



SEW
EURODRIVE

Data Sheet



MOVIDRIVE® system/technology
Information regarding UL



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1 Information regarding UL

INFORMATION



Due to UL requirements, the following chapter is always printed in English independent of the language of the documentation.

INFORMATION



The UL-certification does not apply to operation on voltage supply systems with a non-grounded star point (IT systems).

INFORMATION



Use only tested units with a **limited output voltage** ($V_{\max} = \text{DC } 30 \text{ V}$) and **limited output current** ($I_{\max} = 8 \text{ A}$) as an **external DC 24 V voltage source**.

1.1 Field wiring power terminals

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

	Tightening torque in-lbs (Nm)			
MDX9_A-...-5_3-..	Line connection		Motor and braking resistor terminals	
0020 - 0160	X1	4.43 – 7.08 (0.5 – 0.8) Wire sizes 14 – 12 AWG	X2	4.43 – 7.08 (0.5 – 0.8) Wire sizes 14 – 12 AWG
0240 - 0320	X1	15.05 – 15.93 (1.7 – 1.8)	X2	15.05 – 15.93 (1.7 – 1.8)
0460 - 0750	X1	75.2 – 84.1 (8.5 – 9.5)	X2	75.2 – 84.1 (8.5 – 9.5)
0910 - 1490	X1	159.3 – 194.7 (18 – 22)	X2	159.3 – 194.7 (18 – 22)
MDX9_A-...-2_3-..	Line connection		Motor and braking resistor terminals	
0070 - 0140	X1	4.43 – 7.08 (0.5 – 0.8) Wire sizes 14 – 12 AWG	X2	4.43 – 7.08 (0.5 – 0.8) Wire sizes 14 – 12 AWG
0213 - 0290	X1	15.05 – 15.93 (1.7 – 1.8)	X2	15.05 – 15.93 (1.7 – 1.8)
0420 - 0570	X1	75.2 – 84.1 (8.5 – 9.5)	X2	75.2 – 84.1 (8.5 – 9.5)
0840 - 1080	X1	159.3 – 194.7 (18 – 22)	X2	159.3 – 194.7 (18 – 22)
All modules	PE connection			
		M4: 8.85 – 10.62 (1.0 – 1.2) M6: 26.55 – 35.4 (3.0 – 4.0)		

1.2 Short circuit current rating

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

- 5,000 rms symmetrical amperes when protected by fuses, circuit breakers and Type E combination motor controllers as described in the tables below.
- 10,000 rms symmetrical amperes when protected by fuses, circuit breakers and Type E combination motor controllers as described in the tables below.
- 65,000 rms symmetrical amperes when protected by fuses, circuit breakers and Type E combination motor controllers as described in the tables below.

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.

- 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.

1.3.1 AC 380 – 500 V devices

MDX9_A-..	SCCR: 5 kA/ 500 V		
	Non semiconductor fuses (currents are maximum values)	Inverse-time circuit breaker (currents are maximum values)	Type E Combination Motor Controller
0020-5x3-4-y (size 1)	-	50 A/500 V min.	Siemens Sirius 3RV2011-1CA10 1.8 – 2.5 A, 480 V
0025-5x3-4-y (size 1)	-	50 A/500 V min.	Siemens Sirius 3RV2011-1CA10 1.8 – 2.5 A, 480 V
0032-5x3-4-y (size 1)	-	50 A/500 V min.	Siemens Sirius 3RV2011-1EA10 2.8 – 4 A, 480 V
0040-5x3-4-y (size 1)	-	50 A/500 V min.	Siemens Sirius 3RV2011-1EA10 2.8 – 4 A, 480 V
0055-5x3-4-y (size 2)	-	50 A/500 V min.	Siemens Sirius 3RV2011-1GA10 4.5 – 6.3 A, 480 V
0070-5x3-4-y (size 2)	-	50 A/500 V min.	Siemens Sirius 3RV2011-1HA10 5.5 – 8 A, 480 V
0095-5x3-4-y (size 2)	-	50 A/500 V min.	Siemens Sirius 3RV2011-1JA10 7 – 10 A, 480 V
0125-5x3-4-y (size 3)	-	50 A/500 V min.	Siemens Sirius 3RV2011-4AA10 10 – 16 A, 480 V
0160-5x3-4-y (size 3)	-	50 A/500 V min.	Siemens Sirius 3RV2011-4AA10 10 – 16 A, 480 V
0240-5x3-4-y (size 4)	-	60 A/500 V min.	Siemens Sirius 3RV2021-4DA10 18 – 25 A, 480 V
0320-5x3-4-y (size 4)	-	60 A/500 V min.	Siemens Sirius 3RV2031-4EA10 22 – 32 A, 480 V
0460-5x3-4-y (size 5)	-	125 A/500 V min.	Siemens Sirius 3RV2031-4VA10 35 – 45 A, 480 V
0620-5x3-4-y (size 5)	-	125 A/500 V min.	Siemens Sirius 3RV2041-4JA10 45 – 63 A, 480 V
0750-5x3-4-y (size 5)	-	125 A/500 V min.	Siemens Sirius 3RV2041-4KA10 57 – 75 A, 480 V

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MDX9_A-..	SCCR: 10 kA/ 500 V		
	Non semiconductor fuses (currents are maximum values)	Inverse-time circuit breaker (currents are maximum values)	Type E Combination Motor Controller
0910-5x3-4-y (size 6)	-	225 A/500 V min.	Siemens Sirius 3RV2041-4YA10 75 – 93 A, 480 V
1130-5x3-4-y (size 6)	-	225 A/500 V min.	-
1490-5x3-4-y (size 6)	-	225 A/500 V min.	-

MDX9_A-..	SCCR: 65 kA/ 500 V		
	Non semiconductor fuses (currents are maximum values)	Inverse-time circuit breaker (currents are maximum values)	Type E Combination Motor Controller
0020-5x3-4-y (size 1)	50 A/600 V Class: CA, CB, CD, CF, G, J, K-1, K-5, RK1, RK5, T	50 A/500 V min.	Siemens Sirius 3RV2011-1CA10 1.8 – 2.5 A, 480 V
0025-5x3-4-y (size 1)	50 A/600 V Class: CA, CB, CD, CF, G, J, K-1, K-5, RK1, RK5, T	50 A/500 V min.	Siemens Sirius 3RV2011-1CA10 1.8 – 2.5 A, 480 V
0032-5x3-4-y (size 1)	50 A/600 V Class: CA, CB, CD, CF, G, J, K-1, K-5, RK1, RK5, T	50 A/500 V min.	Siemens Sirius 3RV2011-1EA10 2.8 – 4 A, 480 V
0040-5x3-4-y (size 1)	50 A/600 V Class: CA, CB, CD, CF, G, J, K-1, K-5, RK1, RK5, T	50 A/500 V min.	Siemens Sirius 3RV2011-1EA10 2.8 – 4 A, 480 V
0055-5x3-4-y (size 2)	50 A/600 V Class: CA, CB, CD, CF, G, J, K-1, K-5, RK1, RK5, T	50 A/500 V min.	Siemens Sirius 3RV2011-1GA10 4.5 – 6.3 A, 480 V
0070-5x3-4-y (size 2)	50 A/600 V Class: CA, CB, CD, CF, G, J, K-1, K-5, RK1, RK5, T	50 A/500 V min.	Siemens Sirius 3RV2011-1HA10 5.5 – 8 A, 480 V
0095-5x3-4-y (size 2)	50 A/600 V Class: CA, CB, CD, CF, G, J, K-1, K-5, RK1, RK5, T	50 A/500 V min.	Siemens Sirius 3RV2011-1JA10 7 – 10 A, 480 V
0125-5x3-4-y (size 3)	50 A/600 V Class: CA, CB, CD, CF, G, J, K-1, K-5, RK1, RK5, T	50 A/500 V min.	Siemens Sirius 3RV2011-4AA10 10 – 16 A, 480 V
0160-5x3-4-y (size 3)	50 A/600 V Class: CA, CB, CD, CF, G, J, K-1, K-5, RK1, RK5, T	50 A/500 V min.	Siemens Sirius 3RV2011-4AA10 10 – 16 A, 480 V
0240-5x3-4-y (size 4)	60 A/600 V Class: CA, CB, CD, CF, G, J, K-1, K-5, RK1, RK5, T	60 A/500 V min.	Siemens Sirius 3RV2021-4DA10 18 – 25 A, 480 V
0320-5x3-4-y (size 4)	60 A/600 V Class: CA, CB, CD, CF, G, J, K-1, K-5, RK1, RK5, T	60 A/500 V min.	Siemens Sirius 3RV2031-4EA10 22 – 32 A, 480 V
0460-5x3-4-y (size 5)	125 A/600 V Class: J, K-1, RK1, T	125 A/500 V min.	Siemens Sirius 3RV2031-4VA10 35 – 45 A, 480 V
0620-5x3-4-y (size 5)	125 A/600 V Class: J, K-1, RK1, T	125 A/500 V min.	Siemens Sirius 3RV2041-4JA10 45 – 63 A, 480 V
0750-5x3-4-y (size 5)	125 A/600 V Class: J, K-1, RK1, T	125 A/500 V min.	Siemens Sirius 3RV2041-4KA10 57 – 75 A, 480 V
0910-5x3-4-y (size 6)	225 A/600 V Class: J, T	225 A/500 V min.	Siemens Sirius 3RV2041-4YA10 75 – 93 A, 480 V
1130-5x3-4-y (size 6)	225 A/600 V Class: J, T	225 A/500 V min.	-

MDX9_A-..	SCCR: 65 kA/ 500 V		
1490-5x3-4-y (size 6)	225 A/600 V Class: J, T	225 A/500 V min.	-

1.3.2 AC 200 – 240 V devices

MDX9_A-..	SCCR: 5 kA/ 240 V		
	Non semiconductor fuses (currents are maximum values)	Inverse-time circuit breaker (currents are maximum values)	Type E Combination Motor Controller
0070-2x3-4-y (size 2)	-	50 A/500 V min.	Siemens Sirius 3RV2011-1HA10 5.5 – 8 A, 480 V
0093-2x3-4-y (size 2)	-	50 A/500 V min.	Siemens Sirius 3RV2011-1JA10 7 – 10 A, 480 V
0140-2x3-4-y (size 3)	-	50 A/500 V min.	Siemens Sirius 3RV2011-4AA10 10 – 16 A, 480 V
0213-2x3-4-y (size 4)	-	60 A/500 V min.	Siemens Sirius 3RV2021-4DA10 18 – 25 A, 480 V
0290-2x3-4-y (size 4)	-	60 A/500 V min.	Siemens Sirius 3RV2031-4EA10 22 – 32 A, 480 V
0420-2x3-4-y (size 5)	-	125 A/500 V min.	Siemens Sirius 3RV2031-4VA10 35 – 45 A, 480 V
0570-2x3-4-y (size 5)	-	125 A/500 V min.	Siemens Sirius 3RV2041-4JA10 45 – 63 A, 480 V
0840-2x3-4-y (size 6)	-	225 A/500 V min.	Siemens Sirius 3RV2041-4YA10 75 – 93 A, 480 V
1080-2x3-4-y (size 6)	-	225 A/500 V min.	Siemens Sirius 3RV2041-4YA10 75 – 93 A, 480 V

MDX9_A-..	SCCR: 65 kA/ 240 V		
	Non semiconductor fuses (currents are maximum values)	Inverse-time circuit breaker (currents are maximum values)	Type E Combination Motor Controller
0070-2x3-4-y (size 2)	50 A/600 V Class: CA, CB, CD, CF, G, J, K-1, K-5, RK1, RK5, T	50 A/500 V min.	Siemens Sirius 3RV2011-1HA10 5.5 – 8 A, 480 V
0093-2x3-4-y (size 2)	50 A/600 V Class: CA, CB, CD, CF, G, J, K-1, K-5, RK1, RK5, T	50 A/500 V min.	Siemens Sirius 3RV2011-1JA10 7 – 10 A, 480 V
0140-2x3-4-y (size 3)	50 A/600 V Class: CA, CB, CD, CF, G, J, K-1, K-5, RK1, RK5, T	50 A/500 V min.	Siemens Sirius 3RV2011-4AA10 10 – 16 A, 480 V
0213-2x3-4-y (size 4)	60 A/600 V Class: CA, CB, CD, CF, G, J, K-1, K-5, RK1, RK5, T	60 A/500 V min.	Siemens Sirius 3RV2021-4DA10 18 – 25 A, 480 V
0290-2x3-4-y (size 4)	60 A/600 V Class: CA, CB, CD, CF, G, J, K-1, K-5, RK1, RK5, T	60 A/500 V min.	Siemens Sirius 3RV2031-4EA10 22 – 32 A, 480 V
0420-2x3-4-y (size 5)	125 A/600 V Class: J, K-1, RK1, T	125 A/500 V min.	Siemens Sirius 3RV2031-4VA10 35 – 45 A, 480 V
0570-2x3-4-y (size 5)	125 A/600 V Class: J, K-1, RK1, T	125 A/500 V min.	Siemens Sirius 3RV2041-4JA10 45 – 63 A, 480 V
0840-2x3-4-y (size 6)	225 A/600 V Class: J, T	225 A/500 V min.	Siemens Sirius 3RV2041-4YA10 75 – 93 A, 480 V
1080-2x3-4-y (size 6)	225 A/600 V Class: J, T	225 A/500 V min.	Siemens Sirius 3RV2041-4YA10 75 – 93 A, 480 V

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 a maximum surrounding air temperature of 40 °C, max. 60 °C with derated output current.

To determine output current rating at higher than 40 °C, the output current should be derated 3.0 % per °C between 40 °C and 60 °C.

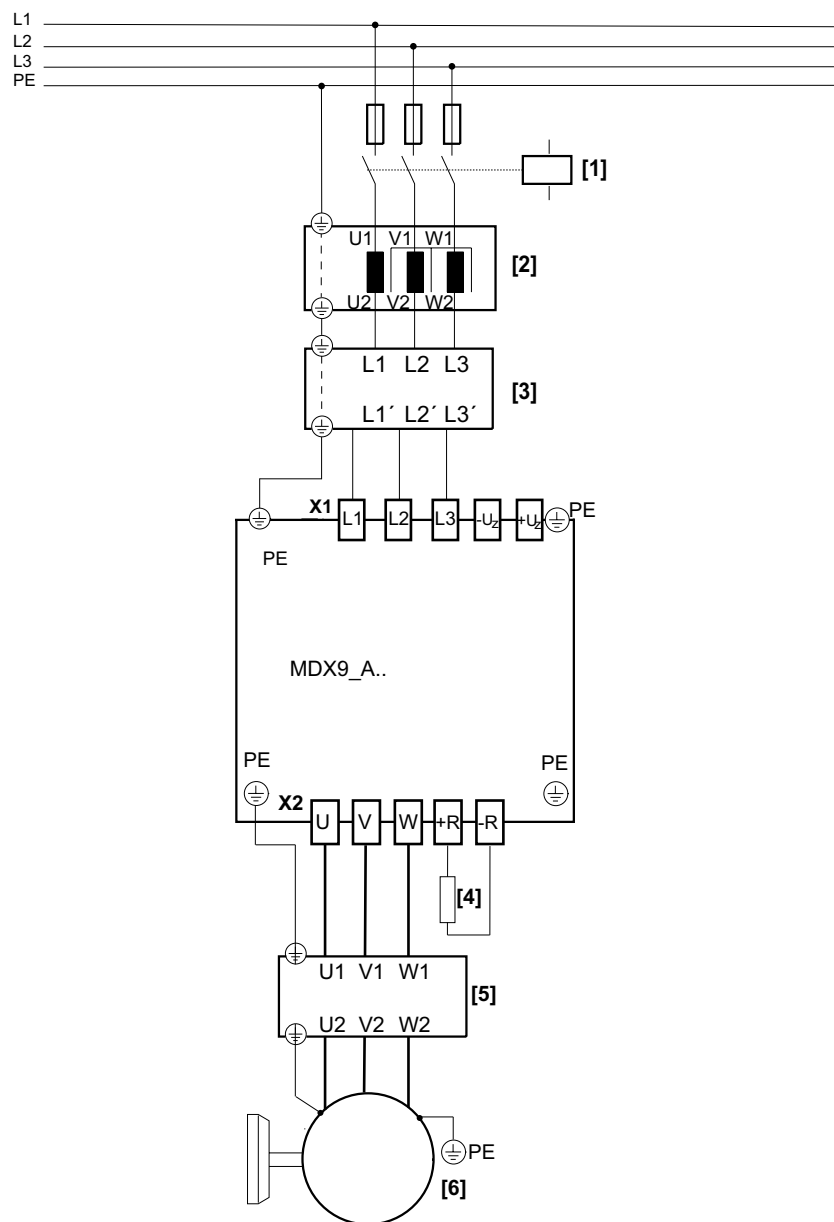
1.6 Environmental conditions

The units are for use in pollution degree 2 environments.

2 Wiring diagrams

2.1 Power connection

2.1.1 Wiring of the power connections with line contactor, line choke, line filter, and output choke



- [1] Line contactor
- [2] Line choke (optional)
- [3] Line filter (optional)

- [4] Braking resistor (optional)
- [5] Output choke
- [6] Motor

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2.1.2 Wiring of the power connections with line choke, line filter, output choke, without line contactor

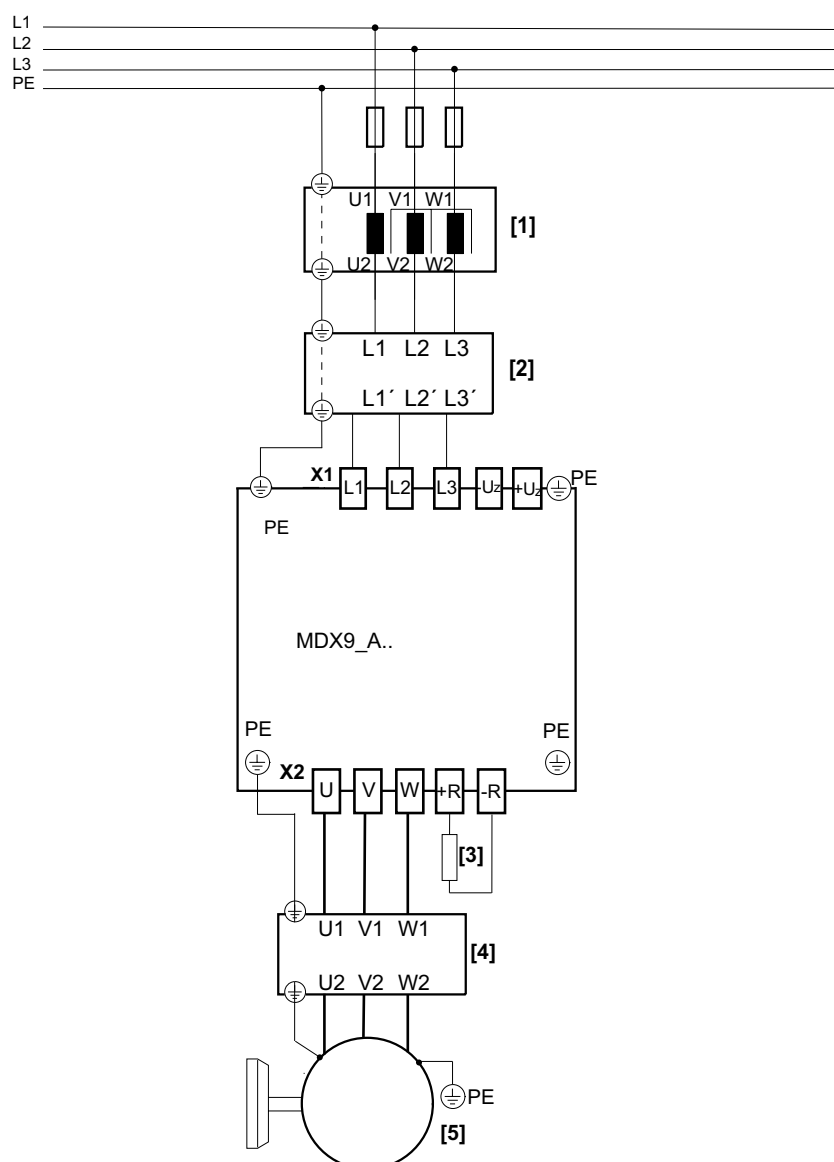
Refer to the table in the chapter Line contactor to find out which application inverters can be operated without a line contactor.

NOTICE

Operation without line contactor.

If the required measures are not taken, operation of an application inverter with connected braking resistor without line contactor may result in severe damage to property.

Refer to the chapter Line contactor for the necessary measures.



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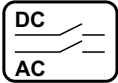
- | | |
|---------------------------------|------------------|
| [1] Line choke (optional) | [4] Output choke |
| [2] Line filter (optional) | [5] Motor |
| [3] Braking resistor (optional) | |

**INFORMATION**

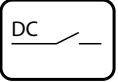
In the event of a line connection without line contactor, the temperature evaluation of the braking resistor must be ensured via a digital input on the application inverter. The connected digital input must be parameterized for monitoring the braking resistor temperature evaluation.

2.2 Brake control

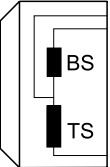
Legend:



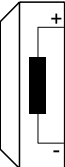
Cut-off in the DC and AC circuits
(rapid brake application)



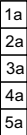
Cut-off in the DC circuit



Brake
BS = Accelerator coil
TS = Coil section



DC brake with one brake coil



Auxiliary terminal strip in terminal box



Control cabinet limit

WH

RD

BU

White

Red

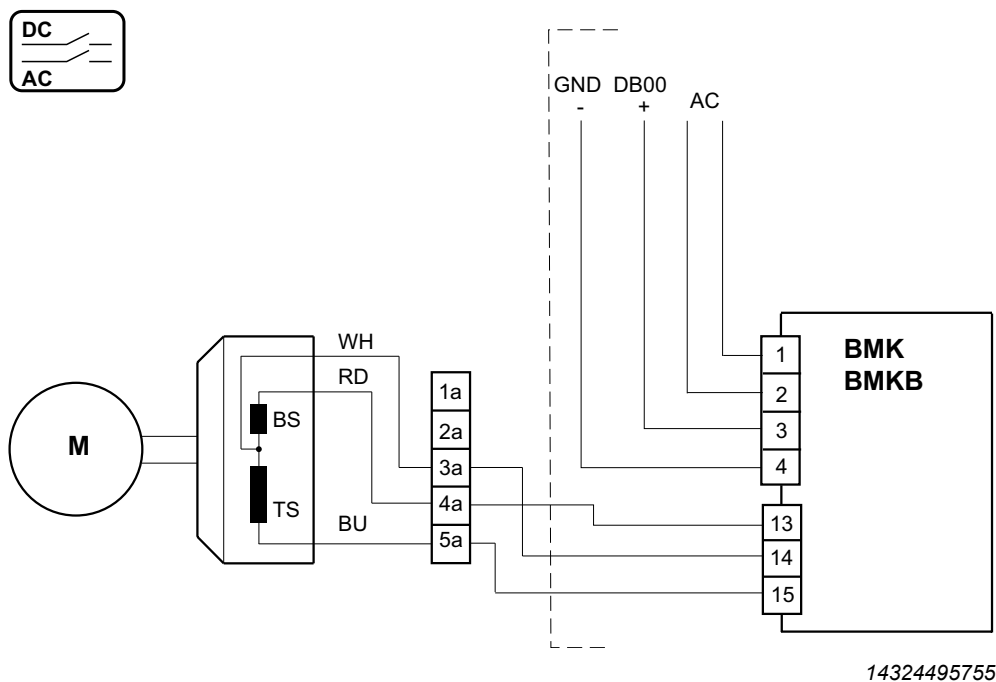
Blue



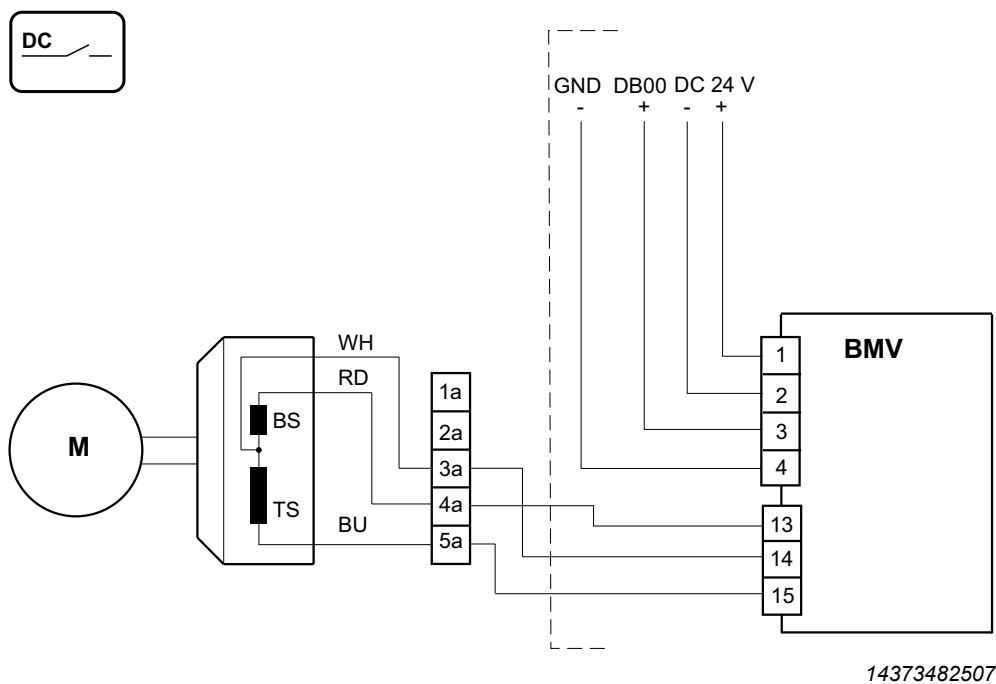
INFORMATION

The selection of the brake control and the shown connection diagrams only represent one of the many possibilities. Observe the catalogs and operating instructions of the motors for more information and installation notes.

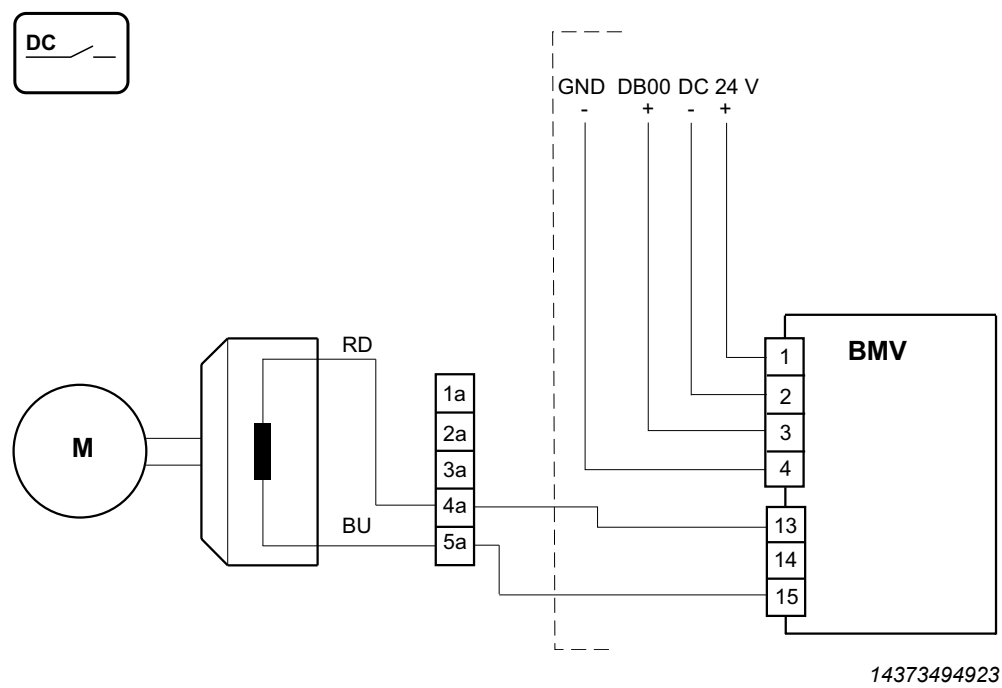
2.2.1 BMK. brake control



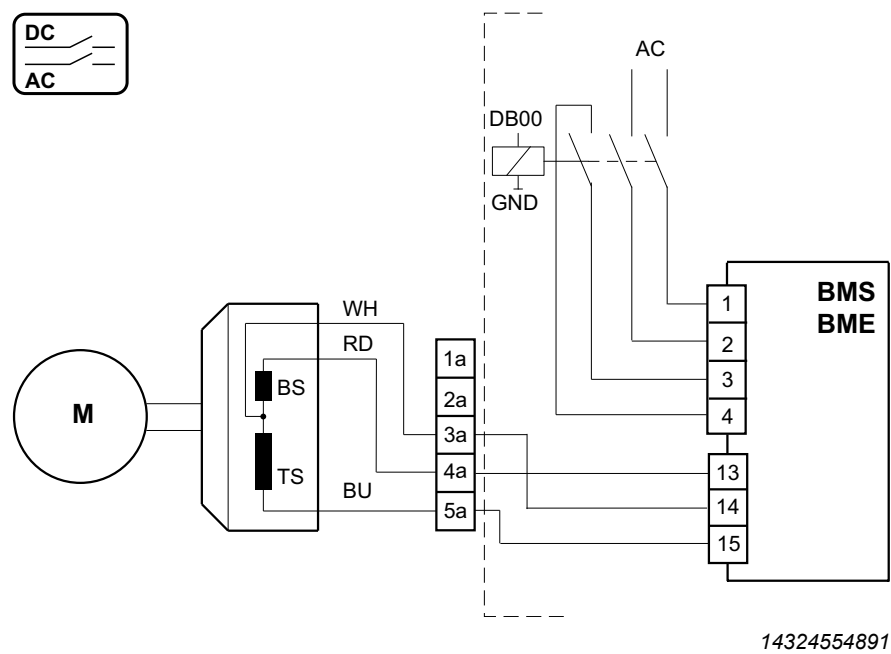
2.2.2 BMV brake control – 2 coils



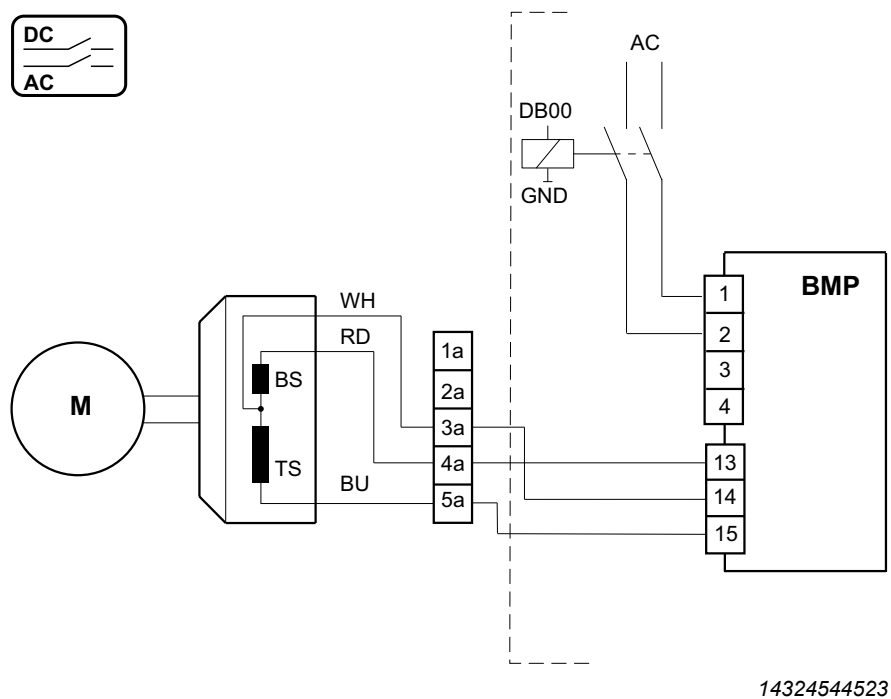
2.2.3 BMV brake control – 1 coil



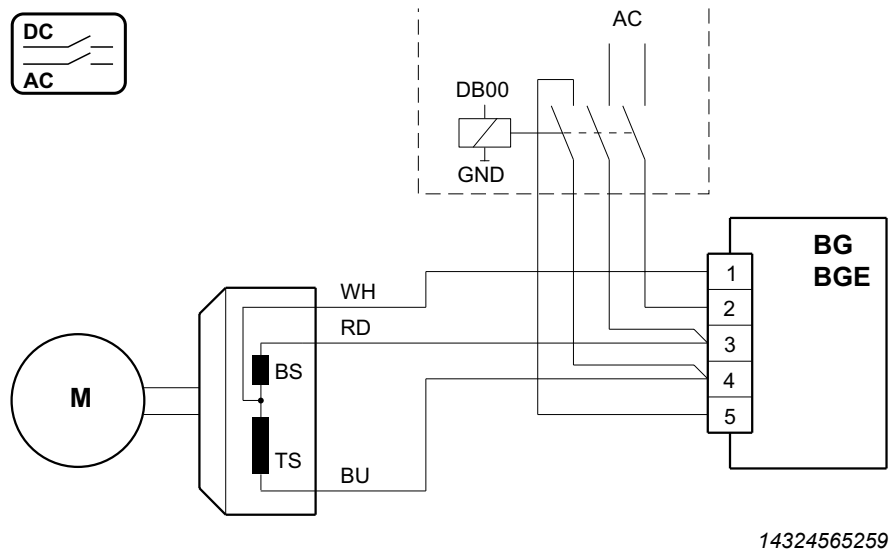
2.2.4 BMS, BME brake control



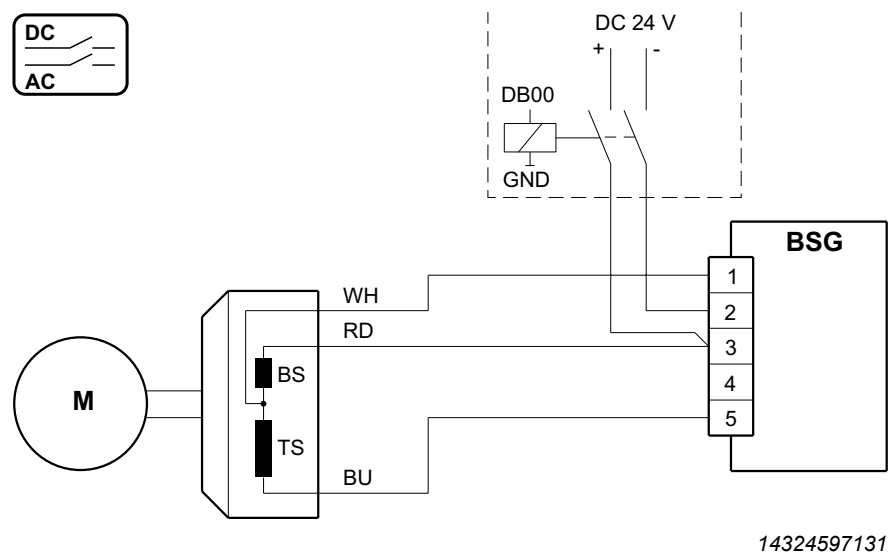
2.2.5 BMP brake control

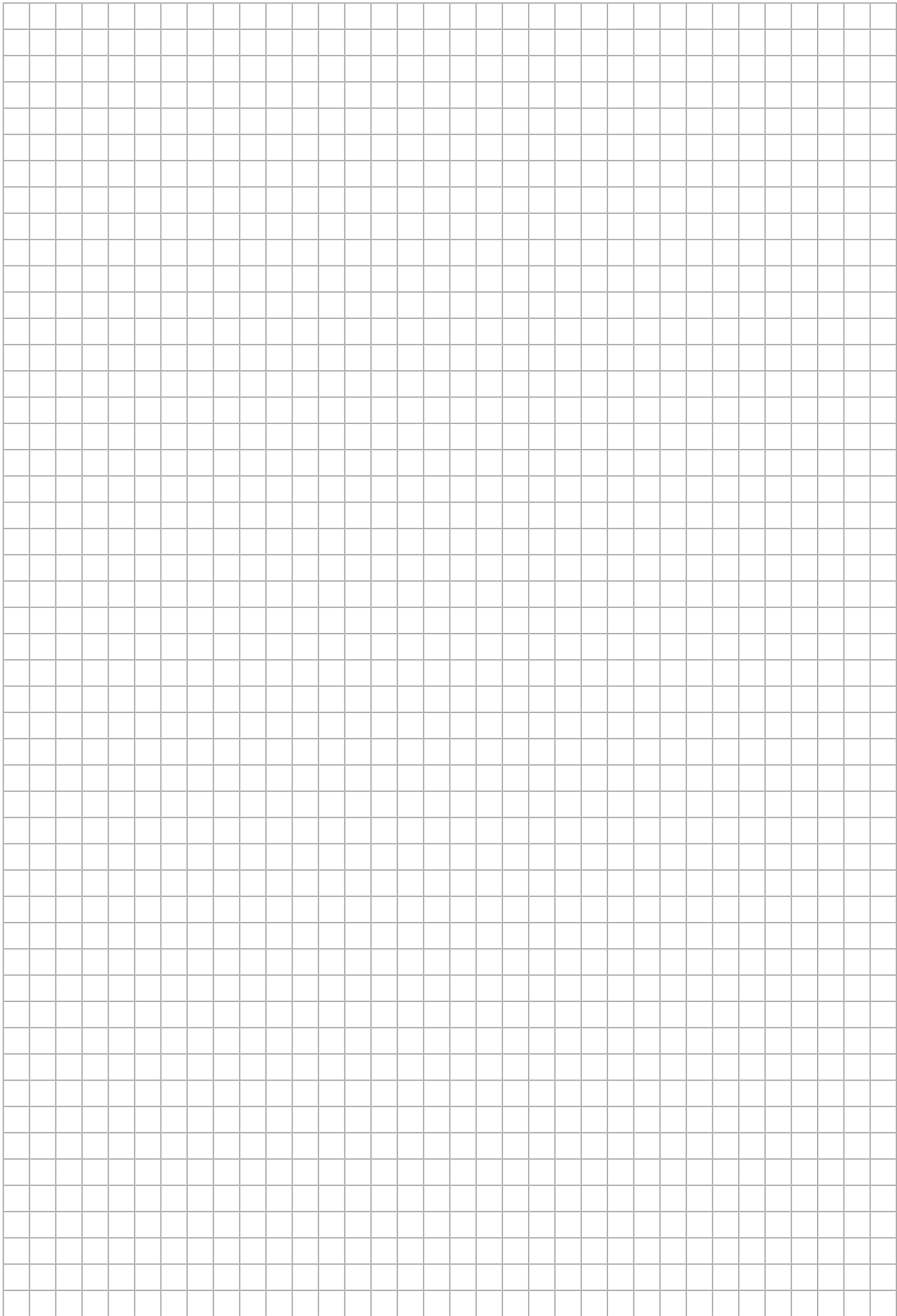


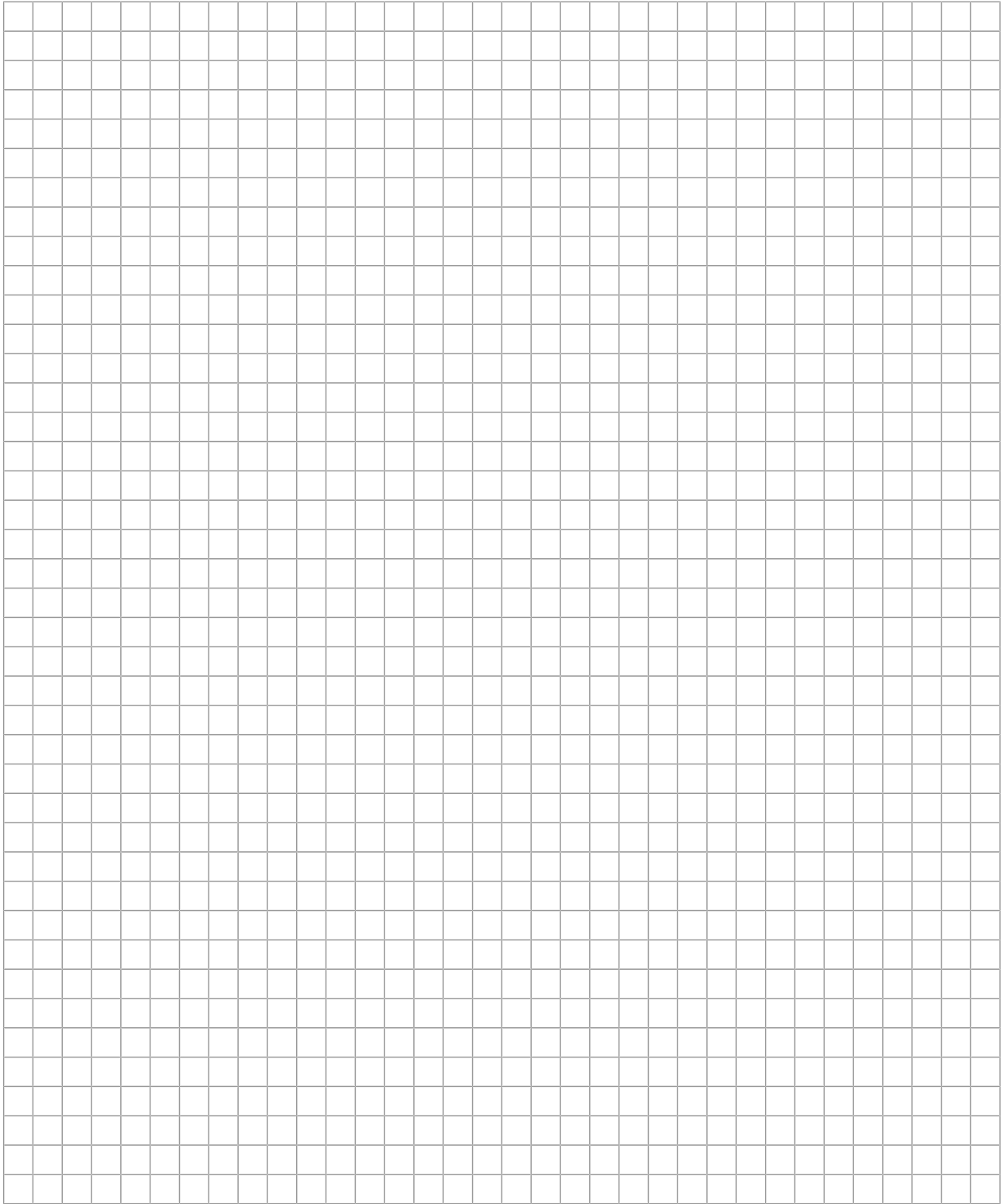
2.2.6 BG, BGE brake control



2.2.7 BSG brake control









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