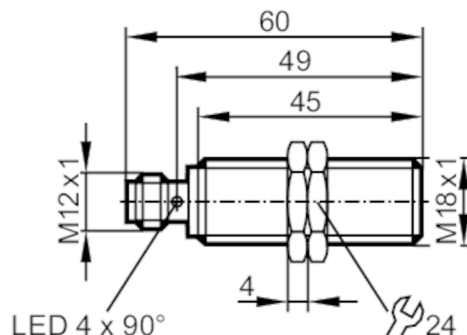


GG761S



Fail-safe inductive sensor

GIGK4004B2PS/SIL2/AM/US



Product characteristics

Electrical design		PNP
Enable zone	[mm]	0...3.5
Housing		Threaded type
Dimensions	[mm]	M18 x 1 / L = 60

Application

System	gold-plated contacts; Full-metal housing
Type of operation	permanent operation
Safety-related sub-function	safe state when properly undamped
Application	Use in mobile and harsh applications

Electrical data

Operating voltage	[V]	9...32 DC
Rated insulation voltage	[V]	60
Current consumption	[mA]	< 10; (24 V)
Protection class		III
Reverse polarity protection		yes
Max. power-on delay time	[ms]	500

Outputs

Electrical design		PNP
Max. voltage drop switching output DC	[V]	2.5
Number of OSSD outputs		2
Max. current load per OSSD output	[mA]	50
Output data		Interface type C class 1
Output voltage at 24 V		compatible with EN 61131-2 inputs type 1, 2
Short-circuit protection		yes
Overload protection		yes
Max. capacitive load CL_max	[nF]	20

Monitoring range

Enable zone	[mm]	0...3.5
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Safe switch-off distance sAs (sar)	[mm]	10.5									
Accuracy / deviations											
Correction factor		steel: 1 / stainless steel: 0.7 / brass: 0.8 / aluminum: 0.6 / copper: 0.3									
Reaction times											
Response time when approaching the enable zone, turn-on time (ton)		[ms]	20								
Response time to safety request, turn-off time (toff)		[ms]	20								
Risk time / error handling time (toff max)		[ms]	100								
Operating conditions											
Ambient temperature		[°C]	-40...85								
Max. height above sea level		[m]	3000								
Ionizing radiation			not permissible								
Protection			IP 65; IP 66; IP 67; IP 68; IP 69K								
Tests / approvals											
EMC		industrial environments									
		EN 60947-5-3									
		EN 61000-4-2 ESD			6 kV CD / 8 kV AD						
		EN 61000-4-3 HF radiated			20 V/m 80...1000 MHz						
		EN 61000-4-3 HF radiated			10 V/m 1,4...2,0 GHz / 3 V/m 2,0...6,0 GHz						
		EN 61000-4-4 Burst			2 kV						
		EN 61000-4-5 Surge			2 kV						
		EN 61000-4-6 HF conducted			10 V						
		EN 61000-4-8			30 A/m 50/60 Hz / 1000 A/m 0 Hz						
		EN 55011			class B						
		Mobile applications			only for operation with central load-dump suppression (58 V) / not for active operation during motor start phase in 12 V systems						
		ISO 10605 ESD			8 kV CD / 15 kV AD						
		ISO 11452-2, ISO 11452-5 radiated immunity			100 V/m 400...3000 MHz						
		ISO 7637-2, ISO 16750-2 conducted immunity			12 V / 24 V						
		pulse			1	2a	2b	3a	3b	4	5b
		Severity level			III	III	III	III	III	III	58V
		Failure criterion			B	A	B	A	A	C/B	A/C
				EN 55025	class 3						
Shock resistance		EN 60068-2-27 Ea	100 g 11 ms half-sine; 3 shocks each in every direction of the 3 coordinate axes								
Continuous shock resistance		EN 60068-2-27 Ea	40 g 6 ms; 4000 shocks each in every direction of the 3 coordinate axes								
Fast temperature changes		EN 60068-2-14 Na	TA = -40°C; TB = 85°C; t1 = 45 min; t2 = 10 s 100 cycles								
Vibration resistance		EN 60068-2-6 Fc	20 g (10...3000 Hz) / 50 sweep cycles per frequency; 1 octave per minute in 3 axes								
		EN 60068-2-64 Fh	5.9 g RMS / effective acceleration for chassis mounting								
		ISO 19014-3	5.7 g RMS / effective acceleration								



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Salt spray test	EN 60068-2-52 Kb	severity level 5 (4 test cycles)
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Safety classification

Complies with the requirements	ISO 13849-1 Category 2, PL d
	IEC 61508 SIL 2, HFT 0, SC 2
Mission time TM [h]	≤ 87600
Mission time TM (additional indication)	industrial environments Temperature range -25...70 °C ≤ 175200
PFH [1/h]	< 1,5E-07

Mechanical data

Weight [g]	55
Housing	Threaded type
Mounting	flush mountable
Dimensions [mm]	M18 x 1 / L = 60
Thread designation	M18 x 1
Material	threaded sleeve: stainless steel (1.4404 / 316L); sensing face: stainless steel (1.4404 / 316L); LED window: PEI; LED sealing: PU; lock nuts: stainless steel (1.4404 / 316L)
Tightening torque [Nm]	50
Full-metal housing	yes

Displays / operating elements

Display	Display switching status	4 LED, yellow
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Accessories

Items supplied	lock nuts: 2
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Remarks

Remarks	meets the environmental and EMC requirements for operation in agricultural and forestry machinery, earthworks and construction machines as well as in industrial trucks
	can be used in applications up to SIL 2 in accordance with IEC 62061, MPL d in accordance with ISO 19014-3 and Ag PL d in accordance with ISO 25119
	Unless stated otherwise, all data refer to the reference target plate to IEC 60947-5-2 over the whole temperature range.
	(FE360 = ST37-2K) 18x18x1 mm
	the correction factors apply to an ambient temperature of 20°C
	do not use a correction factor for the safe switch-off distance sAS/(sar)
Pack quantity	1 pcs.

Electrical connection - plug

Connector: 1 x M12; coding: A; Contacts: gold-plated



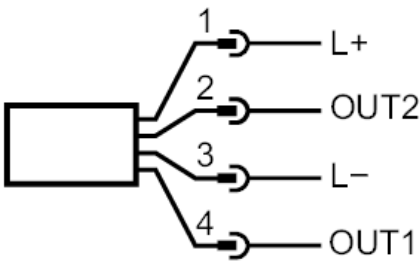
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Connection



1	L+	
2	OUT2	OSSD2
3	L-	
4	OUT1	OSSD1

OUT: Output