

TILTIX INCLINOMETER WITH ANALOG & RS232 INTERFACE

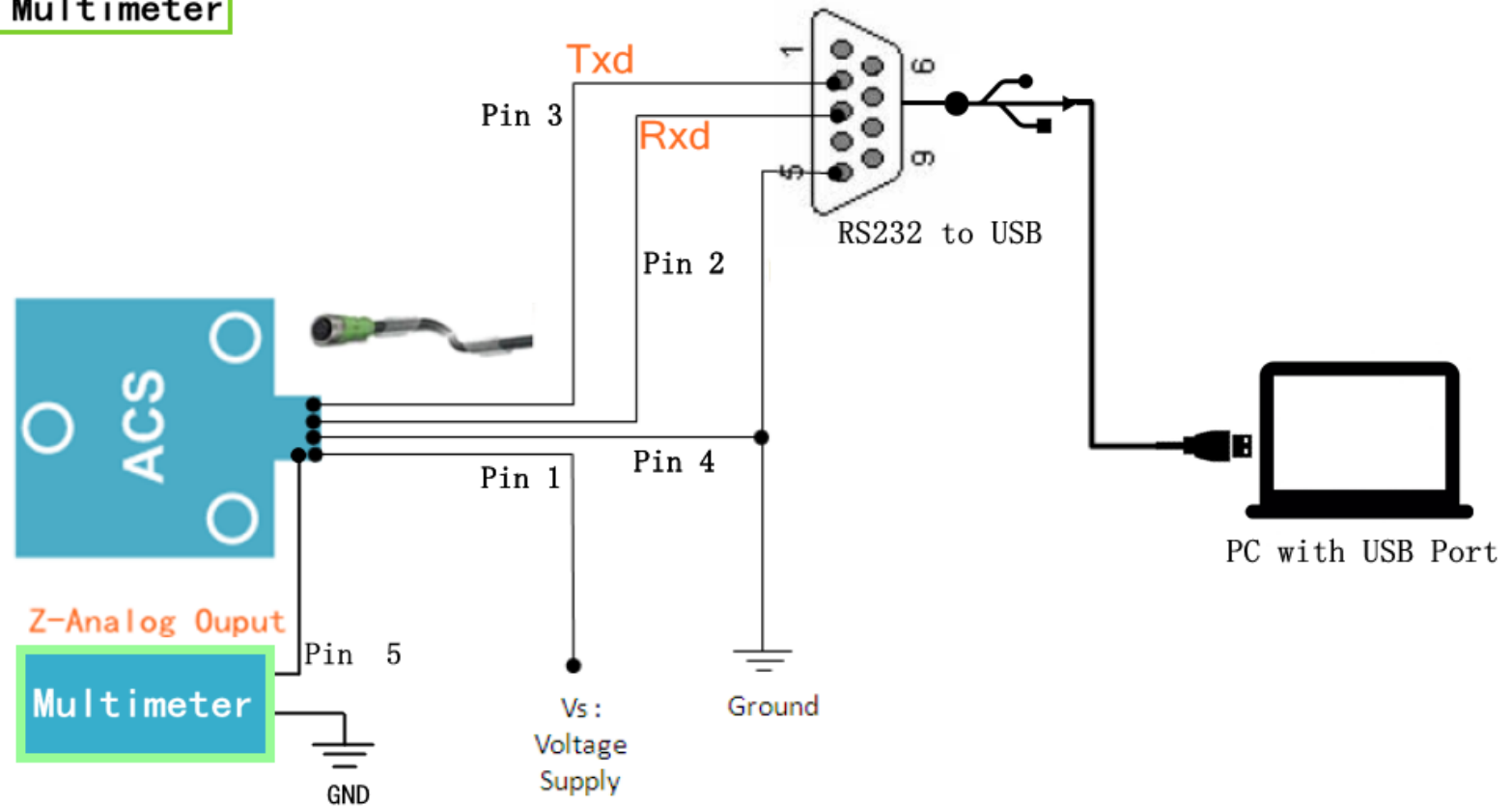


Sample: ACS-360-1-SV00-VE2-PM

> 1.1 Preparations: Systematic Graph

ACS Analog → M12 Connector → RS232 to USB → PC USB Port

The Multimeter

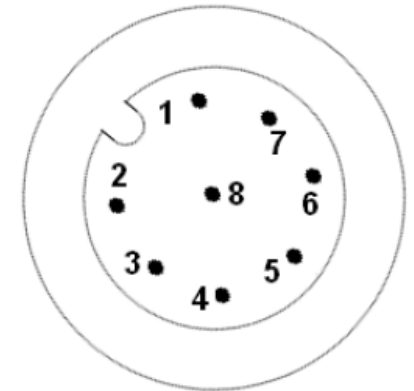


> 1.2 Pin Assignment

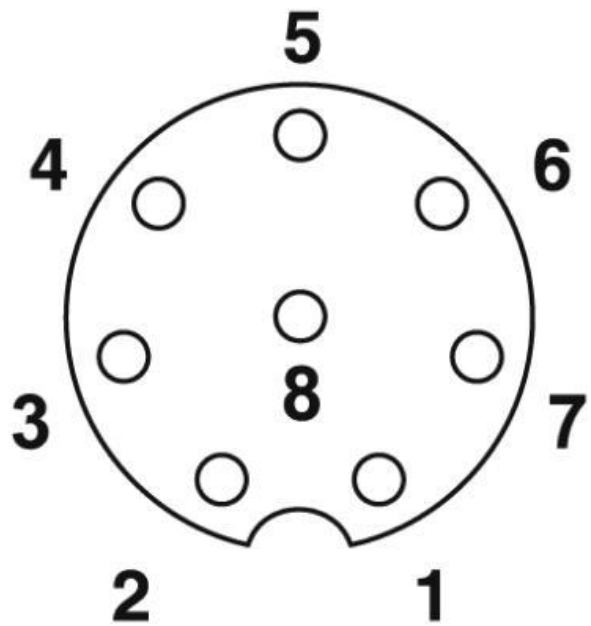
Pin	Cable Exit	ACS-080	ACS-360
1	Red	VS Supply Voltage	VS Supply Voltage
2	Gray	RxD (RS232)	RxD (RS232)
3	Pink	TxD (RS232)	TxD (RS232)
4	Yellow	Ground	Ground
5	Green	X-axis Analog Output	Z -Axis Analog
6	Brown	Analog input ¹⁾ Preset or SET1	Analog input ¹⁾ Preset or SET1
7	Blue	Y-axis Analog Output	Unused - Do Not
8	White	Analog input ¹⁾ Inverse Direction or SET2 (Teach-In)	Analog input ¹⁾ Inverse Direction or SET2 (Teach-In)

1) The function of the analog inputs depends on the configuration

Sample of this video

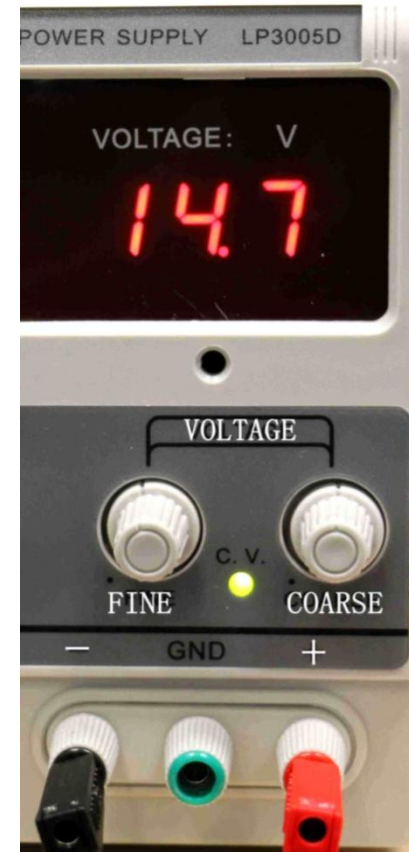
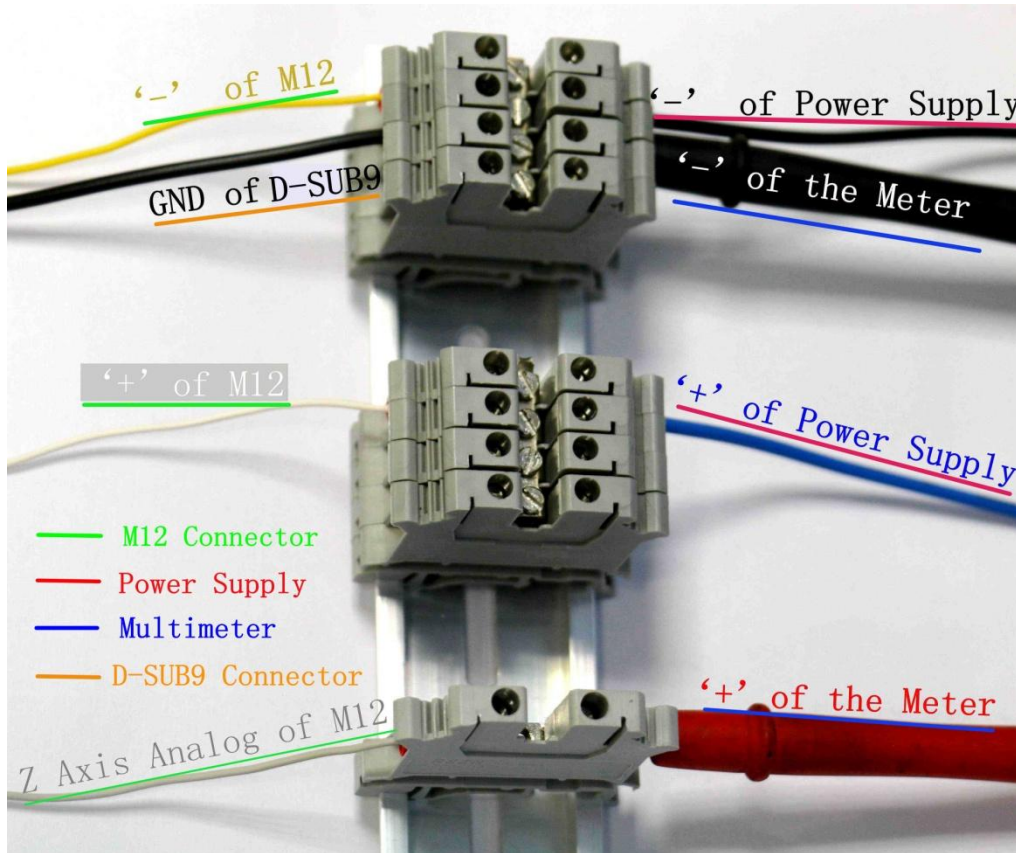


M12 Connector Pin Assignment



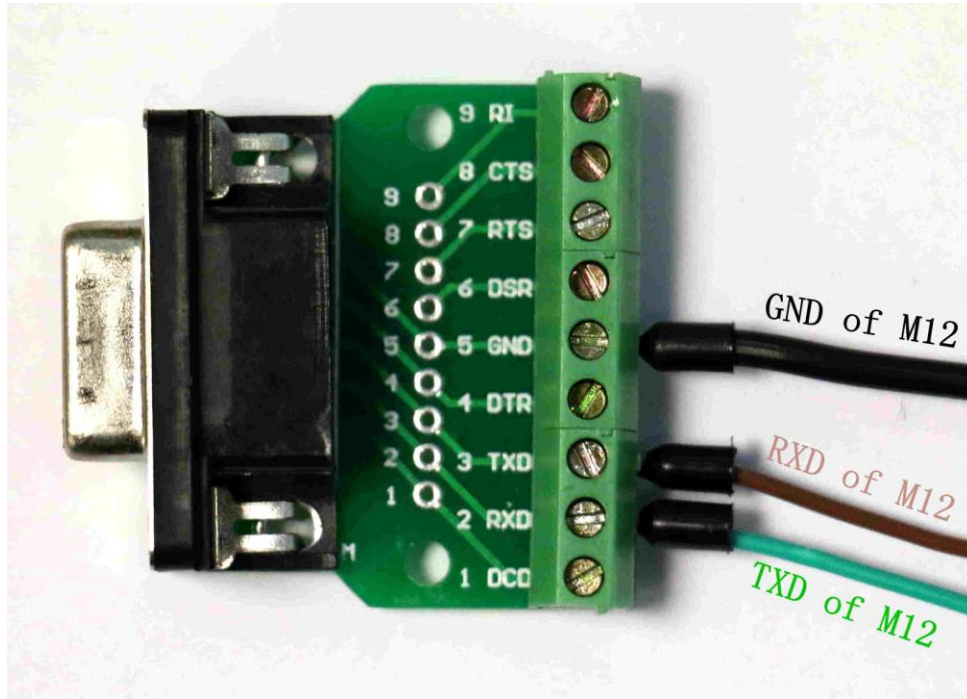
 Female Part

> 1.3 Preparations: Power Supply & Wiring

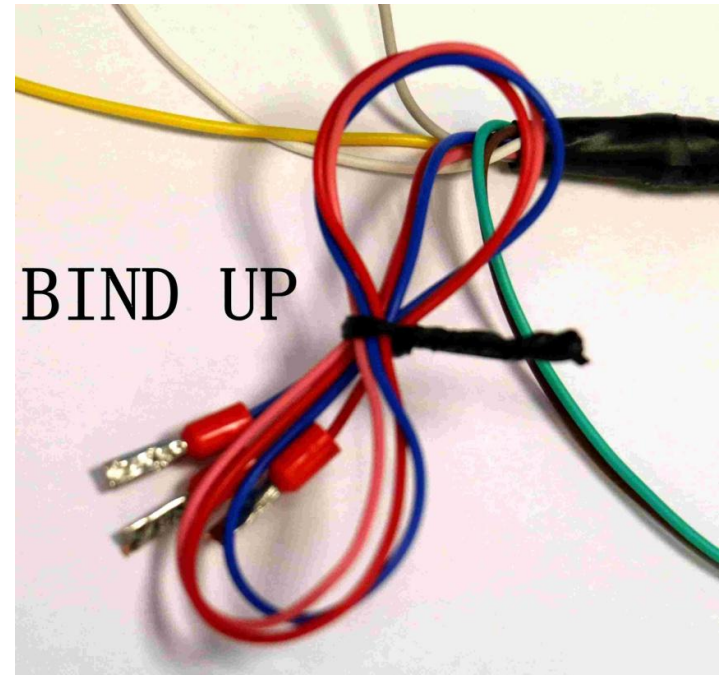


> M12, D-SUB9, Meter & Power Supply Connections

> 5-30VDC


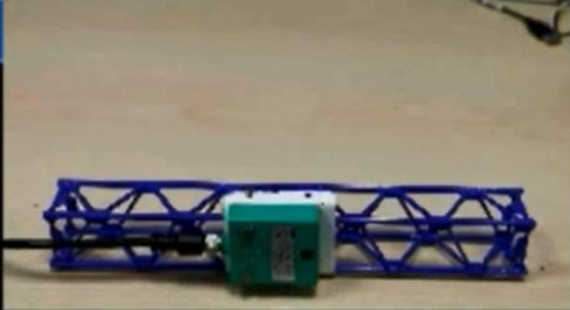



> Connection between D-SUB9 & M12




> Bind up in case of unintended connections

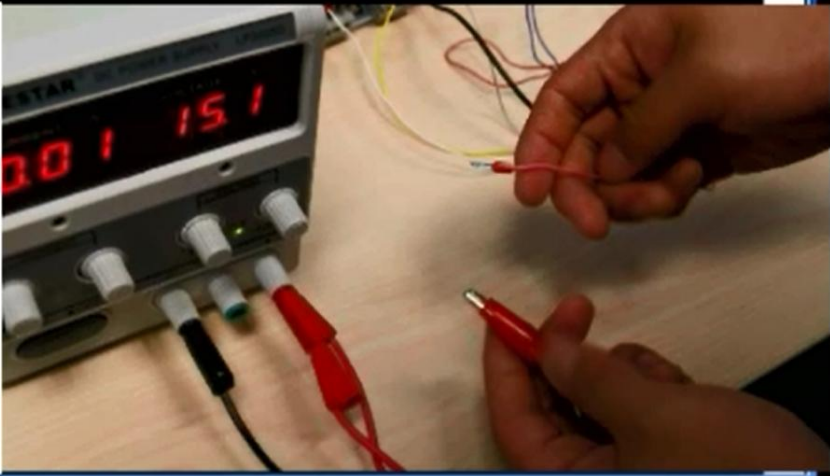
> 2. Basic Function (without RS232)



> In preset mode, apply a high signal pulse to SET1 to set the present position to the origin.



> **Preset Value**
Apply a high signal to SET1



- > 3. Software Configurations (with RS232)
- > 3.1 Open the Terminal Software

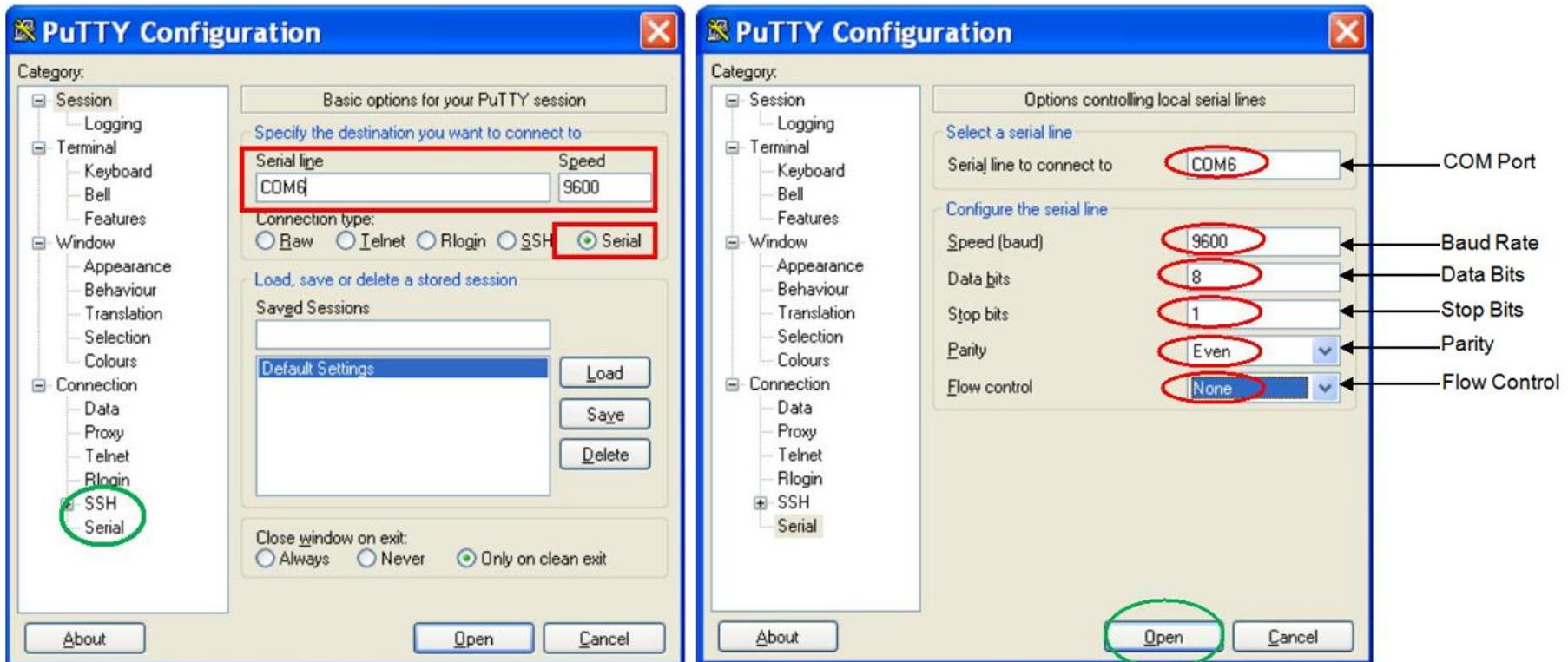


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- > We recommend Putty
- > No need to install
- > Open the software

> 3.2 Settings

- > Set properly according to the graph. Press open button to start configuration.



The image displays two screenshots of the PuTTY Configuration dialog box, illustrating the steps to configure a serial connection.

Left Screenshot: Basic options for your PuTTY session

- Serial line:** COM6
- Speed:** 9600
- Connection type:** Serial
- Close window on exit:** Only on clean exit

Right Screenshot: Options controlling local serial lines

- Select a serial line:** Serial line to connect to: COM6
- Configure the serial line:**
 - Speed (baud): 9600
 - Data bits: 8
 - Stop bits: 1
 - Parity: Even
 - Flow control: None

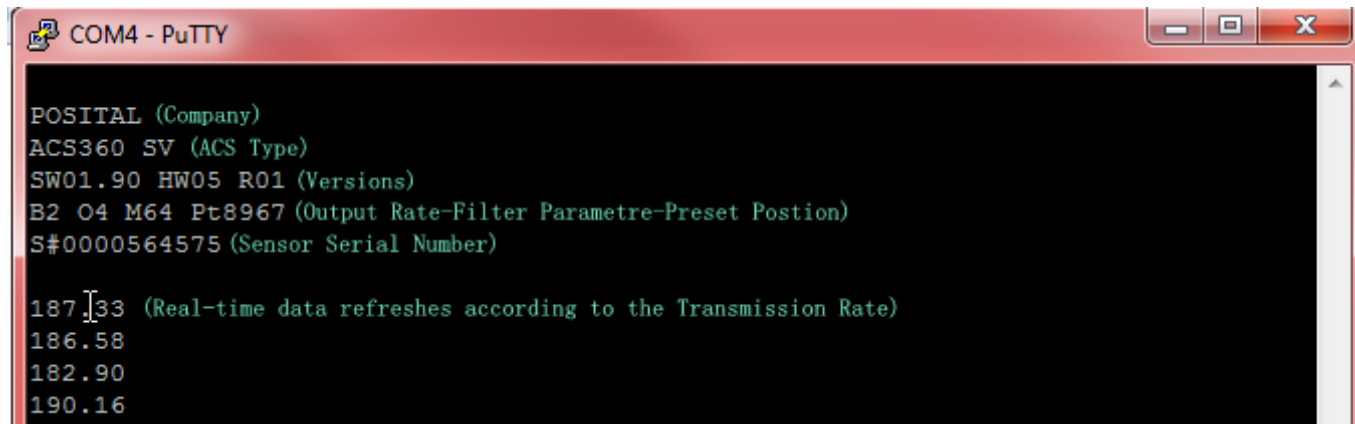
Labels on the right side of the second screenshot point to the following values:

- COM Port
- Baud Rate
- Data Bits
- Stop Bits
- Parity
- Flow Control

The **Open** button is highlighted in green in both screenshots.

> 3.3 Configurations

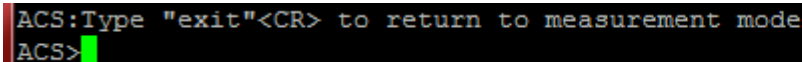
- > Start up, you will see messages below. And after the identity and versions, current data will be shown at the speed of 'Output Transmission Rates', which can be altered through RS232.



```
COM4 - PuTTY
POSITAL (Company)
ACS360 SV (ACS Type)
SW01.90 HW05 R01 (Versions)
B2 O4 M64 Pt8967 (Output Rate-Filter Parametre-Preset Postion)
S#0000564575 (Sensor Serial Number)

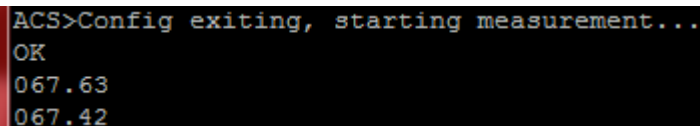
187.33 (Real-time data refreshes according to the Transmission Rate)
186.58
182.90
190.16
```

- > Press 'Enter' to stop refreshing, and enter the configuration mode.



```
ACS>Type "exit"<CR> to return to measurement mode
ACS>
```

- > Type in 'Exit' to quit configuration mode, and restore reading current data.



```
ACS>Config exiting, starting measurement...
OK
067.63
067.42
```

- > 'setorg' function: type in 'setorg' in the windows (the type-in word will not be displayed in the screen). Then press 'enter', the present position will be set to the origin of '1 Axis' and middle position of '2 Axes'.

```
056.07
056.56
ACS>Type "exit"<CR> to return to measurement mode
OK
ACS>Config exiting, starting measurement...
OK
000.44
000.39
```

- > Set new baud rates: By typing in 'baud N', N varies 0~6, stands for different Baud rates, from 2400bps to 115200bps.
*Don not forget to re-boot the ACS after set new Baud rates.

```
ACS>Type "exit"<CR> to return to measurement mode
Baudrate 2: 9600
OK
ACS>
```

- > Set output rates: By typing in 'period N', N varies 1~7, stands for different output rates, from 62.5ms to 10000ms.

```
ACS>Type "exit"<CR> to return to measurement mode
Period 2: 100ms
OK
ACS>
```

- > * N=2 is Factory Default settings. (for baud & period)
- > * Or you can just type in 'baud' or 'period' to check the current parameter.

- > Direction: Set 'compl' to '0' equals 'Clockwise'. Set 'compl' to '1' equals 'Counter-Clockwise'. You can set 'compl' to '2', to activate the analog input 'SET2' for this function. As long as there is a 'H' signal on SET2, direction is inverted.

```
ACS>Type "exit"<CR> to return to measurement mode
Counting direction: SET2 activated
OK
ACS>
```

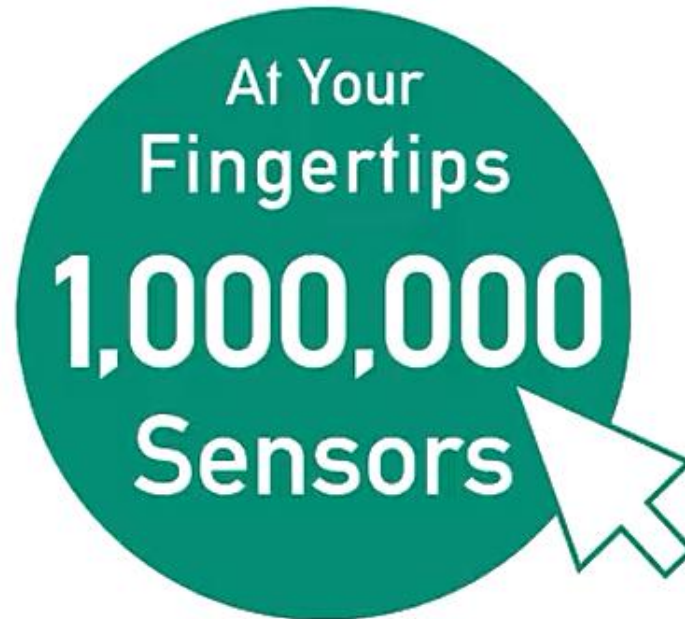
- > Scaling of output Function
 - Type in 'teach 1', to set the ACS to Teach-In Mode (teach 1)
 - Give high signal pulse to SET1 at the origin of the measurement range to lock the position, indicated by origin position output (4 mA or 0.5 V).
 - Give high signal pulse to SET 2 at the end of the measurement range, indicated by end position output (20 mA or 4.5 V).
 - It will automatically quit configuration mode after set successfully done.

```
ACS>Type "exit"<CR> to return to measurement mode
Min/Max teach mode.
OK
ACS>
```

- > Save: Type in 'save' to save settings to EEPROM.

```
ACS>Type "exit"<CR> to return to measurement mode
Settings saved.
OK
ACS>
```

- > * Don't forget to press 'enter' after typing in commands.
- > * Keep Caps-Lock switched-off, all commands are required in lower-case.



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