

Description

The SCT Signal Converter is used in process control systems to convert a current or voltage input signal to a different range of current or voltage outputs making it an ideal universal interface module. A typical conversion would be from an input signal of 0-10V to an isolated output signal of 4-20mA. The SCT is compatible with most standard, and many non-standard, current and voltage signals. A typical application for the SCT signal converter is its use as an interface module with a digital multiplexer to modernize existing analog control loops.

For high density requirements, 22 channels can be mounted in a 19" relay rack using the Dual-SCT (DSCT) module, which consists of two independent and isolated SCT's on a single plug-in card.

Because the SCT can be equipped with a wide variety of options (described in the Specifications section), it is an extremely versatile unit.

The standard housing used with the SCT signal converter is a corrosion-resistant CSA-approved aluminum case with a "U-Back" mounting bracket that mounts into a 3" by 7-1/2" installation space. Other available housings include a plug-in card for high density rack mounting and a panel mount housing which allows for flush-panel mounting. Housing enclosures offered for use with the SCT signal converter include explosion-proof, watertight, and transparent-cover enclosures, each of which meets NEMA specifications as indicated in the Specifications table.



Moore Industries' SCT accepts standard—and many non-standard—input signals and yields an isolated current or voltage output.

Features

- **Complete isolation.** To minimize noise and other signal errors, the SCT and DSCT units feature complete isolation of the input, output, and power supply terminals.
- **Computer interfacing capabilities.** Because of its low output ripple (10 mV P/P), the SCT unit is ideal for computer interface applications.
- **RFI protection.** With the -RF option, SCT units come equipped with a patented filter assembly that prevents radio frequency interference from entering the unit. The DSCT is protected from RFI by the use of the -RF option installed in a 19" rack.
- **Field-selectable current ranges.** With the -SC option, both input and output current ranges for SCT units can be conveniently selected in the field.
- **Maintains system performance.** Low input resistance to current signals and high (over 10 megohms) input resistance to voltage signals mean the SCT can be inserted into existing systems without loss of performance.

Specifications

Characteristics	Ordering Specifications	Options (Continued)
<p>Adjustments 22 turn potentiometers Zero: With minimum input, adjusts output to 0% ±10% Span: With fullscale input, adjusts output to 100% ±10%</p> <p>Performance Calibration Capability: ±0.1% of span (linearity and repeatability) Frequency Response: 5 Hz max. at the -3dB point Ripple: 10 mV P/P at max. span and max. load resistance Load Effect: ±0.01% of span from 0 to max. load resistance (current output) Line Voltage Effect: ac or dc; ±0.005%/1% line change</p> <p>Ambient Temperature Range: -29°C to +82°C (-20°F to +180°F) Effect: ±0.005%/°F over above range</p> <p>Output Operational amplifier feedback current source; output limited to 150% of max. output</p> <p>Isolation Input, output, and power input are transformer isolated with no dc connections (standard for both ac and dc powered units). Common mode rejection exceeds 120dB at 60 Hz with a limit of 500Vrms.</p> <p>Certification CSA</p> <p>Weight Approximately 2 lbs (908 grams)</p>	<p>Unit SCT or DSCT</p> <p>* SCT Standard Input Ranges Current: 1-5MA 1-5mA into 200Ω nominal 4-20MA 4-20mA into 50Ω nominal 10-50MA 10-50mA into 20Ω nominal SC Selectable Current input (SCT only) Voltage: 0-5V 0-5Vdc, 1-5V 1-5Vdc (10 megohms min. input impedance); 0-10V 0-10Vdc (200K impedance std. with -ATL, 10 mega-ohm optional with -ATH); other voltages optional</p> <p>DSCT 4-20MA and 1-5V only</p> <p>* SCT Standard Output Ranges Current: 1-5MA 1-5mA into 0-4800Ω load 4-20MA 4-20mA into 0-1200Ω load (0-1800Ω optional) 10-50MA 10-50mA into 0-480Ω load SC Selectable Current output (SCT only) Voltage: 0-5V 0-5Vdc, 1-5V 1-5Vdc std. into 20KΩ min.; 0-10V 0-10Vdc std. into 40KΩ min.</p> <p>DSCT 4-20MA and 1-5V only</p> <p>SCT Power Input 24DC 24Vdc ±10% std. 45DC 45Vdc ±10% std. 117Vac, 220Vac, 50/60 Hz ±10% (optional) 5 Watts nominal</p> <p>Options DSCT 24DC only</p> <p>Options -ATH Maintains 10 megohm input impedance for 10V inputs -ATL Low-impedance (200 KΩ) attenuated input for any voltage over 5V</p>	<p>-BI Bailey input (-10 to +10V) -BO Bailey output (-10 to +10V) -EO Power selection of 117Vac or 24Vdc (not available with PC housing) -FC Factory calibration -FU 400mA power fuse for -PC housing (SCT only) For STD housing, C/F -HI High current output (20mA max.) for voltage outputs (1-5V, 0-1V, 0-2V, 0-5V, 0-10V and 0-20V) -RF Patented filter assembly for RFI protection (not available with PC, PM or EX housings) -RO Reverse output, current or voltage (SCT only) -TX Two-wire transmitter excitation—30Vdc at 25mA max. to power 4-20mA 2-wire field transmitter (SCT only)</p> <p>Housings AB Angle bracket mounting CP Conduit-plate for use with standard units DCM DIN clip mount EX Explosion-proof enclosure, Single Unit, Div. 1 GP General-purpose enclosure, Single Unit, NEMA 1 PC Plug-in card (24Vdc & 45Vdc power only) PM Panel mount enclosure STD Standard enclosure TCE Transparent cover enclosure, NEMA 4 WT Watertight enclosure, Single Unit, NEMA 4</p>

When ordering, specify:
Unit / Input Range / Output Range /
Power Input / Options [Housing]

Model number example:
SCT/1-5V/4-20MA/117VAC/-TX [STD]
DSCT/1-5V 4-20MA/4-20MA 1-5V/24DC [PC]

* Other current and voltage inputs and outputs are also available. Consult the factory.



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