

# SCC OPEN SIGNAL Family

## Model SCC-FRQ/C Single Channel Module

NOTE: THIS IS A FACTORY CONFIGURED UNIT

### FACTORY CONFIGURATION

Each SCC-FRQ/C unit is configured and calibrated at the factory for the input signal range and voltage output range printed by the factory on the SCC unit's side-label.

The SCC-FRQ/C unit is capable of accommodating a 0 to 25KHz input frequency at a signal magnitude of up to 250 volts and provides a 0 to 20mA or 4 to 20mA output signal. Unit re-configuration requires Dwyer Instrument's, Inc. SC Configurator Utility

This SCC unit may be reconfigured by a user at any time via their personal computer (PC) or handheld personal computer (HPC) by installing Dwyer Instrument's Windows®/PC or Windows®/CE HPC based SC Configurator Utility, interfacing the SCC unit to the computer's RS-232C comm port with an SCC Configuration Cable (sold separately), and then changing the unit's input/output configuration settings.

### OPERATIONAL DESCRIPTION

The SCC family of single channel signal conditioning and isolating modules are intelligent, user programmable, high-accuracy, user friendly, signal conditioning units.

Each SCC model supports one (1) specific analog signal-type on its input channel and outputs either one (1) high-level current or voltage signal depending upon model. A diverse SCC model family permits users to select the model which meets their unique signal conditioning needs.

SCC models may be purchased with a factory preset configuration for plug-n-play application or available unconfigured so user may configure the unit to meet their unique need. All SCC models may be configured/reconfigured by a user at any time through use of an optional SC Configuration Package.

**Theory of Operation** - An analog world input signal arriving at the MCC unit is isolated, filtered, amplified, scaled and/or linearized (as required) by the units onboard microprocessor under the direction of the unit's configuration parameters set by the user (or factory) via Windows®/PC or Windows®/CE HPC (Handheld Personal Computer) based SC Configurator Utility.

The conditioned signal is then converted to a high level analog current or voltage output signal (depending upon model) and presented at the unit's isolated output.

### REQUIREMENTS

Mandatory:

- 15 - 32VDC, 30mA external supply voltage

Optional:

- SC Configuration Package (Part No. SCC-CC-A1) Package consists of: SC Configurator Utility and SCC Configuration Cable.

### INSTALLATION

1. Mount SCC unit on standard TS32 or TS35 DIN rail.
2. See wiring diagram on reverse side. Connect external 15 to 32VDC power source to SCC unit:  
Positive (+) to SCC terminal +VDC  
Negative (-) to SCC terminal -FRQ/-VDC

3. Connect input frequency device to SCC unit:  
Positive (+) to SCC terminal +FRQ  
Negative (-) to SCC terminal -FRQ/-VDC
4. Connect output actuator/device to SCC unit:  
Positive (+) to SCC terminal +I OUT  
Negative (-) to SCC terminal -OUT

### DIAGNOSTIC TOOLS

Two LEDs one RED and one GREEN are located on the front face of the SCC's enclosure and provide user with visual indication as to unit operation.

### LED FUNCTIONALITY

LED's have three operational states:

- Steady ON**
- Steady OFF**
- Blinking**

Condition: GREEN = BLINKING  
RED = Steady OFF

Meaning: Module is processing data.

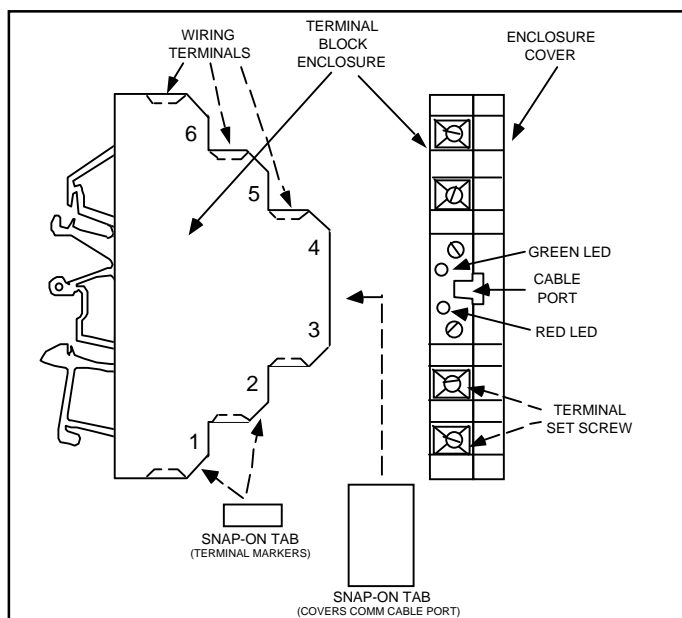
Condition: GREEN = Steady ON  
RED = Steady ON

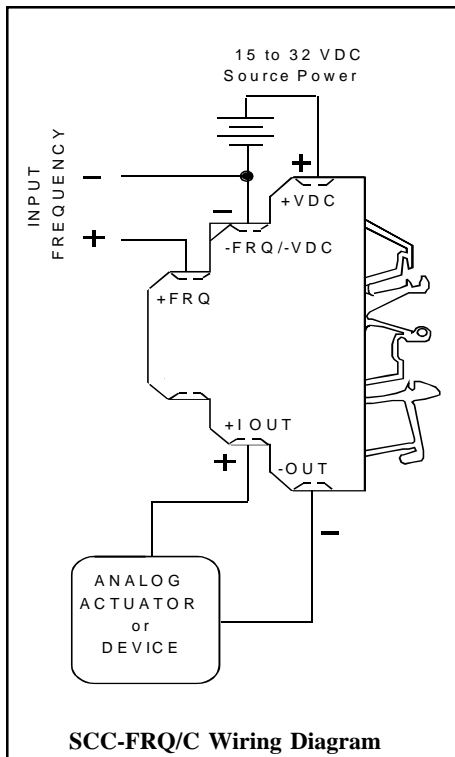
Meaning: 1) Configuration data is not loaded in module memory. -OR- 2) During module re-configuration both LED's are normally ON indicating data is being properly transferred to or from module memory.

Condition: GREEN = BLINKING  
RED = BLINKING

Meaning: The measured input signal is outside the modules configured range. When the signal is within configured range the LED's indicate normal operation.

All other combinations indicate the module is not operating correctly.





SCC-FRQ/C Wiring Diagram

## CONFIGURATION CHANGE

An SCC's configuration can only be changed through use of a personal computer running our Windows® based SC Configurator Utility and a special configuration communication cable to interface the SCC unit and personal computer together. (See Requirements - on reverse side for purchasing information.)

Instructions on how to accomplish configuration change are included with SC Configuration Package and not covered here.

## SPECIFICATIONS

Input Power: 15-32VDC  
 Isolation: 2 way output to power/input 1500V peak  
 Over Voltage: 240VRMS continuous  
 Step Response to 99%: 0.3 seconds  
 Operating Temp.: -40 to +75°C  
 Storage Temp.: -40 to +85°C  
 Mounting: 32 and 35mm DIN Rail & G Rail  
 Dimensions: 75mm H X 12.2mm W X 60 mm D  
 (2.95" X 0.485" X 2.5"), 24 modules can be installed per linear foot of DIN Rail  
 Diagnostics LEDs: Active and alarm indications  
 Maximum Wire Size: 14 AWG  
 Input Type: Frequency  
 Input Range: (Fully scalable to user input specifications)

Frequency Input:  
 0 to 25 KHz      0 to 1 KHz  
 0 to 10 KHz      0 to 100 KHz  
 at a magnitude of:  
 0 to 24 mV      0 to 5 V  
 0 to 12 mV      0 to 50 V  
 0 to 250 V  
 Output:  
 Current -- 0 to 20mA or 4 to 20mA  
 Accuracy: ±0.05%

**Warning:** This unit is protected against abnormally high and low voltages. Marginally low voltages, marginally high voltages and power fluctuations for extended periods of time can cause permanent damage.

**Caution:** When installing the unit's wiring do not over-tighten the wiring terminal set screws. Turn set screw until wire's resistance is encountered and wire is securely captured. Over tightening will cause damage to the unit.

Recommended torque: 1.0 in/lbs.

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- The User is required to suppress high energy transients, such as those caused by lightning strikes, unless the product is specified for such purposes. Non-resistive loads and contact arcing must be suppressed at source.
- Products are intended for installation inside an equipment cabinet or suitable enclosure unless otherwise specified. This should be accessible only to qualified personnel during commissioning and maintenance. Open chassis products for use above 50V should only be accessible by the removal of a cover using a key or tool.
- Anti-static precautions and conventional instrumentation best practice must always be observed. Each active module should be protected by a suitably rated fuse or equivalent protection device.

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