Universal Transmitter SL340

The SL340 is a field configurable isolating transmitter/converter providing true 3-way galvanic isolation up to 2500Vrms for use with industrial probes and millivolt signals. Input and output are set using the SL300 programmer connected to a PC USB via the COA703 interface. The connection socked is accessed under a door flap on the front of the module. Key features of the SL340 are;

- Small case style.
- Wide range AC/DC power supply.
- Input linearisation.
- User engineering units and scaling.
- Differential and single ended input.
- Switch-able input loading
- Reverse and direct acting
- Signal limiting.
- Programmable sensor supply.
- Switch-able input filter (fast / slow)

Ordering Detail

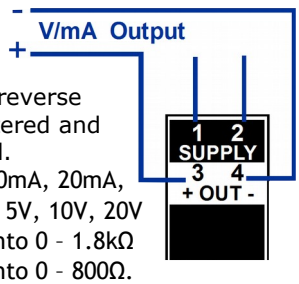
Order Code	*Supply Voltage*
SL340-10	80-300Vdc / 80-280Vac 50/60Hz
SL340-20	10V-60Vdc / 16-42Vac 50/60Hz

General Specifications

Size:	12.4W x 113H x 108D (mm).
Mounting:	Clip for 35mm DIN-Rail.
Housing material:	ABS / Polycarbonate blend
Connection:	Pluggable screw terminals.
Weight:	85g (including packaging).
Protection class:	IP40.
Input accuracy:	< 0.1%.
Output accuracy:	< 0.1%.
Linearity:	< 0.1%.
Operating temperature:	0...+65˚C.
Temperature drift:	0.01% per ˚C.
Auto input ranges:	Up to ±250mV or 500mV
Overload continuous:	20 x times input range MAX.
Noise immunity:	130dB CMRR.
Input/output isolation:	>2.5kVrms.
EMC:	AS/NZS 4251.1 (EN 50081.1)

Process Output

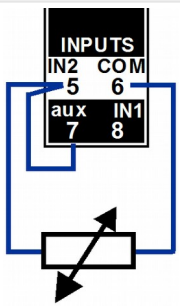
Output calibration is entered as minimum and maximum of input engineering range.
Output can be set as direct or reverse acting. Signal limits can be entered and enabled or disables as required.



Ranges:	1mA, 10mA, 20mA, 1V, 2V, 5V, 10V, 20V
Output drive:	10mA into 0 - 1.8kΩ 20mA into 0 - 800Ω.
Load change effect:	< 0.05% (current limited to 22mA)

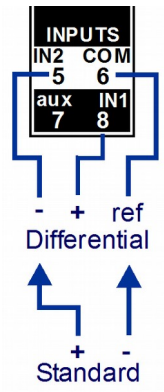
Resistance Transmitter

Minimum span:	1Ω
Maximum span:	50kΩ
Measurement unit:	Ω, kΩ
Measurement type:	2 wire connection.
Engineering Scale:	minimum, maximum and unit
Shape:	Linear or 101 user points
Response time:	50mS fast 500mS slow



Millivolt Input

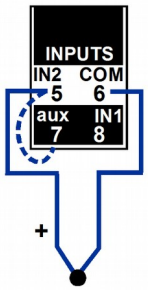
Minimum input:	-250mV
Maximum input:	624mV
Maximum input range:	500mV
Maximum input offset:	50% of range
Measurement unit:	mV
Measurement type:	Standard or differential.
Common mode range:	-3V to +6V
Engineering Scale:	minimum, maximum and unit.
Shape:	Linear or 101 user points.
Input impedance:	> 1MΩ. switch-able 30kΩ shunt.
Response time:	50mS fast 500mS slow.
AUX supply output:	0.01mA to 10.8mA (3.5V@10mA) 0.1V to 16V 110mA@10V).



Thermocouple Input

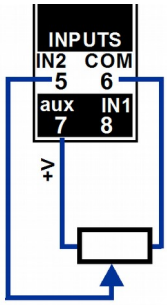
Enter required maximum and minimum in measurement unit, 101 point linearisation is automatically calculated loaded for required range.

Types:	B, E, J, K, N, R, S
Measurement unit:	°C, °F, °K
Input impedance:	switch-able 30k shunt.
Burn out:	Upscale, Downscale, None. Link 5 and 7 for burnout options.
Response time:	50mS fast / 500mS slow



Potentiometer Transmitter

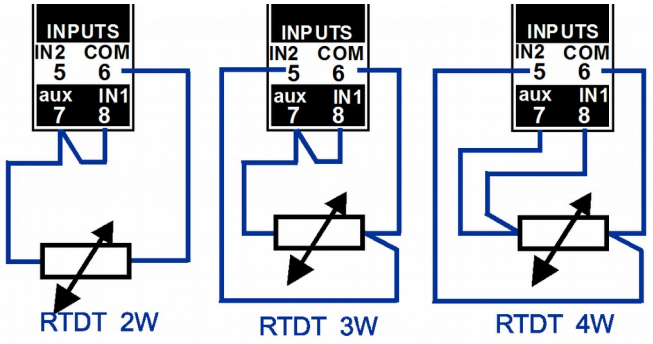
Minimum input:	0%
Maximum input:	100%
Measurement unit:	%Pot
Measurement type:	3 wire connection.
Engineering Scale:	minimum, maximum and unit
Shape:	Linear or 101 user points
Input impedance:	> 1MΩ
Response time:	50mS fast 500mS slow
AUX supply output:	0.5V



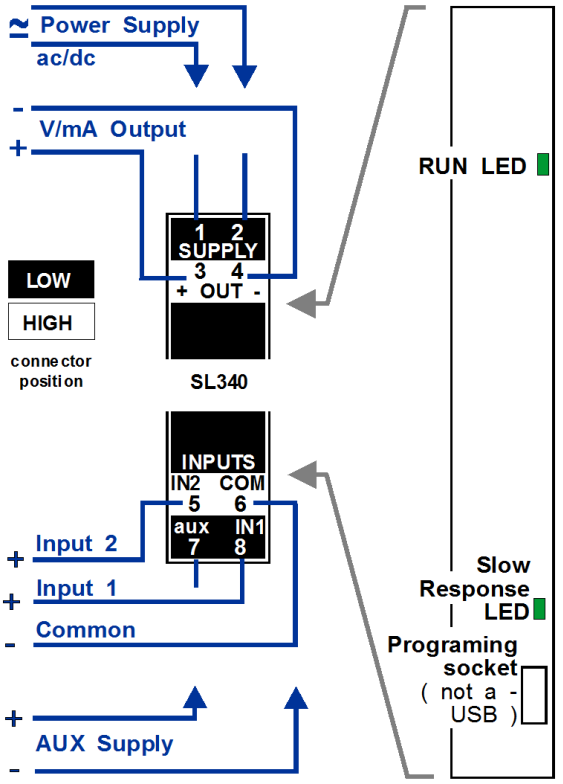
RTD Input

Enter required maximum and minimum in measurement unit, 101 point linearisation is automatically calculated and loaded for required range.

Types:	pt100, pt1000
Measurement unit:	°C, °F, °K
Response time 2W:	50mS fast / 500mS slow
3W and 4W:	800mS

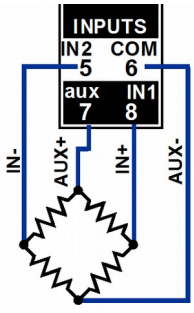


Common Connection and Controls



Strain Gauge Transmitter

Measurement unit:	mV
Measurement type:	Differential.
Common mode range:	-3V to +6V
Tare Function:	Button under lid.
Engineering Scale:	minimum, maximum and unit.
Shape:	Linear or 101 user points
Input impedance:	> 1MΩ switch-able 30k shunt.
Response time:	50mS fast 500mS slow
AUX supply output:	0.01mA to 10.8mA (3.5V@10mA) 0.1V to 16V (110mA@10V)

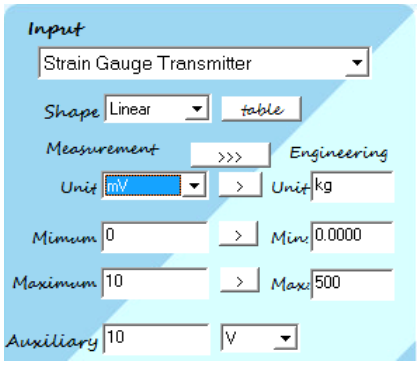


$$Range = \frac{Actual\_Load}{Capacity} \times Sensitivity \times Excitation$$

A load cell of 1000 kg capacity, with 2mV/V sensitivity and 10Vdc excitation has an "actual load" is 500 kg max., then $Range = \frac{500\,kg}{1000\,kg} \times 2\,mV/V \times 10\,V = 10\,mV$.

The SL340 would be programmed as;

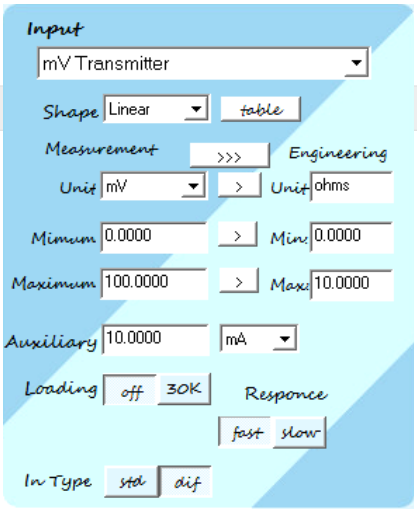
After programming the SL340 the top mounted tare button MUST be pressed while measurement system is unloaded.



For strain gauge function without using the top mounted tare button use *mV Transmitter* in differential mode.

Universal Input

The mV input range can solve measurement problems such as the following 4 wire resistance example below.



Four Wire Resistance example

I wish to measure 0 to 10Ω but the resistance input is only a 2 wire connection. This means the measurement is affected by the lead resistance.

If I connect the input using the RTDT 4W connection, set the auxiliary output to 10mA and measurement to 100mV differential the output will be directly proportional to the resistance measured.