

SCAN-H



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

SCAN-V

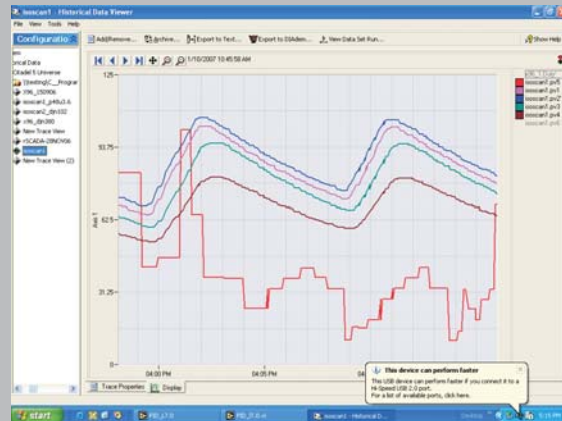


192(H) x 96(W) x 220(D) mm

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

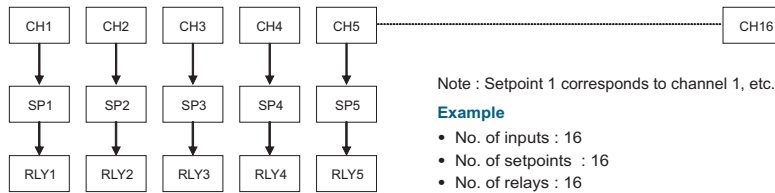
- 3 key, 5 level programming
- Setpoint and level locks
- Tactile membrane keypad
- 5 software versions : Indicator, Multisetpoint, Grouping, etc
- RS485 with MODBUS RTU
- Powerful, flexible SCADA software available
- FDA21CFR Part11 compliant SCADA version also
- Option : Printer interface (no computer 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		
13.XX	43.XX	53.XX	Multisetpoint	Upto 16 setpoints can be assigned to any channel (total setpoints for all channels : 16 or less)
18.XX	-	58.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)
			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



Maximum No.	
Channels	16
Setpoints	16
Relays	16

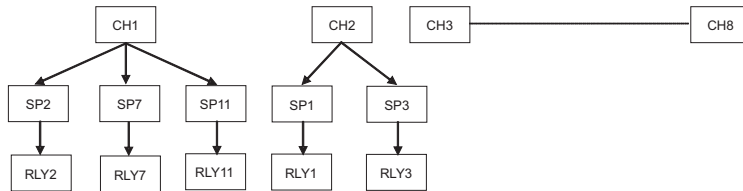
Note : Setpoint 1 corresponds to channel 1, etc.

Example

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

MULTISETPOINT VERSIONS 12, 42, 52

Fig 2



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

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

Example

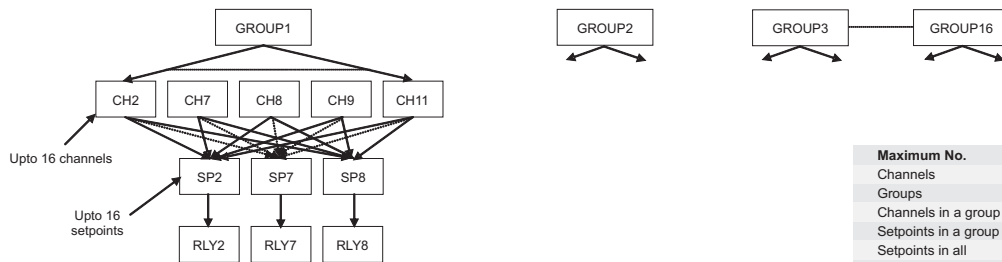
- No. of channels : 16
- No. of setpoints assignable to each channel : 16 or less
- No. of relays : 16
- Channels / assigned setpoints to each channel : See Table 2

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	-

GROUPING / COMMON ALARM VERSIONS 13, 43, 53

Fig 3



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

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

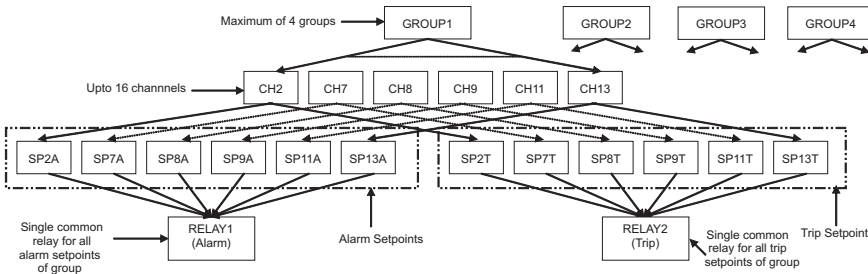
TABLE 4

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

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 : 16
- 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)	Lo
		2 (trip)	Trip
2	3, 14, 16	3 (alarm)	Hi
		4 (trip)	Trip Lo
3	10, 12	5 (alarm)	HiHi
		6 (trip)	Trip
4	1, 4, 5, 6, 15	7 (alarm)	LoLo
		8 (trip)	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
- RTD
- Linear input

B, E, J, K, N, R, S, T
Pt100, 3-wire
0~50 mV, 0~20 mA, 4~20 mA
(each input independently scaleable and without any DIP reconfiguration)
< 1.6 seconds for 16 channels
Suitable for low (leakage) voltages less than 3V AC

Channel scan rate

Channel-to-channel isolation

Input protection

- Thermocouple, mV, RTD inputs
- Current inputs

± 10 V DC max
Current limit < 30 mA, 28 V DC max

Range limits

Accuracy

Cold junction compensation

Sensor break protection

See Table 7
See Table 7
Automatic
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
Direct / reverse
0.1 - 99.9 °C / °F / EU
1 - 200 sec
Autoreset, Latch, Hold, Latch + Hold
Once relay gets ON, it remains 'ON' until alarm is acknowledged by ▲ key.
Alarm is disabled at power ON. After process variable reaches normal (non alarm) value, the alarm is enabled.
Combination of Latch & Hold logic.

Control action

Hysteresis

Compressor ON time delay

Alarm type

Latch (Ltch)

Hold

Ltch.Hold

OUTPUTS

Maximum no. of outputs (Y) 16 (8 inbuilt, 8 in external relay unit)

Output type

- a) Electromagnetic relay
- b) SSR drive
- NO-C

Relay contact type

Relay contact rating

5A / 230V AC, resistive

ADJUSTMENTS

Setpoint

Alarm

Unit

Resolution

Full range adjustable
Full range adjustable
User selectable
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

SKIP channel

Display channel

1~99 seconds/channel
Enable/disable
Display/Hide

COMMUNICATION

Port

a) RS485, non-isolated

b) 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

Through front panel keys & display

User calibration

Sensor span and sensor zero

CJC calibration

Room temperature

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

Power consumption

5 watts

Dimensions (in mm)

SCAN-H

96(H)x192(W)x220(D)

SCAN-V

192(H)x96(W)x220(D)

FLP SCAN

X8Y8 & below : 420(H)x365(W)x165(D)
X12Y0 & above : 500(H)x365(W)x165(D)

Mounting

SCAN-H

In panel cutout of 92x184 mm

SCAN-V

In panel cutout of 184x92 mm

FLP SCAN

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

Dot Matrix

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

— ON OFF * SPX = SP2/SP3 ... SP16

