# Protecting Your Critical Rotating Machinery

V400 machine protection system is a high performance fully programmable signal measurement unit capable of monitoring 4 channels of absolute vibration, relative shaft vibration or thrust position. In addition first input is available as standard for measuring speed or for use as a phase reference. The 9\*9cm panel mountable module is designed specifically for machine protection applications, offering a compact and cost effective solution with a range of measurement algorithms.

The sensor interface is programmable to accept IEPE type accelerometers / velocity transducers, proximity probes (API 670 standard compliant), and active / passive speed probes. All input signals are available via a buffered interface on front end BNC connections to offer the option of further detailed signal analysis.

Two alarm relays are available, these relays are fully programmable across the alarm criteria selected. All four input channels measured values are available via a 4-20mA interface. V400 is provided with a graphic LCD display and menu drive facility to provide immediate viewing and access to the machine parameters.

# **Applications**

- Small to Medium Industrial Machines
- Fans, Pumps, Motors,Centrifuges and Turbines
- Shutdown Protection and Condition Monitoring

# V400

**Compact Machinery Protection System** 



# **Specifications:**

S	Specifications:	
	Performance Specification	Description
	Number of Inputs:	4 channel
	Signal Types:	Accelerometer, Velocity Sensor, Proximity Probes or Analog Signals (mA or VDC)
		First Channel can be defined as speed & phase reference.
	Signal Conditioner:	Amplifier/integrator to obtain velocity or displacement response by integration
	Analog Outputs:	Four 4-20mA outputs
	Buffered Outputs:	Two Buffered Outputs per channel (BNC and Screw Terminal)
	Frequency Response:	Acceleration and Velocity and Displacement: 2 to 10,000 Hz
		Thrust / Position :DC
	Dynamic Range:	60 db
	Power:	85-264VAC, 50/60 Hz or 24VDC (1 Amp)
	Accuracy:	1% Full Scale
	Measurement Unit System:	User Defined (English or Metric)
.	Signal Detection:	RMS, Peak or Peak to Peak (User Defined)
ן	Sensor Power:	Internal 4.5 mA Constant Current Diode for IEPE type Sensor
	Sensor OK Detection:	Continuous Monitoring of Sensor Voltage
	Number of Alarms/Relays	9 (4 Alerts, 4 Danger, 1 malfunction )
Ľ	Trip Multiply Function:	Terminal for None , variable 10 to 90% Alarm Trip multiply
	Reset Function:	Push Button /Terminal for Remote Reset if Latching Alarms Selected
	Alarm Indication:	OK = Green LED, Alert = Yellow LED, Danger = Red LED
	Relay Specification:	Form C, SPDT, 1 Amp 110 VAC,
		Latching or Non-Latching Selectable  Normally Energized or Normally De-Energized (User Defined)
		Bypass Relay or Active Relay Selectable
	Alarm Time Delay:	1 to 60 Seconds (User Defined)
	Case:	Aluminum Alloy
	Terminals:	Push In Type, 24 AWG min., 12 AWG max.
	Display Type:	TFH Graphic LCD 128*64 Pixels
	Diagnostic Specifications :	
	CMS Communication:	Diagnostic: Vibsens Protocol (RS232/RS-485 for Networking)
	Sample Rate:	Up to 4 KHz synchronous sampling rate (user defined in software)
	Resolution:	12bit
;	Phase Linearity:	(0.1 Hz to 10 kHz ) ±1 deg
	Programming:	Software and Serial Cable Included (Windows™ Required)
	HMI Communication:	HMI : Modbus (RS485/RS232)
	Environmental Specifications:	
	Operating Temperature:	-15 to +75°C
	Storage Temperature:	-40 to +80°C
	Relative Humidity:	10 - 90% Non-Condensing
	Enclosure Rating:	IP55
	Mechanical Specifications:	
	Housing Material:	Gray Aluminum, Die-Cast
	Mounting:	9*9 cm Panel Mounting
	Dimensions:	90 x 90 x 200mm
	Weight:	25 oz. (700g)
	Certifications:	CE Approved - EN 60950-1



# **V400 Features and Benefits**



# Sensor Inputs

Fully configurable interface with -24V and IEPE, voltage and current options.

## **Buffered Outputs**

Dynamic sensor signals available for **Data Collector** 

#### Mechanical

Panel mounted unit with compact size 90mm x 90mm x 200mm including connectors.

# **Power Supply**

# +24V DC-700mA

### **Communication Interface**

Modbus RTU Protocol (Rs-485/RS-232) Connect to HMI Software **Monitoring Vibration** Values and Trend

# **Summary LEDs**

Overall module alarm status and health monitoring

## **Alarm Relays**

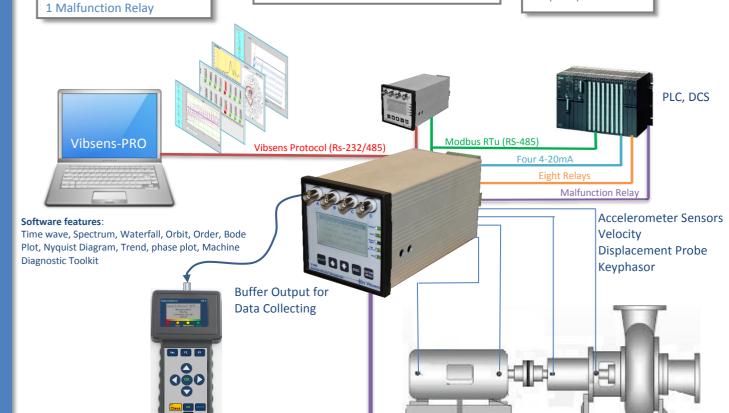
2 available relays per channel

# **Diagnostic Module:**

Serial Port (RS-485/RS-232) connection to #Vibsens-CMS for online Diagnostic

# **Analog Outputs**

Fully configurable 4-20mA and voltage outputs per channel



Trip multiply Signal

