Applications

Oil & Gas, Steel Mills, Non-Ferrous Plants, Power Generation, Water Treatment, Pulp & Paper, LNG Carriers & Other Ships ,Food & Beverage, Pharmaceutical Plants, Mining, Cement, and others.

Product Support Plan (PSP)

A range of Product Support Plans is available to protect your investment. Contact your local VMS sales representative for additional information.

Installation and training

Installation and training available through your local VMS supplier or representative.

OEM Available

VMS has experience from most industry and has produced with a global brand of OEM contract. Please contact VMS for further information ; admin@vmsco.co.kr

VMS Co., Ltd

VMS Reliability Systems – Korea

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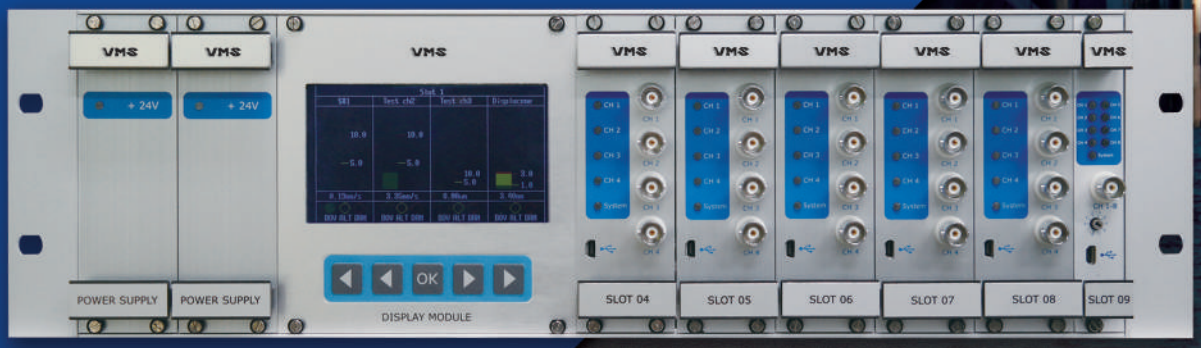
ISO 9001 / ISO 14001

2015.09.08

VMS

4ch Machine Monitoring System

Rack Type
VMRS 200R



Vibration, Machine & Solution

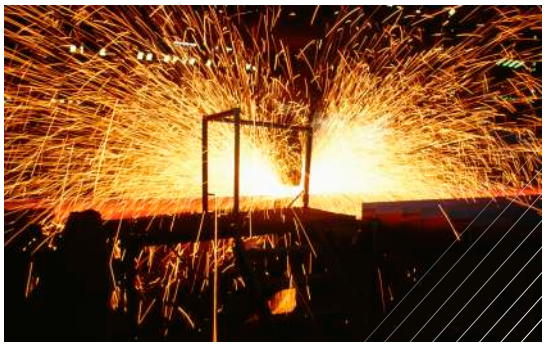
4ch Machine Monitoring System

Rack Type
VMRS 200R Series

To save time and money in the field, VMS offer a flexible 19" rack type system for up to 32 ch in a single rack.

Every Monitoring for Every Machinery need

VMS 4CH MMS,19" Rack Type, is cost-effective online monitoring system. VMRS 200R series detect any fault well in time for planned maintenance and repairs ensuring minimum interruption to production processes, utility equipments and ships. Immediate results of the evaluated conditions are presented on the front panel display as live bar graph with Alert and Danger levels. It converts a vibration input signal to a user-defined broadband value proportional to RMS of vibration velocity, acceleration or True Peak-To-Peak of displacement. Each channel provides 1 Alert relay, 1 Danger relay and 4 to 20 mA output suitable for Process Control system (DCS or PLC) up to 32 ch in a single rack.



Features

- Mounted in a 19" Rack with single or redundant power supply
- Up to 32 Dynamic, DC inputs and 8 Digital inputs in each Rack
- True Simultaneous measurement of all channels
- With Alert and Danger as two independent set points with LED indication and contact relay outputs for each channel
- Selectable Individual channel live bar-graph displays
- Programmable Alert or Danger Level
- Isolated 4-20mA output signals (Optional)
- Redundant RS485 Modbus Communication
- API 670 compliant

Description

The full-scale value of the velocity, acceleration, and displacement is output as 4 to 20 mA and can be further converted to a 1 to 5 VDC output voltage by using a 250 Ohm precision resistor. The Alert/Danger set points from 0 to 100% of full scale for each channel are adjustable using the simple configuration software. Each Contact Relay has adjustable delay of 0.1 to 10 seconds and can be independently configured as Normally open (NO) or Normally closed (NC) and latching or non-latching. Latched relays can be reset locally. 4-BNC connectors mounted on the front of the MMS unit provide easy access to each buffered transducer signal (both the un-filtered vibration signal and DC bias voltage).

Specifications

Rack Unit

Construction	Extruded aluminum frame and solid aluminum structural parts. Plastic guide strips for the plug-in cards.
Dimension	132.5 x 482.6 x 132.5mm(3U)
Backplane	· 2 slots for power supplies · 8 slots for Protection cards · 1 slot for Tacho cards

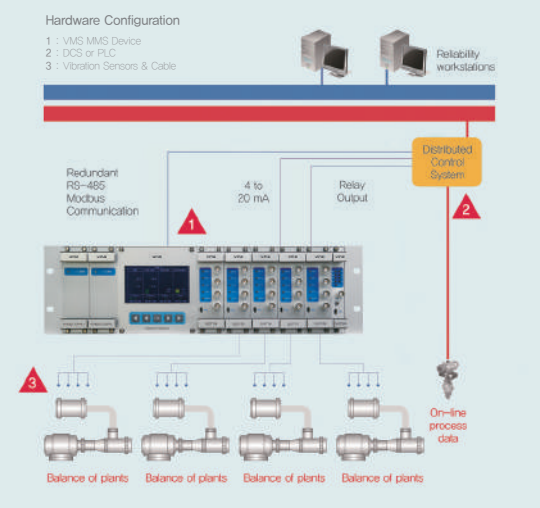
Power Supply

Input voltage range	90 ~ 264VAC
Input Frequency range	47 ~ 63Hz
Input AC current(Typ.)	115VAC 1.7A
Redundant AC power feed	230VAC 0.75A Optional

Environment

Working temp	-20 ~ +80 ℃
Working humidity	20 ~ 90% RH non-condensing
Storage temperature	20 ~ 90% RH
Storage humidity	10 ~ 95% RH

System Configuration



Signal Input

Sensor	Accelerometer, Velocity transducer, Eddy current probe, Tacho sensor (Inductive sensor 2 & 3 wires, Eddy current probe)
Analogue input	4 ~ 20 mA, 1 ~ 5 VDC
Signal type selection	Vibration & analogue via module replacement, Tacho via jumper
Analogue Output	Sensor sensitivity
Sensor OK detection	Continuous monitoring of the MMS bias and signal voltage. If voltage exceeds preset limits, the 4 to 20mA output currents is reduced to less than 2mA.
Channels	Max. 32ch

Output

Buffered output	BNC connectors, Screw terminals
Buffered output Sensitivity	Same as a sensor sensitivity
Screw terminal output Sensitivity	Same as a sensor sensitivity
Sensor sensitivity	Selectable via Jumper
Accuracy	Typ. ±1% of full-scale range
Analogue Output	Isolated 4~20mA
Relay rating (max.)	Switching voltage, 250 VAC Switching current, 5A

Interface

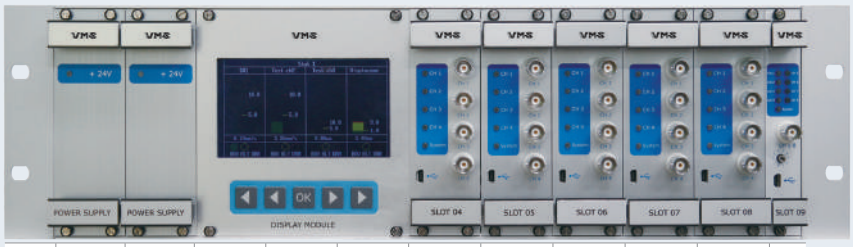
USB service interface
Redundant Modbus RS 485

CE Mark Directives

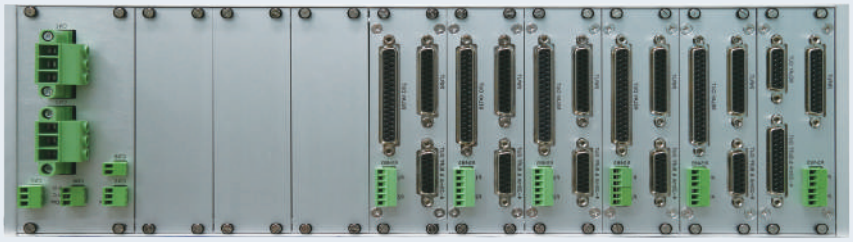
EMC Directives	EN 61000-3-2 EN 61000-3-3 EN 61000-6-2 EN 61000-6-4
Low Voltage Directives	EN 61010-1

VMRS 200R Rack Configuration Information

Type 1: Redundant power supply and Display unit



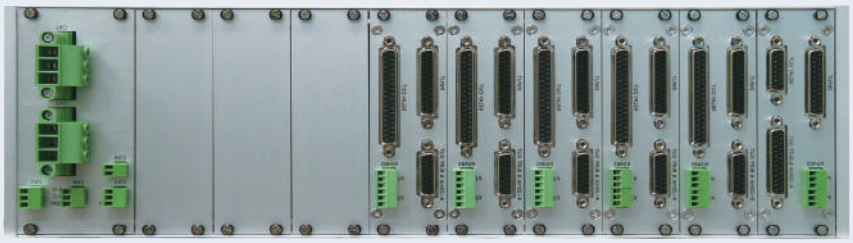
Slot	01	02	03	04	05	06	07	08	09	10	11



- Redundant Power Supply Cards
- 4.3" LCD Display Unit
- 5 of MMS Card
- 1 of Tacho Card

Type 2: Single power supply and Display unit

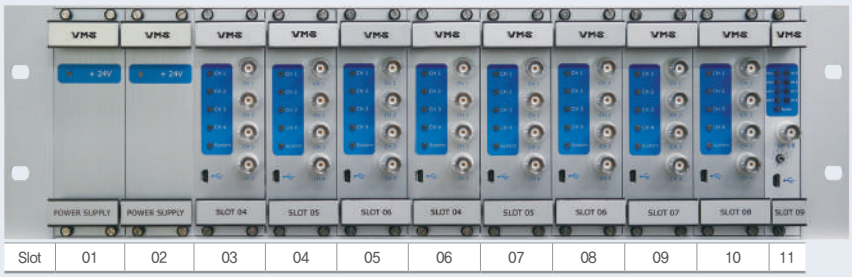
Slot	01	02	03	04	05	06	07	08	09	10	11



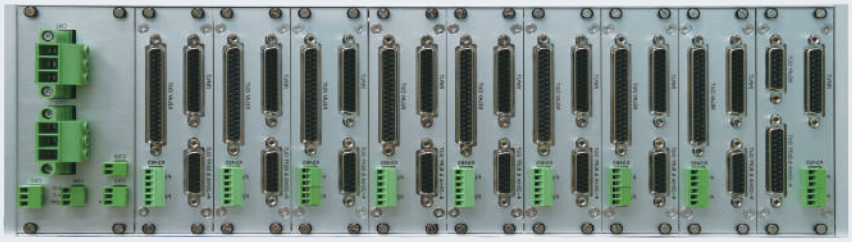
- Single Power Supply Cards
- 4.3" LCD Display Unit
- 5 of MMS Card
- 1 of Tacho Card

VMRS 200R Rack Configuration Information - continue

Type 3: Redundant power supply and without Display unit



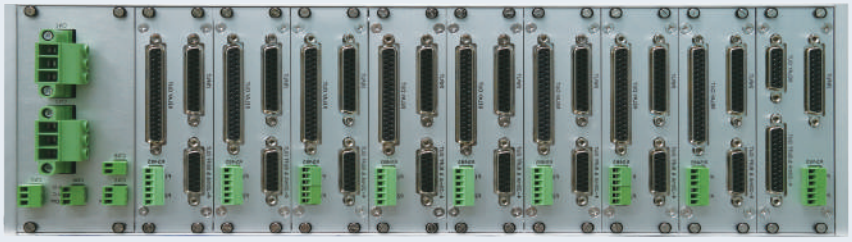
Slot	01	02	03	04	05	06	07	08	09	10	11



- Redundant Power Supply Cards
- Without LCD Display Unit
- 8 of MMS Card
- 1 of Tacho Card

Type 4: Single power supply and without Display unit

Slot	01	02	03	04	05	06	07	08	09	10	11



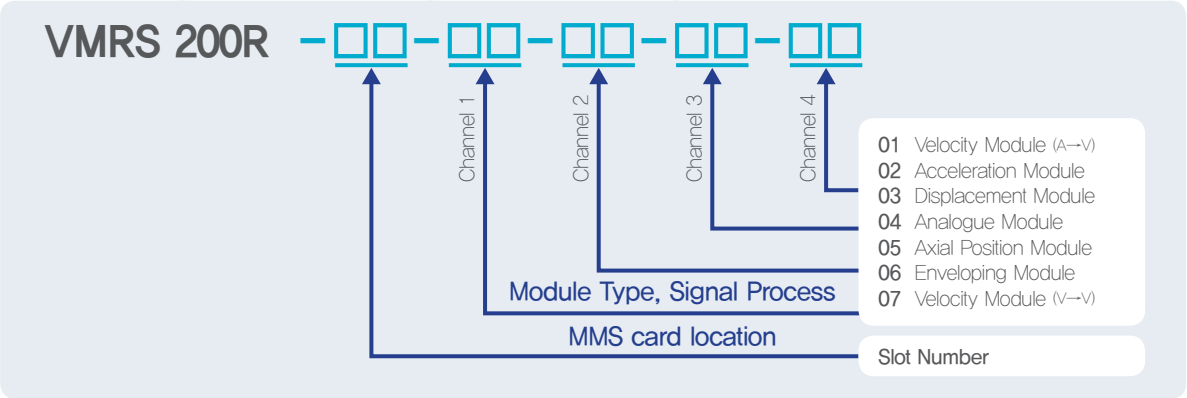
- Single Power Supply Cards
- Without LCD Display Unit
- 8 of MMS Card
- 1 of Tacho Card

Type 5 : Marine Special Option

Compact size for limited space of Marine & Ship Applications
For further information, please contact local VMS Sales representative or admin@vmsco.co.kr.

MMS Card / Slot Configuration & Ordering Information

Complete unit Designation



Example : VMRS 200R – 06 – 01 – 02 – 07 – 03

Ordering information – Spare parts

VMRS 200R–02–CM	MMS tacho card, 8 ch	VMRS 200R–03–CM	MMS display unit, 4.3" screen
VMRS 2116	Power supply – MMS, MIR, IMx–S	VMRS 200R–08–CM	19" subrack assy, 3U with MMS backplane

Module, Signal processing, Please see the table below

□□	Description	Signal Characteristics			
		Input Sensor	Sensitivity	Frequency	Remark
00	Blank	–	–	–	–
01	Velocity Module (A to V)	Accelerometer	100mV/g, 500mV/g	10 to 1,000 Hz 2 to 2,000 Hz	Default 10 to 1,000 Hz
02	Acceleration Module	Accelerometer	100mV/g, 500mV/g	2 to 20,000 Hz	2 to 20,000 Hz
03	Displacement Module	Eddy Current Probe System	100mV/mil, 200mV/mil	2 to 2,000Hz	2 to 2,000Hz
04	Analogue Module	Process Signal, Sensor	4~20mA, 1~5VDC	N/A	N/A
05	Axial Position Module	Eddy Current Probe System	100mV/mil, 200mV/mil	2 to 2,000Hz	2 to 2,000Hz
06	Enveloping Module	Accelerometer	100mV/g, 500mV/g	Filter #2, #3	Default Filter #3
07	Velocity Module (V to V)	Velocity Sensor	100mV/ips	10 to 1,000 Hz 2 to 2,000 Hz	Default 10 to 1,000 Hz

· Frequency Range , Sensitivity is configured by jumpers. Customized frequency ranges are available upon request.

· Display Unit, Full Scale, Alert & Danger Level, Alert & Danger Relay output, Time Delay for each Channel, Common System Ok Relay output is configured by Simple Configuration Software. (Named MMS Manager

VMRS 200R Rack Configuration & Ordering Information

Slot	01	02	03	04	05	06	07	08	09	10	11

Rack ID	e.g 1	Rack Number or Description
Slot 01	XX	00 For None (Blank) 01 For Power Supply Unit
Slot 02	XX	00 For None (Blank) 01 For Redundant Power Supply Unit
Slot 03	VMRS 200R–XX–XX–XX–XX–XX	See MMS Module Configuration. Display Unit required, Slot 03 shall be 01, 04 and 05 shall be 00
Slot 04	VMRS 200R–XX–XX–XX–XX–XX	
Slot 05	VMRS 200R–XX–XX–XX–XX–XX	
Slot 06	VMRS 200R–XX–XX–XX–XX–XX	See "MMS Card / Slot Configuration & Ordering Information". 00 for None(Blank).
Slot 07	VMRS 200R–XX–XX–XX–XX–XX	
Slot 08	VMRS 200R–XX–XX–XX–XX–XX	
Slot 09	VMRS 200R–XX–XX–XX–XX–XX	
Slot 10	VMRS 200R–XX–XX–XX–XX–XX	
Slot 11	XX	00 For None (Blank) 01 For Tacho Card

Example :

Rack ID	2	Rack No. 2
Slot 01	01	01 For Power Supply Unit
Slot 02	01	01 For Redundant Power Supply Unit
Slot 03	01	Display Unit required.
Slot 04	00	
Slot 05	00	
Slot 06	VMRS 200R–06–01–01–01–01	Slot #6, 4 of Velocity Modules (A to V)
Slot 07	VMRS 200R–07–03–03–03–03	Slot #7, 4 of Displacement Modules
Slot 08	VMRS 200R–08–04–04–05–05	Slot #8, 2 of Analogue Modules, 2 of Axial Position Modules
Slot 09	VMRS 200R–09–01–01–01–01	Slot #9, 4 of Velocity Modules (A to V)
Slot 10	00	None (Blank)
Slot 11	01	Tacho Card