## Honeywell

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**Sensing and Control** 

Honeywell Inc.

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## ZS-00350-01

# ONE PART M12 PROXIMITY SENSOR (INCORPORATING BUILT IN TEST)

#### Description:

Environment-proof self-contained proximity sensor enclosed in a rugged hermetically sealed ceramic/stainless steel housing, designed to meet the requirements of ground mobile and naval applications.

Operation by the Eddy Current Killed Oscillator (ECKO) principle, which is used to detect metallic objects passing in front of the sensing face. Once a target metal is detected, a trigger signal is produced which is then passed through the output conditioning circuitry to give a high or low output, depending on the sensor application.



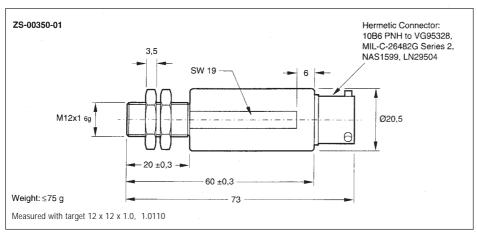
#### Features:

- All metal sensing
- Integral VG95328 (MIL-C-26482) connector
- Built In Test function (BITE)
- High level of electronics protection

#### **Typical Applications:**

- Ammunition loading systems
- Gun turret position control
- Door and hatch open/closed monitoring

#### Dimensions in mm (for reference only)



Ordering Guide	
Listing	Description
ZS-00350-01	Normally open, current sinking
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Sensing Characteristics :	Level	Specification (Note 1)
Switching function	Normally open, current sinking	
Minimum actuation distance	1.66 mm	
Maximum release distance	4.16 mm	
Switching hysteresis	$0.02 \le S_h \le 0.95 \text{ mm}$	
Reproduceability	≤ 0.042 mm	
Response time/actuation/BITE	≤ 2/10 ms	
Power on delay	≤ 100 ms	
Electrical Specification :		
Operating voltage	12 to 32 V	
Ripple	≤ 8.4 Vss at 30 Hz - 10 kHz	VG86916, 75, 4.4.2
Impact potential/voltage peaks	70 Vs at 2 ms, 50 Vs at 50 ms	VG86916, 75, 4.4.2
Current consumption without load	≤ 15 mA	., ., .
Output-		<b>'</b>
Voltage drop	≤ 2.0 V at 80 mA	
Current carrying capacity (oHmic)	≤ 80 mA	
Residual current	≤ 100 μA	
Short circuit protection	Yes	
Reverse polarity protection	Yes	+
	1 100	1
Input Characteristics :  BITE on input voltage	3.5 V ≤ V <sub>on</sub> ≤ 6.0	<u> </u>
BITE of input voltage  BITE off input voltage	$3.5 \text{ V} \leq \text{Von} \leq 6.0$ $\text{Voff} \leq 0.8 \text{ V}$	
Insertion loss		
Insertion loss	≤ 8 kOhm	
Environmental Conditions :		
Operating temperature	-35° to +63° C	
Storage temperature	-35° to +63° C	VG95332, B1. 22/23
Temperature shock	> 1° C/min	
Humidity, storage	95% at +40° C, 4x24 hours	VG95332, B1.6
Humidity, operation	95% at +44° C, 1x24 hours	VG95332, B1.5
Salt mist	1 cycle, 48 hours	VG95332, B1.14
Degree of protection	IP54	
Vibration	1.5 g <sub>eff</sub> 60-400 Hz	
	1.0 <sub>geff</sub> 400 - 2000 Hz	
Bump	60 x 10 g at 6 ms	VG95332, B1.11
Shock	18 x 500 g at 0.5 ms	VG95332, B1.16
Resistance to fuel	Aircraft fuel, oil, grease, protective agents	AWE II 10.02.92
EMC :		
Insulation resistance	≥ 10 m0hm at 500 V	
Contact resistance	≤ 5 mOhm at 100 mA	
Guided interference transmissions	GKL2, 10 kHz - 100 MHz	VG95373, LA-01-G
Guided interference voltage	GKL2, 70 KH2 100 MHz	VG95373, LA-02-G
Guided interference voltage	$\leq$ 60 Vs at 2 ms, $\leq$ 2.5 Vss at 0.03-10 kHz	VG95373, LA-03-G
Magnetic flux density	GKL2, 30 Hz - 200 kHz	VG95373, SA-01-G
Magnetic field intensity	GKL2, 30 Hz - 200 KHZ GKL2, 15 kHz - 30 MHz	VG95373, SA-02-G
Electromagnetic field intensity	GKL2, 13 MHz - 100 MHz	VG95373, SA-04-G
Immunity from noise, supply wiring	GKL4, 30 Hz - 100 HHz	VG95373, LF-01-G
Impulse stability, supply wiring	GKL4, 30 TIZ - 10 KTZ	VG95373, LF-04-G
Guided immunity	SRL4 ≤ 114 dB μA, 10 kHz - 100 MHz	DEF-STAN 59-41, DCS, 02
Electrostatic discharge	S 114 dB μA, 10 kHz - 100 MHz  GKL2	VG95373, LF-05-G
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Magnetic immunity	GKL2, 10 KHZ - 200 kHz	VG95373, SF-01-G
Electromagnetic immunity	GKL2, 30 MHz - 100 MHz	VG95373, SF-03-G
Mean Time Between Failure prediction	0.106 hrs x 10 <sup>6</sup> at GM	MIL-HDBK-217 F
manufacture production	5.155 .II 5 A 10 at 5	==