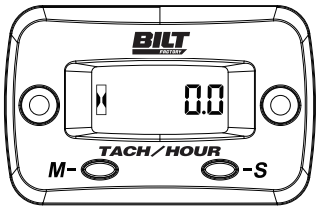


**BILT**  
FACTORY

# SELF POWERED DIGITAL TACH / MAINTENANCE / HOUR METER



Please read and understand all instructions before operating your Hour Meter.



## Notice

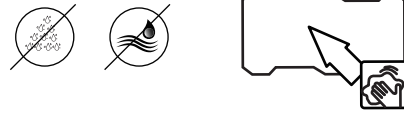
1. Please make sure to refer to the installation instructions to avoid damage to the Hour Meter.
2. Do not pull the wiring on this unit as too much tension can cause damage to the unit.
3. When mounting the unit be sure to avoid locations that are prone to impacts and excessive heat.
4. The unit should not be submersed in water for extended periods of time.

## PRODUCT INSTALLATION

### Product Installation

#### 1. Double-sided tape installation:

Please make sure the surface area is clean and free from dirt and oil. We recommend cleaning the mounting area with isopropyl alcohol.

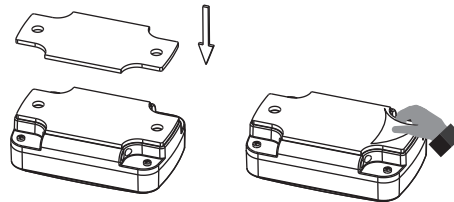


b) Remove protection from double-sided tape.

**Note:** When removing the double-sided tape protector, make sure that the double-sided tape is not exposed to water or oil on both sides.

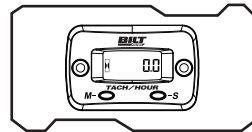
c) Stick the double-sided tape on the back of the product.

**Note:** Before pasting the double-sided tape, please make sure the back of the product is clean and tidy, without moisture or grease.



d) Fix the tach hour meter in a proper position.

**Note:** Before pasting the double-sided tape, please confirm that the pasted place is clean and tidy, no moisture or oil.



#### 2. Screw installation:

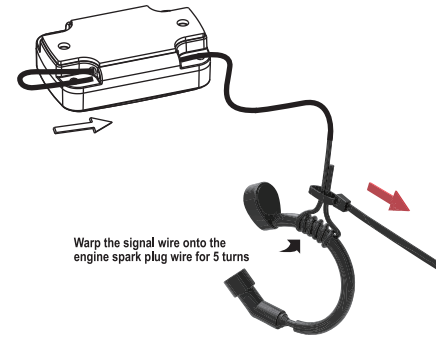


- a) The design allows for surface mount.
- b) Choose a location where the pick-up wire (included) will reach the meter to the spark plug.
- c) Install with screws as the below diagram.

**NOTE:** This unit can also be mounted via the aluminum mount (part # 328816) sold separately. Make sure to pick a good location to mount the Hour Meter. Avoid excessive heat, exhaust, engine, or areas prone to impact.

#### 3. Signal wire installation:

- a) **Connect product sensing area:** Pass one end of the single wire through one of the sensing holes and insert the sensing wire into another sensing hole.
- b) **Signal wire connection:** Wrap the other end of signal wire around the spark plug, wrap it 4 to 5 turns, and fasten it with a cable tie to ensure it is effectively fixed and will not loosen. (If the connection is not strong, the tachometer will get insufficient signal, then the RPM and hour values will be inaccurate.)



#### Note:

- a) For traditional ignition modes, wrap signal wire 4 to 5 turns tightly around the engine spark plug wire.
- b) For "pencil coil" ignition, wrap signal wire around the plastic coil above the spark plug.
- c) The spark plug signal generated by different engine types has the difference of strength and weakness. By adjusting the turns of winding, the appropriate adjustment can be made to improve the accuracy of the RPM and timing data. This is a skill that different degree spark plug signal that allows the induction wire to acquire.
- d) Under normal condition, if the RPM is a little low, you can increase the winding turns, if the RPM is a little high, you can reduce the winding turns. For example, wrap 6-10 turns, if the RPM is a little high, you can reduce the winding turns. For example, wrap 2-4 turns, if the RPM is a little low, you can increase the winding turns.

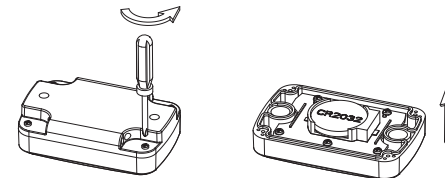
#### 4. The test after the connection:

Start the engine, the LCD of the tach hour meter displayed the RPM and timing, which means the connection is correct. If the RPM is inaccurate, please refer to clause 3 to adjust the turns of the winding, or set the type of the engine (more information will be provided in the following instructions).

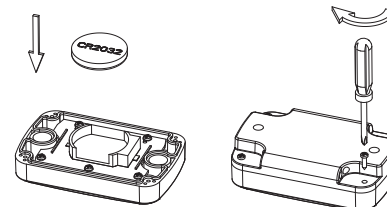


#### 5. Battery replacement

- a) Use a screwdriver to open the back cover.
- b) Install a new battery.



- c) Install or check that the seal is good.
- d) Secure the back cover with a screwdriver.



## PRODUCT USAGE

### 1. Hours— Total hours of operation.

- TOT time can not be reset.
- The TOT time max value is 99999; When the total timing range is 0.0-9999.9H, the timing accuracy is 0.1H; When the total timing exceeds 9999.9H, the timing accuracy is 1H.
- When the total time exceeds 99999 hours, the timing will restart from 0.



### 2. TMR1— Hours of operation since the timer was reset.

- To view "TMR1" time: Press the "M" button once to view the TMR1 time.



Press the button once

- To reset "TMR1" time: Press and hold the "S" button until display shows "00000", then release the button, the "TMR1" display will reset to "0.0", and you will begin to record the next job interval.



Press and hold the button



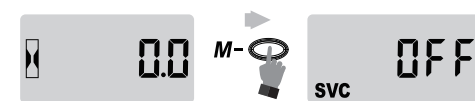
### 3. SVC— Maintenance interval time.

**Note:** Timing is countdown.

- When the maintenance interval time is reached, and the LCD display will flashing, then press the button to clear the status, the next maintenance interval time starts timing.

#### ■ Programming SVC time:

- a) Press the "M" button twice to get the "SVC OFF" display.



Press the button twice

- b) Press and hold the "S" button until display shows "OFF" icon start flashing, release and press "M" or "S" button until you get desired numerical value.
- c) Release the button and wait for 10 seconds and display will return to total hours (The setting of SVC timer is completed)
- d) The SVC time setting range is 0-2000H. If the time is set to OFF, which means the SVC function is closed.



Press and hold the button

4. RPM— Typical RPM display during operation of the engine.

- When the tach hour meter detect the engine spark plug signal for more than 1s continuously, the LCD will display the current RPM of the engine.
- The RPM will be refreshed every 0.5s.
- The RPM can be programmed for different pulses per revolution; Different programming setting will get different RPM.

■ **Programmable firing patterns**— Determined the amount of pluses(sparks) per engine revolution.

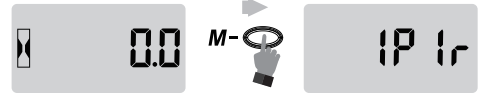
This product provides 9 programmable firing patterns, which can be selected according to the corresponding relationship in the form below.

Engine firing patterns	Engine type	Spark plug firing and engine rotate laps	RPM Capacity
1P1R	4 stroke 2 cylinder	1 spark per revolution	25000
	2 stroke 1 cylinder		
1P2R	4 stroke 1 cylinder	1 spark 2 revolution	25000
2P1R	4 stroke 4 cylinder	2 spark per revolution	15000
	2 stroke 2 cylinder		
3P1R	4 stroke 6 cylinder	3 spark per revolution	10000
	2 stroke 3 cylinder		
3P2R	4 stroke 3 cylinder	3 spark 2 revolution	20000
4P1R	4 stroke 8 cylinder	4 spark per revolution	7500
5P2R	4 stroke 5 cylinder	5 spark 2 revolution	12000
6P1R	4 stroke 12 cylinder	6 spark per revolution	5000
	2 stroke 6 cylinder		
8P1R	4 stroke 16 cylinder	8 spark per revolution	3750

**Note:** Some 4 stroke 1 cylinder engine is 1P1R, the setting is the same way as the 2 stroke 1 cylinder engine.

■ **To set the tachometer (Spark plug firing revolution):**

- a) Press the "M" button 4 times until display shows "1P1r" icon.



Press the button 4 times

- b) Press and hold the "S" button until display shows "1P1r" icon start flashing, release and press the "M" or "S" button to toggle through all engine firing patterns setting.
- c) Stop at correct firing pattern setting for your engine.
- d) Wait for 10 seconds and display will return to display total hours. (The setting of firing patterns is completed)



Press and hold the button

**Note:** If the obtained RPM is not accurate, for example, the RPM is half of the actual RPM, you can adjust it by programming the firing patterns.

5. 2 RPM— Display the maximum RPM recorded.  
During the last period of operation.

- a) **To view MAX RPM:** Press the "M" button for 3 times until display shows the "2 RPM".
- Note:** After the external signal is cut off, Display will be flashed and showed historic MAX RPM value 5S, then return to display total hours.



Press the button 3 times

- b) **To reset MAX RPM:** Press and hold the "S" button until display shows RPM "00000", MAX RPM is reset.



Press and hold the button

6. Hour meter initial time setting— You can program a start hours (old hour meter data) to replace an old hour meter

- a) Press the "M" button 6 times until display shows "h-SEt" icon.



Press the button 6 times

- b) Press and hold the "S" button until the last digit in "0000,0" starts to flash, release and press "S" button to get the number you want, then press the "M" button, the next digit will start to flash, press the "S" button to get the number you want, repeat this operation until the setup is complete.
- c) Release the button and wait for 10 seconds and display will return to total hours. (The setting of the hour meter initial time is completed)



Press and hold

Press



Press

**Note:** The initial time setting will not be set again after 1 hour of engine operation.

7. Record the times of engine starts.

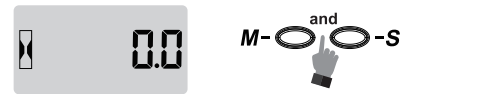
- Press the "M" button 5 times until to get the number at the display screen indicates the number of engine starts.



Press the button 5 times

8. To shut down LCD display.

- a) Press the "M" and "S" button at the same time until the "OFF" icon displayed on the screen, then release the button and the LCD display will shut down automatically.
- b) Once detect the continuous engine signals within 8 seconds, or press the "M" or "S" button again, the LCD screen will be displayed.
- c) When LCD screen is closed, the historical data will be retained and will not be cleared.



Press and hold



9. Replace battery reminder.

- When the flashing "bt-Lo" icon appears on the display screen, it indicates the low battery, which needs to be replaced.
- After replacing the battery, the previous data will be retained.



ITEM NAME	PARAMETERS
Product model	328814
Product type	Inductive Tach Hour Meter
TOT hours range	0-99999H
TOT initial time range	0-99999.9H
TMR1 hours range	0-99999H
SVC hours range	0-2000H
RPM range	0-25000RPM
Firing patterns	1P1R 1P2R 2P1R 3P1R 3P2R 4P1R 5P2R 6P1R 8P1R
Working times range	0-99999
Battery type & capacity	CR2032 210mAh
Display window size (viewable)	25x12.7mm
Housing material	ABS
External dimensions	57x36.5x17.3mm
Weight	57g
Waterproof rate	IP67



