

# LXM23DU07M3X

motion servo drive - Lexium 23 - single phase  
200...255 V - 750 W - I/O



LXM23DU07M3X has not been replaced. Please contact your customer care centre for more information.

❗ Discontinued

## 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<br>Single phase                                                                                                                                                                                                              |
| [Us] rated supply voltage | 220 V single phase (tolerance: - 10...15 %)<br>220 V 3 phases (tolerance: - 20...15 %)                                                                                                                                                |
| Supply voltage limits     | 200...255 V single phase<br>170...255 V 3 phases                                                                                                                                                                                      |
| Supply frequency          | 50/60 Hz - 5...5 %                                                                                                                                                                                                                    |
| Network frequency limits  | 47.5...63 Hz                                                                                                                                                                                                                          |
| Continuous output current | 5.1 A                                                                                                                                                                                                                                 |
| Continuous power          | 750 W at 220 V                                                                                                                                                                                                                        |
| Nominal power             | 0.75 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: 0.82 mm², AWG 18 (U, V, W)<br>Terminal, clamping capacity: 2.1 mm², AWG 14 (PA/+, PBe) |
| 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                                                                                                                                                                                                                          |
| Discrete output logic     | Positive or negative (CN1)                                                                                                                                                                                                            |

|                         |                                                                                                                                                                                                                                                            |
|-------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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 | Modbus, integrated                                                                                                                                                                                                                                         |
| Connector type          | RJ45 (CN3) for Modbus                                                                                                                                                                                                                                      |
| Method of access        | Slave                                                                                                                                                                                                                                                      |
| Physical interface      | 2-wire RS485 multidrop for Modbus                                                                                                                                                                                                                          |
| Transmission rate       | Configurable                                                                                                                                                                                                                                               |
| Status LED              | 1 LEDcharge LED:                                                                                                                                                                                                                                           |
| Signalling function     | Servo status and fault codes five 7-segment display units                                                                                                                                                                                                  |
| Marking                 | CE                                                                                                                                                                                                                                                         |
| Type of cooling         | Integrated fan                                                                                                                                                                                                                                             |
| Operating position      | Vertical                                                                                                                                                                                                                                                   |
| Width                   | 85 mm                                                                                                                                                                                                                                                      |
| Height                  | 162 mm                                                                                                                                                                                                                                                     |
| Depth                   | 180 mm                                                                                                                                                                                                                                                     |
| Product weight          | 2.2 kg                                                                                                                                                                                                                                                     |

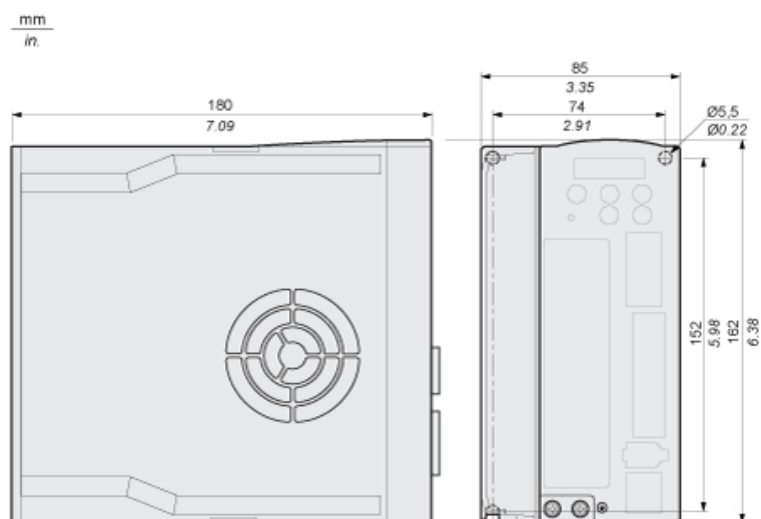
## Environment

|                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|---------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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<br>> 1000...2000 m with continuous power derating of 1 % per 100 m                                                                                                                                                                                                                                                                                                                                                                   |

## Contractual warranty

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

## Dimensions

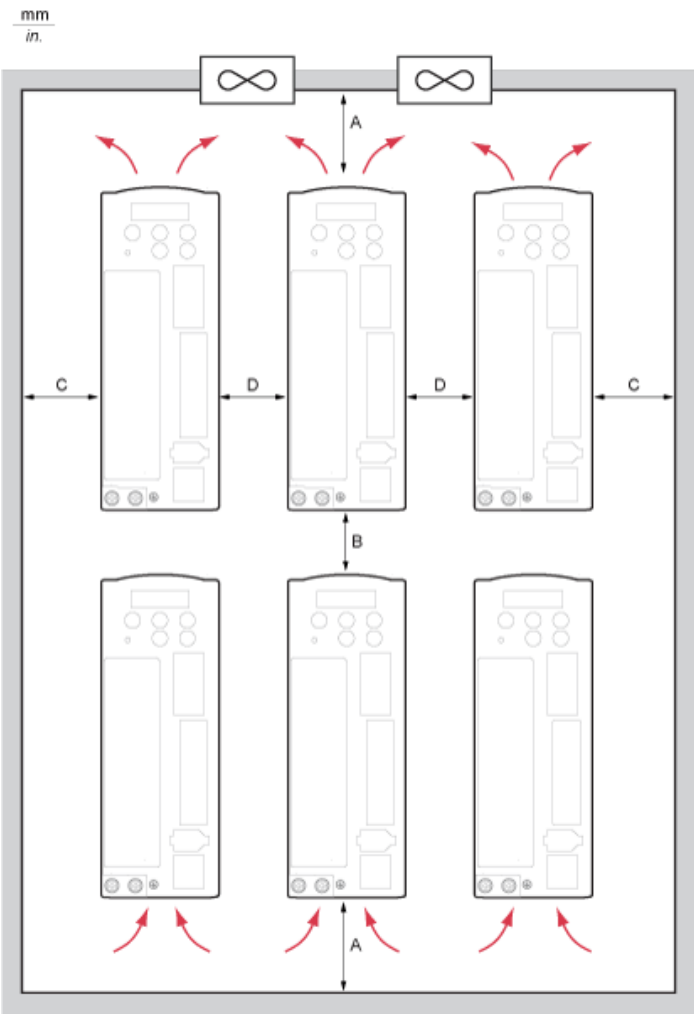


Mounting Recommendations

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

Clearance

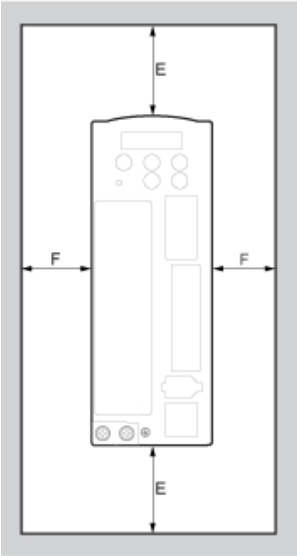
Many Devices in a cabinet



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

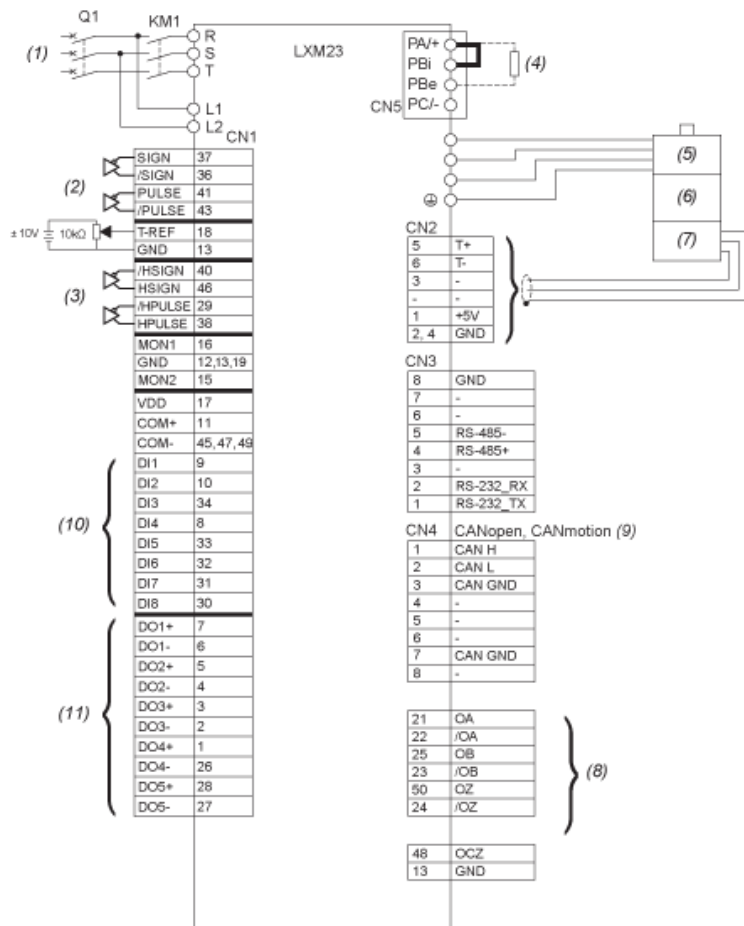
One Device in a cabinet

mm  
in.



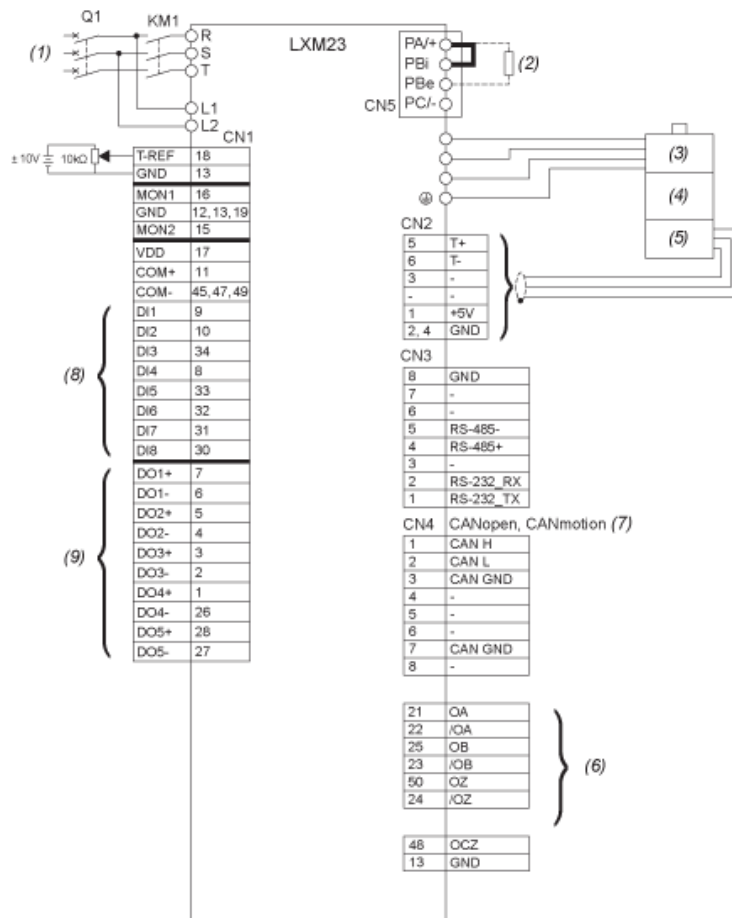
|                                                |                                       |
|------------------------------------------------|---------------------------------------|
| $E \geq 50 \text{ mm } (\geq 2 \text{ in.})$   | Free space above/below the device     |
| $F \geq 20 \text{ mm } (\geq 0.8 \text{ in.})$ | Free space between device and cabinet |

## Position Control Mode Wiring Diagram (Pulse Control)



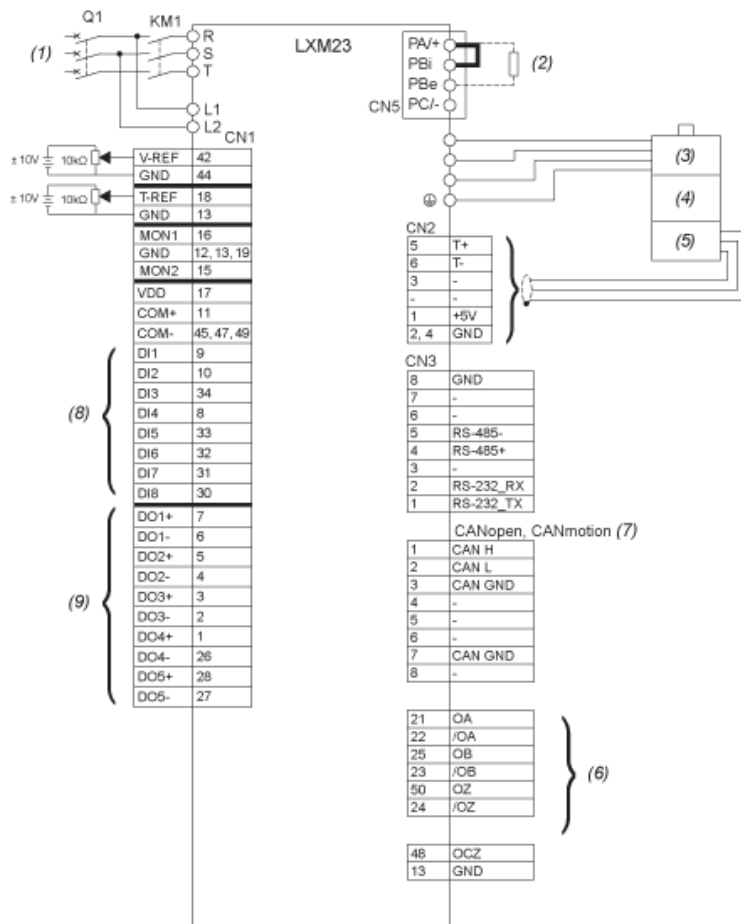
- KM1 Line Contactor
- Q1 Circuit breaker
- (1) AC 220 / 230 V Single Phase or Three Phase 50 / 60 Hz
- (2) Pulse Input (Line Driver)
- (3) High-Speed Pulse Input (Line Receiver)
- (4) External Braking Resistor
- (5) Power Supply
- (6) Holding Brake
- (7) Encoder
- (8) Encoder Pulse Output
- (9) Only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

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



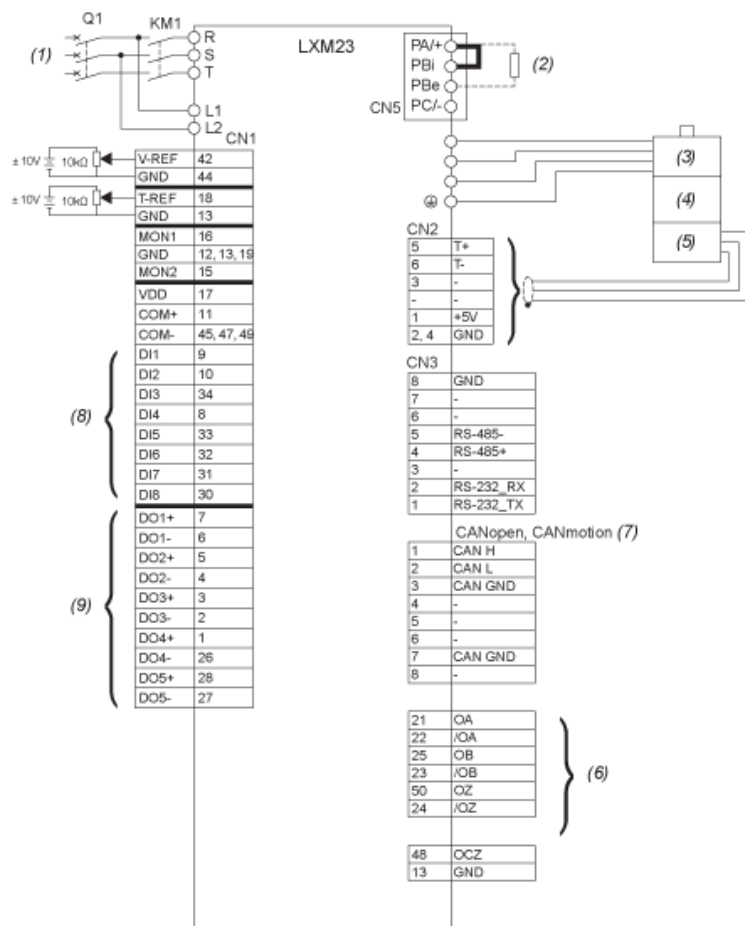
- KM1 Line Contactor
- Q1 Circuit breaker
- (1) AC 220 / 230 V Single Phase or Three Phase 50 / 60 Hz
- (2) External Braking Resistor
- (3) Power Supply
- (4) Holding Brake
- (5) Encoder
- (6) Encoder Pulse Output
- (7) Only LXM23A models
- (8) Digital inputs
- (9) Digital outputs

## Speed Control Mode Wiring Diagram



- 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

## 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