



brushless dc motor 24..48 V -Ethernet Powerlink interface - L = 174 mm - 54:1

ILE2P661PB1A3

! Discontinued on: 15 Jun 2023

! To be end-of-service on: 31 Dec 2026

Main

Range of product	Lexium integrated drive	
Product or component type	Motion integrated drive	
Device short name	ILE	
Motor type	Brushless DC motor	
Number of motor poles	6	
Network number of phases	Single phase	
[Us] rated supply voltage	24 V 48 V	
network type	DC	
Communication interface	Ethernet Powerlink, integrated	
Length	174 mm	
Winding type	Medium speed of rotation and medium torque	
Electrical connection	Printed circuit board connector	
Holding brake	Without	
Gear box type	Straight teeth gear, 4 stages	
Reduction ratio	54:1 (490:9)	
Nominal speed	73 rpm at 24 V 92 rpm at 48 V	
Nominal torque	10 N.m at 24 V 10 N.m at 48 V	

Complementary

Transmission rate	100 Mbits
mounting support	Flange
Motor flange size	66 mm
Number of motor stacks	1
Centring collar diameter	16 mm
Centring collar depth	4 mm
Number of mounting holes	4
Mounting holes diameter	4.4 mm
Circle diameter of the mounting holes	73.54 mm

Feedback type	BLDC encoder
Shaft end	Keyed
Second shaft	Without second shaft end
Shaft diameter	10 mm
Shaft length	25 mm
Key width	16 mm
Supply voltage limits	1855,2 V
Current consumption	7000 mA peak 5500 mA maximum continuous
Associated fuse rating	16 A
Commissioning interface	RS485 Modbus TCP (9.6, 19.2 and 38.4 kbauds)
Input/output type	4 signals (each be used as input or output)
Voltage state 0 guaranteed	-34.5 V
Voltage state 1 guaranteed	1530 V
Discrete input current	10 mA at 24 V on/STO_A for safety input 3 mA at 24 V on/STO_B for safety input 2 mA at 24 V for 24 V signal interface
Discrete output voltage	2325 V
Maximum switching current	100 mA per output 200 mA total
Protection type	Short circuit of the output voltage Overload of output voltage Safe torque off
Maximum supply current	0.1 A (power stage disabled)
	6.8 A at 24 V 3.8 A at 48 V
Nominal output power	
Nominal output power Peak stall torque	3.8 A at 48 V 112 W at 48 V
	3.8 A at 48 V 112 W at 48 V 90 W at 24 V 20.9 N.m at 24 V
Peak stall torque	3.8 A at 48 V 112 W at 48 V 90 W at 24 V 20.9 N.m at 24 V 20.9 N.m at 48 V
Peak stall torque Continuous stall torque	3.8 A at 48 V 112 W at 48 V 90 W at 24 V 20.9 N.m at 24 V 20.9 N.m at 48 V 11.6 N.m
Peak stall torque Continuous stall torque Detent torque	3.8 A at 48 V 112 W at 48 V 90 W at 24 V 20.9 N.m at 24 V 20.9 N.m at 48 V 11.6 N.m 4.36 N.m
Peak stall torque Continuous stall torque Detent torque Speed feedback resolution	3.8 A at 48 V 112 W at 48 V 90 W at 24 V 20.9 N.m at 24 V 20.9 N.m at 48 V 11.6 N.m 4.36 N.m 12 points/turn motor 0.55° gearbox output
Peak stall torque Continuous stall torque Detent torque Speed feedback resolution Accuracy error	3.8 A at 48 V 112 W at 48 V 90 W at 24 V 20.9 N.m at 24 V 20.9 N.m at 48 V 11.6 N.m 4.36 N.m 12 points/turn motor 0.55° gearbox output +/- 0.5 point
Peak stall torque Continuous stall torque Detent torque Speed feedback resolution Accuracy error Maximum torsional backlash	3.8 A at 48 V 112 W at 48 V 90 W at 24 V 20.9 N.m at 24 V 20.9 N.m at 48 V 11.6 N.m 4.36 N.m 12 points/turn motor 0.55° gearbox output +/- 0.5 point 1 °
Peak stall torque Continuous stall torque Detent torque Speed feedback resolution Accuracy error Maximum torsional backlash Rotor inertia	3.8 A at 48 V 112 W at 48 V 90 W at 24 V 20.9 N.m at 24 V 20.9 N.m at 48 V 11.6 N.m 4.36 N.m 12 points/turn motor 0.55° gearbox output +/- 0.5 point 1 ° 441 kg.cm²
Peak stall torque Continuous stall torque Detent torque Speed feedback resolution Accuracy error Maximum torsional backlash Rotor inertia Maximum mechanical speed	3.8 A at 48 V 112 W at 48 V 90 W at 24 V 20.9 N.m at 24 V 20.9 N.m at 48 V 11.6 N.m 4.36 N.m 12 points/turn motor 0.55° gearbox output +/- 0.5 point 1 ° 441 kg.cm² 92 rpm 200 N (long-term operation)
Peak stall torque Continuous stall torque Detent torque Speed feedback resolution Accuracy error Maximum torsional backlash Rotor inertia Maximum mechanical speed Maximum radial force Fr	3.8 A at 48 V 112 W at 48 V 90 W at 24 V 20.9 N.m at 24 V 20.9 N.m at 48 V 11.6 N.m 4.36 N.m 12 points/turn motor 0.55° gearbox output +/- 0.5 point 1 ° 441 kg.cm² 92 rpm 200 N (long-term operation) 200 N (short-term operation)
Peak stall torque Continuous stall torque Detent torque Speed feedback resolution Accuracy error Maximum torsional backlash Rotor inertia Maximum mechanical speed Maximum radial force Fr Maximum axial force Fa	3.8 A at 48 V 112 W at 48 V 90 W at 24 V 20.9 N.m at 24 V 20.9 N.m at 48 V 11.6 N.m 4.36 N.m 12 points/turn motor 0.55° gearbox output +/- 0.5 point 1 ° 441 kg.cm² 92 rpm 200 N (long-term operation) 200 N (short-term operation) 10 N (long-term operation) 80 N (short-term operation)
Peak stall torque Continuous stall torque Detent torque Speed feedback resolution Accuracy error Maximum torsional backlash Rotor inertia Maximum mechanical speed Maximum radial force Fr Maximum axial force Fa Service life in hours	3.8 A at 48 V 112 W at 48 V 90 W at 24 V 20.9 N.m at 24 V 20.9 N.m at 48 V 11.6 N.m 4.36 N.m 12 points/turn motor 0.55° gearbox output +/- 0.5 point 1 ° 441 kg.cm² 92 rpm 200 N (long-term operation) 200 N (short-term operation) 10 N (long-term operation) 80 N (short-term operation) 2500 h bearing short-term operation 15000 h bearing long-term operation

Environment

Standards	IEC 60072-1 EN 61800-3 : 2001-02 EN 50347 EN 61800-3:2001, second environment EN/IEC 61800-3 EN/IEC 50178 IEC 61800-3, Ed 2	
Product certifications	UL TÜV cUL	
Ambient air temperature for operation	4055 °C (with power derating of 2 % per °C) 040 °C (without derating)	
Permissible ambient air temperature around the device	105 °C power amplifier 110 °C motor	
Ambient air temperature for storage	-2570 °C	
Operating altitude	<= 1000 m without derating	
Relative humidity	1585 % without condensation	
Vibration resistance	20 m/s² (f= 10500 Hz) 10 cycles conforming to EN/IEC 60068-2-6	
Shock resistance	esistance 150 m/s² 1000 shocks conforming to EN/IEC 60068-2-29	
degree of protection IP41 shaft bushing: conforming to EN/IEC 60034-5 IP54 total except shaft bushing: conforming to EN/IEC 60034-5		

Packing Units

Unit Type of Package 1	PCE
Number of Units in Package 1	1
Package 1 Height	8.0 cm
Package 1 Width	18.5 cm
Package 1 Length	35.5 cm
Package 1 Weight	2.8 kg

Contractual warranty

Warranty 18 months



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Guide to assess a product's sustainability >





Transparency RoHS/REACh

Well-being performance

	Mercury Free	
②	Rohs Exemption Information	Yes
	Pvc Free	

Certifications & Standards

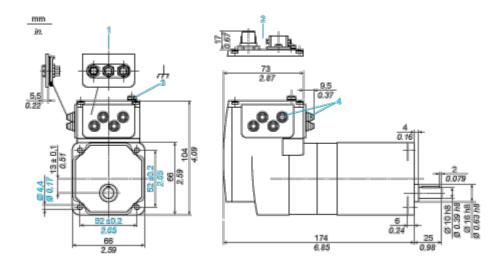
Circularity Profile	End of Life Information
Weee	The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins
Environmental Disclosure	Product Environmental Profile
China Rohs Regulation	China RoHS declaration
Eu Rohs Directive	Pro-active compliance (Product out of EU RoHS legal scope)
Reach Regulation	REACh Declaration

19 Aug 2024

Dimensions Drawings

Integrated Drive with Straight Teeth Gear

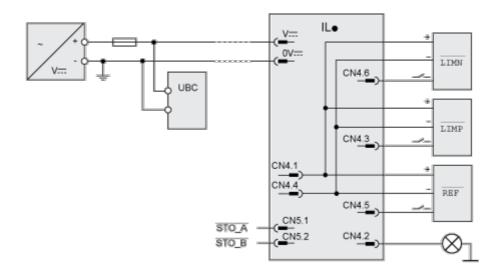
Dimensions



- 1 Accessories: I/O signal insert with industrial connectors
- 2 Option: industrial connectors
- 3 Earth (ground) terminal
- 4 Accessories: cable entries $\emptyset = 3 \dots 9 \text{ mm/}0.12 \dots 0.35 \text{ in.}$

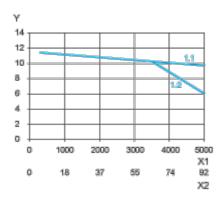
Connections and Schema

Connection Example with 4 I/O Signals



Performance Curves

Torque Characteristics



- X1 Speed of rotation of motor in rpm
- X2 Speed of rotation of gearing in rpm
- Y Torque in Nm
- 1.1 Max. torque at 24 V
- 1.2 Max. torque at 36 V