

**Monitoring** The device monitor the motor phases for:

- Short circuit between the motor phases
- Short circuit between the motor phases and ground

Short circuits between the motor phases and the DC bus, the braking resistor or the holding brake wires are not detected.

**Wiring diagram motor and holding brake**

The figure below shows the device versions LXM32MU45 ... LXM32MD72.

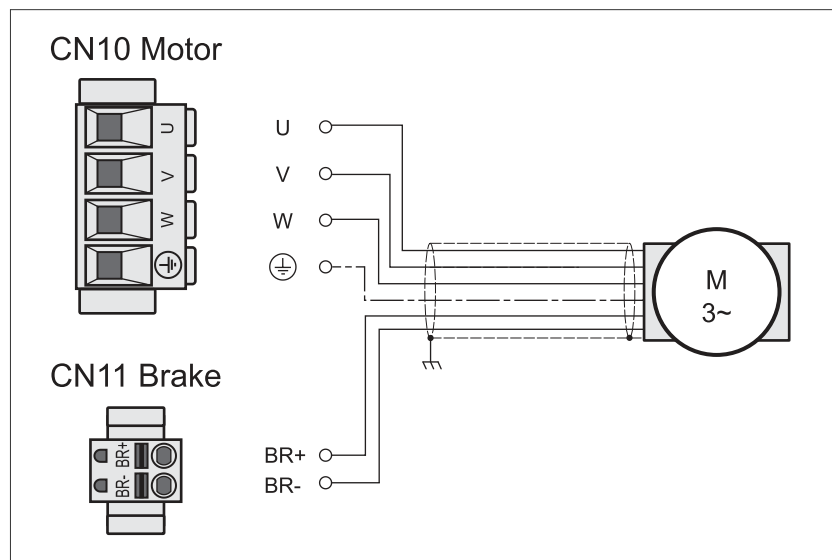


Figure 28: Wiring diagram motor with holding brake

The figure below shows the device versions LXM32MD85 and LXM32MC10.

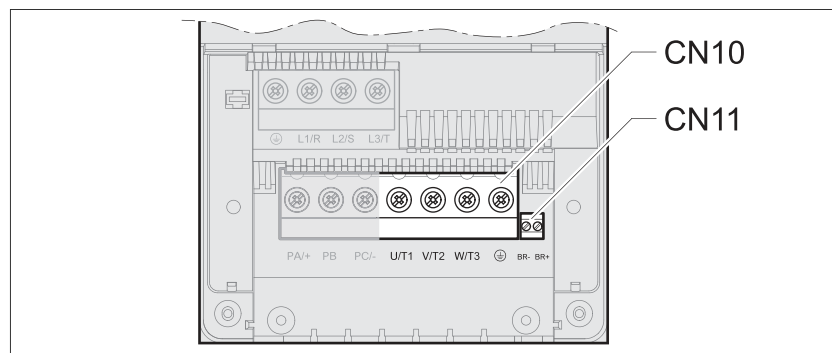


Figure 29: Wiring diagram motor with holding brake

Connection	Meaning	Color
U	Motor phase	Black L1 (BK)
V	Motor phase	Black L2 (BK)
W	Motor phase	Black L3 (BK)
PE	Protective ground conductor	Green/yellow (GN/YE)
BR+	Holding brake +	White (WH) or black 5 (BK)
BR-	Holding brake -	Gray (GR) or black 6 (BK)

### 5.3.8 Motor encoder connection (CN3)

#### Function and encoder type

The motor encoder is a Hiperface encoder integrated in the motor. It provides the device with information on the motor position (analog and digital).

Note the information on approved motors, see chapter "2.3 Electrical Data".

#### Cable specifications

See chapter "4.2 Cables", page 68 for information on the cables.

Shield:	Required, both ends grounded
Twisted Pair:	Required
PELV:	Required
Cable composition:	6 * 0.14 mm <sup>2</sup> + 2 * 0.34 mm <sup>2</sup> (6 * AWG 24 + 2 * AWG 20)
Maximum cable length:	100 m
Special characteristics:	Fieldbus cables are not suitable for connecting encoders.

- Use pre-assembled cables (page 664) to reduce the risk of wiring errors.

#### Wiring diagram

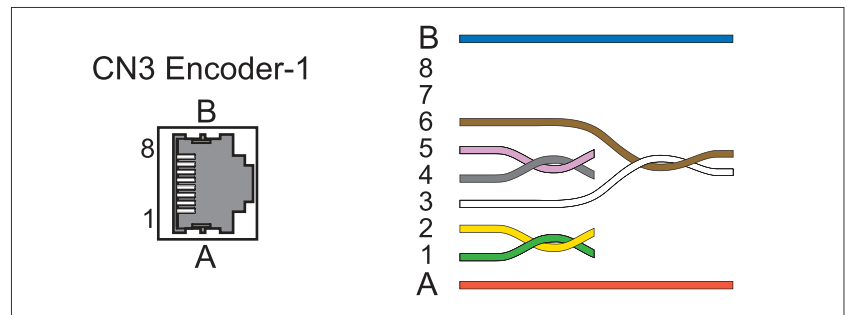


Figure 40: Wiring diagram motor encoder

Pin	Signal	Motor, pin	Pair	Meaning	I/O
1	COS+	9	2	Cosine signal	I
2	REFCOS	5	2	Reference for cosine signal	I
3	SIN+	8	3	Sine signal	I
6	REFSIN	4	3	Reference for sine signal	I
4	Data	6	1	Receive data, transmit data	I/O
5	$\overline{\text{Data}}$	7	1	Receive data and transmit data, inverted	I/O
7 ... 8	–		4	Reserved	
A	ENC+10V_OUT	10	5	Encoder supply	O
B	ENC_0V	11	5	Reference potential for encoder supply	
	SHLD			Shield	

#### Connecting the motor encoder

- Verify that wiring, cables and connected interface meet the PELV requirements.
- Note the EMC requirements for encoder cables, page 62. Use equipotential bonding conductors for equipotential bonding.
- Connect the connector to CN3 Encoder-1.
- Verify that the connector locks snap in properly at the housing.