



# brushless dc motor 24..48 V - EtherCAT interface - L = 174 mm - 18:1

ILE2E661PB1A1

! Discontinued on: 9 Feb 2023

! Discontinued

EAN Code: 3606485188805

#### 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	48 V 24 V	
network type	DC	
Communication interface	EtherCAT, 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, 3 stages	
Reduction ratio	18:1 (160:9)	
Nominal speed	225 rpm at 24 V 281 rpm at 48 V	
Nominal torque	3.5 N.m at 24 V 3.5 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	119 W at 48 V 95 W at 24 V
Peak stall torque	6.19 N.m at 24 V 6.19 N.m at 48 V
Peak stall torque  Continuous stall torque	
	6.19 N.m at 48 V
Continuous stall torque	6.19 N.m at 48 V 4.3 N.m
Continuous stall torque  Detent torque	6.19 N.m at 48 V  4.3 N.m  1.42 N.m  1.667° gearbox output
Continuous stall torque  Detent torque  Speed feedback resolution	6.19 N.m at 48 V  4.3 N.m  1.42 N.m  1.667° gearbox output 12 points/turn motor
Continuous stall torque  Detent torque  Speed feedback resolution  Accuracy error	6.19 N.m at 48 V  4.3 N.m  1.42 N.m  1.667° gearbox output 12 points/turn motor  +/- 0.5 point
Continuous stall torque  Detent torque  Speed feedback resolution  Accuracy error  Maximum torsional backlash	6.19 N.m at 48 V  4.3 N.m  1.42 N.m  1.667° gearbox output 12 points/turn motor  +/- 0.5 point  1 °
Continuous stall torque  Detent torque  Speed feedback resolution  Accuracy error  Maximum torsional backlash  Rotor inertia	6.19 N.m at 48 V  4.3 N.m  1.42 N.m  1.667° gearbox output 12 points/turn motor  +/- 0.5 point  1 °  48 kg.cm²
Continuous stall torque  Detent torque  Speed feedback resolution  Accuracy error  Maximum torsional backlash  Rotor inertia  Maximum mechanical speed	6.19 N.m at 48 V  4.3 N.m  1.42 N.m  1.667° gearbox output 12 points/turn motor  +/- 0.5 point  1 °  48 kg.cm²  281 rpm  200 N (long-term operation)
Continuous stall torque  Detent torque  Speed feedback resolution  Accuracy error  Maximum torsional backlash  Rotor inertia  Maximum mechanical speed  Maximum radial force Fr	6.19 N.m at 48 V  4.3 N.m  1.42 N.m  1.667° gearbox output 12 points/turn motor  +/- 0.5 point  1 °  48 kg.cm²  281 rpm  200 N (long-term operation) 200 N (short-term operation)
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	6.19 N.m at 48 V  4.3 N.m  1.42 N.m  1.667° gearbox output 12 points/turn motor  +/- 0.5 point  1°  48 kg.cm²  281 rpm  200 N (long-term operation) 200 N (short-term operation) 30 N (short-term operation) 40 N (short-term operation) 4500 h bearing short-term operation
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	6.19 N.m at 48 V  4.3 N.m  1.42 N.m  1.667° gearbox output 12 points/turn motor  +/- 0.5 point  1 °  48 kg.cm²  281 rpm  200 N (long-term operation) 200 N (short-term operation)  10 N (long-term operation) 200 N (short-term operation) 2500 h bearing short-term operation 15000 h bearing long-term operation

## **Environment**

Standards	IEC 50347 EN 61800-3: 2001-02 IEC 61800-3, Ed 2 IEC 61800-3 EN 61800-3:2001, second environment IEC 60072-1 IEC 50178	
Product certifications	TÜV cUL UL	
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 IEC 60068-2-6	
Shock resistance	150 m/s² 1000 shocks conforming to IEC 60068-2-29	
IP degree of protection  IP41 shaft bushing: conforming to IEC 60034-5  IP54 total except shaft bushing: conforming to 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	2.3 kg

# **Contractual warranty**

Warranty 18 months



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Transparency RoHS/REACh

#### Well-being performance

	Mercury Free	
<b>②</b>	Rohs Exemption Information	Yes
	Pvc Free	

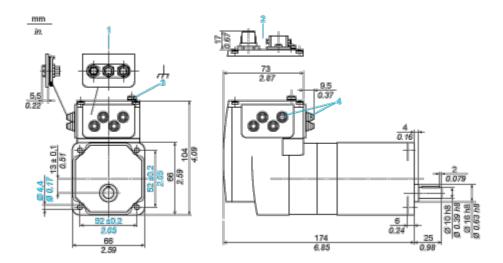
#### **Certifications & Standards**

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

#### **Dimensions Drawings**

#### Integrated Drive with Straight Teeth Gear

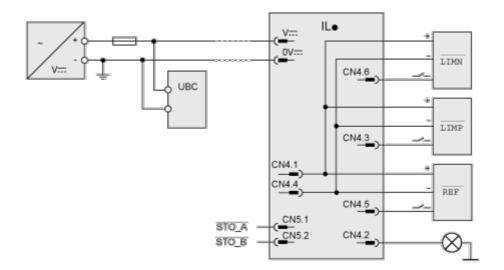
#### **Dimensions**



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

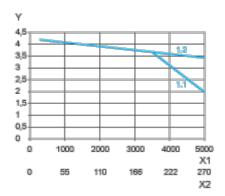
Connections and Schema

### 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