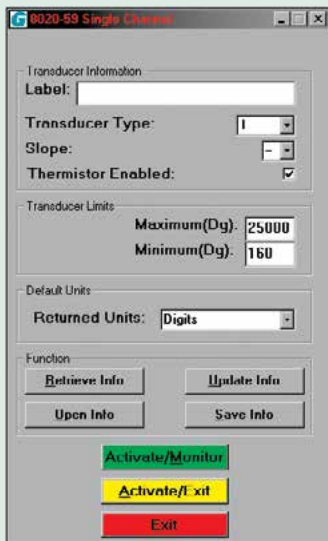


# VW Frequency to Analog Converter

## Applications

The Model 8020-59 Vibrating Wire Frequency to Analog Converter can be used with all of **GEOKON**'s vibrating wire gages and transducers. The user-friendly 8020-59 provides the following...

- Converts vibrating wire gage outputs to 4-20 mA or 0-5 V
- Easy operation
- High accuracy and resolution



• Single Channel configuration screen.



• Model 8020-59 Vibrating Wire Frequency to Analog Converter.

## Operating Principle

The Model 8020-59 Vibrating Wire (VW) to Analog Converter provides a simple way to connect **GEOKON**'s vibrating wire transducers to data acquisition systems which are not capable of reading frequency signals, nor able to generate the proper signals required to excite VW transducers.

The Model 8020-59 provides all the necessary signal conditioning to excite and read the vibrating wire gage and is capable of providing a 4-20 mA or 0-5 V output which is directly proportional to the frequency output from vibrating wire transducers. The output is automatically scaled and calibrated to provide 0-5 V or 4-20 mA for each individual transducer. The analog outputs offer 16 bit resolution and an accuracy (typical) of better than  $\pm 0.1\%$  (0-5 V) and  $\pm 0.5\%$  (4-20 mA). The temperature reading from each transducer's integral thermistor is also available with 10 bit resolution ( $\pm 0.1^\circ\text{C}$ ).

## Advantages and Limitations

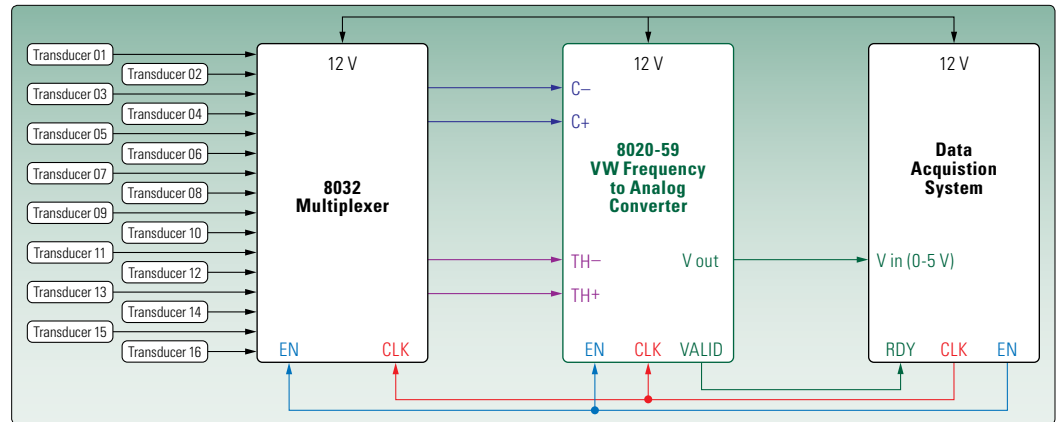
The Model 8020-59 can operate with single transducers as stand-alone devices, or with multiple transducers when used in conjunction with the Model 8032 Multiplexer. A simple software program provides setup of 32 VW transducers or 16 VW transducers with thermistors. Maximum and minimum limits for each transducer are stored in internal EEPROM memory which requires no backup battery.

The Model 8020-59 is powered from either a 12 V or 24 V power supply.

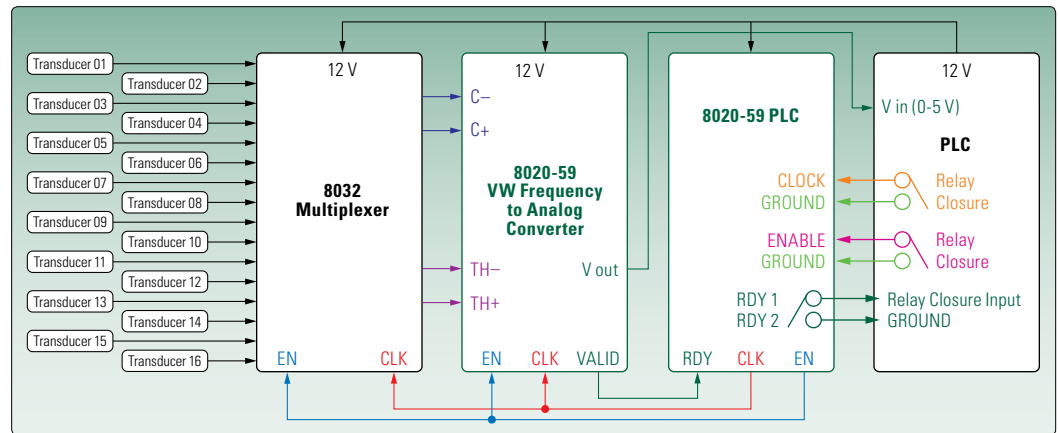
Two user interfaces are provided: a "Command Line" interface that allows all functions to be easily setup and calibrated, and a **Windows**® interface to allow for more intuitive setup and monitoring.



● Model 8020-59 PLC.



● Diagram depicts a typical 16 Channel configuration.



● Model 8020-59 PLC configuration.

### Technical Specifications (8020-59)

|                    |   |
|--------------------|---|
| Power Requirements | 12 V or 24 V<br>90 mA @ 12 V (operation), 10 $\mu$ A (standby)<br>75 mA @ 24 V (operation), 16.5 mA (standby) |
| Operation Modes    | Single Channel, 16 VW sensors with thermistors, or 32 VW sensors  |
| Output (Analog)    | 0-5 V, 4-20 mA (non-isolated loop generator)  |
| Accuracy           | $\pm 0.1\%$ F.S. (0-5 V), $\pm 0.5\%$ F.S. (4-20 mA)  |
| Resolution         | 16 bit  |
| Temperature Range  | $-20^{\circ}\text{C}$ to $+80^{\circ}\text{C}$  |
| L x W x H          | 111 x 108 x 36 mm (with cover)  |

### Technical Specifications (8020-59 PLC)

|                            |   |
|----------------------------|---|
| Power Requirements         | 20 $\mu$ A @ +12 V (standby)<br>7 mA @ +12 V (operation)<br>30 mA @ +12 V (operation, LEDs enabled) |
| VALID Relay Closure Output | Type: PhotoMos Solid-State Relay<br>On Resistance: 50 $\Omega$ (maximum)                            |
| Load Current               | 100 mA (continuous), 300 mA (peak)  |
| Load Voltage               | 400 V (maximum)   |
| Isolation Voltage          | 1500 VAC (maximum)  |
| Temperature Range          | $-20^{\circ}\text{C}$ to $+80^{\circ}\text{C}$  |
| L x W x H                  | 111 x 109 x 37 mm (with cover)  |

### Optional Accessories

The Model 8020-59 PLC Interface provides the proper signal conditioning to allow the use of the Model 8020-59 VW Frequency to Analog Converter and the Model 8032 Multiplexer with Programmable Logic Controller (PLC) modules.