# Honeywell

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Sensing and Control Honeywell Inc. 11 West Spring Street Freeport, Illinois 61032



## ZS-00380-02

#### SENSOR INTERFACE MODULE

#### Description:

Single channel sensor interface module for use with all Honeywell two part proximity sensors. It has been designed to meet the requirements of aerospace, ground mobile and naval applications. Using surface mount technology provides miniature size and light weight.

The combined sensor and interface system is highly reliable with Mean Time Between Failure in excess of 450K hours.

#### Features:

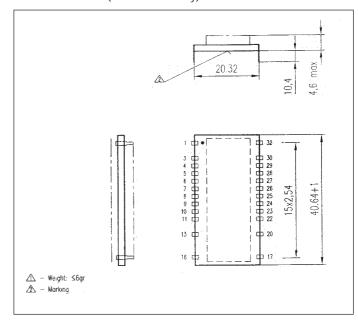
- Interfaces with all Honeywell two part proximity sensors
- Single channel
- All inputs and outputs are TTL/CMOS compatible
- Built In Test function (BITE)
- High level of electronic protection for voltage transients and EMC
- High reliability

#### **Typical Applications:**

- Aircraft landing gear controls
- Flight surface controls
- Door and hatch open/closed monitoring



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



#### Pin Allocation

No.	Name	Function
1	AB	Sensor input, reference
2	-	Omitted pin
3	TP1	Only for internal test purpose
4	TP2	Only for internal test purpose
5	V <sub>FF</sub>	Negative supply voltage
6	•	NC
7	-	NC
8	-	NC
9	-	NC
10	TP3	Only for internal test purpose
11	FAR	Input for target far simulation
12	-	Omitted pin
13	INB	Input, reference
14	-	Omitted pin
15	-	Omitted pin
16	GND	Sensor and power supply ground

No.	Name	Function
17	GND	Sensor and power supply ground
18	-	Omitted pin
19	-	Omitted pin
20	INA	Input, sensing
21	-	Omitted pin
22	NEAR	Input of target near simulation
23	V <sub>cc</sub>	Positive supply voltage
24	TP4	Only for internal test purpose
25	TP5	Only for internal test purpose
26	ANA	Analogue voltage output
27	STA	Failure indication output
28	AGND	Signal ground
29	OUT	Sensor output
30	DGND	Digital ground
31	-	Omitted pin
32	AA	Sensor input, sensing

## Specifications

Sensing Characteristics :	Level	Specification (Note 1)
Sensor Input	Compatible to all Honeywell balanced bridge sensors	
Response time, sensing	≤ 25 ms	
Response time, failure detection and BITE	≤ 150 ms	
Electrical Specifications :		
Power Supply -		
Supply voltage	± 4.5 to ± 5.5 V	
Ripple voltage	≤ 50 mVrms at 10 Hz-200 kHz	RTCA/DO-160C, 18.3.1
Supply current	Icc ≤ 16 mA, IEE ≤ 12.5	
Input -		-
On-state BITE input voltage	4.0 to 16 V	
Off-state BITE input voltage	≤ 0.8 V	
Output -		1
On state output voltage	≤ 0.8 V	
Off state leakage current	≤ 0.0 V ≤ 100 μA	
Maximum output voltage	± 100 μA + 27.6 V	<del> </del>
Load current	+ 27.0 V ≤ 10 mA	
Analogue output	0.035 to 2.50 V	
Thirdiogue output	1 0.000 to 2.00 v	L
Environmental Specifications :		
Operating temperature range	-40° to +85° C	RTCA/DO-160C, 4.5
Survival temperature	-55° to +100° C	RTCA/DO-160C, 4.5
Temperature variation	Category B	RTCA/DO-160C, 5.3
Altitude	-305 m to +21,212 m	RTCA/DO-160C, 4.6
Humidity	Category B	RTCA/DO-160C, 6.3.2
Shock	40 g @ 9 ms	MIL-STD-810D, 516.3-1
Vibration	Category Y/C	RTCA/DO-160C, 8.1/8.2
EMC Requirements :		
Induced Signal Susceptibility:		T
, ,	Cotogon, 7	DTCA/DO 140C 10 3 1
Magnetic fields, equipment	Category Z	RTCA/DO-160C, 19.3.1
Magnetic fields, sensor input	Category Z	RTCA/DO-160C, 19.3.2
Electric fields, sensor input	Category Z	RTCA/DO-160C, 19.3.3
Spikes, sensor input	500 mA relay Category Z	D6-16050-4, 7.5.2
RF Susceptibility	Colomonis	DTCA/DO 140C 20 4
Conducted, sensor input	Category V	RTCA/DO-160C, 20.4
Conducted, signal outputs	Category T	RTCA/DO-160C, 20.4
Conducted, signal outputs  Radiated, CW&AM, sensor input	Category V	RTCA/DO-160C, 20.4
	Category Y 600 V/m, 400 mHz-18 GHz	RTCA/DO-160C, 20.5
Radiated, pulsed, sensor input  Radiated, HIRF, sensor input	20-3500 V/m, 400 mHz-18 GHz	
Emissions	20-3300 WIII, 10 KHZ-10 GHZ	
AF emission, capacitive coupling	≤ 300 mVpp, 20 Hz-150 kHz	
AF emission, capacitive coupling  AF emission, inductive coupling	≤ 300 mvpp, 20 Hz-150 kHz ≤ 60 mVpp, 20 Hz-150 kHz	
RF emission, inductive coupling	≤ 60 mypp, 20 HZ-150 kHZ  Category A&Z	DTCA/DO 140C 21 2
		RTCA/D0-160C, 21.3
RF emission, radiated Lightning Induced Transient Susceptibility	Fig. 8.4-6, 8.4-7	D6-16050-4, 8.4.2
	Loyol 1.2 /1.2EA\	D6-16050-4, 7.4.1(2.3)
Sensor input	Level L2 (L25A)	' ' '
Signal inputs	Category A1E1	RTCA/DO-160C, 22.5
Signal outputs	Category A1E1	RTCA/D0-160C, 22.5
Moon Time Debuger Falling and Mallan	> F0F000 h	MIL LIDDY 247 F
Mean Time Between Failure prediction	≥ 535000 hrs	MIL-HDBK-217 F

Notes:
1. Unless otherwise stated, tested to or by similarity to Honeywell internal specifications.

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