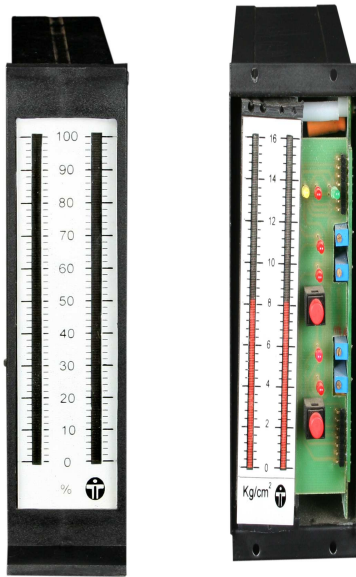




teletherm
INSTRUMENT CO. PVT. LTD.

CIRCULAR BARGRAPH INDICATOR

MODEL:(CBGI)



- 201 Segment Neon Plasma Display
- 100mm scale with 0.5% resolution illuminations
- Single or Dual indication with or without two settable alarm per channel
- Maintenance free
- Vertical or Horizontal mounting
- Online span and zero adjustment
- More than 75,000 instruments are working satisfactorily in the field
- Type tested for
 - i. Dry Heat as per IS-9000 Part III (Section 3)
 - ii. Damp Heat as per IS-9000 Part V (Section 2)
 - iii. Drift Test (Long & Short Term)
 - iv. EMI Test as per CS-01, CS-02 & CS-06 of MIL STD 461A
 - v. RFI Test for Susceptibility with electromagnetic field strength of 3 v/m & 5 v/m and frequency between 20-500MHz
 - vi. Seismic Test at 3.5 G from 1 to 50Hz in all three axes.

Application

Teletherm's solid state strip indicators, Type SL , are designed to give a clear indication corresponding to the electrical value of an input signal. Typically , these input signals may be derived from mill volt ,voltage, current resistance thermometers, thermocouple , potentiometric sources.

As an indicator, the instrument will accept and display any normally used electrical input signal. In the Alarm format, the left hand strip provides settable Alarms using high integrity trip amplifier techniques. The indication is presented as a continuous, precisely controlled display which is flicker-free, is easy to read and has sufficient contrast to be viewed comfortably under conditions of high ambient illumination. The solid state electronics and the packaging have been designed to offer high integrity operation in industrial environments, and also has the advantage of accepting any mounting attitude.

Description

The basic indicator is formed around the Burroughs self-scan bar graph display the display mechanism being that of neon plasma discharge the display comprises two side-by-side columns, each having 200 elements, to provide 0.5% resolution.

Illumination of the display elements is achieved by using the glow transfer principle, where the glow is first established at a reset cathode and then sequentially transferred to the panel by means of a five-phase clock signal. The height of the display is obtained by terminating the glow when the desired value is reached. The scan repetition frequency is greater than 60Hz, providing a steady, non-flickering display. The columns of the display are orange in color, although a red display can be provided as an option on the left hand indicator channel by the use of a suitable optical filter. Input signals to the indicator are first signal conditioned to give a normalized input voltage of 0-2V to the display circuitry, this voltage also being available as an output.

Options

- Option 1 : Dual Channel
- Option 2 : Alarm
- Option 3 : Digital Display
- Option 4 : Transmitter Power Supply
- Option 5 : Scale marking
- Option 6 : Red filter
- Option 7 : Burnout protection
- Option 8 : BIN mounted models

Specification

DISPLAY

Bar graph Display : 201 segment neon plasma display
Size : 100mm long X 2.5mm wide
Input Signal Range : as per table given below

S.No	Input Signal	Range/Type	Min. Span	Input Resistance/Source Current	Signal failure protection
1	DC Voltage	0 - 900mV	0-4 mA	500K Ω	Down scale indication
2	DC Voltage	0-5V	0-1V	10K Ω /V	Down scale indication
3	DC Voltage	1-5V	-	10K Ω /V	Down scale indication
4	DC Voltage	0-900 μ A	0-100 μ A	500 Ω	Down scale indication
5	DC Voltage	0-50mA	0-1mA	100 Ω	Down scale

					indication
6	DC Voltage	4-20mA	-	100Ω	Down scale indication
7	Potentiometric	0-10K	0-1K	1-4mA	Down scale indication
8	Thermocouple	K,T,J,R,S	0-4mV	2MΩ	Upscale (Std) Downscale(Optional)
9	Resistance Thermometer	2/3/4-wire system	50°C	4mA	Upscale (Std) Downscale(Optional)

Output Signal	:	0 – 2 V DC proportional to span (min load resistance 10 K ohms)
Overall accuracy (Including nonlinearity, repeatability & hysteresis)	:	i) +/- 0.5% FS for linear input ii) +/- 1.0% FS for RTD, Potentiometric & T/C inputs
Resolution	:	0.5 % FS
Response time to 95% reading	:	300mSec typical
Temperature Drift	:	less than 0.07%/°C
Series mode noise voltage	:	Negligible effect with normal installation condition
Common mode noise voltage (110V DC or RMS AC)	:	Negligible effect
Insulation test voltage		
1. 2KV RMS for 1 minute between supply leads to case	:	No effect
2. 500V DC between all leads to case	:	20MΩ minimum
RFI effect	:	Negligible effect with normal installation condition(5W, 450MHz @ 3')

CONNECTION

1. Input & Output signals	:	Plug in type 25 pin D-Sub connector (Mating connector supplied)
2. Power supply	:	Plug in 3 pin connector (Mating connector supplied)
Power supply	:	110/120/220/240 ±10% V, 50/60 Hz AC (Internal fuse rating 250mA)
Power consumption	:	10VA max

CONSTRUCTION

1. Case	:	M.S. Black powder coated
2. Front bezel	:	ABS

PROTECTION

Front panel	:	IP52
Case & connection	:	IP50

CLIMATIC CONDITIONS

- a. Operating Temperature Range : 0 to 40 Deg. C
- b. Storage Temperature Range : -40 to 70 Deg. C
- c. Humidity : 90 % RH max. (non – condensing)

DUAL CHANNEL

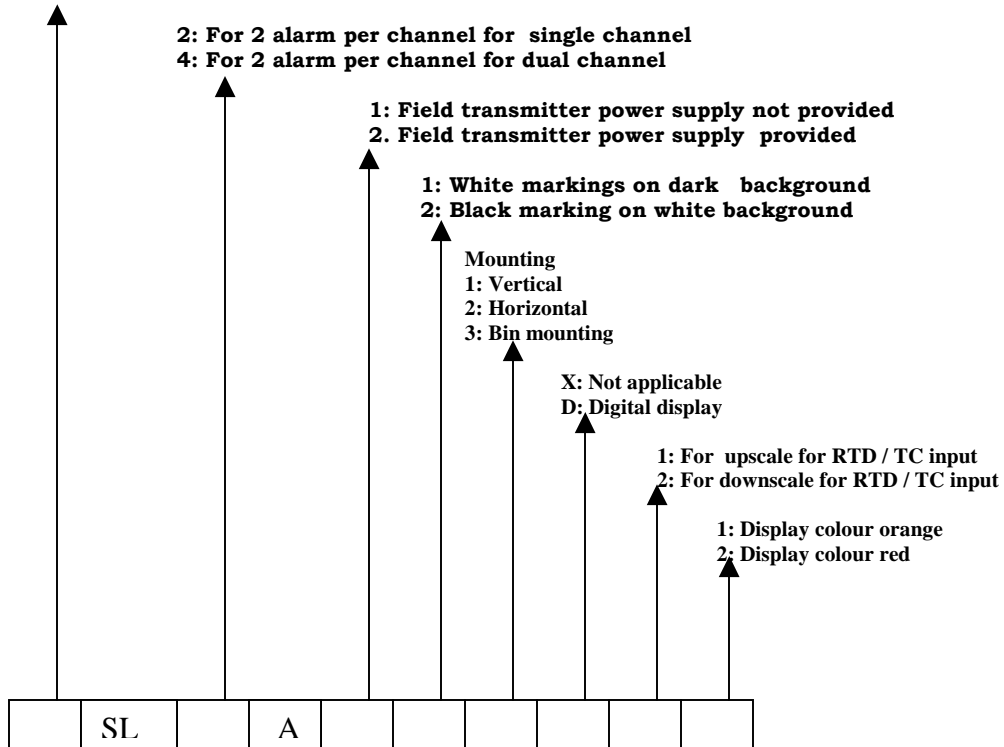
- (Option 1) : can be supplied

ALARM

- (Option 2)
- No. of Alarm : 2 per channel
- Relay type : Single pole change over SPDT
- Contact Rating : 3A 250V AC or 30V DC for resistive load
- Alarm characteristic : Relay energized in non-alarm condition
- Set point accuracy : ± 1.0 % FS
- Hysteresis : 1.5 % fixed
- Set point indication
 - 1. For single channel : By 8 Bar Block (4.0% long)
 - 2. For dual channel : Bargraph displays set point when respective push button is pressed.
- Set point adjustment : Access through front bezel (adjusting tool supplied)
- Set point type : Lo-Hi, Hi-Lo, Hi-Hi
- Digital display (Option 3) : Digital display is possible with model 2SL4A
- Field transmitter power supply (Option 4) : 24V DC 50mA can be provided as an option.
- Scale marking (Option 5) :
 - i. White marking on darkbackground
 - ii. Black figures on white background
- Display filter (Option 6) : Standard display colour is orange; Display colour can be made as red by using an optical red filter
- Burn out protection (Option 7) : Standard burnout protection for T/C& RTD input is upscale. Down scale protection can also be offered as an option.

Ordering information

- 1: For single channel
- 2: For dual channel



MANUFACTURED BY:

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