masibus

85XX

Scanner

Monitor. Protect. Control.
Visualize. Communicate

mSCAN · Modbus · PROFIBUS · Ethernet

Model 85XX is a multi-channel monitoring, Alarm annunciation and Protection Device. With more than 25000 units in operation, 85XX is the Number One choice of OEM and End-Users for their monitoring and Protection Application. The unit is Modular, Field scalable and has variety of communication options to interface with PLC/DCS/SCADA systems.

Modular and Expandable

85XX is modular in architecture and Expandable, 5 I/O slots can accommodate a mix of Analog Input, Re-Transmission, Open collector or Relay output to suit different applications in Power, Process, Water and Infrastructure industries. All field inputs are wired to a detachable back plate for ease of wiring and reduce downtime during replacement.

Configuration

85XX is configured using the mSCAN software which is also used to retrieve logged data and display real-time values; the unit can also be edited by front keyboard and display. The unit has numeric displays for CH. NO. And Value, Alarm/Trip Annunciation is done by individual discrete LEDs on front fascia. The unit is fully password protected for configured data.

Communication

85XX comes with one RS232/485 Modbus RTU port as a standard, Profibus-DP and Modbus over Ethernet (Modnet) are options available to enhance the communication capabilities of the unit and use it as an RTU, Alarm controller or protection device for motors, transformers etc. All configured parameters, real time values and status are available on all communication protocols.

Alarm/Trip or Control

85XX comes with 3 Groups/6 Relays as standard but upgradeable to 6 Groups/12 Relays as an option. The Relay outputs can be freely mapped to any channel set points and configured as Alarm or Trip functionality with Fail-Safe or Normal Logic. 85XX has the most comprehensive Alarm/Trip logic to handle momentary and maintained Alarms, with Auto-Reset and Ack Reset functionality.

The 48 OC output option can be used as On/Off control output for individual channel or as a status output for Alarm condition.

Features

- Modular and Scalable
- 8/16/24 channel configurations
- EMI/EMC Type test qualified
- Universal input for each Analog Input
- Max Configuration: 3 Input modules (AI) + 2 Output modules (Relay/AO/OC)
- Comprehensive alarm/trip logic
- Free mapping of Relay to Channels/Group
- Windows based mSCAN configuration tool
- Options :
    - Upto 4 Retransmission output (Isolated)
    - Modnet/Profibus-DP Communication
    - 48 open collector outputs
    - Channel to channel input isolation
    - Weather proof / flame proof enclosure
    - IP65 Front Fascia

Applications

- Substation Monitoring
- Motor/Generator Monitoring and Protection
- Transformer monitoring and protection
- Compressor/Pump/DG set monitoring
- Asset Monitoring
- As an Serial/Ethernet/Profibus RTU
- Remote I/O module
- Multi Point On/Off control
- Pipeline Heat Tracing circuit control
- Remote I/O for PLC/DCS/SCADA

Technical Specifications

Input

No of Input	8, 16 or 24
Input Type	Thermocouple: E, J, K, T, B, R, S RTD (3 wire): Pt100, Cu53, Pt46 Voltage: 0/1-5V, Current: 0/4-20mA, Digital Input: Potential free contact
Input Range	Refer Table-1
CJC Error	± 2°C
3 wire Cancellation	Automatic by Software for RTD types
Accuracy	± 0.1% of FS ± 1 count
Sampling Rate	T/C & Voltage/Current: 250mSec/Channel RTD: 450mSec/Channel
Display Scan Rate	1 to 99 Sec (Programmable)
NMRR	> 40dB
CMRR	> 120dB
Temp-co	< 100ppm/°C
Channel to channel Isolation for Isolated Mux Card option	125VAC/300VDC

Display and Keys

Channel number	2-Digit, 0.56", Red seven segment LED
Process Value	4-Digit, 0.56", Red seven segment LED
Status LEDs	Manual, Run, Verify, Program, Fault. Individual discrete Red LED's to indicate channel status
Keys	UP, Down, Enter/ ACK, Verify, Auto/Man, Next, Check, Skip/Self Check, Al1/Al2, Scan Time

Output

Alarm/Trip Output

Relays	6 per card
Type	Single Change over (C, NO, NC)
Rating	2A @ 230VAC / 30VDC

Communication Output

RS485/RS232 (any one factory set)

Connector	9-Pin D-Type Connector
Protocol	Modbus-RTU Slave
Baud Rate	9600 or 19200 bps

Ethernet (optional)

Connector	RJ45
Protocol	Modbus - TCP/IP(Modnet) Slave
Baud Rate	10/100 Mbps

Profibus-DP (optional)

Connector	9-Pin D-Type Connector
Protocol	Profibus-DP Slave
Baud Rate	9600 to 12Mbps (Auto Detect)
Max Input Output Data	244 Bytes

Retransmission Output (optional)

No of Output	2 per card
Current	4-20mA @ 500Ω Max.
Accuracy	0.25% of FS

Open Collector Output (optional)

O/C Interface	25 pin D-type female connector
Rating	30VDC @ 100mA
No of Output	24 (Sinking Logic) per card

Data Logging (optional)

Retrieval	RS232/485 Port
Memory Storage (Data)	Periodic: 5MB (Max total records: 60964) Event: 1MB (Max total records: 23800)
Logging Period	40 Days (Interval:1 min) 11 Years (Interval: 99 min)
Record	Measured Value with Time stamp

Power supply

Voltage	85-265VAC, 50/60 Hz/125-280VDC Optional: 18-36 VDC or 110 VDC ±10%
Power Consumption	< 20 VA

Isolation (Withstanding voltage)
Between primary terminals* and secondary terminals**: **At least 1500 V AC for 1 minute**
Between primary terminals* and grounding terminal: **At least 1500 V AC for 1 minute**
Between grounding terminal and secondary terminals**: **At least 1500 V AC for 1 minute**
Between secondary terminals**: **At least 500 V AC for 1 minute**
* Primary terminals indicate power terminals and relay output terminals.
** Secondary terminals indicate I/O signal and Communication O/P.
Insulation resistance: 20MΩ or more @ 500 V DC between power terminals and grounding terminal

Physical

Size (mm)	Vertical: 192 (H) X 96 (W) X 250 (D) Horizontal: 96 (H) X 192 (W) X 250 (D)
Front Bezel (mm)	Vertical: 192 (H) X 96 (W) Horizontal: 96 (H) X 192 (W)
Panel Cutout (mm)	Vertical: 188 (H) X 92 (W) Horizontal: 92 (H) X 188 (W)
Depth behind Panel (mm)	208/250 (with terminal plate)
Mounting	Flush Panel Mount (Standard)
Weight (Appx.)	3 Kg
Enclosure Material	M.S. powder coated with ABS molded bezel
Enclosure Protection	IP20 (Std)
Terminal Cable Size	2.5 mm^2

Environmental

Operating temperature	0 to 55 °C
Storage temperature	0 to 80 °C
Humidity	20 to 95 % RH non-condensing

Table 1: Display Range

Input Type		Ranges
Thermocouple	E	-200 to 1000°C
	J	-200 to 1200°C
	K	-200 to 1372°C
	T	-200 to 400°C
	B	400 to 1820°C
	R	0 to 1768°C
	S	0 to 1768°C
RTD	Cu-53	-210 to 210°C
	Pt46	-200 to 600°C
	Pt100 (1.0 °C)	-199 to 850°C
	Pt100 (0.1 °C)	-199.0 to 200.0°C
Linear	0/1-5V, 0/4-20mA (Ext.250Ω)	-1999 to 9999

Ordering Code

Model	No of Input		Input Type/ Configuration			Data Logging		Power Supply		Communication		Display Color		Mounting		Auxiliary Output (Max 2 Cards)	Relay	OC	Rx
85XX	X		X		X	X		X		X		X		X		X			
	8	Eight	NF	Non Iso. Fix	1	E	N	None	U1	85-265VAC/ 125-280VDC	N	None	R	Red	P0	Panel-Vertical	XX	0	0	0
	A	Sixteen	NM	Non Iso. Mix	2	J	Y	Yes	A3	18-36VDC	1	RS232	G	Green	P1	Panel-Horizontal	XR	1	0	0
	B	Twenty Four	IF	Isolated Fix	3	K			A4	110VDC	2	RS485			W1	Wall-IP65	RO	1	1	0
			IM	Isolated Mix	4	T					E	Ethernet			FP	Wall-FLP	RR	2	0	0
					5	B					P	Profibus-DP			IP0	Panel-Vertical IP65 Front Fascia	OO	0	2	0
					6	R											XO	0	1	0
					7	S									IP1	Panel-Horizontal IP65 Front Fascia	XA	0	0	1
					9	Pt-100											AA	0	0	2
					A	Cu-53											RA	1	0	1
					B	Pt-46														
					C	4-20mA														
					D	0-20mA														
					E	1-5VDC														
					F	0-5VDC														
					S	Special*														

0,1,2 - Number of Cards

* - Consult Factory
X - Specify from table
Note: Rx Output will work only if all Inputs are same type