SEM1633 RTD INPUT DIN RAIL TRIP AMPLIFIER

- **RTD, Pt100, SLIDE-WIRE, OHMS, KTY SERIES**
- **DUAL RELAY OUTPUTS 250 VAC, 30 VDC 1 A**
- **ADJUSTABLE INPUT FILTER**
- **SIMPLE CONFIGURATION VIA USB PORT**
- **FREE CONFIGURATION SOFTWARE**

INTRODUCTION

The SEM1633 provides an accurate alarm/switching function when used with RTD or slide-wire sensors.
The flexible design allows for the use of any resistive sensor within the range of (10 to 10500) Ohms. This means that in the standard product Pt100, 500, 1000, Ni or Cu sensors, as well as slide wire sensors up to 100 KΩ, can be accommodated. Other sensor characteristics, or a 22-point linearisation characteristic (for slide-wire or linear resistance), can be downloaded into the product, enabling you to adapt it exactly to your application.
Relay outputs are independently configured for action, set-point and dead-band.
Operating voltages are (10 to 48) V dc and (10 to 32) V ac.
A USB interface is fitted for quick and easy configuration.

FEATURE HIGHLIGHTS

TEMPERATURE SENSOR BURN-OUT DETECTION
If a temperature sensor wire is broken or becomes disconnected, the SEM1633 relays will automatically trip and the LED illuminate.

STABILITY
The SEM1633 DIN rail trip amplifier incorporates the latest digital technology to ensure accurate, low-drift performance.

FRONT PANEL LED INDICATION
The state LED indicates out of range input during normal operation.
LEDs are provided for each relay and will illuminate in alarm condition. “On” if the relay is in an alarm condition.

USB CONFIGURATION
The SEM1633 is quick and easy to set up using a standard type USB lead and the free-of-charge configuration software. 22-point linearisation for slide-wire and resistance inputs is available.

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ELECTRICAL INPUT		**SPECIFICATIONS @20°C**
Type	**Range**	**Accuracy/Stability**
Slide Wire (0 to 100) % Travel	Wire resistance (1 to 100) KΩ	± 0.1 %
Resistance Ohms	(10 to 500) Ω (500 to 2500) Ω (2500 to 10500) Ω	± 0.055 Ω ± 0.5 Ω ±10.0 Ω
Thermal drift	(10 to 500) Ω (500 to 2500) Ω (2500 to 10500) Ω	Ω 0.013 Ω/°C Ω 0.063 Ω/°C Ω 0.27 Ω/°C
Excitation current		< 200 uA

SENSOR INPUT **RTD**		**SPECIFICATIONS @20°C**
Type	**Range**	**Accuracy/Stability**
Pt100 (IEC)	(-200 to 850) °C	± 0.2°C ± (0.05% of reading) (Plus sensor error)
Pt500 (IEC)	(-200 to 850) °C	
Pt1000 (IEC)	(-200 to 600) °C	
Ni100	(-60 to 180) °C	
Ni120	(-70 to 180) °C	
Ni1000	(-40 to 150) °C	
Cu53	(-40 to 180) °C	
Cu100	(-80 to 260) °C	
Cu1000	(-80 to 260) °C	
Lead effect	Max lead resistance 20 Ω per leg	0.002 °C / Ω
Library contains more (standards/types) Including silicon sensors (KTY Series)		
Temperature stability: Refer to resistance stability values for thermal effect		

OUTPUT **Dual relays**		**SPECIFICATIONS @20°C**
Type/Function	**Range/Description**	**Accuracy/Stability/Notes**
Independent relays	Relay 1, Relay 2	Form C contacts
Contact rating	(250 V ac rms @ 1A ; 30 V dc @ 1 A)	Resistive Load
Protection		Use 2.0A (T) fuse fitted externally

USB USER INTERFACE		
Type/Function	**Range/Description**	**Notes**
Configuration hardware	USB Lead	USB A to Mini B
Configuration software	USBSpeedLink	Download www.status.co.uk
Temperature mode configuration	Sensor type	RTD list
	Sensor units	°C or °F
Process mode configuration	Input type	Ohms or slide wire
	Process units	User engineering units, 4 characters
	User-linearisation	(2 to 22) segments
Output configuration Relay 1, Relay 2	Set-point, dead-band Alarm type	Any value in range High, Low (Inverted), Deviation band
Tag number		20 characters
Filter	(0 to 100) s time constant	Adjustable
Read live-data	Temperature/process	°C or °F or user units for process
Save/open configuration		From/to file

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GENERAL	
Function	**Description**
Galvanic isolation	Input to output tested at 500 VDC. Working Isolation = 48 VDC
Supply voltage	(10 to 48) VDC, (10 to 32) VAC Protected by internal 500 mA resettable fuse
Supply power	10 mA maximum
Response time	< 500 ms to reach 95 % of final value
Start-up time	Start-up time < 3 s
Warm up time	60 s
Protection	Reverse connection and over-voltage protection. Max over-voltage current 100 mA
State LED	On (Red) = input out of range
LEDs Relay 1, Relay 2	Off = Not in alarm On (Red) = In alarm.

ENVIRONMENTAL	
Function	**Description**
Ambient temperature	Operating/Storage (-20 to 70) °C
Ambient Humidity	Operating/Storage (10 to 95) %RH non-condensing
Protection requirement	>= IP65 recommended
USB configuration ambient	(10 to 30) °C

MECHANICAL	
Function	**Description**
Dimensions	17.5 mm width, 56.4 mm depth from rail, 90 mm height
Enclosure	DIN rail mount
Material	Polymide 6.6 self-extinguishing: Grey
Connections	Screw terminals 2.5 mm wire maximum
Weight	60 g approximate

APPROVALS	
EMC	BS EN 61326: Note: Sensor input wires to be less than 30 m to comply
Ingress protection	BS EN 60529
R0HS	Directive 2011/65/EU

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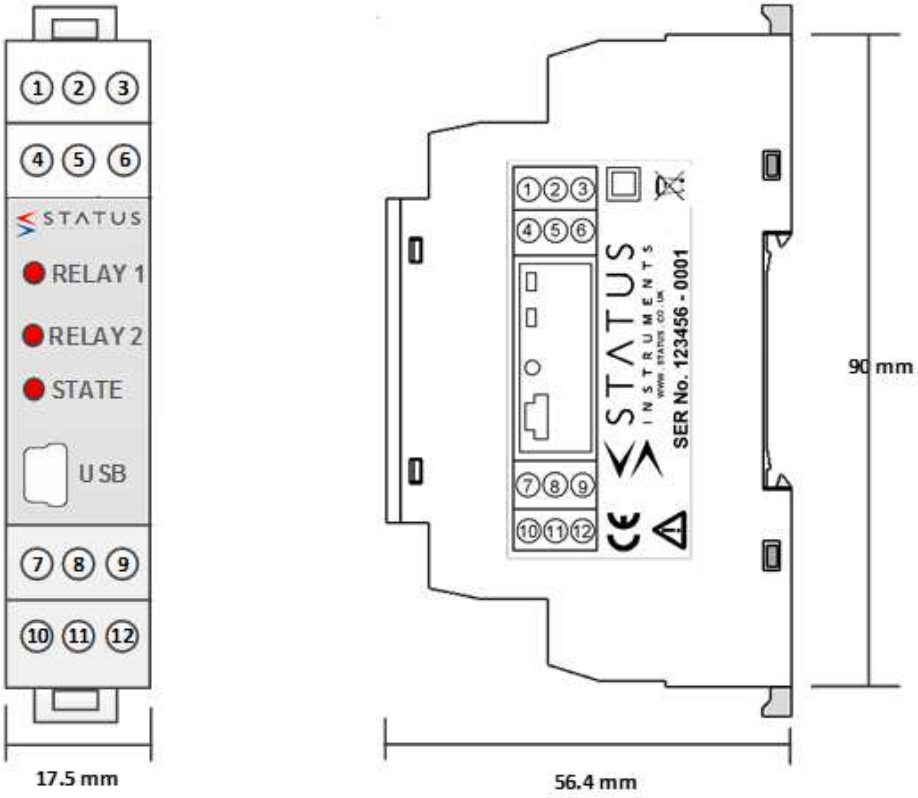
MECHANICAL



ORDER CODE	SEM1633

ACCESSORIES	
Configuration software	USBSpeedLink (free of charge from www.status.co.uk)
Configuration lead	USB A to Mini B lead
Probe options	Please refer to www.status.co.uk

To maintain full accuracy annual calibration is required. Contact support@status.co.uk for details.
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Status Instruments Ltd
Status Business Park
Gannaway Lane, Tewkesbury
Gloucestershire, UK
GL20 8FD

Tel: +44 (0)1684 296818
Fax: +44 (0)1684 293746
Email: sales@status.co.uk
Website: www.status.co.uk