

# Product data sheet

Specifications



integrated drive ILS with stepper motor - 24..36V- pulse/direction w/o RS422- 5A

ILS1V853PB1F0

## 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 | 24 V<br>36 V                                  |
| Network type              | DC                                            |
| Communication interface   | Pulse/direction 5 V without RS422, integrated |
| Length                    | 247.3 mm                                      |
| Winding type              | Medium speed of rotation and medium torque    |
| Electrical connection     | Printed circuit board connector               |
| Holding brake             | With                                          |
| Gear box type             | Without                                       |
| Nominal speed             | 120 rpm at 36 V<br>60 rpm at 24 V             |
| Nominal torque            | 6 N.m                                         |
| Holding torque            | 6 N.m holding brake<br>6 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      | 18...40 V                                                                                                    |
| Current consumption        | 5000 mA maximum continuous                                                                                   |
| Associated fuse rating     | 10 A                                                                                                         |
| Input/Output type          | 4 signals (each be used as input or output)                                                                  |
| Voltage state 0 guaranteed | -3...4.5 V                                                                                                   |
| Voltage state 1 guaranteed | 15...30 V                                                                                                    |
| Discrete input current     | 10 mA at 24 V for safety input                                                                               |
| Discrete output voltage    | 23...25 V                                                                                                    |
| Maximum switching current  | 100 mA per output<br>200 mA total                                                                            |
| Protection type            | Short circuit of the output voltage<br>Overload of output voltage<br>Safe torque off                         |
| Peak stall torque          | 6 N.m                                                                                                        |
| Continuous stall torque    | 6 N.m                                                                                                        |
| Speed feedback resolution  | 1.8°, 0.9°, 0.72°, 0.36°, 0.18°, 0.09°, 0.072°, 0.036°<br>200, 400, 500, 1000, 2000, 4000, 5000, 10000 steps |
| Accuracy error             | +/- 6 arc min                                                                                                |
| Rotor inertia              | 0.2 kg.cm <sup>2</sup><br>3.3 kg.cm <sup>2</sup>                                                             |
| Maximum mechanical speed   | 1000 rpm                                                                                                     |
| Maximum radial force Fr    | 110 N                                                                                                        |
| Maximum axial force Fa     | 170 N (tensile force)<br>30 N (force pressure)                                                               |
| Service life in hours      | 20000 h bearing                                                                                              |
| Brake pull-in power        | 22 W                                                                                                         |
| Brake release time         | 40 ms                                                                                                        |
| Brake application time     | 20 ms                                                                                                        |
| Marking                    | CE                                                                                                           |
| Type of cooling            | Natural convection                                                                                           |
| Net weight                 | 6.5 kg                                                                                                       |

## Environment

|                                                       |                                                                                                                                               |
|-------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| Standards                                             | IEC 60072-1<br>EN 61800-3 : 2001-02<br>EN/IEC 50178<br>IEC 61800-3, Ed 2<br>EN 61800-3:2001, second environment<br>EN 50347<br>EN/IEC 61800-3 |
| Product certifications                                | TÜV<br>cUL<br>UL                                                                                                                              |
| Ambient air temperature for operation                 | 50...65 °C (with power derating of 2 % per °C)<br>0...50 °C (without derating)                                                                |
| Permissible ambient air temperature around the device | 105 °C power amplifier<br>110 °C motor                                                                                                        |

|                                     |                                                                                                                   |
|-------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| Ambient air temperature for storage | -25...70 °C                                                                                                       |
| Operating altitude                  | <= 1000 m without derating                                                                                        |
| Relative humidity                   | 15...85 % without condensation                                                                                    |
| Vibration resistance                | 20 m/s² (f= 10...500 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<br>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  |

### Offer Sustainability

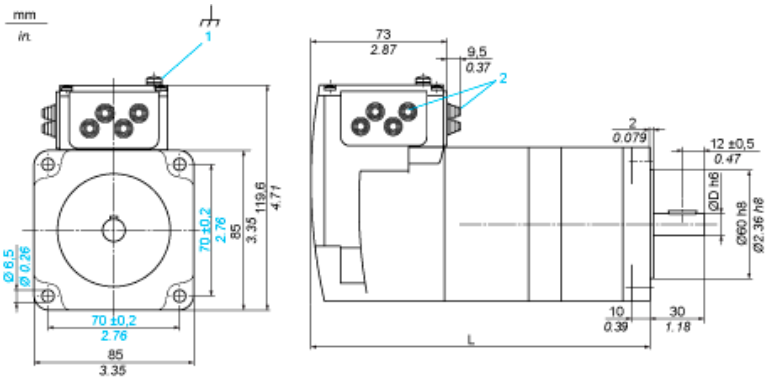
|                            |                                                                                                                                                                                                                                                                                             |
|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Sustainable offer status   | Green Premium product                                                                                                                                                                                                                                                                       |
| REACH Regulation           | <a href="#">REACH Declaration</a>                                                                                                                                                                                                                                                           |
| EU RoHS Directive          | Pro-active compliance (Product out of EU RoHS legal scope)<br><a href="#">EU RoHS Declaration</a>                                                                                                                                                                                           |
| Mercury free               | Yes                                                                                                                                                                                                                                                                                         |
| RoHS exemption information | <a href="#">Yes</a>                                                                                                                                                                                                                                                                         |
| China RoHS Regulation      | <a href="#">China RoHS declaration</a>                                                                                                                                                                                                                                                      |
| Environmental Disclosure   | <a href="#">Product Environmental Profile</a>                                                                                                                                                                                                                                               |
| Circularity Profile        | <a href="#">End of Life Information</a>                                                                                                                                                                                                                                                     |
| WEEE                       | The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins                                                                                                                                                                 |
| 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 <a href="http://www.P65Warnings.ca.gov">www.P65Warnings.ca.gov</a> |

### Contractual warranty

|          |           |
|----------|-----------|
| Warranty | 18 months |
|----------|-----------|

Integrated Drive with Holding Brake

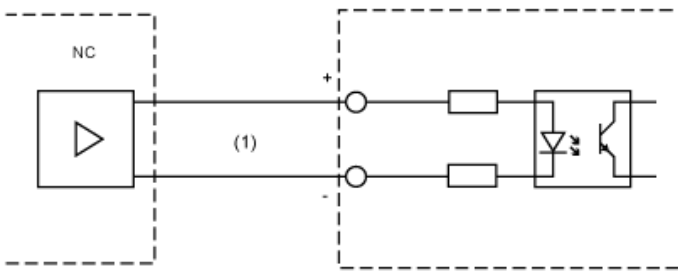
Dimensions



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

Multifunction Interface

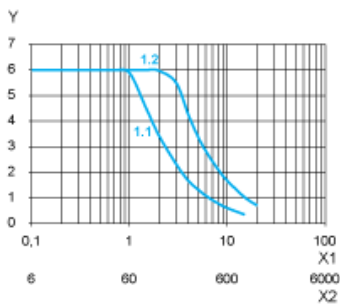
Input Wiring Diagram



(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”.

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

Recommended replacement(s)