

Precision 2-axis inclinometer sensor

Model : IM-S43



► Main Features

- Two axis digital inclinometer
- Angle measurement range of $\pm 30^\circ$ and resolution up to 0.01°
- Microprocessor controlled
- Interface : RS232C, ASCII, 9600N81
- Transmission mode : Polling, Command
- Housing : $\phi 43\text{mm}$

► Applications

- Structural engineering
- Leveling techniques
- Measuring techniques
- Inclinations
- Mechanical structure

► Specification

Model	IM-S43
Measuring range	$\pm 30^\circ$
Resolution	0.01°
Accuracy	$\pm 0.03^\circ$ at 0° to 3° / $\pm 0.05^\circ$ at other range
Offset temperature error	$\pm 0.6^\circ$ $\pm 0.3^\circ$
Sensitivity temperature error	$\pm 1\%$
Response Time	$< 1.0 \text{ sec}$
Power	9~12V
Output	RS232C, ASCII
Weight	70g

► **Serial Interface RS232C**

Baud rate : 9600 baud

Format : ASCII, 8 data bits, 1 stop bit, non parity

Length : 19 byte

Output display example :

Byte	1	1	6						1	1	1	6						1	1
Char	X	=	+	0	3	.	0	2	,	Y	=	-	1	7	.	4	5	CR	LF

► **Instructions**

Changing measuring mode(Absolute↔Relative, toggle)

Byte	3	1	1	1	4
Char	Set	_	R	_	Zero

Changing output mode(Command, Polling)

Setting command mode

Byte	3	1	4	1	1
Char	Set	_	Mode	_	C

It is possible to reply to host system(ex. PC) by setting command mode and ID.

ID is specified 00 to 99.

Setting ID

Byte	3	1	4	2
Char	Set	_	Id	xx

xx : 00~99.

Calling on Host system

Byte	4	2
Char	CALL	xx

xx : 00~99.

The sensor which has Corresponding ID output angle value.

Setting polling mode

Byte	3	1	4	1	1
Char	Set	_	Mode	_	P

Sensor output continuous angle data in polling mode.

Calibration(Absolute zero setting, Only on a zero set surface plate)

Byte	3	1	1	1	4
Char	Set	_	A	_	Zero

Average setting

Byte	3	1	3	2
Char	Set	_	Avg	xx

Average determines the times of measurement to display result value.

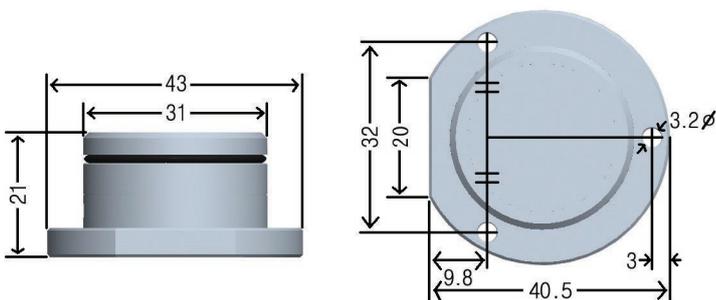
Manufacture initialization

Byte	3	1	7
Char	Set	_	Default

► Connection Assignment

Description	Cable color
VCC(DC +12V)	Red
GND(DC 0V)	Black
RxD	Yellow
TxD	White
SHEILD(Earth)	Thick Silver(covered with black tube)

► Dimension housing(mm)



Cable length: 2m