



Thursday, June 25, 2020

## DATA SHEET - HOLLOW SHAFT RESOLVER

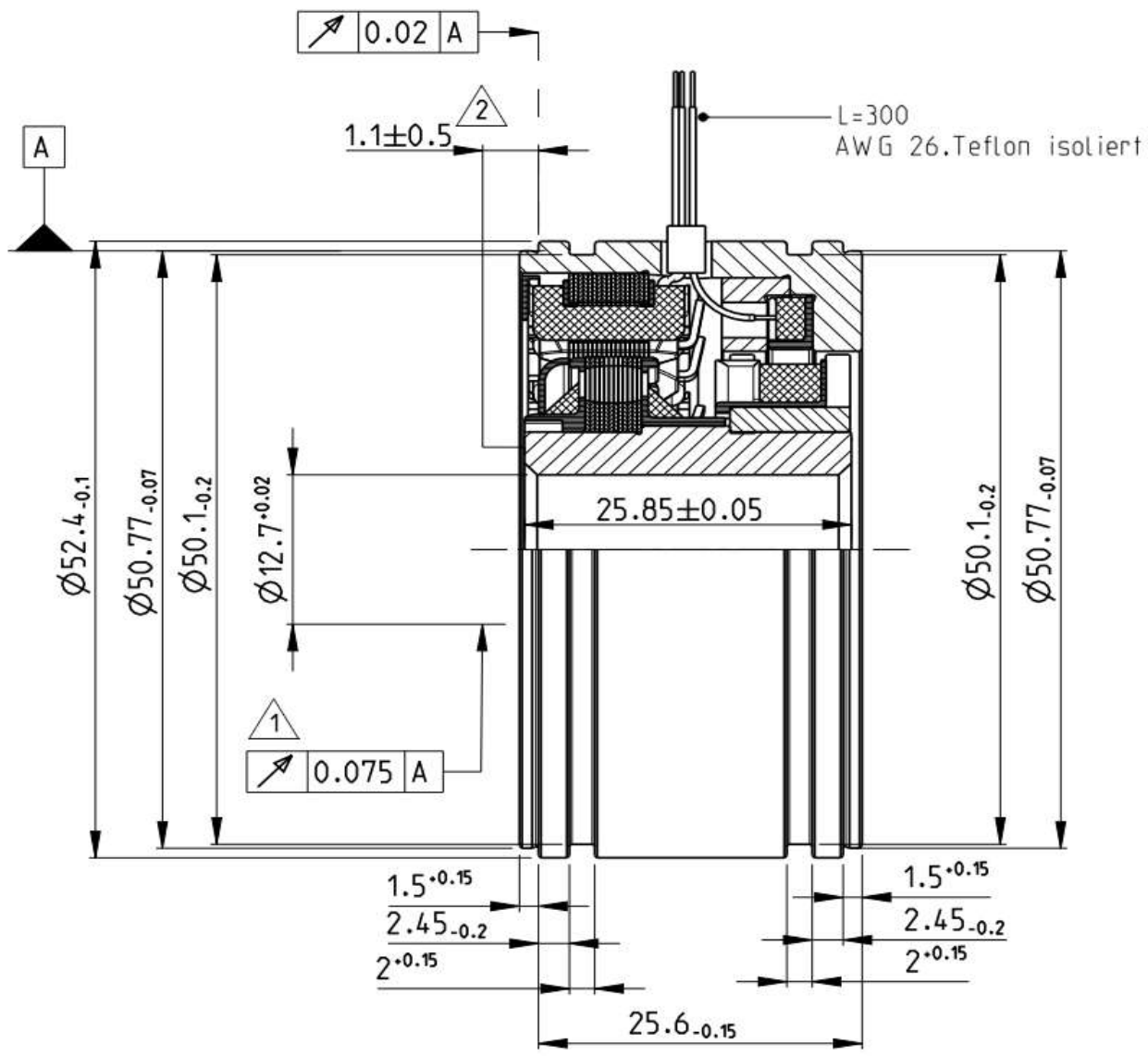
|   |   |  |   |      |
|---|---|--|---|------|
| <b>PN</b>                               | 2358691-1   |  |   |      |
| <b>Description:</b>                     | V23401-   | T1071-B101   |   |      |
| <b>Size</b>                             | 21  |  |   |      |
| <b>Shaft inner diameter [mm]</b>        | 12.7  |  |   |      |
| <b>Speed (pair of poles) [p]</b>        | 1   |  |   |      |
| <b>Number of poles</b>                  | 2   |  |   |      |
| <b>Application Specification</b>        |   |  |   |      |
| <b>Test protocol</b>                    | Results saved to manufacturing site archives. Available by request  |  |   |      |
| <b>Electrical parameters (22°C)</b>     |   |  |   |      |
| Input voltage [V]                       | 7   | Based on specified<br>Input voltage and<br>Frequency | Input resistance R1R2 [Ω]   | 80   |
| Frequency Typical [kHz]                 | 10  |  | R1R2 tolerance [%]  | ± 10 |
| Input current max [mA]                  | 50  |  | Output resistance S1S3 or S2S4 [Ω]  | 80   |
| Transformation ratio (rT)               | 0.5   |  | S1S3 or S2S4 tolerance [%]  | ± 10 |
| Transf. ratio tolerance [%]             | ± 10  |  |   |      |
| Phase shift min [°]                     | -15   |  |   |      |
| Phase shift max [°]                     | 5   |  |   |      |
| Electrical Angular Error max [°]        | ± 10  |  |   |      |
| Residual voltage max [mV]               | 25  |  |   |      |
|   |   |  |   |      |
| <b>High Voltage test</b>                | Voltage: 500V <sub>AC</sub> (A)   |  | Measured between:<br>A: Winding R1-R2 and housing<br>Winding S1-S3 and housing<br>Winding S2-S4 and housing |      |
|   | 250V <sub>AC</sub> (B)  |  |   |      |
|   | Time: 1s  |  |   |      |
| <b>Isolation test</b>                   | Voltage: 500V <sub>DC</sub> (A, B)  |  | B: Windings S1-S3 and S2-S4   |      |
|   | Criterion:  | R <sub>isol.</sub> > 50MΩ                            |   |      |
| <b>"Zero" setting:</b>                  | Electrical "0" is when Coils V <sub>S2-S4</sub> = 0 and V <sub>S1-S3</sub> are in phase with V <sub>R1-R2</sub> |  |   |      |
| <b>Transfer function</b>                | Looking at Transformation part and turning Rotor clockwise  |  |   |      |
|   | $V_{S1-S3} = +rT * V_{R1-R2} * \cos(p*\alpha)$  |  |   |      |
|   | $V_{S2-S4} = +rT * V_{R1-R2} * \sin(p*\alpha)$  |  |   |      |
| <b>Rotor Inertia</b>                    | approx. 20g.cm <sup>2</sup>   |  |   |      |
| <b>Max. Rotational Speed</b>            | 20,000 rpm  |  |   |      |
| <b>Shock resistance<br/>(11ms sine)</b> | 1000 m/s <sup>2</sup>   |  |   |      |
| <b>Vibration</b>                        | 200 m/s <sup>2</sup>  |  |   |      |
| <b>Operating temp.</b>                  | -55°C...+150°C  |  |   |      |

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- △ 1 Gesamtschlag im eingebauten Zustand  
Concentricity in installed situation
- △ 2 Axialversatz  
Axial displacement/offset

| DATE     | PN. REV. | DWN        | APP      | DS. REV. |
|----------|----------|------------|----------|----------|
| 22-01-20 | 1        | H.Bernardo | D.Ondrej | 1        |
| 25-06-20 | 1        | H.Bernardo | D.Ondrej | 2        |