

# Product datasheet

Specifications



## motion servo drive - Lexium 23 - single phase 200...255 V - 1 kW - I/ O

LXM23DU10M3X

! To be discontinued on: 31 December 2023

! To be end-of-service on: 31 December 2023

! Discontinued - Service only

### 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 Single phase
[Us] rated supply voltage	220 V single phase (tolerance: - 10...15 %) 220 V 3 phases (tolerance: - 20...15 %)
Supply voltage limits	200...255 V single phase 170...255 V 3 phases
Supply frequency	50/60 Hz - 5...5 %
Network frequency limits	47.5...63 Hz
Continuous output current	7.3 A
Continuous power	1000 W at 220 V
Nominal power	1 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 mm <sup>2</sup> , AWG 16 (L1-L2) Terminal, clamping capacity: 2.1 mm <sup>2</sup> , AWG 14 (R, S, T) Terminal, clamping capacity: 2.1 mm <sup>2</sup> , AWG 14 (PA/+, PBe) Terminal, clamping capacity: 0.82 mm <sup>2</sup> , AWG 16 (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

<b>Discrete output type</b>	Logic output(s) (CN1)12...24 V DC
<b>Discrete output voltage</b>	12...24 V DC
<b>Discrete output logic</b>	Positive or negative (CN1)
<b>Analogue input number</b>	2
<b>Absolute accuracy error</b>	0.01 %
<b>Analogue input type</b>	V_REF voltage analog input: - 10...10 V, impedance: 10 kOhm T_REF voltage analog input: - 10...10 V, impedance: 10 kOhm
<b>Control signal type</b>	Servo motor encoder feedback
<b>Protection type</b>	Against reverse polarity: inputs signal Against short-circuits: outputs signal Overcurrent: motor Overvoltage: motor Undervoltage: motor Overheating: motor Overload: motor Overspeed: motor Abnormal pulse control command: drive
<b>Communication interface</b>	Modbus, integrated
<b>Connector type</b>	RJ45 (CN3) for Modbus
<b>Method of access</b>	Slave
<b>Physical interface</b>	2-wire RS485 multidrop for Modbus
<b>Transmission rate</b>	Configurable
<b>Status LED</b>	1 LED charge LED
<b>Signalling function</b>	Servo status and fault codes five 7-segment display units
<b>Marking</b>	CE
<b>Type of cooling</b>	Integrated fan
<b>Operating position</b>	Vertical
<b>Width</b>	85 mm
<b>Height</b>	162 mm
<b>Depth</b>	180 mm
<b>Net weight</b>	2.2 kg

## Environment

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

---

<b>Operating altitude</b>	<= 1000 m without derating > 1000...2000 m with continuous power derating of 1 % per 100 m
---------------------------	---

## Packing Units

---

<b>Unit Type of Package 1</b>	PCE
-------------------------------	-----

---

<b>Number of Units in Package 1</b>	1
-------------------------------------	---

---

<b>Package 1 Height</b>	14.5 cm
-------------------------	---------

---

<b>Package 1 Width</b>	21.0 cm
------------------------	---------

---

<b>Package 1 Length</b>	23.5 cm
-------------------------	---------

---

<b>Package 1 Weight</b>	2.106 kg
-------------------------	----------

---

<b>Unit Type of Package 2</b>	S06
-------------------------------	-----

---

<b>Number of Units in Package 2</b>	18
-------------------------------------	----

---

<b>Package 2 Height</b>	73.5 cm
-------------------------	---------

---

<b>Package 2 Width</b>	60.0 cm
------------------------	---------

---

<b>Package 2 Length</b>	80.0 cm
-------------------------	---------

---

<b>Package 2 Weight</b>	50.908 kg
-------------------------	-----------

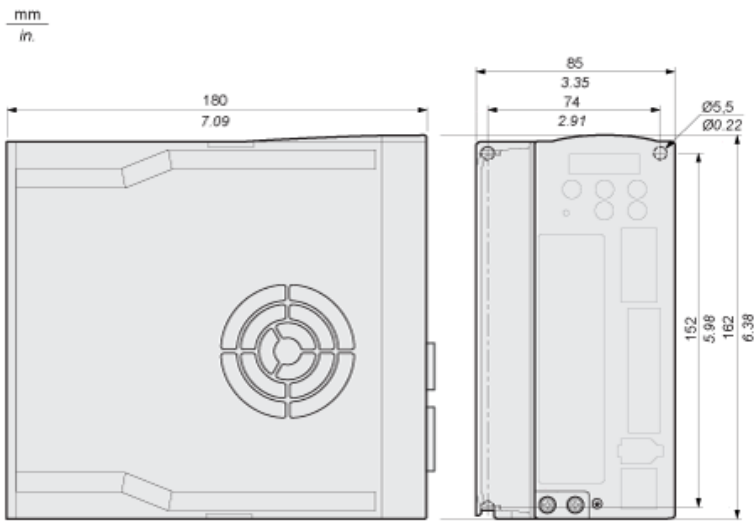
## Contractual warranty

---

<b>Warranty</b>	18 months
-----------------	-----------

## Dimensions

---

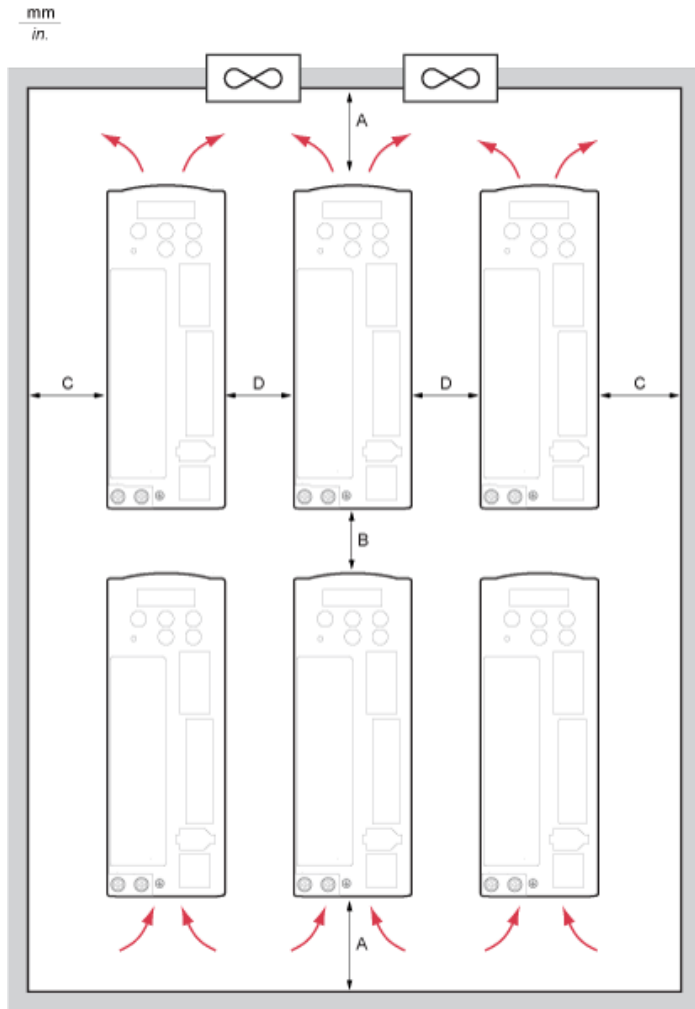


**Mounting Recommendations**

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

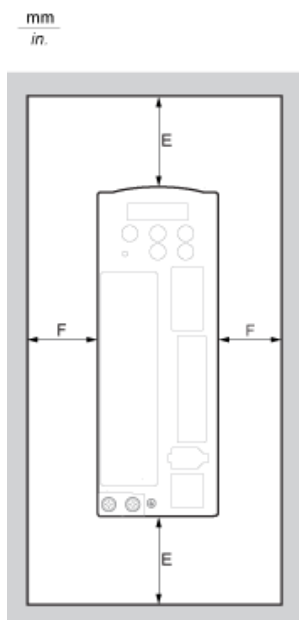
**Clearance**

**Many Devices in a cabinet**



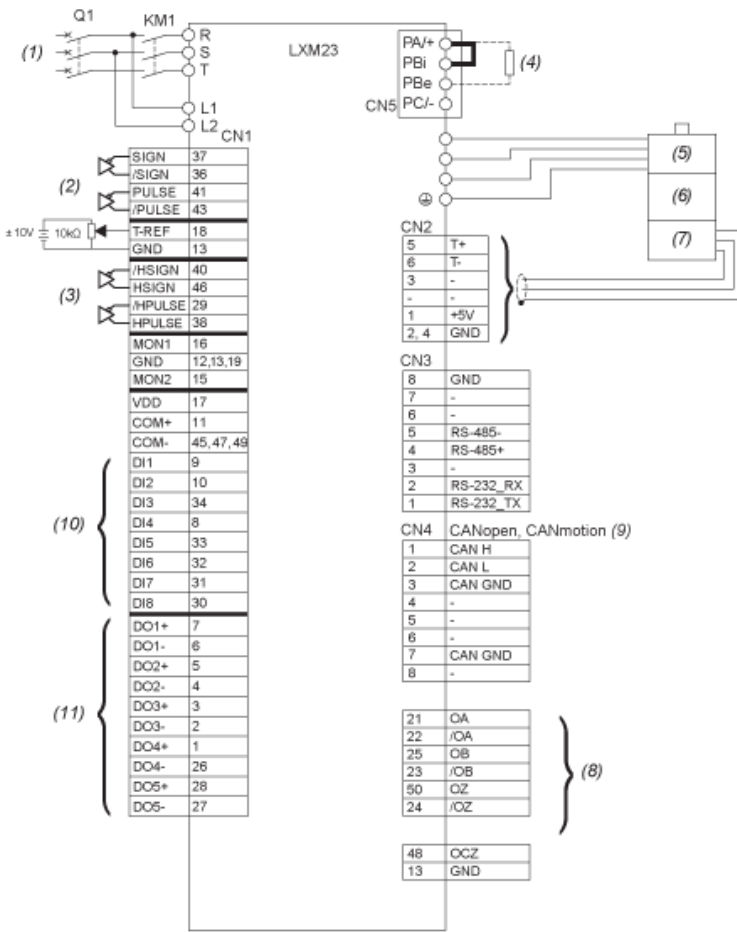
A $\geq 100$ mm ( $\geq 4$ in.)	Free space above/below devices
B $\geq 80$ mm ( $\geq 3.2$ in.)	Free space between devices
C $\geq 40$ mm ( $\geq 1.6$ in.)	Free space between devices and cabinet
D $\geq 10$ mm ( $\geq 0.4$ in.)	Free space between devices

**One Device in a cabinet**



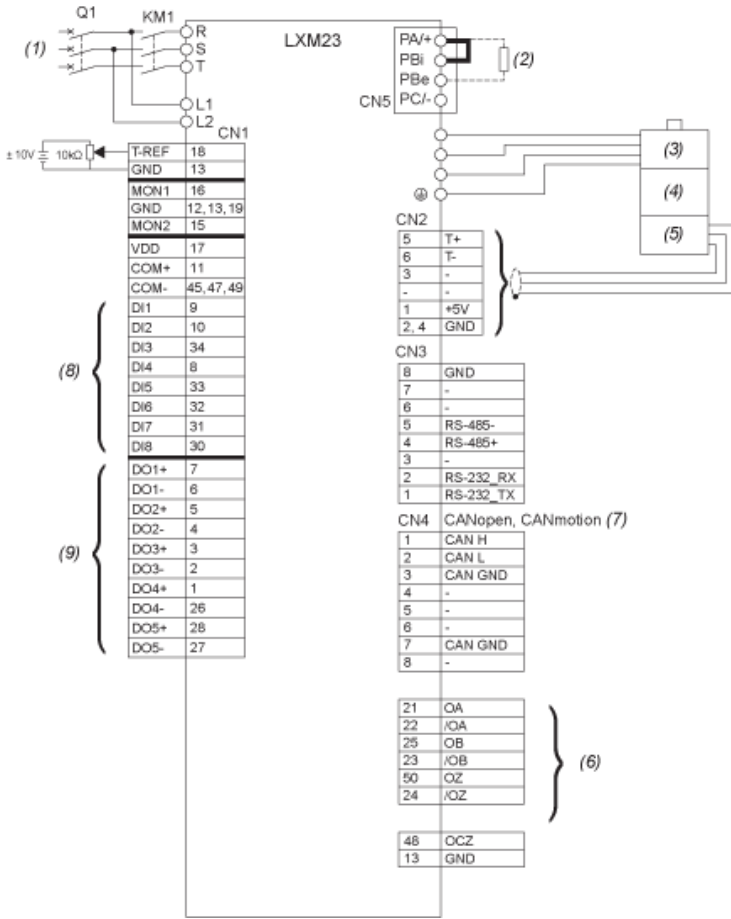
E $\geq 50$ mm ( $\geq 2$ in.)	Free space above/below the device
F $\geq 20$ mm ( $\geq 0.8$ in.)	Free space between device and cabinet

**Position Control Mode Wiring Diagram (Pulse Control)**



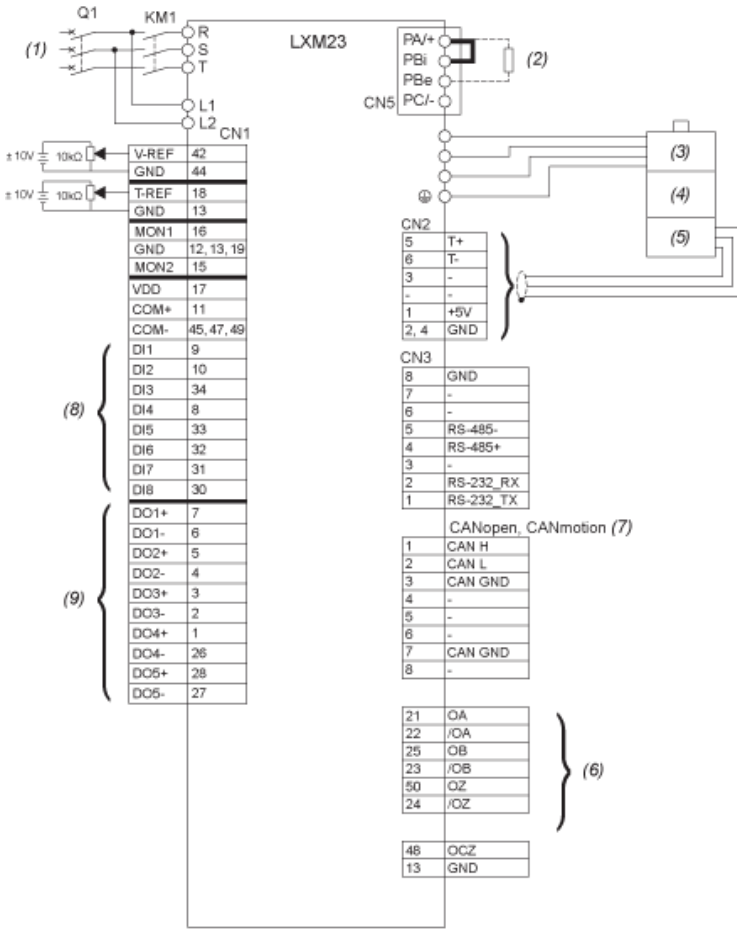
- KM1** Line Contactor
- Q1** Circuit breaker
- (1)** AC 220 / 230 V Single Phase or Three Phase 50 / 60 Hz
- (2)** Pulse Input (Line Driver)
- (3)** High-Speed Pulse Input (Line Receiver)
- (4)** External Braking Resistor
- (5)** Power Supply
- (6)** Holding Brake
- (7)** Encoder
- (8)** Encoder Pulse 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

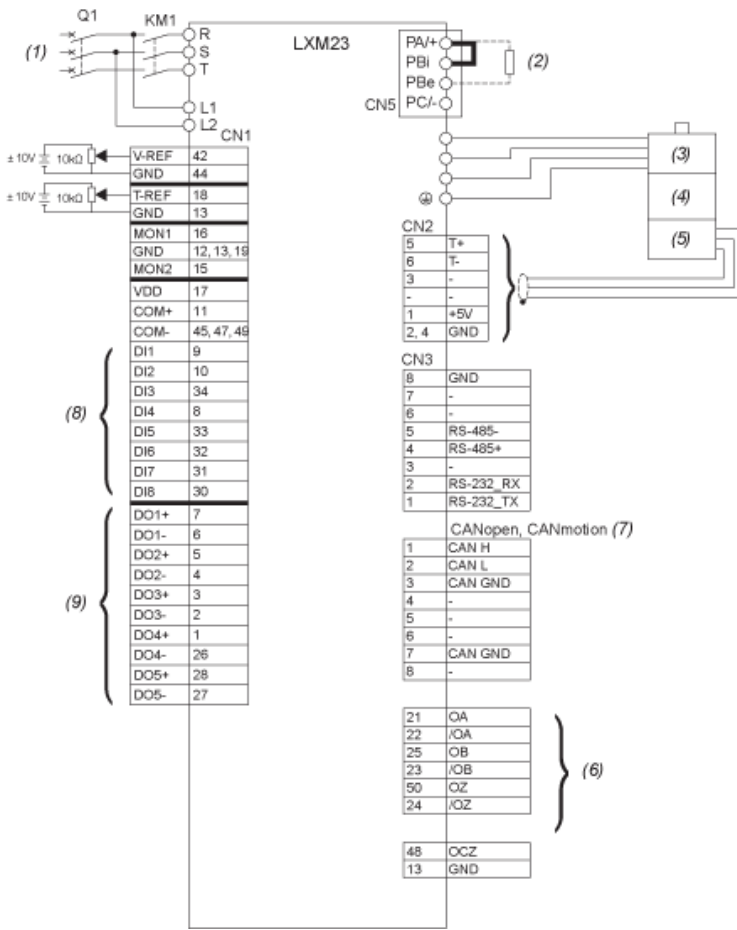
**Speed Control Mode Wiring Diagram**



- 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

**Recommended replacement(s)**