NOTE: THIS IS A FACTORY CONFIGURED UNIT

FACTORY CONFIGURATION

Each SCC-FRQ/V 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/V 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 5V or 0 to 10V output signal. Unit re-configuration requires Dwyer Instruments, Inc. 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 Instruments, Inc. 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 SCC 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:

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 +V 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.
**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 overtighten the wiring terminal set screws. Turn set screws 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

**Configuration Change**

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

**Specifications**

- **Input Power:** 15-32 VDC
- **Isolation:** 2 way output to power/input 1500 V peak
- **Over Voltage:** 240/V RMS continuous
- **Step Response to 99%:** 0.3 seconds
- **Operating Temp.:** -40 to +75°C
- **Storage Temp.:** -40 to +85°C
- **Dimensions:** 75mm H X 12.2mm W X 60 mm D (2.95” X 0.485” X 2.5”)
- **Mounting:** 32 and 35mm DIN Rail & 35mm G Rail
- **Frequency Input:** 0 to 25 KHz
- **Output:** Voltage -- 0 to 5V or 0 to 10V

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**Returning Material to the Manufacturer**

- **Order Entry, Application, or Customer Service Assistance:** (4) Provide a Purchase Order, (5) An SCC’s configuration can only be changed), (6) Dwyer Instruments, Inc. quality products were designed, and are manufactured with tight tolerance specifications. Any attempt to repair or otherwise modify Dwyer Instruments, Inc. products will void the warranty. Although Dwyer Instruments, Inc. may choose to repair a product returned under warranty, it will not attempt to repair products that are beyond the warranty period. Evaluation and repair costs of product beyond the warranty period will likely exceed replacement costs. As such, Dwyer Instruments, Inc. supports the policy of "repair by replacement".

**Limitation of Liability**

- **Repair or replacement of the defective product with any damages limited to the purchase price of the product. In no event shall manufacturer have any liability for the direct, indirect, special, consequential or incidental damages, including but not limited to loss of profits, use or production, or for another claim for damages whether based or claimed in contract, warranty, negligence, strict liability, indemnification or otherwise.

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**FCC Statement**

- **This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to correct the interference by one or more of the following measures: (1) Reorient or relocate the receiving antenna. (2) Increase the separation between the equipment and receiver. (3) Connect the equipment into an outlet on a circuit different from that to which the receiver is connected. (4) Consult the dealer or an experienced TV technician for help.**

**Installation and Safety Guidance Notes**

- **Environment**
- **Dwyer Instruments, Inc. products are designed to operate reliably and safely in their specified environment. However the following guidelines must be followed to ensure Safety, Electromagnetic Compatibility and Performance.**
  - **Products have been tested for the Industrial Environment (BS EN 50082-2 and 50082-2) unless otherwise stated. Operation in any other environment is not guaranteed and at the risk of the user.**
  - **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-reactive loads and contact arcing must be suppressed at source.**
  - **Products are intended for installation inside an equipment cabinet or suitable enclosure 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-dust 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.**

**Product EMC Performance**

- **The performance of Dwyer Instruments, Inc. products that fall within the scope of the EMC directive will meet the requirements of the relevant performance criteria as determined by the particular tests listed in the EMC standards. Products may temporarily be affected by the application of some electromagnetic disturbances but will return to published specification thereafter. Individual product details on product EMC Performance are available.**

**Dwyer Instruments, Inc.** supports the policy of "repair by replacement". 

**For order entry, application, or customer service assistance,**

Dwyer Instruments, Inc.
P.O. Box 373
Michigan City, IN 46361 (USA)
Phone: 219-879-8868/219-879-8000
Fax: 219-879-9057

For all prices and specifications subject to change without notice