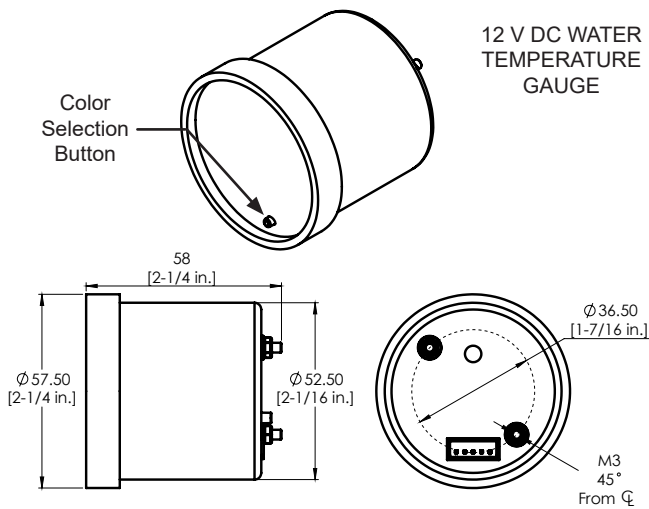


TINTED WATER TEMPERATURE GAUGE



12 V DC WATER
TEMPERATURE
GAUGE

The safety instructions provided in this manual are not intended to cover all possible conditions and practices that may occur when operating, maintaining and cleaning the product.

Always use common sense and pay particular attention to all DANGER, WARNING, CAUTION, and NOTICE statements of this manual.

WARNING SYMBOLS AND DEFINITIONS:



Safety Alert Symbol. Alerts you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.



DANGER Indicates a hazardous situation which WILL result in death or serious injury.



WARNING Indicates a hazardous situation which COULD result in death, serious injury, or damage to personal property.



CAUTION Indicates a hazardous situation which could result in minor, or moderate injury.



Read and understand these instructions and safety warnings prior to using this product. Keep for future reference.



UNPACKING & INSPECTION: When unpacking, please inspect the product carefully to ensure the product is intact and undamaged. If any parts are missing or broken, please call 1-800-386-0191 as soon as possible. **Package contents:** Temperature Gauge, 1 pc.; Gauge Bracket, 1 pc.; Bracket Fasteners, 1 set.; 4-Wire Cable Pigtail, 1 pc.; Temperature Sensor, 1 pc.; Bullet Terminal Connector, 1 set;



WARNING Do not operate this product if damaged during shipment, handling, or after misuse.



WARNING Installation and service of this equipment should be performed by competent and qualified personnel.

Improper installation, adjustment, alteration, service, or maintenance can cause injury or property damage. For assistance, or additional information, consult a qualified service technician, service agency, or your vehicle dealer.



WARNING Do not install this product or route any wires in the deployment area of an air bag. Equipment installed in the air bag deployment area will reduce the effectiveness that could cause serious injury or death. Refer to your vehicles owner's manual or contact your vehicle manufacturer for information about the air bag deployment area.



WARNING Disconnect the NEGATIVE (-) battery terminal from the vehicle battery prior to starting any work.



WARNING Before drilling or making any cuts, check behind the panel to ensure there is enough depth to accommodate the gauge, and that there are no obstructions such as electrical wiring, wiring harnesses, connectors, hoses, or other objects that may prevent proper installation.

INSTALLATION

Spend some time to consider the best installation location and the position of the gauge before performing any drilling or cutting.

The outside diameter of the gauge housing is 2-1/16 in. (52.5mm), and

the ideal hole size to mount the gauge is 2-1/8 in. (54 mm). The ring around the gage face is 2-1/4 in., which means there will only be about 1/16 in (1.5 mm) of overlap -- **it is important to make the hole as accurate as possible** using a knockout punch and die (recommended) or hole saw.

The gauge depth is 1-7/8 in. (48 mm). Allow a minimum clearance behind the panel of 2 in. (50.8 mm), and preferably more to be able to access the wiring connector.

The Gauge Bracket is used by installing the two stanchions onto the threaded fasteners at the back, installing the gauge to the panel, then from the rear of the panel installing the bracket onto the stanchions and securing with the washers and nuts. Do not over-tighten. It may be necessary to modify one or both bracket legs to fit the thickness of the panel.



WARNING When routing wires, check that the wire is not near sharp edges or parts that will move or become hot.

Always use a rubber grommet when passing through any holes in metal to protect and insulate the wires, and to prevent short circuits. Ensure wires are securely held in place, and prevent wires from dangling or moving by using adhesive cable tie mounts, cable ties, and/or electrical insulation tape.



CAUTION If additional wire is needed, use wire with the same color as the wire being extended, and ensure the wire size is at least 18 AWG. Splice wires using appropriately sized, end-to-end crimped or soldered bullet or butt connectors with heat shrink tubing to help prevent corrosion or short-circuits.



CAUTION For this product to operate at optimum efficiency, a good electrical connection to chassis ground must be made. It is recommended that the product ground wire (BLACK wire on the Wire Cable Pigtail) be securely fastened to a solid, uncoated metal surface connected to the vehicle chassis using a ring type terminal connector and bolt.

CONNECTING THE WIRING:

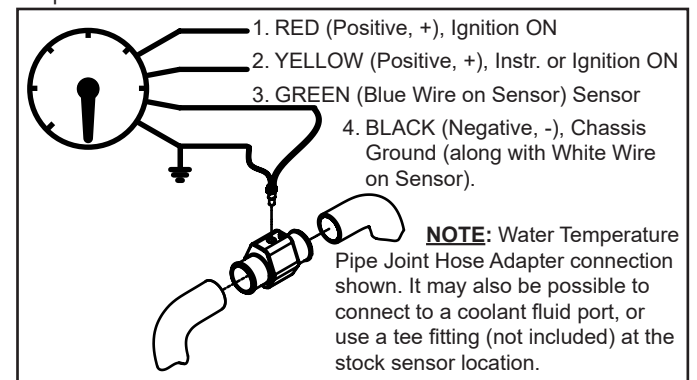
After testing for the correct power source as described below, ensure the NEGATIVE (-) terminal of the battery is disconnected when making connections. There are three wires on the Wire Cable Pigtail to be connected to the vehicle:

RED WIRE - Connect this wire to the a positive (+) 12 V DC source connected to the Ignition ON switch. Use a multimeter to check that the power is OFF when the ignition switch is OFF, and ON when the ignition switch is ON. Connecting to the fuse box using a fuse tap is recommended. A 1-Amp fuse is recommended, if using a fuse.

YELLOW WIRE - Connect this wire to a dimmable instrument wire if dimming is desired. If dimming is not desired, connect this to a positive (+) 12 V DC Source connected to the Ignition ON switch, or to the RED WIRE.

BLACK WIRE - Connect this wire to a solid, uncoated metal surface that is connected to the vehicle chassis using a crimped or soldered ring type terminal connector and bolt. Ensure the connection is tight and will not become loose.

GREEN WIRE - Connect this wire to the BLUE WIRE on the Temperature Sensor.



CONNECTING THE TEMPERATURE SENSOR:

The included temperature sensor has a 1/8-27 NPT thread. Depending on the method you choose to install the sensor, you may need a thread adapter (not included) to fit the sensor to your vehicle.

Temperature Sensor installation methods:

1. **Unused coolant port.** Some vehicle engines may have an

unused coolant fluid port that can be utilized for installing a temperature sensor. This is the preferred connection method. Check your vehicle service manual or contact your vehicle manufacturer to find out if your engine has an unused port.

2. Existing Temperature Sensor port. If your vehicle has an existing temperature sensor, it may be possible to use a tee fitting (not included) and share the port where the existing temperature sensor is installed.

3. Use a Water Temperature Sensor Pipe Joint Hose Adapter.

As a final alternative, use a properly sized aftermarket Water Temperature Sensor Pipe Joint Hose Adapter. This adapter is designed to be installed where the radiator hose is cut and provides a port for the sensor to be installed. Follow the installation and safety instructions provided with the aftermarket adapter to install. Ensure that the both the adapter and the white wire on the sensor have a good connection to chassis ground.

When installing the temperature sensor, be sure to use a sealing paste or teflon tape on the tapered threads. Use a 12mm wrench to tighten 1/2 to 1 turn past hand tight or until any leakage just stops. DO NOT OVER-TIGHTEN.

OPERATION

Each press of the Color Selection Button will allow you to change between colors.

NOTE: Due to the variances in connections, temperatures, and pressures, the voltage gauge may not provide an exact measurement of the vehicle voltage. These variances and inaccuracies may cause the gauge value to be off by up to +/-15% in extreme cases.

MAINTENANCE

CLEANING:

Some cleaning agents and solvents are harmful to plastics. Use mild soap and a soft damp cloth to clean the lens on the gauge.

TROUBLESHOOTING:

If the gauge fails to respond, try these first:

1. Check that the Ignition switch is ON.
2. Check any fuse in the circuit has not opened (blown).
3. Check that the ground connection is clean, secure, and connected to the negative battery terminal.
4. Check that there are no other loose connections.

DISPOSAL:

Recycle at the appropriate facility.

Contact your local municipality for a list of disposal facilities or by-laws for electronic devices, batteries, oil or other toxic liquids.

90 DAY LIMITED WARRANTY

StarAsia-USA, LLC (hereinafter "seller") warrants to the original purchaser only, that this product will be free from defects in material or workmanship for a period of 90 days from date of purchase for home domestic use.

Warranty Performance

Warranty coverage is conditioned upon purchaser furnishing seller or its authorized service center with adequate written proof of the original purchase date. Products returned, freight prepaid and insured, to our factory or to an Authorized Service Center will be inspected and repaired or replaced, at seller's option, free of charge if found to be defective and subject to warranty. Defective parts not subject to normal wear and tear will be repaired or replaced, at our option during the above stated warranty periods. In any event, reimbursement is limited to the purchase price paid. Other than the postage and insurance requirement, no charge will be made for repairs or replacements covered by this warranty. Under no circumstances shall the manufacturer bear any responsibility for loss of the unit, loss of time or rental, inconvenience, commercial loss or consequential damages. There are no warranties which extend beyond the description of the face hereof.

Exclusions

This warranty does not cover parts damaged due to normal wear, abnormal conditions, misapplication, misuse, abuse, accidents, operation at other than recommended pressures or temperatures, improper storage of freight damage. Parts damaged or worn by operation in dusty environments are not warranted. Failure to follow recommended operating and maintenance procedures also voids warranty. Additional items not covered under warranty: product failure caused by rain, excessive humidity, corrosive environments or other contaminants; cosmetic defects that do not interfere with product's functionality. This warranty shall not apply when: the product has been used for commercial or rental purposes; defects in materials or workmanship or damages result from repairs or alterations which have been made or attempted by others or the unauthorized use of nonconforming parts; this damage is due to abuse, improper maintenance, neglect or accident; or the damage is due to use of the product after partial failure or use with improper accessories. Warranty does not apply to accessory items. Seller will not be liable for: labor charges, loss or damage resulting from improper operation, maintenance or repairs made by persons other than a Star Asia-USA, LLC Authorized Service Center. The use of other than genuine Star Asia-USA, LLC repair parts will void warranty.

Warranty Disclaimers

NO WARRANTY, ORAL OR WRITTEN, OTHER THAN THE ABOVE WARRANTY IS MADE WITH REGARD TO THIS PRODUCT, ANY IMPLIED WARRANTIES OF SELLER REGARDING THIS PRODUCT INCLUDING BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE EXCLUDED. BUYER'S OR USER'S REMEDIES ARE SOLELY AND EXCLUSIVELY AS STATED ABOVE. STARASIA-USA, LLC SHALL IN NO EVENT BE LIABLE FOR INCIDENTAL, CONSEQUENTIAL, INDIRECT, OR SPECIAL DAMAGES. IN NO EVENT, WHETHER AS A RESULT OF A BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE) OR OTHERWISE, SHALL SELLER'S LIABILITY EXCEED THE PRICE OF THE PRODUCT WHICH HAS GIVEN RISE TO THE CLAIM OR LIABILITY. ANY LIABILITY CONNECTED WITH THE USE OF THIS PRODUCT SHALL TERMINATE UPON THE EXPIRATION OF THE WARRANTY PERIODS SPECIFIED ABOVE.

Limitations on Warranty Disclaimers

Any implied warranties shall be limited in duration to 90 days from the date of purchase. In some states of the U.S.A. and in some provinces of Canada there is no limitation for how long an implied warranty is valid, so the aforementioned limitation may not apply to you. In no event shall a seller be liable for any incidental or consequential damages (including but not limited to liability for loss of profits) arising from the sale or use of this product. In some states of the U.S.A. and in some provinces of Canada the exclusion or limitation of incidental or consequential damages is not allowed, so that aforementioned limitation or exclusion may not apply to you.

This Limited warranty gives you specific legal rights, and you may also have other rights which vary from state to state in the U.S.A., Canada and the Commonwealth of Puerto Rico. For warranty coverage within other countries, contact your local star Asia-USA, LLC dealer or importer.

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