Supplementary data 1: Timer trigger modification diagram
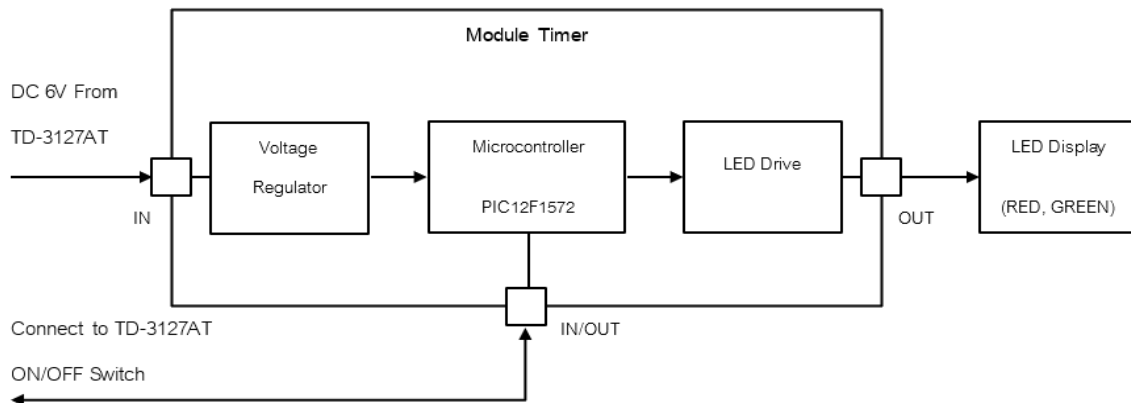
Timer Block Diagram

Working principle of the Timer module

The module can be set to automatically trigger the pressure gauge at two intervals: every 15 minutes or every 30 minutes. The timer can be set by pressing the ON/OFF button on the TD-3127AT, time can be set as follows.

1. While the TD-3127AT is powered off, press the ON/OFF button on the TD-3127AT 2 times, the green light on the pressure gauge will flash and stay on for 1 second. The TD-3127AT will automatically shut down and measure the pressure automatically every 15 minutes.

2. While the TD-3127AT is powered off, press the ON/OFF button on the TD-3127AT 3 times, the green light on the pressure gauge will flash and turn solid red for 1 second then the TD-3127AT will turn itself off and will automatically measure the pressure every 30 minutes.

3. To cancel the timer, while the TD-3127AT is off, press the ON/OFF button on the TD-3127AT 3 times, the red light on the pressure gauge will stay on for 2 seconds then the TD-3127AT will turn itself off and cancel the timer set.

Installing the Timer Module to the TD-3127AT Pressure Gauge

Instruction on how to install the Timer Module to the TD-3127AT Pressure Gauge. The module is installed inside the pressure gauge by

1. Connect the battery cable of the pressure gauge to the Timer module to use as a power supply to the module.
2. Connect the signal cable from the timer module to the pressure gauge's ON/OFF switch to receive the user's setting information and act as a trigger for the pressure gauge to work on a set time.

The Timer module is designed with the dimensions of 25 mm x 13 mm x 1.6 mm so that it can be installed inside the TD-3127AT pressure gauge.