



integrated drive ILS with stepper motor - 24..36 V - pulse/direction 24 V - 6A

ILS1U853TB1F0

! Discontinued on: 15 Jun 2023

(!) Discontinued

Main

Range of product	Lexium integrated drive
Product or component type	Motion integrated drive
Device short name	ILS
Motor type	3-phase stepper 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	Pulse/direction 24 V, integrated
Length	247.3 mm
Winding type	High speed of rotation and medium torque
Electrical connection	Printed circuit board connector
Holding brake	With
Gear box type	Without
Nominal speed	100 rpm at 24 V 300 rpm at 36 V
Nominal torque	4.5 N.m
Holding torque	6 N.m holding brake 4.5 N.m

Complementary

mounting support	Flange
Motor flange size	85 mm
Number of motor stacks	3
Centring collar diameter	60 mm
Centring collar depth	2 mm
Number of mounting holes	4
Mounting holes diameter	6.5 mm
Circle diameter of the mounting holes	99 mm
Feedback type	Index pulse

Shaft end	Untapped
Second shaft	Without second shaft end
Shaft diameter	14 mm
Shaft length	30 mm
Supply voltage limits	1840 V
Current consumption	6000 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 for safety input
Discrete output voltage	2325 V
Maximum switching current	100 mA per output 200 mA total
Protection type	Overload of output voltage Short circuit of the output voltage Safe torque off
Peak stall torque	4.5 N.m
Peak stall torque Continuous stall torque	4.5 N.m 4.5 N.m
Continuous stall torque	4.5 N.m 1.8°, 0.9°, 0.72°, 0.36°, 0.18°, 0.09°, 0.072°, 0.036°
Continuous stall torque Speed feedback resolution	4.5 N.m 1.8°, 0.9°, 0.72°, 0.36°, 0.18°, 0.09°, 0.072°, 0.036° 200, 400, 500, 1000, 2000, 4000, 5000, 10000 steps
Continuous stall torque Speed feedback resolution Accuracy error	4.5 N.m 1.8°, 0.9°, 0.72°, 0.36°, 0.18°, 0.09°, 0.072°, 0.036° 200, 400, 500, 1000, 2000, 4000, 5000, 10000 steps +/- 6 arc min
Continuous stall torque Speed feedback resolution Accuracy error Rotor inertia	4.5 N.m 1.8°, 0.9°, 0.72°, 0.36°, 0.18°, 0.09°, 0.072°, 0.036° 200, 400, 500, 1000, 2000, 4000, 5000, 10000 steps +/- 6 arc min 3.5 kg.cm²
Continuous stall torque Speed feedback resolution Accuracy error Rotor inertia Maximum mechanical speed	4.5 N.m 1.8°, 0.9°, 0.72°, 0.36°, 0.18°, 0.09°, 0.072°, 0.036° 200, 400, 500, 1000, 2000, 4000, 5000, 10000 steps +/- 6 arc min 3.5 kg.cm²
Continuous stall torque Speed feedback resolution Accuracy error Rotor inertia Maximum mechanical speed Maximum radial force Fr	4.5 N.m 1.8°, 0.9°, 0.72°, 0.36°, 0.18°, 0.09°, 0.072°, 0.036° 200, 400, 500, 1000, 2000, 4000, 5000, 10000 steps +/- 6 arc min 3.5 kg.cm² 2000 rpm 110 N 170 N (tensile force)
Continuous stall torque Speed feedback resolution Accuracy error Rotor inertia Maximum mechanical speed Maximum radial force Fr Maximum axial force Fa	4.5 N.m 1.8°, 0.9°, 0.72°, 0.36°, 0.18°, 0.09°, 0.072°, 0.036° 200, 400, 500, 1000, 2000, 4000, 5000, 10000 steps +/- 6 arc min 3.5 kg.cm² 2000 rpm 110 N 170 N (tensile force) 30 N (force pressure)
Continuous stall torque Speed feedback resolution Accuracy error Rotor inertia Maximum mechanical speed Maximum radial force Fr Maximum axial force Fa Service life in hours	4.5 N.m 1.8°, 0.9°, 0.72°, 0.36°, 0.18°, 0.09°, 0.072°, 0.036° 200, 400, 500, 1000, 2000, 4000, 5000, 10000 steps +/- 6 arc min 3.5 kg.cm² 2000 rpm 110 N 170 N (tensile force) 30 N (force pressure)
Continuous stall torque Speed feedback resolution Accuracy error Rotor inertia Maximum mechanical speed Maximum radial force Fr Maximum axial force Fa Service life in hours Brake pull-in power	4.5 N.m 1.8°, 0.9°, 0.72°, 0.36°, 0.18°, 0.09°, 0.072°, 0.036° 200, 400, 500, 1000, 2000, 4000, 5000, 10000 steps +/- 6 arc min 3.5 kg.cm² 2000 rpm 110 N 170 N (tensile force) 30 N (force pressure) 20000 h bearing 22 W
Continuous stall torque Speed feedback resolution Accuracy error Rotor inertia Maximum mechanical speed Maximum radial force Fr Maximum axial force Fa Service life in hours Brake pull-in power Brake release time	4.5 N.m 1.8°, 0.9°, 0.72°, 0.36°, 0.18°, 0.09°, 0.072°, 0.036° 200, 400, 500, 1000, 2000, 4000, 5000, 10000 steps +/- 6 arc min 3.5 kg.cm² 2000 rpm 110 N 170 N (tensile force) 30 N (force pressure) 20000 h bearing 22 W 40 ms
Continuous stall torque Speed feedback resolution Accuracy error Rotor inertia Maximum mechanical speed Maximum radial force Fr Maximum axial force Fa Service life in hours Brake pull-in power Brake release time Brake application time	4.5 N.m 1.8°, 0.9°, 0.72°, 0.36°, 0.18°, 0.09°, 0.072°, 0.036° 200, 400, 500, 1000, 2000, 4000, 5000, 10000 steps +/- 6 arc min 3.5 kg.cm² 2000 rpm 110 N 170 N (tensile force) 30 N (force pressure) 20000 h bearing 22 W 40 ms 20 ms

Environment

Standards	EN/IEC 61800-3 EN 61800-3 : 2001-02 IEC 60072-1 EN 61800-3:2001, second environment EN/IEC 50178 EN 50347 IEC 61800-3, Ed 2	
Product certifications	TÜV UL cUL	
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	10.5 cm
Package 1 Width	19.0 cm
Package 1 Length	39.0 cm
Package 1 Weight	5.5 kg

Contractual warranty

Warranty 18 months



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Transparency RoHS/REACh

Well-being performance



Mercury Free



Rohs Exemption Information

Yes

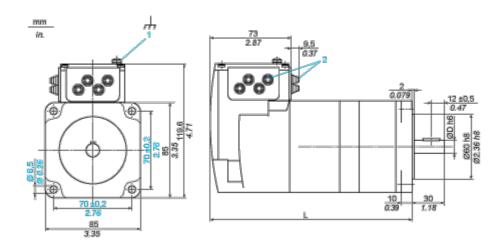
Certifications & Standards

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

Dimensions Drawings

Integrated Drive with Holding Brake

Dimensions



- 1 Earth (ground) terminal
- 2 Accessories: cable entries \emptyset = 3 ... 9 mm/0.12 ... 0.35 in.
- L 247.3 mm/9.74 in.
- D 14 mm/0.55 in.

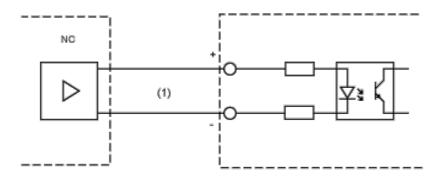
Product datasheet

ILS1U853TB1F0

Connections and Schema

Multifunction Interface

Input Wiring Diagram



(1) Opto-isolated signals

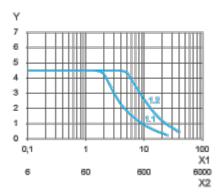
The reference pulses are supplied via two of the signal inputs, either as pulse/ direction signals or as A/B signals. The other signal inputs have the functions "power amplifier enable/pulse blocking" and "step size switching/PWM motor current control".

Product datasheet

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Performance Curves

Torque Characteristics



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