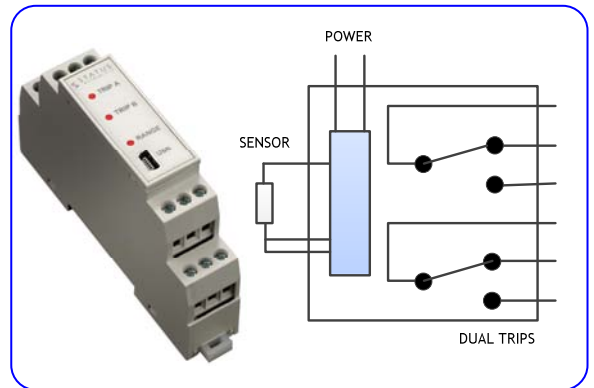


# SMART RTD/RESISTANCE/SLIDE WIRE DUAL ALARM UNIT

## SEM1633

- SUITABLE FOR RTD OR SLIDEWIRE SENSORS
- HIGH, LOW, DEVIATION AND INVERT TRIP ACTIONS
- TRIP RATING 250 V AC 1A ; 30 V DC 1A
- POWERED ( 10 to 32 ) V AC / ( 10 to 48 ) V DC SUPPLY
- FILTER, USER LINEARISATION FUNCTIONS
- USB PROGRAMMABLE



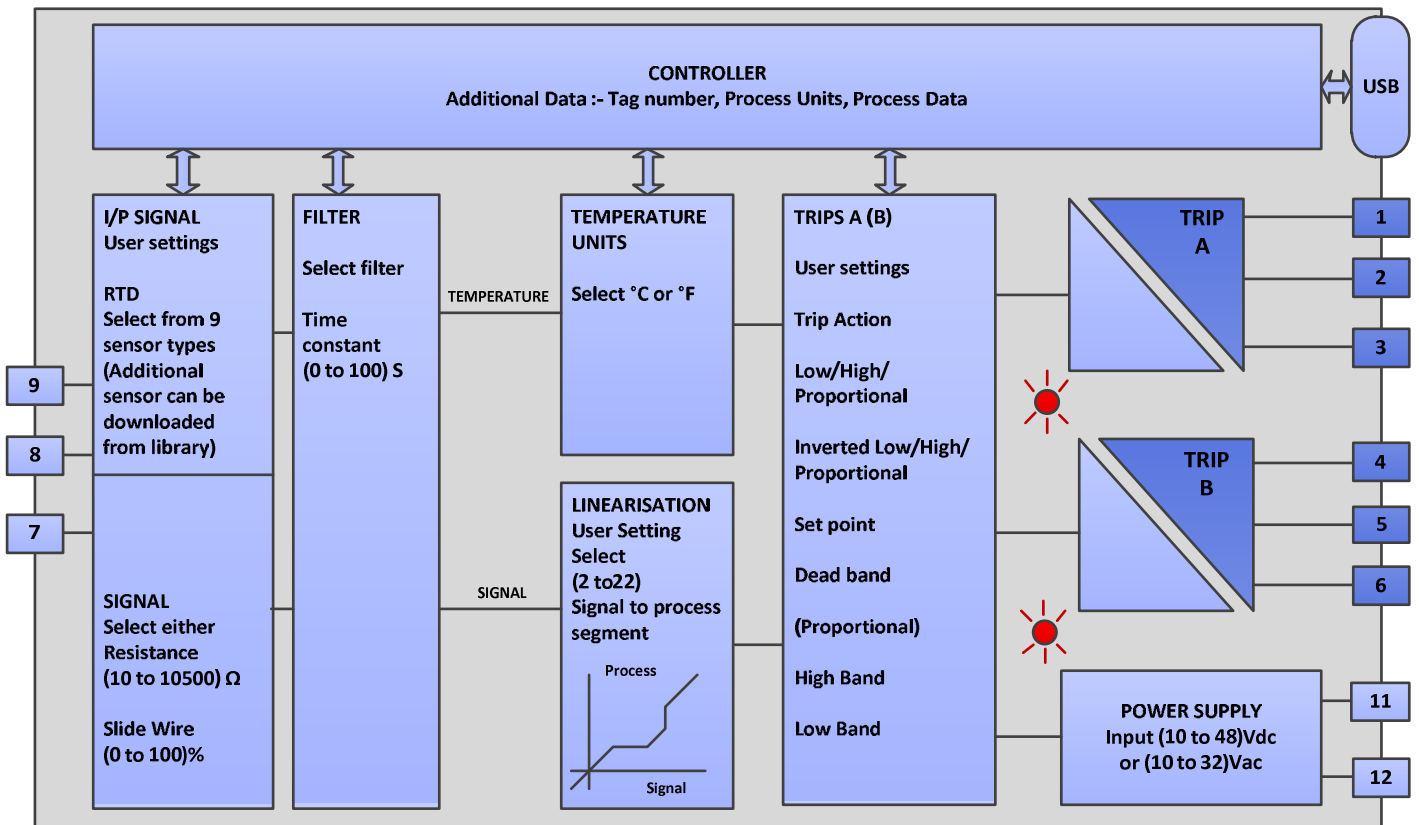
## INTRODUCTION

The SEM1633 provides an accurate alarm / switching function when used with RTD or Slidewire 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 K, can be accommodated. Other sensor characteristics or your own 22 point linearisation characteristic (for slidewire or linear resistance) can be downloaded into the product enabling you to adapt it exactly to your application.

Trip outputs are independently configured for action, set point and dead band. Six actions are provided, normal High/Low/Deviation and inverted High/Low/Deviation.

For ease of use, a high efficiency switch mode power supply is fitted as standard and does not require any adjustment between ac or dc applications. Operating voltages are (10 to 48) V dc and (10 to 32) V ac

Our USB interface is fitted for quick and easy configuration. Just connect a standard USB cable between the SEM1633 and your PC. Using our free configuration software, your PC will automatically upload the existing configuration data and guide you through any changes you wish to make. To further help save time, the SEM1633 does not need to be wired to a power supply during the configuration process, it is powered via the USB interface from your PC.



# SMART RTD/RESISTANCE/SLIDE WIRE DUAL ALARM UNIT

## SPECIFICATION @20 °C

### INPUT

Type RTD, Resistance, Slide Wire  
 Maximum Range (0 to 10000) Ω, (0 to 100) % slide Wire (1 to 100) KΩ Pot  
 Standard RTD PT100, PT500, PT1000, Cu100, Cu1000, Ni100, Ni120, Ni1000, Cu53, library  
 Update 300 mS  
 Accuracy See below "SENSORS RTD & SIGNAL RESISTANCE/SLIDE WIRE"  
 Warm up time 1 minute.

### TRIP A

Type Form C relay contacts  
 Response time < 500 mS to reach 95 % of final value; Start up time < 3 s  
 Contact rating 250 V ac rms @ 1 A; 30 V dc @ 1 A resistive load  
 Trip Actions High-Low-Deviation; Inverted High-Low-Deviation.  
 Indication Trip A on - Red LED  
 Protection Protect with 2.0A (T) fuse fitted externally.  
 Isolation 3750 V ac trip A to input; trip A to trip B

### TRIP B

Type Form C relay contacts  
 Response time < 500 mS to reach 95 % of final value; Start up time < 3 s  
 Contact rating 250 V ac rms @ 1 A; 30 V dc @ 1 A resistive load  
 Trip Actions High-Low-Deviation; Inverted High-Low-Deviation.  
 Indication Trip B on - Red LED  
 Protection Protect with 2.0 A (T) fuse fitted externally.  
 Isolation 3750 V ac trip A to input; trip A to trip B

### SUPPLY

Range (10 to 48) VDC, (10 to 32) VAC Protected by internal 500 mA resettable fuse.  
 Power < 1 W Full Power

### USER INTERFACE

Type USB 2.0  
 Baud rate 19,200 baud  
 Equipment PC running windows XP or later, USB cable.

### USER INTERFACE FUNCTIONS

Scaling User signal to process value scaling, for simplified setup.  
 Filter Adjustable time constant (0 to 100) Seconds.  
 User Linearisation (Profile) (2 to 22) segments Ω (slide wire) to process.  
 Process Units 4 Characters (signal input only)  
 Temperature units °C or °F (RTD inputs only)  
 Tag Number 20 Characters  
 Trip Action Individual actions for trip A and B  
 Set point Individual set points for trip A and B  
 Dead Band Individual dead band settings for trip A and B  
 High/low Band Individual High/Low Band settings for trip A and B.

### ENVIRONMENT

Operating Ambient (-30 to 70) °C ; (10 to 90) %RH (non condensing)  
 Storage Ambient (-30 to 70) °C ; (10 to 90) %RH (non condensing)  
 Configuration Ambient (10 to 30) °C  
 Installation Enclosure DIN Rail enclosure offering Protection >= IP65.

### APPROVALS

CE  
 BS EN 61326  
 BS EN 61010-1 Installation category II pollution degree.  
 The product is classed as "PERMANENTLY CONNECTED EQUIPMENT".

### MECHANICAL

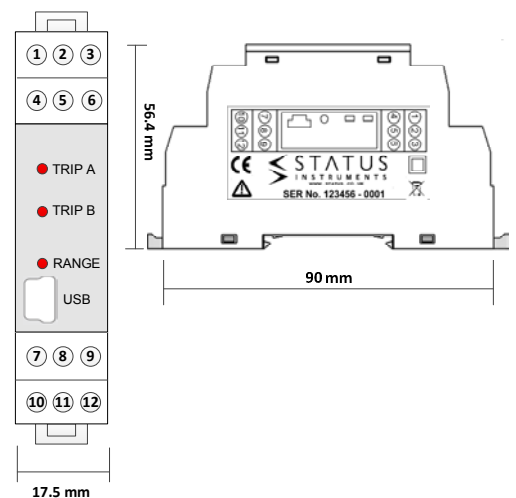
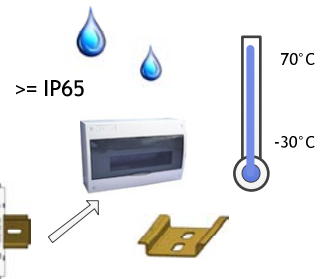
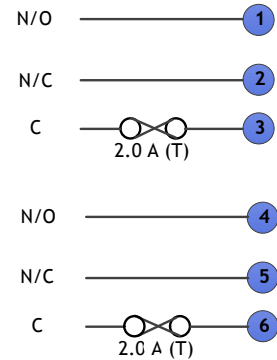
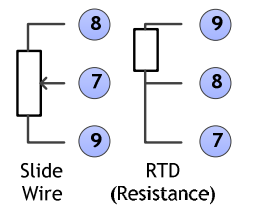
Style DIN 43880 (1 Module)  
 Colour Grey  
 Material Polyimide 6.6 self extinguishing  
 Terminals 2.5 mm Maximum  
 Weight < 70 grams

### SENSORS RTD

Platinum IEC Accuracy = 0.2 °C + (0.05% of reading)  
 Platinum IPTS-68 Pt100 (-200 to 850), Pt500 (-200 to 750), Pt1000 (-200 to 600)  
 Ni100 DIN 0.00618 Pt100 (0.00391) + Pt100 (0.00392) (-200 to 630)  
 Ni120 0.00672 (-60 to 180)  
 Ni 1000 (-80 to 260)  
 Ni1000 Tk5000 (-60 to 180)  
 Ni 507.5 (-50 to 150)  
 Ni 604 (-80 to 360)  
 Cu 53 (-200 to 200)  
 Cu100 0.00427 (-50 to 180)  
 Cu1000 (-80 to 260)  
 Silicon (-80 to 260)  
 KTY81-110 -120-121-122-150-210-220-221-222-250 (-55 to 175)  
 KTY82-110 -120-121-122-150-210-220-221-222-250 (-55 to 175)  
 KTY81-151, KTY82-151, KTY83-210-220-250-121-122 (-55 to 175)  
 KTY84-130-150 (-40 to 300)

### SIGNAL RESISTANCE/SLIDE WIRE

Slide wire Pot range (1 to 100) KΩ, Signal (0 to 100) %, accuracy 0.05%  
 Resistance Full range 10 to 10500 Ω, Accuracy (10 to 500) Ω ± 0.055Ω  
 (500 to 2500) Ω ± 0.5 Ω, (2500 to 10500) Ω ± 10.0 Ω.



Order code: SEM1633

Status Instruments Ltd  
 Green Lane Business Park  
 Green Lane, Tewkesbury  
 Gloucestershire, UK  
 GL20 8DE

Tel: +44 (0)1684 296818  
 Fax: +44 (0)1684 293746  
 Email: sales@status.co.uk  
 Website: www.status.co.uk  
 D2539-01-02 1633 DATA SHEET

