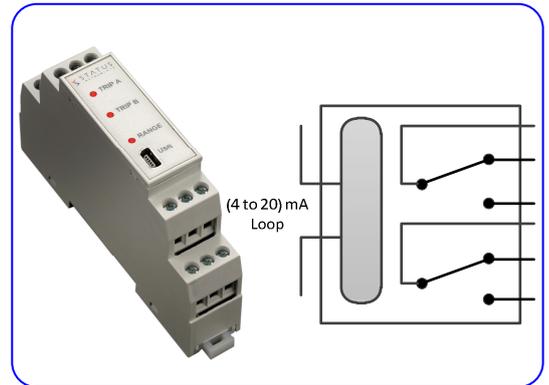# SMART (4 to 20) mA LOOP POWERED DUAL TRIP AMPLIFIER
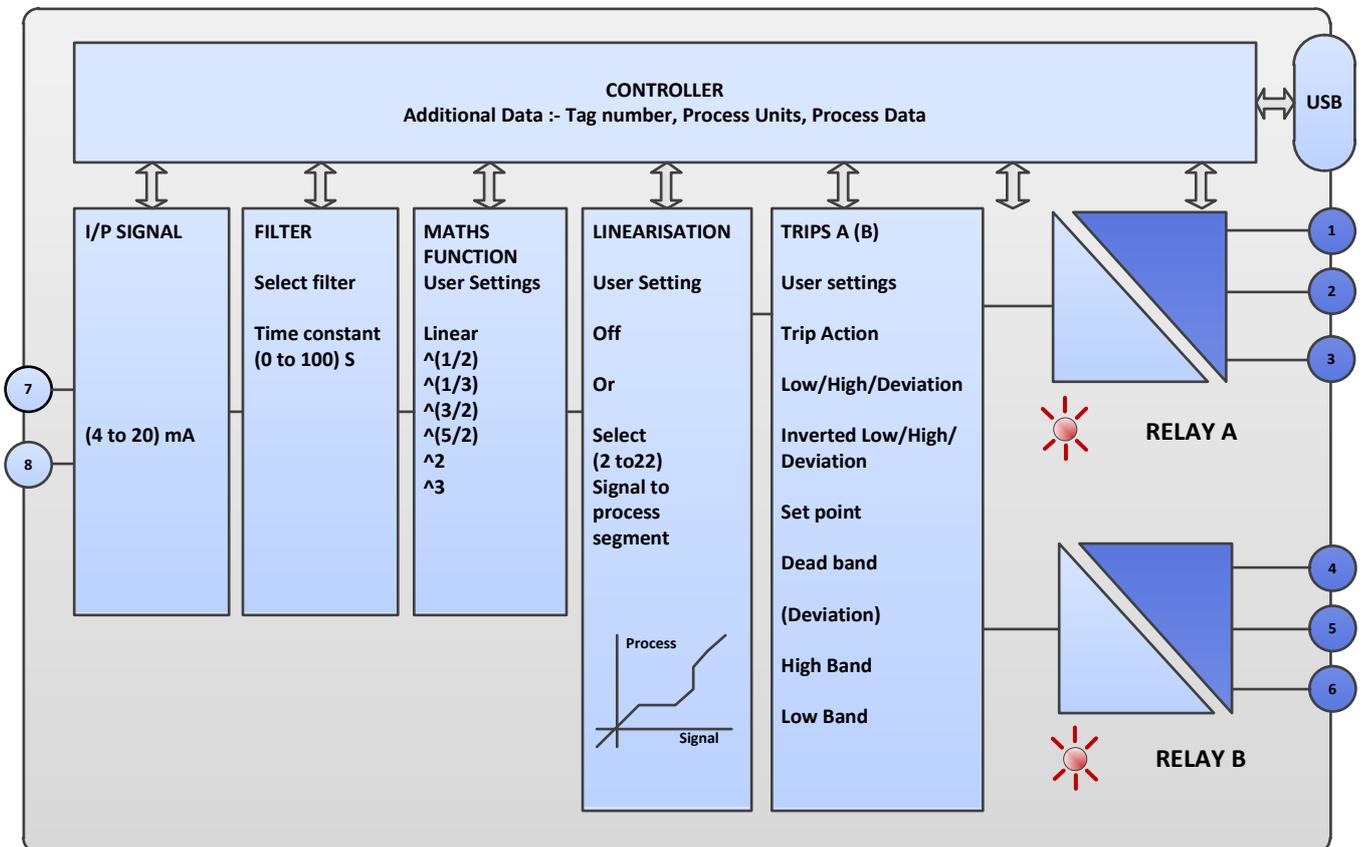
SEM1636

> DUAL TRIP OUTPUT WITH INDEPENDENT SET ACTIONS

> POWERED FROM (4 to 20) mA LOOP – VOLTAGE BURDEN 5 VOLTS

> TRIP RATING 250V AC 1A ; 30V DC 1A

> NORMAL AND INVERTED LOW/HIGH/DEVIATION TRIP ACTIONS

> OPTIONAL FILTER AND USER LINEARISATION FUNCTIONS

> LED TRIP INDICATION, FAIL ON OR FAIL OFF TRIP ACTIONS

> CONFIGURATION USING USB PORT

(4 to 20) mA Loop

> ## INTRODUCTION

The SEM1636 monitors a (4 to 20) mA loop and provides two independent change over trip contacts set to trip 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. Trip outputs are independently configured for action and set point, dead band. Six actions are provided normal High/Low/Deviation and inverted High/Low/Deviation. Additional math, filter and user linearisation functions are provided.

Designed for ease of use, our USB interface is fitted for quick and easy configuration. Just connect a standard USB cable between the SEM1636 and your PC. Using our free configuration software, the user can configure the device to the required application. To further help save time, the SEM1636 does not need to be wired to a power supply during the configuration process, it is powered via the USB interface from your PC.
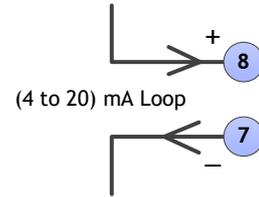
CONTROLLER
Additional Data :- Tag number, Process Units, Process Data

USB

I/P SIGNAL

(4 to 20) mA

7

8

FILTER

Select filter

Time constant (0 to 100) S

MATHS FUNCTION
User Settings

Linear
^(1/2)
^(1/3)
^(3/2)
^(5/2)
^2
^3

LINEARISATION

User Setting

Off

Or

Select
(2 to22)
Signal to process segment

Process

Signal

TRIPS A (B)

User settings

Trip Action

Low/High/Deviation

Inverted Low/High/ Deviation

Set point

Dead band

(Deviation)

High Band

Low Band

RELAY A

1
2
3

RELAY B

4
5
6

SMART (4 to 20) mA LOOP POWERED DUAL TRIP AMPLIFIER

➤ SPECIFICATION @20 °C

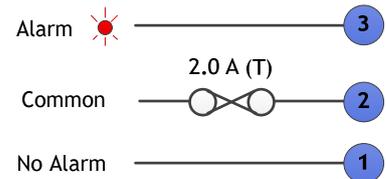### SPECIFICATION @ 20˚C

INPUT

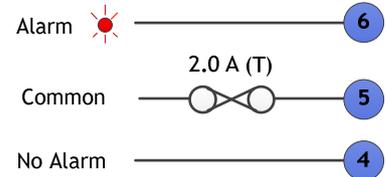|	
Type	(4 to 20) mA current loop.
Maximum Range	(3.8 to 22) mA Operating ±50 mA Maximum
Voltage Burden	5 Volts Max.
Update	100 mS
Accuracy	± 0.02 % of full scale deviation
Protection	Reverse connection and over voltage.
Temp. Coefficient	±0.002 % / ˚C

TRIP A

Type	Form C relay contacts
Contact rating	250 V ac rms @ 1A ; 30 V dc @ 1 A resistive load
Trip Actions	High-Low-Deviation ; Inverted High-Low-Deviation.
Connection	Screw Terminal
Indication	Trip A on – Red LED
Protection	Protect with externally fitted 2.0 A (T) fuse
Isolation	3750 V ac trip A to inputs ; trip A to trip B

TRIP B

Type	Form C relay contacts
Contact rating	250 V ac rms @ 1 A ; 30 V dc @ 1 A resistive load
Trip Actions	High-Low-Deviation ; Inverted High-Low-Deviation.
Connection	Screw Terminal
Indication	Trip B on – Red LED
Protection	Protect with externally fitted 2.0 A (T) fuse
Isolation	3750 V ac trip B to inputs ; trip A to trip B

USER INTERFACE (CONFIGURATION ONLY)

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

USER INTERFACE FUNCTIONS

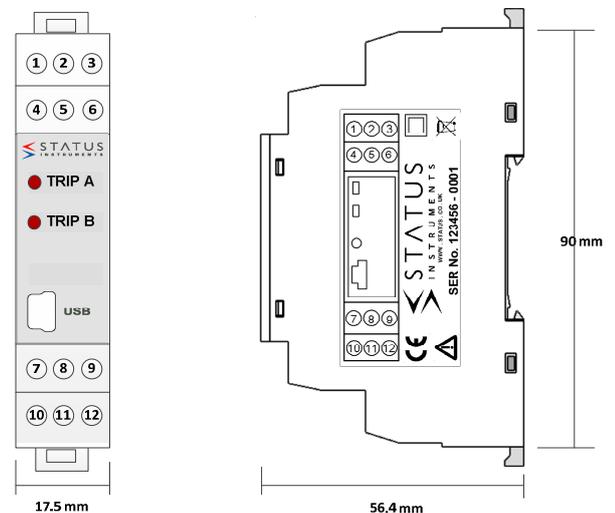|	
Scaling	User mA to process value scaling, for simplified setup.
Filter	Adjustable time constant (0 to 100) Seconds.
Math	Functions Linear, ^(1/2), ^(1/3), ^(3/2), ^(5/2), ^2, ^3.
User Linearisation (Profile)	(2 to 22) segments mA to process.
Process Units	4 Characters
Tag Number	20 Characters
Trip 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	(-20 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	Polymide 6.6 self extinguishing
Terminals	2.5 mm Maximum
Weight	< 70 grams

Order code:	SEM1636

(4 to 20) mA Loop — terminals + 8 / − 7

Alarm — 3
2.0 A (T)
Common — 2
No Alarm — 1

Alarm — 6
2.0 A (T)
Common — 5
No Alarm — 4

>= IP65

70°C
-30°C

90 mm
17.5 mm
56.4 mm

TRIP A
TRIP B
USB

SER No. 123456 - 0001

STATUS INSTRUMENTS

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