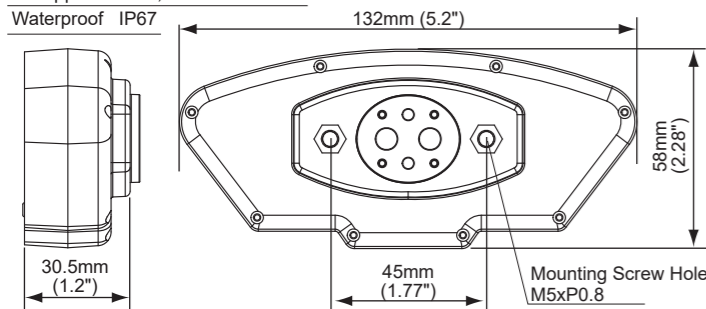# INSTRUCTION

DAYTONA
20200514
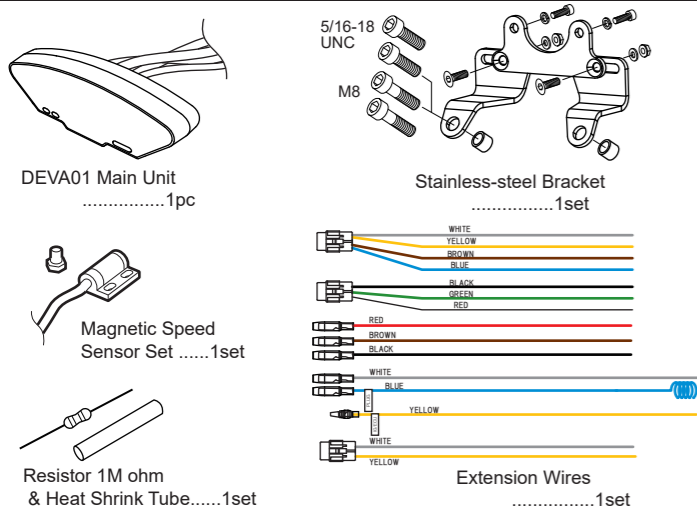
DEVA01
MULTIFUNCTION COCKPIT

"DEVA01" Multifunction Cockpit offers you "ALL IN ONE".
All the necessary functions are included in a compact housing (132Lx58Wx30H mm / 5.2Lx2.28Wx1.2H inch). Designed to be used on motorcycles and ATV's regardless of whether or not the vehicle generates electrical speed signal, since a reed sensor is included in the kit.
Two screw holes(M5) on the back of the housing offers many mounting options. The included stainless steel bracket can be used for any type of handle post with a pitch of 63mm to 112mm.

SPECIFICATIONS

FUNCTIONS	SPECIFICATIONS
Housing Size	132mmx58mmx30.5mm (5.2"x2.28"x1.2")
LCD	LCD VA with White backlit
Power	DC8V - 18V
Operating Temperture	-20℃ - +70℃ (-4°F - +158°F)
Accuracy of Clock	+/- 100sec/month
Accuracy of Volt Meter	+/- 0.2V
Speedometer	0 - 399 km/h or 0 - 299MPH
Odometer / Total Trip	0 - 99,999.9km (mile)
Trip Odometer 1/2	0 - 9, 999.9km (mile)
Engine Speed Display	0 - 10,000rpm or 0-20,000rpm
Clock	12h / 24h
Air Temperature Gauge	-10℃ - +60℃ (+14°F - +140°F)
Oil Temperature Gauge	0℃ - +180℃ (+32°F - +356°F)
Oil Temperature Gauge	0℃ - +180℃ (+32°F - +356°F)
EU Approval CE, ECE 10R06	
Waterproof IP67	

132mm (5.2")
58mm (2.28")
30.5mm (1.2")
45mm (1.77")

Mounting Screw Hole M5xP0.8

COMPONENTS

5/16-18 UNC
M8

DEVA01 Main Unit 1pc
Stainless-steel Bracket 1set

WHITE
YELLOW
BROWN
BLUE
BLACK
GREEN
RED

Magnetic Speed Sensor Set 1set

RED
BROWN
BLACK

WHITE
BLUE
YELLOW

WHITE
YELLOW

Resistor 1M ohm & Heat Shrink Tube......1set
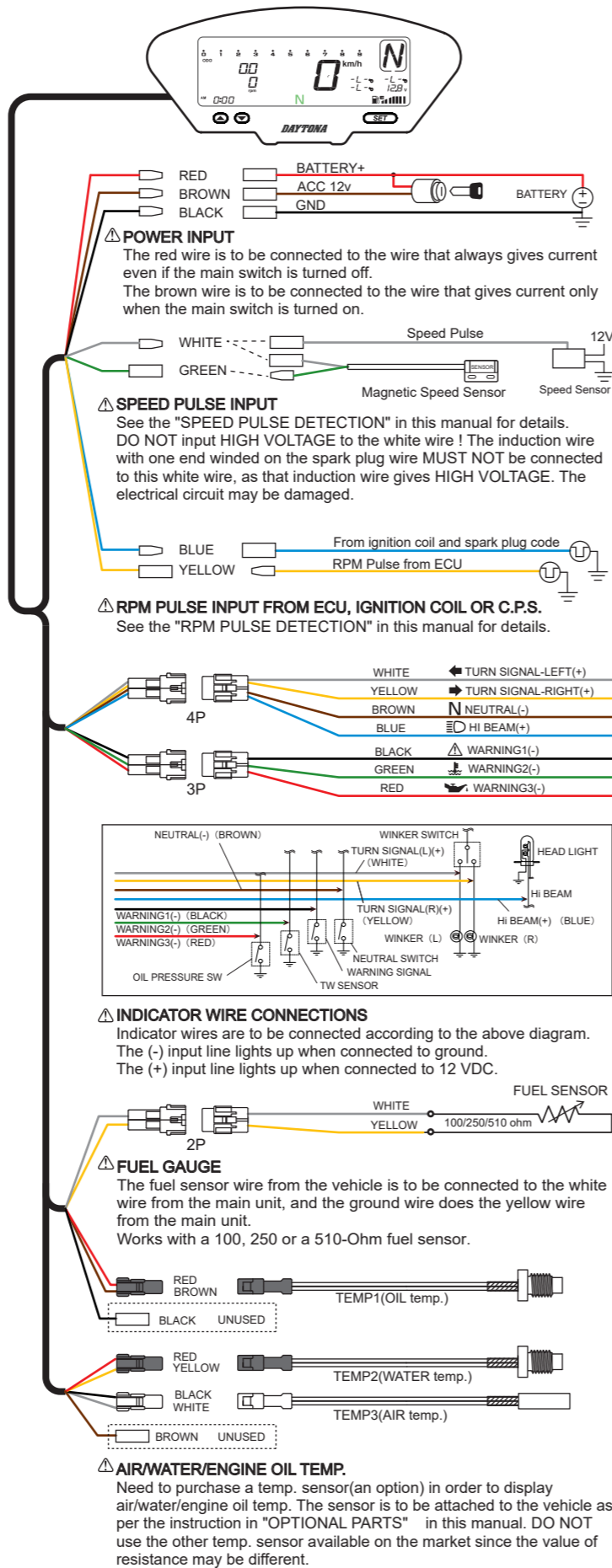Extension Wires 1set

⚠ CAUTION

1. Read all instructions before use.
2. Disconnect the ground wire from the negative post of vehicle's battery before installation.
3. Use DEVA01 computer for the intended purpose of use
4. DO NOT disassemble DEVA01 computer. It may be damaged and water may come in.
5. DO NOT leave DEVA01 computer under the sunlight when not used
6. Avoid contact with gasoline, brake fluid or other chemicals. It may be damaged
7. For motorcycles that do not generate electrical speed pulse, use the supplied Magnetic Speed Sensor Set or a device(separately sold) that turns mechanical speedometer cable motion into electrical pulse.
8. Removing the original speedometer may impair some original functions such as turn signal auto canceller, igniter and/or immobilizer.
9. Designed for a 12 volt system. DEVA01 does NOT work with a 6 volt system or a battery-less system.
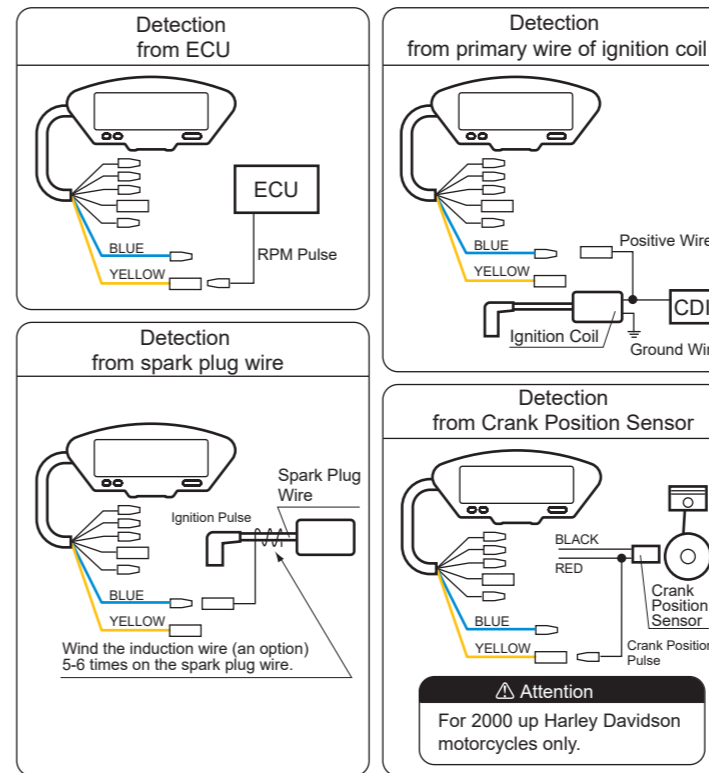
⚠ CAUTION

10. Be sure that DEVA01 displays the right speed before used on street.
11. DO NOT hit, drop or give a shock on DEVA01 main unit. It may be damaged due to a precision part.
12. Rubber mounting is recommended for vehicles with much vibration
13. After installation, check to see if all the parts are correctly installed, and see if all the screws are torqued properly.
14. Periodical inspection of the installed parts is required every 500km(300mile). If anything unusual may be found while driving, stop at a safe place to check.
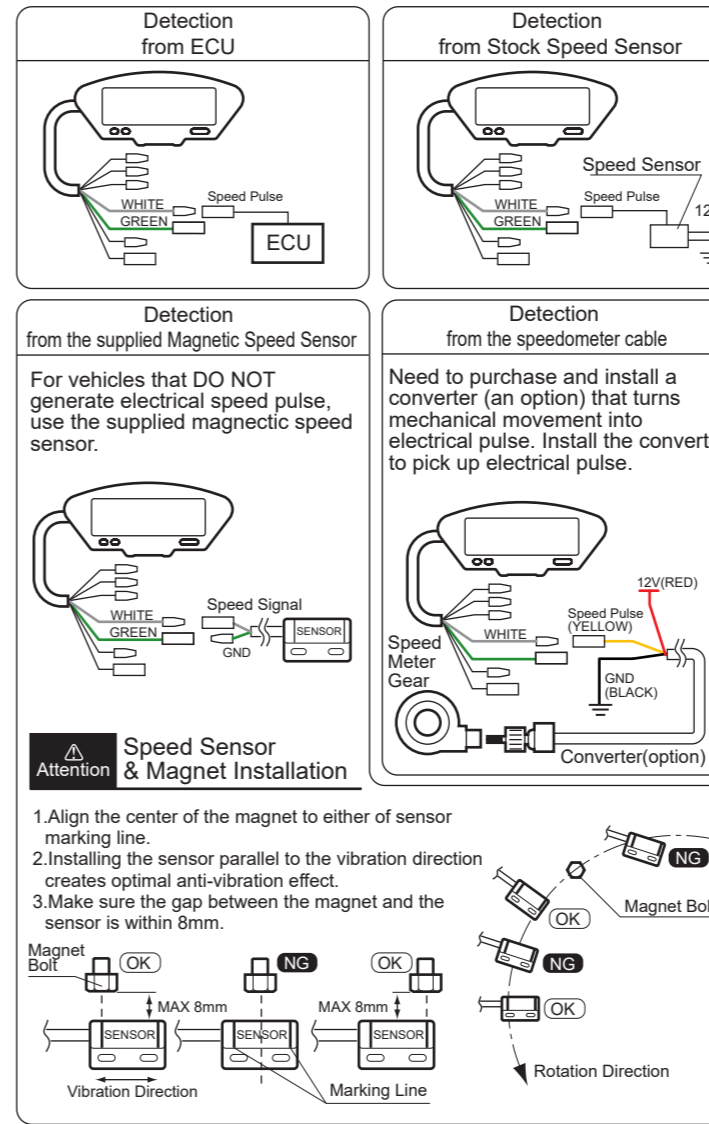
WIRING DIAGRAM & OVERVIEW

RED — BATTERY+
BROWN — ACC 12v
BLACK — GND
BATTERY

⚠ POWER INPUT
The red wire is to be connected to the wire that always gives current even if the main switch is turned off.
The brown wire is to be connected to the wire that gives current only when the main switch is turned on.

WHITE — Speed Pulse
GREEN
12V
Magnetic Speed Sensor
Speed Sensor

⚠ SPEED PULSE INPUT
See the "SPEED PULSE DETECTION" in this manual for details.
DO NOT input HIGH VOLTAGE to the white wire ! The induction wire with one end winded on the spark plug wire MUST NOT be connected to this white wire, as that induction wire gives HIGH VOLTAGE. The electrical circuit may be damaged.

BLUE — From ignition coil and spark plug code
YELLOW — RPM Pulse from ECU

⚠ RPM PULSE INPUT FROM ECU, IGNITION COIL OR C.P.S.
See the "RPM PULSE DETECTION" in this manual for details.

WHITE → TURN SIGNAL-LEFT(+)
YELLOW → TURN SIGNAL-RIGHT(+)
BROWN N NEUTRAL(-)
BLUE ≡Ɖ HI BEAM(+)
4P
BLACK ⚠ WARNING1(-)
GREEN WARNING2(-)
RED WARNING3(-)
3P

NEUTRAL(-) (BROWN)
WINKER SWITCH
TURN SIGNAL(L)(+) (WHITE)
HEAD LIGHT
Hi BEAM
WARNING1(-) (BLACK)
WARNING2(-) (GREEN)
WARNING3(-) (RED)
TURN SIGNAL(R)(+) (YELLOW)
Hi BEAM(+) (BLUE)
WINKER (L) WINKER (R)
OIL PRESSURE SW
NATURAL SWITCH
WARNING SIGNAL
TW SENSOR

⚠ INDICATOR WIRE CONNECTIONS
Indicator wires are to be connected according to the above diagram.
The (-) input line lights up when connected to ground.
The (+) input line lights up when connected to 12 VDC.

WHITE
YELLOW
2P
FUEL SENSOR
100/250/510 ohm

⚠ FUEL GAUGE
The fuel sensor wire from the vehicle is to be connected to the white wire from the main unit, and the ground wire does the yellow wire from the main unit.
Works with a 100, 250 or a 510-Ohm fuel sensor.

RED
BROWN
BLACK   UNUSED
TEMP1(OIL temp.)

RED
YELLOW
BLACK
WHITE
TEMP2(WATER temp.)
BROWN   UNUSED
TEMP3(AIR temp.)

⚠ AIR/WATER/ENGINE OIL TEMP.
Need to purchase a temp. sensor(an option) in order to display air/water/engine oil temp. The sensor is to be attached to the vehicle as per the instruction in "OPTIONAL PARTS" in this manual. DO NOT use the other temp. sensor available on the market since the value of resistance may be different.

RPM PULSE DETECTION

You can choose one way from 4 types of detection.

⚠ Attention
DO NOT detect two or more different pulses, DEVA01 DOES NOT display the right engine speed.

Detection from ECU
ECU
BLUE
YELLOW — RPM Pulse

Detection from primary wire of ignition coil
Positive Wire
BLUE
YELLOW
CDI
Ignition Coil
Ground Wire

Detection from spark plug wire
Spark Plug Wire
Ignition Pulse
BLUE
YELLOW
Wind the induction wire (an option) 5-6 times on the spark plug wire.

Detection from Crank Position Sensor
BLACK
RED
Crank Position Sensor
BLUE
YELLOW
Crank Position Pulse

⚠ Attention
For 2000 up Harley Davidson motorcycles only.

SPEED PULSE DETECTION

You can choose one way from 4 types of detection.

Detection from ECU
WHITE
GREEN — Speed Pulse
ECU

Detection from Stock Speed Sensor
Speed Sensor
WHITE
GREEN — Speed Pulse
12V

Detection from the supplied Magnetic Speed Sensor
For vehicles that DO NOT generate electrical speed pulse, use the supplied magnectic speed sensor.
WHITE
GREEN — Speed Signal
GND

Detection from the speedometer cable
Need to purchase and install a converter (an option) that turns mechanical movement into electrical pulse. Install the converter to pick up electrical pulse.
12V(RED)
Speed Pulse (YELLOW)
WHITE
Speed Meter Gear
GND (BLACK)
Converter(option)

⚠ Attention
Speed Sensor & Magnet Installation

1. Align the center of the magnet to either of sensor marking line.
2. Installing the sensor parallel to the vibration direction creates optimal anti-vibration effect.
3. Make sure the gap between the magnet and the sensor is within 8mm.

Magnet Bolt
OK
NG
OK
NG
MAX 8mm
SENSOR
Vibration Direction
Marking Line
Rotation Direction

NORMAL MODE DISPLAYS

RPM BAR GRAPH
SPEED
GEAR POSITION
DATA DISPLAY 1
TEMPERATURE
DATA DISPLAY 2
VOLTAGE
CLOCK
FUEL
INDICATOR

(UP) Button
(DOWN) Button
(SET) Button

Icon instructions
⊙ : Press (UP) button
⊙ : Press (DOWN) button
SET : Press (SET) button
⊙ : Hold down (UP) button for 2 seconds.
⊙ : Hold down (DOWN) button for 2 seconds.
SET : Hold down (SET) button for 2 seconds.

DATA DISPLAY 1

[ODOMETER] → [TRIPMETER 1] → [TRIPMETER 2] → [RESETTABLE MILEAGE]

NON RESETTABLE
RESET
RESET

[RESETTABLE MILEAGE SETUP] ※To set the start at an arbitrary value.

Flashing digit is changeable. Press (UP)/(DOWN) to modify.
Press (SET) to fix and go to the next digit setting.
Continue this operation until the last digit is input.
※14278.0 is sample.

NORMAL MODE.

DATA DISPLAY 2

[RPM] → [MAX RPM] → [MAX SPEED]
RESET
RESET

RPM BAR GRAPH

20000rpm
10000rpm
The RPM bar graph is displayed in either Max range 10000rpm or 20000rpm.

GEAR POSITION

N
Displays gear position.
For gear setting, both Speed pulse & RPM pulse must be detected.
May need to purchase optional parts for some vehicles.
Display range:N, 1,2,3,4,5,6

TEMPERATURES

TEMP3
km/h
TEMP1
TEMP2

TEMP 1 /2
Displays water/engine oil temp. The temp. sensor (an option) needs to be attached to the designated wires from the main unit. The temp. range is from 0 to 180 Celsius or from 32 to 356 Fahrenheit.

TEMP3
Displays ambient temperature. The temp. sensor (an option) needs to be attached to the designated wires from the main unit. The temp. range is from -10 to 60 Celsius or from 14 to 140 Fahrenheit.

※ "-L-" or "-H-" is displayed when the temperature is lower or higher than the range.

INDICATORS

← TURN SIGNAL-LEFT(+)
→ TURN SIGNAL-RIGHT(+)
N NEUTRAL(-)
≡Ɖ HI BEAM(+)
⚠ WARNING1(-)
WARNING2(-)
WARNING3(-)

The indicators go on if connected to the proper wires from the vehicle.
* The (-) input line lights up when connected to ground.
The (+) input line lights up when connected to 12 VDC.
* WARNING1/2/3 connects to warning indicator, TW sensor, oil pressure SW.

CLOCK

AM 10:38
The clock is displayed in either 12H or 24H format.

FUEL

Displays remaining fuel level, when connected to a fuel sensor. Works with a 100, 250 or 510-Ohm fuel sensor.

SETUP MODE

(UP) Button
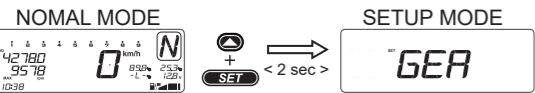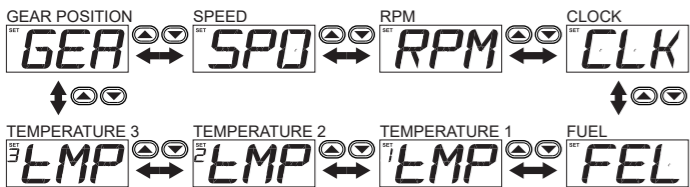(DOWN) Button
(SET) Button
DAYTONA

Icon instructions
- ▲ : Press (UP) button
- ▼ : Press (DOWN) button
- SET : Press (SET) button
- ▲ : Hold down (UP) button for 2 seconds.
- ▼ : Hold down (DOWN) button for 2 seconds.
- SET : Hold down (SET) button for 2 seconds.

To enter setup mode from normal mode,
hold down ▲ (UP) + SET (SET) for two seconds.
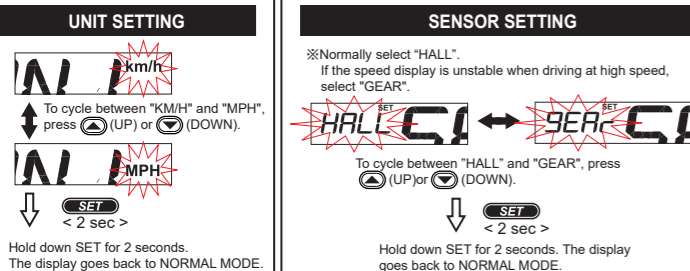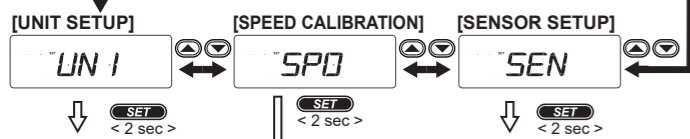※If you want to force termination during the setting, turn off the main key the bike.

NOMAL MODE + ▲ SET < 2 sec > SETUP MODE
GER

To cycle between setting items, press ▲ (UP) or ▼ (DOWN).

GEAR POSITION **GER** ↔ SPEED **SPD** ↔ RPM **RPM** ↔ CLOCK **CLK**
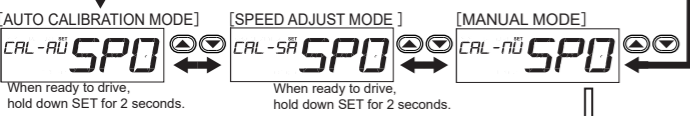TEMPERATURE 3 **³TMP** ↔ TEMPERATURE 2 **²TMP** ↔ TEMPERATURE 1 **¹TMP** ↔ FUEL **FEL**

Select what you want to change and hold down SET (SET) for 2 seconds. See each section in this manual for details.

SPEED SETUP MODE

[UNIT SETUP] **UNI** ↔ [SPEED CALIBRATION] **SPD** ↔ [SENSOR SETUP] **SEN**
SET < 2 sec >

UNIT SETTING
km/h ... To cycle between "KM/H" and "MPH", press ▲ (UP) or ▼ (DOWN).
MPH
SET < 2 sec >
Hold down SET for 2 seconds. The display goes back to NORMAL MODE.

SENSOR SETTING
※Normally select "HALL". If the speed display is unstable when driving at high speed, select "GEAR".
HALL ↔ **GEAR**
To cycle between "HALL" and "GEAR", press ▲ (UP) or ▼ (DOWN).
SET < 2 sec >
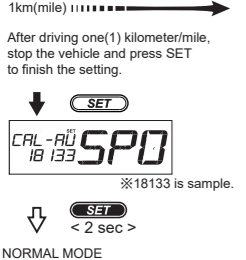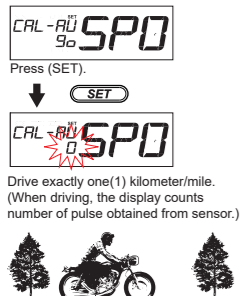Hold down SET for 2 seconds. The display goes back to NORMAL MODE.
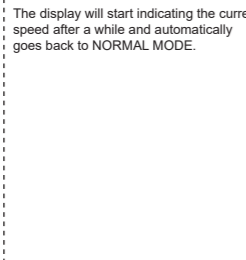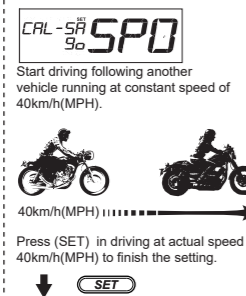
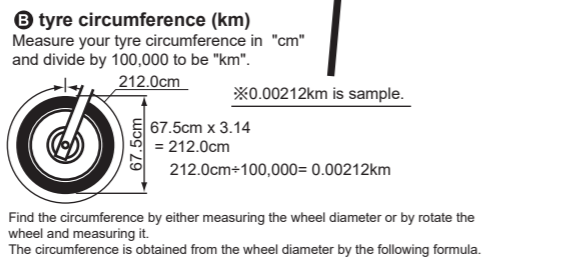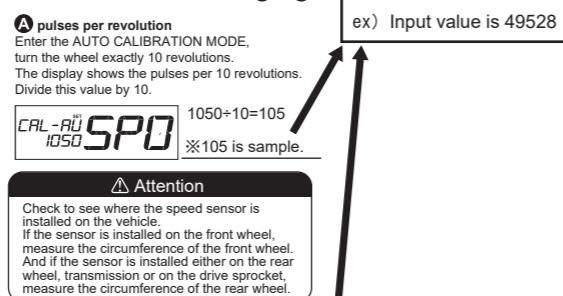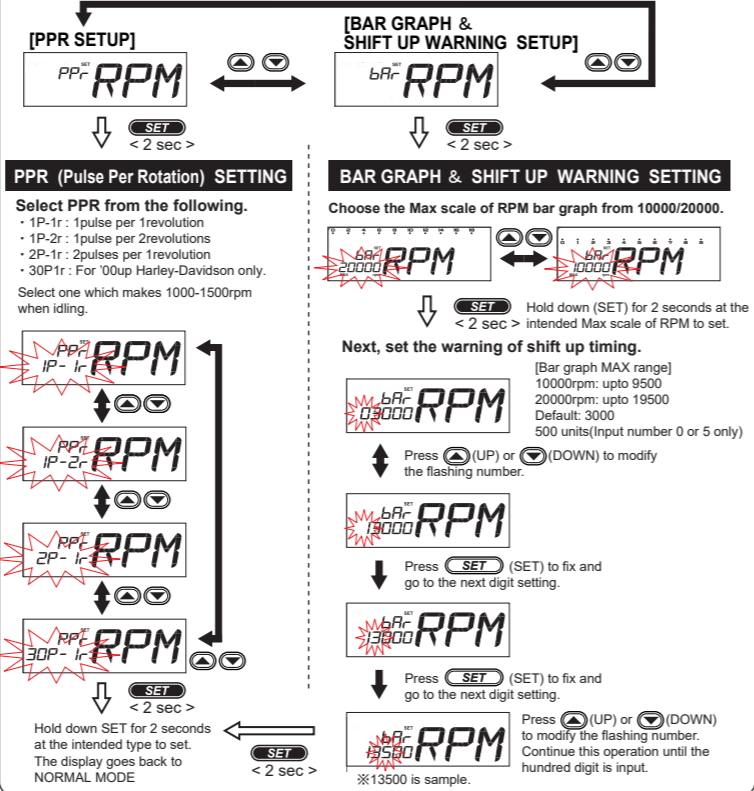You can choose one way from 3 types of calibration.

SPEED CALIBRATION

[AUTO CALIBRATION MODE] **CAL-AU SPD** ↔ [SPEED ADJUST MODE] **CAL-SA SPD** ↔ [MANUAL MODE] **CAL-NU SPD**

When ready to drive, hold down SET for 2 seconds.
When ready to drive, hold down SET for 2 seconds.
SET < 2 sec >

AUTO CALIBRATION MODE
CAL-AU go SPD
Press (SET).
SET
CAL-AU 0 SPD
Drive exactly one(1) kilometer/mile. (When driving, the display counts number of pulse obtained from sensor.)
1km(mile)
After driving one(1) kilometer/mile, stop the vehicle and press SET to finish the setting.
SET
CAL-AU 18 133 SPD
※18133 is sample.
SET < 2 sec >
NORMAL MODE

SPEED ADJUST MODE
CAL-SA go SPD
Start driving following another vehicle running at constant speed of 40km/h(MPH).
40km/h(MPH)
Press (SET) in driving at actual 40km/h(MPH) to finish the setting.
SET
The display will start indicating the current speed after a while and automatically goes back to NORMAL MODE.

MANUAL MODE
Calculate the value of "pulse per km" by Ⓐ ÷ Ⓑ

Ⓐ pulses per revolution
Enter the AUTO CALIBRATION MODE, turn the wheel exactly 10 revolutions.
The display shows the pulses per 10 revolutions.
Divide this value by 10.
1050÷10=105
CAL-AU 1050 SPD
※105 is sample.

⚠ Attention
Check to see where the speed sensor is installed on the vehicle.
If the sensor is installed on the front wheel, measure the circumference of the front wheel.
And if the sensor is installed either on the rear wheel, transmission or on the drive sprocket, measure the circumference of the rear wheel.

Ⓑ tyre circumference (km)
Measure your tyre circumference in "cm" and divide by 100,000 to be "km".
212.0cm
67.5cm
67.5cm x 3.14 = 212.0cm
212.0cm÷100,000= 0.00212km
※0.00212km is sample.

Find the circumference by either measuring the wheel diameter or by rotate the wheel and measuring it.
The circumference is obtained from the wheel diameter by the following formula.
Wheel Diameter(in centimeter) x 3.14 = Circumference (in centimeter)
Wheel Diameter(in inch) x 3.14 x 25.4 = Circumference (in centimeter)

Ⓐ ÷ Ⓑ = pulses per km
105 ÷ 0.00212 = 49528
ex) Input value is 49528

At MANUAL MODE, hold down (SET) for 2 seconds.
Input the calculated value as follows:
SET
CAL-NU 00000 SPD
Press ▲ (UP) or ▼ (DOWN) to modify the flashing number.
CAL-NU 40000 SPD
Press SET (SET) to fix and go to the next digit setting.
CAL-NU 49000 SPD
Press ▲ (UP) or ▼ (DOWN) to modify the flashing number.
Continue this operation until the last digit is input.
CAL-NU 49528 SPD
※49528 is sample.
SET < 2 sec >
NORMAL MODE

RPM SETUP MODE

[PPR SETUP] **PPr RPM** ↔ [BAR GRAPH & SHIFT UP WARNING SETUP] **bAr RPM**
SET < 2 sec >

PPR (Pulse Per Rotation) SETTING
Select PPR from the following.
- 1P-1r : 1pulse per 1revolution
- 1P-2r : 1pulse per 2revolutions
- 2P-1r : 2pulses per 1revolution
- 30P1r : For '00up Harley-Davidson only.

Select one which makes 1000-1500rpm when idling.

PPr 1P-1r RPM
PPr 1P-2r RPM
PPr 2P-1r RPM
PPr 30P-1r RPM
SET < 2 sec >
Hold down SET for 2 seconds at the intended type to set.
The display goes back to NORMAL MODE.

BAR GRAPH & SHIFT UP WARNING SETTING
Choose the Max scale of RPM bar graph from 10000/20000.
bAr 20000 RPM ↔ **bAr 10000 RPM**
SET < 2 sec >
Hold down (SET) for 2 seconds at the intended Max scale of RPM to set.

Next, set the warning of shift up timing.
[Bar graph MAX range]
10000rpm: upto 9500
20000rpm: upto 19500
Default: 3000
500 units(Input number 0 or 5 only)

bAr 03000 RPM
Press ▲ (UP) or ▼ (DOWN) to modify the flashing number.
bAr 03000 RPM
Press SET (SET) to fix and go to the next digit setting.
bAr 13000 RPM
Press SET (SET) to fix and go to the next digit setting.
bAr 13500 RPM
Press ▲ (UP) or ▼ (DOWN) to modify the flashing number. Continue this operation until the hundred digit is input.
SET < 2 sec >
※13500 is sample.

CLOCK SETUP MODE
24h CLK
To cycle between "12H" and "24H", press ▲ (UP) or ▼ (DOWN).
12h CLK
If 12H format is selected, "AM" or "PM" is displayed.
SET < 2 sec >

Next, set the current time.
12h CLK
Press ▲ (UP) or ▼ (DOWN) to modify the flashing hour.
12h CLK
Press SET (SET) to fix and go to the minute setting.
12h CLK
Press ▲ (UP) or ▼ (DOWN) to modify the flashing minute.
SET < 2 sec >
NORMAL MODE

FUEL SETUP MODE
Choose "ON" or "OFF". If OFF is selected, the FUEL icon is not displayed in NORMAL MODE.

OFF **dISPLY oFF FEL** ↔ ON **dISPLY on FEL**
To cycle between "ON" and "OFF", press ▲ (UP) or ▼ (DOWN).
SET < 2 sec >

Select one from the following three to display fuel level correctly.
dISPLY 100 FEL
dISPLY 250 FEL
dISPLY 510 FEL
SET < 2 sec >
NORMAL MODE

※You have to choose a suitable one for your bike.
(1) 100 : 100 ohm
(2) 250 : 250 ohm
(3) 510 : 510 ohm

GEAR POSITION SETUP MODE

⚠ Attention
- Before gear setting, both SPEED & RPM SETUP must be done first.
- Either front wheel or rear wheel from which speed pulse is detected must rotate. Set each gear while driving in a safe place.
- During setting each gear, keep 2,500 ~ 5,000rpm with connecting clutch.
- For resetting of each gear, turn the main key off and try again from the start.

type of vehicle		necessary supplied/optional part
equipped with an electrical speed sensor	sensor on rear wheel	nothing needed
	sensor on engine	
	sensor on front wheel	
Without an electrical speed sensor	with mechanical speed cable	magnetic/proximity sensor or speed pulse converter
	without any speed sensor/cable	magnetic/proximity sensor

TOP GEAR & GEAR POSITION SETTING
Select TOP GEAR according to your bike.

[4 SPEED] **toP GER 4** ↔ [5 SPEED] **toP GER 5** ↔ [6 SPEED] **toP GER 6**
SET < 2 sec >

Next, set each gear.

PoSi 12 1
The digit "1" flashes.
Shift in 1st gear and keep 2,500~5,000rpm.
(※Steady rpm amount makes quick/correct setting.)

PoSi 12 –
When 1st gear is recognized, "--" flashes shortly then move to next digit "2" automatically.

PoSi 18 2
Shift in 2nd gear and keep 2,500~5,000rpm until "--" flashes then move to next digit "3" automatically. Continue this operation until the last digit (top gear) is set.

56 6
When the last digit is set and "--" flashes shortly, then the display automatically goes back to NORMAL MODE.

TEMPERATURE1/2/3 SETUP MODE
Select temperature(s) to be displayed.
TEMPERATURE1 ▶ OIL ／ TEMPERATURE2 ▶ WATER ／ TEMPERATURE3 ▶ AIR

[TEMPERATURE1] **SE 1 TMP**
[TEMPERATURE2] **SE 2 TMP**
[TEMPERATURE3] **SE 3 TMP**
SET < 2 sec >

Select ON／OFF
SE 1 TMP ↔ **SE 1 TMP**
ON ... OFF
SET < 2 sec >
If OFF is selected, any temperature will not be displayed.
NORMAL MODE.

Next, select unit, ℃(Celsius) or ℉(Fahrenheit)
TMP ↔ **TMP**
SET < 2 sec >

Next, set the warning temperature.
For TEMPERATURE1(OIL) & TEMPERATURE2(WATER), "OVERHEAT" warning can be set.
For TEMPERATURE3(AIR), "COLD" warning can be set.
When the temperature exceeds/falls the set value, the value will flash.

OVER HEAT WARNING
The programmable warning range is between 0℃(32℉) and 180℃(356℉).
TMP
Press ▲ (UP) or ▼ (DOWN) to modify the flashing number.
TMP
Press SET (SET) to fix and go to the next digit setting.
TMP
Press ▲ (UP) or ▼ (DOWN) to modify the flashing number.
TMP
Continue this operation until the last digit is input.
SET < 2 sec >
NORMAL MODE

COLD WARNING
The programmable warning range is between -10℃(14℉) and 10℃(41℉).
TMP
Press ▲ (UP) or ▼ (DOWN) to modify the flashing area.(blank(plus) or "-" (minus)
TMP
Press SET (SET) to fix and go to the next digit setting.
TMP
Press ▲ (UP) or ▼ (DOWN) to modify the flashing number.
TMP
Continue this operation until the last digit is input.
SET < 2 sec >
NORMAL MODE

TROUBLE SHOOTING

Speed is displayed when the vehicle is standing.
Speed caribration might have failed. Try again.

Speed is NOT displayed
Wire connection of the speed sensor may be incorrect. Check service manual of the vehicle to see if the wires are connected correctly.
By detaching the vehicle's original equipped speedometer, the power-supply to the speed sensor may be cut-off on some vehicles. In that case, connect + 12V to the plus (+) wire of the speed sensor and connect Ground to the minus (-) of the speed sensor in order to activate it.

Be sure the speed calibration is correctly done before use.

Unstable SPEED/RPM display
Be sure the black wire（to ground） is firmly connected to the vehicle's frame. Painting is to be removed from the area where the ground terminal is attached.

RPM is NOT displayed
Try the other way of detection.

RPM is not displayed correctly.
If the RPM is unstable, insert the included "Resistor 1M ohm" into the RPM Pulse line.

Frozen Display
In case the display is frozen, disconnect the red and brown wire of the main unit for a few seconds and connect it again to restart.
Or disconnect the negative wire of the battery to cut the power supply for a seconds, and then connect it again to restart.

The Others
For further help, go to the local dealer where you purchased DEVA01 from.

OPTIONAL PARTS

PT1/8 OIL TEMP SENSOR & EXTENTION WIRE <#89846>

HANDLE-BAR BRACKET & SCREW SET <#89845>

AIR TEMP SENSOR <#89847>

RPM INDUCTION WIRE SET <#87170>

SPEED PULSE CONVERTER
DIA10 INSERT<#87755>
DIA15 INSERT<#87143>
DIA18 PLUG CONNECTION<#87041>
M12 THREAD FEMALE<#87429>
FOR BMW BOXER MODEL<#88457>

RPM PULSE RECTIFIER <#92333>

TWIN SIGNAL SPEED PULSE CONVERTER <#87430>

PROXIMITY SPEED SENSOR <#87038>

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