

SHOWA

Vibration monitor vibro-converter MODEL-2503

Allows vibration monitoring, using various kinds of sensors



Monitoring System

Essential safety explosion-proof monitor system

Low frequency vibration monitoring system

Low-priced system using sensor with built-in amplifier

Vibration monitoring system for co-generation, using electric charge output sensor

Vibration monitoring system using non-contact sensor

Vibration monitor - Vibro-converter MODEL-2503 series

System 1 General-purpose vibration monitor

This type of the vibration monitor system employs an acceleration sensor built in with a robustly constructed amplifier. The sensor is sized compact and lightweight, broadband, and applicable for vibration monitoring of various types of machines. In addition, the vibration monitor employing the sensor type of 786A or 793L are best fit for monitoring a wind generator.

System configuration

- ① Acceleration sensor with a built-in amplifier/MODEL-786A.....1 pc
- ② Junction box/MODEL-TBB.....1 pc
- ③ Vibro-converter/MODEL-25031 pc
- ④ Digital monitor/MODEL-2590B1 pc
- ⑤ Sensor cable/CA2863-5 (m)1 pc
- ⑥ Extension cable/CA1532 (m)1 pc
- ⑦ Converter cable/CA-4442-5 (m).....1 pc

* If the length exceeds 5 m, use TBB.



① Acceleration sensor

② Junction box
MODEL-TBB

③ Vibro-converter
MODEL-2503

④ Digital monitor
MODEL-2590B

Type	Low-priced/general-purpose	General-purpose/EMC measure	General-purpose	Low frequency/high sensitivity
Model	784A	786A	2450	793L
Sensitivity m/s ² (G)	10mV (100mV)	10mV (100mV)	5mV (50mV)	50mV (500mV)
Frequency characteristics	5Hz to 8kHz	5Hz to 8kHz	5Hz to 8kHz	1Hz to 2.3kHz
Operating temperature limit	-50 to 120°C	-50 to 120°C	-20 to 110°C	-50 to 120°C
Dimension	18 Hex × 46	22 Hex × 53	17 Hex × 37.5	25.4 Dia. × 61
Appearance				

* Models of 784A, 786A, 793L and 797L can have the IP-68 configuration in combination with the cable of CA2865.

System 2 Essential safety explosion-proof vibration monitor

This system employs an acceleration sensor with a built-in amplifier that complies with Exia II CT4 or an essential explosion-proof vibration monitor with safety device.

This explosion-proof system is sized compact and low-priced to offer.

Main features

System configuration

- ① Acceleration sensor with a built-in amplifier/MODEL-2450EX.. 1 pc
- ② Safety retainer (barrier)/NZB2-26R430.....1 pc
- ③ Vibro-converter/MODEL-25031 pc
- ④ Digital monitor/MODEL-2590B1 pc
- ⑤ Sensor cable/CA1532 (for sensor)1 pc
- ⑥ Barrier cable/CA1532 (for barrier)1 pc
- ⑦ Converter cable/CA-4442-5 (m).....1 pc

Type	Essential safety explosion-proof
Model	2450EX
Sensitivity m/s ² (G)	5mV (50mV)
Frequency characteristics	2Hz to 8kHz
Operating temperature limit	-20 to 80°C
Dimensions/mass	21 Hex × 40/76g

Appearance



System 3 Vibration monitor using a sensor specifically for low frequencies

This vibration monitor employs an acceleration sensor with a built-in amplifier that has a high sensitivity and superior characteristics in low frequency ranges, allowing displacement measurement from as low as 2 Hz.

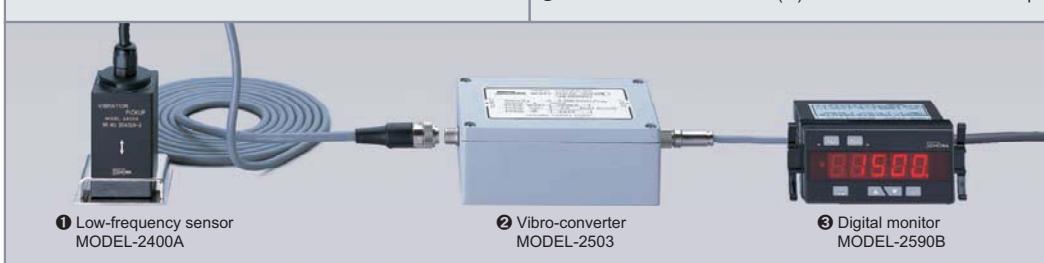
Main features

System configuration

- ① Acceleration sensor with a built-in amplifier/MODEL-2400A.... 1 pc
Voltage driven and a 3 m-long sensor cable extended directly out from the body
- ② Vibro-converter/MODEL-25031 pc
- ③ Digital monitor/MODEL-2590B1 pc
- ④ Converter cable/CA-4442-5 (m).....1 pc

Type	Low frequency/high sensitivity
Model	2400A
Sensitivity m/s ² (G)	100mV (1000mV)
Frequency characteristics	1 to 500Hz
Operating temperature limit	-20 to 70°C
Mass	200g

Appearance



The vibration monitoring system MODEL-2503 is accommodated for various types of sensors. While the system is a standard type in such systems, specifications adaptable for your specific requirements can be established at a low price. Designations are allowed for specifications on such as sensors, frequency characteristics, measurement full scale, filtering value, waterproof type, etc.

System 4	Vibration monitor using high-temperature/high acceleration sensor	Main features
This type of the vibration monitor has specifically been developed for monitoring vibration in co-generation systems, where high temperatures and high accelerations are to be measured on equipment such as gas turbines.	System configuration ① Electric charge output type acceleration sensor/ MODEL-376 1 pc ② Low noise cable/R1-2-J3-12 1 pc ③ Vibro-converter/MODEL-2503 1 pc ④ Digital monitor/MODEL-2590B 1 pc ⑤ Converter cable/CA-4442-5 (m) 1 pc	Type General-purpose For high temperatures Model 2304A 376 Sensitivity m/s ² (G) 5pC (50pC) 2.5pC (25pC) Frequency characteristics 5Hz to 8kHz 5Hz to 8kHz Operating temperature limit -40 to 150°C -50 to 260°C Mass 25g 75g
		Appearance
	<p>① MODEL-376 Pre-amplifier CC701HT (Optional)</p> <p>③ Vibro-converter MODEL-2503</p> <p>④ Digital monitor MODEL-2590B</p>	 

System 5	Vibration monitor using non-contact sensor	Main features
This vibration monitoring system employs a non-contact sensor that uses the eddy current method, in order to allow monitoring vibration displacement and thrust displacement.	<p>System configuration</p> <p>① Non-contact sensor/S-10A 1 pc ② Transducer/SSC-7510 1 pc ③ Vibro-converter/MODEL-2503 1 pc ④ Digital monitor/MODEL-2590B 1 pc ⑤ Sensor cable/PC03YY 1 pc ⑥ Transducer cable/CA1532 1 pc ⑦ Converter cable/CA-4442-5 (m) 1 pc</p>	<p>Type</p> <p>Non-contact sensor</p> <p>Model</p> <p>S-10A</p> <p>Sensitivity</p> <p>-2 to 7V/0 to 4mm</p> <p>Frequency characteristics</p> <p>DC to 20kHz</p> <p>Operating temperature limit</p> <p>-30 to 120°C</p> <p>Linearity</p> <p>± 1 %/full scale</p> <p>Power supply</p> <p>-24V, 40mA (-15 to -24V DC)</p>
		Appearance

Model coding table

2503 - - - (Example: 2503V-003-2-3)

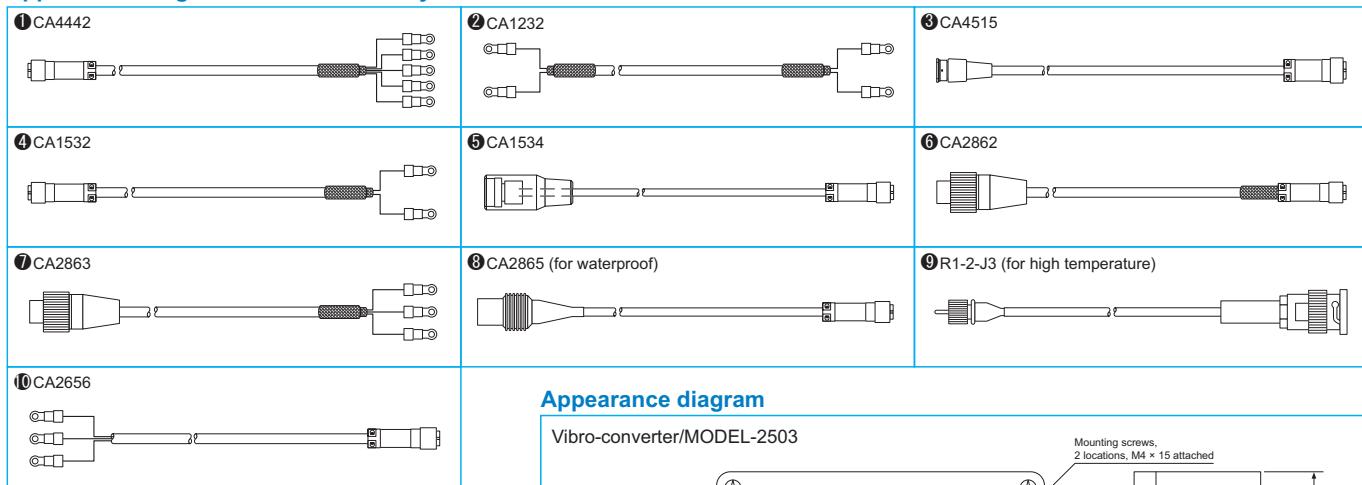
Specifications of MODEL-2503

Model	2503 * -00 * - * - *	2503 * -00 * - * - *	2503 * -03 * - * - *	2503 * -00 * - * - *	2503 * -02 * - * - *	2503 * -2 * - * - *				
Type	General-purpose system Specifications in acceleration sensor with built-in amplifier	For essential safety explosion-proof	For electric charge output sensor for high-temperature/ high acceleration	For sensor specifically for low-frequency	For sensor specifically for low-frequency (Voltage driven)	For non-contact sensor				
Sensor used	MODEL-784A	MODEL-2450EX	MODEL-376, 2304A	MODEL-793L, 797L	MODEL-2400A	S-10A SSC-7510 (pre-amplifier)				
Measurement mode	Acceleration (A), velocity (V) and displacement (D)					Displacement (D)				
Frequency range	Acceleration Velocity Displacement	5Hz to 8kHz 10Hz to 1kHz 10Hz to 700Hz	1Hz to 8kHz 2Hz to 1kHz 2Hz to 700Hz		— — DC to 20kHz					
Filter	As a standard specification, a best suited LPF can be built in for each mode, and any LPF or HPF can be allowed to designate.									
AC output	± 2 V/full scale									
DC output	4 to 20 mA/0 to full scale									
Power	24 VDC (18 to 30 VDC), 50 mA, 15 VA max									

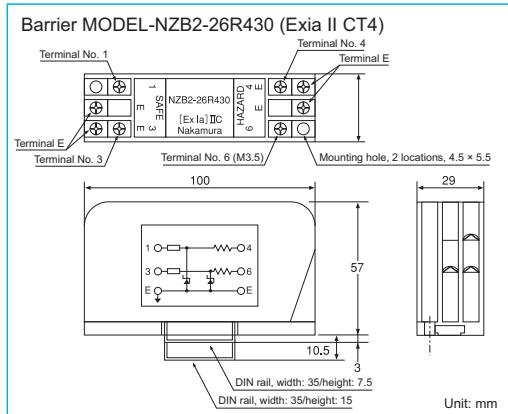
Cable assembly

Model	Name	Input connector	Cable model	Output connector	Suitable sensor or amplifier	Appearance diagram
CA4442	Converter cable	R04-P5M	MVVS0.2x4	M3.5 crimping × 5	2503	①
CA1232	Junction cable	M3.5 crimping × 2	2.5D-2V	M3.5 crimping × 2	NZB2-26R430, TBB	②
CA4515	Sensor extension cable	R01-06J9-6F	4-core shield	R01-01PQ-6M	2400A	③
CA1532	Sensor cable	R04-P2M	2.5D-2V	M3.5 crimping × 2	2450EX, NZB2-26R430	④
	Barrier cable	M3.5 crimping × 2	2.5D-2V	R04-P2M	2450EX, NZB2-26R430	
CA1534	Sensor cable	TNC	2.5D-2V	R04-P2M	2450	⑤
CA2862	Sensor cable	R6W (IP-64)	J96	R04-P2M	784A, 786A, 793L, 797L	⑥
CA2863	Sensor cable	R6W (IP-64)	J96	M3.5 crimping × 2	784A, 786A, 793L, 797L	⑦
CA2865 (for waterproof)	Sensor cable	R6Q (IP-68)	J96	R04-P2M	784A, 786A, 793L, 797L	⑧
R1-2-J3 (for high temperature)	Sensor cable	10-32UNF	Low-noise cable	BNC	376	⑨
CA2656	Sensor extension cable	M3.5 crimping terminal	Sunlight SX	R04-P2M	784A, 786A, 793L, 797L	⑩

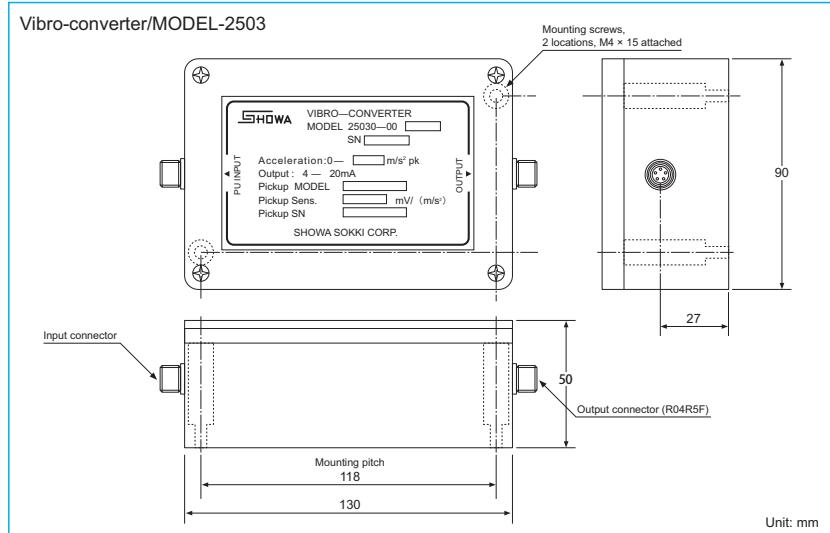
Appearance diagram of cable assembly



Appearance diagram



Appearance diagram



* Specifications and designs presented in the product catalog are subject to change without notice for period improvement purposes.

SHOWA Respond to the needs; "safe and comfortable"

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