for motor and brake

4.3 Encoder contact assignment

Electrical connection 1 Field device side		Signal	Electrical connection 2 Controller side X2
[1] Hybrid socket			[2] Wire ends[1]
13 11 9 7 5 3 1 14 12 10 8 6 4 2	7	SLO+	VT
	8	SLO-	YE
	9	MA+	GY
	10	MA-	PK
	11	+5 V	RD
	12	GND (0 V)	BU

1) Colour code in accordance with IEC 60757:2021-06

Tab. 2: Encoder contact assignment

5 Mounting

5.1 Mounting electrical connection 1

1. Align the hybrid socket [1].
2. Plug the hybrid socket [1] into the connection and click it into place.

5.2 Strain relief for electrical connection 1

- Fix the cable sheath in the section before the hybrid socket.
  ↳ No strain on the hybrid socket.

5.3 Mounting electrical connection 2

1. Attach the shield connection [3] to the servo drive with the shield clamp ➔ Servo drive operating instructions CMMT-ST.
2. Connect the wire ends [2] in accordance with the contact assignment. Note the contact assignment identification [5].

5.4 Strain relief for electrical connection 2

- Fix the cable sheath in the area in front of the wire ends.
  ↳ No strain on the wires.

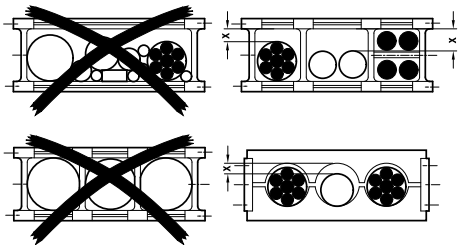
5.5 Wiring

Characteristics	Cable characteristics	Wiring
-E	Suitability for energy chains	In energy chain or flexible

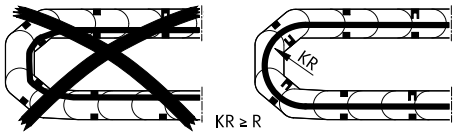
Tab. 3: Wiring

5.6 Mounting in energy chain

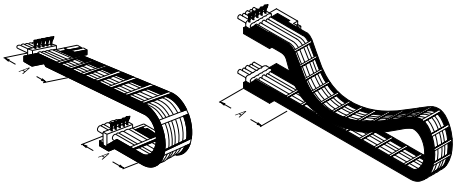
1. Lay out the energy chain lengthways.
2. Place the cables in the energy chain without twisting them.
3. Separate cables from each other using separators/drilled holes.
4. Do not bind cables in bundles.
5. Maintain space X. X > 10% of the cable diameter D.
   With the energy chain hanging vertically: increase the space X.



6. Align the energy chain in the working position:
   – Make sure that the radius is greater than the bending radius R of the cables.
   – The cables can move freely in the bending radius KR of the energy chain.



   ↳ The cable movement is not forced by the energy chain.
7. Mount the energy chain ➔ corresponding instruction manual.
8. Fasten the cables:
   – for short energy chains with a length < 1 m at both ends of the energy chain
   – for long sliding energy chains with a length > 1 m at the driver end only
9. Do not move cables all the way to the fastening point.



   ↳ The mounting space A between the fastening point and bending movement is maintained.

NOTICE

Damage to cables if the chain breaks.

- Replace cables after a chain break.

NOTICE

Malfunction and material damage due to vertically suspended cables.

The cables stretch.

- Regularly check the length of the cables.
- Readjust the cables if required.

6 Technical data

NEBM-L10G14-EH-...-...-LE12			-Q6(N)	-Q7(N)	-Q9(N)
Certificates, declaration of conformity			➔ www.festo.com/sp		
Cable characteristic			Suitability for energy chains		
Cable function			3x motor cable		
Cable composition		[mm²]	4x0.5 + 2x0.5 + 6x0.15	4x0.75 + 2x0.5 + 6x0.15	4x1.5 + 2x0.5 + 6x0.15
Shielding			Shielded		
Cable diameter	D1	[mm]	10.5		10.8
Diameter of shield sleeve	D2	[mm]	Approx. 12.5		
Mounting space	A	[mm]	≥ 250		
Current rating at 40 °C		[A]	7.6	11.7	17.8
Surge resistance		[kV]	1.5		
Operating voltage range					
DC	U_B	[V]	0 ... 48		
Bending radius					
Fixed cable installation	R	[mm]	≥ 42		≥ 43.2
Flexible cable installation	R	[mm]	≥ 78.75		≥ 81
Ambient temperature					
Fixed cable installation		[°C]	–40 ... +90		
Flexible cable installation		[°C]	–25 ... +80		
Material					
Cable sheath			TPE-U(PUR)		
Insulating sheath			PP		
Electrical connection 1					
Function			Field device side		
Connection type			Hybrid socket		
Connection technology			Plug pattern L10		
Number of pins/cores			14		
Assigned pins/cores			13		
Type of mounting			Snap-locking		
Degree of protection In assembled state			IP20		
Electrical connection 2					
Function			Controller side		
Connection type			Cable		
Connection technology			Open end		
Number of pins/cores			12		
Assigned pins/cores			12		
Wire ends			Wire ferrule		
Degree of protection In assembled state			IP20		

Tab. 4: Technical data