# **Product datasheet**

Specifications





# brushless dc motor 24..36 V - Profibus DP interface - L = 174 mm - 24:1

ILE1B661PB1A5

Discontinued on: 15 Jun 2023

nly

! 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	36 V 24 V	
network type	DC	
Communication interface	Profibus DP, integrated	
Length	229 mm	
Winding type	Medium speed of rotation and medium torque	
Electrical connection	Printed circuit board connector	
Holding brake	Without	
Gear box type	Worm gear, 2 stages	
Reduction ratio	24:1 (525:22)	
Nominal speed	168 rpm at 24 V 168 rpm at 36 V	
Nominal torque 2.5 N.m at 24 V 3.5 N.m at 36 V		

## Complementary

Transmission rate	9.6, 19.2, 45.45, 93.75, 187.5, 500, 1500, 3000, 6000 and 12000 kbauds
mounting support	Flange
Motor flange size	66 mm
Number of motor stacks	1
Centring collar diameter	36 mm
Number of mounting holes	2
Mounting holes diameter	4.4 mm
Feedback type	BLDC encoder
Shaft end	Hole

Second shaft	Without second shaft end
Supply voltage limits	1840 V
Current consumption	7000 mA peak 5500 mA maximum continuous
Associated fuse rating	10 A
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	Safe torque off Overload of output voltage Short circuit of the output voltage
Maximum supply current	5.1 A at 36 V 0.1 A (power stage disabled) 6.8 A at 24 V
Nominal output power	45 W at 24 V 61 W at 36 V
Peak stall torque	3.74 N.m at 24 V 5.18 N.m at 36 V
Continuous stall torque	4.2 N.m
Detent torque	2.9 N.m
Speed feedback resolution	12 points/turn motor 1.26° gearbox output
Accuracy error	+/- 1 point
Maximum torsional backlash	1.5 °
Rotor inertia	90 kg.cm²
Maximum mechanical speed	186 rpm
Maximum radial force Fr	200 N
Maximum axial force Fa	80 N
Service life in hours	3000 h bearing
marking	CE
Type of cooling	Natural convection
Net weight	2.3 kg

### **Environment**

Standards	IEC 61800-3, Ed 2 EN/IEC 50178 EN/IEC 61800-3 EN 61800-3 : 2001-02 EN 61800-3:2001, second environment EN 50347 IEC 60072-1
Product certifications	TÜV cUL UL

Ambient air temperature for operation	5065 °C (with power derating of 2 % per °C) 050 °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	150 m/s² 1000 shocks conforming to EN/IEC 60068-2-29	
IP 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	9.0 cm
Package 1 Width	19.0 cm
Package 1 Length	38.5 cm
Package 1 Weight	2.25 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	

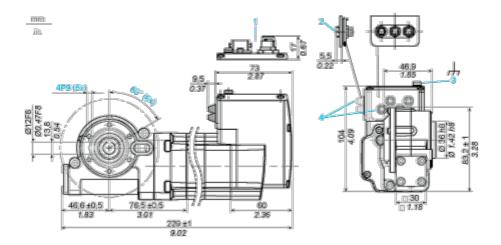
#### **Certifications & Standards**

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 Worm Gear**

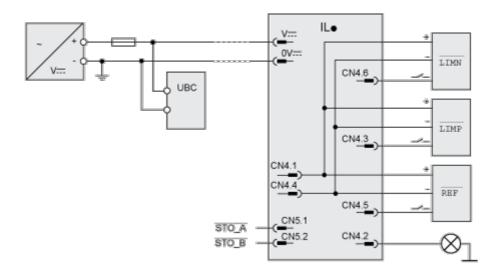
#### **Dimensions**



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

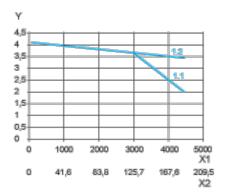
Connections and Schema

#### 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