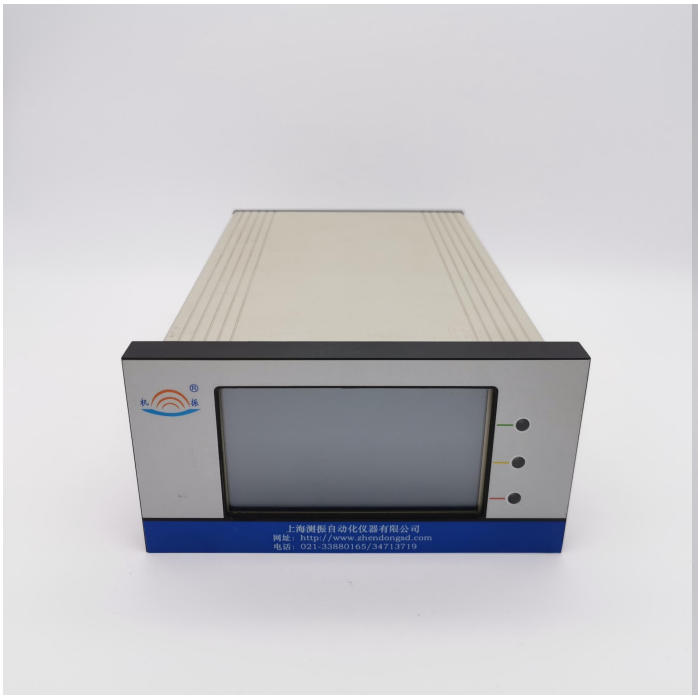
Model: YD430 Vibration Monitor



1. Brief Introduction

YD430 vibration monitor is a precision intelligent measurement and control instruments, widely used in electric power, petroleum, chemical and other departments. Through the magnetic-electric sensors the instrument can continuously monitor and measure the peak-peak value for the vibration of the steam turbine, wind turbine and other rotating machine. With alarm and shutdown control signal output, equipped with current output and RS485 interfaces. It can connect with computers and other devices. The Monitor uses an 80 × 160 (mm) common chassis, LED digital display, PVC color mask and light touch keys, and it has beautiful appearance, novel style, reasonable structure, simple installation, stable performance and reliable quality.

2. Main Functions

2.1With two channels, each channel can measure and display the vibration amplitude.
2.2With 4 dual channel switching control the signals. Using a miniature high-power relay, the maximum switched voltage is 440VAC / 125VDC, the maximum switched current is 16A, the maximum switched power is 4000VA, mechanical pressure resistance is 10000000 times. Through the lower limit alarm value setting, the upper limit alarm value setting, the alarm delay setting and the lower limit danger value setting, the upper limit danger value setting, the danger delay setting, relevant action, when the vibration amplitude reaches a preset value, the relay switch enter into the working state.

2.3Multifunction digital keyboard. In the main display interface, press "1" enter 1 channel information display; press "2" enter 2 channel information display; press "3" enter the dual channel display simultaneously; press "M" enter the menu item; press "↑↓" direction keys to change the different display information in the channels; press

"." to return.

2.4Dual 4 ~ 20mA isolation high precision current transmission output, with high precision voltage reference inside, 18 digits precision voltage drive chip, high precision and low drift operational amplifier, guarantee the accuracy of the output reach 0.01%. By the main range lower limit setting and main range upper limit setting of the menu item, divide it into the corresponding current interval of 4 ~ 20mA accurately, so that improves the accuracy of output signal. Calibrate the lower limit and upper limit of current loop by current meter, then demarcate the linearity of 4 ~ 20mA more accurate.

2.5 The device has main range display, percentage display, bar graph display, transmission current display. It is more convenient, fast and accurate for the customers to do calibration in the site application.

3. Technical Parameters

3.1Signal Input: YD9200 Vibration Velocity Sensor

3.2Measurement range: amplitude 0～200μm*, 0～300μm, 0～500μm（Peak—Peak Value）
Intensity 0～10mm/s, 0～20mm/s*, 0～50mm/s (according to users' needs to determine the range, "*" is the default range)
3.3Accuracy: Linearity deviation ≤ ± 1% (full scale)

3.4Display: 3 digits digital tube display

3.5Frequency Response: 14～200Hz

3.6Frequency Response Deviation:

40～60Hz ≤±2%; 30～120Hz ≤±4%; 14～200Hz ≤±8%.

3.7Current output: 4 ~ 20mA (can be adjusted according to users' requirements for 0 ~ 10mA)

3.8Digital communication interface: half RS485 (match with MODBUS_RTUA)

3.9Alarm contact capacity: 440VAC / 125VDC, maximum switched current is 16A.

3.10Working Environment: Temperature: -30 ℃ ~ 50 ℃

Relative humidity: ≤ 85%

3.11 Power Supply: AC 220VAC ± 30% 50Hz Power ≤ 20W

3.12Dimensions: 80 × 160 × 150mm (H × W × L)

3.13Hole Size: 76 × 152 (H × W)

4. Operation Instructions

4.1It can simultaneously monitor vibration channel 1 and 2. During Dual display, the upper part is channel 1 and the lower part is channel 2. When it is in alarm interval, it will display "L"; when it is in danger alarm interval, it will display "H"; when it is in alarm and danger at the same time, it will display "HL". The user can changing-over among the main range, percentage and current value by "↑↓".

During single channel display, there are the corresponding channel "1" and "2" at the top right corner, the user can changing-over among the main range, percentage and current value by "↑↓" in the corresponding channel.

Press button "1" enter channel 1, press "2" enter channel 2, press "3" enter Dual channel display.

4.2Key Instruction

Press "M" enter the menu or storage;

Press "." to cancel.

When in the storage time, there will be a SAVING animation interface; when do cancel action, it will return

to previous menu directly.

About the upper and lower limits of current loop calibration. Enter the menu, the digits displayed on the interface is the specific driving values, by changing the driving value to reset the current (the larger digits, the higher drive current, the default value for the lower limit is 4mA, corresponding 723; the default value for the upper limit is 20mA, corresponding 3600), and then press "M" to see the value on the current meter, if it reachs the goal, press "M" again to quit storage; if need to be modified, then continue to modify the value and press "M"; if need to cancel, press "." directly.

5. Installation of YD430 Vibration Monitor

YD430 vibration monitor can be installed on the cabinets of the control room and fixed by flank panel.

6. MODBUS_RTU Address mapping table

0x10: 1 Channels signal value 0x20: 2 Channels signal value

0 x11: 1 channel main variables integer 0 x21: 2 channel main variables integer

0 x12: 1 channel main variables decimal(keep 5 digits)

0 x22: 2 channel main variables decimal(keep 5 digits)

0 x13: 1 channel current integer 0 x23: 2 channel current integer

0 x14: 1 channel current decimal 0 x24: 2 channel current decimal

0 x15: 1 channel percentage 0 x25: 2 channel percentage

0 x16: 1 channel alarm relay status 0 x26: 2 channel alarm relay status

0 x17: 1 channel danger relay status 0 x27: 2 channel danger relay status

0 x18: 1 channel main variable measuring range minimum integer

0 x28: 2 channel main variable measuring range minimum integer

0 x19: 1 channel main variable measuring range minimum decimal

0 x29: 2 channel main variable measuring range minimum decimal

0 x1a: 1 channel main variable measuring range maximum integer

0 x2a: 2 channel main variable measuring range maximum integer

0 x1b: 1 channel main variable measuring range maximum decimal

0 x2b: 2 channel main variable measuring range maximum decimal

Transmission format

Destination Address Instruction Address Length CRC

×× ×× ×××× ×××× ××××

0 1 0 3 0 0 1 0 0 0 0 1 8 5 C F

Feedback format

Source Address	Instruction	Length	H16	L16	CRC
0 1	0 3	0 2	0 0	0 0	B 8 4 4

E.g.:

1 terminal to read the 0X11 address, length is 1 (01 03 00 11 00 01 D4 0F) 1 terminal to read the 0X12 address,

length is 1 (01 03 00 12 00 01 24 0F)

7.Remarks

7. 1 When vibration is full range, standardize according to 200μm during production. Alarm 1 value set as 50μm, alarm 2 value set as 80μm. Please instruct while ordering if any special requirement.

7. 2 Our factory is equipped with M10 screws to fix and install sensor. 7. 3 One year warranty and lifetime maintenance.