

FEATURES

- ✦ Indicating Trip Module.
- ✦ Wide choice of Input types.
- ✦ Linearisation of T/C & RTD inputs.
- ✦ Square rooting of mA & V inputs.
- ✦ Fully programmable through keypad.
- ✦ Setpoint / Indication in Engg. units.
- ✦ Two potential free contacts.
- ✦ Din Rail / Back panel mounting.



About *Smartrip*

Smartrip is a Microcontroller based Trip Module that offers full programmability at the front panel. This back panel module does not require any hardware access like DIP switch or potentiometric adjustments for setting Alarm types, Set points and Hysteresis, as all parameters are configurable at site through the keypad at the top of the module.

Smartrip indicates the Process variables and Alarm status in real time through a 4 digit LED display while providing two potential free contacts as outputs.

Smartrip has universal power supply specifications to suit 110V, 220V AC power lines. Optionally it can be powered by a 24 V DC rail.

Smartrip - S is designed to accept voltage and current signals. It can accept any standard input range or user defined range. User defined ranges can be configured through keypad. Square-root extraction of the input is also user configurable.

Smartrip - T is designed to accept, Thermocouples, Pt. - 100 RTD, mV and Resistance inputs. Any input range can be configured in terms of Temperature, Engineering units or in percentage. Cold Junction Compensation is built-in for T/C inputs. Sensor linearisation is a standard feature for T/C and RTD inputs.

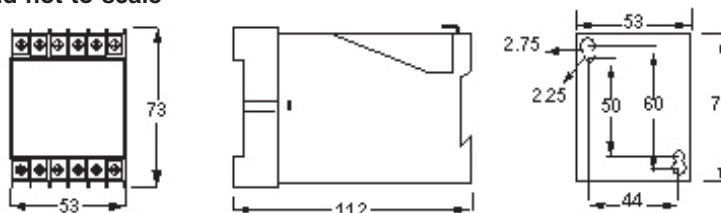
GENERAL SPECIFICATIONS

Power Supply : 90 to 270V AC/ 50 to 60 Hz.(2W)
optional 20 to 35V DC (2W).
Operating Temp : 0 to 55 °C.

Storage Temp : 0 to 70 °C.
Humidity : 0-90% (Non Condensing).
Mounting : Back panel / Din rail 35mm Top-hat.

DIMENSIONS : In mm and not to scale

ABS Plastic enclosure



PERFORMANCE SPECIFICATIONS

INPUT

Types and Accuracy

Smartrip - S

| Input | Standard Range | Accuracy |
|-------|----------------------------------|----------|
| mA1 | 4-20 mA | ±0.1% FS |
| mA2 | 0-20 mA | ±0.1% FS |
| V1 | 1-5 V | ±0.1% FS |
| V2 | 0-10 V | ±0.1% FS |
| Input | User Defined Ranges ¹ | Accuracy |
| mA | -20 to 20 mA ³ | ±0.1% FS |
| V | -10 to 10 V ³ | ±0.1% FS |

Smartrip - T

| Input ² | Range | Accuracy | |
|---------------------|----------------------------|-----------|-----------|
| | | Below 0°C | Above 0°C |
| T/C-J | -200 to 700 °C | ±2°C | ±1°C |
| T/C-K | -200 to 1200 °C | ±2°C | ±1°C |
| T/C-E | 0 to 800 °C | | ±1°C |
| T/C-T | -200 to 400 °C | ±2°C | ±1°C |
| T/C-R | 0 to 1700 °C | | ±5°C |
| T/C-S | 0 to 1700 °C | | ±5°C |
| Pt-100 | -200 to 850 °C | ±1°C | ±1°C |
| CU-53 | -200 to 260 °C | ±1°C | ±1°C |
| mV ¹ | -75 to +75 mV ² | ±0.1% FS | |
| Ohms 1 ¹ | 0 to 400 Ω ² | ±0.1% FS | |
| Ohms 2 ¹ | 0 to 6000 Ω ² | ±0.1% FS | |

INPUT (Continued)

Impedance : 51Ω for mA, 1MΩ for Voltage, 10MΩ for mV & 200μA for Ohms.

DISPLAY

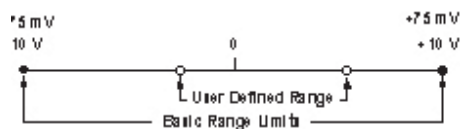
Type : Seven Segment LED
Range : -999 to 9999 Indicates Process Value or Setpoint or Alarm.

ALARMS

Types : Hi/Lo programmable through keypad.
Setpoints & Hysteresis : Smartrip-S - in % or engg units
 Smartrip-T - in % or °C or engg units through keypad.

Output : Two Change over relay contacts
 250 V AC/ 30 V DC, 5A (Non-inductive).

Note 1: User can define any range confined within the Basic range limits indicated.



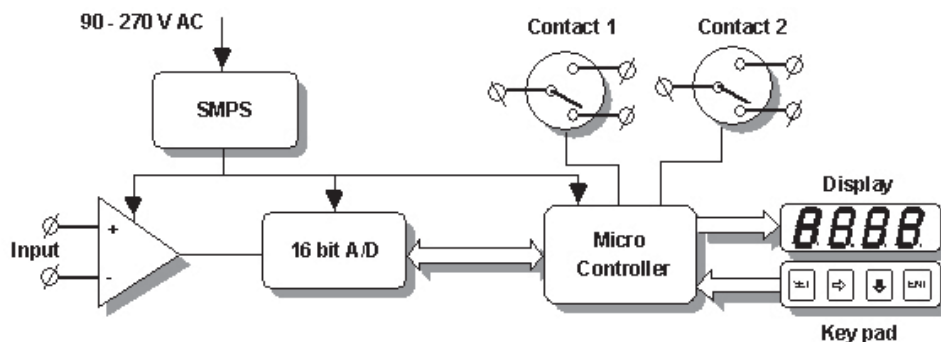
Note 2: All T/Cs as per NIST Monograph 125. Built in Cold Junction Compensation is provided. Pt 100 as per DIN 43760. T/C & RTD inputs are linearised. Range of temperature indicated refers to the working temperature range of respective thermocouple.

Note 3: Indicated values are Basic range limits.

For Thermocouple and RTD input types not listed in the table, please contact Factory.

Smartrip is also available in computer programmable version (through RS -232 port). For more details Contact factory.

FUNCTIONAL SCHEMATIC



ORDERING INFORMATION

| Input | Power Supply | Model |
|-------------|----------------------------|----------------|
| mA, Voltage | 90 - 270 V AC 50 - 60Hz | Smartrip - S H |
| mA, Voltage | 20 - 35 V DC | Smartrip - S L |

| Input | Power Supply | Model |
|--------------------|----------------------------|----------------|
| T/C, RTD, mV, Ohms | 90 - 270 V AC 50 - 60Hz | Smartrip - T H |
| T/C, RTD, mV, Ohms | 20 - 35 V DC | Smartrip - T L |

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Specifications are subject to change without any notice due to continuous development.