

# ANALOG INPUT MODULE

RS485, ETHERNET, T<sub>MAX</sub>



- 8 universal analog inputs
- 8 thermocouples, Pt100, 0~50 mV, 0/4~20 mA, digital input
- Isolated RS485/MODBUS RTU, Upto 19200 Baud rate
- MODBUS / TCP & Telnet multidrop communication for PLC, SCADA, etc.
- 85~265 VAC or 15~60 V DC supply
- 3 key, 3 level programming
- Powerful, flexible SCADA software available
- 4~20 mA output option
- Standard & High Performance Version

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### SPECIFICATIONS

All specifications at ambient of 25 °C, unless specified otherwise

<b>INPUTS</b> Maximum no. of channels 8 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 scaleable and without any DIP reconfiguration) Digital input Potential free Channel scan rate < 0.8 seconds for 8 channels 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 1 Accuracy See Table 1 ADC resolution 16 bit Cold junction compensation Automatic Sensor break protection User programmable		<b>COMMUNICATION</b> <b>SCM201</b> Port RS485, isolated Protocol MODBUS RTU Baud rate 4800/9600/19200 bps Slave ID User programmable, 1~247 Minimum polling interval 250 milliseconds Data types Float, swapped float, integer, integer x10 <b>SCM203</b> System CPU 32 bit MCU Communication interface Ethernet 10/100 base TX, RJ-45 Protocol Modbus/TCP & Telnet Com port format Data bit 8 Parity None Stop bit 1 Baud rate 9600 bps Slave ID User programmable, 1~247 Minimum polling interval 250 milliseconds Data types Float, swapped float, integer, integer x10	
<b>ANALOG OUTPUT</b> Current 0~20 mA, 4~20 mA, 20~0 mA, 20~4 mA Load for current output 0~5000Ω Voltage 0~2 VDC, 0~5 VDC, 0~10 VDC / user specified Load for voltage output > 10 kohms		<b>INDICATION</b> Display type 2x16 character LCD display	
<b>ADJUSTMENTS</b> 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		<b>OTHER</b> Keypad Tactile, 3 keys Memory for programmed parameters Non-volatile, indefinite duration Supply voltage a) 85~265 V AC, 50/60 hz b) 15~60 V DC Power consumption 3 watts	
<b>OTHER MAJOR PARAMETERS</b> Password Level lock Display scan rate 1~99 seconds/channel SKIP channel Enable/disable Input bias -99.9 ~ 99.9 Power ON output activation delay 0.0 ~ 99.9 sec		<b>TEMPERATURE, HUMIDITY</b> Ambient, storage -22~+85°C Ambient, operation 0~50°C Relative humidity 0~95%	
<b>CALIBRATION</b> Zero & span Through front panel keys & display User calibration Sensor span and sensor zero CJC calibration Room temperature		<b>ENCLOSURE</b> Material ABS plastic Dimensions (in mm) 100(W) x 75(H) x 110(D) Protection IP20 Mounting Snap on for 35mm DIN rail to DIN 46277	

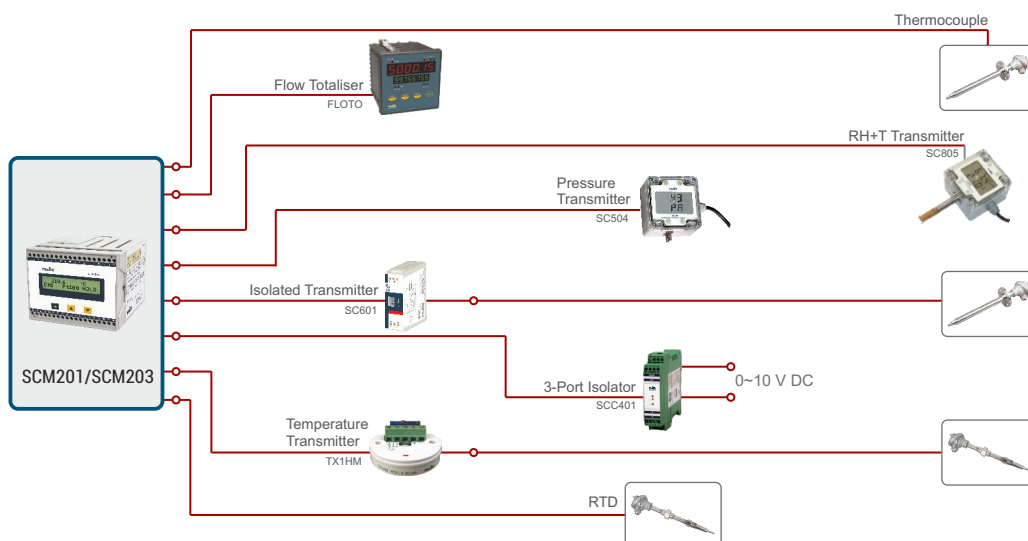
### TABLE 1

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)	-200	1000	0	1000	± 1	± 3
Iron / Constantan (J)	-210	760	0	760	± 1	± 3
Chromel / Alumel (K)	-200	1372	-50	1200	± 1	± 3
Nicrosil / Nisil (N)	-200	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)	-200	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

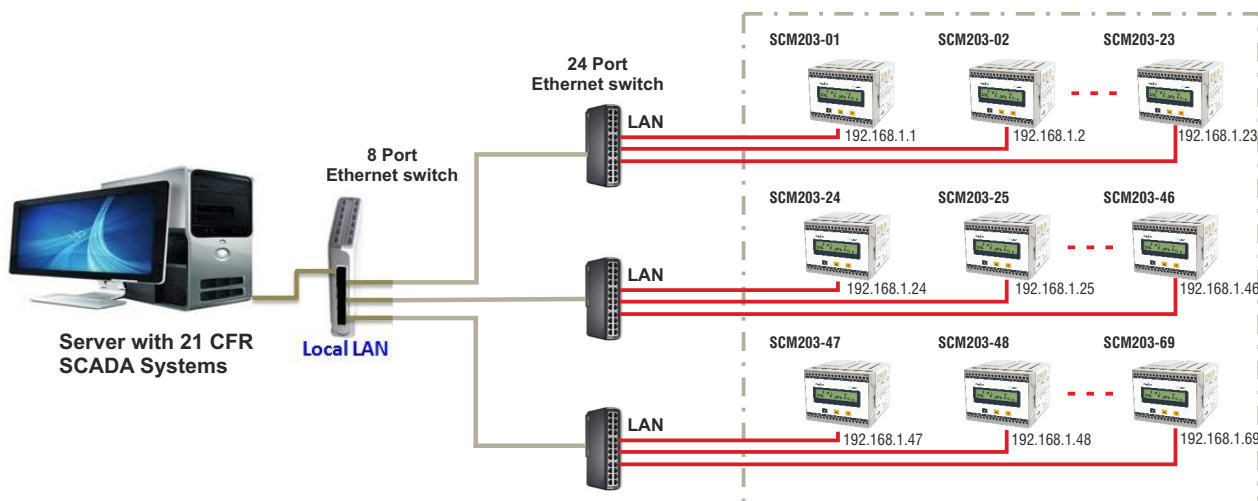
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## APPLICATION



## TYPICAL CONFIGURATION



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## CURRENT OUTPUT MODES

There are 3 current output modes :

Mode No.	Mode Name	Current output 1
1	T max	T max
2	T <sub>A</sub>	T of assigned channel A

### Mode 1 : T Max

Current output (I) corresponds to highest temperature (T<sub>max</sub>) from all channels.

### Mode 2 : T<sub>A</sub>

I corresponds to temperature (T) of any assigned channel A.

## SCADA SCREENS

**RADIX ELECTROSYSTEMS PVT. LTD.** September 21, 2011 10:41:12 AM

CHANNEL NO.	CHANNEL DESCRIPTION	PROCESS VALUE	UNIT
CH01	Analog CH 01	845.8	°C
CH02	Analog CH 02	642.3	°C
CH03	Analog CH 03	276.7	°C
CH04	Analog CH 04	450.8	°C
CH05	Analog CH 05	49.6	°C
CH06	Analog CH 06	48.0	°C
CH07	Analog CH 07	51.7	°C
CH08	Analog CH 08	48.1	°C

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TREND-1

Pressure in kg/cm2

Channel Descriptions:

- ASSR-07-Temp
- ASSR-07-Pressure
- ASSR-08-Temp
- ASSR-08-Pressure
- ASSR-11-Temp
- ASSR-12-Temp
- AGLR-13-Temp
- AGLR-16-Temp

Y Axis Limit

Pressure	Temp.
Top Limit: 10.0	80.0
Bottom Limit: 0.0	0.0

Real Time: 60 Seconds Initial Date: 2015/2/11 15:42:46 End Date: 2015/2/11 16:42:46

SENSE...MEASURE...CONTROL...AUTOMATE @ RADIX

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PROCESS FLOW DIAGRAM

MONITORING MIMIC BAR GRAPH STATUS TRENDS BATCH HISTORY BATCH PARAMETERS

SECURITY LOGIN LOGOUT ALARMS AUDIT TRAIL EXIT

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STATUS-3

SR. NO.	CHANNEL DESCRIPTION	PROCESS VALUE	UNIT	HIGH ALARM SP	LOW ALARM SP	HIGH ALARM	LOW ALARM
CH 01	DSSR-14-Temp	26.9	°C	50.0	2.0		
CH 02	DSSR-14-Pressure	29.8	mmHg	60.0	2.0		
CH 03	DSSR-15-Temp	27.9	°C	50.0	2.0		
CH 04	DSSR-16-Temp	28.5	°C	50.0	2.0		
CH 05	DSSR-17-Temp	25.6	°C	50.0	2.0		
CH 06	DSSR-18-Temp	25.0	°C	50.0	2.0		
CH 07	Spare	32.0	EU	50.0	2.0		
CH 08	Spare	30.0	EU	50.0	2.0		

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### ORDERING INFORMATION

#### Model : SCM201

##### Standard Options

SCM201, standard version, will be supplied with the following specifications :

No. of channels	8		
Output	RS485/MODBUS RTU		
Example	2310	01	2310 01
Product code	2310		
Supply voltage		01	85~265 VAC
		02	15~60 VDC

#### Model : SCM201 Tmax

##### Standard Options

SCM201, standard version, will be supplied with the following specifications :

Input type	Universal
Output	4~20 mA for Tmax
Supply	85~265 V AC

Example	2432	01	01	2432 01 01
Product code	2432			
No. of channels		01		4
		02		8
Supply voltage			01	85~265 VAC
			02	15~60 VDC

##### Non-standard Options

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

	Option	Details
1.	Analog output	0~10 V DC

#### Model : SCM203

##### Standard Options

SCM203, standard version, will be supplied with the following specifications :

No. of channels	8		
Output	ETHERNET MODBUS TCP		
Example	2548	01	2548 01
Product code	2548		
Supply voltage		01	85~265 VAC
		02	15~60 VDC

##### Non-standard Options

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

	Option	Details
1.	No. of channels	4
2.	All channels with a given input type	Specify input type

CAT#672R0/A

#### ENQUIRIES

**Instruments:** sales@radix.co.in  
**Sensors:** sensors@radix.co.in  
**Gauges:** gauges@radix.co.in  
**Automation:** automation@radix.co.in  
**Level:** level@radix.co.in

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