



# Applicable Model: MVT600/T1/MVT800/T333



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# **Change History**

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# **1** Copyright and Disclaimer

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## **2** Product Functions and Specifications

### **2.1 Product Functions**

- Measure vehicle's fuel level.
- Detect an alarm when the fuel level is too high.
- Detect an alarm when the fuel level is too low.

#### 2.2 Specifications

Item	Specifications
Sensor length	200–1500 mm (The sensor can be shortened based on the length range.)
Diameter	65 cm
Output signal	0–5 V
Power supply	DC 10–32 V
Ambient temperature	-40°C to 85°C
Resolution	1 mm
Tube material	Aluminum alloy

## 3 Main Device and Accessory

Main device: V-type fuel level sensor (A54 CLS) Accessory: Calibrator

### 4 View

Capacitive level sensor (CLS)











Covertext text height 2.5mm



# **5 Occupied Resource**

- T1: AD2 (fuel detection port)
- MVT600: AD2 (fuel detection port)
- MVT800: AD1 (fuel detection port)
- T333: AD2 (fuel detection port)



# 6 Cutting the CLS

You can shorten the CLS according to your requirements.

Perform the following steps:

- 1. Determine the desired sensor length according to your needs.
- 2. Cut the unnecessary sensor using the power saw and clean up fuel sensor's burrs using the file.
- 3. Remove the bottom plug and install it into the sensor.



For example, as shown in the above figure, the desired sensor length is L-3.0 mm.



To avoid tube deformation, don't use great force to fix the fuel sensor.



To avoid a block, clean up burrs in the oil tube.



Caution: To avoid damaging the rubber cover, please install the rubber cover first and then the bottom plug.

# 7 Installing and Configuring the CLS

Install the CLS into the vehicle according to your requirements.

## 7.1 Connecting the CLS to a Non-dedicated Port (MVT600/T1/T333)

When the CLS is connected to the MVT600/T1/T333 with AD1, cut the white plug at the end of the CLS and connect the sensor to the tracker according to the following cabling:

This section only uses the T1 as an example:



### 7.2 Adding the CLS to MS03 (MVT600/T1/T333)

- 1. Add the MVT600/T1/T333 to the MS03 platform, and connect the CLS to the tracker.
- 2. On the MS03 platform, choose Management > Customize.



Management					•0
Use Normal	Hidden				
	Ö	2	(( <u>(</u> ))		
Account&Tracker	Parameter settings	Sending command	RFID card	Polygon geo- fence	Polygon geo- fence binding
			: : :		,
LED settings	Temperature sensor	Fuel sensor	Customize	Alarm contact	Driver info
Car info	Online upgrade				
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3. On the **Customize a sensor** tab page, click **(b)**. On the **Add a customized sensor** window that is displayed, specify

Tracker, Customize name, Formula, and Display type, and click Submit.

Customize		_	000
Customize event Customi	ze status Customize a sensor		
Tracker: Select a tracker	<ul> <li>Keyword:</li> </ul>	Search defined	Synchronize defined 🕂 🗙
Tracker name	Customize name	Formula	Display type
181CX_T366G_1124(V3)			Value
181CX_T366G_1124(V3)		AD5/100	Value
■ 181CX_T366G_1124(V3)			
181CX_T366G_1124(V3)	) AD2	AD2/100	Value
■ 181CX_T366G_1124(V3)	) AD3	AD3/100	Value
H42H5_T333_7432(油感)	) AD5		Value
H42H5_T333_7432(油感			
T330G_6634			Value
T330G_6634			Value
■ T333_1673(胎压)			Value
■ T333_1673(胎压)			Value
■ T333_1673(胎压)	AD4	AD4	Value 🗸
🤾 🕻   Page 1 Total1	> >> C Display1	- 13Total13	

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Customize					00
Customize event Customize	status Custor	nize a sensor			
Tracker: Select a tracker	Z Konword	_	Search defined	Synchronize defin	ned 🕂 🗙
Tracker name	Add a customi	zed sensor		Di	splay type
■ 181CX_T366G_1124(V3)	Tracker:	MVT800-6-7		-	Value
■ 181CX_T366G_1124(V3)					
■ 181CX_T366G_1124(V3)	Customize	CLS fuel sensor			
■ 181CX_T366G_1124(V3)	name.		_		
■ 181CX_T366G_1124(V3)	Formula:	(AD1*3.3*2)/4096/5			
■ H42H5_T333_7432(油感)	Display type:	Percentage		7	
■ H42H5_T333_7432(油感)	Display type.	reicentage		_	Value
T330G_6634					Value
T330G_6634		Submit Reset	Cancel		
■ T333_1673(胎压)					Value
■ T333_1673(胎压)					Value
					Value
C Page 1 Total1	> » C	Display1 - 13To	tal13		

The calculation formula of the fuel level sensor is as follows: MVT600/T1/T333: (AD1 x 3.3 x 2)/4096/5

## 7.3 Connecting the CLS to the Dedicated Port (MVT600/T1/MVT800/T333)

Connect the CLS to the dedicated port of MVT600/T1/MVT800/T333 as follows:



Note:

- 1. The fuel detection port is a dedicated fuel level sensor port. When a fuel level sensor is connected to the port, no formula is required on MS03. If not, a formula is required.
- If the CLS connects to the fuel detection port of the tracker, the tracker must be connected to an external power supply. So that the fuel sensor can work normally.

### 7.4 Calibrating the CLS

1. Open the sensor cover and connect the calibrator to the sensor.



2. Calibrate the full level: Fill the fuel tank to the full level, put the sensor into the tank, and wait for about 30 seconds until the sensor tube is filled with fuel. Then press and hold down the F button of the calibrator. The sensor will enter the full level calibration mode if the green LED indicator blinks. Then release the F button. After about 10 seconds, the full level is calibrated successfully if the green LED indicator is off.

Calibrate the empty level: Take the sensor away from the fuel tank. After the fuel is drained from the sensor tube, press and hold down the **E** button of the calibrator. The sensor will enter the empty level calibration mode if the green LED indicator blinks. Then release the **E** button. After about 10 seconds, the empty level is calibrated successfully if the green LED indicator is off.



3. After calibration is finished, disconnect the calibrator, close the sensor cover, and tighten the screws. Then connect the red and black cables to the tracker's power cables. The calibration will become effective after the sensor is powered on.

#### Caution:

- 1. You must set the full level first and then the empty level.
- 2. If you don't press the button correctly during calibration, please turn off the calibrator and then calibrate the sensor again.
- 3. Don't disconnect the calibrator from the power supply during calibration. Otherwise, please calibrate the sensor again.

### 7.5 Adding the CLS to MS03 (MVT600/T1/MVT800/T333)

- 1. Add the T1/MVT600/MVT800/T333 to the MS03 platform, and connect the CLS to the tracker.
- 2. On the MS03 platform, choose **Management** > Fuel sensor.



3. On the Fuel sensor window that is displayed, click 🙂. On the Add a fuel sensor window, specify Tracker name, Fuel

sensor, Low fuel percentage, and Full fuel percentage, and click Submit.

	Fuel sensor						<b>e</b> 08
	Tracker: 🗆 Select	t a tracker 🔹 🔍	🕀 🗶 Read fuel s	ensor settings			
	Tracker nam	e Fuel sensor	Low fuel percentage	Full fuel percentage	Last upload	Fuel	1
	T333_5247	V-type fuel sensor (AD2)		80	2016-11-18 15:30:		Ø
	T330G_6634	V-type fuel sensor (AD2)					Ø
	H42H5_T6	None	0	0	2016-11-03 14:09:	0.00%	1
	181CX_T3	V-type fuel sensor (AD2)	20	80	2016-10-10 10:46:	0.00%	×
	T333_167	V-type fuel sensor (AD2)	20	80	2016-11-14 18:15:	0.00%	
	H42H5_T3		20	80	2016-11-16 15:16:	60.56%	₩
	T333_241	V-type fuel sensor (AD2)	20	80	2016-11-18 15:30:	0.00%	
	T311_018	C-type fuel sensor (AD2)	0	100	2016-03-29 03:24:		₩.
	T333_713	V-type fuel sensor (AD2)	-10	105	2015-10-14 17:49:	0.00%	
Ĭ	H425_T35	V-type fuel sensor (AD2)	1	5	2016-11-18 15:30:		
	K K Page	1 Total2 🔰 💓 🛛	Display1 - 10	Total13			



Ì	Fuel	sensor		nt 🗇 Canush	ins 💏 fuskan astins	- JXL Davanakau -			00	8
	Trac	<b>:ker:</b> 🗆 Select a	a tracker 💌	् 🕀 🗙 🛛	Read fuel sensor settings					
		Tracker name	Fuel sensor	Low fuel pr	Full fuel nercen	heolau tse la anet		Fuel		
I		T333_5247	V-type fuel sensor (A	Add a fuel senso	r	8	1:	0.00%	Ø	
							7:			
				Tracker name:	MVT800-6-7	*	9:			
				Fuel sensor:	C-type fuel sensor (AD2)	~	6:			
					,, , ,		5:			
				Low fuel	20	*	6:			
				percentage.			1:			
				Full fuel	95	* *	4:			
				percentage.			9:			
Ĕ.							1:			
I										
				Su	ıbmit Reset	Cancel				
ł										
	4									b.
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Note: There are three types of fuel level sensors: C-type (Capacitive), R-type (Resistive) and V-type (Voltage). Parameter **None** indicates that no fuel level sensor is used. (C-type and R-type fuel sensors are V-type fuel sensors.)

4. On the Fuel sensor window, double-click a sensor to modify parameters Fuel sensor, Low fuel percentage, and Full fuel percentage as required.

Fue	l sensor						• • •
Tra	cker: 🗆 Select a tra	acker 💌 🔍 🕀 🕽	Read fuel sensor setti	ngs			
	Tracker name	Fuel sensor	Low fuel percentage	Full fuel percentage	Last upload	Fuel	
	T333_5247	V-type fuel sensor (AD2)	20	80	2016-11-18 15:36:	0.00%	
		V-type fuel sensor (AD2)			2016-11-18 12:47:		Ø
	H42H5_T622G	None	0	0	2016-11-03 14:09:	0.00%	Ø
	181CX_T333_8	V-type fuel sensor (AD2)			2016-10-10 10:46:		
	T333_1673(胎压)	V-type fuel sensor (AD2)	20	80	2016-11-14 18:15:	0.00%	
	H42H5_T333_7		20	80	2016-11-16 15:16:	60.56%	
	T333_2414(T)	V-type fuel sensor (AD2)			2016-11-18 15:36:	0.00%	
	T311 0188(V1	C_type fuel sensor (AD2)	0	100	2016-03-29 03:24:		
	MVT800-6	C-type fuel sensor (AD2)	<b>▼</b> 20 \$	95 \$	2015-10-14 17:49:	0.00%	$\bowtie$
	H425_T355_85	V-type fuel sensor (AD2)	Save	ancel 5	2016-11-18 15:36:		Ø
4							۱.
<<	🖌 Page 1	Total2 💙 💓 🖸 🖸	Display1 - 10Total13				

Note: When the fuel detection port of the MVT600/T1/MVT800/T333 is connected to the fuel level sensor, no formula is required on MS03. When the sensor detects that the fuel is lower than the lower limit or is higher than the upper limit, an alarm will be generated.

# **8 Querying Reports**

### 8.1 Historical Data

- 1. On the MS03, choose **Reports**.
- 2. On the Reports window, select Historical data from Use Normal. The Historical data window is displayed.

3.

Select a tracker, set the query time, and click . The results will be displayed, as shown in the following figure.

MVT800-6	j-7												⊜⊗
From: 20	16-07-08 🞹	• 00:00	To: 2016-	07-08 🔟 23:5	9 🔻 Speed: >= 👻 (	Addre	ss 🗹	lgnore drift	🔍 🧟 🚺	📙 💊			
eiving time	GPS valid	Speed	Latitude	Longitude	Location Ala	m type	Directio	Number of sat	Signal strengtl	Mileage	Running time	Fuel perce	enta
07-08 16:00:	06 Valid	0	22.513563	114.057261	Track by	time inter	308	7	28	7.1	3Day08:16:52	98.38%	<b>_</b>
07-08 16:00:												98.38%	
07-08 16:00:											3Day08:17:25		
07-08 16:00:													
07-08 16:01:											3Day08:17:51		
07-08 16:01:													
)7-08 16:06:											3Day08:22:32		
07-08 16:06:													
07-08 16:06:	05 Valid					ıll(98.16%)					3Day08:21:48	98.16%	
07-08 16:06:													
)7-08 16:06:											3Day08:22:12		
07-08 16:07:													
)7-08 16:05:											3Day08:21:40		
07-08 16:08:													
07-08 16:08:											3Day08:24:31		
4		-											Þ
<b>«</b>	Page 11	Total1	3 🔪 📎	C Disp	lay501 - 550Total623						Show driver	and license-pla	ne

### 8.2 Sensor Report

1. On the Reports window, choose Sensor report from Use Normal. The Sensor report window is displayed.

Reports						• 8
Use Norma	l Hidde	n				
	<b>a</b> di	2			Ē	
Event report	Event statistics	Historical data	Speed curve	Speed pie	Parking report	Trip report
Mileage statistics	Sensor report	Sensor average	Photo report	Scheduling screen upload	Driver RFID/IO	VPC Report
		<b>i</b>	L,	info	status report	
User operation record	Statistics report	Transfer credit reports	Reports query			
						8

Select a tracker and sensor, set the query time, and click . The results will be displayed, as shown in the following 2. figure.





# 9 Obtaining the Sensor Installation Video

Please visit the following website to view the fuel sensor installation video: http://www.meitrack.com/en/video-tutorials/. If you have any questions, do not hesitate to email us at info@meitrack.com.