



● Thanks for purchasing our Lap Timer system. Before operating this system, please read carefully the instruction sheet and retain them for future reference.

**⚠ Notice**

- 1- The lap timer meter has been designed to work with a CR 2032 battery and with the 12 volts DC battery of the vehicle. The beacon work with 1.5 volt batteries (C type) or with a external 12 volts DC battery.
- 2- For proper installation, follow the steps describes in these instruction sheets. Any damages caused by wrong installation shall be imputed to the user.
- 3- Do not disassemble or change any parts.
- 4- To avoid short circuit, do not pull the power wires out of the mid-way connectors.
- 5- The interior examination or maintenance should be executed by our professionals only. Opening the instrument or beacon will void the warranty.

**MARK MEANING:**

**NOTE** Some procedures must be followed to avoid damage to the instrument.

**⚠ WARNING!** Some procedures must be followed to avoid injuries to yourself and others.

**⚠ CAUTION!** Some procedures must be followed to avoid damages to the vehicle.

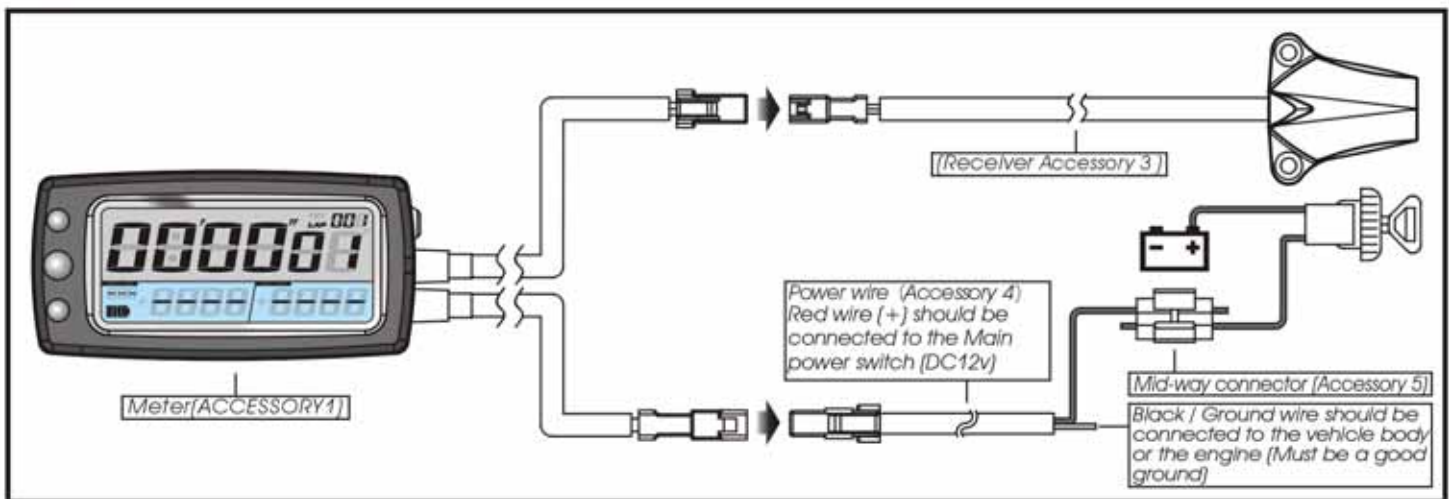


**1-1 Accessories**

<p><b>1</b> Meter X 1</p>	<p><b>2</b> Beacon X1</p>	<p><b>3</b> Receiver X1</p>	<p><b>4</b> Power wire X 1</p>
<p><b>5</b> Mid-way connector X 2</p>	<p><b>6</b> Velcro X 1</p>	<p><b>7</b> Battery X1</p>	<p><b>8</b> Beacon power wire X 1</p>

**NOTE** Contact your local distributor if the items listed above are not the same as the one received.

**2-1 Wiring installation instructions**



### 3-1 Features

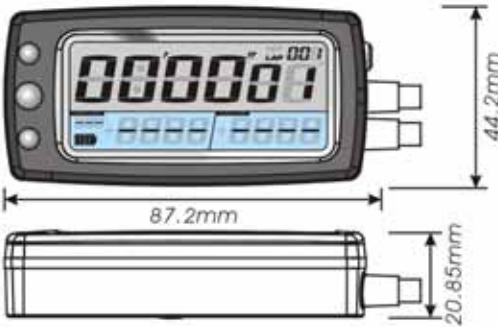
- Total Time: 0~9:59:59" or
- Time of Single Lap: 0~99:59:59"
- Indicator Light for Best Single Lap (Red Light)
- Indicator Light for Sensor Detection (Red Light)
- Battery indicator**
  - Symbol will display 4 segments when the battery is full.
  - When the external power is connected, the battery symbol will disappear.



- Total Number of Laps: 1~200 Laps
- Current Lap: 1~200 Laps
- Best Lap: 1~200 Laps

- Time difference with Best lap: 00'00~+99'99
- Time difference with Last lap: -99'99~+99'99

### 3-2 Setting instruction for meter

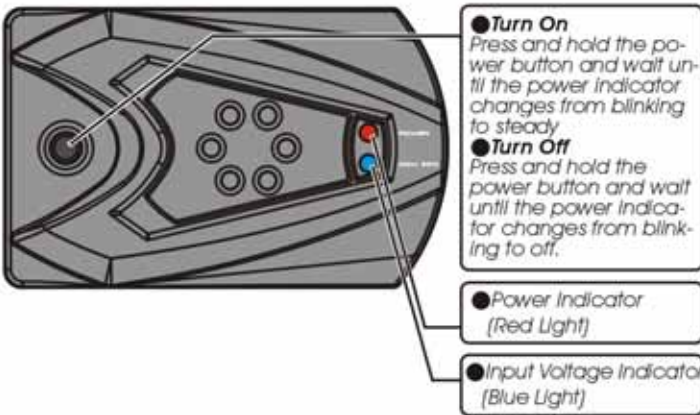


- Total Time of Total Laps: 0~9:59:59"
- Single Lap Time: 0~99:59:59"
- Display Time of Single Lap Timing: 2~20 sec
- Total Number of Laps: 1~200 Laps
- Best Lap Display: 1~200 Laps
- Time Difference with Best Lap: 00'00~+99'99
- Time Difference with Last Lap: -99'99~+99'99
- Display Time of Recorded Single Lap: 3~20 sec
- Battery Status Display
- Indicator light for best single lap (Red Light)
- Indicator light for Sensor Detection (Red Light)

**NOTE** Design and specifications are subject to change without notice!

**NOTE** In the setting screen, the meter will automatically go into the main screen if no button is pushed after 30 seconds

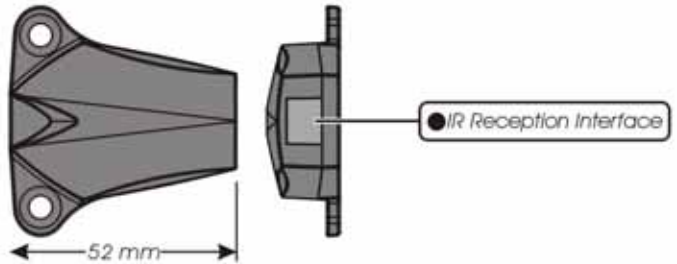
### 3-3 Beacon



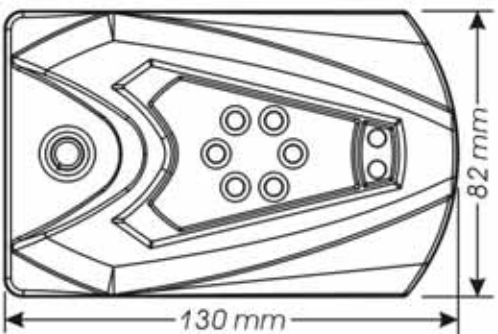
- **Turn On**  
Press and hold the power button and wait until the power indicator changes from blinking to steady
- **Turn Off**  
Press and hold the power button and wait until the power indicator changes from blinking to off.

- Power Indicator (Red Light)
- Input Voltage Indicator (Blue Light)

### 3-4 Receiver



### 3-5 Setting instruction for Beacon



- **Input Power**
  - Battery (C/LR 14x4): Power Indicator Off
  - External Power (DV 12V): Power Indicator Always On
- **Working Voltage: 5V~13.5V**
  - 11~14.5V Full power — 40m (Blue light on)
  - <11V Half power — 20m (All light off)
  - <4.9V Low power — ineffective (Blue light flash) (Voltage tolerance ±0.5V)
- Over voltage protection, the beacon will switch off automatically when the voltage is over 14.5V

### 3-6 Battery replacement for meter

**A**

Metal clip

CR 2032 Battery

**B**

- After opening the battery cover, use a flat head screwdriver to take the battery out.

**NOTE** Use proper tool to take out the battery to avoid breaking the battery clip.

### 3-7 Battery replacement for Beacon or external power connection

**A**

- Remove the 2 screws.
- Open lid and change the 4 x C-type batteries.
- Connect the power wire 130mm.
- Close the lid and secure the 2 screws.

**A-1**

**A-2**

**B**

- Remove the 2 screws and lid.
- Connect the external power wire (Accessory B) into the Beacon and on a 12 V DC battery.

### 3-8 Set up position for Beacon and Receiver

Receiver

Beacon

Beacon and Receiver must be installed at the same height.

- Install the Beacon on the side of the track using a stand.
- Install the Receiver on the vehicle.

**Correct position for Receiver & Beacon**

**Correct !!**

**WRONG !!**

**NOTE** Do not put the Beacon and Receiver in different direction, otherwise the Receiver won't catch the signal.

### 4-1 Turning On and Off the Unit

**● Turn On**

- Briefly press the button once to enter the timing screen.

**● Timing screen**

- If no operation is executed once the timing screen appears, the unit will turn off automatically.

**● Turn Off**

- Turn Off.

## 4-2 Timing session

### ● Timing screen



- Meter start timing once the Receiver cross the Beacon signal for the first time.



000000

000000



- Meter stop timing the first lap once.



- The Receiver cross the Beacon again.

000096

000097

000098



- The meter display the recorded Lap for about 10 sec.



- NOTE** The displayed time of the single lap can be set according to your needs. Refer to the section 4-3 in order to change the displayed time.

002097

002098

002099



- After about 10 sec., the meter go back automatically to the cumulative time and lap.



- Meter will display the lap time for about 10 sec., each time the Receiver cross the Beacon (up to 200 laps)

000648

000648

000648



- Briefly press the button once to stop timing. Meter will automatically shut off after a while.



- Briefly press the button once to check all single lap recorded.



- Press and hold the button for 3 sec. to return to the timing screen.



- Timing screen.

## 4-3 Clear ALL Recorded laps

### ● Timing screen



- In the timing screen, press and hold the button for 3 sec to enter the screen that clears all recorded laps.

### ● Clear all single lap records



- Briefly press the button once to clear all recorded laps and return to the test screen.

ALL CLR → CLR run

- NOTE** If you do not wish to erase the recorded laps. wait for 5 sec or press and hold the button for 3 sec to return to the timing screen



- Timing screen.

## 4-4 Setup screen

### ● Timing screen

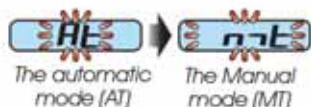


**NOTE** Press and hold the button for 6 sec. to enter The setting screen (SET-1)

### ● Timing Method Auto IR (AL) / Manual External Buttons (MT)



- Briefly press the button once to switch from the automatic mode (AL) to the manual mode (MT). The automatic mode (AL) allows to use the receiver and beacon to register the lap time. The manual mode (MT) allows to connect a thumb switch instead of the receiver in order to register manually the time (the beacon can't be used in this mode).



- Press and hold the button 3 sec to switch from SET-1 to SET-2.



### ● Interval time



- Set the interval time (range from 2 to 20 sec) by pushing briefly the button. The interval time control the minimal time the meter is allowed to pick up the signal from the beacon.  
EX: If the interval is set at 10 sec, the meter won't be able to register any time even if he cross the beacon again within 10 sec.



- Press and hold the button 3 sec to switch from SET-2 to SET-3



### ● Display Time



- The display time function allows to change the amount of time (from 5 to 20 sec) the recorded lap will be displayed on the meter while recording. EX: If the the display time has been set at 10 sec, the meter will display on the screen the last lap recorded for 10 sec before it goes back into the cumulative time.



- In order to get the last lap recorded always on the screen until the receiver cross again the beacon, enter OND OND in the display time setting mode.

- Press and hold the button 3 sec to switch from SET-3 to SET-4



### ● Lap Time Display



- The lap time display setting allows to control the time the last lap recorded will be displayed on the screen after the recording session is done EX: (Setting as been programmed to 80) Once the recording session is done, the meter will show the last recorded for 8 seconds (80) before going into cumulative time.



- Briefly press the button once to adjust the default value.



**NOTE** Range of setting: 3-20 sec. Unit: 1 sec.

### ● Cumulative Time Display



- The cumulative time display setting allows to control the time the cumulative time will be displayed on the screen after the recording session is done EX: (Setting as been programmed to 5) Once the recording session is done, the meter will show the last recorded before going into cumulative time for 5 seconds (5t).



- Briefly press the button once to adjust the default value.



**NOTE** Range of setting: 3-20 sec. Unit: 1 sec.

- Press and hold the button 3 sec to switch from SET-4 to SET-5

### ● Shut down setting



- Press the button to set the auto shut down function (between 1 to 5 min.). This function allows the meter to shutdown automatically according to the set value.



- Press and hold the button for 3 sec to switch from SET-4 to SET-5

### ● View lap time by order or by best time



- Press briefly the set button to view the lap time by best time (bEST). To get the lap time in order they were registered, press the button and set the mode to (Nor).



- Press and hold the button for 3 sec to switch from SET-5 to the timing screen.

### ● Timing screen



- Timing screen.

## 4-5 Warning Display



- The -F- symbol indicate the maximum number of lap recorded (200 laps) has been reached. In this case, the memory need to be erase (refer to point 4-3)



- The -OVER- symbol indicate the maximum recording time (9h 59 min.) has been reached. In this case, the memory need to be erase (refer to point 4-3)

## 4-6 Lap number and recorded time



- Into the timing screen, briefly press the button once to view the last lap recorded. The last lap and the cumulative time will be displayed on the screen.



- Push the button to switch to the previous lap and cumulative time.
- Press and hold the button for 3 sec to return to the timing screen



- Timing screen

## 5 Trouble shooting

If you encounter any operational failure, please check the following steps. If the problem still occur, please contact your local Koso dealer.

- No backlight in meter = verify battery position and battery voltage in the meter
- Receiver is not able to detect the signal = verify battery voltage in the beacon – beacon doesn't aim in the right direction or is too far.

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