VS203 Smart Vibration Sensor (RS485 version)

Introductio

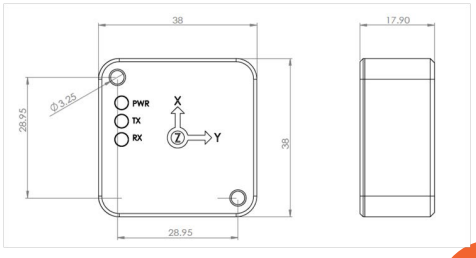
The VS203 system is the highly accurate and cost-effective machine health monitoring system. It assembles several vibration sensors with built-in intelligent computing functions, which can actively sense the health status of equipment, and transmit the computing results to the field control system via open transmission protocols.

It is a RS485, triaxial (X, Y and Z), high-bandwidth, smart vibration sensor, which can instantly diagnose the health status of machine.

The built-in time domain data cleaning functions can handle the monitoring and diagnosis of variable frequency rotating machine and non-rotary equipment easily.

Application

Providing status monitoring functions of components in high-speed rotating machine, motor, gearbox and non-rotary type equipment, such as robot and linear guide.



Model			VS203
Vibration measurement capability	Measurement direction		Triaxial (X, Y and Z)
	Amplitude		±16 g
	Sensitivity (±5%)		0.488 mg / LSB
	Frequency response		5 - 5 kHz
	ADC resolution		16 bits
Temperature measurement capability	Measurement Range		-20°C to 85 °C
	Sensitivity (±5%)		256 LSB / °C
	ADC resolution		16-bit
Computing capability	CPU		Arm® Cortex®-M7 32-bit
	Clock speed		480 MHz
	Flash memory		2 Mbytes
	RAM		1 Mbyte
Environmental resistance	Temperture		-20°C to 85 °C
	IP grade		IP65
Power supply	Power voltage		12 to 24 VDC
	Power consumption		0.45 W
	Reverse voltage protection		V
Feature extraction and fail modes identification	Data update rate		1, 2, 5, 10 set/s
	Sampling rate		~ 26,667 Samplings/s
	Sampling mode	Successively sampling	V 1*
		Software trigger	V 1*
		Hardware trigger	V 1*
	Time domain data cleaning		V
	RPM identifier		X
	Time domain features	Overall	3-axis (mm/s, rms)
		Acc. RMS	3-axis (g, rms)
		Vel/Acc Peak	3-axis (mm/s) / (g)
		Vel/Acc Peak to peak	3-axis (mm/s) / (g)
		Crest factor	3-axis
		Health index	ISO-10816 health index
	Frequency domain	Power in band	X
		Power in order	
	Fail mode identification	Energy of fail-modes	X
	Failure alarm	Caution	V
		Warning	V
Communication	Method		RS485
	Protocol		Modbus
	Distance		100m
	Upload	Raw data	X
		Time domain features	V
		Freq. domain features	X
		Energy of fail-modes	X
		Failure alarm	V
	Download	Sampling mode	V
		Trigger mode	V
		Band definition	X
		Failure alarm	V
		FOTA	V
Appearance	Dimensions		38 x 38 x 18.1 mm
	Housing material		Aluminum alloy
	Water-proof method		Seal
	Wire		Flexible, insulated, 1m
	Wire connector		Pigtail V 2*
	LED for running status		V 3*
	LED for communication status		V 4*
Device Management	Acquisition mode configuration		V 5*
	Trigger mode configuration		V 5*
	Fail mode definition configuration		X
	Alarm threshold configuration		V 5*
	FOTA		V 5*

1* Configurable through utility
2* RED: 12-24 VDC in, BLACK: GND, GREEN: A, YELLOW: B, BLUE: Hardware trigger (TTL), BROWN: Reset to default (TTL), Thick BLACK: Shielding
3* GREEN LED Flash
4* RED and Orange LED Flash
5* Manage through device management utility

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