

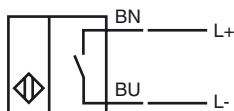
**Model Number**

CCB10-30GM80-N1

**Features**

- 10 mm embeddable
- The switching distance can be set over a wide range with the potentiometer

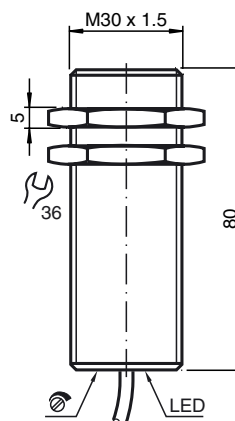
**Connection**



**Accessories**

**BF 30**  
Mounting flange, 30 mm

**Dimensions**



**Technical Data**

<b>General specifications</b>	
Switching element function	NAMUR, NO
Rated operating distance	$s_n$ 10 mm
Installation	embeddable
Output polarity	NAMUR
Assured operating distance	$s_a$ 0 ... 8.1 mm

<b>Nominal ratings</b>	
<b>Installation conditions</b>	
A	0 mm
B	0 mm
C	20 mm
F	60 mm
Nominal voltage	$U_o$ 8.2 V ( $R_i$ approx. 1 k $\Omega$ )
Operating voltage	$U_B$ 5.9 ... 22.7 V
Switching frequency	f 0 ... 10 Hz
Reverse polarity protected	reverse polarity protected
Current consumption	
Measuring plate not detected	$\leq$ 1 mA
Measuring plate detected	$\geq$ 3 mA
Indication of the switching state	LED, yellow

<b>Ambient conditions</b>	
Ambient temperature	-20 ... 70 °C (-4 ... 158 °F)

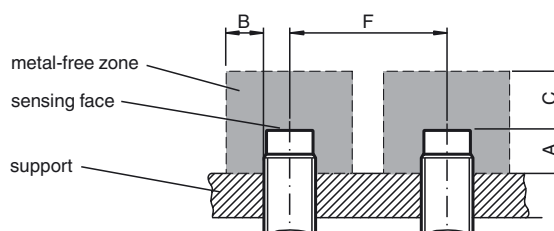
<b>Mechanical specifications</b>	
Connection type	cable PVC , 2 mm
Core cross-section	0.75 mm <sup>2</sup>
Housing material	Stainless steel 1.4305 / AISI 303
Sensing face	PBT
Protection degree	IP67

<b>General information</b>	
Use in the hazardous area	see instruction manuals
Category	1G; 2G; 1D

<b>Compliance with standards and directives</b>	
<b>Standard conformity</b>	
NAMUR	EN 60947-5-6:2000 IEC 60947-5-6:1999
Standards	EN 60947-5-2:2007 IEC 60947-5-2:2007

<b>Approvals and certificates</b>	
FM approval	
Control drawing	116-0165F
UL approval	cULus Listed, General Purpose
CSA approval	cCSAus Listed, General Purpose
CCC approval	Products with a maximum operating voltage of $\leq$ 36 V do not bear a CCC marking because they do not require approval.

**Installation conditions**



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**ATEX 1G**

Instruction

**Manual electrical apparatus for hazardous areas**

Device category 1G

for use in hazardous areas with gas, vapour and mist  
94/9/EG

Directive conformity

EN 60079-0:2006, EN 60079-11:2007, EN 60079-26:2007

Standard conformity

Ignition protection "Intrinsic safety"

Use is restricted to the following stated conditions

CE symbol

 0102

Ex-identification

 II 1G Ex ia IIC T6

EC-Type Examination Certificate

TÜV 03 ATEX 2003 X

Appropriate type

CCB10-30GM...N...

Effective internal capacitance  $C_i$ 

≤ 155 nF ; a cable length of 10 m is considered.

Effective internal inductance  $L_i$ 

negligibly small

A cable length of 10 m is considered.

Cable length

Dangerous electrostatic charges on the fixed connection cable must be taken into account for lengths equal to and exceeding the following values:

Explosion group IIA

78 cm

Explosion group IIB

39 cm

Explosion group IIC

6 cm

General

The apparatus has to be operated according to the appropriate data in the data sheet and in this instruction manual.

The EC-Type Examination Certificate has to be observed. The special conditions must be adhered to! Directive 94/9EG and hence also the EC-Type Examination Certificates are in general only applicable to the use of electrical apparatus operating at atmospheric conditions.

The use in ambient temperatures of &gt; 60 °C was tested with regard to hot surfaces by the mentioned certification authority.

If the equipment is not used under atmospheric conditions, a reduction of the permissible minimum ignition energies may have to be taken into consideration.

Highest permissible ambient temperature

The temperature ranges, according to temperature class, are given in the EC-Type Examination Certificate. Note: Use the temperature table for category 1 !!! The 20 % reduction in accordance with EN 1127-1:2007 has already been accounted for in the temperature table for category 1.

Installation, Commissioning

Laws and/or regulations and standards governing the use or intended usage goal must be observed.

The intrinsic safety is only assured in connection with an appropriate related apparatus and according to the proof of intrinsic safety.

The associated apparatus must satisfy the requirements of category ia.

Due to the possible danger of ignition, which can arise due to faults and/or transient currents in the equipotential bonding system, galvanic isolation of the power supply and signal circuit is preferable. Associated apparatus without electrical isolation must only be used if the appropriate requirements of IEC 60079-14 are met.

Maintenance

No changes can be made to apparatus, which are operated in hazardous areas. Repairs to these apparatus are not possible.

**Special conditions**

Protection from mechanical danger

When used in the temperature range below -20 °C the sensor should be protected from knocks by the provision of an additional housing.

Electrostatic charging

Electrostatic charges must be avoided on the mechanical housing components.

Dangerous electrostatic charges on the mechanical housing components can be avoided by incorporating these in the equipotential bonding. When used in group IIC non-permissible electrostatic charges should be avoided on the plastic housing parts.

**ATEX 2G**

Instruction

**Device category 2G**

Directive conformity

Standard conformity

CE symbol

Ex-identification

EC-Type Examination Certificate

Appropriate type

Effective internal capacitance  $C_i$ Effective internal inductance  $L_i$ 

General

Highest permissible ambient temperature

Installation, Commissioning

Maintenance

**Special conditions**

Protection from mechanical danger

Electrostatic charging

**Manual electrical apparatus for hazardous areas**

for use in hazardous areas with gas, vapour and mist

94/9/EG

EN 60079-0:2006, EN 60079-11:2007

Ignition protection "Intrinsic safety"

Use is restricted to the following stated conditions

CE 0102

Ex II 1G Ex ia IIC T6

TÜV 03 ATEX 2003 X

CCB10-30GM...-N...

≤ 155 nF ; a cable length of 10 m is considered.

negligibly small

A cable length of 10 m is considered.

The apparatus has to be operated according to the appropriate data in the data sheet and in this instruction manual. The EC-Type Examination Certificate has to be observed. The special conditions must be adhered to! Directive 94/9/EG and hence also the EC-Type Examination Certificates are in general only applicable to the use of electrical apparatus operating at atmospheric conditions.

The use in ambient temperatures of > 60 °C was tested with regard to hot surfaces by the mentioned certification authority.

If the equipment is not used under atmospheric conditions, a reduction of the permissible minimum ignition energies may have to be taken into consideration.

The temperature ranges, according to temperature class, are given in the EC-Type Examination Certificate.

Laws and/or regulations and standards governing the use or intended usage goal must be observed.

The intrinsic safety is only assured in connection with an appropriate related apparatus and according to the proof of intrinsic safety.

No changes can be made to apparatus, which are operated in hazardous areas. Repairs to these apparatus are not possible.

When used in the temperature range below -20 °C the sensor should be protected from knocks by the provision of an additional housing.

Electrostatic charges must be avoided on the mechanical housing components. Dangerous electrostatic charges on the mechanical housing components can be avoided by incorporating these in the equipotential bonding.

**ATEX 1D**

Instruction

**Device category 1D**

Directive conformity

Standard conformity

CE symbol

Ex-identification

EC-Type Examination Certificate

Appropriate type

Effective internal capacitance  $C_i$ Effective internal inductance  $L_i$ 

General

Maximum housing surface temperature

Installation, Commissioning

Maintenance

**Special conditions**

Electrostatic charging

**Manual electrical apparatus for hazardous areas**

for use in hazardous areas with combustible dust

94/9/EG

IEC 61241-11:2002: draft; prEN61241-0:2002

type of protection intrinsic safety "ID"

Use is restricted to the following stated conditions

**CE** 0102**Ex** II 1D Ex iaD 20 T 85 °C (185 °F)

ZELM 03 ATEX 0128 X

CCB10-30GM...-N...

≤ 155 nF ; a cable length of 10 m is considered.

negligibly small

A cable length of 10 m is considered.

The apparatus has to be operated according to the appropriate data in the data

sheet and in this instruction manual.

The EC-Type Examination Certificate has to be observed.

The special conditions must be adhered to!

The maximum surface temperature of the housing is given in the EC-Type Examination Certificate.

Laws and/or regulations and standards governing the use or intended usage goal must be observed.

The intrinsic safety is only assured in connection with an appropriate related apparatus and according to the proof of intrinsic safety.

The associated apparatus must satisfy at least the requirements of category ia IIB or iaD. Because of the possibility of the danger of ignition, which can arise due to faults and/or transient currents in the equipotential bonding system, galvanic isolation in the power supply and signal circuits is preferable. Associated apparatus without electrical isolation must only be used if the appropriate requirements of IEC 60079-14 are met.

The intrinsically safe circuit has to be protected against influences due to lightning.

When used in the isolating wall between Zone 20 and Zone 21 or Zone 21 und Zone 22 the sensor must not be exposed to any mechanical danger and must be sealed in such a way, that the protective function of the isolating wall is not impaired. The applicable directives and standards must be observed.

No changes can be made to apparatus, which are operated in hazardous areas. Repairs to these apparatus are not possible.

The connection cables are to be laid in accordance with EN 50281-1-2 and must not normally be subjected to chaffing during use.

Electrostatic charges must be avoided on the mechanical housing components.

Dangerous electrostatic charges on the mechanical housing components can be avoided by incorporating these in the equipotential bonding.