

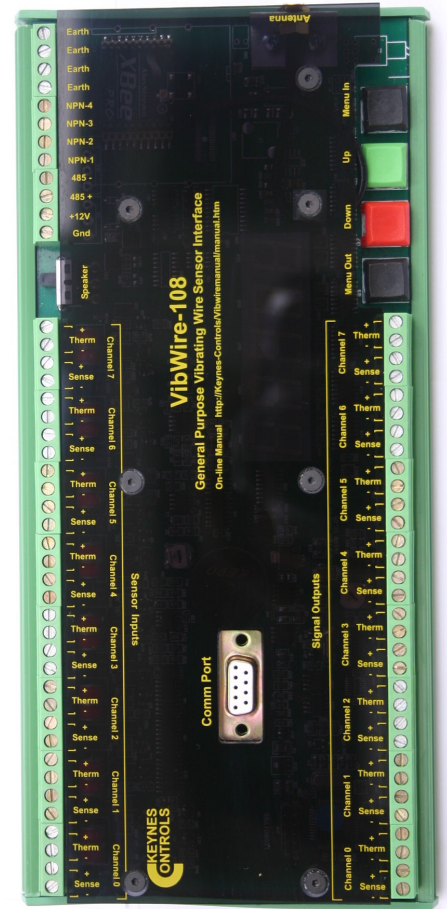
# VibWire-108-SDI12

For Connection to an SDI-12 Network

- 8 x Full 4 Wire Vibrating Wire Sensor Inputs
- Thermistor / 0- 2.5V dc / 4-20 mA loop Analogue Inputs
- SDI-12 Serial network interface
- Supports upto 80 channels on SDI-12 networks
- Connects to any SDI-12 Compatible data logger
- Extended SDI-12 Network Support
- Integrated Power Supply Monitoring
- Gas Discharge Lightning Protection all inputs
- Solid state speaker
- Advanced Power Management < 3mA Standby Mode
- Full Digital Data Conversion - No sensor setup
- 100 Hz - 10 K Hz sensor range
- Digital Measurement Process - No sensor configuration
- On-board Sensor Frequency Display

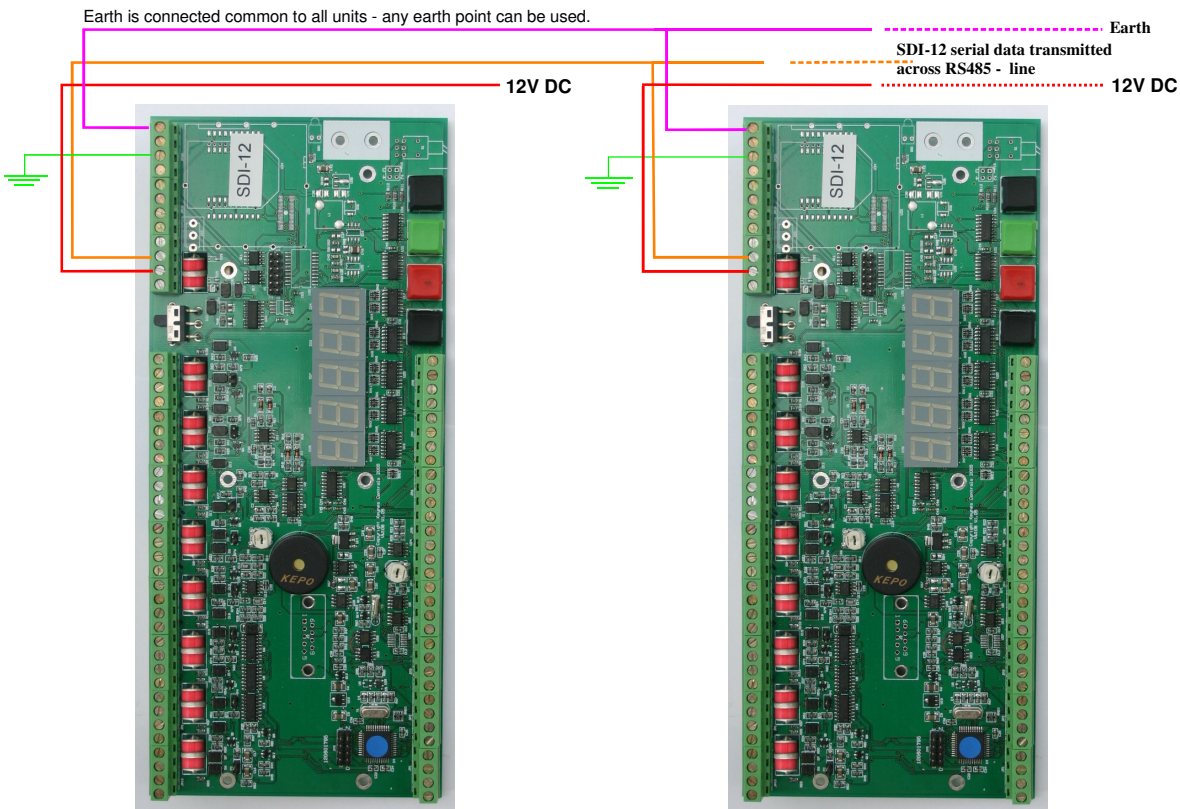
The VibWire-108-SDI12 is the Keynes Controls vibrating wire interface that connects to any SDI-12 compatible data logger unit. This version of the instrument is ideal for locally distributed applications such as when multiple instruments are required to operate together within the same enclosure. The instrument can also be used to combine signals from tilt sensors, 4-20 mA current loop driven devices and temperature sensors.

All VibWire-108 models contain gas discharge protection on all sensor inputs and the network interfaces so nothing else is required apart from connecting the sensors and power supply.



All instruments supplied with protective covers

## SDI-12 Network Connections



## Comms Port Pin-out

12	Earth
11	Earth
10	Earth
9	Earth
8	NPN-4
7	NPN-3
6	NPN-2
5	NPN-1
4	RS-485 +
3	RS-485 -
2	+12V
1	GND

Protection fitted to comply to SDI-12 standard on the serial port output

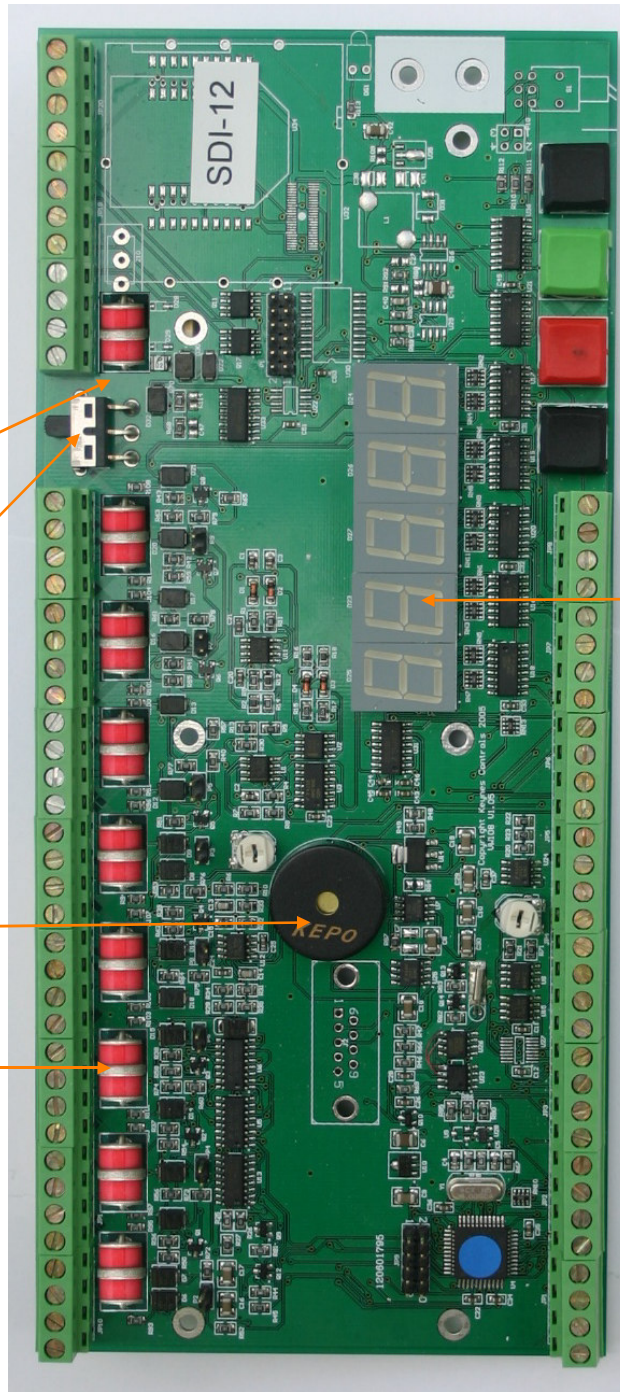
Speaker Selection Switch

Frequency Hz

User Display

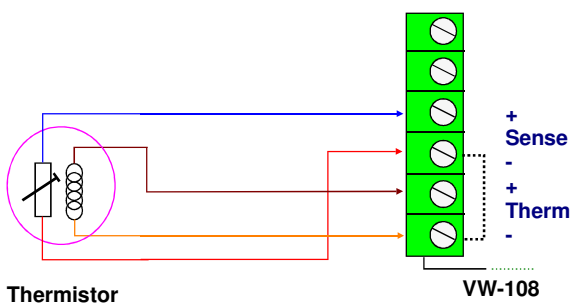
Speaker

Gas Discharge Tube  
Lightening protection



The photograph below shows the VibWire108-SDI12 without its protective cover

## Sensor Connection Diagram



## Communications

**Maximum Network Length**  
**Maximum number of VW108**  
**Baud Rate**  
**Network Connection**

200 ft  
 10 per network string  
 1200  
 2 wires only

## SDI-12 Command Set

The VibWire-108 supports the standard SDI-12 command set.

In the following commands 'a' and 'b' are the address of the instrument can be 0 to 9 or the characters a - z.

where

'**ttt**' represents a time in seconds (0 to 999 seconds)

'**n**' or '**nn**' represents a number of channels (00 to 99 channels)

**\r** and **\n** are the Carriage Return and Line Feed characters - ASCII 13 and 10.

No sensor configuration details need be applied to the VW108 when operating with the SDI-12 network. Simply connect the sensors to the interface as shown above and initiate the commands listed below.

Description	Master	VW108 Response
Acknowledge active	a!	a\r\n
Send ID:  provided to complement SDI-12 protocol	aI!	a13KEYNESCOVW1080001\r\n  Part Description assigned by Keynes
Address query  identifies instrument address and commonly used on single instrument operations only.	?!	a\r\n  Where a = number 0 - 9 for SDI-12 0-9 letters a - z for RS485 A - Z
change Address:  used to change instrument address from default to new one for network operations	aAb!  <b>a</b> = initial address <b>b</b> = new address	b\r\n  <b>a : b</b> = number 0 - 9 or a - z
Start Measurement  instruct an instrument to make measurement	aM!	a0608\r\n  instrument with address a returns 8 x vibwire & 8 x temp after 60 seconds
Concurrent measurement:  Used for polling multiple instruments on a network to start to make readings. This command frees RS-485 bus for other de- vices	aC!	a06016\r\n  initial response only after receipt of in- struct and no response when data ready to be sent.
Send data  data returned aND! = Vib + Vib + Therm + Therm and has same format for each command	aD0! aD1! aD2! or aD3!  aD0! = channel 0 and 3 VibWire Sens aD1! = channel 4 and 7 VibWire Sens aD2! = channel 0 and 3 Therm/analog aD3! = channel 4 and 7 Therm/analog	+xxxx.x+xxxx.x+xxxx.x+xxxx.x\r\n

### Additional Information

- 1 Strain gauge data is given as frequency in units (Hz)
- 2 Temperature data is given in millivolts (0000.0 to 2500.0)
- 3 The SDI-12 Identifier can be increased to enable the SDI-12 to talk to additional instruments. Contact Keynes Controls for additional details.

### Sensors

The VibWire-108 supports sensors from all of the major manufacturers. If there is any doubt regarding a sensor compatibility with the Vibwire-108 range of products contact Keynes for additional technical information.