



## 85XX<sup>+</sup>

### Scanner/ DAQ Module

Monitor. Protect. Control.  
Visualize. Communicate



The 85XX<sup>+</sup> is an upgrade on the most successful model 85XX; additional capabilities have been added by way of multi-serial ports, Ethernet port, scanning speed and alphanumeric display.

#### Modular and Expandable

85XX<sup>+</sup> is modular in architecture and Expandable, 5 I/O slots can accommodate a mix of Analog Input, Open collector output or Relay output to suit different applications in Power, Water and Infrastructure Industries. All field inputs are wired by Pre-Fab cables direct into panel terminals.

#### Configuration

85XX<sup>+</sup> is configured using the mSCAN<sup>+</sup> software which is very user friendly; the unit can also be edited by front keyboard and display. The unit has numeric and alpha-numeric displays for value and tag display, Alarm/Trip and control status are displayed by discrete LEDs on front fascia.

#### Communication

85XX<sup>+</sup> comes with one RS485 port as a standard, a second RS485 port or a Ethernet Port are options to enhance the communication capabilities of the unit and use it as an RTU, Alarm controller or protection device for motors, transformers, etc

#### Control or Alarm or Trip

The Relay outputs and open collector output can be freely mapped to any channel set points and configured as Alarm or Trip or Control functionality with Fail-Safe or Normal Logic.

#### Features

- Compact and Rugged
- Extruded Aluminum Chassis with IP-55 front
- EMI/EMC Type test qualified & CE Marked
- 5 I/Os Slots capacity
- Max Configuration: 24 AI + 8 Relay + 24 OC/ 8 Relay
- Field Scalable
- 8 channel Universal Analog Input Module
- 8 Relay output Module
- 24 open collector outputs Module
- Fast sampling and generation of Alarm/Trip
- Comprehensive alarm/trip logic / control
- Alpha-Numeric display for programmable tag no / Engg unit
- 2X RS485 Serial communication ports
- 1X Ethernet port
- Modbus RTU over serial and Modnet over ethernet Protocols
- Windows based mSCAN<sup>+</sup> configuration tool
- Datalogging option

#### Applications

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

# Technical Specifications

Input	
No of AI Modules	1 (8 ch) , 2 (16 ch) or 3 (24 ch)
Input Type & Display Range	Refer Table-1
Accuracy	0.1% FS
ADC Resolution	17 bits
Display Resolution	0.1 / 1.0 °C
Sampling Rate	T/C & Voltage/Current: 50mSec/Ch RTD: 100mSec/Ch
Display Scan Rate	1 to 99 Sec (Programmable)
CJC	Automatic for thermocouple type
Sensor open	All inputs except 0-5V, 0-10 VDC
Sensor Burnout current	0.4uA
RTD excitation current	250uA
NMRR	> 40dB
CMRR	> 120dB
Temp-co	< 100ppm/°C
Input Impedance	> 1MΩ
Max Voltage	20VDC
Connector Type	24 pin Rectangular connector

Display and Keys	
Channel number	2-Digit, 0.56", Green seven segment LED
Process Value	4-Digit, 0.56", Red seven segment LED
Parameter (Engg. unit/Tag no)	6-Digit, 0.3", Orange Alphanumeric LED
Status LEDs	Manual, Run, Flt, Tx/Rx, Relay status Alarm/Control Status per channel
Keys	2 X 4 for Configuration, Operation and Calibration

Output (Alarm/ Trip /Control) - Optional	
Relays	8 Nos. per card
Type	C- NO or C-NC (Jumper Selectable)
Rating	2A @ 250VAC / 30VDC
Connector Type	25 D-Sub

Open Collector (OC) Output	
OC Outputs	24
Type	Sinking
Rating	100mA@30V DC
Connector Type	25 D-Sub

Communication	
<b>RS485-1 (Standard) &amp; RS485-2 (Optional)</b>	
Interface	2 Wire, EIA RS485
Protocol	Modbus-RTU Slave
Baud Rate	9600 or 19200
<b>Ethernet (optional)</b>	
Interface	RJ45
Protocol	Modbus - TCP/IP(Modnet) Slave
Baud Rate	10 Mbps

Data Logging(Optional)	
Memory	25MB (Periodic), 7MB (Event)
Logged Data Retrieval	Through mSCAN <sup>+</sup> Software
Min Periodic Log Time	1 Sec
No of Records	$101888 \times \left[ \frac{256}{(2X \text{No. of Ch}) + 12} \right]$

Power supply	
Voltage	85-265VAC, 50/60 Hz/ 100-295 VDC 18 - 36VDC (optional)
Power Consumption	16VA (Max) [85-265V AC] 8VA (Max) [18-36VDC]

**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	
<b>Dimensions</b>	
Size (mm)	144 (H) X 72 (W) X 165 (D)
Panel Cutout (mm)	137 (H) X 68.5 (W)
Depth behind Panel (mm)	155 / 203 (with cable connector)
Mounting	Panel Mount (Standard)
Weight	1.25 Kg
Enclosure Material	Extruded Aluminum
Protection	IP20 (Overall), IP55 (Front Facia)

Environmental	
Operating temperature	-10 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
RTD	S	0 to 1768°C
	N	-200 to 1300°C
	Pt100	-199 to 850°C
	Cu53	-210 to 210°C
Voltage/Current	NI120	-70 to 210°C
	0/1-5V DC	-1999 to 9999
	0/4 -20mA (Ext. 250Ω)	
	-10 to 20 mV DC	
	0 - 100 mV DC	
0 - 10 V DC		

Compliance - CE Version Only	
EN 61010-1:2010 (Safety)	
EN 61000-6-2:2005 & EN 61000-6-4:2007 (EMI/EMC)	

## Ordering Code

Model	No of I/O Slots and Type								Power Supply	Communication	Data Logging	CE Compliance						
	1	2	3	4	5													
85XX*	AI	8 Analog I/P	N	None	N	None	N	None	N	None	U1	85-265VAC/100-295VDC	1X	1 X RS485	N	No	N	No
		AI	8 Analog I/P	AI	8 Analog I/P	RL	8 Relay	RL	8 Relay	U2	18-36VDC	2X	2 X RS485	Y	Yes	Y	Yes	
						OC	Open Collector O/P					1E	1 X RS485 + 1 X RJ45					
													2E	2 X RS485 + 1 X RJ45				

Note: Customer to specify required input type/range from Table-1 at the time of Order placement, else by default all channels will be calibrated for Input RTD PT100 range

### Cables Ordering Code (Extra Cost)

Part Code	Description	Part Code	Description
AIC-2	8 points Input cable 25 Core 2 meters long	OCC-2	24 OC output cable 25 Core 2 meters long
RLC-2	8 Relay output cable 25 Core 2 meters long		

Only Ethernet cable will be offered FOC incase if Ethernet option is selected

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All specifications are subject to change without notice due to continuous improvements.  
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