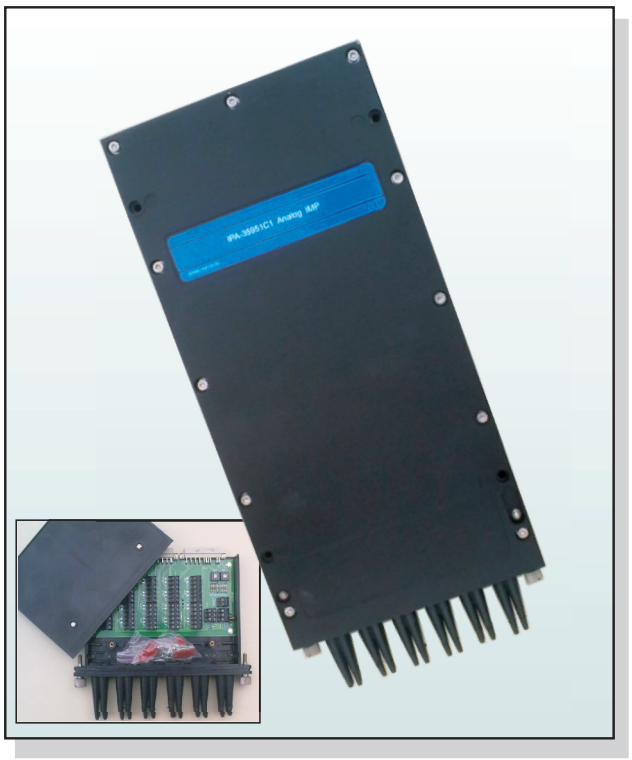
3595-1C AND 1Q ISOLATED MEASUREMENT PODS (IMPS)



- **Compatible with Solartron/Emerson 3595 series IMPS**
- **Uses existing IMP S-Net Communications**
- **Up to 20 reed relay isolated analogue input channels**
- **Measures DC Volts, DC Current, Thermocouple, Resistance or RTD inputs (3 or 4 wire).**
- **Communicates to PC via 3959-4B/4C cards or the 3595-4U USB interface.**
- **Compatible with existing IDAS software and drivers**

DESCRIPTION

The 35951C is a replacement for the original 35951C unit, which is compatible with the original for all applications. It has similar measurement ranges and accuracies to the original product but offers enhanced measurement resolutions and additional integration times on a per channel basis. It also supports improved drift correct measurement options, without compromising compatibility.

It is compatible with the SNET communications and power supply features of the original product and operates on a network driven from a 35954C PCI card or a 35954U USB interface. It is the same size, has identical fixing positions, and has interchangeable connector blocks with the original product.

The 35951Q is an enhanced version of the 35951C1, which includes 3 and 4 terminal resistance and RTD measurement facilities organised in a similar way to the original 35951H IMP. All 20 channels are available to use in pairs for the 3 and 4 wire measurement modes. The channels are fully programmable and so each 3 or 4 wire measurement takes up 2 channels but leaves the rest available for other 35951C measurement modes. It remains compatible with the 35951C, and the resistance measurement modes are programmed using the same codes as a 35951H. The connector wiring for the 3 and 4 terminal resistance modes differs from the 35951H, but otherwise the 35951Q is compatible with the measurement modes of the 35951H analogue channels.

SPECIFICATION

Number of channels / module	20
Number of poles / channel	3
Connector input	IMP3595-3A type
Measurement modes	Volts dc (mV, uV), Current (with 100R shunt), Thermocouple types K, J, T, R, S, E, B, N, Resistance and RTD (1Q only)

VOLTAGE MEASUREMENT MODE

Input voltage ranges	+12V to -12V +2.0V to -2.0V +200mV to -200mV +30mV to -30mV Automatic range selection
DC measurement accuracy	+/- 0.015% of rdg + 0.01% of rng + 4uV
Temperature coefficient	25ppm rdg + 0.1uV/ºC
Measurement sensitivity	30mV range 18 bits <0.25uV
Additional 80 -100/sec mode	0.03% of range

THERMOCOUPLE MEASUREMENT MODE

Internal cold junction compensation errors included. ºC or ºF units

Type	Range ºC	Accuracy ºC
K	-100 to 500	0.5
	500 to1200	0.7
	1200 to 1600	3.0
J	-50 to 360	0.5
	360 to 800	0.7
T	-150 to 400	0.5
R	0 to 1600	2.0
S	0 to 1700	2.2
E	-50 to 290	0.7
	290 to 1000	1.0
B	200 to 1600	4.5
N	-200 to 1600	1.3
	-100 to 580	1.1
	580 to 1300	1.3

Displayed sensitivity	<0.1ºC
Thermocouple health monitoring by resistance measurement	

RESISTANCE MEASUREMENT (35951Q only)

Measurement configurations	3 and 4 wire connection
Measurement Ranges	2000 ohm 256 ohm 32 ohm
Sensing Current	<0.75 mA (switched)
Accuracy	0.03%rdg + 0.015%rng +3 mohm
Sensitivity @17bits	<1 mohm

RTD MEASUREMENT (35951Q only)

Type	Range ºC	Accuracy ºC
PT100	-50 to 400 oC	+/-0.2oC
	-150 to 600 oC	+/-0.4oC

Measurement modes	3 wire and 4 wire

CURRENT MEASUREMENT:

Sensitivity (100R shunt fitted)	<10nA
Accuracy as for voltage ranges + shunt accuracy	

INTERFERENCE REJECTION (AC 50/60Hz)

Common mode rejection ratio channel group	<0.1uV/V
Single channel common mode rejection ratio	<1uV/V
Series mode rejection ratio 50 or 60 Hz +/- 0.05%	<1 mV/V
Applies to 18,19,20 bit measurements.	
DC channel common mode rejection ratio	<0.1uV/V
Maximum voltages operating:	
Max voltage between + and - inputs, same channel	+/-12V
Maximum voltage between any two terminals	200V

OVERLOAD PROTECTION

Channel overload protection Passive	50V continuous
Isolation test voltage IMP to IMP or to SNET	Tested at 500V

POWER REQUIREMENT

Connector	Via SNET cable Voltage 11 to 48V Current <100mA at 12V <50mA at 24V

GENERAL

SNET interface	SNET standard compatible
Status LED's	4 Function, Power, Communication ADC fault, Calibration error
Case size	435*215*34.5mm
Protrusion of cable boots	45mm
Weight	3.23kg
Operating Temperature Range	-20 to 70oC
Relative Humidity	90% at 40oC
Vibration	3g 10hz to 400Hz in 3 planes
Programming storage	Secure flash memory

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