

SiViB 1001

Signal Converter and Alarm Monitor for Vibration and Roller Bearing Condition

- Makes it easy to connect accelerometers to a PLC or DCS system
- Input for piezo accelerometer with constant current supply (ICP™)
- Outputs 4 20 mA and 0 10 Volt for both units
 Vibration velocity mm/s v_{RMS} and Bearing condition gSE or vibration acceleration g _{peak} and Bearing condition gSE
- Alarm outputs for direct connection to the digital inputs of a PLC or DCS

SiViB 1001 is a cost effective signal converter and alarm monitor for vibration and bearing condition signals. The compact size and easy mounting on DIN rails makes SiViB ideal for use on motors, pumps, fans and machine tools. SiViB 1001 supplies the accelerometer with the necessary constant current, and converts the vibration signal to an analogue output current or voltage. The output signals can be connected to standard analogue inputs of PLC, NC or DCS systems..

SiViB 1001 provides the necessary constant-current power supply for the sensor, and converts the vibration signal into an analog output current and voltage. These output signals can be connected to the analog inputs of the PLC and NC control or process control systems. Similarly, the alarm outputs can be directly connected to 24 Volts digital inputs of a PLC.

Product Features:

The converter, housed in a compact box, is mounted on a standard 35 mm DIN rail. The pluggable screw terminals allow an easy cabling. Use a 24 Volts DC power supply for energizing the system.

The signal converter gives the necessary constant current supply of 4 mÅ to the ICP[™] / IEPE compliant accelerometer.

The vibration signal coming from the sensor is filtered and split into 2 different frequency ranges. For velocity the band is 10 Hz to 1 kHz and for bearing condition 5 kHz to 50 kHz.

The vibration velocity signal then is integrated, rectified, scaled to mm/s RMS and finally converted to the analogue output signals as 4 – 20 mA or 0 - 10 Volts.

From the bearing condition signal, an energy weighting of pulse spikes is converted to the analogue output of 4 - 20 mA and 0 - 10 Volt.

For most monitoring applications vibration velocity is the best choice of unit, as stated in the standards DIN/ISO 10816. SiViB 1001 outputs this value. In some applications however, monitoring acceleration is necessary. For these cases, the instrument can be switched to monitor acceleration instead.

Depending on the application, accelerometers with different sensitivity can be used. SiViB 1001 can work with sensors having 100 mV/g or 10 mV/g sensitivity and ICP[™] / IEPE supply.

Setup of ranges and alarm levels is done using the software SoftControl. Here you can also view the actual values and even record readings to file.



SiViB 1001

Specifications			
Units of Measurement:	Vibration velocity v _{RMS} switchable to: Acceleration a _{peak} and	and Bearing condition gSE Bearing condition gSE	
Case:	Plastic case, protection IP20 for mounting on 35 mm DIN rail; 16 cable terminals on 4 blocks, pluggable Dimensions 22,5 x 110 x 115 mm (WxHxD)		
Inputs / Outputs:	 Input for accelerometer with constant current supply Sensitivity 10 or 100 mV/g (jumper configurable) Analog-outputs, 4 – 20 mA or 0 – 10 Volts (jumper configurable) for vibration velocity v_{RMS} or acceleration g _{peak} for roller bearing condition gSE Alarm outputs, 24 Volts optically isolated, set up by software 		
Power supply	24 VDC; approx. 30 mA		
Ranges	velocity:	0 - 8 / 16 / 32 / 64 mm/s v _{RMS}	
	acceleration:	0 – 1 / 2 / 4 / 8 g _{peak}	
	bearing condition:	0 - 8 / 16 / 32 / 64 gSE	
Frequency ranges:	10 Hz – 1 kHz for velocity v _{RMS} or acceleration g _{peak} 5 kHz – 50 kHz for bearing condition gSE		

Types and Part Numbers:

Unit	Description	Order Number
SiViB 1001-00	1 Input for accelerometer 100 mV/g or 10 mV/g	SiV1001.00
	Outputs for verlocity and bearing condition, switchable to	
	acceleration and bearing condition	
	Frequency range 10 Hz to 1 kHz	
SiViB 1001-01	1 Input for accelerometer 100 mV/g or 10 mV/g	SiV1001.01
	Outputs for verlocity and bearing condition, switchable to	
	acceleration and bearing condition	
	Frequency range 50 Hz to 1 kHz	
SiViB 1001-02	Same as 1001-00, but with inverted alarm outputs	SiV1001.02
	(normal high, Alarm low)	
	Software SoftControl	
	Passende Beschleunigungsaufnehmer (z.B):	
AE100.942.080	Accelerometer with 100 mV/g sensitivity	AE100.942.080
AI100.011.015	Accelerometer with 100 mV/g sensitivity	AI100.011.015
AE10.942.080	Accelerometer with 10 mV/g sensitivity	AE10.942.080
AI10.011.015	Accelerometer with 10 mV/g sensitivity	AI10.011.015

Please refer to our website for the datasheets of the accelerometers

IBIS GmbH Werner-von-Siemens-Str. 21 64319 Pfungstadt

Tel: (0)6157-949-370 **Fax:** (0)6157-949-100 www.ibis-gmbh.de info@ibis-gmbh.de