



SEW
EURODRIVE

Data Sheet



MOVIAXIS® Multi-Axis Servo Inverter
Information regarding UL



Contents

1	Information regarding UL.....	4
1.1	Field Wiring Power Terminals	4
1.2	Short Circuit Current Rating	5
1.3	Branch Circuit Protection	5
1.4	Motor Overload Protection	6
1.5	Ambient Temperature	7
2	Wiring diagrams.....	8
2.1	Connection of supply module, capacitor / buffer module, axis module, brake and 24 V switched-mode power supply module	8
2.1.1	Wiring of power terminals MXP80.. Size 1 and 2	8
2.1.2	Wiring of power terminals MXP80.. Size 3	9
2.1.3	Wiring the MXP81.. power connections with integrated braking resistor	10
2.1.4	Wiring the MXP81.. power connections with external braking resistor	11
2.2	Connecting braking resistors	12
2.3	Brake control	13
2.4	Connecting of regenerative power module	18
2.4.1	Wiring of the power connections without NFH EcoLine filter	18
2.4.2	Wiring of the power connections with NFH EcoLine filter	19

1 Information regarding UL

1.1 Field Wiring Power Terminals

- Use 60 / 75 °C copper wire only.
- Tighten terminals to in-lbs (Nm) as follows

Power supply module	Tightening torque	
	Mains connection X1	Braking resistor terminals
Size 1	4.4254 - 5.3105 in.lb (0.5 - 0.6 Nm)	4.4254 - 5.3105 in.lb (0.5 - 0.6 Nm)
Size 2	23.552 - 35.403 in.lb (3.0 - 4.0 Nm)	23.552 - 35.403 in.lb (3.0 - 4.0 Nm)
Size 3	53.105 - 88.508 in.lb (6.0 - 10.0 Nm)	23.552 - 35.403 in.lb (3.0 - 4.0 Nm)
Regenerative power module	Mains connection X1	Emergency braking resistor terminals
One size	53.105 - 88.508 in.lb (6.0 - 10.0 Nm)	23.552 - 35.403 in.lb (3.0 - 4.0 Nm)
Regenerative power module	Mains connection X1	---
EcoLine Filter	106.21 - 132.76 in.lb (12 - 15 Nm)	---
Axis module	Motor connection X2	---
Size 1	4.4254 - 5.3105 in.lb (0.5 - 0.6 Nm)	---
Size 2	10.621 - 13.276 in.lb (1.2 - 1.5 Nm)	---
Size 3	13.276 - 15.046 in.lb (1.5 - 1.7 Nm)	---
Size 4	23.552 - 35.403 in.lb (3.0 - 4.0 Nm)	---
Size 5	23.552 - 35.403 in.lb (3.0 - 4.0 Nm)	---
Size 6	53.105 - 88.508 in.lb (6.0 - 10.0 Nm)	---
DC link discharge module	Braking resistor connection X15	---
All sizes	23.552 - 35.403 in.lb (3.0 - 4.0 Nm)	---
Models	DC-link bars X4	---
All Models	23.552 - 35.403 in.lb (3.0 - 4.0 Nm)	---

1.2 Short Circuit Current Rating

Suitable for use on a circuit capable of delivering not more than

- 200,000 rms symmetrical amperes when protected by fuses and circuit breakers as described in the tables below.
- 65,000 rms symmetrical amperes when protected by ABB and Rockwell Type E Combination Motor controllers as described in the tables below.

Max. voltage is limited to 500 V.

1.3 Branch Circuit Protection

Integral solid state short circuit protection does not provide branch circuit protection. Branch circuit protection must be provided in accordance with the National Electrical Code and any additional local codes.

	SCCR: 200 kA/ 500 V when protected by:	SCCR: 200 kA/ 500 V when protected by:	SCCR: 65 kA/ 480 V when protected by: ¹⁾	SCCR: 65 kA/ 480 V when protected by:
Model	Non Semiconductor Fuses (currents are maximum values)	Inverse-Time Circuit Breaker	Type E Combination Motor Controller	
MXP8XA-010-X-X (Size 1)	20 A / 600 V	25 A max / 500 V Min	ABB, Model MS132-20 Rated 480 V, 10 HP	Rockwell Automation Model 140M-D8E-C20, Rated 480 V, 15 HP
MXP8XA-025-X-Y (Size 2)	40 A / 600 V	-	ABB, Model MS450-40E or MS165-42, Rated 480 V, 30 HP	Rockwell Automation Model 140M-F8E-C45, Rated 480 V, 30 HP
MXP8XA-025-X-01 (Size 3)	80 A / 600 V	175 A max / 500 V Min	ABB, Model MS495-75E Rated 480 V, 60 HP	-
MXP8XA-050-X-X (Size 3)	80 A / 600 V	175 A max / 500 V Min	ABB, Model MS495-75E Rated 480 V, 60 HP	-

	SCCR: 200 kA/ 500 V when protected by:	SCCR: 200 kA/ 500 V when protected by:	SCCR: 65 kA/ 480 V when protected by:¹⁾	SCCR: 65 kA/ 480 V when protected by:
Model	Non Semiconductor Fuses (currents are maximum values)	Inverse-Time Circuit Breaker	Type E Combination Motor Controller	
MXP8XA-075-X-X (Size 3)	125 A / 600 V	175 A max / 500 V Min	-	-

1) Drives employing Type E Combination Motor Controller model MS132-20, must be installed with Current Limiter Series S803W-SCLxxx-SR manufactured by ABB, otherwise SCCR rated 30kA/ 480Vrms.

	SCCR: 200 kA/ 500 V when protected by:	SCCR: 200 kA/ 500 V when protected by:	SCCR: 65 kA/ 480 V when protected by:	SCCR: 65 kA/ 480 V when protected by:
Model	Non Semiconductor Fuses (currents are maximum values)	Inverse-Time Circuit Breaker	Type E Combination Motor Controller	
MXR80A-075-X-X (50 kW)	80 A / 600 V	175 A max / 500 V Min	ABB, Model MS495-75E Rated 480 V, 60 HP	-
MXR80A-075-X-X (75 kW)	125 A / 600 V	175 A max / 500 V Min	-	-
MXR81A-050-X-X	100 A / 600 V	175 A max / 500 V Min	ABB, Model MS495-90E Rated 480 V, 75 HP	-
MXR81A-075-X-X	150 A / 600 V	175 A max / 500 V Min	-	-

- If you use cable cross sections that are dimensioned for a smaller current than the rated current of the unit, make sure that the fuse is dimensioned for the used cable cross section.
- For information on selecting cable cross sections, refer to the project planning manual.
- Comply with the country-specific installation regulations in addition to the above notes.
- The plug-in connections of the 24 V supply are limited to 10 A.
- Option cards that are supplied via the 0 V and 24 V terminals at the front must be protected individually or in groups by 4 A melting fuses according to UL 248.

1.4 Motor Overload Protection

The units are provided with load and speed-sensitive overload protection and thermal memory retention upon shutdown or power loss.

The trip current is adjusted to 150 % of the rated motor current.

1.5 Ambient Temperature

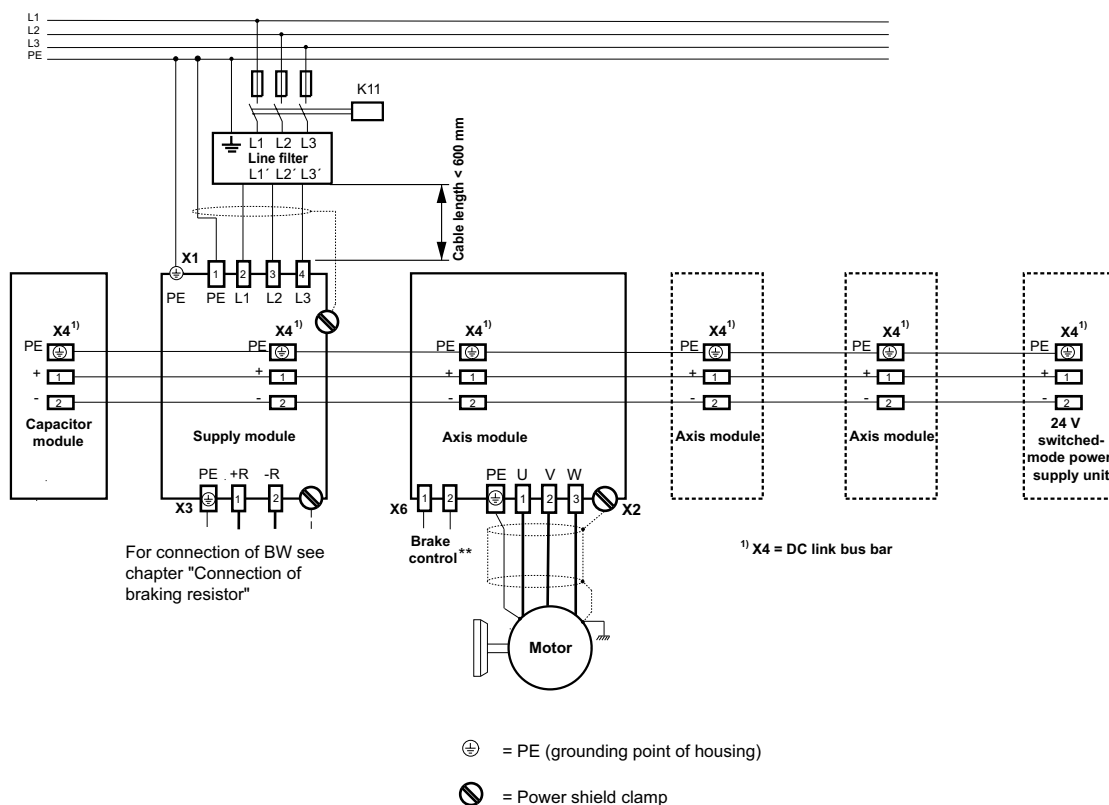
The units are suitable for an ambient temperature of 45 °C.

	NOTES
	UL certification does not apply to operation in voltage supply systems without earthed star point (IT systems).

2 Wiring diagrams

2.1 Connection of supply module, capacitor / buffer module, axis module, brake and 24 V switched-mode power supply module

2.1.1 Wiring of power terminals MXP80.. Size 1 and 2



6522974347

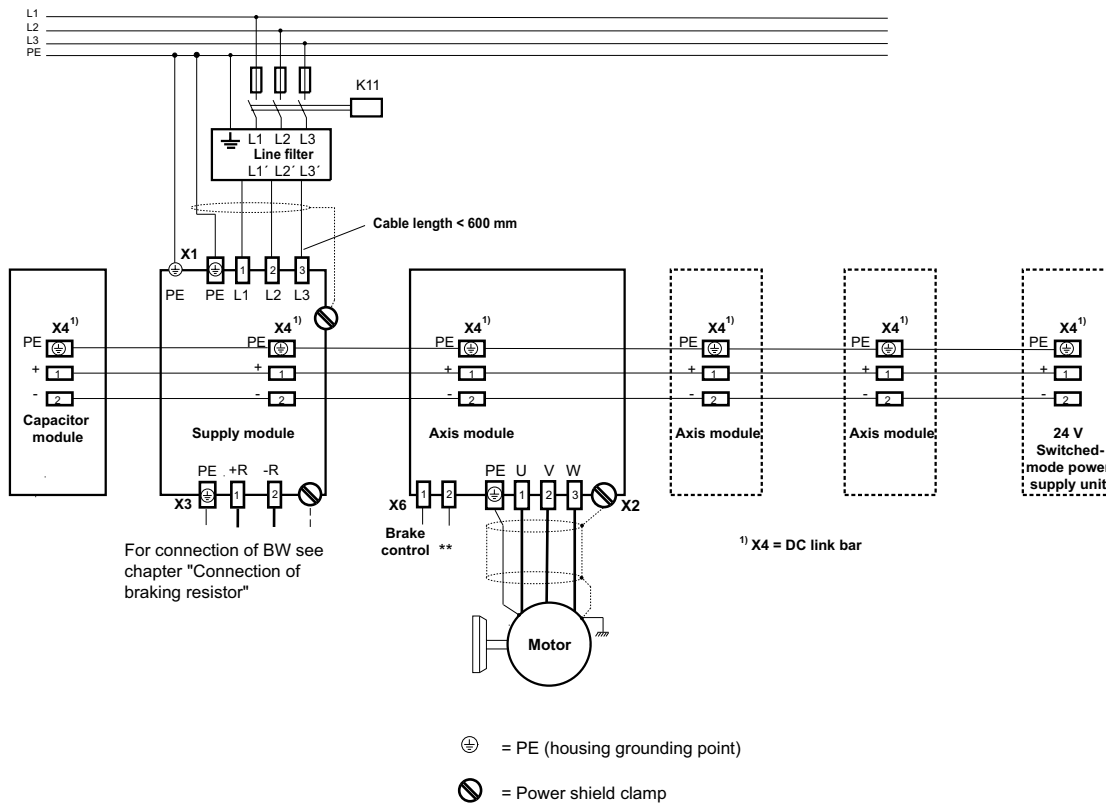
6522974347

* When F16 (trip contact at overload relay) triggers, K11 must be opened and DI00 "Output stage enable" must receive a "0" signal. F16 is a signal contact, which means the resistor circuit must not be interrupted.

** Make sure to provide separate isolation for the brake lines when controlling the brakes with 24 V. We recommend using SEW hybrid cables that offer complete shielding with shielding supports as well as separate shielding for the brake line.

*** Install the connection cables between the brake rectifier and the brake separately from other power cables when installing the brake rectifier in the control cabinet. Joint installation is only permitted with shielded power cables.

2.1.2 Wiring of power terminals MXP80.. Size 3



6522977035

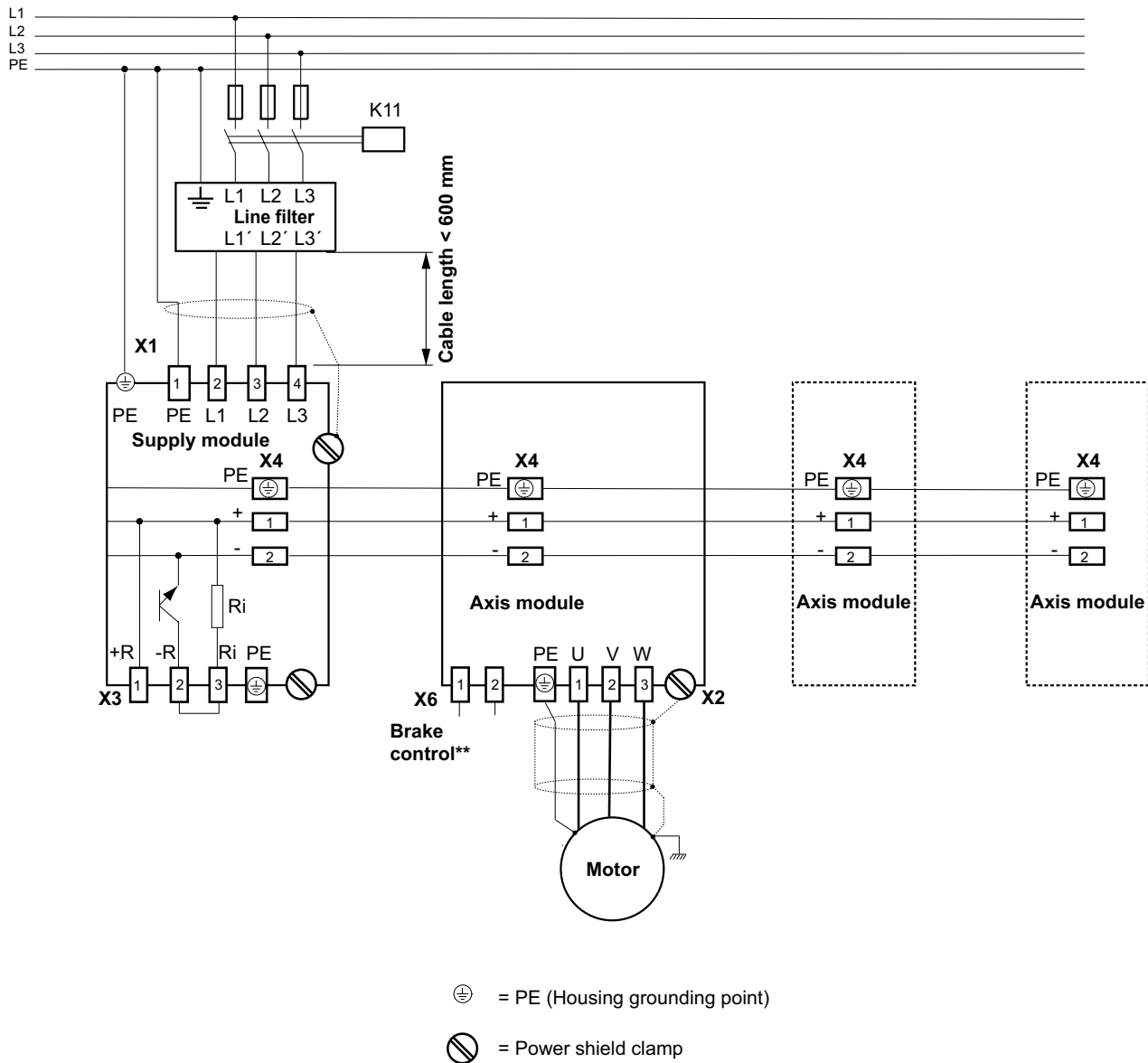
6522977035

"Footnotes:" (→ 8)

Wiring diagrams

Connection of supply module, capacitor / buffer module, axis module, brake and
24 V switched-mode power supply module

2.1.3 Wiring the MXP81.. power connections with integrated braking resistor

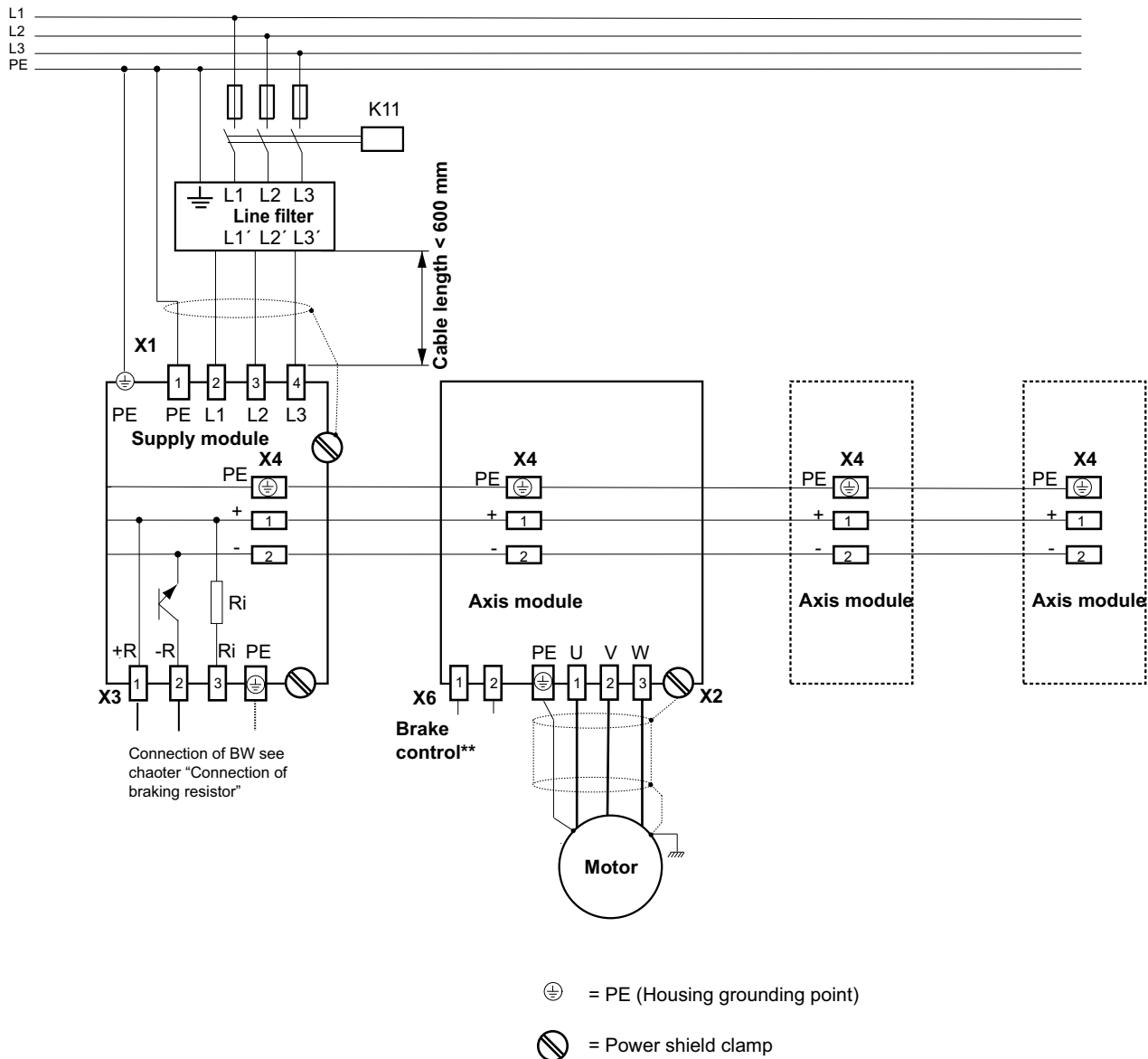


6522979723

6522979723

"Footnotes:" (→ 8)

2.1.4 Wiring the MXP81.. power connections with external braking resistor

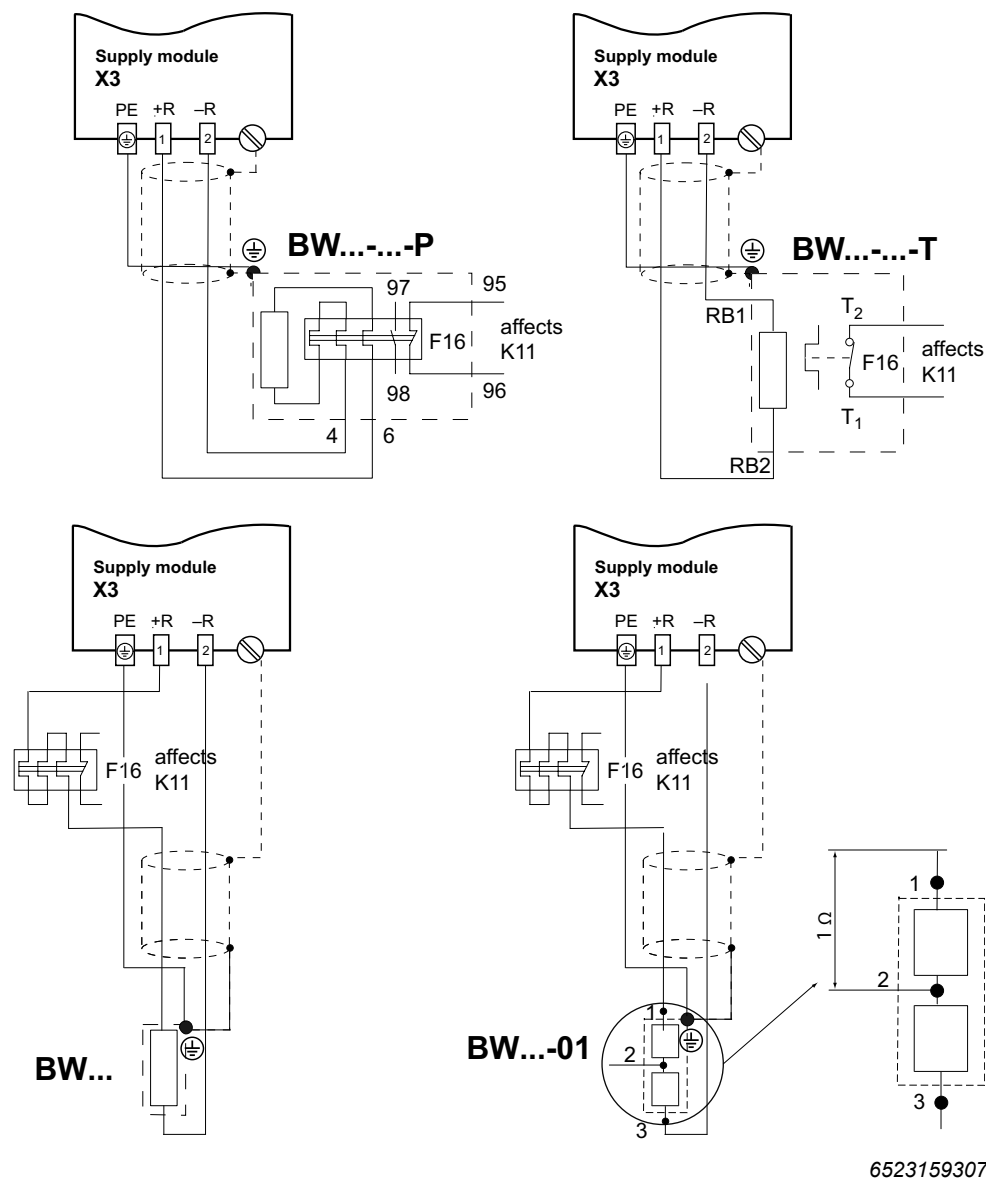


6522995211

6522995211

"Footnotes:" (→ 8)

2.2 Connecting braking resistors



6523159307

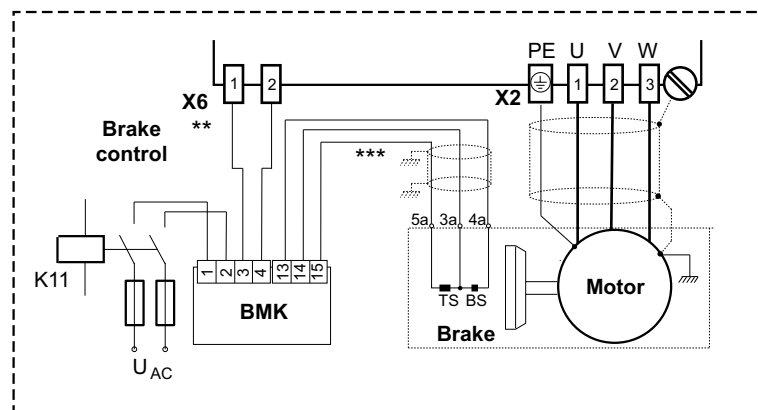
6523159307

BW...-P	BW...-T	BW... , BW...-01
If the signal contact F16 trips, K11 must open. When F16 (trip contact at overload relay or temperature switch) triggers, K11 must open and "Output stage enable" must receive a "0" signal. F16 is a signal contact, which means the resistor circuit must not be interrupted.	When the internal temperature switch trips, K11 must open. When F16 (trip contact at overload relay or temperature switch) triggers, K11 must open and "Output stage enable" must receive a "0" signal. F16 is a signal contact, which means the resistor circuit must not be interrupted.	When the external bimetallic relay (F16) trips, K11 must open. When F16 (trip contact at overload relay or temperature switch) triggers, K11 must open and "Output stage enable" must receive a "0" signal. F16 is a signal contact, which means the resistor circuit must not be interrupted.
Braking resistor type	Overload protection	
BW..	External bimetallic relay F16	

Braking resistor type	Overload protection
BW...-01	External bimetallic relay F16
BW...-T	- Internal temperature switch or - External bimetallic relay F16
BW...-P	Internal bimetallic relay F16

2.3 Brake control

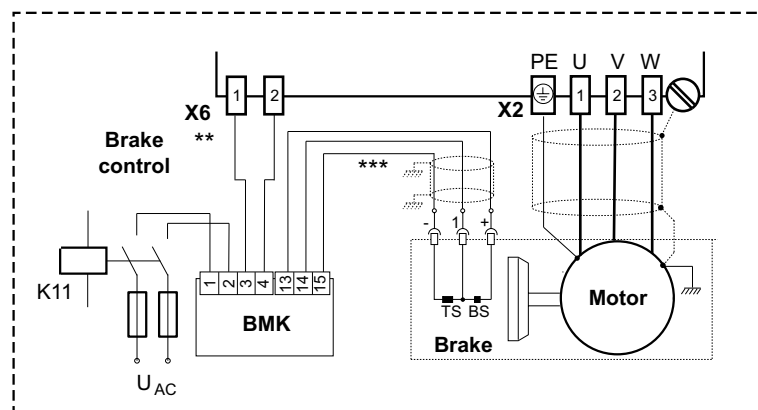
BMK brake control with terminal box



6523180427

6523180427

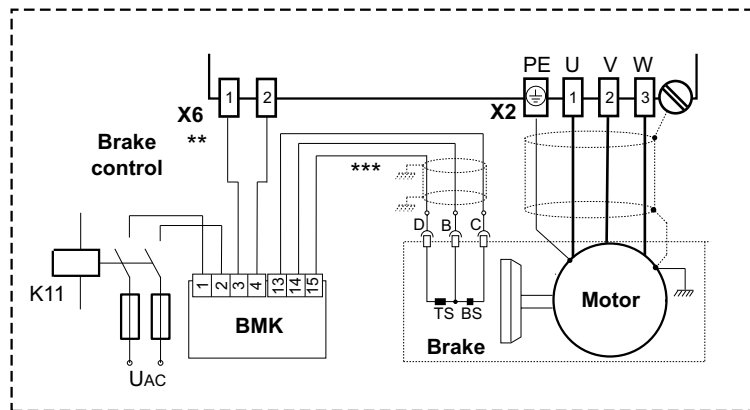
BMK brake control with SB1 plug connector



6523182091

6523182091

BMK brake control with SBB plug connector

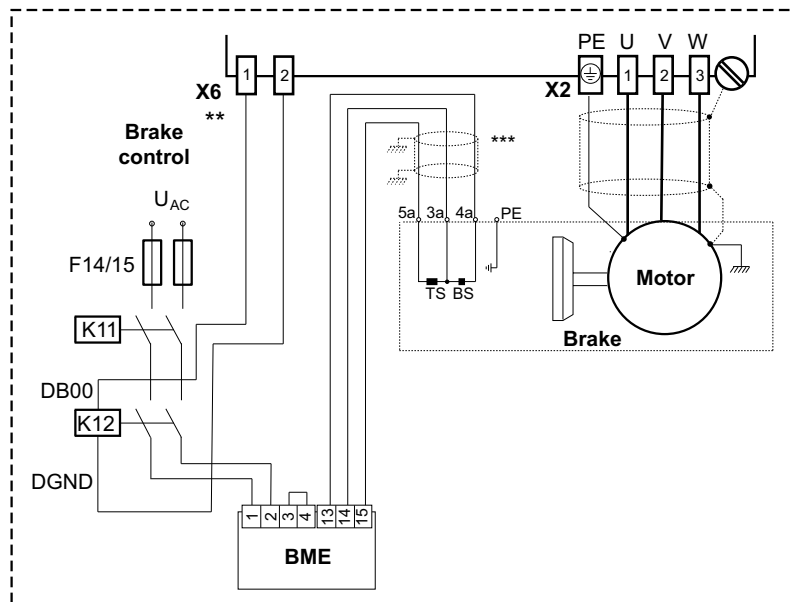


6523183755

6523183755

"Footnotes:" (→ 8)

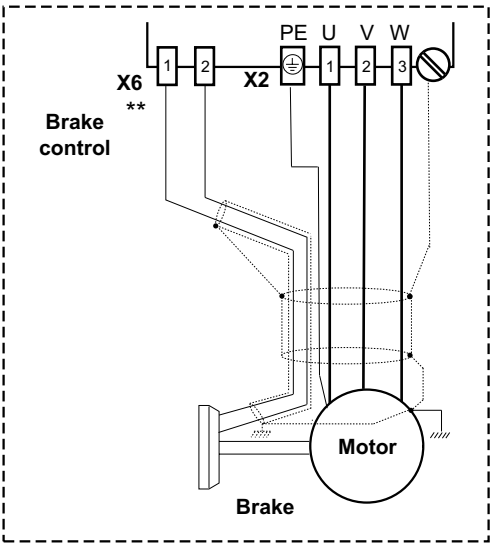
BME brake control with terminal box



6523198219

6523198219

Directly controlled motor brake

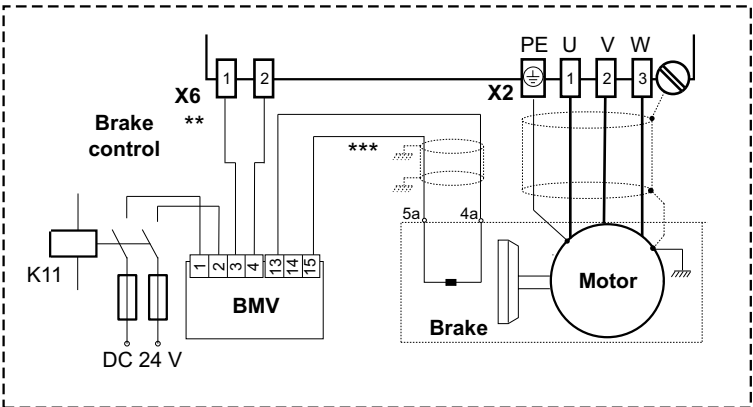


6523199883

6523199883

"Footnotes:" (→ 8)

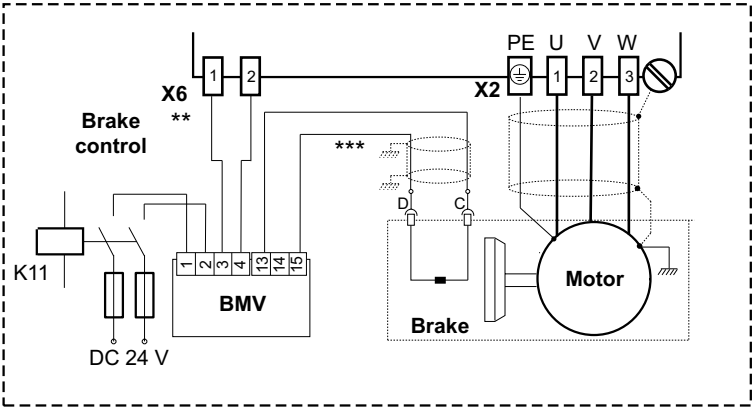
BP brake control BMV with terminal box



6523201547

6523201547

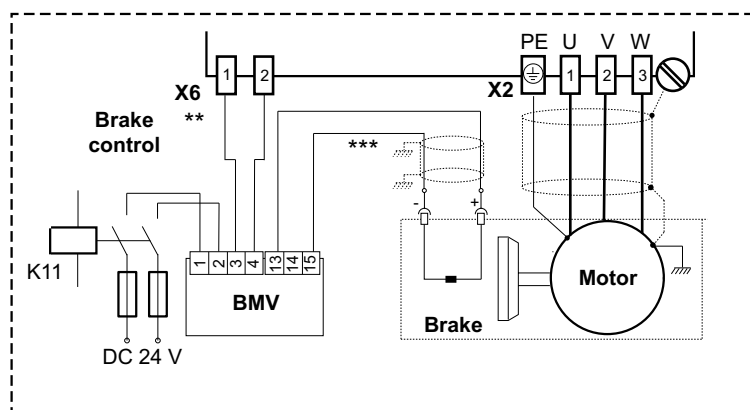
BP brake control BMV with SB1 plug connector



6523203211

6523203211

BP brake control BMV with SBB plug connector

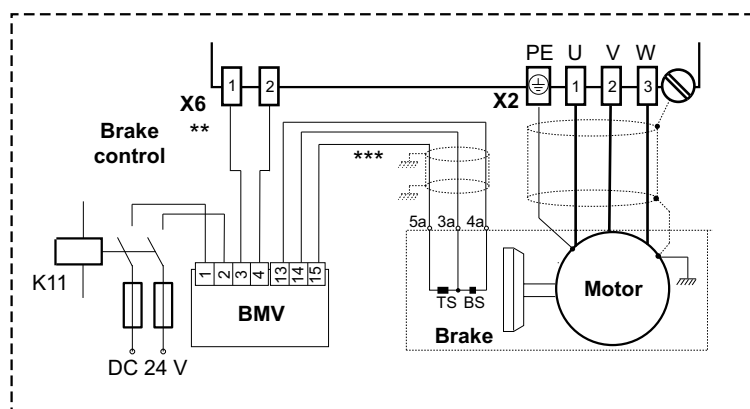


6523204875

6523204875

"Footnotes:" (→ 8)

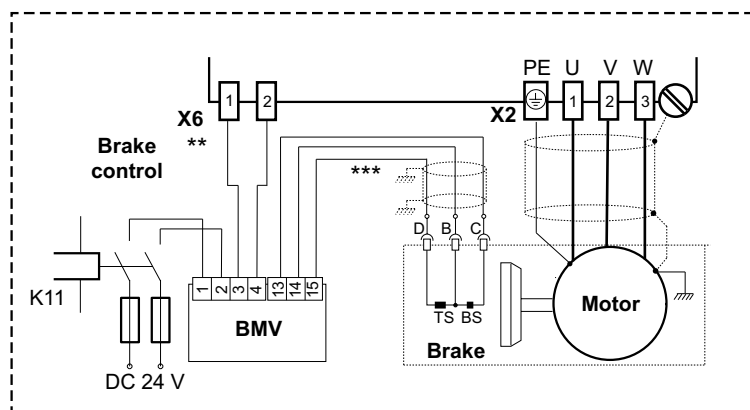
BY brake control BMV with terminal box



6523206539

6523206539

BY brake control BMV with SB1 plug connector



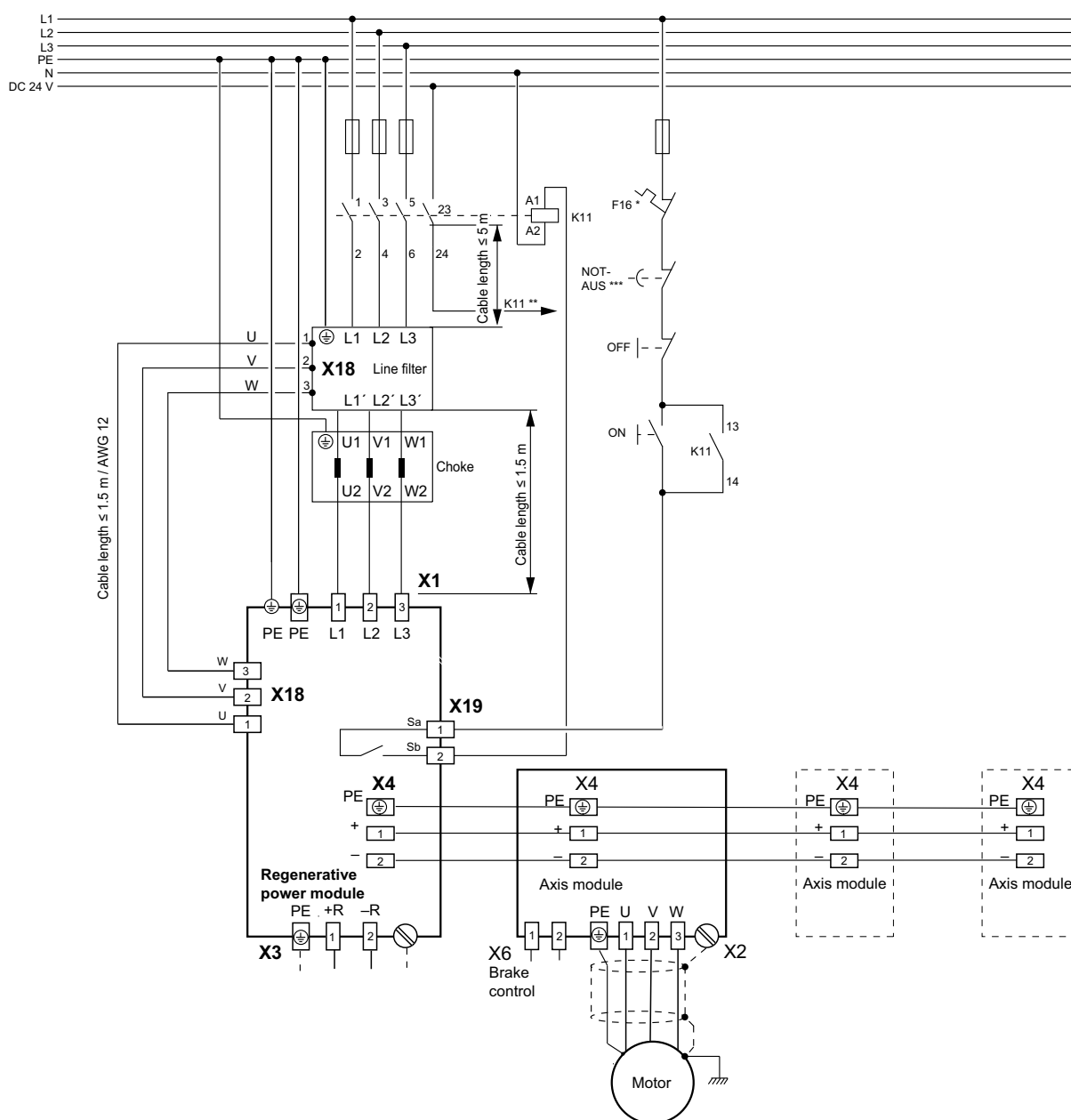
6523208203

6523208203

25949071/EN – 01/2019

2.4 Connecting of regenerative power module

2.4.1 Wiring of the power connections without NFH EcoLine filter



⊕ = PE (grounding point of housing)

⊗ = Power shield clamp

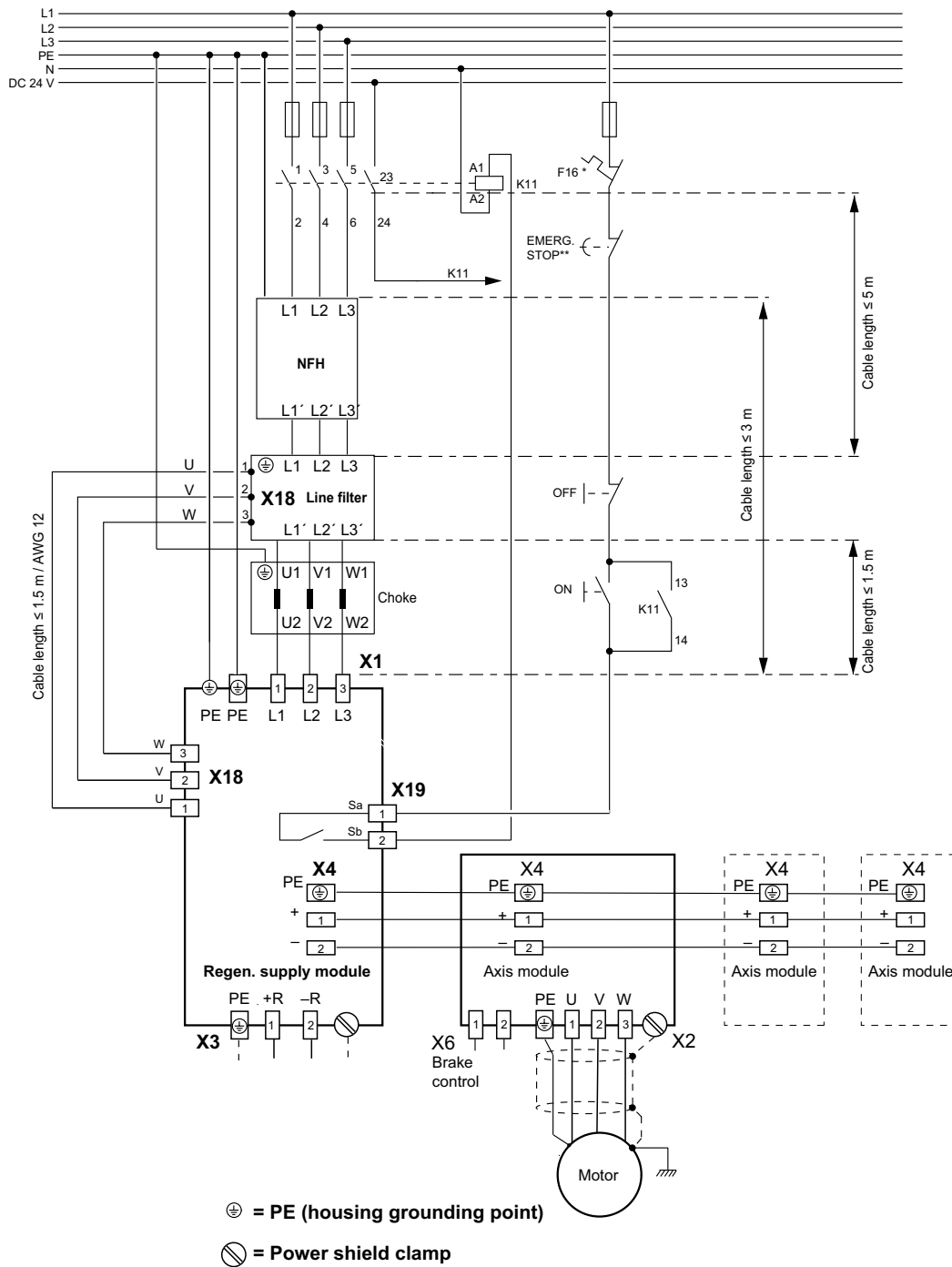
6523296651

6523296651

* When F16 (trip contact at overload relay) triggers, K11 must be opened and "Output stage enable" must receive a "0" signal. F16 is a signal contact, which means the resistor circuit must not be interrupted.

** Emergency stop release delay only in line with applicable system- and country-specific safety regulations and customer specifications.

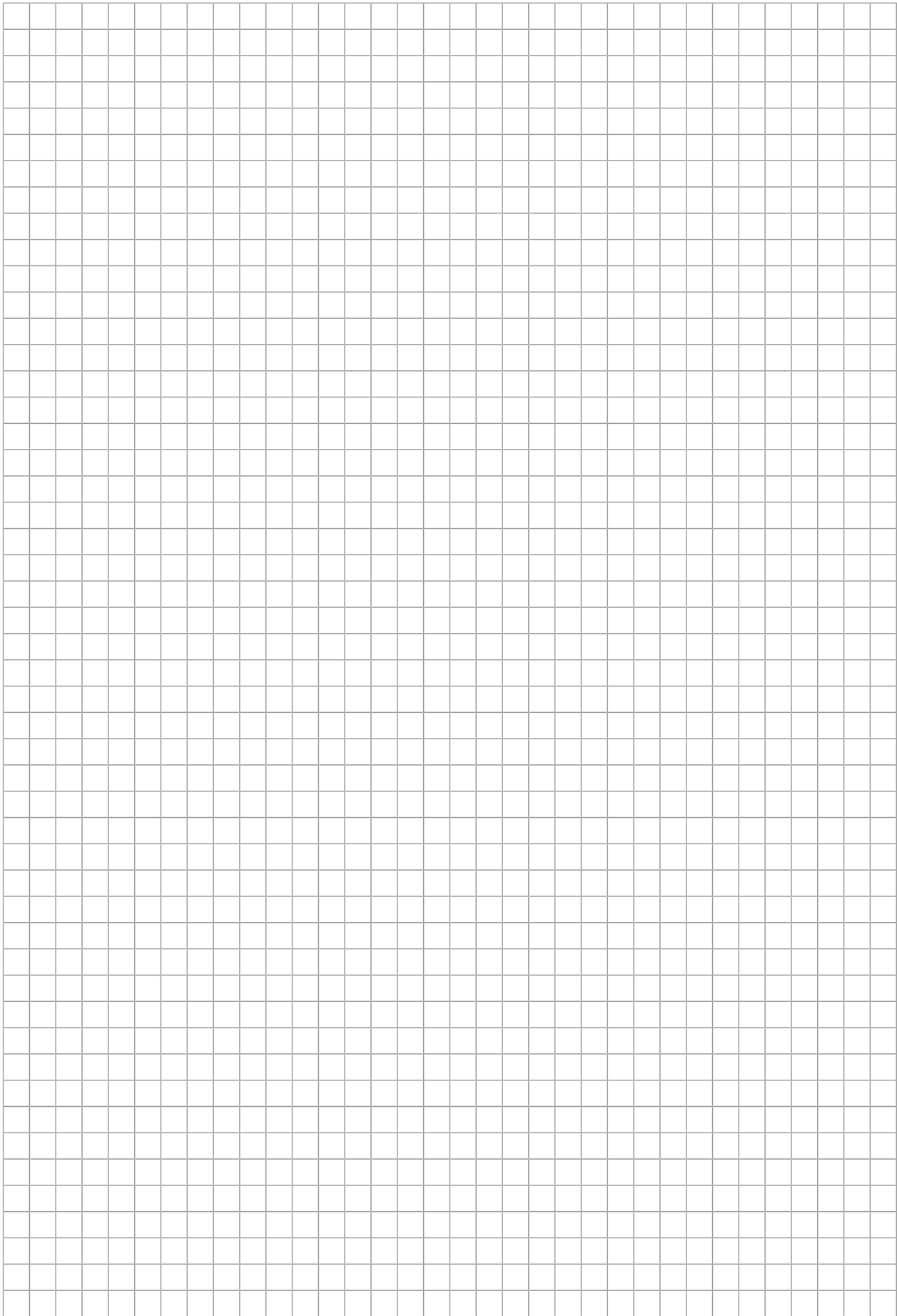
2.4.2 Wiring of the power connections with NFH EcoLine filter

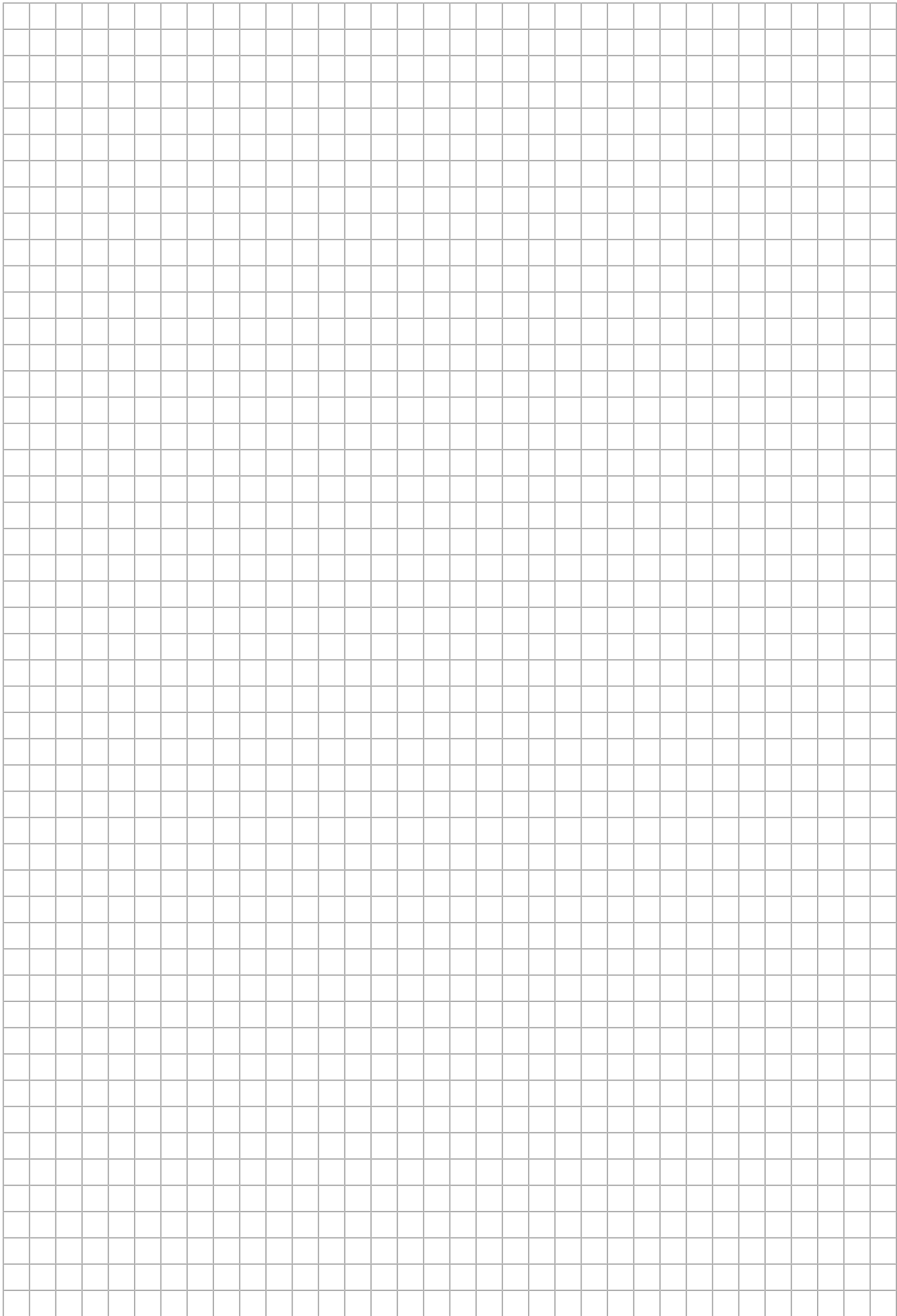


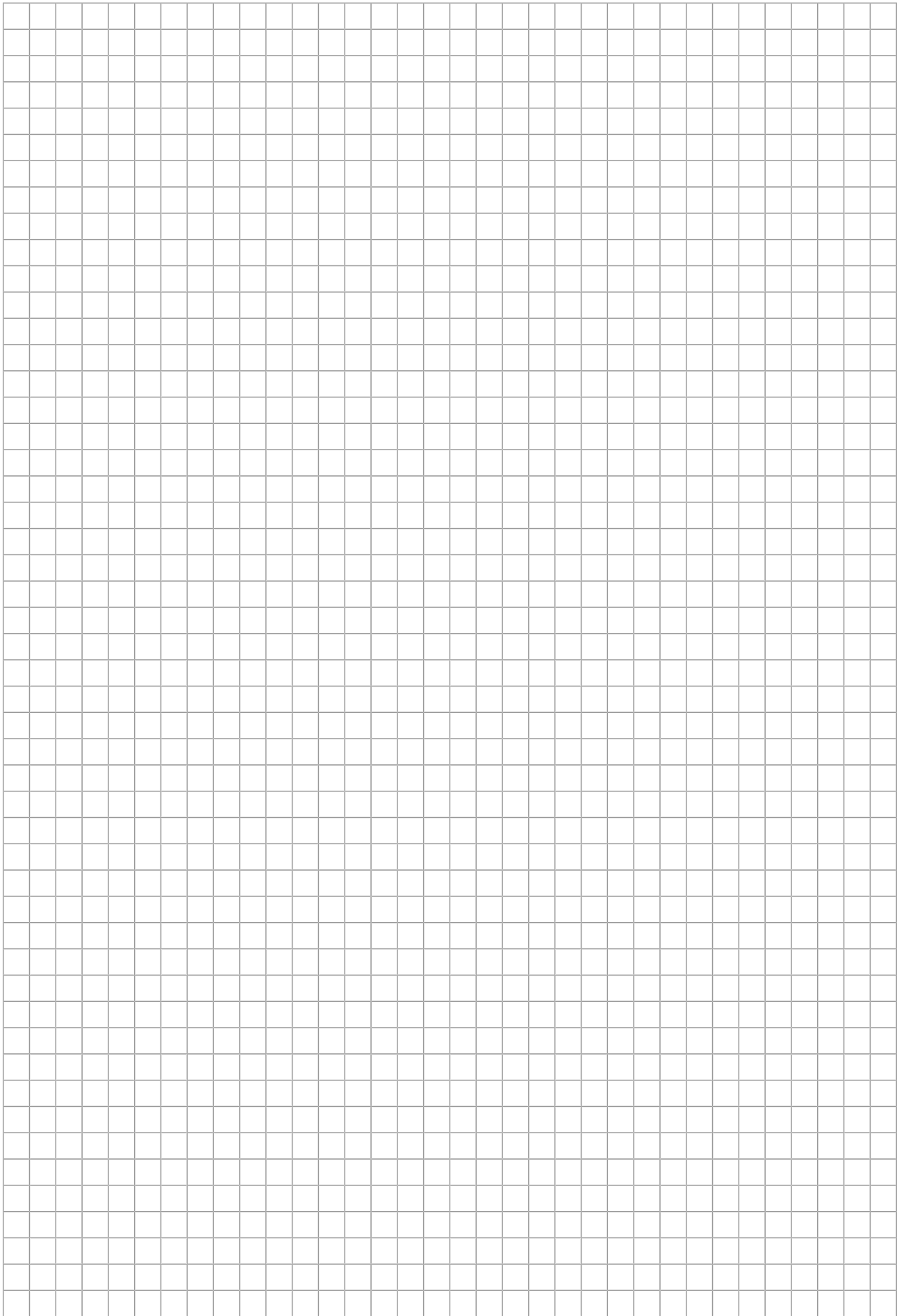
6523299339

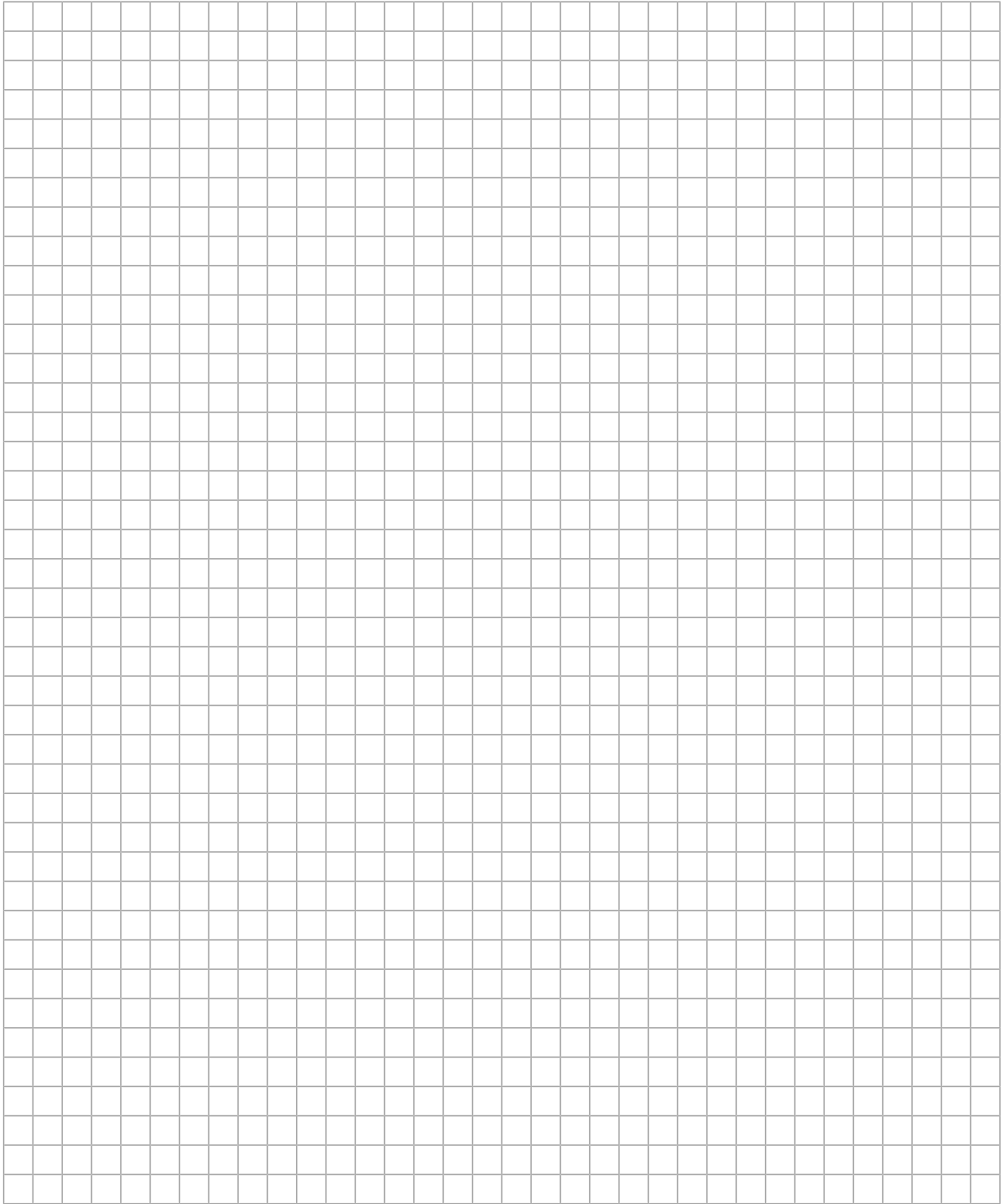
6523299339

"Footnotes:" (→ 18)











SEW-EURODRIVE
Driving the world

SEW
EURODRIVE

SEW-EURODRIVE GmbH & Co KG
Ernst-Blickle-Str. 42
76646 BRUCHSAL
GERMANY
Tel. +49 7251 75-0
Fax +49 7251 75-1970
sew@sew-eurodrive.com
→ www.sew-eurodrive.com