VW0420 Vibrating Wire Isolated Analog Interface

The VW0420 provides an interface between vibrating wire instruments and factory automation systems which support 4-20 mA sensors. The vibrating wire section measures the natural frequency and temperature of the sensor. The measurements are then converted to engineering units, unit converted etc. as required, and scaled to the 4-20 mA outputs.

Setup of the device is straightforward, using a Windows host program connected via USB cable.

Because the source of power, the vibrating wire sensor, and the 4-20 mA measurement may be in different locations, there are 4 dielectrically isolated ground subsystems, one for the power, one for the sensor, and one for each of the outputs. This isolation gives maximum flexibility in connecting the system.

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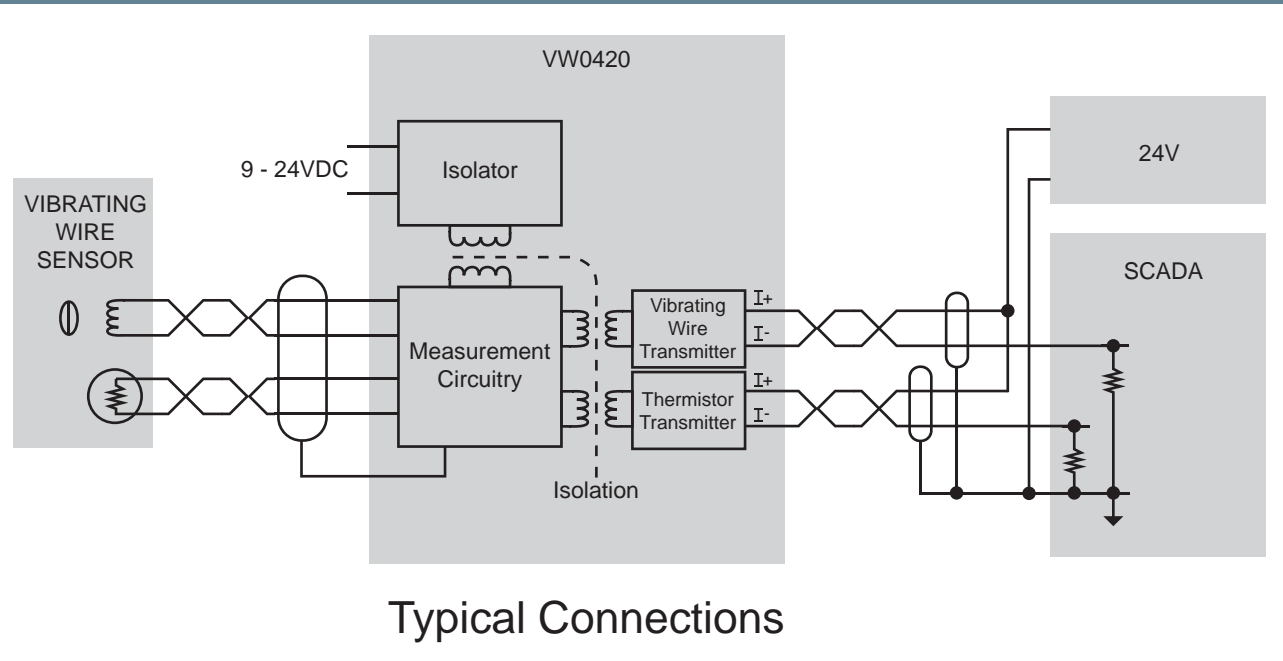GEOTECHNICAL · MINING · ENVIRONMENTAL · STRUCTURAL

ELB0031A

⬡ specifications

ITEM	DESCRIPTION
Vibrating wire sensor types	Piezometer, strain gauge, mini-strain gauge, displacement sensor etc.
Sweep types	A,B,C,D,E,F, user-defined
Frequency input	450-6000 hz
Update Rate	2 seconds
Vibrating wire calibration	mX+b, polynomial, units conversion, temperature compensation
Thermistor types	NTC 3000, 2252, 5k, 10k, 2k RTD
Current outputs (2)	Vibrating Wire, Thermistor
Current output	4-20 mA nominal, isolated between channels and with respect to sensor to 2500 VAC
Vibrating wire conversion base	Raw data, engineering units, temperature corrected
Vibrating wire conversion base units	B units, kPa, psi, mH$_2$O, µe, etc
Temperature conversion base	°C, °F, ohms
Current resolution	0.002%
Current conversion accuracy	0.02%
Host program PC connection	USB 2.0, USB mini B connector
Compatible operating systems	Windows 2000, XP, Vista
Operating Temperature	-40 to 55°C
Power Supply	9-24 VDC, 8-35 mA, isolated to 1000 VAC
Dimensions	3.55 x 3.62 x 0.89 in. (90 x 92x 22.5 mm)

Typical Connections

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