

Very High Performance Shunt Voltage Sensor

OVERVIEW

Encore is part of the family of current to voltage transducers designed to measure isolated and ground currents. The main focus of the Encore family is to ease and accelerate measuring the output current from low voltage current sources as well as isolated current transformers (CT). Particular attention was paid on providing a solution that minimizes cost and improves overall performance on distributed systems such as substations, building monitoring, power distribution systems, etc. The Encore series covers the ranges of $\pm 0.1A$, $\pm 1A$, $\pm 2A$, $\pm 3A$, $\pm 4A$ and $\pm 5A$ with customizable bandwidth of up to 40kHz and 0.2% accuracy

SPECIFICATION

Accuracy 2σ (3 σ)	$\pm 0.2\%$ ($\pm 0.4\%$)
Bandwidth [-3dB point]	40MHz
Input-Output non-linearity	< 40 ppm/V
Output voltage	$\pm 100mV$
Gain temperature drift	± 25 ppm/ $^{\circ}C$
Max total phase shift at 60Hz	< 0.05 $^{\circ}$
Output type	Single-ended signal
Output Offset Voltage [Referenced to output]	< $\pm 10\mu V$
Output connector	BNC (Plug)

ENVIRONMENTAL

Operating temperature	- 35 to 70 $^{\circ}C$
Storage temperature	- 40 to 80 $^{\circ}C$

MERCHANICAL

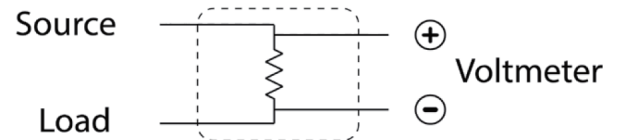
Input connector (1-Pin Coaxial)	BNC
Outer Dimensions (Cylindrical shape)	0.68" \varnothing x 3.0"
Weight	34 g (1.2 oz)

ELETRONICAL

	0.1A	0.5A	1A	2A	3A	4A	5A
Scaling Factor (1V output voltage)	1 : 1	5 : 1	10:1	20:1	30:1	40:1	50:1
Overload Current (60Hz sinewave for 10s)	0.5Arms	2.5Arms	5Arms	10Arms	15Arms	20Arms	25Arms
Input impedance at 60Hz	1 Ω	200 m Ω	100 m Ω	50 m Ω	333 m Ω	25 m Ω	20 m Ω
Output impedance	2k Ω						

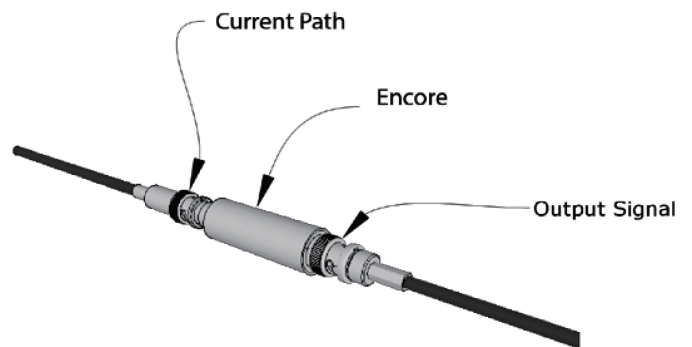
HARDWARE DESCRIPTION

Encore 5c operates as a current to voltage shunt that generates a $\pm 100mV$ range signal for it's nominal input current range. This signal can then be processed by a computer based measurement platform. In conjunction with the EasyConnect family, the Encore is the ideal solution for high channel density applications



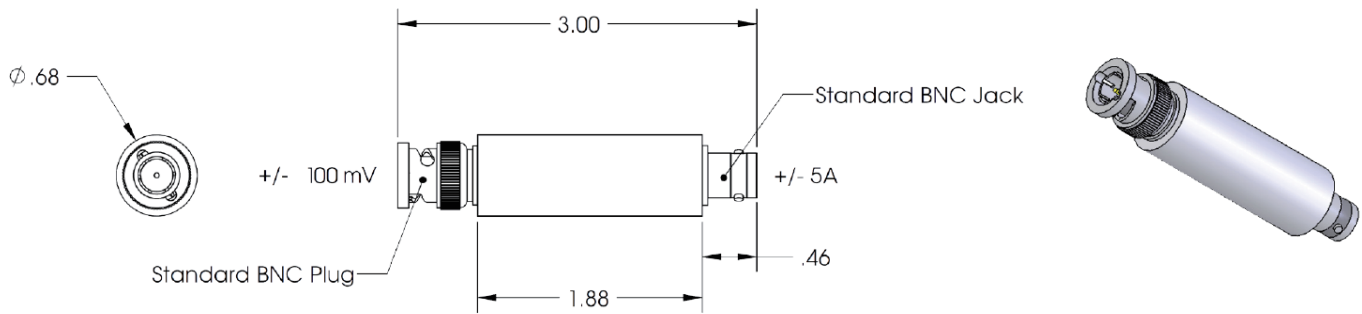
Mounting example of Encore

Due to its compact size and shape, the Encore can be easily mounted anywhere between the signal source and the data acquisition system. The versions up to 5A may even be used inline with the cable and not require any mounting at all. All can be secured to fixtures using cable ties.



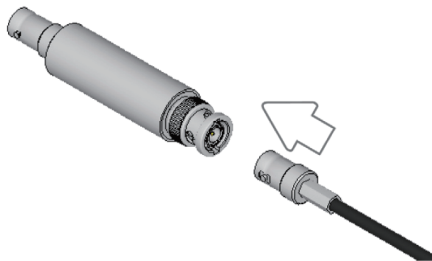
- (1) Form factor can vary for customized solutions.
- (2) High voltage connectors must always be cleaned prior to mating. The proper cleaning method is to wipe or spray the interface area with isopropyl alcohol and immediately blow an inert gas such as dry nitrogen over the interface area until dry. No other cleaning method should be attempted.

MECHANICAL DIMENSIONS

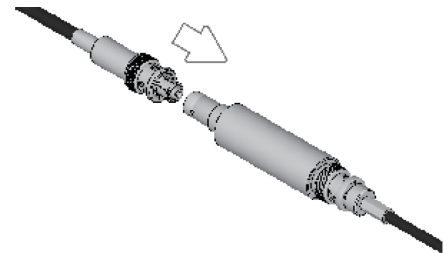


HARDWARE CONFIGURATION

- I** Connect BNC cable to sensor output. Make sure the BNC jack is connected to DAQ or at least properly grounded.



- II** Make sure Input Signal cable is de-energized to avoid arcing. Verify if input connectors are clean. Plug input signal into input connector of sensor.



- III** Secure sensor to avoid accidental disconnection during operation

