

PRODUCT DATASHEET

ES-FM-U01-OD068-TOP8NM-001

68 mm Frameless Torque Motor

Ultra Thin Frameless Torque Motors | ES-FM-U01-OD068 Ultra-Thin 68 mm Frameless Torque Motor Series

Product Overview

68 mm outer diameter, 34 mm rotor bore, 13 mm axial stack ultra thin frameless torque motor.

Typical Applications

Robot joints | Direct-drive rotary axes | Integrated actuator modules

Configuration Context

DC link: 48 V DC | Temperature sensor: None | Lead wire: 100 mm lead, no connector

Key Specifications

| PARAMETER                     | VALUE                     | UNIT |
|-------------------------------|---------------------------|------|
| Rated Speed                   | 3000                      | rpm  |
| Continuous Rated Output Power | 251                       | W    |
| DC link voltage               | 48                        | V DC |
| Body Outer Diameter           | 68                        | mm   |
| Rotor Inner Diameter          | 34                        | mm   |
| Axial Stack Length            | 13                        | mm   |
| Lead Wire Configuration       | 100 mm lead, no connector |      |
| Maximum Rotational Speed      | 3900                      | rpm  |
| Motor Version                 | S version                 |      |

## Technical Specifications

| PARAMETER                     | SPECIFICATION             | UNIT |
|-------------------------------|---------------------------|------|
| PERFORMANCE                   |                           |      |
| Rated Speed                   | 3000                      | rpm  |
| Continuous Rated Output Power | 251                       | W    |
| Rated Power                   | 251                       | W    |
| Maximum Rotational Speed      | 3900                      | rpm  |
| ELECTRICAL                    |                           |      |
| DC link voltage               | 48                        | V DC |
| Rated Current                 | 7                         | A    |
| THERMAL                       |                           |      |
| Temperature Sensor            | None                      |      |
| MECHANICAL                    |                           |      |
| Body Outer Diameter           | 68                        | mm   |
| Rotor Inner Diameter          | 34                        | mm   |
| Axial Stack Length            | 13                        | mm   |
| INTEGRATION                   |                           |      |
| Lead Wire Configuration       | 100 mm lead, no connector |      |
| Number of Pole Pairs          | 8 pole pairs / 8          |      |
| CONFIGURATION                 |                           |      |
| Motor Version                 | S version                 |      |
| ADDITIONAL SPECIFICATIONS     |                           |      |
| Number of Poles               | 16                        |      |



## 2D Drawing Dimensions & Callouts

| VIEW              | FIELD                         | VALUE                         |
|-------------------|-------------------------------|-------------------------------|
| Mechanical View 1 | Section view designation      | Section A-A                   |
|                   | Mounting boss maximum width   | 5 mm (Max)                    |
|                   | Mounting boss height          | 13 +0.4/0 mm                  |
|                   | Mounting boss maximum height  | 8 mm (Max)                    |
|                   | Mounting boss chamfer         | 0.5±0.2 mm                    |
|                   | Maximum outer diameter        | Φ64 mm (Max)                  |
|                   | Minimum inner diameter        | Φ46 mm (Min)                  |
|                   | Output shaft diameter         | Φ34 +0.025/0 mm               |
|                   | Mounting hole diameter        | Φ68 0/-0.07 mm                |
|                   | Datum A                       |                               |
|                   | Perpendicularity tolerance    | ⊥ 0.02 mm relative to datum A |
|                   | Axial length                  | 14 mm                         |
| Mechanical View 2 | Section view datum A (top)    | Datum A                       |
|                   | Section view datum A (bottom) |                               |

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**01** Specifications are subject to change without notice. Verify the current product configuration before final design release.

**02** 2D drawings, CAD files and integration documentation are controlled documents and are supplied separately on request.