# **Product data sheet**

Specifications





brushless DC motor, Lexium ILA ILE ILS, 24 to 36V, RS485 interface, 174mm, straight teeth gear, 115:1

ILE1R661PB1A4



! Discontinued on: Oct 9, 2023

Product availability: Non-Stock - Not normally stocked in distribution facility

#### 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
Phase	Single phase
[Us] rated supply voltage	24 V 36 V
network type	DC
Communication interface	RS485, Integrated
Length	6.9 in (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	115:1 (3675:32)
Nominal speed	35 rpm 24 V 42 rpm 36 V
Nominal torque	88.5 lbf.in (10 N.m) 24 V 97.4 lbf.in (11 N.m) 36 V

## Complementary

Transmission Rate	9.6, 19.2 and 38.4 kbauds
Mounting Support	Flange
Motor flange size	2.6 in (66 mm)
Number of motor stacks	1
Centring collar diameter	0.6 in (16 mm)
Centring collar depth	0.2 in (4 mm)
Number of mounting holes	4
Mounting holes diameter	0.2 in (4.4 mm)

Price is "List Price" and may be subject to a trade discount – check with your local distributor or retailer for actual price.

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Circle diameter of the mounting holes	2.90 in (73.54 mm)
Feedback type	BLDC encoder
Shaft end	Keyed
Second shaft	Without second shaft end
Shaft diameter	0.4 in (10 mm)
Shaft length	1.0 in (25 mm)
Key width	0.6 in (16 mm)
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 safety input 3 mA at 24 V on/STO_B safety input 2 mA at 24 V 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 Safe torque off Overload of output voltage
Maximum supply current	0.06 A 36 V power stage disabled)
	0.1 A 24 V power stage disabled) 2.1 A 36 V 2.6 A 24 V
Nominal output power	2.1 A 36 V
Nominal output power  Peak stall torque	2.1 A 36 V 2.6 A 24 V 38 W 24 V
	2.1 A 36 V 2.6 A 24 V 38 W 24 V 48 W 36 V 132.32 lbf.in (14.95 N.m) 24 V
Peak stall torque	2.1 A 36 V 2.6 A 24 V 38 W 24 V 48 W 36 V 132.32 lbf.in (14.95 N.m) 24 V 183.2 lbf.in (20.7 N.m) 36 V
Peak stall torque  Continuous stall torque	2.1 A 36 V 2.6 A 24 V 38 W 24 V 48 W 36 V 132.32 lbf.in (14.95 N.m) 24 V 183.2 lbf.in (20.7 N.m) 36 V 123.9 lbf.in (14 N.m)
Peak stall torque  Continuous stall torque  Detent torque	2.1 A 36 V 2.6 A 24 V 38 W 24 V 48 W 36 V 132.32 lbf.in (14.95 N.m) 24 V 183.2 lbf.in (20.7 N.m) 36 V 123.9 lbf.in (14 N.m) 70.8 lbf.in (8 N.m)
Peak stall torque  Continuous stall torque  Detent torque  Speed feedback resolution	2.1 A 36 V 2.6 A 24 V 38 W 24 V 48 W 36 V 132.32 lbf.in (14.95 N.m) 24 V 183.2 lbf.in (20.7 N.m) 36 V 123.9 lbf.in (14 N.m) 70.8 lbf.in (8 N.m) 12 points/turn motor 0.26° gearbox output
Peak stall torque  Continuous stall torque  Detent torque  Speed feedback resolution  Accuracy error	2.1 A 36 V 2.6 A 24 V 38 W 24 V 48 W 36 V 132.32 lbf.in (14.95 N.m) 24 V 183.2 lbf.in (20.7 N.m) 36 V 123.9 lbf.in (14 N.m) 70.8 lbf.in (8 N.m) 12 points/turn motor 0.26° gearbox output +/- 1 point
Peak stall torque  Continuous stall torque  Detent torque  Speed feedback resolution  Accuracy error  Maximum torsional backlash	2.1 A 36 V 2.6 A 24 V 38 W 24 V 48 W 36 V 132.32 lbf.in (14.95 N.m) 24 V 183.2 lbf.in (20.7 N.m) 36 V 123.9 lbf.in (14 N.m) 70.8 lbf.in (8 N.m) 12 points/turn motor 0.26° gearbox output +/- 1 point
Peak stall torque  Continuous stall torque  Detent torque  Speed feedback resolution  Accuracy error  Maximum torsional backlash  Rotor inertia	2.1 A 36 V 2.6 A 24 V 38 W 24 V 48 W 36 V 132.32 lbf.in (14.95 N.m) 24 V 183.2 lbf.in (20.7 N.m) 36 V 123.9 lbf.in (14 N.m) 70.8 lbf.in (8 N.m) 12 points/turn motor 0.26° gearbox output +/- 1 point 1° 1962 kg.cm²
Peak stall torque  Continuous stall torque  Detent torque  Speed feedback resolution  Accuracy error  Maximum torsional backlash  Rotor inertia  Maximum mechanical speed	2.1 A 36 V 2.6 A 24 V  38 W 24 V 48 W 36 V  132.32 lbf.in (14.95 N.m) 24 V 183.2 lbf.in (20.7 N.m) 36 V  123.9 lbf.in (14 N.m)  70.8 lbf.in (8 N.m)  12 points/turn motor 0.26° gearbox output  +/- 1 point  1 °  1962 kg.cm²  44 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	2.1 A 36 V 2.6 A 24 V  38 W 24 V 48 W 36 V  132.32 lbf.in (14.95 N.m) 24 V 183.2 lbf.in (20.7 N.m) 36 V  123.9 lbf.in (14 N.m)  70.8 lbf.in (8 N.m)  12 points/turn motor 0.26° gearbox output  +/- 1 point  1 °  1962 kg.cm²  44 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	2.1 A 36 V 2.6 A 24 V  38 W 24 V 48 W 36 V  132.32 lbf.in (14.95 N.m) 24 V 183.2 lbf.in (20.7 N.m) 36 V  123.9 lbf.in (14 N.m)  70.8 lbf.in (8 N.m)  12 points/turn motor 0.26° gearbox output  +/- 1 point  1 °  1962 kg.cm²  44 rpm  200 N long-term operation) 200 N short-term operation)  10 N long-term operation) 2500 h bearing 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	2.1 A 36 V 2.6 A 24 V  38 W 24 V 48 W 36 V  132.32 lbf.in (14.95 N.m) 24 V 183.2 lbf.in (20.7 N.m) 36 V  123.9 lbf.in (14 N.m)  70.8 lbf.in (8 N.m)  12 points/turn motor 0.26° gearbox output  +/- 1 point  1 °  1962 kg.cm²  44 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	EN 61800-3:2001, second environment IEC 61800-3 IEC 60072-1 IEC 50347 EN 61800-3: 2001-02 IEC 50178 IEC 61800-3, Ed 2
Product Certifications	UL TÜV cUL
Ambient air temperature for operation	122149 °F (5065 °C) with power derating of 2 % per °C) 32122 °F (050 °C) without derating)
Permissible ambient air temperature around the device	221 °F (105 °C) power amplifier 230 °F (110 °C) motor
Ambient Air Temperature for Storage	-13158 °F (-2570 °C)
Operating altitude	<= 3280.84 ft (1000 m) without derating
Relative humidity	1585 % without condensation
Vibration resistance	20 m/s² 10500 Hz) 10 cycles IEC 60068-2-6
Shock resistance	150 m/s² 1000 shocks 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

# Ordering and shipping details

Category	US1PC5618288
Discount Schedule	PC56
GTIN	3389119222525
Returnability	No
Country of origin	DE

## **Packing Units**

Unit Type of Package 1	PCE
Number of Units in Package 1	1
Package 1 Height	3.1 in (8.0 cm)
Package 1 Width	7.3 in (18.5 cm)
Package 1 Length	14.0 in (35.5 cm)
Package 1 Weight	4.96 lb(US) (2.25 kg)

## **Contractual warranty**

Warranty 18 months

# Sustainability Green Premium

**Green Premium<sup>TM</sup> label** is Schneider Electric's commitment to delivering products with best-inclass environmental performance. Green Premium promises compliance with the latest regulations, transparency on environmental impacts, as well as circular and low-CO<sub>2</sub> products.

**Guide to assessing product sustainability** is a white paper that clarifies global eco-label standards and how to interpret environmental declarations.

Learn more about Green Premium >

Guide to assess a product's sustainability >





Transparency RoHS/REACh

### Well-being performance

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

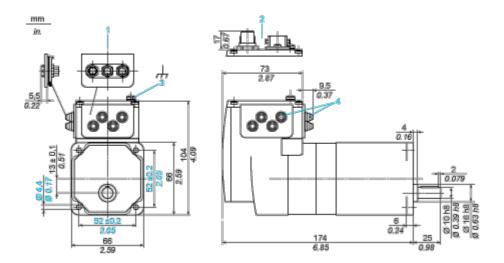
### **Certifications & Standards**

Eu Rohs Directive	Pro-active compliance (Product out of EU RoHS legal scope)
China Rohs Regulation	China RoHS declaration
Environmental Disclosure	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
California Proposition 65	WARNING: This product can expose you to chemicals including: Lead and lead compounds, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov

#### **Dimensions Drawings**

### Integrated Drive with Straight Teeth Gear

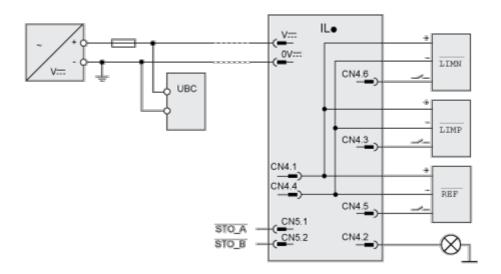
#### **Dimensions**



- 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

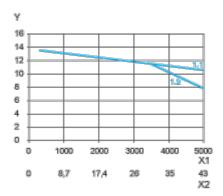
## Connection Example with 4 I/O Signals



## ILE1R661PB1A4

#### 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