



PROSENSE SC6 SERIES SIGNAL CONDITIONERS USER MANUAL





This product manual covers the following part numbers:

0068060	SC6-1100	SC6-1110	SC6-2200	SC6-3220	SC6-5200	SC6-7102
0068061	SC6-1101	SC6-1111	SC6-2220	SC6-4102	SC6-6102	SC6-PCU1
0068062	SC6-1102	SC6-1112	SC6-3200	SC6-4112	SC6-6200	



PROSENSE SC6 SERIES SIGNAL CONDITIONERS USER MANUAL

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PROSENSE SC6 SERIES SIGNAL CONDITIONERS USER MANUAL

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1 - WARNINGS



To avoid the risk of electric shock and fire, the safety instructions of this guide must be observed and the guidelines followed. The specifications must not be exceeded, and the device must only be applied as described in the following. Prior to the commissioning of the device, this installation guide must be examined carefully. Only qualified personnel (technicians) should install this device. If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired. Until the device is installed, do not connect hazardous voltages to the device.



To avoid explosion and serious injury, modules having mechanical failures must not be used.

Modules are not repairable.

In applications where hazardous voltage is connected to in-/outputs of the device, sufficient spacing or isolation from wires, terminals and enclosure - to surroundings (incl. neighboring devices), must be ensured to maintain protection against electric shock.

Potential electrostatic charging hazard. To avoid the risk of explosion due to electrostatic charging of the enclosure, do not handle the units unless the area is known to be safe, or appropriate safety measures are taken to avoid electrostatic discharge.

2 - Symbol Identification



Triangle with an exclamation mark: Read the manual before installation and commissioning of the device in order to avoid incidents that could lead to personal injury or mechanical damage.



The CE mark indicates device is in compliance with the essential requirements of the directives.

3 - SAFETY INSTRUCTIONS

3.1 - Receipt and unpacking

Unpack the device without damaging it and check whether the device type corresponds to the one ordered. The packing should always follow the device until the unit has been permanently installed.

3.2 - Environment

Avoid direct sun light, dust, high temperatures, mechanical vibrations and shock, as well as heavy moisture and rain. If necessary, heating in excess of the stated limits for ambient temperatures should be avoided by way of ventilation. The device can be used for Measurement Category II and Pollution Degree 2. The modules are designed to operate safely at an altitude of 2000m or less.

3.3 - INSTALLING

Only technicians who are familiar with the technical terms, warnings, and instructions in the manual and who are able to follow these should connect the device.

Should there be any doubt as to the correct handling of the device, please contact AutomationDirect.com.

Installation and connection of the device should comply with national legislation for installing of electric materials, e.g. wire cross section, protective fuse, and location.

Descriptions of input / output and supply connections are shown in this installation guide and on the side label.

The device is provided with field wiring terminals and shall be supplied from a Power Supply having double or reinforced insulation. A power switch should be readily accessible and close to the device. The power switch shall be marked as the disconnecting unit for the device.

The SC6 Series must be installed on a DIN rail that complies with EN 60715. Note: No mounting orientation restrictions.

UL installation

Use 60°C/75°C copper conducters only.

The device is an Open Type Listed Process Control Equipment. To prevent injury resulting from accessability to live parts the equipment must be installed in an enclosure.

The power supply unit must comply with NEC Class 2, as described by the National Electrical Code[®] (ANSI / NFPA 70).

cFMus installation in Division 2 or Zone 2

FM18US0045X	Cl I, Div. 2, Group A, B, C, D T4
	or Cl I, Zone 2, AEx nA IIC T4
FM18CA0023X	Cl I, Div. 2, Group A, B, C, D T4
	or Cl I, Zone 2, Ex nA IIC T4

In Class I, Division 2 or Zone 2 installations, the subject equipment shall be installed within a tool-secured enclosure which is capable of accepting one or more of Class I, Division 2 wiring methods specified in the National Electrical Code (ANSI/NFPA 70) or in Canada in the Canadian Electrical Code (C22.1).

The SC6 Series Isolators and Converters must be connected to limited output NEC Class 2 circuits, as outlined in the National Electrical Code[®] (ANSI / NFPA 70), only. If the devices are connected to a redundant power supply (two separate power supplies), both must meet this requirement. When installed in outdoor or potentially wet locations the enclosure shall at a minimum meet the requirements of IP54.

Warning: Substitution of components may impair suitability for Zone 2 / Division 2.

Warning: To prevent ignition potential in an explosive atmosphere, disconnect power before servicing. Do not separate connectors while circuit is energized in a potentially explosive atmosphere.

Warning: Do not install or remove devices from a live power rail when an explosive gas mixture is present.

3.4 - CLEANING

When disconnected, the device may be cleaned with a cloth moistened with distilled water.

4 - SUPPLY VOLTAGE OPTIONS

The technical specifications specify the maximum required power at nominal operating values, e.g. 24V supply voltage, 60° C ambient temperature, 600Ω load, and 20mA output current.

DIN rail solution - device daisy chain:

The units can be supplied with 24VDC ±30% via direct wiring and a loop between the devices. Protective fuse: 2.5 A.

Power rail solution #2:

The SC6-PCU1 power connector unit allows easy connection of a 24 VDC / 2.5 A source to the power rail. Protective fuse: 2.5 A.



Protective fuse: 0.4 A. Power rail solution #1:

Alternately, you can connect 24VDC to any one SC6 Series device with power rail connector which will then energize other units on the rail. The terminals can pass a current of 400mA maximum.

Note: SC6-1101, -1102, -1111, -1112, -4102, -4112, -6102, -7102 are not supplied via the DIN rail solution. Direct terminal wiring to each device is required for these models

External fuse characteristics:

The 2.5 A fuse must break after not more than 120 seconds at 6.4 A.

5 - Installing and Uninstalling the SC6 Series



Picture 1:

Installing on DIN rail / power rail. Click the device onto the rail.

Picture 2:

Uninstalling from DIN rail / power rail. First, remember to uninstall the connectors with hazardous voltages. Detach the device from the DIN rail by lifting the bottom lock.

Note: Always use a screwdriver to uninstall units and avoid excessive force to prevent damaging the unit.

Picture 3:

Wire size AWG 26-12 / 0.13 - 2.5 mm2 stranded wire. Screw terminal torque 0.5 N·m.

6 - INSTALLATION ON DIN RAIL / POWER RAIL



The devices in the SC6 Series can be installed on a DIN rail or on a power rail (only SC6-1100, -1110, -2200, -2220, -3200, -3220, -5200 and -6200). It is recommended that the modules be supported by end brackets (part number KN-EB7-10). Power supply units can be installed on the power rail according to customer requirements.

If you want to install a SC6 Series device with power rail connectors on a standard DIN rail, the head of the screws holding the 7.5 mm DIN rail shall be no more than 3.5 mm high in order to avoid short circuit between the power rail connectors on the SC6 Series device and the screws.



6.1 - IN-RAIL-BUS-SET INSTALLATION

Step 1

Put the BUS PCB into the carrier profile and then put the carrier profile into the DIN rail

Safety cap left

DIN rail



Carrier rail cover

BUS PCB

Carrier profile



The safety cap fixes the carrier profile in the DIN rail and protects the ends of the BUS

cover provided to protect exposed sections of the BUS PCB

Part No.	In-Rail-Bus-Set / 250mm 0068060					
	BUS-PCB 250mm					
	Carrier profile 250mm					
Each Set Includes	Carrier rail cover 250mm					
	Safety cap right					
	Safety cap left					

(Purchased separately)



7 - SIDE LABEL



8 - COMMON TECHNICAL SPECIFICATIONS

SC6 Series Common Technical Specifications								
Environmental Conditions	,							
Operating Temperature	-25	°C to +70°C (-13°F to +158°F)						
Storage Temperature	-40°C to +85°C (-40°F to +185°F)							
Calibration Temperature	+20°C to +28°C (+68 to +82.4°F)							
Relative Humidity		< 95% RH (non-cond.)						
Protection Degree		IP20*						
Mechanical Specifications								
Dimensions (HxWxD)	113 x 6.1 x 115 mm							
Weight Approx.	70g							
DIN Rail Type		DIN EN 60715 - 35mm						
Wire Size	0.132.5	mm2 / AWG 2612 stranded wire						
Screw Terminal Torque	0.5 N·m							
Vibration	2 to 25 Hz	± 1.6 mm						
Vibration	25 to 100 Hz	± 4g						
	EMC	2014/30/EU						
Observed Authority Reauirements	LVD	2014/35/EU						
	RoHS 2	2011/65/EU						
	cULus, Standard for Safety	UL 61010-1, File E498965						
Approvals	cFMus	FM18US0045X, FM18CA0023X						
	Safe Isolation	EN 61140						
* Installation in pollution degree 2	2 & overvoltage category	II, No corrosive gases						

9 - 4-Wire, External Powered Analog Signal Input Modules - Technical Specifications

Part No.SC6-1200SC6-1200SC6-2200SC6-3200SC6-3200SC6-3200SC6-3200ApplicationOne channelOne channelSignal splitterOne channelSignal splitterDiP autich configurableNoVerNoYerYerYerDiP autich configurableNo120 W0.80 W120 W0.80 W120 W0.41 WMax, required power*0.60 W0.55 W0.48 W0.40 W0.41 W0.41 WIolation votage, restSeveret intervert Votage traitVotage traitVotage trait0.41 WSignal Apanice, ropitalOutput Votage traitVotage traitVotage traitVotage traitSignal Apanice, ropitalOutput Votage traitVotage traitVotage traitVotage traitSignal Apanice, ropitalOutput Votage traitVotage traitVotage traitVotage traitSignal Apanice, ropitalCottage traitVotage traitVotage	4- Wire, Extern	al Powered	Analog Signal	Input Modul	es - Technical	Specification	IS			
ApplicationOne channelSignal splitterSignal splitterSignal splitterOne channelSignal splitterDP suitch configurableNo	Part No.	SC6-1100	SC6-2200	SC6-1110	SC6-2220	SC6-3200	SC6-3220			
DiP switch configurable No Yes No Yes Yes Yes Supply voltage	Application	One channel	One channel	Signal splitter	Signal splitter	One channel	Signal splitter			
Supply voltage ISBR - 31.2 VDC (terminals or bus rall) ISBR - 31.2 VDC (terminals or bus rall) Max. power dissipation** 0.60 W 0.50 W 0.80 W 1.20 W 0.80 W 0.80 W 0.43 W 0.43 W Max. power dissipation** 0.60 W 0.50 W 0.80 W 0.80 W 0.43 W 0.43 W Itelation voltage, test > 300/VAC (reinforcent) / 250/VAC (20ne 2, Div. 2) Dauble isolation 0.43 W 0.43 W Signal / noise ratio > 100Hz or 10Hz (DIP with selectable) second 250/VAC (20ne 2, Div. 2) Dauble isolation voltage, test > 100Hz or 10Hz (DIP with selectable) Response time filter (0-90%, 100-10%) <	DIP switch configurable	No	Yes	No	Yes	Yes	Yes			
Max. required power*0.80 W1.20 W0.80 W0.43 W0.44 W0.4	Supply voltage			16.8 - 31.2 VD0	C (terminals or bus r	ail)	1			
Mox. power dissipation**0.60 W0.63 W0.43 W0.43 W0.43 Wtotation voltage, texttotation voltage, texttotation voltage, workingSignal chainers, input / output /Signal chainers, input / outputSignal chainers, input	Max. required power*	0.80 W	1.20 W	0.80 W	1.20 W	0.80 W	1.20 W			
Isolation voltage, test 2.5 kVAC Isolation voltage, working 300 VAC (Cone 2, Div. 2) Dauble isolation ::::::::::::::::::::::::::::::::::::	Max. power dissipation**	0.60 W	0.55 W	0.48 W	0.60 W	0.43 W	0.43 W			
<tr< th=""><th>Isolation voltage, test</th><th></th><th></th><th>Ĩ</th><th>2.5 kVAC</th><th></th><th></th></tr<>	Isolation voltage, test			Ĩ	2.5 kVAC					
Deuble isolationinput / Output 2 / Surger 3 and 3 a	Isolation voltage, working		3	800VAC (reinforced	l) / 250VAC (Zone 2	, Div. 2)				
Signal dynamics, singut / outputINTROSE Signal / noise ratioSignal / noise ratioIII <t< th=""><th>Double isolation</th><th></th><th></th><th>Input / Output</th><th>: 1 / Output 2 / Sup</th><th>ply</th><th></th></t<>	Double isolation			Input / Output	: 1 / Output 2 / Sup	ply				
Signal / noise ratioGade / noise ratio> · · · · · · · · · · · · · · · · · ·	Signal dynamics, input / output			Analo	g signal chain					
Cut-diffrequency (3 dB) > 100H2 or 104x (DIP switch selectable) Response time filter (0-90%, 100-70%) < T > T > T > T > T > T > T > T > T > T	Signal / noise ratio				> 60dB					
Response time filter (0-90%, 100-10%) < < < < > < < < < < < < < < < < < < <	Cut-off frequency (3 dB)		> 1	00Hz		>100Hz or 10Hz	(DIP switch selectable)			
Accuracy Image: Instance of ficient Image: Instance of ficient Ether definition of the ficient of ficient of span sector of the ficient of the ficient of span sector of the ficient of the ficien	Response time filter (0-90%, 100-10%)		<	7ms		< 7ms or < 44ms	(DIP switch selectable)			
Temperature coefficient Selected EMC immunity:Kerned EMC immunity:Selectable measurement rangeNone> 17VDC / 20mANonePTVDC / 20mA> 17VDC / 20mANone> 17VDC / 20mA <th c<="" th=""><th>Accuracy</th><th></th><th></th><th>< +/-(</th><th>0.05% of span</th><th></th><th></th></th>	<th>Accuracy</th> <th></th> <th></th> <th>< +/-(</th> <th>0.05% of span</th> <th></th> <th></th>	Accuracy			< +/-(0.05% of span				
EMC immunity influence < + / - 05% of span Extended EMC immunity: NAMUR NE 21, A criterion, burst < + / - 1% of span Current input Overall measurement range 0-23 m A < - 23 m A Selectable measurement range 0-23 m A < - 23 m A Selectable measurement range 0-23 m A < - 23 m A Input voltage drop < 1.5 VDC Input resistance 1900 nominal @ 4mA 400 nominal Transmitter (Dr) auxiliary supply None > 17VDC / 20mA None None Selectable measurement range 0-10 VDC, 2-10 VDC, 0-5 VDC, 1-5 VDC - 11.5 VDC + 11.5 VDC Selectable measurement range 0-10 VDC, 2-10 VDC, 0-5 VDC, 1-5 VDC Selectable measurement range 0-10 VDC, 2-10 VDC, 0-5 VDC, 1-5 VDC Selectable measurement range 0-10 VDC, 2-10 VDC, 0-5 VDC, 1-5 VDC	Temperature coefficient			< +/-0.0)1% of span / °C					
Extended EMC immunity: NAWR NE 21, A criterion, burst Current input Current input Overall measurement range 0-23 mA - 23mA to + 23mA Selectable measurement range - 23mA to + 23mA Selectable measurement range - 23mA to + 23mA MAGO nominal @ 20mA, 4-20 mA - 4000 nominal Input resistance - 1000 nominal @ 20mA None > 17VDC / 20mA None > 17VDC / 20mA None Votage input - 10.25 VDC - 11.5 VDC + 11.5 VDC Selectable measurement range - 10.25 VDC - 11.5 VDC + /-10 VDC + /-10 VDC Selectable measurement range - 10.25 VDC - 11.5 VDC + /-10 VDC + /-10 VDC Selectable measurement range - 10.25 VDC - 11.5 VDC + /-10 VDC + /-10 VDC Selectable measurement range - 0-02 mA 4-20 mA - 0-20 mA 4-20 mA - 0-20 mA 4-20 mA - 0-20 mA 4-20 mA - 0-02 mA 4-20	EMC immunity influence			< +/-	0.5% of span					
NAMUR NE 21, A criterion, burst < + / - 1% of span Current input 0-23 mA - 23mA to + 23mA Selectable measurement ranges 0-20 mA 4-20 mA +/.1 0mA, +/.20mA Input voltage drop < < 1.5 VDC < 1VDC Input resistance 1900 nominal @ 4mA 400 nominal Transmitter (%) auxiliary supply None > 17VDC / 20mA None > 17VDC / 20mA Voltage input None > 17VDC / 20mA None > 17VDC / 20mA A00 nominal Voltage input 0-10 VDC, 20mA None > 17VDC / 20mA None None <t< th=""><th>Extended EMC immunity:</th><th colspan="9">Extended EMC immunity:</th></t<>	Extended EMC immunity:	Extended EMC immunity:								
Current input 0-23 mA - 23mA to + 23mA Selectable measurement ranges - 20mA 4-20 mA - 23mA to + 23mA Selectable measurement ranges - 23mA to + 23mA Input voltage drop - 15 VDC - 1002 Input voltage drop - 1000 nominal @ 4mA - 1000 nominal Input voltage drop - 1000 nominal @ 4mA > 17VDC / 20mA > 17VDC / 20mA - 11.5 VDC Input voltage input - 10.25 VDC - 1.5 VDC - 11.5 VDC - + 11.5 VDC Selectable measurement range - 10.25 VDC 11.5 VDC - + / 10 VDC Input voltage input voltag	NAMUR NE 21, A criterion, burst			< +/	-1% of span					
Overall measurement range -23 mA -23 mA to $+23 \text{ mA}$ Selectable measurement ranges -20 mA $4-20 \text{ mA}$ $+/-10 \text{ mA}$ $+/-20 \text{ mA}$ Input voltage drop $< 1.5 \text{ VDC}$ $< 1 \text{ VDC}$ Input resistance $1900 \text{ nominal } @ 4mA$ $700 \text{ nominal } @ 20mA$ 400 nominal Transmitter (Ks) auxiliary supplyNone> 17VDC / 20mANone> 17VDC / 20mAVoltage inputNone> 17VDC / 20mANone> 17VDC / 20mAOverall measurement range $0 - 10 \text{ VDC}$, $2 - 10 \text{ VDC}$, $0 - 5 \text{ VDC}$ -11.5 VDC Selectable measurement range $0 - 0 - 10 \text{ VDC}$, $2 - 10 \text{ VDC}$, $0 - 5 \text{ VDC}$, -5 VDC -11.5 VDC Input resistance $0 - 0 - 10 \text{ VDC}$, $2 - 10 \text{ VDC}$, $0 - 5 \text{ VDC}$, -5 VDC $+/-5 \text{ VDC}$, $+/-10 \text{ VDC}$ Input resistance $0 - 0 - 10 \text{ VDC}$, $2 - 10 \text{ VDC}$, $0 - 5 \text{ VDC}$, -5 VDC $+/-5 \text{ VDC}$, $+/-10 \text{ VDC}$ Input resistance $0 - 0 - 10 \text{ VDC}$, $2 - 10 \text{ VDC}$, $0 - 50 \text{ MA}$ $0 - 20 \text{ mA}$, $4 - 20 \text{ mA}$ Current output $0 - 0 - 0 \text{ VDC}$ $5 0 0 \text{ Omm}$ $\leq 300 \text{ omm}$ Selectable signal range (span) $\leq 0 - 20 \text{ mA}$, $4 - 20 \text{ mA}$ $\leq 0 0 0 \text{ mS}$ Current limit $\leq 0 - 20 \text{ VBC}$, -5 VDC $\leq 0 0 0 \text{ mS}$ $< 0.20\%$ of span / 100 omm Selectable signal range (span)None $0 - 10 \text{ VDC}$, $0 - 50 \text$	Current input									
Selectable measurement ranges $0.20 \text{ mÅ} 4.20 \text{ mÅ}$ $+/-10 \text{ mÅ} +/-20 \text{ mÅ}$ Input voltage drop $< 1.5 \text{ VDC} < 1.5 \text{ VDC}$ $< 1\text{ VDC}$ Input resistance $190\Omega \text{ nominal } @ 4\text{mÅ} \\ 70\Omega \text{ nominal } @ 20\text{ mÅ} & > 17 \text{ VDC} / 20\text{ mÅ} & None > 17 \text{ VDC} / 20\text{ mÅ} & None Valage input None > 17 \text{ VDC} / 20\text{ mÅ} & None > 17 \text{ VDC} / 20\text{ mÅ} & None > 17 \text{ VDC} / 20\text{ mÅ} & None Voltage input None > 17 \text{ VDC} / 20\text{ mÅ} & None > 17 \text{ VDC} / 20\text{ mÅ} & None > 17 \text{ VDC} / 20\text{ mÅ} & None Voltage input None > 17 \text{ VDC} / 20\text{ mÅ} & None > 17 \text{ VDC} / 20\text{ mÅ} & None None Selectable measurement range 0.10 \text{ VDC} , 2.10 \text{ VDC} , 0.5 \text{ VDC} , 1.5 \text{ VDC} + 11.5 \text{ VDC} + 11.5 \text{ VDC} +/-5 \text{ VDC} + 10 \text{ VDC} / 10 \text{ VDC} Input resistance 0.00 \text{ VDC} , 2.10 \text{ VDC} , 0.5 \text{ VDC} + 5 \text{ VDC} + 10 \text{ VDC} + 10 \text{ VDC} + 5 \text{ VDC} + 10 VD$	Overall measurement range		0-2	23 mA		- 23m/	4 to + 23mA			
Input voltage drap <	Selectable measurement ranges	0-20 mA, 4-20 mA +/- 10mA, +/- 20mA								
Input resistance 400 nominal @ 4mA TOD nominal @ 20mA Transmitter (Tx) auxiliary supply None > 17VDC / 20mA None > 17VDC / 20mA None Voltage input $V17VDC / 20mA$ None > 17VDC / 20mA None > 17VDC / 20mA None Overall measurement range $0 - 10 VDC$, $2 - 10 VDC$, $0 - 5 VDC$, $1 - 5 VDC$ $-11.5 VDC$ to $+11.5 VDC$ Selectable measurement range $0 - 10 VDC$, $2 - 10 VDC$, $0 - 5 VDC$, $1 - 5 VDC$, $1 - 5 VDC$, $-1 - 10 VDC$ $+1/5 VDC$, $-1/1 VDC$, $-1/1 VDC$ $+1/5 VDC$, $-1/1 VDC$, $-1/1 VDC$, $-1/1 VDC$, $-1/1 VDC$ Current output $0 - 0 - 20 mA + 20 mA$ $0 - 20 mA + 20 mA or +/-10 mA$, $+/-20 mA$ Selectable signal range (span) $0 - 0 - 20 mA + 4 - 20 mA$ $0 - 20 mA + 20 mA or +/-10 mA, +/-20 mA$ Laad $0 - 0 - 0 VDC$ $0 - 0 + 0 VDC$ $0 - 0 - 0 MA + 20 mA or +/-10 mA, +/-20 mA$ $< 0.02\% of span / 100 ohms$ Current limit $\leq 0 - 0 - 0 VDC$ $\leq 300 0 + 10 VDC$ $< 0 - 0 - 0 VDC$ $< 0.02\% of span / 100 ohms$ Selectable signal range (span) None $0 - 10 VDC$, $-5 VDC$ None $0 - 10 VDC$, $-15 VDC$ $< 0.02\% of span / 100 ohms$ Current limit $V = -5 VDC$ None $0 - 10 VDC$, $-15 VDC$ None <th>Input voltage drop</th> <th></th> <th>< 1.</th> <th>5 VDC</th> <th></th> <th><</th> <th colspan="2">< 1VDC</th>	Input voltage drop		< 1.	5 VDC		<	< 1VDC			
Transmitter (Tx) auxiliary supplyNone> 17VDC / 20mANoneVoltage inputOverall measurement range $0 - 10 \ VDC$, $2 - 10 \ VDC$, $0 - 5 \ VDC$, $1 - 5 \ VDC$, $1 - 5 \ VDC$, $+/ - 5 \ VDC$, $+/ - 10 \ VDC$ Selectable measurement range0 $-10 \ VDC$, $2 - 10 \ VDC$, $0 - 5 \ VDC$, $1 - 5 \ VDC$, $+/ - 10 \ VDC$ Input resistance $2 \ 0 - 10 \ VDC$, $2 - 10 \ VDC$, $0 - 5 \ VDC$, $1 - 5 \ VDC$, $+/ - 10 \ VDC$ Overall signal range (span) $-20 \ mA \ 4 - 20 \ mA$ O-20 mA $4 - 20 \ mA \ 4 - 20 \ 4 \ 4 - 20 \ 4 \ 4 - 20 \ 4 \ 4 - 20 \ 4 \ 4 - 20 \ 4 \ 4 \ 4 - 20 \ 4 \ 4 \ 4 \ 4 \ 4 \ 4 \ 4 \ 4 \ 4 \ $	Input resistance		190Ω non 70Ω nomi	ninal @ 4mA nal @ 20mA		40Ω nominal				
Voltage input Overall measurement range $0 - 10 \ VDC, 2 - 10 \ VDC, 0 - 5 \ VDC, 1 - 10 \ VDC, 2 $	Transmitter (Tx) auxiliary supply	None	> 17VDC / 20mA	None	> 17VDC / 20mA		None			
Overall measurement range $0 - 10.25 \text{ VDC}$ $-11.5 \text{ VDC to} + 11.5 \text{ VDC}$ Selectable measurement range $0 - 10 \text{ VDC}, 2 - 10 \text{ VDC}, 0 - 5 \text{ VDC}, 1 - 5 \text{ VDC}$ $+/-5 \text{ VDC}, +/-10 \text{ VDC}$ Input resistance $\geq 500 \text{ kohms}$ $\geq 1 \text{ Mohms}$ Current output $0 - 20 \text{ mA}, 4 - 20 \text{ mA}$ $0 - 20 \text{ mA}, 4 - 20 \text{ mA}, 4 - 20 \text{ mA}$ $0 - 20 \text{ mA}, 4 - 20 \text{ mA}, 4 - 20 \text{ mA}$ Selectable signal range (span) $0 - 20 \text{ mA}, 4 - 20 \text{ mA}$ $0 - 20 \text{ mA}, 4 - 20 \text{ mA}, 4 - 20 \text{ mA}$ $0 - 20 \text{ mA}, 4 - 20 \text{ mA}, 4 - 20 \text{ mA}$ Load $\leq 600 \text{ ohms}$ $\leq 300 \text{ ohms}/\text{ channel}$ $\leq 600 \text{ ohms}$ $\leq 300 \text{ ohms}/\text{ channel}$ Load stability $< 0.002\%$ of span / 100 ohms $\leq 300 \text{ ohms}/\text{ channel}$ $\leq 0.02\%$ of span / 100 ohms $< 0.02\%$ of span / 100 ohms Current limit $\leq 0.000\%$ of span / 100 ohms $\leq 0.000\%$ of span / 100 ohms $< 0.10 \text{ VDC}$ $> 10 \text{ VDC}$ $> 10 \text{ VDC}$ Selectable signal range (span) None $0 - 10 \text{ VDC}$ None $0 - 10 \text{ VDC}$ $> 10 \text{ VDC}$ $> 10 \text{ VDC}$ $> 10 \text{ VDC}$ $> 10 \text{ VDC}$ Gueral liginal range (span) None $0 - 10 \text{ VDC}, 2 - 10 \text{ VDC}, 0 - 5 \text{ VDC}, 1 - 5 \text{ VDC}$ $> 10 \text{ VDC}, 0 - 5 \text{ VDC}, 1 - 5 VDC$	Voltage input									
Selectable measurement range 0-10 VDC, 2-10 VDC, 0-5 VDC, 1-5 VDC +/-5 VDC, +/- 10 VDC Input resistance ≥ 1 Mohms Current output 0-23 mA ≥ 1 Mohms Selectable signal ranges 0-20 mA, 4-20 mA 0-20 mA, 4-20 mA or +/-10 mA, +/-20 mA Ioad ≤ 600 ohms ≤ 300 ohms / channel ≤ 600 ohms ≤ 300 ohms / channel ≤ 600 ohms ≤ 300 ohms / channel $\leq 0.02\%$ of span / 100 ohms Load stability $< 0.00\%$ of span / 100 ohms ≤ 100 VDC, 0-5 VDC, 1-5 VDC $< 0.02\%$ of span / 100 ohms $< 0.02\%$ of span / 100 ohms Current limit $< 0.00\%$ of span / 100 ohms $< 0.00\%$ of span / 100 ohms $< 0.00\%$ of span / 100 ohms $< 0.02\%$ of span / 100 ohms Selectable signal range (span) None $0-10$ VDC, 2-10 None $0-10$ VDC, 0-5 VDC, 1-5 VDC Selectable signal ranges None $0-10$ VDC, 0-5 VDC, 1-5 VDC 10 kohms > 10 kohms Max required power is the maximum power needed at power supply terminals or rail connector. > 10 kohms > 10 kohms	Overall measurement range		0-10.	25 VDC		- 11.5 VD0	C to + 11.5 VDC			
Input resistance ≥ 500 kohms ≥ 1 Mohms Current output Overall signal range (span) Overall signal ranges Overall signal ranges Overall signal range Selectable signal range None Overall Signal range None Overall Signal range Selectable signal range None Overall Signal range None Selectable Signal range None Overall Signal range None Selectable Signal	Selectable measurement range		0-10 VDC, 2-10 VE	DC, 0-5 VDC, 1-5 V	DC	+/-5 VD	C, +/- 10 VDC			
Current output Overall signal range (span) 0-20 mA, 4-20 mA Selectable signal ranges 0-20 mA, 4-20 mA 0-20 mA, 4-20 mA or +/-10 mA, +/-20 mA Load ≤ 600 ohms ≤ 300 ohms / channel ≤ 600 ohms ≤ 300 ohms / channel Load stability < 0.002% of span / 100 ohms	Input resistance		≥ 500) kohms		≥ 1	Mohms			
Overall signal range (span) 0-20 mA, 4-20 mA 0-23 mA Selectable signal ranges 0-20 mA, 4-20 mA, 4-20 mA 0-20 mA, 4-20 mA, 4-20 mA, 4-20 mA Load ≤ 600 ohms ≤ 300 ohms / channel ≤ 600 ohms ≤ 300 ohms / channel Load stability < 0.002% of span / 100 ohms	Current output									
Selectable signal ranges 0-20 mA, 4-20 mA 0-20 mA, 4-20 mA or +/-10 mA, +/-20 mA Load ≤ 600 ohms ≤ 300 ohms / channel ≤ 600 ohms ≤ 300 ohms / channel Load stability ≤ 600 ohms ≤ 300 ohms / channel ≤ 600 ohms ≤ 300 ohms / channel Load stability $< 0.002\%$ of span / 100 ohms $< 0.02\%$ of span / 100 ohms $< 0.02\%$ of span / 100 ohms Current limit $< 0.002\%$ of span / 100 ohms $< 28mA$ $< 0.02\%$ of span / 100 ohms Voltage output > 0 $0-10$ VDC None $0-10$ VDC $< 0.002\%$ of span / 100 ohms Selectable signal range (span) None $0-10$ VDC, 2-10 None $0-10$ VDC, 2-10 $< 0.02\%$ of span / 1-5 VDC Selectable signal ranges None $0-10$ VDC, 2-10 None $0-10$ VDC, 2-10 VDC, 0-5 VDC, 1-5 VDC < 10 kohms None > 10 kohms None > 10 kohms None > 10 kohms *Max. required power is the maximum power needed at power supply terminals or rail connector. < 10 kohms < 10 kohms	Overall signal range (span)			(0-23 mA					
Load $\leq 600 \text{ ohms}$ $\leq 300 \text{ ohms / channel}$ $\leq 600 \text{ ohms}$ $\leq 300 \text{ ohms / channel}$ Load stability $< 0.002\% \text{ of span / 100 ohms}$ $< 0.02\% \text{ of span / 100 ohms}$ $< 0.02\% \text{ of span / 100 ohms}$ Current limit $< 28mA$ $< 28mA$ Voltage outputOverall signal range (span)None $0-10 \text{ VDC}$ None $0-10 \text{ VDC}$ Selectable signal rangesNone $0-10 \text{ VDC}, 2-10$ VDC, $0-5 \text{ VDC}, 1-5 \text{ VDC}$ None $0-10 \text{ VDC}, 0-5 \text{ VDC}, 1-5 \text{ VDC}$ Load (minimum)None> 10 kohmsNone> 10 kohms> 10 kohms*Max. required power is the maximum power needed at power supply terminals or rail connector.**Max. required power is the maximum power adjainant at a pominal operating used usesNone> 10 kohms	Selectable signal ranges		0-20 m/	A, 4-20 mA		0-20 mA, 4-20 m	A or +/-10 mA, +/-20 mA			
Load stability < 0.002% of span / 100 ohms < 0.02% of span / 100 ohms Current limit ≤ 28mA Voltage output Overall signal range (span) None 0-10 VDC None 0-10 VDC Selectable signal ranges None 0-10 VDC, 2-10 VDC, 0-5 VDC, 1-5 VDC None 0-10 VDC, 2-10 VDC, 0-5 VDC, 1-5 VDC Load (minimum) None > 10 kohms None > 10 kohms	Load	≤ 60	0 ohms	≤ 300 ohr	ns / channel	≤ 600 ohms	≤ 300 ohms / channel			
Current limit ≤ 28mA Voltage output Overall signal range (span) None 0-10 VDC None 0-10 VDC Selectable signal ranges None 0-10 VDC, 2-10 None 0-10 VDC, 2-10 VDC, 0-5 VDC, 1-5 VDC Load (minimum) None > 10 kohms None > 10 kohms *Max. required power is the maximum power needed at power supply terminals or rail connector. **Max newser dissipation is the maximum power dissipated at pompial operating used	Load stability	< 0.002% of span / 100 ohms < 0.02% of span / 100 ohms								
Voltage output Overall signal range (span) None 0-10 VDC None 0-10 VDC Selectable signal ranges None 0-10 VDC, 2-10 VDC, 2-10 VDC, 2-10 VDC, 2-10 VDC, 0-5 VDC, 1-5 VDC None 0-10 VDC, 2-10 VDC, 0-5 VDC, 1-5 VDC Load (minimum) None > 10 kohms None > 10 kohms *Max. required power is the maximum power needed at power supply terminals or rail connector.	Current limit	≤ 28mA								
Overall signal range (span) None 0-10 VDC None 0-10 VDC Selectable signal ranges None 0-10 VDC, 2-10 VDC, 0-5 VDC, 1-5 VDC None 0-10 VDC, 2-10 VDC, 0-5 VDC, 1-5 VDC Load (minimum) None > 10 kohms None > 10 kohms *Max. required power is the maximum power dissinated at pompial operating values values values	Voltage output									
Selectable signal ranges None 0-10 VDC, 2-10 VDC, 0-5 VDC, 1-5 VDC None 0-10 VDC, 2-10 VDC, 0-5 VDC, 1-5 VDC Load (minimum) None > 10 kohms None > 10 kohms *Max. required power is the maximum power needed at power supply terminals or rail connector. **Way power dissipation is the maximum power dissipated at pominal operating values	Overall signal range (span)	None 0-10 VDC None 0-10 VDC								
Load (minimum) None > 10 kohms None > 10 kohms *Max. required power is the maximum power needed at power supply terminals or rail connector. > 10 kohms > 10 kohms	Selectable signal ranges	0-10 VDC, 2-10 None 0-10 VDC, 2-10 VDC, 0-5 VDC, 1-5 VDC None 1-5 VDC None 0-10 VDC, 2-10 VDC, 0-5 VDC, 1-5 VDC								
*Max, required power is the maximum power needed at power supply terminals or rail connector.	Load (minimum)	None > 10 kohms None > 10 kohms								
max, power dissipation is the maximum power dissipated at nonliner operating values.	*Max. required power is the maximum por **Max. power dissipation is the maximum	wer needed at po power dissipated	wer supply terminal operat	als or rail connecto ing values.	br.					

10 - 2-Wire, Loop Powered Analog Signal Input Modules - Technical SPECIFICATIONS

2-Wire, Lo	oop Powere	ed Analog Sign	al Input Modu	ıles - Technical Sp	ecifications			
Part No.	SC6-1101	SC6-1111	SC6-4102	SC6-4112	SC6-1102	SC6-1112		
Application	One channel	Two channel	One channel	Two channel	One channel	Two channel		
DIP switch configurable	No	No	No	No	No	No		
Loop supply voltage	None (power	ed by input signal)		6-35 V	/DC	2		
Power dissipation	30mV	V / channel	50mV	V / channel	V termin	al x l / channel		
Isolation voltage, test				2.5 kVAC				
Isolation voltage, working			300 VAC (reinforce	ed) / 250 VAC (Zone 2, Di	v. 2)			
Double isolation			Input 1 / Input	t 2 / Output 1 / Output 2				
Signal dynamics, input / output			Anal	og signal chain				
Signal / noise ratio				> 60dB				
Cut-off frequency (3 dB)				100Hz				
Response time (0-90%, 100-10%)			1	< 5ms				
Accuracy	≤ +/-10uA + (0.05% of max. value of span		≤ ± 8	uA			
Temperature coefficient	≤ ±	2uA / °C	Vloop supply (; ± 1.68 u Vloop supply > 24 (> 25°C); +/-0.0 supp	≤ 24V: ± 0.48 uA/°C >25°C); IA/°C (< 25°C) IV: ± 0.02 uA/°C x Vloop supply J47 uA/degC x Vloop Jly (<25°C)	Vloop supply ≤ 24V: ± 0.48 uA/°C (> 25°C); ± 1.12 uA/°C (< 25°C) Vloop supply >24V: ± 0.02 uA/°C x Vloop supply (> 25°C); ± 0.047 uA/°C x Vloop supply			
EMC immunity influence			< ±	0.5% of span				
Extended EMC immunity:								
NAMUR NE 21, A criterion, burst			< :	± 1% of span				
Current input								
Overall measurement range	0-	-23 mA		3.5-23	mA			
Nominal measurement range	0-2 10uA start u	20.5 mA ıp current, typical		3.8-20.5	5 mA			
Signal conversion				1:1				
Input voltage drop	1.35 + (0.02 23 Rout load Rout load	335*Rout load) @ mA max. l 600Ω: 15.36 V d 250Ω: 7.19 V	2.5 VDC i	nput to output	≤ 3VDC			
Input resistance	Rout load Rout load	@ 600Ω: 668Ω* @250Ω: 313Ω*	Not	applicable	130Ω nominal			
Transmitter (Tx) auxiliary supply	nsmitter (Tx) auxiliary supply None			3.5-32.5 VDC (Loop supply voltage - Input voltage None drop)				
Current output								
Overall signal range (span)	0-23 mA 3.5-23 mA							
Nominal signal range	0-2	20.5 mA	3.8-20.5 mA					
Load	≤ 6	00 ohms	900 ohms max 1450 ohms ma See derating cha	x at 24 Vloop supply x at 35 Vloop supply rt above 60°C ambient	900 ohms max at 24 Vloop supply 1450 ohms max at 35 Vloop supply See derating charts above 50°C ambient			
Load stability	<0.01% of	span / 100 ohms		N/#	4			
"of span" = 0-20 mA								

Because the input signal drives both the SC6 unit and the output signal loop, the input resistance changes with the output load. Calculate the input voltage drop using the formula shown and divide by the maximum current signal of 23mA to determine the Input resistance.

11 - TEMPERATURE INPUT MODULES - TECHNICAL SPECIFICATIONS

Temperature Input Modules - Technical Specifications										
Part No.	SC6-5200	SC6-6200	SC6-7102	SC6-6102						
Application	One channel	One channel	One channel	One channel						
DIP switch configurable	Yes	Yes	Yes	Yes						
Supply voltage	16.8 - 31.2 VDC (terr	ninals or bus rail)	5.5 - 35 VDC	3.3 - 35 VDC						
Max. power dissipation	0.7 W	0.7 W	0.8 W	0.8 W						
Isolation voltage, test		2.5 kVAC		None						
Isolation voltage, working	300VAC (re	inforced) / 250VAC (Zo	one 2, Div. 2)	None						
Double isolation	I	nput / Output 1 / Supp	bly	None						
Signal dynamics, input / output		23	bit / 18bit							
Signal / noise ratio			> 60dB							
Response time (0-90%, 100-10%)		< 30ms or < 300i	ns, DIP switch selectable							
Accuracy	Basic: ≤ 0.5°C; General: ≤ ±0.05% of span	Basic: ≤ 0.1°C; General: ≤ ±0.05% of span	Basic: $\le 0.1^{\circ}$ C (Pt100), $\le 0.5^{\circ}$ C (TC); General: $\le \pm 0.05\%$ of span	Basic: ≤ 0.2° C; General: ≤ ±0.1% of span						
Temperature coefficient	0.1°C/°C (basic) or ≤ ±0.01% of span/°C	0.02° C/°C (basic) or $\leq \pm 0.01\%$ of span/°C	$0.1^{\circ}C/^{\circ}C$ (basic) or $\leq \pm 0.01\%$ of span/°C	0.02° C/°C (basic) or $\leq \pm 0.01\%$ of span/°C						
EMC immunity influence		< ±0	.5% of span							
Extended EMC immunity:										
NAMUR NE 21, A criterion, burst		< ±	1% of span							
RTD (Pt100) input			200 - 05000 //50 0075	4)						
Overall measurement range	N/A		-200 to 850°C (IEC 6075	1)						
Min. measurement span	N/A		10°C							
Sensor current	N/A		< 150UA							
Sensor cable resistance	N/A									
Effect of sensor cable resistance 3/4-wire	N/A		< 0.002 onm/onm							
Sensor error detection	N/A									
Charted concer	N/A		> 000 UIIIIIs							
Thermoscuple (TC) input	IN/A									
	-100 to 1200°C		-100 to 1200°C							
Overall mesasurement range, Type J	(IEC60584-1)	N/A	(IEC60584-1)	N/A						
Overall mesasurement range, Type K	(IEC60584-1)	N/A	(IEC60584-1)	N/A						
Selectable measurement range		See temperature r	ange programming table							
Min. measurement span	50°C	N/A	50°C	N/A						
Sensor cable resistance	< 5 kohm per wire	N/A	< 5 kohm per wire	N/A						
External Pt100 CJC sensor accuracy	< ±0.15°C	N/A	< ±0.15°C	N/A						
Internal CJC sensor accuracy	< ±2.5°C	N/A	<+/-2.5°C	N/A						
Open thermocouple detection	Yes, DIP switch selectable	N/A	Yes, DIP switch selectable	N/A						
External CJC error detection	Yes, DIP switch selectable	N/A	Yes, DIP switch selectable	N/A						
Internal CJC error detection	Yes	N/A	Yes	N/A						
Current output										
Overall signal range (span)	0/3.8-20	0.5 mA	3.8-20	J.5 mA						
Nominal signal range	0 / 4-20 mA DIP sv	witch selectable	4-20 mA or 20-4 mA Rload=(Vsupply-5 5) /	, DIP switch selectable Rload=(Vsupply-3.3) /						
Load	≤ 600 o	hms	0.023 ohms	0.023 ohms						
Sensor error output	Jownscale: 0 / 3.5 mA, switch sele	opscale: 23mA DIP ectable	Downscale: 3.5 mA, Up	scale: 23mA DIP switch						
Voltage output										
Overall signal range (span)	0 / 0.875-5.125 V, (0 / 1.75-10.25 V	N	/A						
Nominal signal range	0 / 1-5 V, 0 / 2-10 V D	IP switch selectable	N	N/A						
Load	≥ 10 ko	hms	N	/A						
Sensor error output	Downscale: 0V, Upscale:	5.5 / 11V DIP switch	N	/A						
Load stability		≤ 0.01% o	f span / 100 ohms							
Updating time	10ms									

12 - Power Connector Module - Technical Specifications

Power Connection Mode	ule - Technical Specifications
Part No.	SC6-PCU1
Supply voltage	16.8-31.2 VDC
Internal power dissipation	0.25 W max.
Required external fuse	2.5 A

13 - OUTPUT LOAD DERATINGS





SC6-4102, -4112 Output Load Derating @ T_{amb}. = 60°C . . . No limiting issues within operating range

SC6-1102, -1112 Output Load Derating @ Tamb. = 70°C:



SC6-1102, -1112 Output Load Derating @ Tamb. = 60°C:



SC6-1102, -1112 Output Load Derating @ Tamb. = 50°C . . . No limiting issues within operating range

* V_{supply}: The supply voltage for the loop covering both the SC6 output terminal voltage and the voltage across the load resistor R_A.

R_A = The input impedance in the PLC + the load in the loop (incl. the cable resistance).

14 - WIRING DIAGRAMS

Note: The SC6 2-wire Transmitter Input is a current input which provides an excitation voltage to the input device, otherwise known as an active or sourcing input, while the SC6 Current Input requires the input device be provided with an external excitation voltage, otherwise known as a passive or sinking input.







User Manual - ProSense SC6 Series Signal Conditioners



SC6-3220







SC6-1111















User Manual - ProSense SC6 Series Signal Conditioners



SC6-7102





15 - DIP Switch Settings

The part numbers listed below are configured with DIP switches which are located on the side of the module and can be adjusted with a small screw driver or other implement.



1	2	3	4	5	6	7	8	9	10	DIP Switch
Г										020mA
		٠			٠					420mA
	•			٠						010V
	٠	٠		٠	٠					210V
	•		٠	٠		•				05V
	•	٠	٠	٠	٠	•				15V
•										020mA Loop
•		٠								420mA Loop
	In		(Du	t				• = ON	

SC6-2220

1	2	3	4	5	6	7	8	9	10	DIP Switch	
										020mA	
		٠			٠			٠		420mA	
	٠			٠			•			010V	
	٠	٠		٠	٠		•	٠		210V	
	٠		٠	٠		٠	•		٠	05V	
	٠	٠	٠	٠	٠	•	•	٠	٠	15V	
•										020mA Loop	
•		٠								420mA Loop	
In			Out1			Out2			• = ON		

SC6-3200



SC6-3220

SC6-2200

	1	2	3	4	5	6	7	8	9	10	DIP Switch
On	٠										020mA
Off						٠			٠		420mA
Filter					٠			٠			010V
					٠	٠		٠	٠		210V
					٠		٠	٠		٠	05V
					٠	•	•	٠	•	٠	15V
		٠	٠				•			٠	-20+20mA
		٠	٠	٠		•	٠		٠	٠	-10+10mA
											-10+10V
				٠							-5+5V
			In		0	Dut	1	0	ut	2	• = ON

Sensor S1 1 2 3 Sensor Error Detection S1 7 TC J (Int. CJC) • None • . TC K(Int. CJC) Enable TC J (Ext. CJC) Output Error Level S1 8 TC K(Ext. CJC) • • Downscale Output S1 4 5 6 • Upscale 0...20 mA Noise Supp.S1 9 Resp.T. S110 4...20 mA ٠ 50 Hz < 30 ms • 0...10 V 60 Hz 300 ms 2...10 V • • 0...5 V 1...5 V . . . • = ON

SC6-6102

Sensor S1	1	2	3	Sensor Error Detection S1	7		
Pt100, 2w	•			None	П		
Pt100, 3w		•		Enable	•		
Pt100, 4w	٠	•					
			_	Output Error Level S1	8		
Downscale							
Output S1	4	5	6	Unscale			
420 mA	•			opodalo			
204 mA	٠	٠		Noise Supp.S1 9 Resp.T. S1	10		
• = ON				50 Hz < 30 ms			
				60 Hz • 300 ms	٠		

SC6-6200

Sensor S1	1	2	3	Sensor Error Detection S1 7							
Pt100, 2w	٠			None							
Pt100, 3w		•		Enable							
Pt100, 4w	•	•									
				Output Error Level S1	8						
Output S1	4	5	6	Downscale							
020 mA				Upscale	•						
420 mA	•	Γ									
010 V			•	Noise Supp.S1 9 Resp.T. S1	10						
210 V	٠		•	50 Hz < 30 ms							
05 V		٠	•	60 Hz • 300 ms							
15 V	٠	٠	٠								
• = ON											

SC6-7102



Noise Supp.S1	9	Resp.T. S1	10
50 Hz		< 30 ms	
60 Hz	•	300 ms	٠

Pt100, 2w

Pt100, 3w

Pt100, 4w

TC J (Ext. CJC)

TC K(Ext. CJC)

Output S1 4 5 6 4...20 mA

•

• •

•

•

SC6-5200, SC6-6200, SC6-6102, SC6-7102 Models:

	Temperature Range Programming																											
						DIP	S2		• =	10	1		Te	mperature Range	e °C	(°F))											
Start Temp.	1	2	3	4		End Temp.	5	6	7	8	9	10		End Temp.	5	6	7	8	9	10)	End Temp.	5	6	7	8	9	10
-200°C (-328°F)						0°C (32°F)								105°C (221°F)		•		•		•	1	375°C (707°F)	•		•		•	
-180°C (-292°F)				•	1 [5°C (41°F)						•		110°C (230°F)		•		•	•]	400°C (752°F)	•		•		•	•
-150°C (-238°F)			•		1 [10°C (50°F)					•			115°C (239°F)		•		•	•	•	1	450°C (842°F)	•		•	•		
-100°C (-148°F)			•	•	1 [15°C (59°F)					•	•		120°C (248°F)		•	•					500°C (932°F)	•		•	•		•
-50°C (-58°F)		•			1 [20°C (68°F)				•				125°C (257°F)		•	•			•	1	550°C (1022°F)	•		•	•	•	
-25°C (-13°F)		•		•	1 [25°C (77°F)				•		•		130°C (266°F)		•	•		•		1	600°C (1112°F)	•		•	•	•	•
-10°C (14°F)		•	•		1 [30°C (86°F)				•	•			135°C (275°F)		•	•		•	•	1	650°C (1202°F)	•	•				
-5°C (23°F)		•	•	•	1 [35°C (95°F)				•	•	•		140°C (284°F)		•	•	•				700°C (1292°F)	•	•				•
0°C (32°F)	•					40°C (104°F)			•					145°C (293°F)		•	•	•		•		750°C (1382°F)	•	•			•	
5°C (41°F)	•			•		45°C (113°F)			•			•		150°C (302°F)		•	•	•	•		1	800°C (1472°F)	•	•			•	•
10°C (50°F)	•		•		1 [50°C (122°F)			•		•			160°C (320°F)		•	•	•	•	•	1	850°C (1562°F)	•	•		•		\square
20°C (68°F)	•		•	•	1 [55°C (131°F)			•		•	•		170°C (338°F)	•						1	900°C (1652°F)	•	•		•		•
25°C (77°F)	•	•			1 [60°C (140°F)			•	•				180°C (356°F)	•					•		950°C (1742°F)	•	•		•	•	
50°C (122°F)	•	•		•		65°C (149°F)			•	•		•		190°C (374°F)	•				•			1000°C (1832°F)	•	•		•	•	•
100°C (212°F)	•	•	•			70°C (158°F)			•	•	•			200°C (392°F)	•				•	•		1050°C (1922°F)	•	•	•			
200°C (392°F)	•	•	•	•		75°C (167°F)			•	•	•	•		225°C (437°F)	•			•				1100°C (2012°F)	•	•	•			•
						80°C (176°F)		•						250°C (482°F)	•			•		•		1150°C (2102°F)	•	•	•		•	
Sens.Type		Tem	ıp. Ra	ange		85°C (185°F)		•				•		275°C (527°F)	•			•	•			1200°C (2192°F)	•	•	•		•	•
Pt100	-200°C (-328°F) to 850°C (1562°F)		to ⁻)	90°C (194°F)		•			•			300°C (572°F)	•			•	•	•		1250°C (2282°F)	•	•	•	•				
TC J	-1 1	-100°C (-148°F) to 1200°C (2192°F)		to F)	95°C (203°F)		•			•	•		325°C (617°F)	•		•					1300°C (2372°F)	•	•	•	•		•	
ТС К	-1 1	80°C	C (-29 °C (2	92°F) 502°	to F)	100°C (212°F)		•		•				350°C (662°F)	•		•			•		1350°C (2462°F)	•	•	•	•	•	
																						1372°C (2502°F)	•	•	•	•	•	•
Note: °F values a	are ca	alcula	ated	equi	valen	ts for °C values																						

16 - LED INDICATION FOR ANALOG INPUT MODULES (SC6-1100, -1110, -2200, -2220, -3200, -3220)



LED Indication

The device is equipped with a green power LED in the front to indicate the operation status, see the table below:

LED Indication for Analog Input Modules										
Condition	LED	Output and Loop Supply	Action Required							
No supply / device error	OFF	De-energized	Connect supply / replace device							
Power-up or restart	1 Flash (0.5 s OFF + 0.5 s ON)	De-energized	-							
Device OK	Flashing 13Hz (15ms ON)	Energized	-							
Incorrect DIP-switch setting	Flashing 1Hz (15ms ON)	De-energized	Correct setting and re- power device							
Restarting due to: Supply error/hardware. RAM or program flow error	Flashing 1Hz (0.5 s ON)	De-energized	Adjust supply / replace device							

17 - LED INDICATION FOR TEMPERATURE INPUT MODULES (SC6-5200, -6200)



LED Indication

The device is equipped with a green power LED in the front to indicate the operation status, see the table below:

LED Indication for Temperature Input Modules										
Condition	LED	Output and Loop Supply	Action Required							
No supply / device error	OFF	De-energized	Connect supply / replace device							
Power-up or restart	1 Flash (0.5 s OFF + 0.5 s ON)	De-energized	-							
Device OK	Flashing 13Hz (15ms ON)	Energized	-							
Incorrect DIP-switch setting	Flashing 1Hz (500ms ON)	De-energized	Correct setting and re- power device							
Sensor error indication	Flashing 1Hz (15ms ON)	Up- or Downscale	Check sensor							

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Our technical support group is glad to work with you in answering your questions. If you cannot find the solution to your particular application, or, if for any reason you need additional technical assistance, please call technical support at 770-844-4200. We are available weekdays from 9:00 a.m. to 6:00 p.m. Eastern Time. We also encourage you to visit our web site where you can find technical and non-technical information about our products and our company. Visit us at <u>www.automationdirect.com.</u>