



## Commercial status

End of Commercialisation : DEC 28, 2021

⚠ End of Commercialisation

## Main

|                           |                    |
|---------------------------|--------------------|
| Range of product          | Lexium 23 Plus     |
| Product or component type | Motion servo drive |
| Device short name         | LXM23              |

## Complementary

|                           |                                                                                                                                                                                                                                                       |
|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Format of the drive       | Book                                                                                                                                                                                                                                                  |
| Network number of phases  | 3 phases                                                                                                                                                                                                                                              |
| [Us] rated supply voltage | 220 V 3 phases (tolerance: - 20...15 %)                                                                                                                                                                                                               |
| Supply voltage limits     | 170...255 V 3 phases                                                                                                                                                                                                                                  |
| Supply frequency          | 50/60 Hz - 5...5 %                                                                                                                                                                                                                                    |
| Network frequency limits  | 47.5...63 Hz                                                                                                                                                                                                                                          |
| Continuous output current | 13.4 A                                                                                                                                                                                                                                                |
| Continuous power          | 2000 W at 220 V                                                                                                                                                                                                                                       |
| Nominal power             | 2 KW at 220 V                                                                                                                                                                                                                                         |
| Maximum leakage current   | 3.5 MA                                                                                                                                                                                                                                                |
| Output voltage            | <= power supply voltage                                                                                                                                                                                                                               |
| Electrical isolation      | Between power and control                                                                                                                                                                                                                             |
| Type of cable             | Twisted shielded pairs cable (single or double) (temperature: 0...55 °C)                                                                                                                                                                              |
| Electrical connection     | Terminal, clamping capacity: 1.3 mm², AWG 16 (L1-L2)<br>Terminal, clamping capacity: 2.1 mm², AWG 14 (R, S, T)<br>Terminal, clamping capacity: 2.1 mm², AWG 14 (PA/+, PBe)<br>Terminal, clamping capacity: 2.1 mm²/3.3 mm², AWG 14...AWG 12 (U, V, W) |
| Tightening torque         | PE (ground): 1.4 N.m                                                                                                                                                                                                                                  |
| Discrete input number     | 8 programmable discrete input(s)                                                                                                                                                                                                                      |
| Discrete input type       | Programmable (CN1 terminals)                                                                                                                                                                                                                          |
| Discrete input voltage    | 12...24 V DC for logic                                                                                                                                                                                                                                |
| Discrete input logic      | Positive or negative (CN1)                                                                                                                                                                                                                            |
| Discrete output number    | 5                                                                                                                                                                                                                                                     |
| Discrete output type      | Logic output(s) (CN1)12...24 V DC                                                                                                                                                                                                                     |
| Discrete output voltage   | 12...24 V DC                                                                                                                                                                                                                                          |
| Analogue input number     | 2                                                                                                                                                                                                                                                     |
| Absolute accuracy error   | 0.01 %                                                                                                                                                                                                                                                |
| Analogue input type       | V_REF voltage analog input: - 10...10 V, impedance: 10 kOhm<br>T_REF voltage analog input: - 10...10 V, impedance: 10 kOhm                                                                                                                            |
| Control signal type       | Servo motor encoder feedback                                                                                                                                                                                                                          |

|                         |                                                                                                                                                                                                                                                            |
|-------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Protection type         | Against reverse polarity: inputs signal<br>Against short-circuits: outputs signal<br>Overcurrent: motor<br>Overvoltage: motor<br>Undervoltage: motor<br>Overheating: motor<br>Overload: motor<br>Overspeed: motor<br>Abnormal pulse control command: drive |
| Communication interface | CANopen, integrated<br>CANmotion, integrated                                                                                                                                                                                                               |
| Connector type          | RJ45 (CN3) for CANopen, CANopen Motionbus                                                                                                                                                                                                                  |
| Method of access        | Slave                                                                                                                                                                                                                                                      |
| Physical interface      | 2-wire RS485 multidrop for Modbus                                                                                                                                                                                                                          |
| Transmission rate       | 125 kbps for bus length of 250...500 m for CANopen, CANmotion<br>250 kbps for bus length of 100...250 m for CANopen, CANmotion<br>500 kbps for bus length of 4...100 m for CANopen, CANmotion<br>1 Mbps for bus length of 4 m for CANopen, CANmotion       |
| Number of addresses     | 1...127 for CANopen, CANmotion                                                                                                                                                                                                                             |
| Status LED              | 1 LED charge LED                                                                                                                                                                                                                                           |
| Signalling function     | Servo status and fault codes five 7-segment display units                                                                                                                                                                                                  |
| Marking                 | CE                                                                                                                                                                                                                                                         |
| Type of cooling         | Integrated fan                                                                                                                                                                                                                                             |
| Operating position      | Vertical                                                                                                                                                                                                                                                   |
| Width                   | 114 Mm                                                                                                                                                                                                                                                     |
| Height                  | 225 Mm                                                                                                                                                                                                                                                     |
| Depth                   | 195 Mm                                                                                                                                                                                                                                                     |
| Net weight              | 3.2 Kg                                                                                                                                                                                                                                                     |

## Environment

|                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|---------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EMC filter                            | Without EMC filter                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Electromagnetic compatibility         | EMC immunity level 3 conforming to EN/IEC 61000-4-2<br>EMC immunity level 3 conforming to EN/IEC 61000-4-3<br>EMC immunity level 3 conforming to EN/IEC 61000-4-5<br>EMC immunity level 4 conforming to EN/IEC 61000-4-4<br>EMC immunity with additional EMC filter conforming to EN/IEC 61800-3 environments 1 and 2<br>Conducted and radiated emissions with additional EMC filter conforming to EN/IEC 61800-3 environments 1 and 2 category C2, C3 |
| Standards                             | EN/IEC 61800-5-1                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Product certifications                | C-Tick<br>cULus 508                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| IP degree of protection               | On upper part: IP20 (without protective cover)<br>On upper part: IP41 (with protective cover)                                                                                                                                                                                                                                                                                                                                                          |
| Vibration resistance                  | 0.075 mm peak to peak (f= 10...57 Hz) conforming to IEC 60068-2-6<br>1 gn (f= 57...150 Hz) conforming to IEC 60068-2-6                                                                                                                                                                                                                                                                                                                                 |
| Shock resistance                      | 15 gn for 11 ms conforming to IEC 60068-2-27                                                                                                                                                                                                                                                                                                                                                                                                           |
| Relative humidity                     | Class 3K3 (5 to 85 %) without condensation or dripping water conforming to IEC 60721-3-3                                                                                                                                                                                                                                                                                                                                                               |
| Ambient air temperature for operation | 0...55 °C conforming to UL                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Ambient air temperature for storage   | -20...65 °C                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Operating altitude                    | <= 1000 m without derating<br>> 1000...2000 m with continuous power derating of 1 % per 100 m                                                                                                                                                                                                                                                                                                                                                          |

## Packing Units

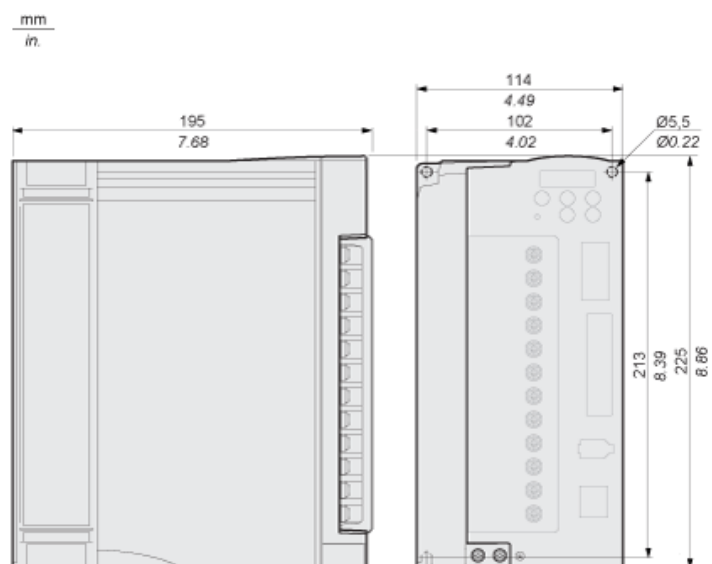
|                              |         |
|------------------------------|---------|
| Unit Type of Package 1       | PCE     |
| Number of Units in Package 1 | 1       |
| Package 1 Height             | 20.0 Cm |
| Package 1 Width              | 27.6 Cm |
| Package 1 Length             | 35.0 Cm |
| Package 1 Weight             | 4.19 Kg |
| Unit Type of Package 2       | S06     |
| Number of Units in Package 2 | 8       |

|                  |          |
|------------------|----------|
| Package 2 Height | 73.5 Cm  |
| Package 2 Width  | 60.0 Cm  |
| Package 2 Length | 80.0 Cm  |
| Package 2 Weight | 46.52 Kg |

### Contractual warranty

|          |           |
|----------|-----------|
| Warranty | 18 months |
|----------|-----------|

## Dimensions

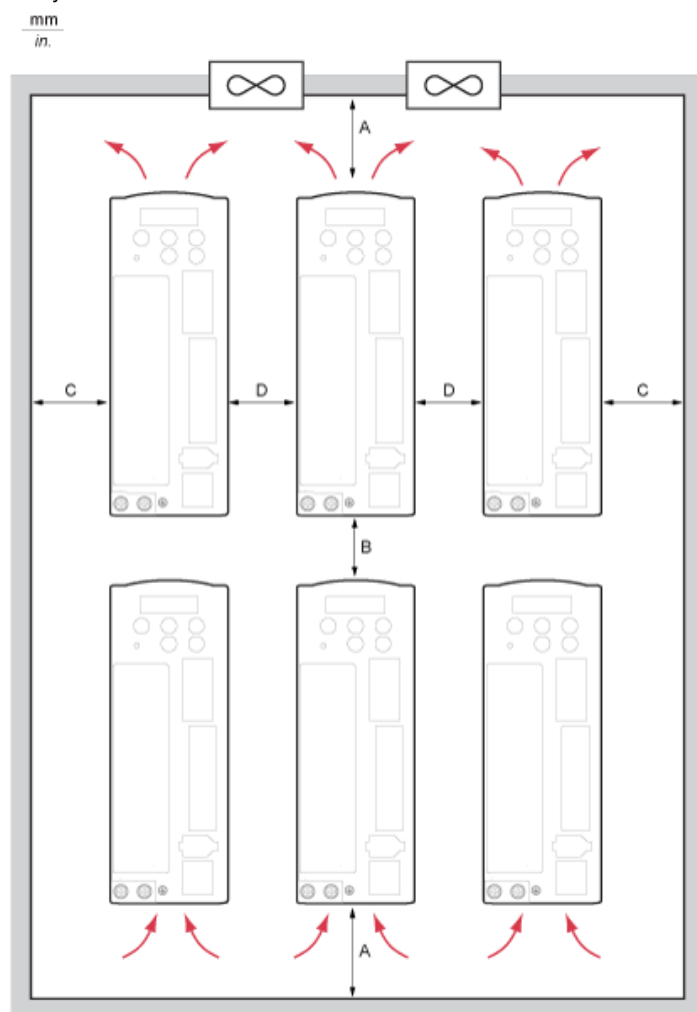


## Mounting Recommendations

Mount the device in a vertical position ( $\pm 10^\circ$ ). This is required for cooling the device.

### Clearance

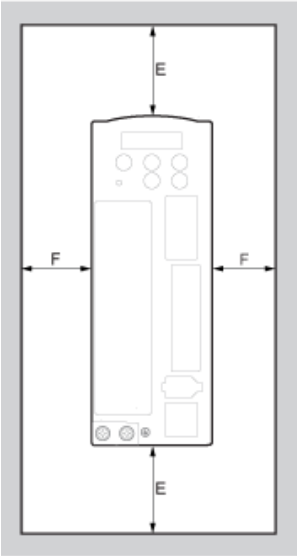
Many Devices in a cabinet



|                                  |                                        |
|----------------------------------|----------------------------------------|
| A $\geq 100$ mm ( $\geq 4$ in.)  | Free space above/below devices         |
| B $\geq 80$ mm ( $\geq 3.2$ in.) | Free space between devices             |
| C $\geq 40$ mm ( $\geq 1.6$ in.) | Free space between devices and cabinet |
| D $\geq 10$ mm ( $\geq 0.4$ in.) | Free space between devices             |

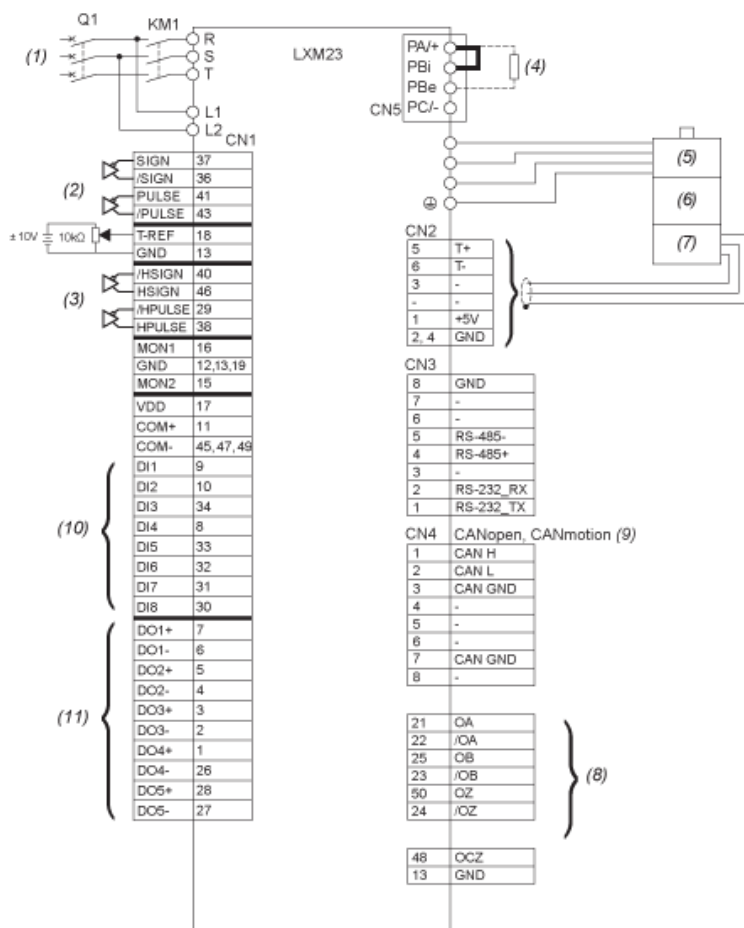
One Device in a cabinet

mm  
in.



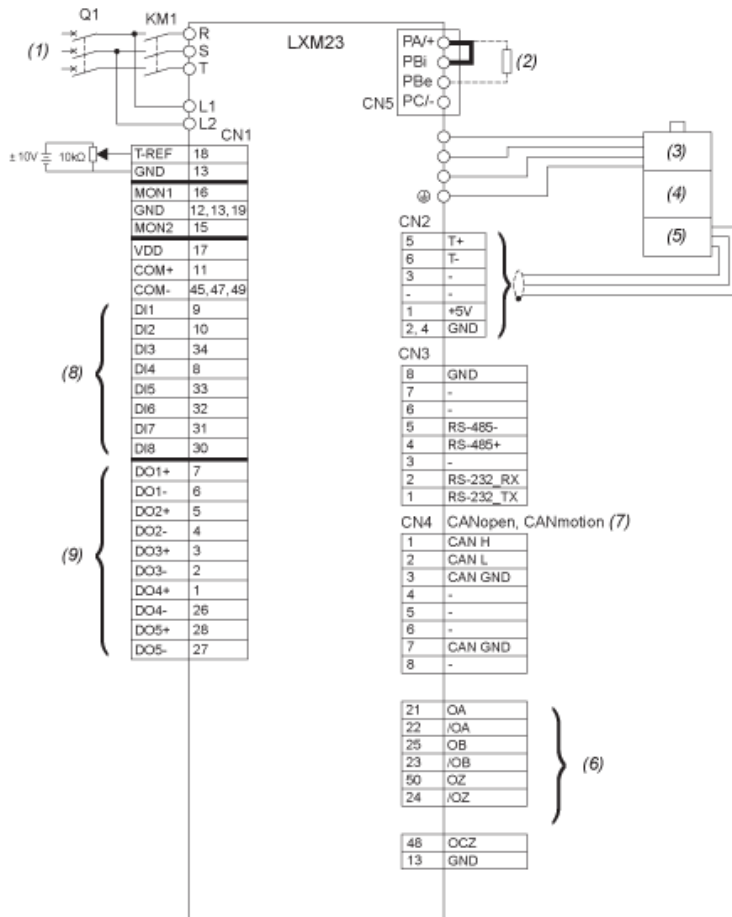
|                       |                                       |
|-----------------------|---------------------------------------|
| E ≥ 50 mm (≥ 2 in.)   | Free space above/below the device     |
| F ≥ 20 mm (≥ 0.8 in.) | Free space between device and cabinet |

## Position Control Mode Wiring Diagram (Pulse Control)



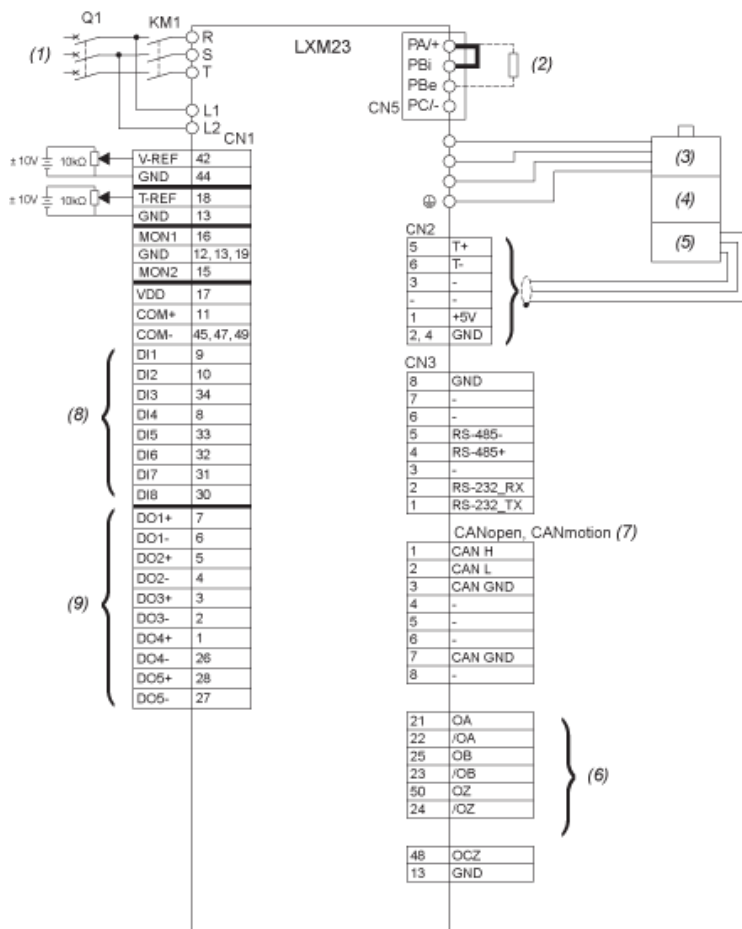
- KM1 Line Contactor
- Q1 Circuit breaker
- (1) AC 220 / 230 V Single Phase or Three Phase 50 / 60 Hz
- (2) Pulse Input (Line Driver)
- (3) High-Speed Pulse Input (Line Receiver)
- (4) External Braking Resistor
- (5) Power Supply
- (6) Holding Brake
- (7) Encoder
- (8) Encoder Pulse Output
- (9) Only LXM23A models
- (10) Digital inputs
- (11) Digital outputs

## Position Control Mode Wiring Diagram (Build-In Motion Sequence)

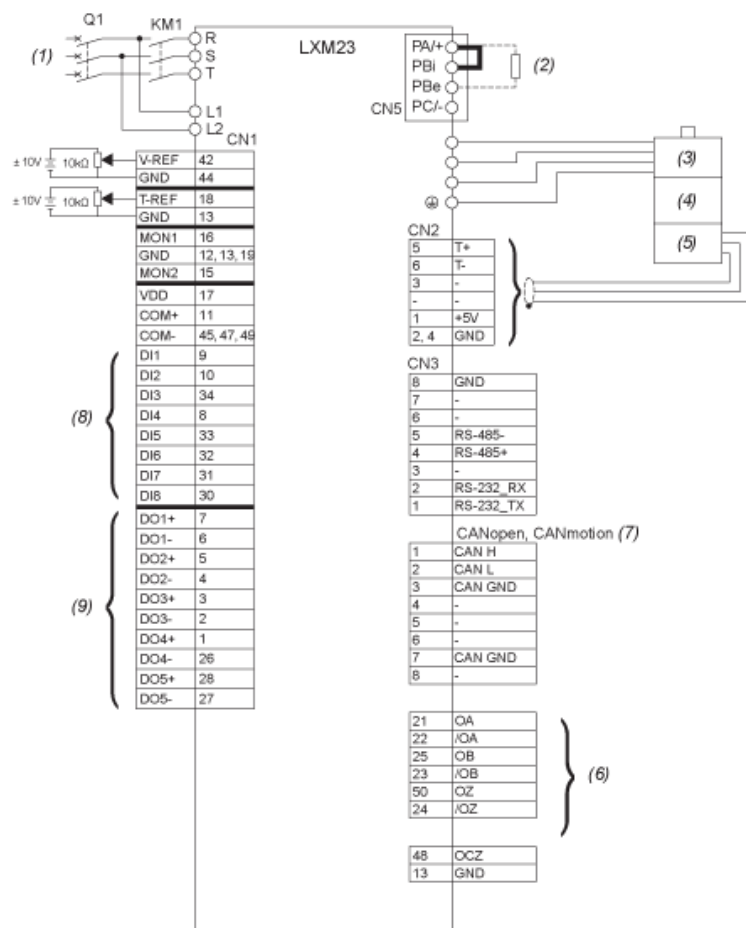


- KM1 Line Contactor  
Q1 Circuit breaker  
(1) AC 220 / 230 V Single Phase or Three Phase 50 / 60 Hz  
(2) External Braking Resistor  
(3) Power Supply  
(4) Holding Brake  
(5) Encoder  
(6) Encoder Pulse Output  
(7) Only LXM23A models  
(8) Digital inputs  
(9) Digital outputs

## Speed Control Mode Wiring Diagram

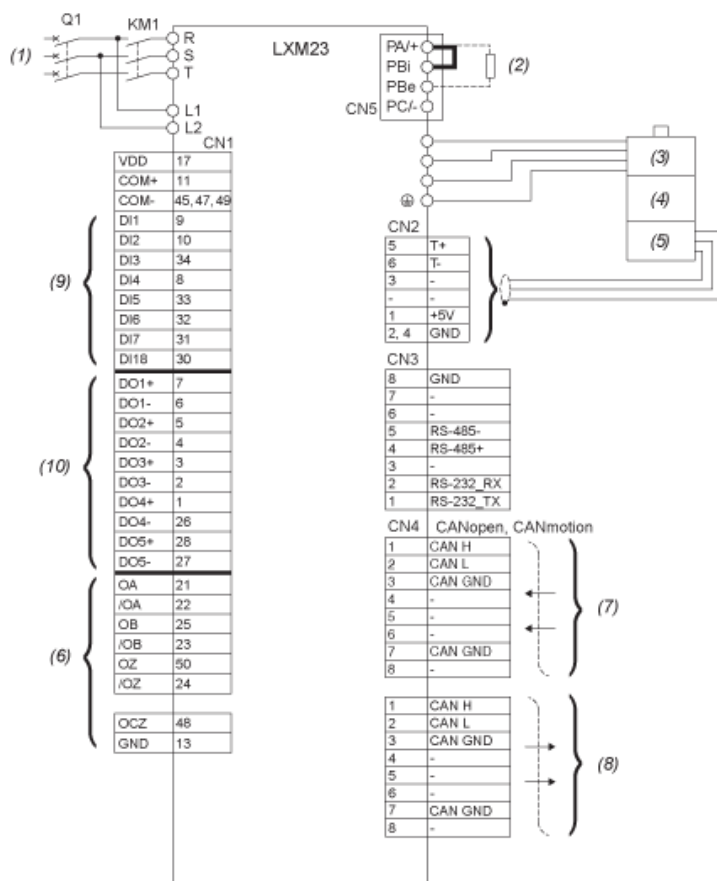


Torque Control Mode Wiring Diagram



- KM1 Line Contactor  
 Q1 Circuit breaker  
 (1) AC 220 / 230 V Single Phase or Three Phase 50 / 60 Hz  
 (2) External Braking Resistor  
 (3) Power Supply  
 (4) Holding Brake  
 (5) Encoder  
 (6) Encoder Pulse Output  
 (7) Only LXM23A models  
 (8) Digital inputs  
 (9) Digital outputs

## CANopen Control Mode Wiring Diagram



- KM1 Line Contactor  
 Q1 Circuit breaker  
 (1) AC 220 / 230 V Single Phase or Three Phase 50 / 60 Hz  
 (2) External Braking Resistor  
 (3) Power Supply  
 (4) Holding Brake  
 (5) Encoder  
 (6) Encoder Pulse Output  
 (7) Data Input  
 (8) Data Output  
 (9) Digital inputs  
 (10) Digital outputs

Product Life Status : **End of commercialisation**