

# Product datasheet

Specifications



## Lexium motion servo drive Controller - 24 V DC - 0.4 A

LMC20

### Main

Range of product	Lexium Controller
Product or component type	Motion servo drive controllers
Component name	LMC
Type of polarization	10 kOhm for Modbus protocol

### Complementary

Power supply voltage	24 V
Power supply circuit type	DC
Power supply voltage limits	19...30 V
Maximum supply current	0.4 A
Inrush current	10 A for 0.2 ms
Discrete input number	1 master encoder discrete input(s) 2 event-triggered discrete input(s) 2 touch probe discrete input(s) 8 discrete discrete input(s)
Discrete input type	12 mA master encoder input for 2 kOhm 7 mA discrete input for 3 kOhm 7 mA event-triggered input for 3 kOhm 7 mA touch probe input for 3 kOhm
Discrete input voltage	5.5 V DC for master encoder input 24 V DC (voltage limits: 19...30 V) for discrete input 24 V DC (voltage limits: 19...30 V) for event-triggered input 24 V DC (voltage limits: 19...30 V) for touch probe input
Discrete input logic	Positive logic (source) for discrete input
Electrical connection	1 HE-10 connector discrete input 1 HE-10 connector event-triggered input 1 HE-10 connector touch probe input 1 high density 15-way female SUB-D connector master encoder input
Filter time	0.5 $\mu$ s at state 0 for touch probe input(s) 1 $\mu$ s at state 1 for touch probe input(s) 15 $\mu$ s at state 1 for discrete input(s) 15 $\mu$ s at state 1 for event-triggered input(s) 70 $\mu$ s at state 0 for discrete input(s) 70 $\mu$ s at state 0 for event-triggered input(s)
Insulation	Discrete input for between input channels with internal logic via optical coupler Event-triggered input for between input channels with internal logic via optical coupler Logic output for between output channels with internal logic via optical coupler Master encoder input for 2500 V Touch probe input for between input channels with internal logic via optical coupler
Input compatibility	Encoder with open collector output, 5 V power supplied for master encoder Encoder with push-pull output, 5 V power supplied for master encoder Encoder with RS422 compatible differential outputs, 5 or 24 V power supplied for master encoder

Disclaimer: This documentation is not intended as a substitute for and is not to be used for determining suitability or reliability of these products for specific user applications

<b>Discrete output number</b>	8
<b>Discrete output logic</b>	2 positive logic (source)
<b>Discrete output voltage</b>	24 V DC 19...30 V
<b>Discrete output current</b>	200 mA
<b>Maximum output short-circuit current</b>	1 A
<b>Response time</b>	150 µs at state 1 for logic output 250 µs at state 0 for logic output
<b>Memory type</b>	Flash EPROM 1 MB application NVRAM 60 kB data storage RAM 1 MB application
<b>Realtime clock</b>	Built-in for 20 days
<b>Application structure</b>	1 auxiliary task 1 master task 2 event-triggered tasks
<b>Cycle time</b>	2 ms for 4 synchronized axes 4 ms for 8 synchronized axes
<b>Exact time for 1 Kinstruction</b>	< 120 µs (in structured language, 60 % Boolean, 20 % numerical, 20 % floating point)
<b>Communication port protocol</b>	CANopen machine bus Modbus protocol Modbus TCP network CANopen Motionbus
<b>Connector type</b>	1 RJ45 for Modbus protocol 1 RJ45 for Modbus TCP network 9-way male SUB-D connector for CANopen machine bus 9-way male SUB-D connector for CANopen Motionbus
<b>Physical interface</b>	2-wire RS 485 for Modbus protocol 2-wire RS 485 for Modbus TCP network Ethernet 2 for Modbus TCP network
<b>Exchange mode</b>	Half duplex and full duplex Modbus TCP network
<b>Communication data link</b>	LLC : IEEE 802.2 for Modbus TCP network MAC : IEEE 802.3 for Modbus TCP network
<b>Communication network type</b>	ICMP IP conforming to RFC791
<b>Communication transport type</b>	TCP conforming to RFC793 UDP
<b>Mode of transmission</b>	RTU for Modbus protocol
<b>Transmission rate</b>	1 Mbps for bus length of 15 m for CANopen machine bus 1 Mbps for bus length of 15 m for CANopen Motionbus 10/100 Mbps, autodetected for Modbus TCP network 19.6 kbps or 38.4 kbps for Modbus protocol 250 kbps for bus length of 250 m for CANopen Motionbus 50 kbps for bus length of 1000 m for CANopen machine bus 500 kbps for bus length of 80 m for CANopen Motionbus
<b>Method of access</b>	Master CANopen machine bus Master CANopen Motionbus Slave Modbus protocol
<b>Data format</b>	8 bits, no parity, 1 stop for Modbus protocol
<b>Number of addresses</b>	1...32 for CANopen machine bus 1...247 for Modbus protocol
<b>Installed device</b>	8 Lexium 05 or Lexium 15 servo drives or SD3 28A stepper drives for CANopen Motionbus
<b>Web server</b>	Class C20, Modbus TCP network
<b>Communication service</b>	10 PDOs per slave for CANopen machine bus 2 SDOs per cycle for CANopen machine bus CiA DSP 301 V4.02 for CANopen machine bus CiA DSP 405 for CANopen machine bus Note guarding, heartbeat for CANopen machine bus 2 PDOs per slave (1 transmit and 1 receive) for CANopen Motionbus 2 SDOs per cycle (1 read and 1 write) for CANopen Motionbus CiA DSP 301 V4.02 for CANopen Motionbus CiA DSP 405 for CANopen Motionbus Emergency for CANopen Motionbus Note guarding, heartbeat for CANopen Motionbus

Configurable time out for Modbus protocol  
 Diagnostics (08) for Modbus protocol  
 Read device identification (43) for Modbus protocol  
 Read holding registers (03), 121 words maximum for Modbus protocol  
 Write multiple registers (16), 121 words maximum for Modbus protocol  
 Write single register (06) for Modbus protocol  
 BOOTP for Modbus TCP network  
 DHCP for Modbus TCP network  
 Diagnostics (08) for Modbus TCP network  
 FTP for web server for Modbus TCP network  
 Monitoring inhabitable for Modbus TCP network  
 Read device identification (43) for Modbus TCP network  
 Read holding registers (03), 121 words maximum for Modbus TCP network  
 SNMP for Modbus TCP network  
 Time out adjustable from 0.5...60 s for Modbus TCP network  
 Write multiple registers (16), 121 words maximum for Modbus TCP network  
 Write single register (06) for Modbus TCP network

<b>Local signalling</b>	1 LED - activity for CANopen machine bus 1 LED - activity for CANopen Motionbus 1 LED - activity for Modbus protocol 1 LED - activity for Modbus TCP network
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<b>Marking</b>	CE
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<b>Net weight</b>	0.697 kg
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## Environment

<b>Electromagnetic compatibility</b>	Electrostatic discharge level 3 conforming to EN/IEC 61000-4-2 Immunity to electrical transients level 4 conforming to EN/IEC 61000-4-4 Immunity to radiated radio-electrical interference level 3 conforming to EN/IEC 61000-4-3 Voltage/current impulse level 3 conforming to EN/IEC 61000-4-5
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<b>Standards</b>	EN/IEC 61800-5-1 EN/IEC 61800-3 environment 1 EN/IEC 61800-3 environment 2
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<b>Product certifications</b>	C-Tick CSA GOST UL CCC
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<b>IP degree of protection</b>	IP20
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<b>Vibration resistance</b>	1 gn (f= 13...200 Hz) conforming to EN/IEC 60068-2-6 1.5 mm (f= 5...13 Hz) conforming to EN/IEC 60068-2-6
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<b>Shock resistance</b>	15 gn for 11 ms conforming to EN/IEC 60068-2-27
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<b>Relative humidity</b>	10...95 % for operation, without condensation 5...95 % for storage, without condensation conforming to IEC 61131-2
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<b>Ambient air temperature for operation</b>	0...50 °C
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<b>Ambient air temperature for storage</b>	-25...70 °C conforming to IEC 61131-2
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<b>Operating altitude</b>	0...2000 m
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## Packing Units

<b>Package 1 Weight</b>	0.757 kg
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<b>Package 1 Height</b>	0.900 dm
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<b>Package 1 width</b>	1.700 dm
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<b>Package 1 Length</b>	2.500 dm
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## Offer Sustainability

<b>Sustainable offer status</b>	Green Premium product
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<b>EU RoHS Directive</b>	Pro-active compliance (Product out of EU RoHS legal scope) <a href="#">EU RoHS Declaration</a>
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<b>Mercury free</b>	Yes
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<b>RoHS exemption information</b>	<a href="#">Yes</a>
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<b>China RoHS Regulation</b>	<a href="#">China RoHS declaration</a>
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<b>Environmental Disclosure</b>	<a href="#">Product Environmental Profile</a>
<b>Circularity Profile</b>	<a href="#">End of Life Information</a>
<b>WEEE</b>	The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins
<b>Contractual warranty</b>	
<b>Warranty</b>	18 months