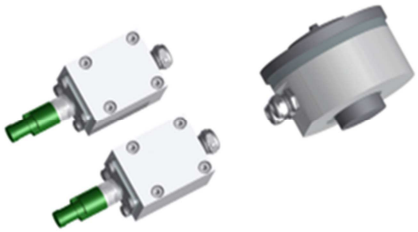
HIRSCHMANN
A BELDEN BRAND

TrueSafety fSENS (R)DKA

Force sensor for safety application



- certified as SIL 2 (EN 61508); PL d, Cat. 3 (EN ISO 13849)
- EMC compatibility according to DIN EN 61326-3-1
- Functional safety
- built-in protection against damage from lightning strikes
- built-in amplifiers
- require no special installation details

IMPORTANT

The True Safety fSENS (R)DKA products may be used and only be charged for the designed load direction.

Technical Specification

General	
Measuring method	Strain gauge-Wheatstone bridge
Housing	Chromium-containing steel with min. 12% chromium (measuring body – martensic; housing – austhenitic)
Safety architecture	2 channel, force measuring, 1oo2
Performance level (ISO 13849)/ (EN 61508)	PL-d, Kat. 3/ SIL2
Mechanical	
Preload	150% F_N (more on request)
Safety to yielding, $R_{p0,2}$	Min. 300% F_N (more on request)
Safety to breakage, R_m	Depending to the material, resulting from the material specific ratio of $R_{p0,2}$ and R_m, typical 500%
Vibration (EN 60068-2-6)	DIN EN 60721 3-5 (Juni 1998): class 5M3 5-8 Hz; 7,5mm; 8-200 Hz, 2g; 200-500 Hz 4g, 1 Oktave/min, 40 Sweeps each
Shock (EN 60068-2-27)	DIN EN 60721 3-5 (Juni 1998): class 5M3 30g, 11ms half-sine / 100g, 6ms half-sine - 600 Schocks each
Fatigue strength (load spectrum according to ISO 4301-1)	A5 relative to F_N (others on request)
Electrical	
Supply voltage	10..30 V_{DC}

Power consumption	< 100 mA
Electrical connection	2x M12x1, 4-conductor
Pin assignment	Pin 1: $+U_b$ Pin 2: not connected Pin 3: GND Pin 4: Signal out Shield: Cable shield on M12-thread
Electrical protection functions	Reverse polarity protection -33..33 V_{DC} EMC according to: • DIN EN 61326-3-1 (Safety standard) DIN EN 61000-6-2/3 (Industry standard)
Isolation resistance	> 500 mΩ @ 500 V
Reaction time	30 ms (3 consecutive readings of 10 ms)
Environment	
Protection class	IP 66/67 (EN 60529: 1991+A1:2000)
Storage temperature	-40..+85°C
Operating temperature	DIN EN 60721-3-5:1998: class 5K3 -40.. 70°C
Outputs	
Output signal	Analog 4..20 mA
Linearity (typical)	1% FS
Hysteresis (typical)	< 2%
Temperature drift	< 0,3% FS/ 10 K
Lifespan	10 years

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