# UL TEST REPORT AND PROCEDURE

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|---|---|
| Standard: | UL 61010-1, 3rd Edition, 2012-05-11 (Electrical Equipment for Measurement, Control, and Laboratory Use; Part 1: General Requirements)<br>CAN/CSA-C22.2 No. 61010-1-12, 3rd Ed. 2012-05-11, (Electrical Equipment for Measurement, Control, and Laboratory Use; Part 1: General Requirements) |
| Certification Type: | Listing |
| CCN: | QUYX, QUYX7 |
| Product: | Encoder |
| Model: | Type 05.24XX followed by additional numbers and letters;<br>Type 8.36XX, followed by additional numbers and letters;<br>Type 8.50XX followed by additional numbers and letters,<br>Type T8.50XX followed by additional numbers and letters,<br>Type 8.58XX followed by additional numbers and letters;<br>Type 8.A02XX, followed by additional numbers and letters;<br>Type 8.908X followed by additional numbers and letters;<br>Type 8.F36XX followed by additional numbers and letters<br>Type 8.F58XX followed by additional numbers and letters |
| Rating: | 4.5Vdc-30Vdc; Class 2 |
| Applicant Name and Address: | FRITZ KUEBLER GMBH ZAHL-UND SENSORTECHNIK<br>SCHUBERTSTRASSE 47<br>78054 SCHWENNINGEN GERMANY |

This is to certify that representative samples of the products covered by this Test Report have been investigated in accordance with the above referenced Standards. The products have been found to comply with the requirements covering the category and the products are judged to be eligible for Follow-Up Service under the indicated Test Procedure. The manufacturer is authorized to use the UL Mark on such products which comply with this Test Report and any other applicable requirements of Underwriters Laboratories Inc. ('UL') in accordance with the Follow-Up Service Agreement. Only those products which properly bear the UL Mark are considered as being covered by UL's Follow-Up Service under the indicated Test Procedure.

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Product Description

These process control devices are intended for coupling to a motor shaft. They use optical discs and optional a micro-processor for absolute encoder to provide motor information to a PLC for process control.

All signal inputs and output circuits are single source Class 2, limited energy circuits. The different models vary in the SELV circuits and type of connection.

These devices have not been evaluated for safety or limiting applications.

Model Differences

Type 8.58XX (YYYY). XXXX.XXXX (YYYY)
I II III IV V

I – Range

II – Optional, interface protocol description

III – Construction Differences and Electrical Characteristics

The fourth alphanumeric character indicates the type of connection
(example – axial or radial cables, axial or radial connectors, 4 - 35 pin connector)

IV – Pulse rate

V – Optional, special description for customer, interface, software

Types 05.24XX – provided with integral cable.

*Types 8.F58XX, 8.F36XX, 8.36XX, 8.50XX, 8.58XX, T8.58xx, 8.A02X and 8.9081 – may be provided with integral cable or male connector intended to mate with female connector/cable assembly in the field

Type 8.9080 – provided with socket box with terminal block intended to be field wired.

Types 8.50XX and T8.50XX are electrical identical.

| Technical Considerations – For engineering use | |
|---|---|
| Type of item ..... : | Control |
| Description of equipment function ..... : | Motor/shaft encoder |
| Connection to mains supply..... : | None |
| Mains Overvoltage category ..... : | I |
| Measurement category ..... : | N/A |
| Pollution degree..... : | 2 |
| Means of protection..... : | Class III (supplied by SELV and Limited Energy) |
| *Environmental conditions..... : | Extended: Ambient Temperature Rating –<br>Types 5860, 5861, 5862, 5882, 9080 and 9081:<br>- 30 °C to 70 °C<br>Types 5803 and 5823 only:<br>- 30 °C to 105 °C<br>Types 580X Series and 582X Series:<br>- 30 °C to 90 °C<br>Type 24XX and 36XX:<br>- 20°C to 85 °C<br>Type 5821: -20°C to 70°C<br>Types 585X Series and 587X Series: Cable type<br>- 30 °C to 85 °C<br>Types 585X Series and 587X Series: Connector type<br>- 40 °C to **90** °C<br>Type A02XX:<br>- 30 °C to 75 °C<br>Type 50XX: Cable type:<br>- 30 °C to 85 °C<br>Type 50XX: Connector type:<br>- 40 °C to 85 °C<br>Type F36XX: Cable and connector type<br>- 40 °C to 90 °C<br>Type F58XX: Cable and connector type<br>- 40°C to 85°C<br>Maximum relative humidity by a ambient temperature up to 40°C : 93 % humidity |
| For use in wet locations..... : | No |
| For use in outdoor locations ..... : | Outdoor use possible, not intended for direct exposure to UV-radiation |
| Equipment mobility ..... : | Fixed |
| Operating conditions..... : | Continuous |
| Overall size of equipment (W x D x H)..... : | from Ø 24mm (24xx Type) to Ø 100mm (A02xx Type) |