

ISOSCAN-H



96(H) x 192(W) x 220(D) mm

ISOSCAN-V

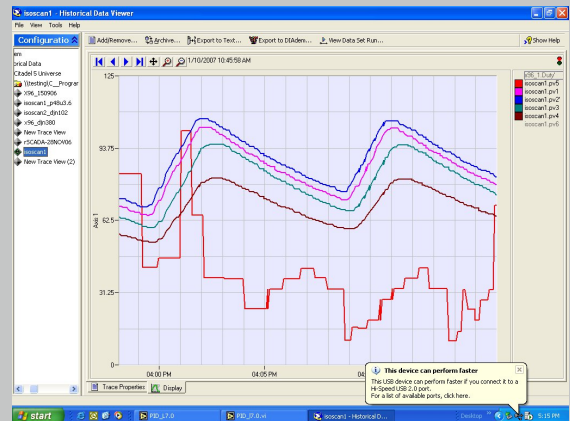


192(H) x 96(W) x 220(D) mm

FLAMEPROOF



rSCADA



- Upto 16 inputs/16 outputs
- For Temperature, Pressure, Flow, Level, RH, Conductivity, etc.
- Various Input (X)/Output (Y) combinations : X4Y0, X4Y8, X8Y4, X8Y16, X16Y16, etc
- Universal Input : 8 Thermocouples, Pt100, mV or mA input front panel selection without DIP **for each channel**
- Front panel user calibration
- Input burn protection
- Non-volatile memory for parameters - no batteries

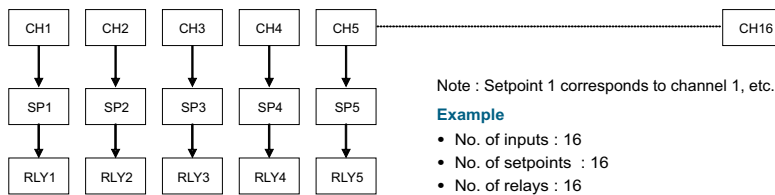
- 3 key, 5 level programming
- Setpoint and level locks
- Tactile membrane keypad
- 5 software versions : Indicator, Multisetpoint, Grouping, etc
- RS485 with MODBUS RTU
- Powerful, flexible SCADA software available
- FDA21CFR Part11 compliant SCADA version also
- Option : Printer interface (no computer needed)
- 85~265 V AC SMPS or 24 V DC supply

**TABLE 1 : SOFTWARE VERSIONS**

VERSION NO.			VERSION NAME	DESCRIPTION
WITHOUT RS485 & PRINTER INTERFACE	WITHOUT RS485 & WITH PRINTER INTERFACE	WITH RS485 & WITHOUT PRINTER INTERFACE		
10.XX	40.XX	50.XX	Indicator	No alarms/relays
11.XX	41.XX	51.XX	Basic	Setpoint 1 corresponds to channel 1, setpoint 2 to channel 2, etc.
12.XX	42.XX	52.XX	Multisetpoint	Upto 16 setpoints can be assigned to any channel (total setpoints for all channels : 16 or less)
13.XX	-	53.XX	Grouping/Common alarms	The 16 channels can be grouped into 16 groups, each group comprising 1 to 16 channels. Upto 16 setpoints can be assigned to each group (total setpoints for all groups : 16 or less)
18.XX	-	58.XX	Grouping/Individual alarms/ Common relays	Grouping with 2 alarms per group, individual setpoints for each channel for each group alarm and 1 relay for each group alarm.

**BASIC VERSIONS 11, 41, 51**

**Fig 1**



Note : Setpoint 1 corresponds to channel 1, etc.

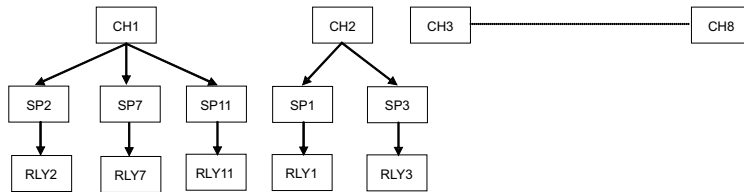
**Example**

- No. of inputs : 16
- No. of setpoints : 16
- No. of relays : 16

Maximum No.	
Channels	16
Setpoints	16
Relays	16

**MULTISETPOINT VERSIONS 12, 42, 52**

**Fig 2**



Note : More than one setpoint can be assigned to one channel.

**Example**

- No. of channels : 16
- No. of setpoints assignable to each channel : 16 or less
- No. of relays : 16
- Channels / assigned setpoints to each channel : See Table 2

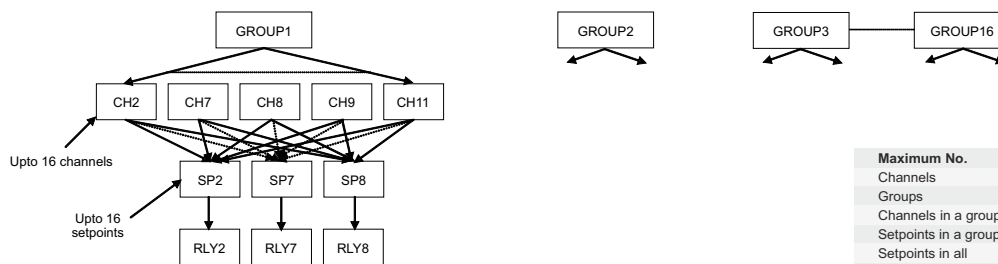
**TABLE 2**

Channel No.	Assigned Setpoints/Relays	Channel No.	Assigned Setpoints/Relays
1	2, 7, 11	9	14
2	1, 3	10	-
3	12, 16	11	-
4	13	12	-
5	4, 5	13	-
6	6	14	-
7	10, 15	15	-
8	8, 9	16	-

Maximum No.	
Channels	16
Setpoints for 1 channel	16
Setpoints in all	16
Relays	16

**GROUPING / COMMON ALARM VERSIONS 13, 53**

**Fig 3**



Note : Any channel can be selected in several groups. Upto 16 groups can be made.

**Example**

- No. of inputs : 16 • Input type / unit / resolution : See Table 4
- No. of groups : 16 • No. of relays : 16
- Channels / relays / relay logic in each group : See Table 3
- While grouping any channel, unit & display resolution of that channel & group level should be same.

**TABLE 3**

Group No.	Channels Selected	Setpoint Selected	Relay No.
1	2, 7, 8, 9, 11	2, 7, 8	2, 7, 8
2	8, 9, 11, 13	1, 9, 11	1, 9, 11
1	1, 4, 6	3	3
2	4, 5, 6	4	4
1	10, 12	5, 6	5, 6
2	3, 14, 15, 16	10, 12	10, 12
1	14, 16	13, 15	13, 15
2	3, 14	14, 16	14, 16

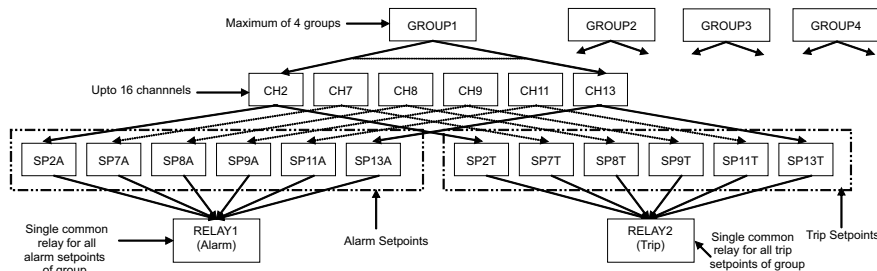
**TABLE 4**

Channel No.	Input type	Unit	Resolution
1	TC B	°C	0.1
2	TC E	°F	1
3	TC J	°K	0.1
4	TC K	°C	0.1
5	TC N	°C	0.1
6	TC R	°C	0.1
7	TC S	°F	1
8	TC T	°F	1
9	Pt100	°F	1
10	LIN V (0-50 mV)	BAR	0.001
11	0-20 mA	°F	1
12	4-20 mA	BAR	0.001
13	Pt100	°F	1
14	TC N	°K	0.1
15	TC J	°K	0.1
16	TC K	°K	0.1

Maximum No.	
Channels	16
Groups	16
Channels in a group	16
Setpoints in a group	16
Setpoints in all	16
Relays	16

GROUPING / INDIVIDUAL ALARMS / COMMON RELAYS VERSIONS 18, 58

Fig 4



Maximum No.	
Channels	16
Groups	4
Channels in a group	16
Setpoints in a group	32
Setpoints in all	32
Relays	8

Note : Once a channel is selected in one group, you cannot select it in another group.

Example

- No. of channels : 16 • Input type / unit / resolution : See Table 6
- No. of groups : 4 • No. of relays : 8
- Channels / relays / relay logic in each group : See Table 5

TABLE 5

Group No.	Channels Selected	Relay No.	Relay Logic
1	2, 7, 8, 9, 11, 13	1 (alarm) 2 (trip)	Lo Trip
2	3, 14, 16	3 (alarm) 4 (trip)	Hi Trip Lo
3	10, 12	5 (alarm) 6 (trip)	HiHi Trip
4	1, 4, 5, 6, 15	7 (alarm) 8 (trip)	LoLo Trip Lo

TABLE 6

Channel No.	Input type	Unit	Resolution
1	TC B	°C	0.1
2	TC E	°F	1
3	TC J	°K	0.1
4	TC K	°C	0.1
5	TC N	°C	0.1
6	TC R	°C	1
7	TC S	°F	1
8	TC T	°F	0.1
9	Pt100	°F	0.1
10	LIN V (0-50 mV)	BAR	0.01
11	0-20 mA	°F	0.001
12	4-20 mA	BAR	0.1
13	Pt100	°F	1
14	TC N	°K	1
15	TC J	°K	0.1
16	TC K	°K	0.1

SPECIFICATIONS

Specifications & features are subject to change without notice.

INPUTS

**Maximum no. of channels (X)** 16  
**Input types**  
 Thermocouple B, E, J, K, N, R, S, T  
 RTD Pt100, 3-wire  
 Linear input 0-50 mV, 0-20 mA, 4-20 mA  
 (each input independently scalable and without any DIP reconfiguration) < 1.6 seconds for 16 channels  
**Channel scan rate**  
**Channel-to-channel isolation** Suitable for low (leakage) voltages less than 3V AC  
**Input protection**  
 Thermocouple, mV, RTD inputs ± 10 V DC max  
 Current inputs Current limit < 30 mA, 28 V DC max  
**Range limits** See Table 7  
**Accuracy** See Table 7  
**Cold junction compensation** Automatic  
**Sensor break protection** User programmable

CONTROL

**Control functions (Diagram 1)**  
 ONOFF control Heat or Cool or Cool with compressor time delay (version 11.XX, 41.XX & 51.XX)  
**Alarm functions**  
 High alarm  
 Low alarm  
 Deviation high alarm  
 Deviation low alarm  
 Inband alarm  
 Outband alarm  
**Control action** Direct / reverse  
**Hysteresis** 0.1 - 99.9 °C / °F / EU  
**Compressor ON time delay** 1 - 200 sec  
**Alarm type**  
 Autoreset, Latch, Hold, Latch + Hold  
 Latch (Ltch) Once relay gets ON, it remains 'ON' until alarm is acknowledged by ▲ key.  
 Hold Alarm is disabled at power ON. After process variable reaches normal (non alarm) value, the alarm is enabled.  
 Ltch.Hold Combination of Latch & Hold logic.

OUTPUTS

**Maximum no. of outputs (Y)** 16 (8 inbuilt, 8 in external relay unit)  
**Output type**  
 a) Electromagnetic relay  
 b) SSR drive  
**Relay contact type** NO-C  
**Relay contact rating** 5A / 230V AC, resistive

ADJUSTMENTS

**Setpoint** Full range adjustable  
**Alarm** Full range adjustable  
**Unit** User selectable  
**Resolution** User selectable  
 0.0001, 0.001, 0.01, 0.1 or 1 for linear input, 0.1 or 1 for temperature

OTHER MAJOR PARAMETERS

**Setpoint lock**  
**Level lock**  
**Display scan rate** 1-99 seconds/channel  
**SKIP channel** Enable/disable  
**Display channel** Display/Hide

COMMUNICATION

**Port** RS485, isolated  
**Baud rate** 9600 bps  
**Protocol** Modbus RTU  
**Slave ID** User programmable, 1-255  
**Minimum polling interval** 250 milliseconds  
**Parameters**  
 Process variables Read only  
 Setpoints Read & write from the host computer  
 Alarm status Read only  
 Relay status Read only  
**CALIBRATION**  
**Zero & span**  
**User calibration**  
**CJC calibration**  
**INDICATION**  
**Display type** 0.56" (15 mm), 7 - segment LED and 2x16 character LCD display  
 Upper, 4 ½ digit, LED display  
 Middle, 4 ½ digit, LED display  
 Lower, 2 digit, LED display  
 16 LEDs for alarm, 16 LEDs for relay status & 2x16 LCD  
**Process variable**  
**Setpoint**  
**Channel no.**  
**Status indication**

OTHER

**Keypad** Membrane, tactile, 3 keys  
**Memory for programmed parameters** Non-volatile, indefinite duration  
**Field Connections** Screw type connections in plug-in terminals  
**Plug-in Terminal Type**  
 a) Standard (Brass nickel plated)  
 b) Gold plated  
**Supply voltage**  
 a) 85-265 V AC, 50/60 hz  
 b) 24 V DC supply  
 5 watts  
**Power consumption**  
**Dimensions (in mm)**  
 ISOSCAN-H 96(H)x192(W)x220(D)  
 ISOSCAN-V 192(H)x96(W)x220(D)  
 FLP ISOSCAN X8Y8 & below : 420(H)x365(W)x165(D)  
 X12Y0 & above : 500(H)x365(W)x165(D)  
**Mounting**  
 ISOSCAN-H In panel cutout of 90x186 mm  
 ISOSCAN-V In panel cutout of 186x90 mm  
 FLP ISOSCAN Surface  
**FLP enclosure** Certified flameproof for gas groups I, IIA & IIB  
 IP55  
**Protection (FLP enclosure)**  
**Operating ambient temperature** 0 - 50 °C  
**Relative humidity** Below 90%, non condensing

EXTERNAL RELAY UNIT

**Dimensions** 75(H)x100(W)x110(D)  
**Mounting** Snap on for 35mm DIN rail to DIN 46277

PRINTER INTERFACE

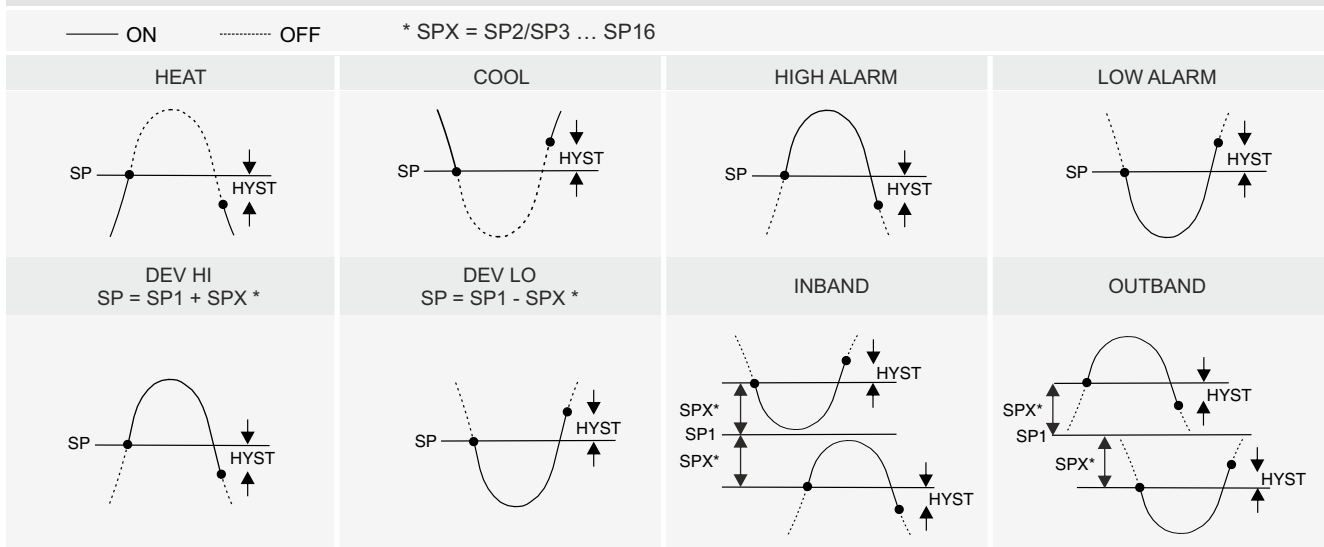
**Dimensions (in mm)** 96(H)x96(W)x120(D)  
**Mounting** In panel cutout of 92x92 mm  
**Connection** 25 pin male D type connector  
**Printer type** Epson LX-300, LX-300+, EPSON LX-800

TABLE 7

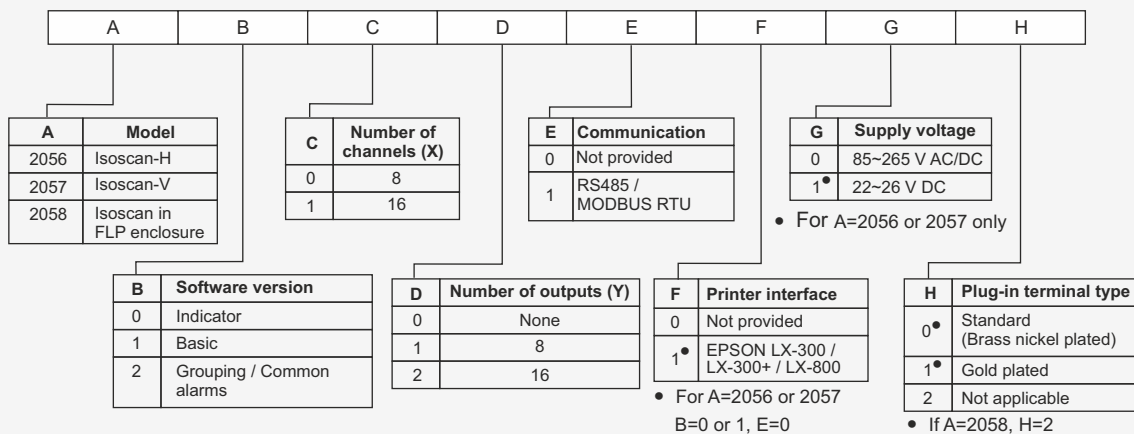
SENSOR / INPUT	RANGE LIMITS (°C / EU)		RANGE IN WHICH ACCURACY IS SPECIFIED		TYPICAL ACCURACY AT 30 °C (°C / EU)	WORST CASE ACCURACY (°C / EU)
	LOW SCALE	HIGH SCALE	LOW SCALE	HIGH SCALE		
Pt - 6% Rh / Pt - 30% RH (B)	400	1820	400	1820	± 3	± 5
Chromel / Constantan (E)	-270	1000	0	1000	± 1	± 3
Iron / Constantan (J)	-210	760	0	760	± 1	± 3
Chromel / Alumel (K)	-270	1372	-50	1200	± 1	± 3
Nicrosil / Nisil (N)	-270	1300	-50	1200	± 1	± 3
Pt / Pt - 13% Rh (R)	0	1760	0	1760	± 2	± 5
Pt / Pt - 10% Rh (S)	0	1760	0	1760	± 2	± 5
Copper / Constantan (T)	-270	400	-200	400	± 1	± 3
Pt100, 3-wire	-200	850	-200	850	± 0.5	± 2.0
Linear (0~50 mV, 0~20 mA, 4~20 mA)	-19999	19999	-19999	19999	± 5 EU	± 20 EU

DIAGRAM 1

CONTROL FUNCTIONS



ORDERING INFORMATION



Ordering Options

The following ordering options are available on request. Minimum order quantity and/or minimum order value may apply.

	Option	Details
1.	Software version	Multisetpoint
2.	Software version	Grouping / Individual Alarms / Common Relays



INSTRUMENTS T : + 91 22 42537777 x 701 F : + 91 22 42537700 E : sales@radix.co.in  
 SENSORS T : + 91 22 42537777 x 732 F : + 91 22 42537700 E : sensors@radix.co.in  
 GAUGES T : + 91 22 42537777 x 733 F : + 91 22 42537700 E : gauges@radix.co.in  
 AUTOMATION C : 0-9322405471 C : 0-9324319150 E : automation@radix.co.in