

Translation

EU-Type Examination Certificate

Directive 2014/34/EU of the European Parliament and of the Council of 26 February 2014

EU-Type Examination Certificate Number: **BVS 12 ATEX E 034 X** Issue: **01**

Equipment: **Capacitive Level limit switch type CAPANIVO CN 40*0**

Manufacturer: **UWT GmbH**

Address: **Westendstraße 5, 87488 Betzigau, Germany**

This product and any acceptable variations thereto are specified in the appendix to this certificate and the documents referred to therein.

DEKRA Testing and Certification GmbH, Notified Body number 0158, in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, 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 Annex II to the Directive.

The examination and test results are recorded in the confidential Report No. BVS PP 12.2092 EU. This issue of the EU-Type Examination Certificate replaces the previous issue of the EC-Type Examination Certificate BVS 12 ATEX E 034 X including supplement 1.

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

EN IEC 60079-0:2018	General requirements
EN 60079-11:2012	Intrinsic Safety "i"
IEC 60079-26:2021	Separation Elements or combined Levels of Protection
IEC 60079-31:2022	Protection by Enclosure "t"

Except in respect of those requirements listed under item 18 of the appendix.

If the sign "X" is placed after the certificate number, it indicates that the product is subject to the "Specific Conditions of Use" listed under item 17 of this certificate.

This EU-Type Examination Certificate relates only to the technical design of the specified product in accordance to the Directive 2014/34/EU. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

The marking of the product shall include the following:



II 1/2D Ex ta/tb IIIC T*°C Da/Db

* see manual

Type CN 4020, CN 4030



II 1/2D Ex ia/tb IIIC T*°C Da/Db

* see manual

Type CN 4050

DEKRA Testing and Certification GmbH
Bochum, 2023-03-06

Signed: Dr. Rolf Krökel

Managing Director



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BVS 12 ATEX E 034 X issue 01

15 Product description

15.1 Subject and type

Capacitive Level limit switch type

CAPANIVO CN 40*0

- 2 - version 120 °C or Version 180 °C
- 3 - rigid extension
- 5 - cable extension

15.2 Description

The level limit switch CAPANIVO CN 40*0 is a modular concept. It is designed for monitoring the levels in any kind of containers, bins, silos, hoppers and pipes.

It consists of a probe with electrodes (optional mounted to a pipe or a rope extension) situated in zone 20, a process connection to connect it to the bin and a housing situated in zone 21.

The electronics is located inside the housing, on some versions part of the electronics is located inside the probe.

The level limit switch is able to detect many kinds of bulk materials which are grained, powdery or muddy.

An electric field is created by electrodes along the probe. An increase of the dielectric constant due to the presence of bulk material changes the field. This change is detected by the electronics and converted into an electrical output signal.

Regarding the cable version the circuits within the cable are in type of protection intrinsic safety.

The general design can vary in:

- the type of housing
- the cable inlets
- the electronics
- the form of the extension
- the form of the process connection (for example different threaded bushes and flanges)
- the materials for the process connection and the extension
- different options.

Reasons for the issue:

- Change to Directive 2014/34/EU
- Updating to the current standards
- IEC 60079-26 is added
- An "X" marking is added due to avoid danger caused by electrostatic charges
- Implementation of an additional aluminium housing
- Additional colours for the plastic enclosure
- Editorial work

No components used referring to older standards

15.3 Parameters

15.3.1 Electrical data

15.3.1.1 Supply

relay SPDT	21 .. 27 V +/-10 %* DC 1.5 W
or relay DPDT	21 .. 230 V +/-10 %* 50-60 Hz 18 VA or
	21 .. 45 V +/-10 %* DC 2 W
or 3-wire PNP	20 .. 40 V +/-10 %* DC 0.5 A

* including 10 % from EN 61010.

15.3.1.2 Signal- and alarm output

relay SPDT	max. 250 V AC, 3 A, not inductive
	max. 30 V DC, 5 A, not inductive
or relay DPDT	max. 250 V AC, 8 A, not inductive
	max. 30 V DC, 5 A, not inductive
or 3-wire PNP	transistor, max. 0.4 A

15.3.2 Thermal data

15.3.2.1 CN 4020 Version 120 °C

enclosure	T _{Amb} (EPL Db)	T _{Process} (EPL Da)	max. surface temperature (EPL Da) ¹⁾	max. surface temperature (EPL Db) ²⁾
Plastics	- 20 °C...+50 °C	- 30 °C...+120 °C	T ₂₀₀ 120 °C	T120 °C
Plastics	- 20 °C...+60 °C	- 30 °C...+100 °C	T ₂₀₀ 120 °C	T120 °C
Metal	- 30 °C...+60 °C	- 30 °C...+120 °C	T ₂₀₀ 120 °C	T120 °C

1) Max. surface temperature at the probe (no self-heating probe) limited by the process temperature

2) Max. surface temperature at the electronics enclosure limited to 120 °C by thermal fuse

15.3.2.2 CN 4020 Version 180 °C

enclosure	T _{Amb} (EPL Db)	T _{Process} (EPL Da)	max. surface temperature (EPL Da) ¹⁾	max. surface temperature (EPL Db) ²⁾
Plastics	- 20 °C...+60 °C	- 30 °C...+120 °C	T ₂₀₀ 120 °C	T120 °C
Plastics	- 20 °C...+60 °C	- 30 °C...+130 °C	T ₂₀₀ 130 °C	T130 °C
Plastics	- 20 °C...+60 °C	- 30 °C...+140 °C	T ₂₀₀ 140 °C	T140 °C
Plastics	- 20 °C...+60 °C	- 30 °C...+150 °C	T ₂₀₀ 150 °C	T150 °C
Plastics	- 20 °C...+60 °C	- 30 °C...+160 °C	T ₂₀₀ 160 °C	T160 °C
Plastics	- 20 °C...+60 °C	- 30 °C...+170 °C	T ₂₀₀ 170 °C	T170 °C
Plastics	- 20 °C...+60 °C	- 30 °C...+180 °C	T ₂₀₀ 180 °C	T180 °C
Metal	- 30 °C...+60 °C	- 30 °C...+120 °C	T ₂₀₀ 120 °C	T120 °C
Metal	- 30 °C...+60 °C	- 30 °C...+130 °C	T ₂₀₀ 130 °C	T130 °C
Metal	- 30 °C...+60 °C	- 30 °C...+140 °C	T ₂₀₀ 140 °C	T140 °C
Metal	- 30 °C...+60 °C	- 30 °C...+150 °C	T ₂₀₀ 150 °C	T150 °C
Metal	- 30 °C...+60 °C	- 30 °C...+160 °C	T ₂₀₀ 160 °C	T160 °C
Metal	- 30 °C...+60 °C	- 30 °C...+170 °C	T ₂₀₀ 170 °C	T170 °C
Metal	- 30 °C...+60 °C	- 30 °C...+180 °C	T ₂₀₀ 180 °C	T180 °C

1) Max. surface temperature at the probe (no self-heating probe) limited by the process temperature

2) Max. surface temperature at the electronics enclosure limited to 120 °C by thermal fuse but the marking corresponds to the process temperature due to the fact that the process connection (EPL Db) is close to the process

15.3.2.3 CN 4030

enclosure	T _{Amb} (EPL Db)	T _{Process} (EPL Da)	max. surface temperature (EPL Da) ¹⁾	max. surface temperature (EPL Db) ²⁾
Plastics	- 20 °C...+50 °C	- 30 °C...+110 °C	T ₂₀₀ 120 °C	T120 °C
Plastics	- 20 °C...+60 °C	- 30 °C...+ 70 °C	T ₂₀₀ 120 °C	T120 °C
Metal	- 30 °C...+60 °C	- 30 °C...+110 °C	T ₂₀₀ 120 °C	T120 °C

- 1) Max. surface temperature at the probe limited to 120 °C by thermal fuse
- 2) Max. surface temperature at the electronics enclosure limited to 120 °C by thermal fuse

15.3.2.4 CN 4050

enclosure	T _{Amb} (EPL Db)	T _{Process} (EPL Da)	max. surface temperature (EPL Da) ¹⁾	max. surface temperature (EPL Db) ²⁾
Plastics	- 20 °C...+50 °C	- 30 °C...+80 °C	T ₂₀₀ 135 °C	T120 °C
Plastics	- 20 °C...+60 °C	- 30 °C...+60 °C	T ₂₀₀ 135 °C	T120 °C
Metal	- 30 °C...+60 °C	- 30 °C...+80 °C	T ₂₀₀ 135 °C	T120 °C

- 1) Max. surface temperature at the probe limited to 135 °C by Intrinsic Safety
- 2) Max. surface temperature at the electronics enclosure limited to 120 °C by thermal fuse

15.3.2 Degree of protection according to IEC 60529 IP6X

16 **Report Number**

BVS PP 12.2092 EU, as of 2023-03-06

17 **Specific Conditions of Use**

The apparatus shall be installed in a way that danger caused by electrostatic charges is avoided.

18 **Essential Health and Safety Requirements**

Met by compliance with the requirements mentioned in item 9.

The standard IEC 60079-31:2022 is safety-related equivalent to the harmonized standard EN 60079-31:2014 for this device.

19 **Remarks and additional information**

Drawings and documents are listed in the confidential report.

We confirm the correctness of the translation from the German original.
In the case of arbitration only the German wording shall be valid and binding.

DEKRA Testing and Certification GmbH
Bochum, 2023-03-06
BVS-Hk/Mu A 20210611 / 342359000



Managing Director

