Quick Guide for VDO Water/Oil Temperature Sensor

Version 1.1 (July 2021)

The Compatible VDO Temperature Sensor

Only the 50°C to 150°C temperature sensors made by VDO can be read by Aube's automotive gauges (SYL-1813 and SYL-1813-MR). This category of VDO sensors are thermistors with negative temperature coefficient (NTC). Their resistance values decrease from 323 ohm to 18 ohm as the temperature increases from 50°C to 150°C. Auber's gauge will measure the resistance value of the VDO sensor and convert it to the corresponding temperature value.

Wiring

1. Connect the VDO temperature sensor to Auber's automotive gauge as shown in Figure 1. For a VDO sensor that has only one pole on the top, the sensors' shell serves as the common ground as well as the other pole for measuring the sensor's resistance. Connect the top pole and the shell of the VDO sensor to the gauge's terminal 7 and 8. There is no polarity in wiring to these two terminals.

    Note: Some VDO temperature sensors have two poles. Please consult the sensor's manual for details.

2. Add a short piece of jumper wire between terminal 6 and 7 on the gauge.
3. Connect the gauge to a 12VDC power source. The gauge's terminal 1 should be connected to the positive of the 12VDC power.
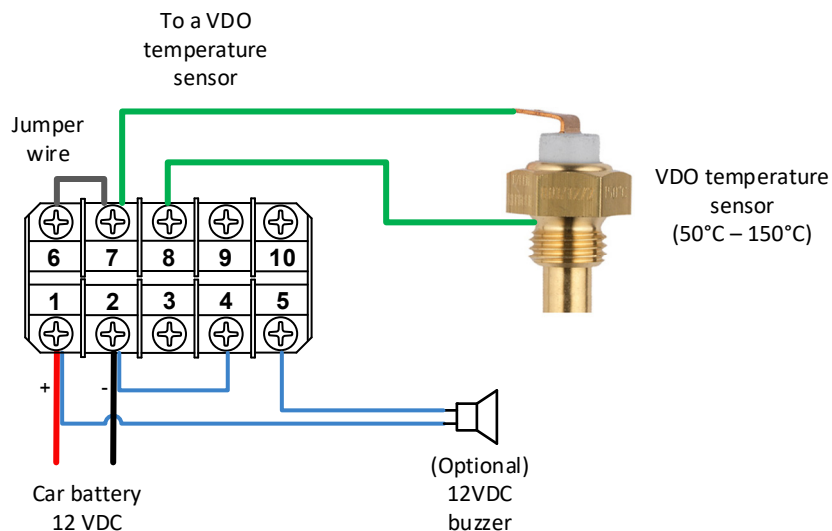

Figure 1. Connect a VDO temperature sensor to a SYL-1813 gauge.

Settings on the Gauge

1. Change the sensor input type.
    In the 0089 menu, change the sensor input type INTY (*IntY*) to VDO (*Udo*).

2. (Optional) Adjust the temperature unit.
    If you prefer to show the temperature reading in Celsius or in Fahrenheit, adjust the CorF ($\complement$ $\square$ $\ulcorner$ F)
    settings in the 0089 menu. Set CorF = 0 for Celsius; set CorF = 1 for Fahrenheit.

3. (Optional) Adjust the alarm settings.
    If you want to set up a high temperature alarm on the gauge, adjust the AH1 and AL1 values in the 0001
    menu. Just for an example, if you want to set a high alarm at 110°C with 2 degrees hysteresis band, set
    AH1 = 110, AL1 = 108. Then the buzzer should go off if temperature goes above 110°C and stops when
    the temperature drops below 108°C

Additional Tips

A. Wiring to the shell of the VDO sensor.
    As there is no wiring terminal on the shell of the VDO sensor, you can install ring terminal as shown in
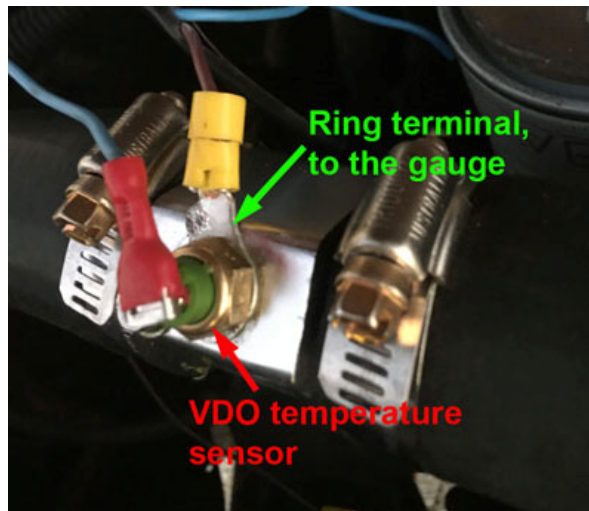   the picture below.

Figure 2. Install a ring terminal connector to the VDO sensor.

B. If the gauge shows EEEE.
    - Double check if the INTY is set to VDO, if wiring is correct, if any wire is loose or broken, and if
      there is a jumper wire.
    - Check the resistance value directly from the VDO sensor. If the resistance value is either lower
      than 17 ohms or higher than 360 ohms, the signal is out of the valid input range. The table
      below shows a few testing points.

Input Resistance (ohm)	Displayed Temperature on SYL-1813 (°C)
16.00	EEEE
17.00	153
18.00	151
20.00	147

40.00	116
60.00	101
80.00	91
100.00	85
150.00	84
200.00	65
250.00	59
300.00	54
350.00	49
360.00	48
370.00	EEEE

(End)

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