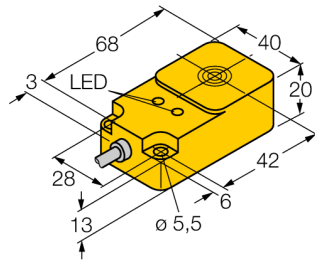
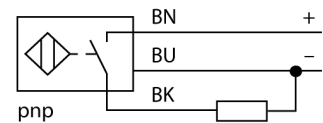


**Inductive sensor
for use in vehicle board nets
BI20-Q20-AP45X2LD**



- e1 type approval from German federal office for motor vehicles
- Rectangular, height 20 mm
- Active face on top
- Plastic, PBT-GF30-V0
- For vehicle board nets, 12 V and 24 V
- Increased interference immunity 100V/m radiated and 100mA BCI
- Load-Dump protection according to DIN 7637 (SAE J 113-11)
- Extended temperature range
- High protection classes IP68/IP69K
- Protection against salt spray and thermal shock
- Laser engraved label, permanently legible
- DC 3-wire, 8.4...65 VDC
- NO contact, PNP output
- Cable connection

Wiring diagram



Functional principle

Maximum reliability even under the most extreme environmental conditions is guaranteed by our sensors for mobile applications. TURCK's inductive sensors for extremely hostile industrial environments not only meet, but even exceed the requirements of the protection classes IP68 and IP69.

Applied in vehicles for road construction or in agricultural machines, these sensors excel in high vibration and shock resistance and they withstand fast temperature cycles.

12 V Bordnet						
Impulse	1	2	3a	3b	4	5
Severity level	IV	IV	IV	IV	IV	IV
Failure criterion	C	C	A	A	C	C

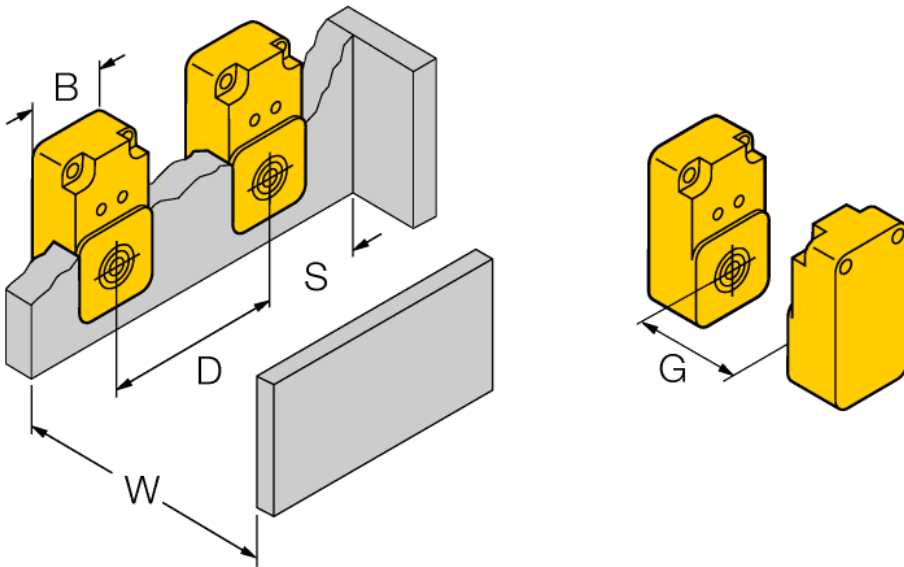
24 V Bordnet						
Impulse	1	2	3a	3b	4	5
Severity level	III	IV	IV	IV	III	IV
Failure criterion	C	C	A	A	A	C

Type code	BI20-Q20-AP45X2LD
Ident no.	1584041
Rated operating distance Sn	20 mm
Mounting condition	flush
Assured sensing range	≤ (0,81 x Sn) mm
Correction factors	St37 = 1; Al = 0.3; stainless steel = 0.7; Ms = 0.4
Repeatability	≤ 2 % of full scale
Temperaturdrift	10 %
	≤ ± 15 %, ≤ -25 °C v ≥ +70 °C
Hysteresis	3...15 %
Ambient temperature	-40...+85 °C
Temperature changes (EN60068-2-14)	-40... +85 °C; 20 cycles
Operating voltage	8.4...65VDC
Residual ripple	≤ 10 % U _s
DC rated operational current	≤ 200 mA
No-load current I ₀	≤ 15 mA
Residual current	≤ 0.1 mA
Rated insulation voltage	≤ 0.5 kV
Short-circuit protection	yes/ cyclic
Voltage drop at I ₀	≤ 1.8 V
Wire breakage / Reverse polarity protection	yes/ complete
Output function	3-wire, NO contact, PNP
Load-dump protection (DIN ISO 7637-2)	Severity degree IV / Level 4
Switching frequency	0.5 kHz
Design	rectangular, Q20
Dimensions	68x 40x 20 mm
Housing material	Plastic, PBT
Connection	cable
Cable quality	5.2 mm, Lif32Y32Y, TPE, 2 m
Cable cross section	3 x 0.5 mm ²
Vibration resistance	55 Hz (1 mm)
Vibration resistance (EN 60068-2-6)	20 g; 10...3000 Hz; 50 cycles; 3 axes
Shock resistance	30 g (11 ms)
Shock resistance (EN 60068-2-27)	40 g; 6 ms ½ sinus; each 4000x; 3 axes
Continuous shock resistance (EN 60068-2-29)	100 g; 11 ms ½ sinus; each 3x; 3 axes
Salt spray test (EN 60068-2-52)	severity degree 5 (4 test cycles)
Protection class	IP68 / IP69K
MTTF	2283 years acc. to SN 29500 (Ed. 99) 40 °C
Operating voltage	LED green
Switching state	● yellow

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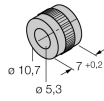
Distance D	1.5 x B
Distance W	3 x Sn
Distance S	1 x B
Distance G	6 x Sn

Width of the active face B 40 mm



**Inductive sensor
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Accessories

Type code	Ident no.	Description	Dimension drawing
MH-Q20MONTAGEHÜLSEN	6950010	Mounted with active face downwards, for Q20	
MW-Q14/Q20	6945006	Mounting bracket for rectangular Q14 or Q20; material VA 1.4301	