

# CERTIFICATE

## (1) UK Type Examination

(2) **Product or Protective System Intended for use in Potentially Explosive Atmospheres - UKSI 2016:1107 (as amended) – Schedule 3A, Part 1**

(3) UK Type Examination Certificate Number: **DEKRA 23UKEX0100X** Issue Number: **0**

(4) Product: **Level limit switch type Capanivo CN 71xx...**

(5) Manufacturer: **UWT GmbH**

(6) Address: **Westendstraße 5, 87488 Betzigau, Germany**

(7) This product and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

(8) DEKRA Certification UK Ltd., Approved Body number 8505 in accordance with Regulation 42 of the Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres Regulations 2016, UKSI 2016:1107 (as amended), certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Schedule 1 of the Regulations.

The examination and test results are recorded in confidential report **EX22080002-017 Rev 0**.

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

**EN IEC 60079-0 : 2018**

**EN 60079-11 : 2012**

**IEC 60079-26 : 2021**

except in respect of those requirements listed at item 18 of the Schedule to this certificate.

(10) If the sign "X" is placed after the certificate number, it indicates that the product is subject to the Specific Conditions of Use specified in the schedule to this certificate.

(11) This UK Type Examination Certificate relates only to the design and construction of the specified product. Further requirements of the Regulations apply to the manufacturing process and supply of this product. These are not covered by this certificate.

(12) The marking of the product shall include the following:



**II 1G Ex ia IIC T\* Ga**  
**II 1/2G Ex ia IIC T\* Ga/Gb**  
**II 1/2D Ex ia IIIC T<sub>200</sub>\* Da/Db**

Date of certification: 04 April 2023



22815

DEKRA Certification UK Ltd.

Abul Kashem  
Certification Manager

2714:3  
Page 1/6

© Integral publication of this certificate and adjoining reports is allowed. This certificate and its schedules may only be reproduced in its entirety and without change.

DEKRA Certification UK Ltd., Stokenchurch House, Oxford Road, Stokenchurch, Buckinghamshire HP14 3SX, United Kingdom  
T +44 330 9120368 certification.uk@dekra.com www.DEKRA-UK.co.uk Registered 13129030



(13) **SCHEDULE**

(14) **to UK Type Examination Certificate DEKRA 23UKEX0100X**

Issue No. 0

(15) **Description**

Subject and type Type code series Capanivo CN 71xx			CN 7120	CN 7121	CN 7130	CN 7150
Pos	Selec tion	Description				
1	<b>Basic Type</b>					
	A	CN 7120 (Short extension length, Stainless steel process connection)	•	-	-	-
	B	CN 7121 (Short extension length, Plastic process connection)	-	•	-	-
	C	CN 7130 (Pipe extension)	-	-	•	-
2	<b>Certificate</b>					
	D	CN 7150 (Cable extension)	-	-	-	•
	J	UKEX II 1G 1/2G Ex ia IIC UKEX II 1/2D Ex ia IIIC	•	•	•	•
	<i>Notes:</i> 1) UKEX-versions may be combined with other approval types using the same specified type code selection. Other approval types are not relevant for UKEX-approval and therefore not listed. 2) CN 7150 dust approvals only with use of suitable cable with surface resistance of cable sheath $\leq 10^9 \Omega$ , otherwise only with gas approvals.					
3	<b>Enclosure</b>					
	1	Enclosure $\varnothing$ 65 mm, internal terminal block, cable gland M20x1,5	•	•	•	•
	2	Enclosure $\varnothing$ 65 mm, internal terminal block, conduit NPT 1/2"	•	•	•	•
	4	Enclosure $\varnothing$ 35 mm, M12-plug	•	•	•	•
	5	Enclosure $\varnothing$ 35 mm, M12-plug, incl. M12-mating plug and field-wiring cable	•	•	•	•
	6	Enclosure $\varnothing$ 35 mm, Cable entry in place of M12-plug, incl. field wiring cable (directly soldered to PCB) <i>Note: For enclosure <math>\varnothing</math> 35 mm the 4-wire solid state relay is not implemented in the electronic</i>				
4	<b>Electronic</b>					
	A	2-wire 8/16 mA (4-20 mA) and 4-wire solid state relay (Intrinsically safe) <i>Note:</i> For all versions 2-wire loop 8/16 mA (4-20 mA) usable. 4-wire solid state relay not available for CN 7130 and CN 7150.	•	•	•	•
5	<b>Process connection</b>					
	*	Any process connection acc. to drawings 002-xx <i>Note: Not each process connection available for each type.</i>	•	•	•	•
6	<b>Material of sensor</b>					
	A	PPS	•	•	•	•
	B	PVDF	•	•	•	•
7	<b>Material of process connection and extension L</b>					
	C	PEEK <i>Note: Depending on the process connection selection, limitation on the material selection may be possible.</i>	•	•	•	•
	1	PPS	-	•	-	•
	2 or 5	Stainless steel	•	-	•	•
8	<b>Length of extension L</b>					
	4	PEEK <i>Note: For CN 7150 extension cable material FEP used (cable jacket).</i>	-	•	-	-
	*	Any length acc. to drawings 002-xx <i>Note: Length of pipe extension or cable extension.</i>	-	-	•	•



(13) **SCHEDULE**

(14) **to UK Type Examination Certificate DEKRA 23UKEX0100X**

Issue No. 0

<b>Options:</b>					
17	* FFKM seal O-ring	•	•	•	•
19	* Sliding coupling	-	-	•	-
23	* Overfill and Leakage certificate	•	•	•	•
24	* Hygiene certificate	•	-	-	-
	* Declaration, Certificate, Test report	•	•	•	•
	* Marking	•	•	•	•
If options are not selected, the mentioned item is not present. Further options are not approval-relevant and therefore not listed / specified.					
<b>Accessories:</b>					
	Sensguard	•	•	-	-
	Several adapter types	•	•	•	•
	Shortening kit for extension cable	-	-	-	•
	position	1	2	3	4
	5	6	7	8	
Type code	CN				
	71xx				
					L = mm
Notes: The markings " * " are replacement characters for variations which are not approval-relevant and therefore not further specified. In the type code of the equipment the marking " * " may be replaced by specific letters or numbers. Not all selections are available on every version.					

**Product description:**

The level switches series Capanivo CN 71... are used for capacitive level measurement in containers, tanks, vessels, silos, hoppers and pipelines.

They consist of a probe, a process connection and a connection housing Ø 65 mm or Ø 35 mm.

The types CN7120/CN7121 have an isolated switching output (transistor output).

Depending on the variant, the connection is made via terminals (for Ø 65 mm housing), plug (for Ø 35 mm housing) or pre-wired connection cable.

Depending on the variant, the probe is mounted on an extension tube or an additional extension cable.

All current limit switches have protection level "ia".

The level switches are suitable for use in areas requiring EPL Ga.

The level switches are also suitable for installation in the partition between areas with EPL Ga requirements and EPL Gb requirements, or in the partition between areas with EPL Da requirements and EPL Db requirements. The process connection is used for installation in the partition wall. The level limit switches maintain the zone separation.



(13) **SCHEDULE**

(14) **to UK Type Examination Certificate DEKRA 23UKEX0100X**

Issue No. 0

**Electrical data**

1. Supply input  
2-wire current loop

Terminals 1-2 or connector pin 1-3

Rated voltage DC 10.8... 30 V  
Rated current 8/16 mA or 16/8 mA (max. 4...20 mA)

Max. input voltage  $U_i$  DC 30 V  
Max. input current  $I_i$  160 mA  
Max. input power  $P_i$  0.8 W

effective internal capacitance  $C_i$  7.6 nF  
effective internal inductance  $L_i$  0.3 mH

For variants with connection cable (types CN71xx\*\*5... and CN 71xx\*\*6...):  
400 pF/m and 2  $\mu$ H/m must be taken into account, if these parameters of the used cable are unknown.

2. Signal output (Transistor output)  
Only for types CN7120..., CN7121... with  $\varnothing$  65 mm-enclosure and terminal block  
(position 3 in the type code = 1 or 2)

Terminals 4-5

Transistor output

Rated voltage (switching voltage) DC 30 V  
Rated current (switching current) 82 mA

Max. input voltage  $U_i$  DC 30 V  
Max. input current  $I_i$  200 mA  
Max. input power  $P_i$  0.35 W

effective internal capacitance  $C_i$  4.2 nF  
effective internal inductance  $L_i$  negligible

For variants with connection cable (types CN71xx\*\*5 and CN71xx\*\*6):  
400 pF/m and 2  $\mu$ H/m must be taken into account, if these parameters of the used cable are unknown.

**Thermal data**

The correlation between permitted ambient temperature  $T_a$   
permitted process temperature  $T_p$   
and temperature class (for Group II) or surface temperature (for Group III) is  
shown in the table below:

For use  $\leq$  2000 m above sea level:

ambient temperature $T_a$	process temperature $T_p$	temperature class (Group II)	surface temperature (Group III)
-40 °C*...+50 °C	-40 C*...+50 °C	T6	$T_{200}80^\circ\text{C}$
-40 °C*...+65 °C	-40 C*...+65 °C	T5	$T_{200}95^\circ\text{C}$
-40 °C*...+85 °C	-40 C*...+100 °C	T4	$T_{200}130^\circ\text{C}$
-40 °C*...+85 °C	-40 C*...+125 °C	T3	$T_{200}155^\circ\text{C}$



(13) **SCHEDULE**

(14) **to UK Type Examination Certificate DEKRA 23UKEX0100X**

Issue No. 0

For use > 2000 m ≤ 3000 m above sea level:

ambient temperature T <sub>a</sub>	process temperature T <sub>p</sub>	temperature class (Group II)	surface temperature (Group III)
-40 °C*...+45 °C	-40 C*...+45 °C	T6	T <sub>200</sub> 80°C
-40 °C*...+58 °C	-40 C*...+58 °C	T5	T <sub>200</sub> 95°C
-40 °C*...+76 °C	-40 C*...+90 °C	T4	T <sub>200</sub> 130°C
-40 °C*...+76 °C	-40 C*...+112 °C	T3	T <sub>200</sub> 155°C

\* for variants with FFKM O-ring:

The lower limit of the temperature range (ambient temperature and process temperature) is limited to -20 °C.

**Installation instructions**

The instructions provided with the product shall be followed in detail to assure safe operation.

(16) **Report Number**

EX22080002-017 Rev 0.

(17) **Specific conditions of use**

1. The relation between ambient temperature range, process temperature range and temperature class (for gas) or maximum surface temperature (for dust) is shown in the thermal parameters table.
2. If the process temperature exceeds the permissible ambient temperature, the max. resulting temperature close to the enclosure (see dotted line in the manual) shall not exceed the related max. permissible ambient temperature, taking the worst case conditions into account. This shall be verified by measurement when installed.
3. With option FFKM O-ring seal lower ambient temperature range and lower process temperature range are limited to -20 °C.
4. For applications Ga/Gb or Da/Db:  
The installation of the level limit switch into the separation wall shall be in such a way that technical tightness on the process connection is ensured.  
The level limit switch shall only be used in process media for which chemical resistance of the materials, which are in contact with the process media, is ensured. The materials which are in contact with the process media are defined by positions 6 and 7 of the type code.
5. For gas- and dust-explosive atmospheres:  
The apparatus shall be installed in such a way that electrostatic charging hazards on non-metallic parts outside the process can be excluded.
6. For gas-explosive atmospheres only:  
The apparatus shall be installed in such a way that electrostatic charging hazards on non-metallic parts inside the process can be excluded.
7. For dust-explosive atmospheres only:  
The intrinsically safe circuits of the apparatus shall be regarded as grounded in the event of a fault. Appropriate measures to avoid danger from circulating fault currents acc. to IEC / EN 60079-14 shall be considered, depending on the installation (e. g. equipotential bonding along the intrinsically safe circuits).



(13) **SCHEDULE**

(14) **to UK Type Examination Certificate DEKRA 23UKEX0100X**

Issue No. **0**

(18) **Essential Health and Safety Requirements**

In addition to the Essential Health and Safety Requirements covered by the standards listed at item 9, all other requirements are demonstrated in the relevant reports.

(19) **Test documentation**

Technical Construction File, consisting of certificates, diagrams, equipment lay-out, manuals and operating instructions, material specifications, etc., all on file at DEKRA Certification UK Ltd.