



DIGITAL PANEL INDICATORS

K – 3750

K – 3754

K – 5103

- THERMOCOUPLE ● RTDs ● VOLTAGES ● CURRENTS ●
- BRIGHT LED DISPLAY ● SMPS FOR AC & DC SUPPLIES ●
- ALARM & ANALOG OUTPUT ●



Switzer K – 3700 / K – 5103 Digital Panel Indicators are designed and manufactured using the latest state-of-the-art-technology. The instruments are versatile, compact, easy to install and have wide options to suit customer

requirements. Input options include choice of RTD elements, thermocouples, current or voltage. High input impedance, automatic cold junction compensation and linear analog outputs are standard features.

SALIENT FEATURES

- SMPS for AC & DC Supplies
- High Stability & high input impedance ensured through low drift signal conditioning Op.Amp and CMOS A/D conversion circuitry
- Bright LED Displays
- Wide range of temperatures from -50°C to $+1700^{\circ}\text{C}$ for thermocouples and -150°C to $+800^{\circ}\text{C}$ for Pt 100 Resistance Elements
- Choice of variety of current and voltage inputs
- '1' or '2' Alarm outputs
- Optional analog output
- Wide options to meet process applications
- Transmitter excitation 24V DC supply in K – 5103 model



GENERAL SPECIFICATION

SPECIFICATION	STYLE K – 3750	STYLE K – 3754 PT	STYLE K – 5103
Sensor / Input Type	Thermocouple K, J, R, S, T, N	RTD Pt – 100	Current or Voltage 4–20 mA, 0–20 mA, 1–5V, 0–5V
Instrument Range	K : –50 to 1200°C J : –50 to 700°C R : 0 to 1700°C S : 0 to 1700°C T : –50 to 400°C N : 100 to 1200°C	–150°C to 800°C with 1°C resolution –100°C to 199.9°C with 0.1°C resolution	0 to 1999 counts. Standard calibration is for 0–1000 counts. For calibration in engineering units, please specify units and counts at minimum and maximum input
Range Adjustability	N.A.	N.A.	Zero Suppression : 40% of span Zero Elevation : 90% of span
Accuracy	K ± 0.2% of reading ± 0.5°C J ± 0.3% of reading ± 0.5°C R ± 0.5% of reading ± 1°C S ± 0.5% of reading ± 1°C T ± 0.3% of reading ± 0.5°C N ± 0.5% of reading ± 1°C	For 1°C resolution ± 0.2 % of reading ± 1 count For 0.1°C resolution ± 0.3°C	± 0.05% of reading ± 1 count
Input Impedance	30 Meg. Ω typical	N.A.	125 Ω typical for Current input 200K Ω typical for Voltage input
Cold Junction Compensation	Automatic by precision thermistor	N. A.	N.A.
Sensor Operation Mode	N.A.	4–wire constant current	N.A.
Sensor Break Indication	Automatic Up / Down Scale	N.A.	N.A.
Resolution	1°C	0.1°C or 1°C	0.001 or 0.01 or 0.1 or 1 count. Selectable by shorting link upon removal of filter to read maximum 1.999, 19.99, 199.9, 1999
Loop Drop	N.A.	N.A.	2.5V maximum
Transmitter Excitation Supply	N.A.	N.A.	Isolated 24V DC, 30 mA (Not available in Indicator using 18 to 32V DC power supply)
Display	3½ digit, 14.2 mm Red LED		
Power Supply	90 to 250V AC & 100 to 300V DC or 18 to 32V DC		
Power Consumption	3VA		
Alarm Output	'1' or '2' setpoints 1 SPDT changeover relay contact rated at 5A 230V AC / 28V DC (Res) for each setpoint		
Deadband	For 1 setpoint, deadband is adjustable from 2 to 20 counts For 2 setpoint, deadband is fixed at 2 or 3 counts		
Analog Output	Current : 4 – 20 mA, 0 – 20 mA; Accuracy of 0.2% of span; Maximum load of 750 Ω Voltage : 1 – 5V DC, 0 – 5V DC; Accuracy of 0.2% of span		
Sensor Input	PCB mount screw clamp terminals		
Overall Dimension	95 (W) × 47 (H) × 157 (L) mm		
Panel Cutout	91 × 43 mm (+0.75, –0.00 mm)		
Depth Behind Panel	145 mm		
Case	Engineering plastic suitable for flush panel mounting		
Ambient Temperature	0 to 50°C		
Relative Humidity	Max. of 95% RH, non-condensing		
<p>Note : In case, the instrument is to be used with 3-wire System RTD, then it is necessary to furnish, the size of conductor and the correct cable length (transmission distance) between the sensor & the instrument. The maximum possible cable resistance correction will be limited to 15 ohms.</p>			

ORDERING INFORMATION

DIGITAL PANEL INDICATORS WITH 3½ DIGIT LED DISPLAY

Basic Catalog No. For **THERMOCOUPLE INDICATORS** _____ **K – 3750**

Basic Catalog No. for **RTD INDICATORS** _____ **K – 3754**

Basic Catalog No. For **CURRENT / VOLTAGE INDICATORS** _____ **K – 5103**

INPUT TYPE

Type K Thermocouple _____ **K**
 Type T Thermocouple _____ **T**
 Type J Thermocouple _____ **J**
 Type R Thermocouple _____ **R**
 Type S Thermocouple _____ **S**
 Type N Thermocouple _____ **N**
 Type Pt 100 Platinum Resistance 1°C resolution (Range –150°C to 800°C) _____ **P**
 Type Pt 100 Platinum Resistance 0.1°C resolution (Range –100°C to 199.9°C) _____ **Q**
 Current 4 – 20 mA (specify Range while ordering) _____ **C**
 Voltage 1 – 5V (specify Range while ordering) _____ **V**
 Others _____ **X**

POWER SUPPLY

90 to 250V AC / 100 to 300V DC _____ **A**
 18 to 32V DC _____ **B**

ALARM OPTIONS

No Alarm _____ **0**
 1 High Alarm only _____ **1**
 1 Low Alarm only _____ **2**
 1 High Alarm, 1 Low Alarm _____ **3**
 2 High Alarms _____ **4**
 2 Low Alarms _____ **5**

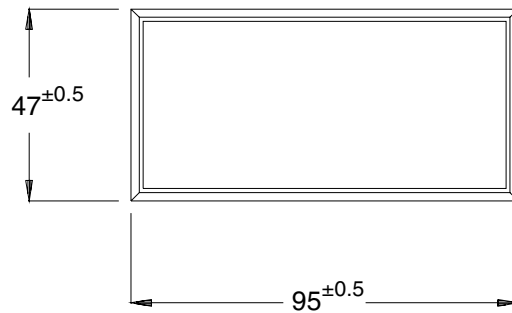
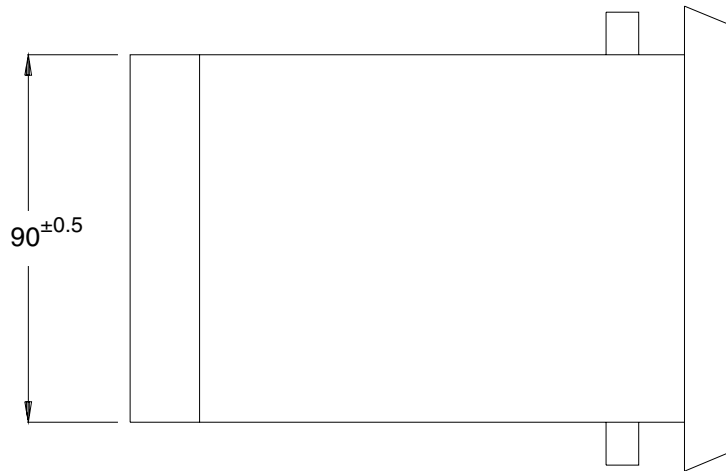
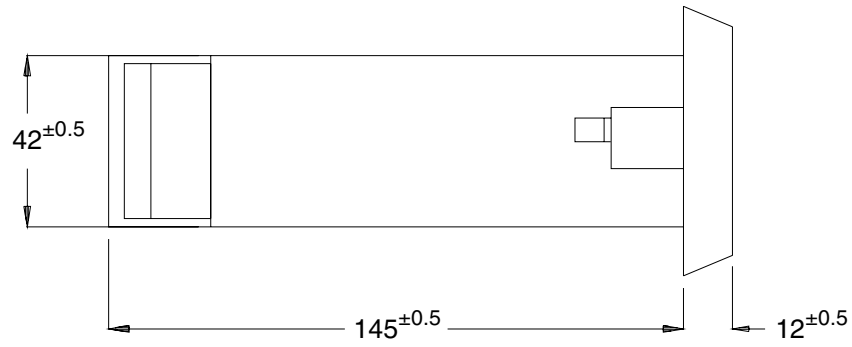
ANALOG OUTPUT OPTIONS

None _____ **0**
 4 – 20 mA _____ **1**
 0 – 20 mA _____ **2**
 1 – 5V DC _____ **3**
 0 – 5V DC _____ **4**
 Other current / Voltage (mention while ordering) _____ **5**

NOTES

- All quoted accuracies relate to instruments only and do not include sensor errors.
- Alarm output can be used for ON-OFF control in lieu of alarm. Customer to specify deadband in display counts or degree centigrade for Alarm options '1' & '2' (single alarm) to enable factory set value. This deadband adjustment can be done by user also.

MOUNTING DIMENSIONS



All dimensions are in mm

Prior notification of changes in specifications is impracticable due to continuous improvement.

FOR **SWITZER'S** OFFICES IN INDIA

CHECK AT:

<http://www.switzerinstrument.com/offices.htm>