

LXM05BD34N4

motion servo drive LXM05B - 3 kW - 380..480 V - 3-phase - with EMC filter

Main

Range of product	Lexium 05
Product or component type	Motion servo drive
Component name	LXM05B
Network number of phases	Three phase
Power supply voltage	380...480 V - 15...10 %
Continuous output current	11 A at 8 kHz 15 A at 4 kHz
Nominal power	3 kW at 4 kHz
Type of polarization	No polarization impedances for Modbus

Complementary

Power supply voltage limits	323...528 V
Supply frequency	50/60 Hz - 5...5 %
Power supply frequency limits	47.5...63 Hz
Transient RMS output current	18 A at 8 kHz for 3 s 24 A at 4 kHz for 3 s
Line current	7.7 A at 480 V 9.7 A at 380 V
Maximum prospective line I _{sc}	5 kA
Switching frequency	4 kHz 8 kHz
Overvoltage category	III
Inrush current	< 60 A
Leakage current	< 30 mA
Output voltage	<= power supply voltage
Insulation	Electrical between power and control
Recommended type of cable for mounting in an enclosure	Without mounting kit :single-strand IEC cable at 45 °C , copper 90 °C XLPE/EPR Without mounting kit :single-strand IEC cable at 45 °C , copper 70 °C PVC
Electrical connection	Terminal , clamping capacity: 6 mm ² (AWG 10) R/L1, S/L2, T/L3 Terminal , clamping capacity: 6 mm ² (AWG 10) PA/+, PBI, PBe
Tightening torque	1.2 N.m (R/L1, S/L2, T/L3) 1.2 N.m (PA/+, PBI, PBe)
Discrete input number	2 safety input(s) 4 logic input(s)
Discrete input type	Logic input(s) (LI1, LI2, LI3, LI4) Safety input(s) (PWRR_A, PWRR_B)
Sampling duration	0.25 ms (LI1, LI2, LI3, LI4), discrete input(s) 0.25 ms (ANA1+/ANA1-, ANA2+/ANA2-), analog input(s)
Discrete input voltage	24 V DC (logic input(s)) 24 V DC (safety input(s))
Discrete input logic	Negative (LI1, LI2, LI3, LI4) state 0: > 19 V, state 1: < 9 V conforming to EN/IEC 61131-2 type 1 Positive logic (compliment of PWRR_A, compliment of PWRR_B) state 0: < 5 V, state 1: > 15 V conforming to EN/IEC 61131-2 type 1 Positive logic (LI1, LI2, LI3, LI4) state 0: < 5 V, state 1: > 15 V conforming to EN/IEC 61131-2 type 1
Response time	<= 10 ms
Discrete output number	2 discrete output(s)
Discrete output type	Logic output(s) (LO1, LO2) 24 V DC
Discrete output voltage	≤ 30 V DC

Discrete output logic	Negative (LO1, LO2) conforming to EN/IEC 61131-2 Positive (LO1, LO2) conforming to EN/IEC 61131-2
Contact bounce time	1 ms (LI1...LI4)
Braking current	50 mA
Response time on output	1 ms (LO1, LO2) for discrete output(s)
Absolute accuracy error	< +/- 1 % 25 °C < +/- 2 % over operating temperature range
Linearity error	< +/- 0.5 %
Analogue input type	Analog input (ANA1+/ANA1-, ANA2+/ANA2-) differential +/- 10 V, ≥ 10000 Ohm, 14 bits
Protection type	Against reverse polarity for inputs signal Against short-circuits for outputs signal
Safety function	PWR protection of the machine stop and/or prevent unintended operation of the servo motor conforming to ISO 13849-1 level d PWR protection of the machine stop and/or prevent unintended operation of the servo motor conforming to IEC/EN 61800-5-2 PWR protection of the system process stop and/or prevent unintended operation of the servo motor conforming to EN/IEC 61508 level SIL2 PWR protection of the system process stop and/or prevent unintended operation of the servo motor conforming to IEC/EN 61800-5-2
Communication port protocol	Modbus Profibus DP
Type of connector	RJ45 (labelled CN4) for Modbus Spring terminals (labelled CN1) for Profibus DP
Physical interface	2-wire RS485 multidrop Profibus DP 2-wire RS485 multidrop Modbus RS422 for 1 P/D input(s), ≤ 400 kHz RS422 for 1 A/B input(s), ≤ 400 kHz RS422 for 1 ESIM output input(s), ≤ 400 kHz
Transmission rate	9600, 19200, 38400 bps for Modbus 9600 bps, 19.2, 45.45, 93.75, 187.5, 500 kbps, 1.5, 3, 6, 12 Mbps for Profibus DP
Data format	8 bits, no parity, 1 or 2 stop Modbus 8 bits, odd or even parity, 1 stop Modbus
Number of addresses	1...126 addresses for Profibus DP 1...247 addresses for Modbus
Communication service	8 PKW bytes for Profibus DP 12 Process Data bytes for Profibus DP PPO type 2 for Profibus DP Communication monitoring for Modbus Communication monitoring for Profibus DP Diagnostics (08) for Modbus Read/Write multiple registers (23) for Modbus Read device identification (43) for Modbus Read holding registers (03) for Modbus Write multiple registers (16) for Modbus Write single register (06) for Modbus
Diagnostics	1 LED signalling RUN for Profibus DP 1 LED signalling ERR for Profibus DP 1 LED red signalling drive voltage
Signalling function	Display of faults on integrated 7-segment display terminal
Max nodes number	31 for Modbus
Input resistance	5 kOhm
Marking	CE
Type of cooling	Fan
Operating position	Vertical +/- 10 degree
Product weight	2 kg

Environment

EMC filter	Integrated
Electromagnetic compatibility	1.2/50 μ s - 8/20 μ s surge immunity test level 3 conforming to IEC 61000-4-5 Electrical fast transient/burst immunity test level 4 conforming to IEC 61000-4-4 Electrostatic discharge immunity test level 3 conforming to IEC 61000-4-2 Radiated radio-frequency electromagnetic field immunity test level 3 conforming to IEC 61000-4-3
Standards	EN/IEC 50178 EN/IEC 61800-3 EN/IEC 61800-5-1
Product certifications	UL CUL
IP degree of protection	IP20 on upper part with protective cover removed conforming to EN/IEC 61800-5-1 IP20 on upper part with protective cover removed conforming to EN/IEC 60529 IP41 on upper part with protective cover in place conforming to EN/IEC 61800-5-1 IP41 on upper part with protective cover in place conforming to EN/IEC 60529
Vibration resistance	1 gn (f = 13...150 Hz) conforming to EN/IEC 60068-2-6 1.5 mm peak to peak (f = 3...13 Hz) conforming to EN/IEC 60068-2-6
Shock resistance	15 gn (duration = 11 ms) conforming to EN/IEC 60028-2-27
Pollution degree	2 conforming to EN/IEC 61800-5-1
Environmental characteristic	Classes 3C1 conforming to IEC 60721-3-3
Relative humidity	Class 3K3 (5 to 93 %) without condensation conforming to IEC 60721-3-3
Ambient air temperature for operation	0...50 °C
Ambient air temperature for storage	-25...70 °C
Operating altitude	> 1000...2000 m with conditions $\leq$ 1000 m without derating