SEM1636

USER INSTRUCTIONS

Important - Please read this document before installing.

Every effort has been taken to ensure the accuracy of this document; however, we do not accept responsibility for damage, injury, loss or expense resulting from errors and omissions, and we reserve the right of amendment without notice.

IMPORTANT – CE, UKCA & SAFETY REQUIREMENTS

Product must be DIN rail mounted, inside a suitable enclosure providing environmental protection to IP65 or greater.

The product contains no serviceable parts, or internal adjustments. No attempt must be made to repair this product. Faulty units must be returned to supplier for repair.
Before attempting any electrical connection work, please ensure all supplies are switched off.

ABSOLUTE MAXIMUM CONDITIONS (To exceed may cause damage to the unit).	
Supply (SELV)	± 50 mA dc
Relay contacts (form C)	250 Vac 50/60 Hz @ 1 A or 30 Vdc @ 1 A (non-inductive loads)
Isolation: Input to Relays	3.75 kV
Relay 1 to Relay 2	3.75 kV
Environmental protection	IP65 or greater required
Ambient	Temperature (-20 to 70) °C RH (10 to 95) % non-condensing

Important – Read this document before installing.

1~DESCRIPTION.

The SEM1636 monitors a (4 to 20) mA loop and provides two independent change-over trip contacts set to alarm at any point within the (4 to 20) mA range. The SEM1636 requires no additional power connection as power is derived from the (4 to 20) mA loop. Relay outputs are independently configured for action and set-point, dead-band. Six actions are provided: normal, High/Low/Deviation band and inverted High/Low/Deviation band. Additional maths, filter and user-linearisation functions are provided.

2~RECEIVING AND UNPACKING.

Please inspect the packaging and instrument thoroughly for any signs of transit damage. If the instrument has been damaged, please notify your supplier immediately.

3~SPECIFICATION.

Refer to the datasheet for full specification. Download at www.status.co.uk

4~INSTALLATION AND WIRING.

Important safety requirements

This equipment is suitable for environment Installation category II pollution degree 1 and is classed as "PERMANENTLY CONNECTED EQUIPMENT". The equipment is intended for industrial and commercial application only and not suitable for domestic or medical use.

The equipment must be mounted inside an enclosure that provides protection >= IP65. In NORMAL USE, the equipment will only be accessed for maintenance by qualified personnel. Please ensure the equipment is mounted vertically with terminals (10 - 12) at the bottom. This will provide maximum ventilation. This equipment may generate heat, ensure the enclosure size is adequate to dissipate heat. Be sure to consider any other equipment inside the enclosure.

The equipment surfaces may be cleaned with a damp cloth. Use a mild detergent/water on a damp cloth. Ensure the supply and trip circuits are OFF before cleaning and on completion of cleaning the equipment is completely dry before the supply is turned back ON.

To keep the safety distances, the relay contacts on the device must not be connected to both hazardous and non-hazardous voltage.

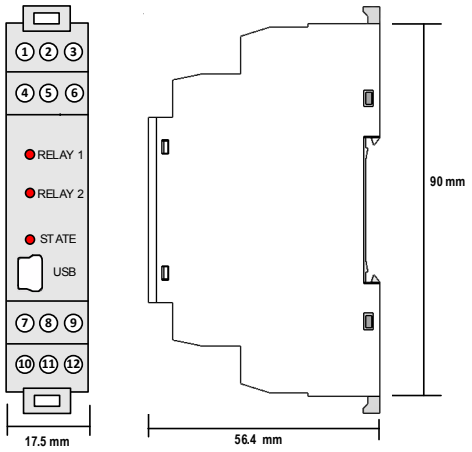
This equipment must be installed by a qualified person. All electrical wiring must be carried out in accordance with the appropriate regulations for the place of installation.

Relay 1, 2 outputs are isolated from each other. Max switching current (1 A @ 240 Vac, 1 A @ 30 Vdc) Non-Inductive. Fuse relay circuits with a suitable 2 A (T) fuse installed close the equipment. If a HAZARDOUS VOLTAGE is being switched, then an isolation switch must also be installed close to the equipment with the off position clearly marked.

Latching type relays are used; on loss of input signal/power, a set-low alarm will be recognised and held.

4.1~MECHANICAL.

Dimensions in mm



Style	DIN 43880 (1 module width)
Material	Polyamide 6.6 self extinguishing
Terminals	Screw terminal
Cable	2.5 mm Max
Colour	Grey

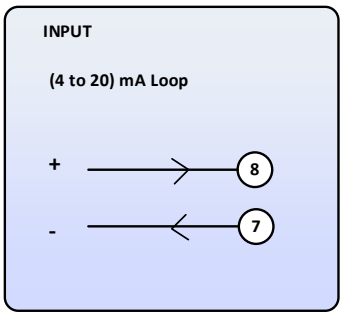
The equipment must be mounted on a DIN rail style DIN EN50022 inside a plastic or metal enclosure with a protection level >= IP65. All wiring must be secured. Maximum cable sizes 2.5 mm². Connection is via screw clamp terminals.

4.2~ELECTRICAL CONNECTIONS

For wiring connections refer to the side label on the SEM1636 and this document.
Supply (4 to 20) mA Signal SELV
A minimum of 5 V across the supply pins is required for correct operation of the SEM1636.
Ensure enough voltage is available in the supply loop to drive the total loop load.

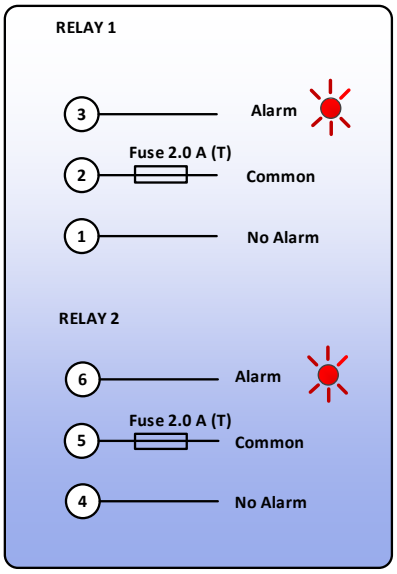
Recommended to be used with a 30 mA fast blow fuse or similar.

SEM1636 Input Connections



4.2~ELECTRICAL (continued)

SEM1636 Relay Connections



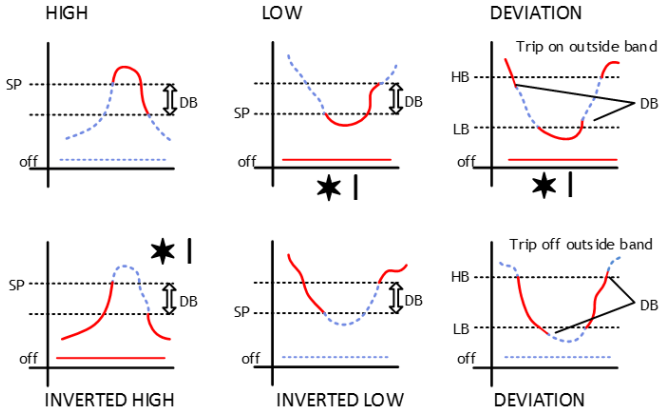
4.3~RELAYS

Each Relay (1 and 2) has a LED that will indicate RED when the relay in an alarm/trip condition.

Note: If the loop current falls below approximately 3 mA it is possible for the relay to be on (in alarm condition) but for the LED not to be.

ALARM ACTION	CLOSED CONTACT	
	RELAY 1	RELAY 2
RELAY ON	2 - 3	5 - 6
RELAY OFF	2 - 1	5 - 4

KEY
SP = Set point
DB = Dead Band
HB = High Band
LB = Low Band
Off = Loop current off



***1 Latching** type relays are used; on loss of input signal/power, a set-low alarm will be recognised and held.

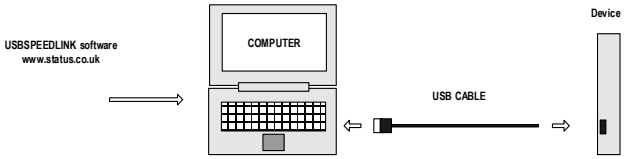
5~USER CONFIGURATION.

The SEM1636 can be configured using a Windows PC.
Live input and output values can also be viewed on a PC or a suitable Android device.
USB configuration can be performed without the supply being connected. For safety reasons, use a 24 Vdc for functional test of unit trips prior to fixed installation. The following operations should only be carried out on a disconnected device and under ESD safe conditions: General mounting, connection and disconnection of wires.

5.1~PC CONFIGURATION USBSpeedLink Software

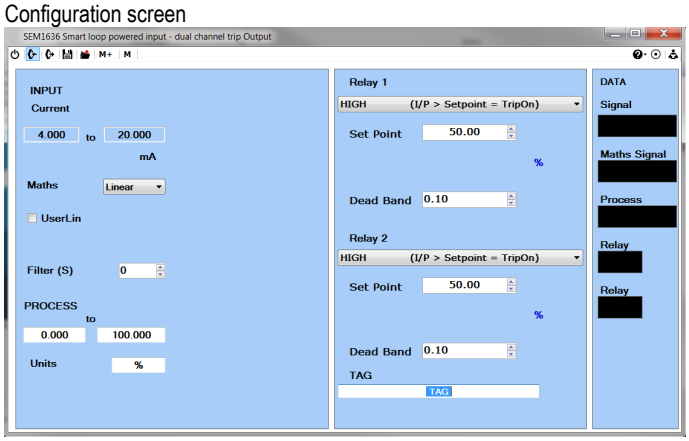
⚠ **During** configuration the equipment takes its power from the USB port, therefore no power connection is required. The equipment can be configured whilst powered but the computer used must be portable battery-powered or a USB isolator should be used to isolate the SEM1636 from the supply earth to avoid grounded earth loop effects.

Observe any warning information given in the software.



PC Configuration steps	
1	Download and install the USBSpeedLink software from www.status.co.uk
2	Run the software and open to the correct screen for the SEM1636
3	Connect to the PC using an A to Mini B USB lead. *1
4	Read the SEM1636 configuration into the software.
5	Configure the device to the required settings for operation.
5.1	Configuration options. Filter value in seconds Process range and engineering units Optional: Maths and user linearisation Relays: Alarm action, Set-point, Dead band Tag
5.2	Engineering units for process output value
6	Read data: Live data can be displayed showing input and output values. This can only be done if the device is powered as well as connected to the software via the USB lead. *3
7	Write/Save the configuration to the device. *2
*1 Once only, on the first time connecting to the SEM1636, drivers will install to the PC, allow time for this before proceeding.	
*2 The configuration is not saved onto the device unless the configuration screen is sent using the "Send Configuration" menu button.	
*3 The SEM1636 can be configured whilst connected and powered, but a portable battery powered computer or USB isolator must be used to avoid the effects of ground loops.	

Configuration screen



5.2~ANDROID MONITORING USBView Software

Using a suitable OTG USB lead to connect the SEM1636 to an Android device, live data reading can be taken.
The USBView app. can display input value, output condition and the Tag information.

Windows and Android software can be downloaded free of charge from www.status.co.uk

www.status.co.uk
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