

# faro\_can\_sdk\_demo\_sensor.c

This document build base on faro\_can\_sdk\_demo\_sensor.c function:

## -h --help description

command	Value(First)	Value(Second)
-h	N/A	N/A
<b>Description:</b> Showing functions list description		
<b>Syntax:</b> sudo ./bin/faro_can_sdk_demo_sensor -p <UART Device> -h		
Example : sudo ./bin/faro_can_sdk_demo_sensor -p /dev/ttyUSB0 -h		
Receive: functions list description		

## -s--scan port

Command	Value(First)	Value(Second)
-s	N/A	N/A
<b>Description :</b> Scan available Com Port in computer.		
Example : sudo ./bin/faro_can_sdk_demo_sensor -p /dev/ttyUSB0 -s		
Receive: /dev/ttyUSB1 /dev/ttyUSB0		

## -p – open port

Command	Value(First)	Value(Second)
-p	Port name	N/A
<b>Description:</b> Set comport. Using Seliconlab comport, port name will be “ttyUSBx” <b>Syntax:</b> sudo ./bin/faro_can_sdk_demo_sensor -p <UART Device> <UART Device> Seliconlab comport, port name will be “ttyUSBx”		
<b>Example</b> sudo ./bin/faro_can_sdk_demo_sensor -p /dev/ttyUSB0		

## -d-- deinit time

Command	Value(First)	Value(Second)
-d	Program run time(seconds)	N/A
<b>Description:</b> Set Demo program running time. If not set this command, Demo program will be set default time in 30 seconds, when running time out, demo program will stop and exit automatically. If set value is -1, then demo program will not stop, until user using “ctrl-c”to manure stop demo program. <b>Syntax:</b> sudo ./bin/faro_can_sdk_demo_sensor -p <UART Device> <DemoAP command> <deinit time> <b>&lt;DemoAP command&gt;</b> Set Demo Option: Value : according -h -- help description <b>&lt;deinit time&gt;</b> Set value for close demo function, unit second. Default value is 30 second. If set value -1, then demo program will not stop, until user using “ctrl-c”to manure stop demo Value : -1 ~ 65535		

Example :

```
sudo ./bin/faro_can_sdk_demo_sensor -p /dev/ttyUSB0 -g -d 40
```

Receive:

Firmware version and thread will stop in 40 second.

## -g – get firmware version

Command	Value(First)	Value(Second)
-g	N/A	N/A
<b>Description :</b> Get module firmware version.		
<b>Syntax:</b> sudo ./bin/faro_can_sdk_demo_sensor -p <UART Device> -g		
Example : sudo ./bin/faro_can_sdk_demo_sensor -p /dev/ttyUSB0 -g		
Receive: fw_ver: 04.01.10.20.14		

## -m – mode active

Command	Value(First)	Value(Second)
-m	Can Port value	Mode active value
<b>Description:</b> Set can port mode active value. * If open J1708 and J1708_21 mode, command will ignore Can port value setting. * if open CAN2ADR_OBD2 and CAN2ADR_J1939, Port value need to set in port 1. <b>Syntax:</b> sudo ./bin/faro_can_sdk_demo_sensor -p <UART Device> -m <port> <mode> <b>&lt;port&gt;</b> Set can port 0 : port 0 1 : port 1 <b>&lt;mode&gt;</b> Set module active mode 0 : Raw CAN 1 : OBD2 2 : J1939 3 : J1708_27byte 4 : CAN2ADR_OBD2 5 : CAN2ADR_J1939 8 : J1708_21 9 : J1708_21_OFF		
<b>Example :</b> sudo ./bin/faro_can_sdk_demo_sensor -p /dev/ttyUSB0 -m 0 1 <b>Receive:</b> mode_active argument : 1 success.		

## -x – sensor test

Command	Value(First)	Value(2 ~ 10)
-x	Sensor Demo command.	Sensor test setting parameters
<b>description:</b> do Sensor Demo, set command and parameter to run Sensor demo function. Sensor Demo command value: 0 ~ 12.		
<b>Command -x 0 Description:</b> Read data from sensor. If read sensor data, sensor will set calibration before read. <b>Syntax:</b> sudo ./bin/faro_can_sdk_demo_sensor -p <UART Device> -x 0		
Command -x 0 Example : sudo ./bin/faro_can_sdk_demo_sensor -p /dev/ttyUSB0 -x 0 Receive : Read packet cnt = 1 cmd = 0x93, dlc = 0x04 --> INT_SRC = 0x01, STATUS = 0x0F, INT1_SRC = 0x60, INT2_SRC = 0x00		
<b>Command -x 1 Description:</b> Write sensor data function. <b>Syntax:</b> sudo ./bin/faro_can_sdk_demo_sensor -p <UART Device> -x 1 <cmd> <dlc_cfg> <ctrl1> <ctrl2> <ctrl3> <ctrl4> <ctrl5> <ctrl6> <ctrl7> <b>&lt;cmd&gt;</b> Set sensor command, 0x47 : Gyro command 0x56 : ACC command <b>&lt;dlc_cfg&gt;</b> Data cfg data length Value: Gyro or ACC register address <b>&lt;ctrl1&gt;</b> Set Sensor data read or write: 0 : Read 1 : Write <b>&lt;ctrl2&gt;</b>		

Set sensor data field:  
Value : sensor data.

**<ctrl3>**

Set sensor data field:  
Value : sensor data.

**<ctrl4>**

Set sensor data field:  
Value : sensor data.

**<ctrl5>**

Set sensor data field:  
Value : sensor data.

**<ctrl6>**

Set sensor data field:  
Value : sensor data.

**<ctrl7>:**

Set sensor data field:  
Value : sensor data.

Command -x 1 Example :

```
sudo ./bin/faro_can_sdk_demo_sensor -p /dev/ttyUSB0 -x 1 0x56 0x00 0x01 0x00 0x00 0x00 0x00 0x00 0x00 0x00
```

Receive :

Calling AZ\_VC\_Sensor\_Write successful

**Command -x 2 Description:**

Get sensor acc data format.

**Syntax:**

```
sudo ./bin/faro_can_sdk_demo_sensor -p <UART Device> -x 2
```

Command -x 2 Example :

```
sudo ./bin/faro_can_sdk_demo_sensor -p /dev/ttyUSB0 -x 2
```

Receive :

ACC data:

cmd = 0x91, dlc = 0x06 -->

XX\_L = 0x90, XX\_H = 0x15, YY\_L = 0x70, YY\_H = 0xFC, ZZ\_L = 0x00, ZZ\_H = 0x39

**Command -x 3 Description:**

Get ACC int data.

**Syntax:**

```
sudo ./bin/faro_can_sdk_demo_sensor -p <UART Device> -x 3
```

Command -x 3 Example :

```
sudo ./bin/faro_can_sdk_demo_sensor -p /dev/ttyUSB0 -x 3
```

Receive :

ACC INT Data:

cmd = 0x92, dlc = 0x04 -->

THS1 = 0x00, THS2 = 0x00, DUR1 = 0x00, DUR2 = 0x00

#### **Command -x 4 Description:**

Do ACC calibration.

#### **Syntax:**

```
sudo ./bin/faro_can_sdk_demo_sensor -p <UART Device> -x 4
```

Command -x 4 Example :

```
sudo ./bin/faro_can_sdk_demo_sensor -p /dev/ttyUSB0 -x 4
```

Receive :

Calling AZ\_VC\_ACCCalibration successful

#### **Command -x 5 Description:**

Config ACC sensor interrupt.

#### **Syntax:**

```
sudo ./bin/faro_can_sdk_demo_sensor -p <UART Device> -x 5 <cmd> <dlc_cfg> <INT1CFG>  
<INT1CTRL> <INT2CFG> <INT2CTRL> <INTMODE>
```

##### **<cmd>**

Set sensor command,

0x54 : Config ACC INT command

##### **<dlc\_cfg>**

Config ACC INT data length

Value: 0x05, Config ACC INT data length

##### **<INT1CFG>**

Config ACC INT1 configuration

Value : 0x70

##### **<INT1CTRL>**

Config ACC CTRL1 configuration

Value : 0x40

##### **<INT2CFG>**

Config ACC INT2 configuration:

Value : 0x00

##### **<INT2CTRL>**

Config ACC CTRL2 configuration:

Value : 0x00

##### **<INTMODE>**

<p>Config ACC Mode configuration:</p> <p>Value : 0x84</p>
<p>Command -x 5 Example :</p> <pre>sudo ./bin/faro_can_sdk_demo_sensor -p /dev/ttyUSB0 -x 5 0x54 0x05 0x70 0x40 0x00 0x00 0x84</pre> <p>Receive :</p> <p>Calling AZ_VC_ConfigACCINT successful.</p>
<p><b>Command -x 6 Description:</b></p> <p>Get Gyro sensor data from module.</p> <p><b>Syntax:</b></p> <pre>sudo ./bin/faro_can_sdk_demo_sensor -p &lt;UART Device&gt; -x 6</pre>
<p>Command -x 6 Example :</p> <pre>sudo ./bin/faro_can_sdk_demo_sensor -p /dev/ttyUSB0 -x 6</pre> <p>Receive :</p> <p>Gyro data:</p> <p>cmd = 0x8A, dlc = 0x06 --&gt;</p> <p>XX_L = 0x81, XX_H = 0x00, YY_L = 0xC1, YY_H = 0xFF, ZZ_L = 0xF0, ZZ_H = 0xFF</p>
<p><b>Command -x 7 Description:</b></p> <p>Get Gyro sensor threshold settings from module.</p> <p><b>Syntax:</b></p> <pre>sudo ./bin/faro_can_sdk_demo_sensor -p &lt;UART Device&gt; -x 7</pre>
<p>Command -x 7 Example :</p> <pre>sudo ./bin/faro_can_sdk_demo_sensor -p /dev/ttyUSB0 -x 7</pre> <p>Receive</p> <p>Gyro THS:</p> <p>cmd = 0x8B, dlc = 0x07 --&gt;</p> <p>DCRM = 0x00, XX_L = 0x00, XX_H = 0x00, YY_L = 0x00, YY_H = 0x00, ZZ_L = 0x00, ZZ_H = 0x00</p>
<p><b>Command -x 8 Description:</b></p> <p>Get Gyro sensor duration settings from module.</p> <p><b>Syntax:</b></p> <pre>sudo ./bin/faro_can_sdk_demo_sensor -p &lt;UART Device&gt; -x 8</pre>
<p>Command -x 8 Example :</p> <pre>sudo ./bin/faro_can_sdk_demo_sensor -p /dev/ttyUSB0 -x 8</pre> <p>Receive</p> <p>Gyro DUR:</p> <p>cmd = 0x8C, dlc = 0x02 --&gt;</p> <p>Wait = 0x00, Data = 0x00</p>
<p><b>Command -x 9 Description:</b></p>



Gyro sensor do calibration.

**Syntax:**

```
sudo ./bin/faro_can_sdk_demo_sensor -p <UART Device> -x 9
```

Command -x 9 Example :

```
sudo ./bin/faro_can_sdk_demo_sensor -p /dev/ttyUSB0 -x 9
```

Receive

Calling AZ\_VC\_GyroCalibration successful

**Command -x 10 Description:**

Set Gyro sensor threshold data to module.

**Syntax:**

```
sudo ./bin/faro_can_sdk_demo_sensor -p <UART Device> -x 10 <cmd> <dlc_cfg> <dcrm> <XX_L>  
<XX_H> <YY_L> <YY_H> <ZZ_L> <ZZ_H>
```

**<cmd>**

Set Gyro sensor threshold data:

Value : 0x43

**<dlc\_cfg>**

Config ACC INT data length:

Value: 0x07, Config set Gyro sensor threshold data length

**<dcrm>**

Set Gyro sensor decrement:

0 : reset

1 : decrement

**<XX\_H>**

Config interrupt threshold on X axis high byte

Value : 0x34

**<XX\_L>**

Config interrupt threshold on X axis low byte:

Value : 0x3E

**<YY\_H>**

Config interrupt threshold on Y axis high byte:

Value : 0x00

**<YY\_L>**

Config interrupt threshold on Y axis low byte:

Value : 0x00

**<ZZ\_H>**

Config interrupt threshold on Z axis high byte:

Value : 0x00

**<ZZ\_L>**

Config interrupt threshold on Z axis low byte:

Value : 0x00

Command -x 10 Example :

```
sudo ./bin/faro_can_sdk_demo_sensor -p /dev/ttyUSB0 -x 10 0x43 0x07 0x00 0x00 0x00 0x00 0x00 0x00 0x00 0x00
```

Receive

Calling AZ\_VC\_SetGyroTHS successful

#### **Command -x 11 Description:**

Set Gyro sensor duration data to module.

##### **Syntax:**

```
sudo ./bin/faro_can_sdk_demo_sensor -p <UART Device> -x 11 <cmd> <dlc_cfg> <wait> <durData>
```

##### **<cmd>**

Set Gyro duration data:

Value : 0x45

##### **<dlc\_cfg>**

Set Gyro sensor duration data length:

Value: 0x02, Gyro sensor duration data length

##### **<wait>**

Set Gyro sensor decrement:

0 : disable

1 : enable

##### **<durData>**

Set Gyro sensor duration data

Value : (duration value, 0x00 ~ 0x7F)

Command -x 11 Example :

```
sudo ./bin/faro_can_sdk_demo_sensor -p /dev/ttyUSB0 -x 11 0x45 0x02 0x01 0x00
```

Receive

Calling AZ\_VC\_SetGyroDUR successful

#### **Command -x 12 Description:**

Set Gyro sensor interrupt.

##### **Syntax:**

```
sudo ./bin/faro_can_sdk_demo_sensor -p <UART Device> -x 12 <cmd> <dlc_cfg> <INT1CFG> <INT1CTRL> <INT2CFG> <INT2CTRL>
```

##### **<cmd>**

Set Gyro duration data:

Value : 0x49

##### **<dlc\_cfg>**

Set Gyro sensor interrupt data length:

Value: 0x04, Gyro sensor interrupt data length

**<INT1CFG>**

Config ACC INT1 configuration

Value : 0x00

**<INT1CTRL>**

Config ACC CTRL1 configuration

Value : 0x00

**<INT2CFG>**

Config ACC INT2 configuration:

Value : 0x00

**<INT2CTRL>**

Config ACC CTRL2 configuration:

Value : 0x00

Command -x 12 Example :

```
sudo ./bin/faro_can_sdk_demo_sensor -p /dev/ttyUSB0 -x 12 0x49 0x04 0x00 0x00 0x00 0x00
```

Receive

Calling AZ\_VC\_ConfigGyroINT successful

## -t – test cnt

Command	Value(First)	Value(Second)
-t	Set time value	N/A
<b>Description:</b> Set counter for test loop.		
<b>Syntax:</b> sudo ./bin/faro_can_sdk_demo_sensor -p <UART Device> <DemoAP command> -t <count> <DemoAP command> Set Demo Option: Value : according -h -- help description <count> Set Demo or test loop count: Value : counter value		
<b>Example :</b> sudo ./bin/faro_can_sdk_demo_sensor -p <UART Device> -g -t 10 <b>Receive:</b> get FW count = 1, can_fw_ver: 04.01.10.20.14 get FW count = 2, can_fw_ver: 04.01.10.20.14 get FW count = 3, can_fw_ver: 04.01.10.20.14 get FW count = 4, can_fw_ver: 04.01.10.20.14 get FW count = 5, can_fw_ver: 04.01.10.20.14 get FW count = 6, can_fw_ver: 04.01.10.20.14 get FW count = 7, can_fw_ver: 04.01.10.20.14 get FW count = 8, can_fw_ver: 04.01.10.20.14 get FW count = 9, can_fw_ver: 04.01.10.20.14 get FW count = 10, can_fw_ver: 04.01.10.20.14		

## -v-- SDK version

Command	Value(First)	Value(Second)
-v	N/A	N/A
<b>Description:</b> Get SDK version.		
<b>Syntax</b> sudo ./bin/faro_can_sdk_demo_sensor -p <UART Device> -v		
Example : sudo ./bin/faro_can_sdk_demo_sensor -p /dev/ttyUSB0 -v		
Receive: Version v5.0.2		

## -q – quiet mode

Command	Value(First)	Value(Second)
-q	N/A	N/A
<b>Description :</b> Set DemoAP no receive any data		
<b>syntax:</b> sudo ./bin/faro_can_sdk_demo_sensor -p <UART Device> -q		
Example: sudo ./bin/faro_can_sdk_demo_sensor -p /dev/ttyUSB0 -j 0 -q		
Receive: N/A		