

# CERTIFICATE OF CONFORMITY



1. **ELECTRICAL EQUIPMENT PER US REQUIREMENTS**

2. **Certificate No:** FM22NUS0003

3. **Equipment:  
(Type Reference and Name)** Capanivo CN 71xx  
Capacitance Level Limit Switch Series

4. **Name of Listing Company:** UWT GmbH

5. **Address of Listing Company:** Westendstrasse 5  
87488 Betzigau  
Germany

6. The examination and test results are recorded in confidential report number:

PR461571 dated 28<sup>th</sup> September 2022

7. FM Approvals LLC, certifies that the equipment described has been found to comply with the following Approval standards and other documents:

FM Class 3810:2021, ANSI/UL 61010-1:2019, ANSI/UL50:2020, ANSI/UL50E:2020,  
ANSI/IEC 60529:2020

8. This certificate relates to the design, examination and testing of the products specified herein. The FM Approvals surveillance audit program has further determined that the manufacturing processes and quality control procedures in place are satisfactory to manufacture the product as examined, tested and Approved.

**Certificate issued by:**

J.E. Marquedant  
VP, Manager - Electrical Systems

28 September 2022

Date

To verify the availability of the Approved product, please refer to [www.approvalguide.com](http://www.approvalguide.com)

**THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE**

FM Approvals LLC. 1151 Boston-Providence Turnpike, Norwood, MA 02062 USA  
T: +1 (1) 781 762 4300 F: +1 (1) 781 762 9375 E-mail: [information@fmapprovals.com](mailto:information@fmapprovals.com) [www.fmapprovals.com](http://www.fmapprovals.com)



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9. Equipment Ratings:

Suitable for use in unclassified (non-hazardous) locations. Process Control Equipment meeting basic electrical, mechanical, and fire protection requirements (Type 4X, IP68)

10. **Description of Equipment:**

**General** - The level limit switch series Capanivo CN 71xx is a modular concept of capacitance level limit switches. It is designed for level detection in any kind of containers, tanks, bins, silos, hoppers and pipes. The level limit switch is able to detect many kinds of liquids, solids, slurries, foam and interfaces.

The unit consists of the probe with electrodes / electronics (optionally mounted to a pipe or a cable extension), a process connection and an enclosure Ø 65 mm or Ø 35 mm.

**Construction** - The level limit switch series Capanivo CN 71xx enclosure is made of plastic or stainless steel. For the enclosure Ø 35 mm the upper part of the process connection forms a part of the enclosure. Inside the enclosure Ø 65 mm or Ø 35 mm there is located further electronics.

Depending on the version there are provided connecting terminals inside the enclosure (enclosure Ø 65 mm) or an integrated factory-connected M12-plug (enclosure Ø 35 mm) for electrical connection of the equipment.

The field-wiring cable can optionally be provided by the manufacturer of the equipment or by the end user.

Type series: **Capanivo CN 71xx**

xx =	20	Short extension length version – Stainless steel process connection
	21	Short extension length version – Plastic process connection
	30	Pipe extension version
	50	Cable extension version

**Ratings** - The level limit switch series Capanivo CN 71xx operate at 9 – 33 Vdc (0.7W) for the version 8/16 mA / DC-Relay or at 10 – 30 Vdc for the version IO-Link / PNP. The level limit switches are rated for use in an ambient temperature range of -40°C to +85°C and rated for use in a process temperature range of -40°C to +125°C.

Max. ambient temperature range Ta	Max. process temperature range Tp
-40 °C ... +85 °C <sup>1)</sup>	-40 °C ... +125 °C <sup>1)</sup>

<sup>1)</sup> With option FFKM O-ring seal: Lower ambient temperature and lower process temperature limited to -20 °C

<b>Supply circuit</b> <sup>1)</sup>	
Nominal voltage / power / current	8 / 16 mA version

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	<p>U<sub>N</sub> 9 V DC ... 33 V DC (including ±10 % of IEC 61010-1)                  0.7 W                  2-wire current loop 8 / 16 mA or 16 / 8 mA (4 – 20 mA)  <u>IO-Link version</u>                  U<sub>N</sub> 10 V DC ... 30 V DC (including ±10 % of IEC 61010-1)                  Operation with IO-Link requires min. 18 V DC                  Current consumption &lt; 55 mA</p>
<b>Signal output circuit</b>	
Electrical ratings	<p><u>8 / 16 mA version</u>                  Relay SPST                  Max. switching voltage: 60 V DC or 30 V AC                  (wet locations: limited to 35 V DC or 16 V AC)                  Max. switching current: 1A                  Max. switching power: 60 W</p> <p><u>IO-Link version</u>                  Out 1 and Out 2                  Max current: 200 mA (one output active)                  100 mA each (both outputs active) (short-circuit-proof)                  Voltage drop: &lt; 2 V</p>
<b>Overvoltage category</b>	II
<b>Protection class</b>	III

<sup>1)</sup> Supply shall be from SELV source providing electrical isolation between input and output in order to meet the applicable safety requirements of ANSI/ISA/UL/IEC 61010-1.

**Capanivo Type CN 71xx 12345678 Capacitance Level Switches.**  
 Type 4X / IP68

- 1 = Basic Type; A (= CN 7120), B (= CN 7121), C (= CN 7130), D (= CN 7150)
- 2 = Certificate; Q or M
- 3 = Enclosure; 1, 2, 3, 4, 5, 6
- 4 = Electronics; A, B
- 5 = Process Connection; (Any process connection available for each type according to 002-xx drawings).
- 6 = Material of sensor; A, B, C
- 7 = Material of process connection and extension L; 1, 2, 3, 4, 5
- 8 = Length of extension L; (Any Length of pipe extension or cable extension according to 002-xx drawings).

**11. Test and Assessment Procedure and Conditions:**

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This Certificate has been issued in accordance with FM Approvals US Certification Requirements.

11. **Schedule Drawings**

A copy of the technical documentation has been kept by FM Approvals.

12. **Certificate History**

Details of the supplements to this certificate are described below:

Date	Description
28 <sup>th</sup> September 2022	Original Issue.

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