Smart OBD gauge for Automotive

Operation Manual

Lúfi®

X¹

REVOLUTION
Series

Dear customers:

Thank you for purchasing our "X1 Revolution" series product, please read this manual thoroughly, After installation, please keep this manual for future reference.

This product is only suitable for 12V vehicles (gas&diesel)possess OBDII standard protocol, please do not use for other purposes to avoid fire. Not suitable for 24V automotive. The exploitation of this product is to provide data after processed readings of OBDII standard vehicles.

If you encounter any problems with using please contact your distributor immediately, and we will provide you with excellent after-sales service. At the same time, you could also visit our website to inquire any related information.

*Please do not try to set up the product while driving or when the vehicle is in motion.

Catalog

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I.Product Characteristics

Patent appearance, function with ease

This product was modified based on multi-function instrument with a patent appearance and a multicolor display surface. The product can be set as front view, inverse view or HUD.

True color display screen

2.8 inch true color wide viewing angle screen allows a vivid and clear vision, no matter under direct sunlight or night environment.

Personalized Brightness Control

Under different environment, the built-in light sensor will automatically adjust the screen brightness. You can also set the brightness level for day or night according to your preferences.

Low-power Standby

To prolong the lifespan of your car battery, our product adopted the automatic dormancy technology. When the ignition turns off, the product will automatically go to sleep and restart again after the engine started.

Warning System

The product has an alarm function fitting on different meters, as well as external alarm lamp interface. (Alarm lamp is sold separately)

Data Adjustment

The product can be used to modify speed, RPM and voltage values on different car models.
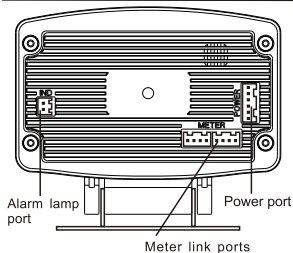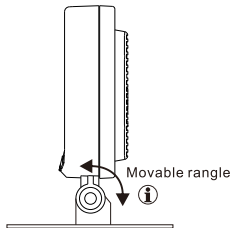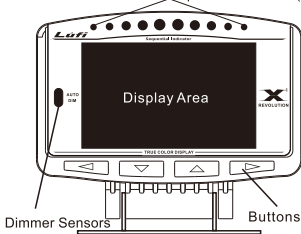
Extremum

The product has extremum display function, users can check the car condition at any time. (See function keys on P2)

Editable Odometer

The product contains odometer function that can replace the function of the original car, convenient for odometer damaged cars.

II. Product Exterior & Mountings

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Sequential Indicator(8 LEDs)

Sequential Indicator

Display Area

AUTO DIM

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TRUE COLOR DISPLAY

Dimmer Sensors

Buttons

Movable rangle ⓘ

METER

POWER

Alarm lamp port

Power port

Meter link ports

Accessories :

Smart OBD gauge for Automotive

Sequential Gauge

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manual 1pc

M4 bolt, nut,1pc

Mounting bracket 1pc

Double sided tape 1pc

M4 spanner 1pc

OBDII wire 1pc

III、Buttons

|	◁	▽	△	▷
Setting mode	Menu Return	Menu downward Number subtract	Menu upward Numbers add	Menu Select
Display mode	set brightness clear PEAK	Interface switch to next	Interface switch to before	Short press to set menu long press to show PEAK

IV. Product Installation

1. Find the vehicle OBD diagnostic connector, attach the product's OBD power chord and the vehicle OBD connector tightly.
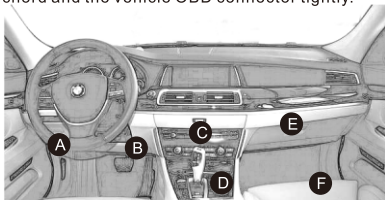
Vehicle OBD connector
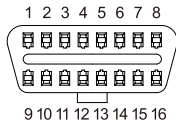
Area A: BMW/Audi/Volkswagen/Toyota/Common cars and majority models。

Area B: Honda/Lexus (Most models)

Area C/D: Citroen。

Area E/F: Other few models

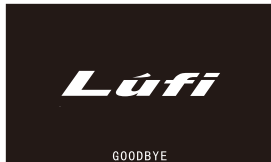2. Start the engine, the product will try to connect the vehicle ECU, if successful then proceed to the normal connection.

> The sequential indicator is working when product try to connet the vehicle ECU
>
> ※If it can't connect all the time, please check out the troubleshooting item or contact your dealer.

X1-XX   VX. X

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WELCOME

Power ON

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GOODBYE
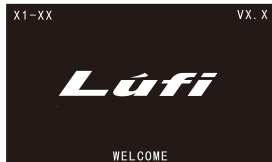
Power OFF

V. Display Interface

1. There is total of three interfaces to switch, as shown below.
2. Every display interface can be customized modify, steps: Return to the interface, press the right button ▷ to enter "System menu->Select display settings->Select meter type settings->enter edit mode".

press button to change

STREET
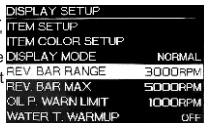
Zone

USER1

Zone

Change type of the instrument for switching is rely on the name of the instrument. (Page 6)

USER2

Zone
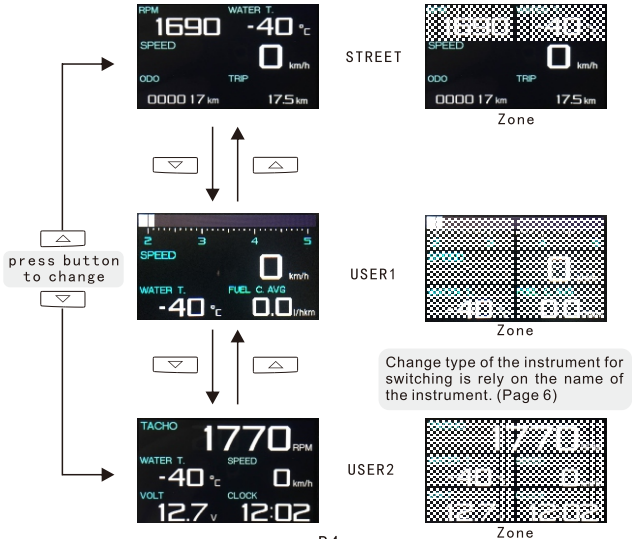
VI. Meter Item Display Definition

SPEED AVG	Average speed
SPEED	Speed
TACHO/RPM	Engine RPM
OIL P.	Engine oil pressure
FUEL P.	Engine fuel pressure
OIL T.	Engine oil temperature
WATER T.	Water temperature
EXT T.	Exhaust temperature
VOLT	Battery voltage
CLOCK	Time
ENGINE RUN T.	Engine run time
TURBO/IN-MF P.	Turbo/ Intake pressure
AIR FLOW	Airflow
INTAKE AIR T.	Intake air temperature
COMMON R.P.	Fuel Rail pressure
THROTTLE P.	Throttle valve
ACC P.B	Throttle valve absolute position B
ACC P.C	Throttle valve absolute position C
ACC P.D	Throttle valve absolute position D
ACC P.E	Throttle valve absolute position E
ACC P.F	Throttle valve absolute position F
EXHAUST G.R.	Exhaust gas correction instruction
ENGINE LOAD	Engine load
SHORT TRIM	Short term fuel correction(Cylinder1)
LONG TRIM	Long term fuel correction(Cylinder1)
02 B1 S1	O2 Sensor voltage(Cylinder1, Sensor1)
02 B1 S2	O2 Sensor voltage(Cylinder1, Sensor2)
02 B1 S3	O2 Sensor voltage(Cylinder1, Sensor3)
IGNITION T.	Ignition time
FUEL LEVEL	Fuel Level Only on specific models)
AIR/FUEL	Air & Fuel Specific value
BARO	Baro
ACC P.P.	Gas pedal position
FUEL C.	Fuel consumption(l/h)(l/hkm)
FUEL C. AVG	Average fuel consumption
OUTSIDE T.	Outside temperature (Only on specific models)
ACCELERATE	Accelerate (m/s)

If the "X" icon is displayed in the interface, it means the model does not support the data.

VII. Tachometer Setup

If you want to set up as fig.1, follow the following steps. Enter display setup menu, select "REV.BAR RANGE" meun, press up △ or ▽ down button to set the value to 3000RPM. Then select "REV.BAR MAX" menu to set the value to 4000RPM.
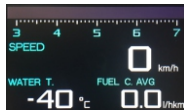
DISPLAY SETUP	
ITEM SETUP	
ITEM COLOR SETUP	
DISPLAY MODE	NORMAL
REV. BAR RANGE	3000RPM
REV. BAR MAX	5000RPM
OIL P. WARN LIMIT	1000RPM
WATER T. WARMUP	OFF

The REV. BAR range：3000 <-> 9000(RPM)

scale range：	3000RPM
max scale value：	5000RPM
show range：	2000-5000RPM

scale range：	4000RPM
max scale value：	7000RPM
show range：	3000-7000RPM

（fig1）

（fig2）

VIII.Multi-display zone Instructions

the message is displayed in the multi-display zone for a moment even while the set item is displayed. the warning message is also displayed in the multi-display zone automatically. Do not set an item you want to check all the time in the multi-display zone.

1:When values exceed the warning settings.
2 : Zone not set "WATER T."item and warm up mode enable.
3 : When the dimmer level is changed.

multi-display zone

IX: Sequential Status Indicator

Instrument status indicator is composed of 10 RGB true color LED lights which can be set to •━━ (SINGLE) or ━━•━━ (DUAL)directions. Color is used to indicate RPM shifting and warning value which corresponds to the light sequence and blink. All lights are blink when value exceed setting vlalue.

SEQ. LED SETUP	
SEQ. IND. MODE	RPM WARNING
SEQ. IND. PATTERN	•━
SEQ. IND. STEP	200RPM
SEQ. MULTI COLOR	OFF
SEQ. LED RED	15
SEQ. LED GREEN	0
SEQ. LED BLUE	0

lighting step : 100RPM ━━▶ 200RPM ━━▶ 250RPM ━━▶ 500RPM

◆Engine revolutions that LED is lighted up:
[SINGLE]=Warning (shifting)value - Step × 10
[DUAL]=Warning (Shifting)value - Step× 5

◆Engine revolutions that all LEDs are lighted up:
Warning (shifting) value − Step

◆Engine revolutions that all LEDs blink:
Exceed warning (shifting) value

◆Multi-color indicator:

If SEQ.multi color mode "ON", the 10 LEDs color will be controlled by system,Lightening in the direction as:
green ->light green ->yellow->orange->red

If the dimmer setting is AUTO, The brightness of LEDs is decreased one level automatically depending on the outside brightness.If the dimmer setting is MANUAL, the brightness of LEDs is decreased one level depending day time or night time.

Example1: [SINGLE]
Set to RPM warning mode, step value 2000RPM, warning value 5000RPM

LED	1	2	3	4	5	6	7	8	9	10	blink
value	3000	3200	3400	3600	3800	4000	4200	4400	4600	4800	5000

Example2: [DUAL]

LED	1	2	3	4	5	6	7	8	9	10	blink
value	4000	4200	4400	4600	4800	4800	4600	4400	4200	4000	5000

X. Warning Function Setup

WARNING SETUP	IND.OUT ☑
RPM	6000RPM
RPM SHIFT	5000RPM
SPEED	120km/h
VOLTAGE	11.0V
WATER TEMP	105.0℃
OIL TEMP	115.0℃
TURBO/IN-MF.P.	1.200×100 kPa

Long press ▷ button, the check of IND.OUT is switched over. If the check is ON, the warning signal is output while the item is under the condition of warning.

Factory default settings of warning values：

| Gauge	Default	Unit	Minimum	Maximum	condition	IND.OUT
RPM warning	6000	RPM	0	9000	≥value	ON
RPM shifting	5000	RPM	0	9000	≥value	ON
Speed	120	km/h	0	400	≥value	ON
Battery	11	V	8	18	≤value	ON
Water temp	105	℃	-40	140	≥value	ON
Oil temp	115	℃	-40	140	≥value	ON
Turbo/Intake press	120	kpa	0	300	≥value	ON
Oil press	50	kpa	0	1000	≤value	ON
Fuel press	50	kpa	0	600	≤value	ON
Exhaust temp	950	℃	0	1100	≥value	ON

XI. Parameter Calibration

1.Speed Calibration (50-150%), different vehicle instrument will present speed faster than actual speed, users can adjust based on individual preferences.

2.RPM Calibration (50-150%), users can adjust based on individual preferences.

3.Fuel consumption (20-200%), users can adjust to a suitable proportion based on individual preferences.
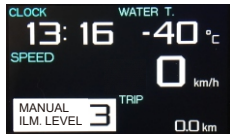
XII. Brightness Control

1. Brightness control can be set as manual or automatic.

2. When brightness control is set as manual, the screen rightness will be as set depending day time and night time.

3. Press the left ⬜ button on the display screen to adjust the current brightness level. (Shown in the following 3 figures)

SYSTEM SETUP	
UNIT	km/h · KPa · °C
SPEED ADJUST	100%
RPM ADJUST	100%
TU/IN·M.F.P. ADJUST	100%
VOLT ADJUST	11.88V
DIMMER	AUTO
DIMMER DAY TIME	--:--

1.Using automatic brightness control mode, the light sensor will automatically control screen brightness. Press the left ⬜ button to change the brightness immediately.

MAX ➔ 3 ➔ 2 ➔ 1   ILM.LEVEL

CLOCK	WATER T.
13: 16	-40 °C
SPEED	
	0 km/h
AUTO ILM. LEVEL 3	TRIP 0.0 km
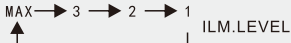
1.Using manual brightness control mode, press the left ⬜ button to select the best brightness level.

5 ➔ 4 ➔ 3 ➔ 2 ➔ 1

ILM.LEVEL

CLOCK	WATER T.
13: 16	-40 °C
SPEED	
	0 km/h
MANUAL ILM. LEVEL 3	TRIP 0.0 km

Day time brightness：
5 ➔ 4 ➔ 3 ➔ 2 ➔ 1
Button LEDs OFF

MAX   Display brightness

Day time≤Clock Time<Night time

Night time brightness:
Night time≤Clock Time<Day time
5 ➔ 4 ➔ 3 ➔ 2 ➔ 1
Button LEDs ON

Fuel consumption specification

1.Fuel consumption is calculated based on the data collected from airflow or turbo/intake pressure. If your vehicle does not possess one of the data listed above then you won't be able to get the fuel consumption data.

2. The Vehicle fuel consumption conversion formula can be divided to fit gasoline or diesel cars, please check the engine type and enter "system setup -> fuel type" to select the corresponding type.

*Fuel consumption's calculated result might be slightly off with the actual number, please calibrate based on vehicle's condition.

Screen-off dormancy special settings

1.Some vehicle types might have ECU that won't automatically shut off while have tools communication. At this time, it is necessary to rely on the "RPM no fluctuation sleep function" to force the product to enter the dormant state.

2.For vehicles with a auto-off function that wish to have the product working during all times must turn OFF "sleep rpm not change" and also "sleep when auto off" function.

PID Reading cycle

1.The time delay of reading single ECU data on different vehicle types is different, users can set and adjust the product's PID reading time based on car's ability.

Manual wake-up

1.When the product is at sleep and users do not wish to start the product by starting the car, you can press any one of the 4 function buttons to wake up the product.

2.If no activity happens after waking up the product, the product will automatically go to sleep again after one minute.

*Some vehicles codes cannot be cleared while running, please wake up the product to clear the codes.

HUD Mode

The product contains HUD display function, due to the brightness of the TFT screen, the effect of the day will not be as good as the night.For best results please put a reflective film on the windshield.

XIV. Common Malfunction Analysis

Unable to Open	1. Loose connection of OBD power chord 2. Loose connection Instrument power chord 3. Car OBD safety fuse might be fused 4. The car is not started
Unable to use auto brightness control	1. Brightness control function is set as manual 2. Unknown object covering the light sensor 3. Dimmer sensor broken
No beeper sound for alarm	1. Alarm/ warning function is not turned ON 2. Buzzer broken
Unable to clear or read malfunction codes	1. Please operate after shut down 2. Professional malfunction code, please use profession equipment

XV. Product parameter

Electric parameter:

Operate Voltage：　　　DC 8-18V

Operate Current：　　　≤140mA

Sleep current：　　　　≤1 mA

Operate temperature：　−40-+85℃

Product size:
96x80x23mm

Hardware：
STM/GD32High-performance dual-core MCU
2. 8-inch TFT/IPS screen
Display resolution 400x240
4 individual function buttons
Light sensor
Alarm buzzer
10 RGB ture color LED indicator

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After-sale Service Card

After-sale option:	☐ Return/Refund ☐ Maintenance/Repair ☐ Exchange
Reason for exchange or return:	
Contact phone number:	
Receiver's name:	
Receiving address:	

ⓘ 1. Human damage is not under warranty
2. Warranty is for 1 year since sold

Date:_____(MM/DD/YEAR)

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