

VW Frequency to Analog Converter

Applications

The Model 8020-54 Vibrating Wire Frequency to Analog Converter can be used with all of Geokon's vibrating wire gages and transducers. The user friendly 8020-54 provides the following...

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



• Single Channel configuration screen.



• Model 8020-54 Vibrating Wire Frequency to Analog Converter.

Operating Principle

The Model 8020-54 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.

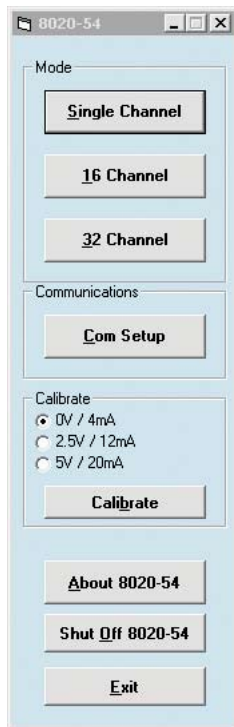
The Model 8020-54 provides all the necessary signal conditioning to excite and read the vibrating wire gage and is capable of providing a 4-20 mA or 0-5 V output which is directly proportional to the frequency output from vibrating wire transducers. The output is automatically scaled and calibrated to provide 0-5 V or 4-20 mA for each individual transducer. The analog outputs offer 16 bit resolution and an accuracy of better than 0.1% (typical). 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

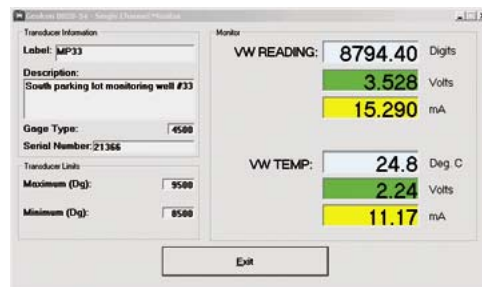
The Model 8020-54 can operate with single transducers as a stand-alone device, or with multiple transducers when used in conjunction with the Geokon Model 8032 Multiplexer. A simple software program provides setup of 32 VW transducers or 16 VW transducers with thermistors. Maximum and minimum limits for each transducer are stored in internal EEPROM memory which requires no backup battery.

The Model 8020-54 is powered using a 12 V (nominal) supply. An optional 24 V DC-DC converter is available to allow powering from a standard 24 V, 4-20 mA current loop (Model 8020-54A).

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



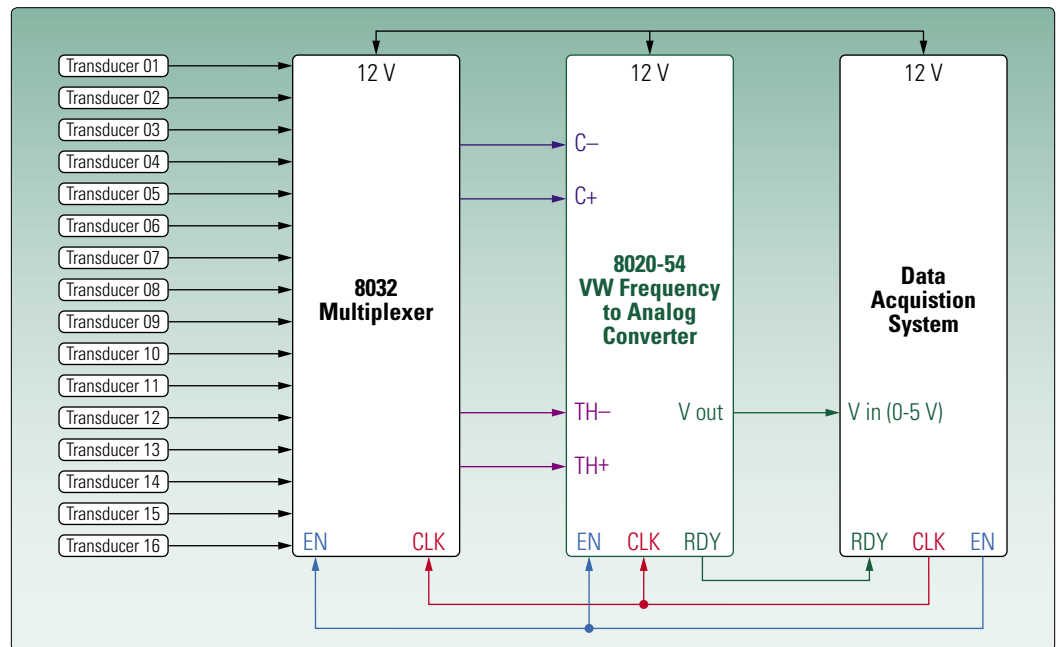
• Main menu.



• Single Channel Monitor screen.



• 16 Channel Monitor screen — green and yellow highlights indicate the current channel being read. The red highlight indicates an over-range condition.



• Diagram depicts a typical 16 Channel configuration.

System Components

The Model 8020-54 is powered using a 12 V (nominal) supply and draws approximately 40 mA when taking readings (between scans current consumption is less than 100 micro amps).

Technical Specifications

Power Requirements	12 V or 24 V 40 mA @ 12 V (operation), 50 µA (standby) 60 mA @ 24 V
Operation Modes	Single Channel, 16 VW sensors with thermistors, or 32 VW sensors
Output (Analog)	0-5 V and 4-20 mA (scaled to range of transducer)
Accuracy	0.1% F.S.
Resolution	16 bit
Temperature Range	-20°C to +80°C
Dimensions	111 × 108 × 36 mm (with cover)



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