WTSG / WTS
WATER TEMP

Pivot
STEPPING GAUGE
WATER TEMP-S
SG-WTS／WTSG
USER'S GUIDE (No.003)

Thank you for purchasing our PIVOT STEPPING GAUGE SERIES.
Please read these instructions carefully before installing or using this meter.

SG-WTS/WTSG Features
● Microcomputer controlled stepping motor drive provides highly precise display of water temperature. ● One-touch hold peak function to view highest temperature.
● No need for piping for water sensor; simple wiring to pick up the standard sensors signal.
● Includes U-shaped brace and easy-to-install stand allows freedom in installation.
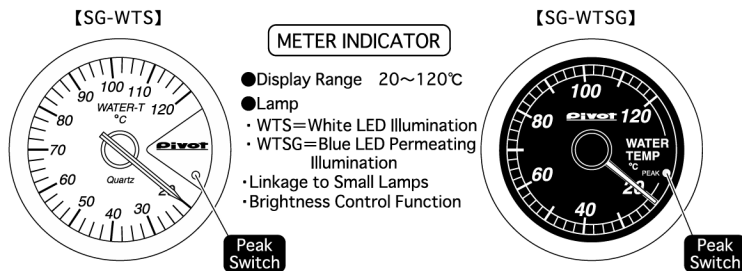● White LED Illumination(WTS). Blue LED Permeating Illumination(WTSG).
【Opening Demo】
By turning the key switch on, the needle will move in a fixed pattern. (searching for the origin)

CONTENTS

Meter	Adjustable Stand	U-shaped Brace	5-pin Coupler Cable	Allen Wrench	Wire Connectors ×4	Double-Sided Tapes ×3
Hex Bolt	Hex Nut	Spring Washer	Knurled Nut	Water Temp. Sensor Signal Diagram	User's Guide	

PART NAMES AND OPERATIONS

<FRONT>

【SG-WTS】

【SG-WTSG】

METER INDICATOR
● Display Range 20～120℃
● Lamp
・WTS=White LED Illumination
・WTSG=Blue LED Permeating Illumination
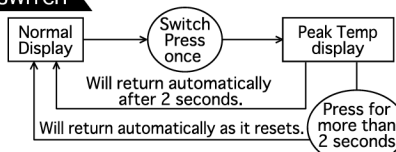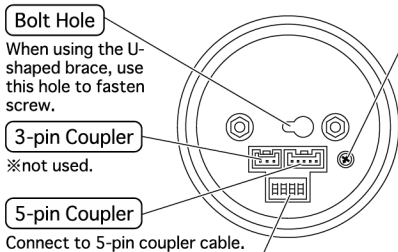・Linkage to Small Lamps
・Brightness Control Function

Peak Switch

The operation method of a PEAK SWITCH

Use to display the peak temperature and for re-setting.

※If the key switch is OFF, the peak data will be re-set.

Normal Display → Switch Press once → Peak Temp display

Will return automatically after 2 seconds.
Will return automatically as it resets.
Press for more than 2 seconds

<REAR> WTS/WTSG common

Bolt Hole
When using the U-shaped brace, use this hole to fasten screw.

3-pin Coupler
※not used.

5-pin Coupler
Connect to 5-pin coupler cable.

Car Model Selection Switch

Change to fit your model car.
(See diagram at below)
① ② ③ ④

TOYOTA/MAZDA	
HONDA	
MITSUBISHI	
NISSAN/SUBARU (other than below)	
IMPREZA (GDB、GGB、GDA、GGA) LEGACY(H13.5～BE5、BH5)	

Meter Brightness Setting Adjustor

Set meter brightness with the small lamps ON.

Bright ◀ 16 steps ➡ Dark

The adjustor goes around with no notches.

< If you wish to adjust several meters to match >
① Decide the brightness you wish to make the standard, check how many steps away that is from the brightest (or darkest) setting.
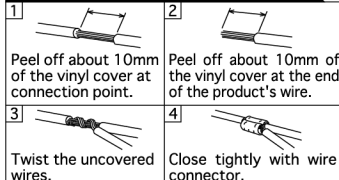② Adjust other meters to match the number of steps away from brightest (or darkest).

⚠ WARNING
Adjust by turning with a narrowly pointed ⊕ screwdriver, being careful not to push too hard.

⚠ WARNING
1. By combining in any manner other than as written above, it will be impossible to set-up.
2. The switch should only be manipulated with a narrow pointed high precision screwdriver.
After making changes, turn the key switch OFF and then ON again.

How to use the Wire Connectors   ※ If soldering is possible, please do so.

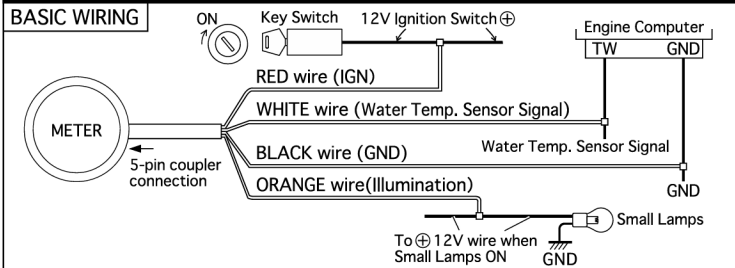| 1	2
Peel off about 10mm of the vinyl cover at connection point.	Peel off about 10mm of the vinyl cover at the end of the product's wire.
3	4
Twist the uncovered wires.	Close tightly with wire connector.

※Use a crushing tool to press the wire connector. If you do not have such a tool, use pliers or such to fold and crush the connector together for a secure contact.
※Loose connections can cause wire to come apart, so please make sure the connection is secure.
Be sure to insulate and secure with vinyl electrical tape.

CONNECTING THE WIRES

BASIC WIRING

ON Key Switch 12V Ignition Switch ⊕
Engine Computer
TW   GND

RED wire (IGN)
WHITE wire (Water Temp. Sensor Signal)
Water Temp. Sensor Signal
METER
5-pin coupler connection
BLACK wire (GND)
ORANGE wire(Illumination)
GND
Small Lamps
To ⊕ 12V wire when Small Lamps ON
GND

⚠ INSTALLATION WARNING
1. For safety purposes, when working on your car always disconnect the ⊖ battery terminal (re-connect to check for power).
2. Make sure that all wire and snap connectors are firmly connected and insulated.
3. Be careful when laying wires not to cause any electrical shorts or wire breakage.

CONNECTION PROCEDURE
1. Securely connect each of the 4 wires from the 5-pin coupler cable.
RED wire (IGN)= Connect using a wire connectors to ⊕12V wire that runs to key switch ON.
ORANGE wire (Illumination)=Connect using a wire connectors to ⊕12V wire that runs to small lamps switch ON.
BLACK wire (GND)= Connect to Ground (GND) as outlined in the [Water Temperature Sensor Signal Diagram]
WHITE wire (TW)=Connect to the engine computer's water temp signal wire. (in the [Water Temperature Sensor Signal Diagram]=TW)

⚠ CAUTION
See the diagram in the [Water Temperature Sensor Signal Diagram] for specifications about where to connect to Ground (GND). Make sure to connect the black wire to only that place specified for your car; connecting to the car body for earth may result in an unstable water temp display.

⚠ NOTE
Connecting the 3-pin coupler from the boost, vacuum, oil pressure, exhaust temperature gauge, or G meter will result in damage or a malfunction.
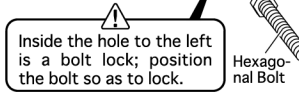
METER INSTALLATION

A Installation with U-shaped Brace
Fasten from the back of the instrument panel.

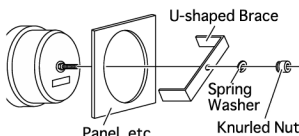1. Fastening the Hexagonal Bolt for Installing the U-shaped Brace
① Insert the six-sided part of the hexagonal bolt into the hole at the back of the case and slide it to the left.

Bolt Hole
Hexagonal Bolt

Inside the hole to the left is a bolt lock; position the bolt so as to lock.

② With the bolt locked in place, screw on the hexagonal nut to tighten.
Hexagonal Nut

2. Installing the Meter
① Insert the meter into the front side of the panel where you wish to install it.
② On the rear side, slide the U-shaped brace onto the hexagonal bolt and securely fasten with the spring washer and the knurled nut.

U-shaped Brace
Panel, etc.
Spring Washer
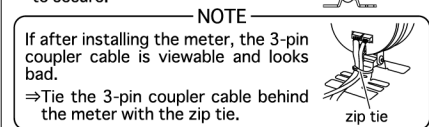Knurled Nut

B Installation with the Adjustable Stand
Fasten to a stable place with the double-sided tape. (On top of the steering column cover or dashboard.)

1. Installing the Adjustable Stand
① Place the stand's holder band around the back of the meter.
NOTE; If you cannot get the band around the meter, loosen the hexagonal bolt and expand the band.

Holder Band
Hexagonal Bolt with Washer

② After getting the band in place, tighten the hexagonal bolt to secure the band.

2. Installing to the Car
① Carefully decide installation place.
② Bend the stand to securely fit the place of installation.
③ Clean the surface; removing all oil or dust.
④ Fasten using the double-sided tape.

Double-sided Tape
Clean to remove oil & dust

⚠ Please be sure about where you wish to install the meter, as it is not advisable to reuse double-sided tape.

⑤ After deciding the position and angle of the meter face, fasten the hexagonal bolts on both sides to secure.

Hexagonal Bolt

NOTE
If after installing the meter, the 3-pin coupler cable is viewable and looks bad.
⇒ Tie the 3-pin coupler cable behind the meter with the zip tie.

zip tie

Troubleshooting   ※Please make the following checks before seeking repair.

Trouble	Possible Causes	Possible Solutions
The opening demo does not work with key switched ON.	● Contact failure of RED wire (IG⊕12V). ● Contact failure of BLACK wire (GND).	Check the wire connections or conditions.
The water temp display does not change.	The Car Model Selection Switch has not been changed.	Change the Car Model Selection Switch to match the Car you are using.
	Contact failure of WHITE wire (Water temperature sensor) .	Check the wire connections or conditions.
The water temp display is incorrect.	The Car Model Selection Switch has not been changed.	Change the Car Model Selection Switch to match the Car you are using.
	After having changed the Car Model Selection Switch, the engine key switch was not turned OFF.	Turn the key switch OFF and then ON again.
Even with the small lamps ON, the meter light does not come on.	Contact failure of ORANGE wire (Small lamps ON⊕12V).	Check the wire connections or conditions.
	The brightness is set at the darkest setting.	Turn the adjustment switch to the left to adjust the brightness.
The illumination color is slightly different from other meters.	This is due to a variance in the LED and is not a malfunction. Please be aware that we cannot perfectly match the color.	
The needle stops at the key OFF position.	This is a characteristic of the stepping motor and is not a failure or breakdown. If after the opening demo with the key ON, the water temp display reads correctly (under 20℃ the display reads 20℃) the meter is working properly.	