

Translation

EU-Type Examination Certificate Supplement 4

Change to Directive 2014/34/EU

**Equipment intended for use in potentially explosive atmospheres
Directive 2014/34/EU**

EU-Type Examination Certificate Number: **BVS 03 ATEX E 126 X**

Product: **Proximity switch type 6** *** ***_****

Manufacturer: **elobau GmbH & Co. KG**

Address: **Zeppelinstraße 44, 88299 Leutkirch, Germany**

This supplementary certificate extends EC-Type Examination Certificate No. BVS 03 ATEX E 126 X/N4 to apply to products designed and constructed in accordance with the specification set out in the appendix of the said certificate but having any acceptable variations 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 03.2287 EU/N4.

The Essential Health and Safety Requirements are assured in consideration of:

EN IEC 60079-0:2018

EN 60079-11:2012

EN 60079-18:2015/A1:2017

EN 60079-26:2015

General requirements

Intrinsic Safety "i"

Encapsulation „m“

Equipment with equipment protection level (EPL) Ga

If the sign "X" is placed after the certificate number, it indicates that the product is subject to the Special Conditions for Use specified in the appendix to this certificate.

This EU-Type Examination Certificate relates only to the design and construction of the specified product. 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:



See clause 15.1 "Marking of the individual versions"

DEKRA Testing and Certification GmbH
Bochum, 2021-08-03

Signed: Jörg-Timm Kilisch

Managing Director



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BVS 03 ATEX E 126 X Supplement 4

15 Product description

15.1 Subject and type

Proximity switch type 6** *** ** *_**

Instead of ***, letters or numbers are inserted in the full designation to indicate the following different versions:

6ab cde fgh ij - kl

- ab Enclosure design
 - 10 = Flat switch Zinc die-cast (GD-ZnAl4Cu1)
 - 20 = Tube switch plastic PA66
 - 50 = Tube switch VA1.4571, PG13.5 (M20)
 - 71 = Safety sensor VA 1.4571 or 1.4305 or 1.4401, M30
- c Design version
 - 0 = Standard, without tube fitting
 - 1 = (code number not used)
 - 2 = Safety sensor
 - 3 = with protective tube fitting
 - V = Safety sensor can be linked
- de Switch type
 - 10 = normally open contact "A" (NO)
 - 20 = NC contact "B" (NC)
 - 30 = change-over contact "C" (C/O)
 - 40 = "A/B" bistable (NO/NC)
 - 45 = "C" bistable (C/O)
 - 61 = 3 x normally open contact
 - 62 = 2 x normally open contact
 - 71 = normally open contact and normally closed contact
- f M = encapsulated; without external equipotential bonding conductor connection terminal
 N = encapsulated; with external equipotential bonding conductor connection terminal
 I = intrinsically safe; without external equipotential bonding conductor connection terminal
 K = intrinsically safe; with external equipotential bonding conductor connection terminal
- g Cable type *)
 - 1 = Boflex W (PVC grey) 2 x 0.75 / 3 x 0.75 / 4 x 0.75
 - 2 = SIHSL (Silicone red) 2 x 0.75 / 3 x 0.75
 - 3 = BOY11Y (PUR black) 2 x 0.75 / 3 x 0.75
 - 4 = LIYCYW (PVC shielded) 2 x 0.75 / 3 x 0.75 / 4 x 0.5
 - U = Y-UL 2517 (PVC grey) 3 x 0.75 / 4 x 0.75
 - L = HK-SO-Li9Y11Y-OZ-HF 4 x 0.75 (PUR grey)

*) for intrinsically safe versions optionally marked with blue coloured cable coating or with blue coloured tube
- h Protection tube
 - 0 = no protection tube
 - 1 = Protection tube metal with PVC coating DIN 49012 Size I
 Hugro 421.1014 10x14 grey
 combined with tube mounting facility 211.1510 M12x1.5
 and reduction facility 526.2015 M20x1.5 to M12x1.5

or
protection tube metal with PVC coating DIN 49012 Size I
Hugro 421.1317 13x17 grey
in combination with tube mounting facility 211.1713 M16x1.5
and reduction facility 526.2017 M20x1.5 to M16x1.5

- ij Specific
... = not Ex-relevant specifications
12 = intrinsically safe version 1/2G ia Ga/Gb
13 = intrinsically safe version 2G ia Gb
- kl Cable over length; standard = 1 metre

Notes:

Not all combinations are possible.

The variants with Hall sensor (ab = 80) are omitted.

The variants with transistor output (de = 50 or 55) are omitted.

The variants with welded 671* are omitted (f = O, P, G or H).

The variants with cable LIFY11Y (g = 6) and with cable LIYYW (g = 7) are omitted.

The variants with protective conduit type 455 MP are omitted.

The variants with protective tube type Anaconda (h = 2) are omitted.

The variants with cable SXCS (silicone shielded) (g = 5) are omitted.

15.2 Description

With this supplement the certificate is changed to Directive 2014/34/EU.

(Annotation: In accordance with Article 41 of Directive 2014/34/EU, EC-Type Examination Certificates referring to 94/9/EC that were in existence prior to the date of application of 2014/34/EU (20 April 2016) may be referenced as if they were issued in accordance with Directive 2014/34/EU. Supplementary Certificates to such EC-Type Examination Certificates, and new issues of such certificates, may continue to bear the original certificate number issued prior to 20 April 2016.)

Reason for the supplement:

- Change to Directive 2014/34/EU
- Updating of the standards
- Adaptation of the type code
- (variants no longer manufactured were removed from the type code)
- Adaptation of the characteristic values
- Updating of the drawing statuses
- Drawings, components and modules no longer required removed
- Designation of limit switch changed to proximity switch
- Marking extended with T200 of the version "Ex II 1D Ex ia IIIC IP6* T₂₀₀105°C Da".

The proximity switches are technically unchanged.

Description of Product

Different versions are available; versions with reed switch only and versions with reed switch and additional resistor.

The reed switches consist of coated nickel / iron paddles which are tightly fused into a glass body. The paddles are cut from a round wire and punched into the respective shape, thus the wire cross-section remains the same inside and outside the glass body.

Description of the variation to the product

Flat switch type 610...

The proximity switch type 610 0** *0 **-* consists of a metallic cast housing (GD-ZnAl4Cu1) containing a reed contact (NO contact NO or NC contact NC or changeover contact C/O) embedded in potting compound.

A connecting cable with free cable ends is led into the enclosure by means of a suitable cable entry and is firmly connected to the terminals of the contact.

Plastic tube switch Type 620...

The proximity switch type 620 0** *0 **-* consists of a cylindrical plastic housing (PA66) containing a reed contact (NO contact or NC contact or changeover contact C/O) embedded in potting compound.

A connecting cable with free cable ends is led into the housing by means of a suitable cable entry and is firmly connected to the terminals of the contact.

The proximity switches 620* are supplied with PA66 plastic nuts as standard.

Stainless steel tube switch type 650...

The proximity switch type 650... consists of a plastic tube containing a reed contact (NO contact or change-over contact C/O) embedded in casting compound.

The plastic tube is enclosed in a metallic cylindrical housing (material 1.4571, 1.4305 or 1.4401).

A connecting cable with free cable ends is led into the housing by means of a suitable cable entry and is firmly connected to the terminals of the contact:

- Variants without protective tube fitting:
The proximity switches type 650 0*0 **0 **-* do not contain a protective tube fitting.
- Variants with protective tube fitting; without protective tube
The proximity switches type 650 3*0 **0 **-* have a tube fitting on the housing on which a protective tube selected by the customer can be mounted.
- Variants with protective tube fitting and protective tube:
The proximity switches type 650 3*0 **1 **-* have a protective tube fitting with protective tube on the housing.

Safety sensor Type 671...

The proximity switch type 671 *** *0 **-* consists of a cylindrical metallic housing (material no. 1.4571, 1.4305 or 1.4401) which - depending on the version - contains two or three resistors and two (three) reed contacts (3 NO, 2 NO, NO/NC). The components are embedded in potting compound.

A connecting cable with free cable ends is led into the housing by means of a suitable cable entry and is firmly connected to the terminals of the contacts.

The proximity switches with code letters "M" or "N" in column "f" of the type code are intended for connection to non-intrinsically safe circuits.

The proximity switches with code letters "I" or "K" in column "f" of the type code are intended for connection to intrinsically safe circuits.

The intrinsically safe proximity switches type 620 *** 12 - **, 650 *** 12 - **, 671 *** 12 - ** are suitable for installation in the partition wall between areas requiring EPL 1G and areas requiring EPL 2G (partition wall zone 0/1).

An external thread on the housing of the proximity switches is used for installation in the partition wall. In this case, the connection cable of the proximity switches is in areas 2G.

Marking of the individual versions:

Flat switch 610...		
Non-intrinsically safe versions		
610 010 M*0 **_** 610 020 M*0 **_** 610 030 M*0 **_** 610 040 M*0 **_** 610 045 M*0 **_**	610 010 N*0 **_** 610 020 N*0 **_** 610 030 N*0 **_** 610 040 N*0 **_** 610 045 N*0 **_**	For the variants with type feature g = 1, 2, 3, 4, L or U II 2G Ex mb IIC T6/T5 Gb II 2D Ex mb IIIC IP67 T105°C Db
Intrinsically safe versions		
610 010 I*0 13-** 610 020 I*0 13-** 610 030 I*0 13-** 610 040 I*0 13-** 610 045 I*0 13-**	610 010 K*0 13-** 610 020 K*0 13-** 610 030 K*0 13-** 610 040 K*0 13-** 610 045 K*0 13-**	For the variants with type feature g = 1, 2, 3, U 4 or L: II 2G Ex ia IIC T6/T5 Gb II 1D Ex ia IIIC IP67 T ₂₀₀ 105°C Da II 2D Ex ib IIIC IP67 T105°C Db
610 010 I*0 **_** 610 020 I*0 **_** 610 030 I*0 **_** 610 040 I*0 **_** 610 045 I*0 **_**	610 010 K*0 **_** 610 020 K*0 **_** 610 030 K*0 **_** 610 040 K*0 **_** 610 045 K*0 **_**	For the variants with type feature g = 4 or L: II 1G Ex ia IIC T6/T5 Ga II 2G Ex ia IIC T6/T5 Gb II 1D Ex ia IIIC IP67 T ₂₀₀ 105°C Da II 2D Ex ib IIIC IP67 T105°C Db
Pipe switch 620...		
Non-intrinsically safe versions		
620 010 M*0 **_** 620 020 M*0 **_** 620 030 M*0 **_**		For the variants with type feature g = 1, 2, 3, 4, L or U II 2G Ex mb IIC T6/T5 Gb II 2D Ex mb IIIC IP67 T105°C Db
Intrinsically safe versions		
620 010 I*0 12-** 620 020 I*0 12-** 620 030 I*0 12-**		For the variants with type feature g = 1, 2, 3, U, 4 or L: II 1/2G Ex ia IIC T6/T5 Ga/Gb Condition: Limit area in zone 0 II 2G Ex ia IIC T6/T5 Gb II 1D Ex ia IIIC IP67 T ₂₀₀ 105°C Da II 2D Ex ib IIIC IP67 T105°C Db
620 010 I*0 **_** 620 020 I*0 **_** 620 030 I*0 **_**		For the variants with type feature g = 4 or L: II 1G Ex ia IIB T6/T5 Ga II 2G Ex ia IIC T6/T5 Gb II 1D Ex ia IIIC IP67 T ₂₀₀ 105°C Da II 2D Ex ib IIIC IP67 T105°C Db
Pipe switch 650...		
Non-intrinsically safe versions		
650 010 M*0 **_** 650 030 M*0 **_** 650 310 M*0 **_** 650 330 M*0 **_** 650 310 M*1 **_** 650 330 M*1 **_**	650 010 N*0 **_** 650 030 N*0 **_** 650 310 N*0 **_** 650 330 N*0 **_** 650 310 N*1 **_** 650 330 N*1 **_**	For the variants with type feature g = 1, 2, 3, 4, L or U II 2G Ex mb IIC T6/T5 Gb II 2D Ex mb IIIC IP67 T105°C Db
Intrinsically safe versions with protective tube		
650 010 I*0 12-** 650 030 I*0 12-** 650 310 I*0 12-**	650 010 K*0 12-** 650 030 K*0 12-** 650 310 K*0 12-**	For the variants with type feature g = 1, 2, 3, U, 4 or L: II 1/2G Ex ia IIC T6/T5 Ga/Gb

650 330 I*0 12-**	650 330 K*0 12-**	II 2G Ex ia IIC T6/T5 Gb II 1D Ex ia IIIC IP67 T ₂₀₀ 105°C Da II 2D Ex ib IIIC IP67 T105°C Db
650 010 I*0 **_** 650 030 I*0 **_** 650 310 I*0 **_** 650 330 I*0 **_**	650 010 K*0 **_** 650 030 K*0 **_** 650 310 K*0 **_** 650 330 K*0 **_**	For the variants with type feature g = 4 or L: II 1G Ex ia IIC T6/T5 Ga II 2G Ex ia IIC T6/T5 Gb II 1D Ex ia IIIC IP67 T ₂₀₀ 105°C Da II 2D Ex ib IIIC IP67 T105°C Db
Intrinsically safe versions with protective tube		
650 310 I*1 12-** 650 330 I*1 12-**	650 310 K*1 12-** 650 330 K*1 12-**	For the variants with type feature g = 1, 2, 3, U, 4 or L II 1/2G Ex ia IIC T6/T5 Ga/Gb II 2G Ex ia IIC T6/T5 Gb II 1D Ex ia IIIC IP67 T ₂₀₀ 105°C Da II 2D Ex ib IIIC IP67 T105°C Db
650 310 I*1 **_** 650 330 I*1 **_**	650 310 K*1 **_** 650 330 K*1 **_**	For the variants with type feature g = 4 or L II 1G Ex ia IIC T6/T5 Ga II 2G Ex ia IIC T6/T5 Gb II 1D Ex ia IIIC IP67 T ₂₀₀ 105°C Da II 2D Ex ib IIIC IP67 T105°C Db
Safety sensor 671...		
Non-intrinsically safe versions		
671 V62 M*0 **_** 671 261 M*0 **_** 671 262 M*0 **_** 671 271 M*0 **_**	671 V62 N*0 **_** 671 261 N*0 **_** 671 262 N*0 **_** 671 271 N*0 **_**	For the variants with type feature g = 1, 2, 3, 4, L or U II 2G Ex mb IIC T6/T5 Gb II 2D Ex mb IIIC IP68 T105°C Db
Intrinsically safe versions		
671 V62 I*0 12** 671 261 I*0 12** 671 262 I*0 12-** 671 271 I*0 12-**	671 V62 K*0 **_** 671 261 K*0 **_** 671 262 K*0 **_** 671 271 K*0 **_**	For the variants with type feature g = 1, 2, 3, U, 4 or L: II 1/2G Ex ia IIC T6/T5 Ga/Gb II 2G Ex ia IIC T6/T5 Gb II 1D Ex ia IIIC IP68 T ₂₀₀ 105°C Da II 2D Ex ib IIIC IP68 T105°C Db
671 V62 I*0 **_** 671 261 I*0 **_** 671 262 I*0 **_** 671 271 I*0 **_**	671 V62 K*0 **_** 671 261 K*0 **_** 671 262 K*0 **_** 671 271 K*0 **_**	Für die Varianten mit Typenmerkmal g = 4 or L: II 1G Ex ia IIC T6/T5 Ga II 1D Ex ia IIIC IP68 T ₂₀₀ 105°C Da II 2D Ex ib IIIC IP68 T105°C Db

Listing of all components used referring to older standards

None

15.3 Parameters

15.3.1 Non-intrinsically safe proximity switches

15.3.1.1 Proximity switch type series 610 0** M*0 **-* and 610 0** N*0 **-*

Type	610 010 **0**-* 610 020 **0**-*	610 030 **0**-*	610 040 **0**-*	610 045 **0**-*
Rated voltage	AC/DC 250 V	AC/DC 230 V	AC/DC 250 V	AC/DC 230 V
Rated current	3 A	1 A	1 A	0,6 A
Rated power	100 VA / 100 W	60 VA / 60 W	60 VA / 60 W	45 VA / 45 W
Temperature class	T6 / T5 resp. T105 °C	T6 / T5 resp. T105 °C	T6 / T5 resp. T105 °C	T6 / T5 resp. T105 °C
Ambient temperature range	-25 °C... 70 °C / 85 °C	-25 °C... 70 °C / 85 °C	-25 °C... 70 °C / 85 °C	-25 °C... 70 °C / 85 °C

15.3.1.2 Proximity switch type series 620 0** M*0 **-* and 620 0** N*0 **-*

Type	620 010 **0**-* 620 020 **0**-*	620 030 **0**-*
Rated voltage	AC/DC 230 V	AC/DC 48 V
Rated current	2 A	1 A
Rated power	60 VA / 60 W	20 VA / 20 W
Temperature class	T6 / T5 resp. T105 °C	T6 / T5 resp. T105 °C
Ambient temperature range	-25 °C... 70 °C / 85 °C	-25 °C... 70 °C / 85 °C

15.3.1.3 Proximity switch type series 650 *** M** **-* and 650 *** N** **-*

Type	650 *10 *** **-*	650 *30 *** **-*
Rated voltage	AC/DC 250 V	AC/DC 230 V
Rated current	3 A	1 A
Rated power	100 VA / 100 W	60 VA / 60 W
Temperature class	T6 / T5 resp. T105 °C	T6 / T5 resp. T105 °C
Ambient temperature range	-25 °C... 70 °C / 85 °C	-25 °C... 70 °C / 85 °C

15.3.1.4 Proximity switch type series 671 *** M** **-* and 671 *** N** **-*

Rated voltage	U_n	AC/DC	24	V
Rated current	I_n			
and Ambient temperature range	T_a			
according to the table below:				

$I_n = I_{n1} + I_{n2} + I_{n3}$	For T6	For T5	For T105 °C
Max. 60 mA	-25 °C... 70 °C	-25 °C... 75 °C	-25 °C... 75 °C
Max. 150 mA, I_{n1}, I_{n2}, I_{n3} , each ≤ 75 mA	-25 °C... 50 °C	-25 °C... 70 °C	-25 °C... 70 °C

For type 671V62....:

I_{n1} : Rated current between connection 1 and 2 (Switching contact 1)

I_{n2} : Rated current between connection 4 and 3 (Switching contact 2)

I_{n3} : N / A

For type 671261....:

I_{n1} : Rated current between connection 1 and 2 (Switching contact 1)

I_{n2} : Rated current between connection 1 and 3 (Switching contact 2)

I_{n3} : Rated current between connection 1 and 4 (Switching contact 3)

For type 671262...:

I_{n1} : Rated current between connection brown (BN) and black (BK) (Switching contact 1)

I_{n2} : Rated current between connection brown (BN) and blue (BU) (Switching contact 2)

I_{n3} : N / A

For type 671271...:

I_{n1} : Rated current between connection 1 and 2 (Switching contact 1)

I_{n2} : Rated current between connection 3 and 4 (Switching contact 2)

I_{n3} : N / A

15.3.2 Intrinsically safe proximity switches

15.3.2.1 Proximity switch type series 610 0** I*0 **-* and 610 0** K*0 **-*

15.3.2.1.1 For types 610 010 **0**-* and 610 020 **0**-*:

Maximum input voltage	U_i	according to the table below
Maximum input current	I_i	according to the table below
Effective internal capacitance	C_i	according to the table below
Effective internal inductance	L_i	according to the table below

Cable length	≤ 10 m	≤ 50 m	≤ 100 m	≤ 200 m
U_i	55 VDC 38 VAC		50 VDC 35 VAC	36 VDC 25 VAC
I_i (Peak value)	1.88 A	840 mA	590 mA	420 mA
C_i (g ≠ 4)	2 nF	7 nF	12 nF	24 nF
C_i (g = 4)	2 nF	10 nF	20 nF	40 nF
L_i	10 μH	50 μH	100 μH	200 μH

Maximum input power	P_i	500	mW
Ambient temperature range	T_a		
For T6		-25 °C...70 °C	
For T5 resp. T105 °C		-25 °C...85 °C	

15.3.2.1.2 For types 610 030 **0**-* and 610 040 **0**-*:

Maximum input voltage	U_i	according to the table below
Maximum input current	I_i	according to the table below
Effective internal capacitance	C_i	according to the table below
Effective internal inductance	L_i	according to the table below

Cable length	≤ 10 m	≤ 50 m	≤ 100 m	≤ 200 m
U_i	55 VDC 38 VAC		50 VDC 35 VAC	36 VDC 25 VAC
I_i (Peak value)	1 A	840 mA	590 mA	420 mA
C_i (g ≠ 4)	2 nF	7 nF	12 nF	24 nF
C_i (g = 4)	2 nF	10 nF	20 nF	40 nF
L_i	10 μH	50 μH	100 μH	200 μH

Maximum input power	P_i	500	mW
Ambient temperature range	T_a		
For T6		-25 °C...70 °C	
For T5 resp. T105 °C		-25 °C...85 °C	

15.3.2.1.3 For type 610 045 **0**-*:

Maximum input voltage	U_i	according to the table below
Maximum input current	I_i	according to the table below
Effective internal capacitance	C_i	according to the table below
Effective internal inductance	L_i	according to the table below

Cable length e	≤ 10 m	≤ 50 m	≤ 100 m	≤ 200 m
U _i	55 VDC 38 VAC		50 VDC 35 VAC	36 VDC 25 VAC
I _i (Peak value)	600 mA		590 mA	420 mA
C _i (g ≠ 4)	2 nF	7 nF	12 nF	24 nF
C _i (g = 4)	2 nF	10 nF	20 nF	40 nF
L _i	10 μH	50 μH	100 μH	200 μH

Maximum input power P_i 500 mW
Ambient temperature range T_a
For T6 -25 °C...70 °C
For T5 resp. T105 °C -25 °C...85 °C

15.3.2.2 Proximity switch type series 620 0** I*0 **-* and 620 0** K*0 **-*

15.3.2.2.1 For types 620 010 **0**-* and 620 020 **0**-*:

Maximum input voltage U_i according to the table below
Maximum input current I_i according to the table below
Effective internal capacitance C_i according to the table below
Effective internal inductance L_i according to the table below

Cable length	≤ 10 m	≤ 50 m	≤ 100 m	≤ 200 m
U _i	55 VDC 38 VAC		50 VDC 35 VAC	36 VDC 25 VAC
I _i (Peak value)	1.88 A	840 mA	590 mA	420 mA
C _i (g ≠ 4)	2 nF	7 nF	12 nF	24 nF
C _i (g = 4)	2 nF	10 nF	20 nF	40 nF
L _i	10 μH	50 μH	100 μH	200 μH

Maximum input power P_i 500 mW
Ambient temperature range T_a
For T6 -25 °C...70 °C
For T5 resp. T105 °C -25 °C...85 °C

15.3.2.2.2 For type 620 030 **0**-*:

Maximum input voltage U_i according to the table below
Maximum input current I_i according to the table below
Effective internal capacitance C_i according to the table below
Effective internal inductance L_i according to the table below

Cable length	≤ 10 m	≤ 50 m	≤ 100 m	≤ 200 m
U _i	48 VDC 38 VAC		48 VDC 35 VAC	36 VDC 25 VAC
I _i (Peak value)	1 A	840 mA	590 mA	420 mA
C _i (g ≠ 4)	2 nF	7 nF	12 nF	24 nF
C _i (g = 4)	2 nF	10 nF	20 nF	40 nF
L _i	10 μH	50 μH	100 μH	200 μH

Maximum input power P_i 500 mW
Ambient temperature range T_a
For T6 -25 °C...70 °C
For T5 resp. T105 °C -25 °C...85 °C

15.3.2.3 Proximity switch type series 650 *** I*0 **-* and 650 *** K*0 **-*

15.3.2.3.1 For type 650 *10 **0**.*:

Maximum input voltage	U_i	according to the table below
Maximum input current	I_i	according to the table below
Effective internal capacitance	C_i	according to the table below
Effective internal inductance	L_i	according to the table below

Cable length	≤ 10 m	≤ 50 m	≤ 100 m	≤ 200 m
U_i	55 VDC 38 VAC		50 VDC 35 VAC	36 VDC 25 VAC
I_i (Peak value)	1.88 A	840 mA	590 mA	420 mA
C_i ($g \neq 4$)	2 nF	7 nF	12 nF	24 nF
C_i ($g = 4$)	2 nF	10 nF	20 nF	40 nF
L_i	10 μ H	50 μ H	100 μ H	200 μ H

Maximum input power	P_i	500	mW
Ambient temperature range	T_a		
For T6			-25 °C...70 °C
For T5 resp. T105 °C			-25 °C...85 °C

15.3.2.3.2 For type 650 *30 **0**.*:

Maximum input voltage	U_i	according to the table below
Maximum input current	I_i	according to the table below
Effective internal capacitance	C_i	according to the table below
Effective internal inductance	L_i	according to the table below

Cable length	≤ 10 m	≤ 50 m	≤ 100 m	≤ 200 m
U_i	55 VDC 38 VAC		50 VDC 35 VAC	36 VDC 25 VAC
I_i (Peak value)	1 A	840 mA	590 mA	420 mA
C_i ($g \neq 4$)	2 nF	7 nF	12 nF	24 nF
C_i ($g = 4$)	2 nF	10 nF	20 nF	40 nF
L_i	10 μ H	50 μ H	100 μ H	200 μ H

Maximum input power	P_i	500	mW
Ambient temperature range	T_a		
For T6			-25 °C...70 °C
For T5 resp. T105 °C			-25 °C...85 °C

15.3.2.4 Proximity switch type series 671 *** I***-** and 671 *** K***-**

Maximum input voltage	U_i	AC/DC	24	V
Effective internal capacitance	C_i	according to the table below		
Effective internal inductance	L_i	according to the table below		

Cable length	≤ 10 m	≤ 50 m	≤ 100 m	≤ 200 m
C_i ($g \neq 4$)	2 nF	7 nF	12 nF	24 nF
C_i ($g = 4$)	2 nF	10 nF	20 nF	40 nF
L_i	10 μ H	50 μ H	100 μ H	200 μ H

Maximum input current (Peak value)	I_i	according to the table below
and ambient temperature range	T_a	according to the table below

$I_i = I_{i1} + I_{i2} + I_{i3}$	For T6	For T5	For T105 °C
Max. 60 mA	-25 °C... 70 °C	-25 °C... 75 °C	-25 °C... 75 °C
Max. 150 mA, I_{i1}, I_{i2}, I_{i3} each \leq 75 mA	-25 °C... 50 °C	-25 °C... 70 °C	-25 °C... 70 °C

For type 671V62...:

I_{l1} : Maximum permissible current between connection 1 and 2 (Switching contact 1)

I_{l2} : Maximum permissible current between connection 4 and 3 (Switching contact 2)

I_{l3} : N / A

For type 671261...:

I_{l1} : Maximum permissible current between connection 1 and 2 (Switching contact 1)

I_{l2} : Maximum permissible current between connection 1 and 3 (Switching contact 2)

I_{l3} : Maximum permissible current between connection 1 and 4 (Switching contact 3)

For type 671262...:

I_{l1} : Maximum permissible current between connection brown (BN) and black (BK) (Switching contact 1)

I_{l2} : Maximum permissible current between connection brown (BN) and blue (BU) (Switching contact 2)

I_{l3} : N / A

For type 671271...:

I_{l1} : Maximum permissible current between connection 1 and 2 (Switching contact 1)

I_{l2} : Maximum permissible current between connection 3 and 4 (Switching contact 2)

I_{l3} : N / A

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17 Special Conditions for Use

- 17.1 The permissible ambient temperature ranges depending on the temperature class and input values can be found in section 4) Characteristics.
- 17.2 For proximity switches type 620...
 - 17.2.1 In IIC applications where intensive electrostatic charging processes are to be expected, the metallic cable entry must be included in the local equipotential bonding.
 - 17.2.2 The non-intrinsically safe variants of the proximity switch must be installed in such a way that they are protected against mechanical danger.
- 17.3 For types 610..., 650..., 671...:
The metallic housing of the proximity switches must be included in the local equipotential bonding.
- 17.4 For types 610...:
The free potting surface must be covered by a conductive mounting surface when installed mounting surface when installed.
- 17.5 For types 6** *** 40 **...:
The shield of the permanently connected cable must be included in the local equipotential bonding for applications 1G, 1D and 2D.
- 17.6 For applications 1G:
 - 17.6.1 For proximity switch type 6** *** 40 **... (cable type "4"):
The shield of the permanently connected cable must be included in the equipotential bonding. Intensive charging processes of the permanently connected cable must be avoided.
 - 17.6.2 For proximity switch type 6** *** L0 **... (cable type "L"):
Intensive charging processes of the permanently connected cable must be avoided.
 - 17.6.3 For proximity switches type 650310....1 and 650330...1 (with protective tube) Intensive charging processes of the protective tube must be avoided.
For application 1G_IIC and 1D metallic nuts must be used.

- 17.7 For applications 1/2G:
 17.7.1 Proximity switch 620....:
 For IIC applications: The installation in the partition wall shall be such that the effective free plastic surface in areas requiring category 1G (EPL Ga) equipment shall be is equal to or less than 4 cm².
 17.7.2 The installation of the proximity switches in the Zone 0/Zone 1 partition shall be such that degree of protection IP67 according to EN 60529 is ensured.
 17.7.3 The manufacturer's technical information on using the proximity switch in connection with aggressive / corrosive media must be observed.
 17.7.4 The manufacturer's technical information on avoiding mechanical hazards must be observed.
 17.7.5 For proximity switches 620..., 650..., 671...:
 In areas that meet the requirements of 1G (Zone 0) IIC, plastic fastening nuts must not be used. Metallic nuts must be used in areas 1G (Zone 0).
 17.8 For non-intrinsically safe proximity switches:
 17.8.1 In the circuit of the proximity switch type 6** *** ** *- **, a protective device adapted to the fuse adapted to the rated data of the switching contact / electronic switch with a breaking capacity that is at least equal to the prospective short-circuit current short-circuit current of the supplying mains at the place of use.
 The rated current I_{Si} of the fuse must be selected so that $I_{Si} \cdot 1.7 \leq I_n$.
 17.8.2 The unconnected free line ends must be connected in accordance with the applicable installation regulations.

18 Essential Health and Safety Requirements


The Essential Health and Safety Requirements are covered by the standards listed under item 9.

19 Drawings and Documents

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, 2021-08-03
 BVS-Hil/Mu A20200594


 Managing Director