Honeywell

Model SC3004



Transducer Display and Signal Conditioning Unit

DESCRIPTION

The SC series models are self-calibrating microprocessor-based transducer signal conditioners. Indicators are available with several different types of input channels and output channels. When used with unamplified strain gage transducers that have the signature calibration module installed, these instruments will completely self calibrate zero, span, decimal point, and engineering units automatically.

Input channels are available for a variety of transducers. Each input channel includes an excitation power supply and either an isolated voltage or isolated current analog output.

- Unamplified pressure or load
- · Pressure or load with internal voltage amplifiers
- Pressure or load with internal or external two-wire current amplifiers
- ac/ac displacement transducer
- dc/dc displacement transducer
- RTD temperature probes (Pt100)

Available output channels for the Model SC3004 include:

- Contact relays for the four standard limits or an additional four limits per card, up to 16 limits
- Isolated digital-to-analog voltage (±5 Vdc or 0 Vdc to 10 Vdc) or current (4 mA to 20 mA)

In addition to the physical input and output channels, up to eight virtual channels can be configured to assist in many potential applications.

Fourteen channel chassis

Model SC3004 can hold up to 14 physical channels in its 19 in, 2U rack-mount enclosure. Up to three quad-line displays can be installed which will display the values of up to 12 channels. Split displays can increase display capacity.

FEATURES

- One to 14 channels
- ±6 digit display
- "Sig cal" auto setup
- Up to 800 Hz frequency response, field selectable
- Pressure, load, displacement transducer, voltage, current, strain gage based sensor input
- Alarm outputs
- CE approved

Model SC3004

GENERAL SPECIFICATIONS

Characteristic	Measure
Model	SC3004
Number of physical channels	1 to 14
Number of virtual channels	8
Case material	Aluminum
Form factor	2U rack
Mounting	Rack or bench with included rubber feet
Size (W x H x D)	482,6 mm x 88,9 mm x 222,25 mm [19 in x 3.5 in x 8.75 in]
Weight	4,99 kg [11 lb]

DISPLAY SPECIFICATIONS

Characteristic	Measure
Number of displays	1, 2, or 3 (max. 12 channel display)
Number of lines/display	4
Number of characters/lines	20
Scaling	Automatic or manual setup
Max. display count	9999999
Decimal point selection	0 to 5
Display type	Vacuum/Fluorescent

ENVIRONMENTAL SPECIFICATIONS

Characteristic	Measure
Temperature, storage	-29 °C to 93 °C [-20 °F to 200 °F]
Temperature, operating	4 °C to 41 °C [40 °F to 105 °F]

SPECIAL FEATURES SPECIFICATIONS

Characteristic	Measure
Limits setup	Front panel
Limits output, standard	Open-collector
Limits output, relay output chan.	Contact relays
Limits quantity	4 std., 16 max. (contact relays)
Peak/valley hold on input chan.	Yes
Digital, isolated control inputs	4
Approvals	CE approved

COMMUNICATIONS SPECIFICATIONS

Characteristic	Measure
Serial setup and output	RS-232/RS-485
Isolation	500 V
Max. baud rate	38400

POWER SPECIFICATIONS

Characteristic	Measure		
Standard ac powered	100 Vac to 230 Vac, 47 Hz to 63 Hz		
Excitation drive	400 mA max.		

Not RoHS compliant

INPUT AMPLIFIER CARDS

All input cards include non-isolated, open collector control inputs that can be field configured for any one of the following functions: 1) track hold, 2) peak/valley hold, 3) tare on, and 4) tare off.

Input	Strain gage mil- livolts	High level volts/mA	RTD mil- livolts	ac/ac displace- ment trans- ducer
Transduc- er type	Unamplified pressure or load sen- sors	Amplified pressure or load, dc/dc displace-ment trans-ducer	Platinum 100 ohm, alpha = 0.00985	ac/ac dis- placement transducer
Ranges*	0.5 mV/V to 11 mV/V @ 5 V 0.5 mV/V to 5.5 mV/V @ 10 V	±5 Vdc or ±10 Vdc, 4 mA to 20 mA	-328 °F to 1472 °F	0.1 VRMS to 15 VRMS
Frequency response	See table on page 3	See table on page 3	See table on page 3	See table on page 3
Resolu- tion	See table on page 3	See table on page 3	See table on page 3	See table on page 3
Calibra- tion type	Shunt; mV/V; 2-, 3-, or 5-point known load	Shunt; 2-, 3-, or 5-point known load	2-, 3-, or 5-point known load	2-, 3-, or 5-point known load
Transduc- er excita- tion	5 Vdc or 10 Vdc with sense	±15 Vdc, 28 Vdc, or 12 Vdc	10 Vdc	3 Vac @ 3 kHz
Push button 100 % tare	Yes	Yes	N/A	Yes
Push button shunt test	Yes	Yes	N/A	Yes

^{*} Ranges are field programmable, except for RTD input

Transducer Display and Signal Conditioning Unit

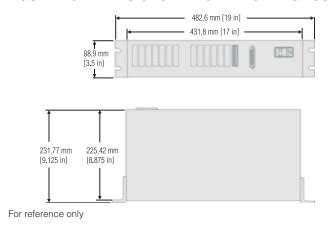
OUTPUT

Output	Strain gage mil- livolts	High level volts/mA	RTD mil- livolts	ac/ac displace- ment trans- ducer
Voltage range (field se- lectable)	5 Vdc, ±5 Vdc, 10 Vdc, ±10 Vdc			
Current range	4 mA to 20 mA			
Source	Any chan- nel	Any chan- nel	Any chan- nel	Any chan- nel
Isolation	500 V	500 V	500 V	500 V
Resolution	13 bits	13 bits	13 bits	13 bits
Frequency response	Same as input	Same as input	Same as input	Same as input

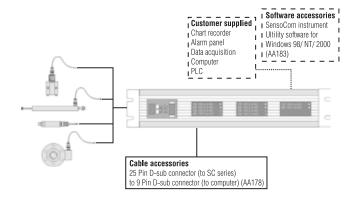
Resolution (counts) (not including min. 10 % overrange/underrange capability)

Frequency response (Hz) field selectable	Step response (ms) typi- cal	Strain gage/RTD	High level	ac/ac displace- ment trans- ducer
2 (fast mode)	40	±50000	±50000	±25000
2	440	±50000	±50000	±25000
8	110	±25000	±25000	±15000
16	55	±20000	±25000	±10000
32	28	±10000	±20000	±10000
50	16	±5000	±15000	±5000
100	8	±5000	±10000	±5000
250	3	±2000	±10000	±2000
500	2	±2000	±4000	±2000
800	2	±2000	±2500	±2000

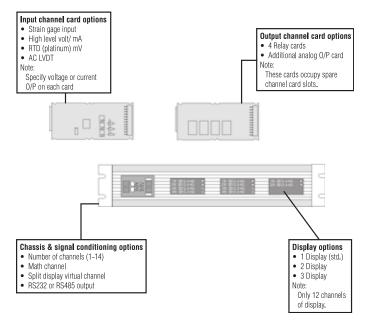
MOUNTING DIMENSIONS AND CHARACTERISTICS



TYPICAL SYSTEM DIAGRAM

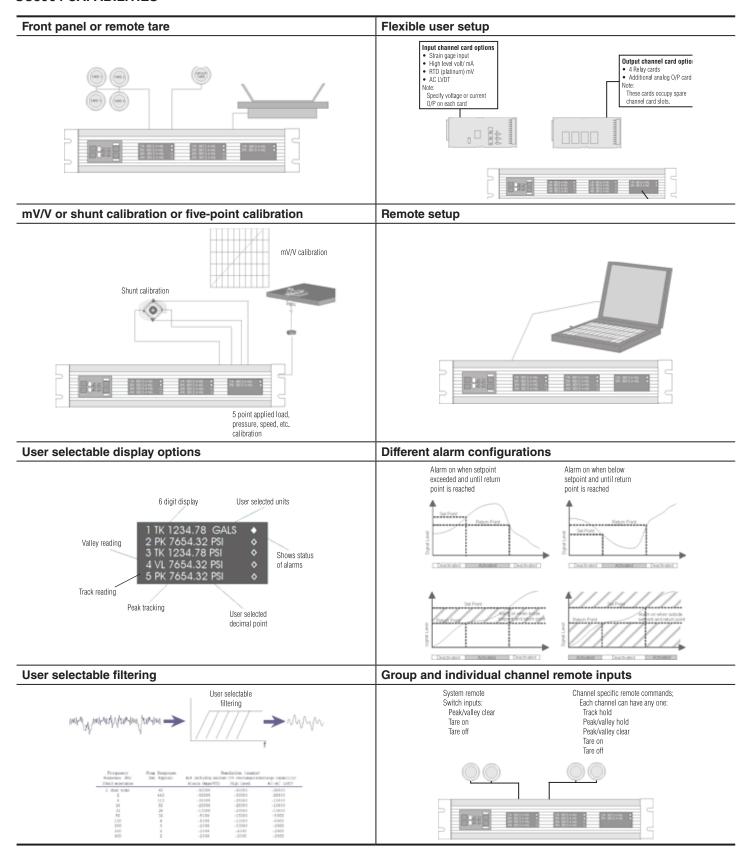


FLEXIBLE AND EXPANDABLE PLATFORM



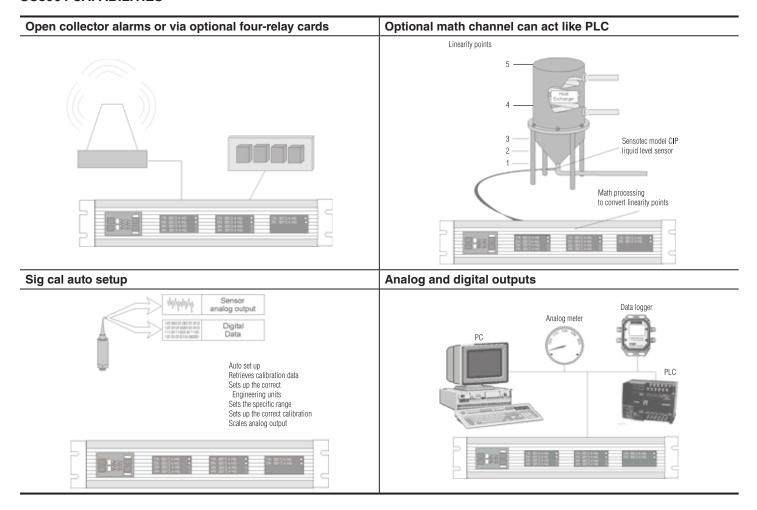
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SC3004 CAPABILITIES



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Warranty. Honeywell warrants goods of its manufacture as being free of defective materials and faulty workmanship. Honeywell's standard product warranty applies unless agreed to otherwise by Honeywell in writing; please refer to your order acknowledgement or consult your local sales office for specific warranty details. If warranted goods are returned to Honeywell during the period of coverage, Honeywell will repair or replace, at its option, without charge those items it finds defective. The foregoing is buyer's sole remedy and is in lieu of all warranties, expressed or implied, including those of merchantability and fitness for a particular purpose. In no event shall Honeywell be liable for consequential, special, or indirect damages.

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Failure to comply with these instructions could result in death or serious injury.

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