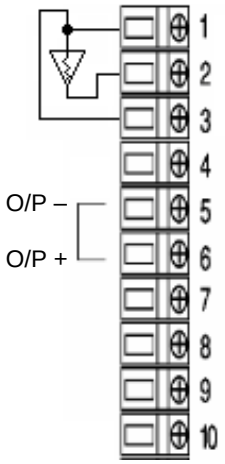
AHM720-P-RIS-SC8372 / SC8374 RTD Transmitter/Isolator

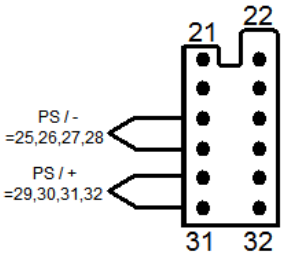
- Suitable for SIL 1 & SIL 2 rated (EN 61508) safety system (SIS) loop applications, as 1oo1 architecture (HFT:0)
- Suitable for PT100/ PT130/ PT500 or PT1000 RTD inputs
- Supply voltages:21-30Vdc
- Non-Smart / Non-uProcessor based, Type A instrument
- AMELEC Standard 10 year warranty
- RIS SC8372/8374 Series Replacement Card

RIS Back Plate TERMINATION



FRONT VIEW

Internal 24Vdc SUPPLY BUSS



TECHNICAL SPECIFICATION

FUNCTION

RTD input Signal Converter / Isolator

INPUT

Any 2, 3 or 4 wire resistance temperature sensor.
Lead resistance compensation as standard.

Typical input: 0-100°C or 0–200 °C, PT100, 3 wire connection

OUTPUT

DC current or voltage specified in the range of:
Current up to 100mA max in Sink configuration (Externally powered)
Current up 22mA max in std Source configuration (Internally powered)
Voltage: any range up to 20V max @ up to 20mA.
Typical output range: 4-20mA (Source) or 0-10Vdc

CONTROLS

Zero / Span: 15 turn potentiometers to calibrate Output.

SUPPLY VOLTAGE

Nom 24Vdc Supply Buss line within RIS Rack backplane.

TEST POINT

O/P Test Point on instrument Front fascia allows for monitoring of the output signal; 0-2Vdc ref = 0-100% range (supplied with Test Plug on flying leads)

INDICATOR

Amber Led: Power ON indicator

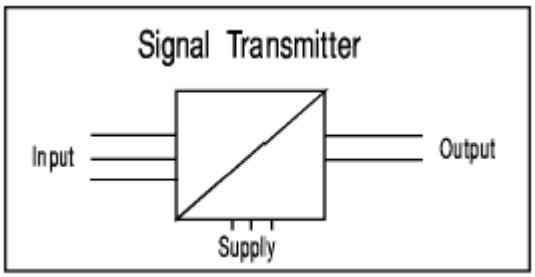
PERFORMANCE

Response time: Typically < 400mS
Accuracy/Linearity: ±0.1% span

PROTECTION

Isolation: 1000V RMS Input/Output/Supply
Internal Fuse.
Output saturation: 125%

FUNCTION BLOCK DIAGRAM



ENVIROMENTAL CONDITION

Storage temperature: - 40 to +70 °C
Operating Ambient: -15 to +55 °C
Relative Humidity: 5 to 95% RH (Non-Condensing)
EMC: 2014/30/EU, EN 61326-1:2013 (Controlled EM)

MOUNTING / DIMENSION

Card 3U high 4E wide
Mounting 19” rack / 84E wide (See rack GA for details)
Card weight < 200g

ADD ON / OPTIONS

DI: Common LCD display for local monitoring *

*(New replacement 19” Rack required for this Display option, supplied with additional ‘READ’ Buss line wired within the backplane, in order to view the Input signal & any Trip set point levels for each individual instrument within the rack onto the Common Display module).

X: Input Open Circuit response Downscale drive option.

Series SC-8300 Transmitters

General Specifications

Power Requirements: 24 Vdc, −15% to +10%

Isolation: input/output/power, 600 Vac, 1000 Vdc (input/output not applicable to Models SC-8300R, SC-8374)

Linearity: ±0.1% of span (referenced to the mV value on Model SC-8326W and to the resistance value on Models SC-8372, SC-8374)

Controls: zero and span multiturn potentiometers

Test Points: input and output test jacks on front panels

Common Mode Rejection: −120 dB at 60 Hz

Repeatability: ±0.05% of span (except SC-8326W, ±0.1% maximum)

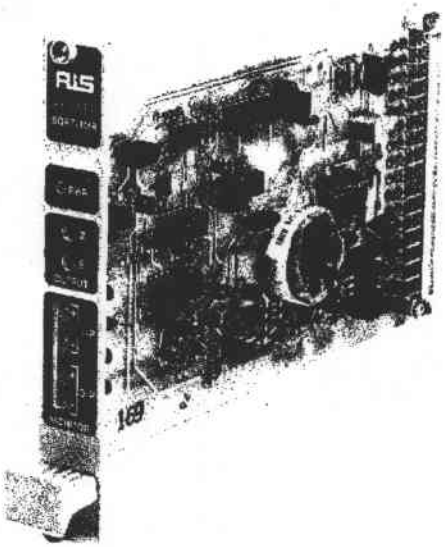
Power Consumption (Average): 100 mA maximum @ 24 Vdc

Outputs (into Output Drives):

a. 0-1 mA dc (into 0-1600Ω load)
b. 0-5 mA dc (into 0-3200Ω load)
c. 0-10 mA dc (into 0-1600Ω load)
d. 0-20 mA dc (into 0-800Ω load)
e. 4-20 mA dc (into 0-800Ω load)
f. 0-1 Vdc
g. 0-5 Vdc
h. 0-10 Vdc
i. 1-5 Vdc

Stability and Drift: ±0.033%/°C maximum; ±0.015%/°C typical

Ambient Temperature Range: −18° to 60°C (0° to 140°F)



Model Number	Function	Input Signals	Output Signals
SC-8300R	Slidewire transmitter	From 100Ω to 20,000Ω spans	0-10, 0-20, 1-5, 4-20 mA dc; 0-5, 0-10, 1-5 Vdc
SC-8302 SC-8302E*	Isolated transmitter, high level	Input / Impedance / Input / Impedance 0-1 mA / 1 KΩ / 4-20 mA / 50Ω 0-5 mA / 200Ω / 0-5 V / 500 KΩ 0-10 mA / 100Ω / 0-10 V / 1 MΩ 0-20 mA / 50Ω / 1-5 V / 400 KΩ 1-5 mA / 200Ω	
SC-8326	Isolated millivolt transmitter	10-100 mV spans with live zero of −10 to +80 mV; 5MΩ minimum impedance	
SC-8326W	Isolated thermocouple transmitter	T/C types E, J, K, R, S, T, B, with integral cold-junction compensation; 10-100 mV spans with live zero of −10 to +80 mV	
SC-8327	Isolated thermocouple linearizer transmitter (linearized to temperature)		
SC-8330 SC-8330E*	Square root transmitter	Same as Model SC-8302; zero dropout adjustment is 0.25% to +10% of input span	
SC-8350	Frequency transmitter	Frequency input spans from 5.0 Hz to 24,000 Hz (see notes)	
SC-8372	Isolated RTD transmitter	Any RTD: 10-1000 ohm span; 2, 3, 4-wire configurations; platinum and nickel RTD linearization available	
SC-8374	Non-isolated RTD transmitter		
SC-8391	Strain gauge power supply (for use with SC-8326)	24 Vdc prime power	2 each, 0-10 Vdc adjustable excitation voltage for 2 separate strain gauges

*Option "E"—24 Vdc @ 20 mA capability supplied for 2-wire transmitter.

NOTES: 1. Input impedance = 100 KΩ minimum for input amplitude greater than 600 mV peak or 50 KΩ minimum for input amplitude less than 600 mV peak. 2. Maximum allowable input amplitude is 26 V RMS; minimum required input amplitude is 25 mV RMS in the frequency range 5 Hz-1 kHz *and* 100 mV RMS in the frequency range 1 kHz-24 kHz. 3. All spans are zero based. Linearity specification is degraded if: input frequency <10% of span for spans of 50 Hz or less *or* input frequency <1% of span for spans over 50 Hz.

Input/Output & Wiring Data