Brüel & Kjær Vibro

Product Specification

VIBRATION INTERFACE – VI-6080

8x vibration input channels, 3x binary input channels, time series export to Compass 6000 Condition Monitoring System

The Vibration Interface VI-6080 is used for providing vibration, position, process and speed signals of protection systems to Compass 6000 Condition Monitoring systems.

Applications

*The VI-6080 is a vibration interface used for adding condition monitoring functionality to (existing – non VC-6000) machine protection systems. Signals available from buffered outputs are in a simple and reliable way connected to the **Compass 6000 Condition Monitoring system**. The **Compass 6000** system will provide full diagnostic capability based on these interfaced signals.*

General Description

The features and functions of VI-6080 are briefly listed below.

- Vibration measurements
- Speed measurements
- Axial position measurements
- Process value measurements
- Status (binary) signals
- 100MBit Ethernet
- Standard +24V external power supply
- Homepage for testing and information

Inputs

- 8x AC/DC input channels – freely configurable with measurements
- 3x binary input channels
- +24V DC power supply

Measurements

The available measurements depend on configuration – every channel can do every kind of measurement:

- Speed/phase reference
- Bandpass measurements (rms, peak, peak-peak)
- Axial position
- Process values

Outputs

- Time series export to Compass 6000 over Ethernet.
- Measurement and status value export to Compass 6000 over Ethernet.

Technical Specifications

The specifications given below are specific for the VI-6080.

AC/DC Vibration Sensor Inputs

Input voltage range ..... –24V to +24V
Input resistance .....220 kΩ

Note:
The VI-6080 is designed to interface to Buffered Outputs that fulfill the API 670 requirements:
"An unaltered, analog replica of the transducer input signal that preserve amplitude, phase, frequency content and signal polarity. It is designed to prevent a short circuit of the this output to monitor system ground form affecting the operation of the MPS. The purpose of this output is to allow connection of vibration analyzers, oscilloscopes and other test instrumentation to the transducer signals." [chapter 3.1.35].....

Input frequency range:
Accelerometer sensor signals .....1Hz to 20kHz
Velocity sensor *signals* .....1Hz to 20kHz
Displacement sensor signals.....DC to 20kHz
Process signals .....DC to 20kHz

Note:
For distances between Buffered Output and Input of VI-6080 larger than 100m (300ft), the maximum frequency is up to 10kHz!

Sensitivity:
Accelerometer.....adjustable (e.g. 100mV/g)
Velocity sensor .....adjustable (e.g. 100mV/mm/s)
Displacement sensor .....adjustable (e.g. 8mV/μm)
Process signals .....adjustable

Housing (DIN rail mounted)

Dimensions (H x W x D) .....120 x 42 x 84 mm
Protection class .....IP 20
Operating Temperature .....-5°C to + 65°C

Binary Inputs

Response time..... < 10ms
Minimum current load (non-active signals).....1mA

Signal status LOW:
Nominal input voltage 0V
Input voltage range..... –5V to 5V

Signal status HIGH:
Nominal input voltage .....+24V
Input voltage range..... 12V to 35V

Power supply – external

Supply voltage for VI-6080 .....+24V DC -15%/+15%
Ripple.....60mV pp
Temperature range.....-5°C to + 65°C
Power consumption per VI-6080 .....≈5W

Time synchronization

per VI-6080 ..... NTP

Approvals

- CE
- C-Tick
- UL in preparation

Software Interface Compass 6000

Accessories

Cabling

EQ2672	Patch panel for 4 input signals 8x terminal screws to RJ45
EQ2635	8 Port Giga Bit Switch
AC-4703	Adapter 4x BNC – RJ45 (Standard for BN 3500 modules)

Power supplies

EQ2651-01524	+24V / 15W (for EQ2635)
EQ2651-06024	+24V / 60W (for 6x VI-6080)
EQ2651-12024	+24V / 120W (6x VI-6080+EQ2635)
EQ2565	Redundancy module

Installation possibilities

Please refer to the instruction manual for installation guidelines.

Accuracy

Meas. Name	**Frequency Range**	**Accuracy** (25°C,)
AC measurements	1Hz to 20kHz	Max. 0.3mV rms +/- 2% of proper value
DC measurements	DC	Max. 50mV +/- 1% of proper value

Brüel & Kjær Vibro reserves the right to change specifications without notice

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