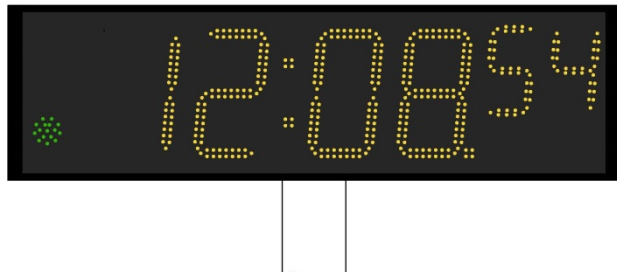


# Challenge Course Automated Race Timer System



## User Guide

F1018 Rev. 201509



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**Product Identification**

Product: Challenge Course Automated Race Timer  
Model Numbers: MS-0180 & MS-0181

**Power Specification**

150W power supply: 100-240V, 50/60Hz, max 2A

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# Operation

The patent-pending automated course timer system encourages free obstacle and challenge course play without the need for another person to start the timing. Players can compete against their own times, or against other people's times.

The system has a start button and a finish button. The user pushes and holds the start button until the green "go" signal lights up. The system displays a start signal, times the course, and after the user pushes the finish button it displays the result. The course timer display has 6 digits to show minutes, seconds and tenths of seconds, and a ready-set-go signaling section. Five minutes after the last activity, the timer blanks the display to save power and minimize nighttime light pollution that may disturb the neighborhood. The course timer includes a light sensor that dims and brightens the display for optimal visibility.

## Normal Timing

When a user pushes and holds the start button, the course timer wakes up if it was in power saving mode and briefly displays 8s. It begins its Ready/Set/Go auto start sequence and the timing proceeds:

- For the "Ready" portion the time switches to 00.00 and the red dot lights up for 3 seconds.
- For the "Set" portion the yellow dot lights up for 1.5 – 2.5 seconds. *This time is variable from start to start to simulate a human starter and eliminate start anticipation by the user.*
- For the "Go" portion the green dot lights up, and the running time starts by counting through tenths of seconds, seconds and minutes. The user releases the button, starts and proceeds through the course
- User completes the course and must push the stop button to stop the running time. That stopped time (the course time) is displayed for at least 10 seconds, while the green dot stays on.
- If no new user starts, the display shows the last finish time for another 50 seconds and then switches to ----.

## Sequential Races

If multiple users want to race one after another:

To start another event, the next user pushes and holds the start button and the cycle repeats.

- If the next user pushes and holds the start button within the 10-second display time of the first user, the course timer starts the next user's auto start sequence after the 10-second display time is completed.
- If the next user pushes and holds the start button after the 10-second display time the next user's auto start sequence starts immediately.

## Anomalies in Usage

Sometimes users don't follow the patterns described above. When this happens:

- **False start:** If the user releases the start button any time after "Ready" and before "Go," this is a false start. The course timer displays 00.00 for 5 seconds and then returns to ---- .
- **User does not reach finish area:** If the user activated the timing and does not reach the finish area in a reasonable time (60 minutes for a challenge course), the display goes back to ---- , assuming the user left the course.

## Installation Information

A system requires a course timer, start and finish buttons and signage (see next section for suggested text). It also requires site preparation, power, buried conduit, etc. Refer to the installation drawing #2014-010-009.

## Signage

With installation, provide signage for users coming to the course timer system. Here is suggested general text:

1. Push and hold the start button to activate the course timer. Lights will appear on the course timer and advance from red to yellow to green.
2. When the light turns green, release the start button and head through the challenge course! The course timer will automatically begin to count.
3. Push the finish button to stop the course timer.
4. Your time will be displayed on the course timer.

## Troubleshooting

<i>Question/Problem</i>	<i>Solution</i>
Course timer display doesn't light up	<ol style="list-style-type: none"><li>1. Course timer may be in power saving mode. Push and hold the start button. Time display will switch to 00.00 and red dot will light. Course timer will then continue through yellow and green dots.</li><li>2. If pushing the start button did not produce the result described above, confirm AC power is running to the board. Check breaker boxes, etc.</li><li>3. If power is running to the board and pushing the start button still does not cause the course timer to display, turn the power off and back on to reset the system.</li></ol>

Time continues to run on the course timer display	Push the finish button to stop the clock. Challenge course times automatically time out after 1 hour.
User started at finish button, and the course timer didn't start	Events can only be started with the start button and ended with the finish button; attempting to begin in the finish area won't activate the course timer



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