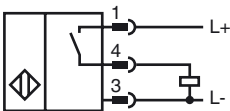CE   CSA C US   c UL us

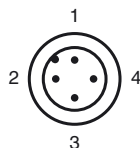## Model Number

NBB2-12GM50-E2-V1

Features

- **2 mm embeddable**
- **Extended temperature range**

Connection

Pinout

Wire colors in accordance with EN 60947-5-2

1	BN	(brown)
2	WH	(white)
3	BU	(blue)
4	BK	(black)

Accessories

BF 12
Mounting flange, 12 mm
EXG-12
Quick mounting bracket with dead stop
V1-G
4-pin, M12 female field-attachable connector
V1-W
4-pin, M12 female field-attachable connector
V1-G-2M-PUR
Cable socket, M12, 4-pin, PUR cable
V1-W-2M-PUR
Cable socket, M12, 4-pin, PUR cable

Dimensions
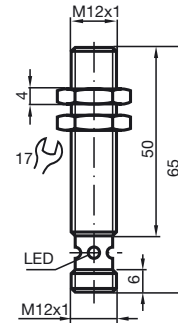
Technical Data

General specifications

Switching element function		PNP NO
Rated operating distance	s_n	2 mm
Installation		embeddable
Output polarity		DC
Assured operating distance	s_a	0 ... 1.62 mm (-25 ... 70 °C (-13 ... 158 °F))
		0 ... 1.52 mm (-40 ... -25 °C (-40 ... -13 °F))
Reduction factor r_{Al}		0.3
Reduction factor r_{Cu}		0.2
Reduction factor r_{303}		0.7

Nominal ratings

Operating voltage	U_B	10 ... 30 V
Switching frequency	f	0 ... 1500 Hz
Reverse polarity protected		reverse polarity protected
Short-circuit protection		pulsing
Voltage drop	U_d	≤ 3 V
Operating current	I_L	0 ... 200 mA
Off-state current	I_r	0 ... 0.5 mA typ. 0.1 µA at 25 °C
No-load supply current	I_0	≤ 17 mA
Indication of the switching state		Multihole-LED, yellow

Functional safety related parameters

$MTTF_d$		990 a
Mission Time (T_M)		20 a
Diagnostic Coverage (DC)		0 %

Ambient conditions

Ambient temperature	-40 ... 70 °C (-40 ... 158 °F)

Mechanical specifications

Connection type	Device connector M12 x 1 , 4-pin
Housing material	brass, nickel-plated
Sensing face	PBT
Protection degree	IP67

General information

Scope of delivery	2 self locking nuts in scope of delivery

Compliance with standards and directives

Standard conformity	
Standards	EN 60947-5-2:2007
	IEC 60947-5-2:2007

Approvals and certificates

UL approval	cULus Listed, General Purpose
CSA approval	cCSAus Listed, General Purpose
CCC approval	Products with a maximum operating voltage of ≤36 V do not bear a CCC marking because they do not require approval.

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