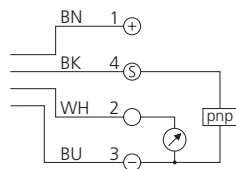


Ultraschall-Sensoren | Ultrasonic sensors

- Stabiles Gehäuse
- Arbeitsbereich einstellbar
- Schmutzunempfindlich
- Störgeräuschunempfindlich
- Messung oberflächenunabhängig
- Schalt- und Analogausgang
- Hohe Folgegeschwindigkeit
- Hohe Auflösung
- Piezokeramischer Verbundwandler

- Robust casing
- Scanning range adjustable
- Insensitive to dirt
- Insensitive to ambient noise
- Scanning does not depend on surface
- Binary and analog output
- High follow-up speed
- High resolution
- Piezo-ceramic composite transducer

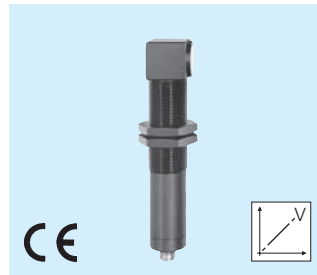
Anschlusschema Connection diagram



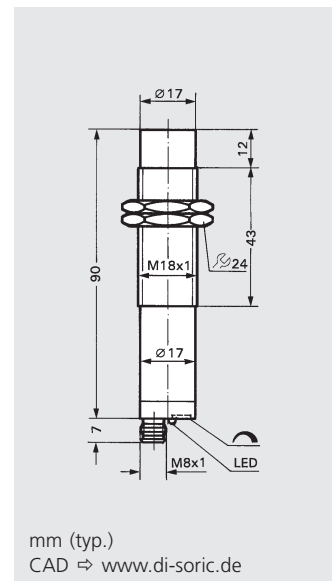
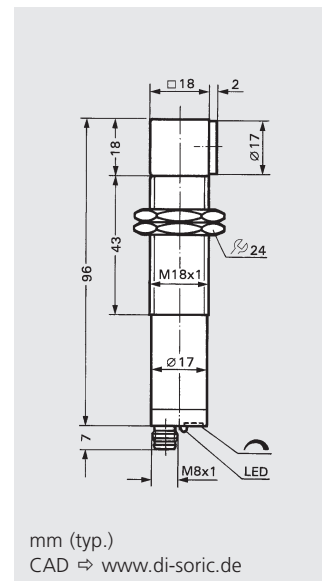
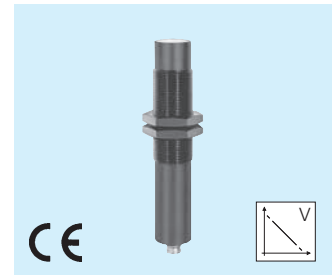
BN = Braun / brown
BK = Schwarz / black
BU = Blau / blue
WH = Weiß / white

US 18 ... PSAK-TSSL
US 18 ... PSAIK-TSSL
US 18 ... PSIK-TSSL

Arbeitsbereich 1000 mm
Scanning range



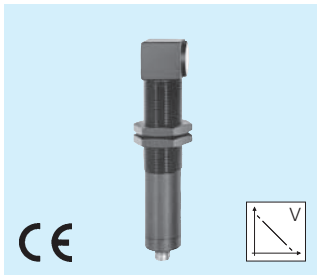
Arbeitsbereich 1000 mm
Scanning range



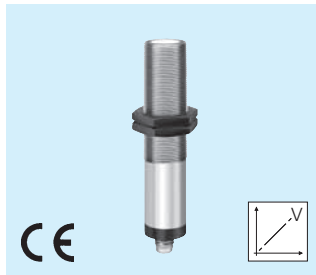
Technische Daten	Technical Data	bei + 20 °C, 24 V DC / at + 20 °C, 24 V DC	
Arbeitsbereich	Scanning range	180 ... 1000 mm	180 ... 1000 mm
Sendefrequenz	Operating frequency	180 kHz	180 kHz
Betriebsspannung	Service voltage	18 ... 33 V DC	18 ... 33 V DC
Eigenstromaufnahme	Internal power consumption	ca. 35 mA	ca. 35 mA
Schaltausgang	Binary output	Transistor pnp, 100 mA, NO	Transistor pnp, 100 mA, NO
Schaltfrequenz	Switching frequency	ca. 7 Hz	ca. 7 Hz
Ansprech- / Abfallzeit	Response / release time	< 100 ms	< 100 ms
Schalthysterese axial	Switching hysteresis axial	30 ... 60 mm	30 ... 60 mm
Genauigkeit	Accuracy	± 2 % / Sn max.	± 2 % / Sn max.
Analogausgang	Analog output	1,8 ... 10 V	8,2 ... 0 V
Linearität Analogausgang	Linearity analog output	< 1 % / Sn max.	< 1 % / Sn max.
Temperaturdrift Analogausgang	Temperature drift analog output	typ. + 4 mV/K	typ. + 4 mV/K
Temperaturdrift Luftstrecke	Temperature drift air path	- 0,17 %/K	- 0,17 %/K
Lastwiderstand	Load resistance	> 10 kΩ	> 10 kΩ
Welligkeit	Ripple	ca. ± 100 mV	ca. ± 100 mV
Folgegeschwindigkeit	Follow-up speed	< 400 ms (95% Sn max.)	< 400 ms (95% Sn max.)
Umgebungstemperatur	Ambient temperature	-20 ... +50 °C	-20 ... +50 °C
Schutzart	Protection class	IP 67	IP 67
Gehäusematerial	Casing material	Polyamid / polyamide	Polyamid / polyamide

Bestelltabelle	Ordering Table	Typ / Model	
Ausgang	Output		
NO	NO	–	–
NO + analog	NO + analog	US 18 KR 1003 PSAK-TSSL	US 18 K 1000 PSAIK-TSSL
Anschlusskabel (sep. Datenblatt)	Connecting cable (sep. data-sheet)	TK ... /4	TK ... /4

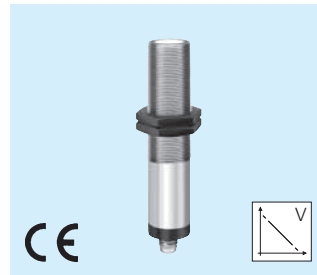
Arbeitsbereich 1000 mm
Scanning range



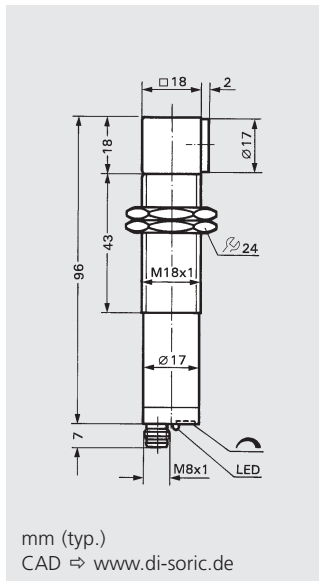
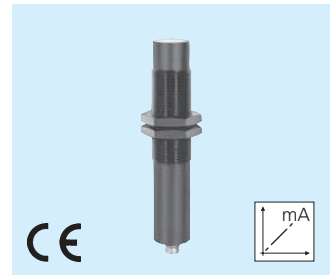
Arbeitsbereich 1000 mm
Scanning range



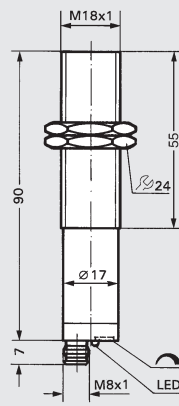
Arbeitsbereich 1000 mm
Scanning range



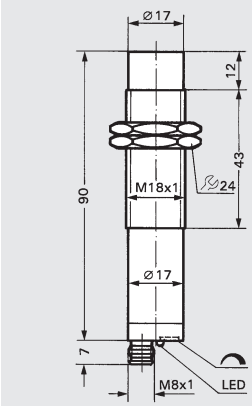
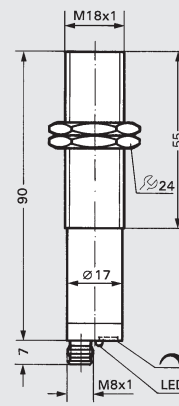
Arbeitsbereich 1000 mm
Scanning range



Langsam schaltend
Slow switching



Langsam schaltend
Slow switching



180 ... 1000 mm	180 ... 1000 mm	180 ... 1000 mm	180 ... 1000 mm
180 kHz	180 kHz	180 kHz	180 kHz
18 ... 33 V DC	18 ... 33 V DC	18 ... 33 V DC	18 ... 33 V DC
ca. 35 mA	ca. 35 mA	ca. 35 mA	ca. 55 mA
Transistor pnp, 100 mA, NO	Transistor pnp, 100 mA, NO	Transistor pnp, 100 mA, NO	Transistor pnp, 100 mA, NO
ca. 7 Hz	ca. 0,25 Hz	ca. 0,25 Hz	ca. 7 Hz
< 100 ms	< 240 ms	< 240 ms	< 100 ms
30 ... 60 mm	30 ... 70 mm	30 ... 70 mm	30 ... 60 mm
± 2 % / Sn max.	± 2 % / Sn max.	± 2 % / Sn max.	± 2 % / Sn max.
8,2 ... 0 V	1,8 ... 10 V	8,2 ... 0 V	6,9 ... 20 mA
< 1 % / Sn max.	< 1 % / Sn max.	< 1 % / Sn max.	< 1 % / Sn max.
typ. + 4 mV/K	typ. + 4 mV/K	typ. + 4 mV/K	typ. + 0,01 mA/K
- 0,17 %/K	- 0,17 %/K	- 0,17 %/K	- 0,17 %/K
> 10 kΩ	> 10 kΩ	> 10 kΩ	max. 500 Ω
ca. ± 100 mV	ca. ± 40 mV	ca. ± 40 mV	ca. ± 100 mV
< 400 ms (95% Sn max.)	< 1,5 s (95% Sn max.)	< 1,5 s (95% Sn max.)	< 400 ms (95% Sn max.)
-20 ... +50 °C	-20 ... +50 °C	-20 ... +50 °C	-20 ... +50 °C
IP 67	IP 67	IP 67	IP 67
Polyamid / polyamide	V2A / stainless steel	V2A / stainless steel	Polyamid / polyamide

US 18 KR 1000 PSAIK-TSSL
TK ... /4

US 18 V 1004 PSAK-TSSL
TK ... /4

US 18 V 1004 PSAIK-TSSL
TK ... /4

US 18 K 1000 PSIK-TSSL
TK ... /4