DIGITAL TEMPERATURE MONITORS
DIGITEMP 2310N (N = 0,1,2, Etc.)

The series DigiTemp 2310N instruments are panel mounted Digital Temperature Monitors designed to interface with any specified RTD or T/C sensor. In addition to temperature indication in °C, they incorporate provisions for Alarm outputs which can be tailored by the user, at site, to suit his HI/LO and Fail-safe/Nonfail-safe alarm requirements.

A series DigiTemp 2310N instrument incorporates a signal conditioning module, an A/D converter with LED display, one or two HI/LO alarms and a power supply circuit all using amply derated low-power integrated circuits. The span, zero and alarm adjustments located inside the instrument, are accessible from the front after pulling out the sliding chassis without disconnecting signal or power to the instrument. All environment sensitive components are potted in epoxy for reliability in unfriendly environment.

INPUT SPECIFICATIONS

SENSOR OPTIONS RTDs & T/Cs as per the Sensor Table given below

Opt. Code	RTD Type	Inst. Range Limits °C	Opt. Code	T/C Type	Inst. Range Limits °C	Min Span	Max Span
P	Pt 100	-200 to 800	J	Fe/Const	-50 to 700	200	500
Q	Pt 46	-200 to 600	K	Cr/Al	-50 to 1200	200	800
C	Cu 53	-40 to 150	T	Cu/Const	-100 to 400	200	300
			E	Cr/Const	-100 to 800	200	400
(Min Span for any RTD > 100)			S	Pt/Pt-Rh(10%)	100 to 1700	700	1000
(Max Span for any RTD as above)			R	Pt/Pt-Rh(13%)	100 to 1700	700	1000

(Note : Spans other than above are available with reduced accuracy *)*

Sensor Standard	Calibratable in any Standard. Unless specified, instruments will be factory calibrated as per DIN 43760 for RTDs and as per ISA/ANSI MC 96.1for T/Cs
Input Sensor Specs	*RTDs -* Bridge Current 0.5 to 1.5 mA.
	T/Cs - Input Imp of > 1 Mohm. Auto CJ Compensation of ±1° C accuracy
Effect of Leadwire	*RTDs -*1°C for 10% of nominal resistance per lead for 3-wire RTDs
	T/Cs - 1°C for T/C lead-wire resistance of 100 ohms
Common Mode	Common Mode voltage of 110V AC, 50 Hz produces an error of 2°C max.

OPERATOR INTERFACE

No of Displays	One or Two depending on Model
Display Type	7 Segment 3½ dgt 12mm or 4½ dgt 8mm RED/ORANGE LEDs. 20/25mm, 50mm LEDs and Bargraph available in Model 23104 in specific sizes.
Accuracy (1Yr)	*RTDs* - ±0.2% of rdg ± 1 dgt. *T/Cs* - ±0.5% of rdg ± 1 dgt ± CJ Error (1°C)
U/R & O/R LEDS	Indicate Under-range and Over-range of input parameter
Alarm Status	Active alarm is indicated by lighting an LED for each alarm

OUTPUT SPECIFICATIONS

Output Options

Option I	Indicator only. No Alarm	**Option B**	Indicator & 2 Alarms
Option A	Indicator & 1 Alarm	**Option C**	Indicator & 4 Alarms

ALARM OUTPUT SPECIFICATIONS

Alarm Type	User selectable High or Low
Alarm Status	Indicated by an LED on front panel.
Alarm Settings	Settable throughout the Input Range
Acc. of Setting	±0.5% of f.s. with a hysteresis of 0.5% of f.s.
Relay Operation	User selectable fail-safe or nonfail-safe
Contact Output	One change-over contact of 230V AC/DC, 3A, 100VA per alarm

POWER SUPPLY SPECIFICATIONS

Power Options

Option A - 230V AC, 50Hz ± 15%.	**Option B -** 110V AC, 50Hz ± 15%.
Option C- 24V AC, 50Hz ± 15%.	**Option D -** 24 V DC ± 15%.

ENVIRONMENTAL SPECIFICATIONS

Rated Temp	5 to 55 °C
Humidity	Less than 80% RH (Non-Condensing)
Zero Drift	Less than 1dgt for every 10°C outside the recommended 22 - 32°C ambient
Span Drift	Less than 0.0025% of rdg / °C
Storage Temp	0 to 70 °C

MECHANICAL SPECIFICATIONS

Enclosure Type	Welded construction with pullout chassis
Painting	Powder Coated

Enclosure Options

Option	Enclosure Type	Bezel Size	Cutout Size
C	Horizontal	96(W) x 48(H)	92(W) x 44(H)
D	Square	96(W) x 96(H)	92(W) x 92(H)
E	Vertical	72(W) x 144(H)	68(W) x 138(H)
F	Horizontal	144(W) x 72(H)	138(W) x 68(H)
H	Vertical	96(W) x 192(H)	92(W) x 186(H)

I/O Terminals   Suitable for 1.5 Sq. mm wires. ***MKDS 3 of Phoenix*** OR Equivalent

ACCESSORIES

Standard	Operation Manual, Mounting Clamps, Screws, Fuses, Warranty Certificate.
Optional	Calibration Certificate Traceable to NPL

ORDERING INFORMATION

Available Models   The Models available as standard products in the Series 2310N are listed below along with their standard options.

Model No	No of Inputs	Display Size	Sensor Options	Output Options	Power Options	Enclosure Options	Encl Depth
23100	One	3½,12mm	All	I,A	A,B,C,D	C,D,E,F	150 mm
23101	One	3½,12mm	All	I,A,B	A,B,C,D	C,D,E,F	200 mm
23102	Two	3½,12mm	All	I,A,B	A,B,C,D	D,E,F	250 mm
23103	One	4 dgt, 8mm	All	I,A,B	A,B,C,D	E	200 mm
23104	One	Custom	All	I,A,B,C	A,B,C,D	C,D,E,F,H	250 mm

Ordering Code   To Order an instrument of your choice, first identify the Models which satisfy your alarm function requirements, then select a specific Model on the basis of Enclosure, No of Sensors etc. You can completely specify your Choice by giving an ordering code in the following format

Model No.	Input Code	Output Code	P.S. Code	Encl Code	Range Value	Custom Feature
2310N	X	X	X	X	/NNN-MMMM/	See Notes

Notes:

1. Numerals in **/NNN-MMMM/** for Range Value represent the range required
2. Custom feature is absent for standard options & specifications as given in the above description Deviations in any specification or option are emphasised by letter `G' against the Option Code. For Custom requirements the custom feature is to be added to the Ordering Code/Information.

Example 1   Specify ***23101PBAE/0-800/*** to order DigiTemp 23101 for one PT-100 RTD with a range of 0-800°C, 12mm LED Display, two HI/LO Alarms, operating on 230V AC, 50Hz and housed in a 72(W) x 144(H) x 200(D) mm Enclosure.

Example 2   Specify ***23104PCAE/0-800/*** to order DigiTemp 23104 for one PT-100 RTD with a range of 0-800 °C, 12mm LED display, four HI/LO Alarms, operating on 230V AC, 50Hz and housed in a 72(W) x 144(H) x 200(D) mm Enclosure.