

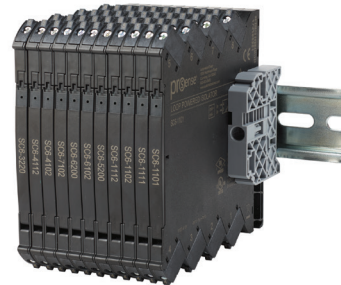
prosense® SC6 Series - Pulse Isolator and Frequency Converter - Signal Conditioners

SC6 Series - Pulse Isolator and Frequency Converter - Signal Conditioners

The ProSense SC6 Series of pulse isolator and frequency converter signal conditioners are housed in a narrow 6mm width package that allows for high density mounting on a 35mm DIN rail, saving panel space. The units are powered either via terminal inputs or in-rail power bus. DIP switch configuration provides flexibility to meet a variety of applications. All models are UL Listed.

Features

- Isolation and/or conversion of discrete/pulse input signals
- Narrow 6mm width allows for high density mounting on a DIN rail saving panel space
- In-rail power bus
- DIP switch selectable configuration for simple setup
- LED operation status on some models
- Excellent accuracy and fast response time
- Wide operating temperature range
- Suitable for high vibration environments
- UL Listed



SC6 Series Signal Conditioner Selection Guide - Frequency and Switch/Pulse Input Modules

Part Number		SC6-2001	SC6-2002	SC6-2501	SC6-2502
Price		\$149.00	\$149.00	\$252.00	\$240.00
Weight (lb)		0.25	0.27	0.26	0.26
Input	NAMUR	X	X	X	X
	NPN	X	X	X	X
	Contact	X	X	X	X
	Frequency	—	—	X	X
	Tachometer	—	—	X	X
	PNP	—	—	X	X
	TTL	—	—	X	X
	SO	—	—	X	X
Output	Relay	—	X	—	X
	NPN	X	—	—	—
	Current	—	—	X	—
	Voltage	—	—	X	—
Application	One Channel	—	—	X	X
	One Input to Two Output Signal Splitter	X	X	—	—
Isolation	Input / Output / Power Isolated	X	X	X	X

prosense® SC6 Series - Frequency Converter - Signal Conditioners

SC6 Series - Frequency Converter - Signal Conditioners

The ProSense SC6 Series of frequency converter signal conditioners are housed in a narrow 6mm width package that allows for high density mounting on a 35mm DIN rail, saving panel space. Units convert a wide range of frequency inputs to an output that can be used by a PLC or other device with analog input. The analog output model can easily be scaled for an application's frequency range while the relay output model can be configured to trigger at a specific frequency value.

Features

- Measures frequencies up to 100kHz
- Over-voltage protected
- Polarity protected
- Short-circuit protected
- DIP switch selectable configuration for simple setup
- Very accurate and fast response time
- Model with output relay with windows, setpoint and latch functionality
- Complete isolation between input, output, and power
- NAMUR, NPN, PNP, Tacho, TTL, & switch input
- Universal mA / V or relay output models
- UL Listed



Part No. [SC6-2501](#)



ProSense SC6 - Frequency Converter -Signal Conditioners				
Part No.	Description	Weight (lb)	Drawing Link	Price
SC6-2501	ProSense signal conditioner, isolated, Input: 1-channel, frequency, Output: 1-channel, current/voltage, 24 VDC operating voltage, 35 mm DIN rail mount.	0.26	PDF	\$252.00
SC6-2502	ProSense signal conditioner, isolated, Input: 1-channel, frequency, Output: 1-channel, relay, 24 VDC operating voltage, 35 mm DIN rail mount.	0.26	PDF	\$240.00

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 (4.45 x 0.24 x 4.53 in)	
Weight Approx.	SC6-2501, SC6-2502: 70g	
DIN Rail Type	DIN EN 60715 - 35mm	
Wire Size	0.13...2.5 mm² / AWG 26...12 stranded wire	
Screw Terminal Torque	0.5 N·m	
Observed Authority Requirements	EMC	2014/30/EU
	LVD	2014/35/EU
	RoHS 2	2011/65/EU
Approvals	cULus, Standard for Safety	UL 61010-1, File E498965
	Safe Isolation	EN 61140
* Installation in pollution degree 2 & overvoltage category II, No corrosive gases		



SC6 Series - Frequency Converter - Signal Conditioners

SC6 Frequency Converter Technical Specifications		
Part No.	SC6-2501	SC6-2502
DIP Switch Configurable	Yes	
Supply Voltage	16.8 - 31.2 VDC (terminals or bus rail)	
Fuse	400mA SB / 250VAC	
Max. Required Power	≤ 1.2 W	
Max. Power Dissipation	0.65 W	
Isolation Voltage, Test	2.5 kVAC	
Isolation Voltage, Working	300VAC (reinforced)	
Response Time (0-90%, 100-10%)	≤ 30ms	
Auxiliary Supplies	Sensor supply limitation	23mA, 5-17 VDC
	Signal dynamics, output	18-bit
	Long term stability, current, 1yr / 5yr @ 25°C	≤ 0.058% / ≤ 0.101%
	Long term stability, voltage, 1yr / 5yr @ 25°C	≤ 0.032% / ≤ 0.058%
	Accuracy	See Accuracy Table Below
	EMC immunity influence	< ±0.5% of span
	Extended EMC immunity: NAMUR NE21, A criterion, burst	< ±1% of span
Input Specifications		
Frequency Input	Frequency range	0.001 Hz to 100kHz
	Time range, time function	10μs to 999.9 s
	Max. frequency / min. pulse width, with input filter ON	75Hz / 8ms
Tacho Input	Trig-level LOW	≤ -50 mV
	Trig-level HIGH	≥ +50 mV
	Input impedance	100kΩ < 220pF
	Max. input voltage	80VAC pp
	Sensor supply	5-17 V / 23mA
NPN / PNP Input	Trig-level LOW	≤ 4.0 VDC
	Trig-level HIGH	≥ 7.0 VDC
	Input impedance	3.48 kΩ < 220pF
	Trimmer edge	NPN = Neg. edge, PNP = Pos. edge.
	Sensor supply	7.1-17 V / 23mA
	Max. input voltage	24V
TTL Input	Trig-level LOW	≤ 0.8 VDC
	Trig-level HIGH	≥ 2.0 VDC
	Input impedance	≥ 100kΩ < 220pF
	Sensor supply	5...17 V / 23mA
S0 Input Acc. to DIN 43864	Trig-level LOW	≤ 2.2 mA
	Trig-level HIGH	≥ 9.0 mA
	Input impedance	758Ω < 220pF
	Sensor supply	17V / 23mA
	Max. input voltage	24VDC

prosense® SC6 Series - Frequency Converter - Signal Conditioners

SC6 Frequency Converter Technical Specifications Continued			
Part No.		SC6-2501	SC6-2502
NAMUR Input	NAMUR according to	EN 60947-5-6	
	Trig-level LOW	≤ 1.2 mA	
	Trig-level HIGH	≥ 2.1 mA	
	Input impedance	1 kΩ < 220pF	
	Breakage detection	≤ 0.1 mA	
	Short-circuit detection	≥ 6.9 mA	
	Sensor supply	8.3 V	
Output Specifications			
Current Output	Signal range, active	0-23 mA	
	Programmable signal ranges	0/4-20 mA	
	Load, max	23mA / 600Ω	
	Load stability	≤ 0.01% of span / 100Ω	
	Sensor error indication	Downscale = 3.5 mA Upscale = 23 mA	
	Current limit	≤ 28mA	
Voltage Output	Signal range	≤ 11.5 VDC	
	Programmable signal ranges	0-1, 0-5, 1-5, 0-10, 0.2-1, 2-10 VDC	
	Load, min	≥ 10kΩ	
Relay Output	Relay functions	Increasing, Decreasing	
	Hysteresis	1, 5, 10, 25%	
	Activation Delay	0, 10 sec	
	Power on delay	2, 120 sec	
	Max. voltage	250VAC / 200VDC	
	Max. AC current	2A	
	Max. AC power	100VA	
	Max. DC current, resistive load (@) U _{relay} ≤ 30VDC	2A DC	
	Max. DC current, resistive load (@) 30VDC < U _{relay} < 200VDC .	380 x (U _{relay} ⁻¹⁵) ⁻² x 1.012 ^{U_{relay}-15} A DC	

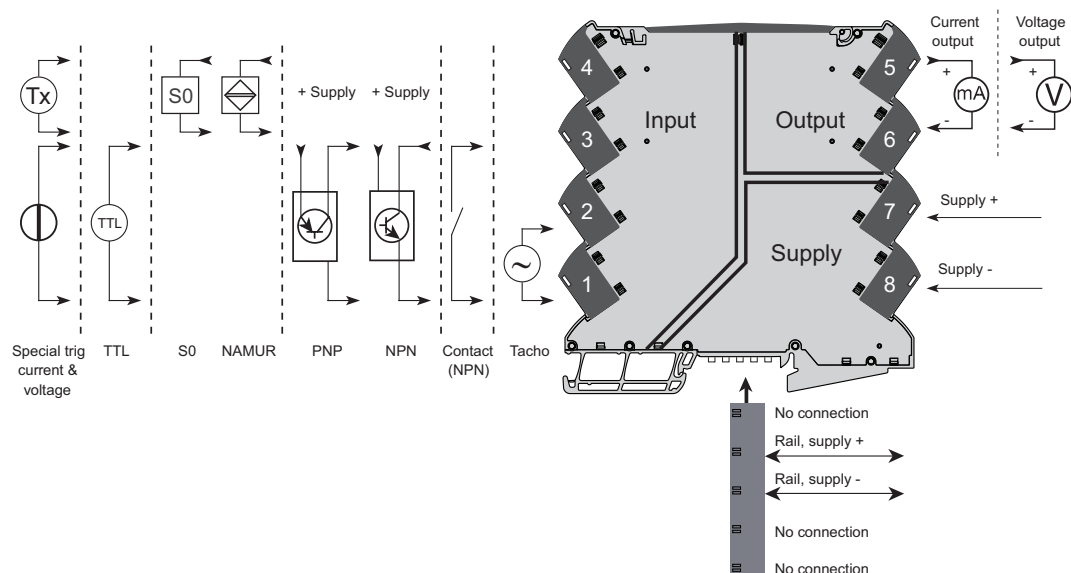
Accuracy				
Input Accuracy				
	Input Type	Range(s)	Absolute Accuracy	Temperature Coefficient
General Values	Frequency	0 – 100 kHz	≤ ±0.01% of input frequency	≤ ±0.0005% / °C
Basic Values			≤ 0.0002 Hz	
Output Accuracy				
	Output Type	Range(s)	Absolute Accuracy	Temperature Coefficient
General Values	Current Output	0 – 23 mA	≤ ±0.05% of span	≤ ±0.005% / °C
	Voltage Output	0 – 10 V	≤ ±0.05% of span	≤ ±0.005% / °C
Basic Values	Current Output	0 – 23 mA	8μA	0.8 μA / °C
	Voltage Output	0 – 10 V	2mV	200 μV / °C

See product manual for additional specifications and installation information.

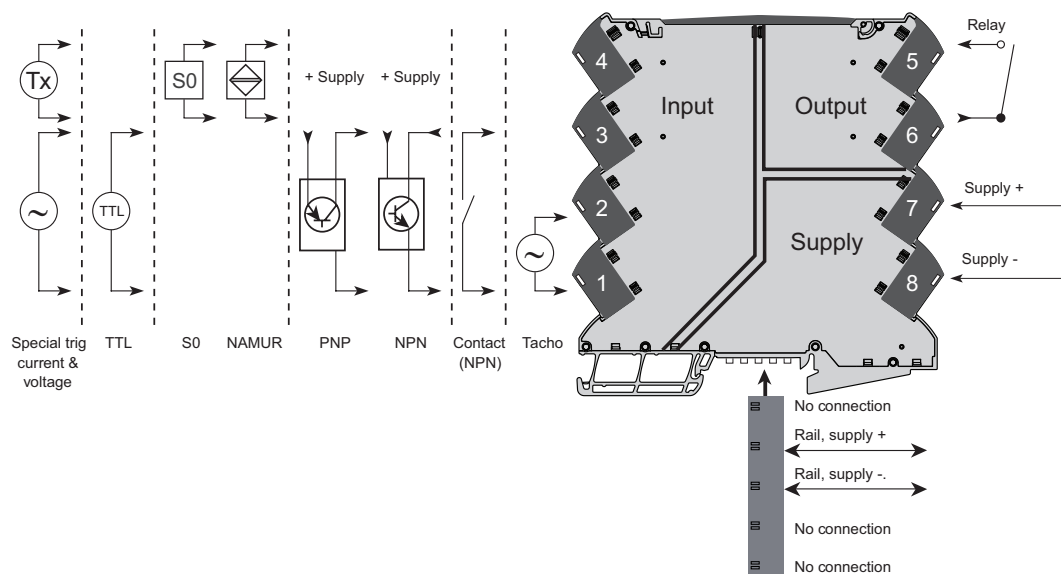
prosense® SC6 Series - Frequency Converter - Signal Conditioners

Wiring

Part No. SC6-2501



Part No. SC6-2502



prosense[®]

SC6 Series Signal Conditioners

ProSense Power Connector Unit

The SC6-PCU1 power connector unit allows easy connection of a 24 VDC / 2.5 A source to the in-rail-bus to provide power to multiple SC6 signal conditioners mounted on the rail.

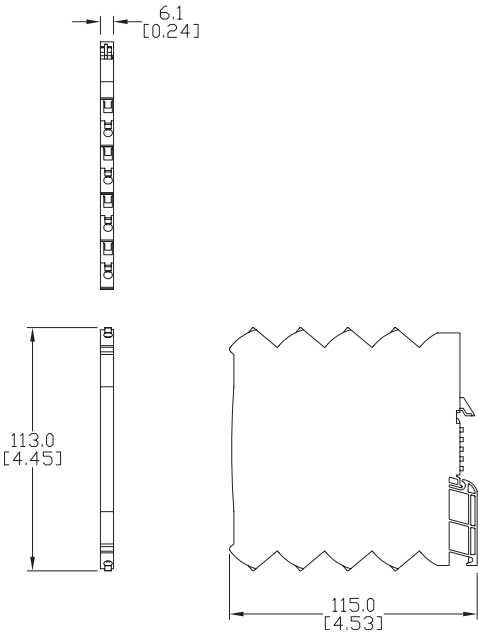


Power Connection Module			
Part No.	Description	Weight (lb)	Price
SC6-PCU1	ProSense power connection unit, for use with SC6 series signal conditioners.	0.19	\$120.00

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

Dimensions

mm [inches]



See our website www.AutomationDirect.com for complete Engineering drawings.

prosense® SC6 Series Signal Conditioners Accessory

In-Rail-Bus

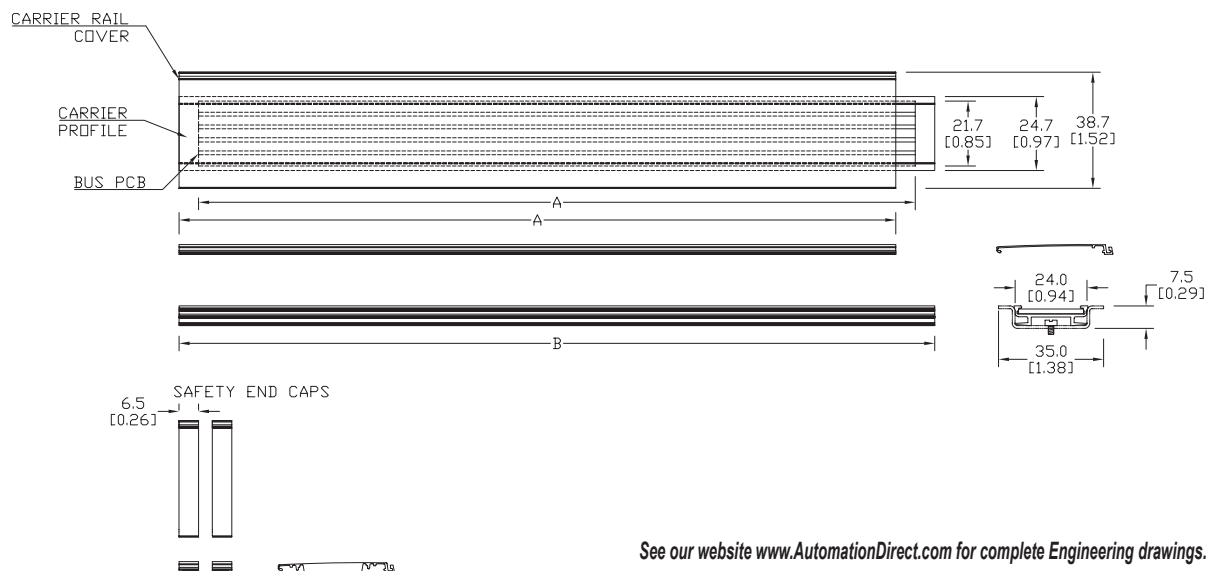


SC6 Series Signal Conditioners Accessory					
Part No.	Description	"A"	"B"	Weight (lb)	Price
0068060	In-rail-bus, 250mm length. For use with SC6 series signal conditioners and DN-R35S1 series DIN rail.	239mm	252mm	0.2	\$51.00

Note: Order DIN rail and signal conditioners separately

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

Dimensions mm [inches]



See our website www.AutomationDirect.com for complete Engineering drawings.

