

ENVIRONMENTAL MONITORING SYSTEM

HUMIDITY , TEMPERATURE & PRESSURE

WITH COMMUNICATION INTERFACE

MODEL : EMS 195



INTRODUCTION

Measurement of relevant Climatic data is becoming more and more important. This Humidity, Temperature & Pressure Indicator offer Very Accurate Measurement of Relative Humidity, Temperature, Pressure by Excellent readability of the very High intensity 128 X 64 Graphic LCD Display with RS 485 Output for PC Communication to record and analyze the data.

The Humidity ,Temperature & Pressure Indicator Housed with roughest Case allow the use in tough industrial environments, Latest Technology and well Proven Sensor Guaranteed Highest Accuracy and Long Term Stable Measurement.

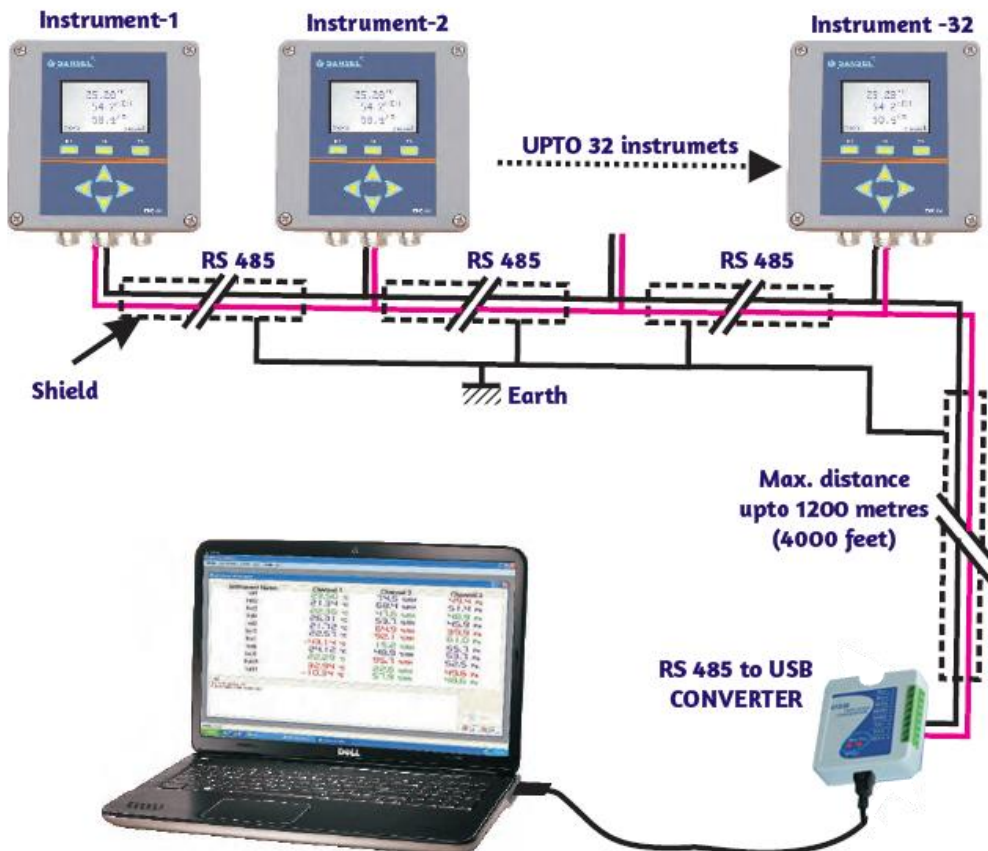
Applications

- Meteorology lab
- Pharmaceutical
- Ventilation air conditioning
- Food processing industries
- Testing and Calibration lab
- Research lab etc.,

FEATURES

- ✓ 128 x 64 Graphic LCD Display
- ✓ Temperature range from -40 to 125 °C
- ✓ Humidity range from 0 to 100% RH
- ✓ Pressure range from 0 to 1000 mbar absolute pressure /0-50 Pascal differential pressure
- ✓ High resolution 0.01 or 0.1°C/0.1%RH /0.1pa
- ✓ High accuracy $\pm 0.3^{\circ}\text{C}$ / $\pm 1.5\% \text{RH}$ / $\pm 0.5\% \text{FS}$
- ✓ PC Interface through RS 485 communication
- ✓ Alarm output with H/L settings for all 3 parameters
- ✓ Easy mounting compact size and rugged
- ✓ Supply 9V DC

Block Diagram for EMS 195 Communication Interface



Features of EMS 195 Front End Software

MAIN SCREEN

Selected Instruments Data Collection Window

Instrument Name	Channel 1	Channel 2	Channel 3
Inst1	23.50 °C	74.5 %RH	49.4 Pa
Inst2	21.34 °C	68.4 %RH	51.4 Pa
Inst3	22.36 °C	47.6 %RH	48.9 Pa
Inst4	26.31 °C	53.7 %RH	45.9 Pa
	21.72 °C	64.9 %RH	39.9 Pa
	22.57 °C	92.1 %RH	61.0 Pa
	-43.14 °C	15.2 %RH	55.7 Pa
	24.12 °C	48.9 %RH	53.7 Pa
Inst9	22.29 °C	95.7 %RH	52.5 Pa
Inst10	32.94 °C	22.6 %RH	49.6 Pa
Inst11	-10.34 °C	57.9 %RH	48.6 Pa

Instruments Datas with below low, normal, above high alarm status colour indication for individual Channels with Communication Failure Indication

Selected Instruments Data Collection status window

Communication Start / stop Button

Log: Response fail from instrument id 4
PC send message[System Byte] to instrument id 4
Response fail from instrument id 3
PC send message[System Byte] to instrument id 3
Response fail from instrument id 2
PC send message[System Byte] to instrument id 2
Response fail from instrument id 1
PC send message[System Byte] to instrument id 1

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ALARM SETUP

Instrument ID Selection Upto 32 Instruments

User Editable Instrument Name

User Editable Channel Name

User Changable Alarm ON Mode Selection for Individual channel

User Changable Decimal Point Selection for Individual channel

User Changable Low & High Alarm Set Points for Individual channel

User Changable Unit Selection for Individual channel

Record Interval Selection from 1 sec to 24 Hours

Instrument Selection for communication

All Instruments Settings View screen

ID	Name	Channel1 Alarm ON Mode	Channel1 LowSet Point	Channel1 HighSet Point	Channel2 Alarm ON Mode	Channel2 LowSet Point	Channel2 HighSet Point	Channel3 Alarm ON Mode	Channel3 LowSet Point	Channel3 HighSet Point	Record
1	Inst1	Band	0	0	Above High Risk	10	10.00	Band	0	0	1 Seconds
2	Inst2	Alarm Off	0.0	0.0	Alarm Off	0.0	0.0	Alarm Off	0	0	1 Seconds
3	Inst3	Alarm Off	0	0	Alarm Off	0	0	Alarm Off	0	0	1 Seconds
4	Inst4	Alarm Off	0	0	Alarm Off	0	0	Alarm Off	0.0	0.0	1 Seconds
5	Inst5	Alarm Off	0	0	Alarm Off	0	0	Alarm Off	0	0	1 Seconds
6	Inst6	Alarm Off	0	0	Alarm Off	0	0	Alarm Off	0	0	1 Seconds
7	Inst7	Alarm Off	0	0	Alarm Off	0	0	Alarm Off	0	0	1 Seconds
		Alarm Off	0.0	0.0	Alarm Off	0.0	0.0	Alarm Off	0.0	0.0	1 Seconds

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Specifications

Model	EMS 195
Display	128 x 64 COG Graphic LCD with White LED Back light
Power supply	9 V DC \pm 5 % / 4.5 watts (It should connect with 90 to 270 V AC 50 / 60 Hz by external adaptor)
Password access	Provided for user & supervisory settings
Analog Inputs (selectable)	Channel 1 - mA , mV , Volt , RTD - PT 100 Channel 2 & 3 - mA , mV , Volt
Input range (scalable)	0 to + 20 mA -200 to + 200 mV -10 to + 10 Volt
Display Range	-20000 to + 20000 (scalable) for Analog Inputs -50 to 200 °C for RTD - PT 100
Decimal point	1 , 2 , 3 , 4 & 5 digit (selectable) except RTD - PT 100
RTD Resolution	1, 0.1, 0.01 (selectable)
Unit	6 character for each channel (changeable)
Alarm output* (optional against order)	Common (or) Individual relay (5A rated) & common buzzer output
Alarm status	High, Low, High Low, Band for each channel (selectable)
Alarm set point	High & Low Set point for each channel(user selectable)
Alarm Hysteresis	0 to 20000 for each channel(user selectable)
Analog output** (optional against order)	Galvanically isolated 4-20 mA (or) 0-10 V O/P for each channel
PC software (optional)	Provided with logging, Alarm Setup, Record, Graph
PC Communication	RS 485 (2 wire)
Protocol	MODBUS RTU
Slave ID	1 to 32 (selectable)
Baud Rate (kpbs)	1.2 , 2.4 , 9.6 , 19.2 , 57.6 , 115.2 (selectable)
Restore default	Provided
Mounting	Wall mounting
Dimension W x H x D	100 x 100 x 45 mm
Operating environment	0 to 50°C / 20 to 95 % RH non condensing
Weight (Approx.)	250 g

NOTE :

* common Relay & Buzzer output was inbuilt in the "EMS 195" itself. For Individual Relay output " EMS195 RLY" (External Relay Box) provided by factory is connected with "EMS 195" using Signal Cable.

** for Analog Output " EMS 195 RTX" (External Analog Output Box) provided by factory is connected with "EMS 195" using Signal Cable.

Due to continuous improvements, Published specifications may change without notice



SANSEL INSTRUMENTS AND CONTROLS SANSEL CALIBRATION LABORATORIES

ISO/IEC 17025 Accredited Calibration Laboratory by NABL CC - 2879
(Thermal, Mechanical, Electro-Technical, Dimension Parameters)

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