

# RPM PERFORMANCE PRODUCTS INC.

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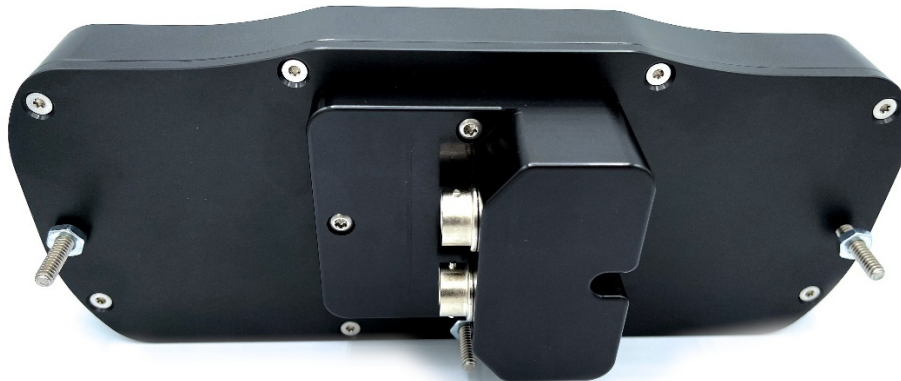
## Digital Dash Instructions

**NOTE: You MUST use RPM Pro software version 3.38 or later to configure the dash!**



The RPM Performance Digital Dash can be used to display Engine or Driveshaft RPM, as well as all other sensors connected to your RPM Data Logger. The three warning light indicators at the top (red, yellow, green) can be programmed to light and the orange backlight to blink when custom parameters are set as well. A single cable carries both power and data from the data logger for easy installation, and with the optional Warning Harness cable, you can use the Dash as an output to control external devices such as shift lights, relays, and more.

**Installation Instructions:** Connect the Dash to your RPM Data Logger with the provided cable via the TOP connector on the rear of the Dash, and if needed the Warning Harness cable to the BOTTOM connector as shown below:



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## Initial Setup:

### Notes:

- This step may have already been performed if your Dash came as part of a new system, but feel free to customize the Dash as you see fit.
- Open the Digital Dash Setup screen by clicking “**Connect > Setup > Dash Setup**” in the RPM Pro software.

Let’s begin this section with a diagram of the Dash layout, and where the associated items are configured in the RPM Pro software:



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**Displaying Sensors:** As shown above, the Dash can display one RPM and up to four sensors per 'Screen' (labeled Display 1, Display 2, 3, and 4), with six total 'Screens' being available to configure with the sensors of your choice. Once activated, your Dash will default to Screen 1, with other pages being selected by pressing the 'Up' or 'Down' buttons on the right side of the Dash. For instance, if you are on Screen 1, pressing 'Up' will switch to Screen 2. Pressing 'Down' would switch back to Screen 1, and so on.

You can configure each of the four Display areas with any sensor and decimal precision you want. For instance, you could configure a Display to show the BATT channel, with a precision of "0.00", and the Dash would show the data in the format of "13.89" with the label of "BATT". Similarly, you may want to display a sensor such as an EGT with no decimal "0" to show a reading of "1260" with a label of "EGT 1". Please note that the Dash Displays can show a maximum of 4 digits. Keep this in mind when selecting decimal precision.

**Displaying RPM:** As previously noted, the Dash can display either Engine, Driveshaft, or Special RPM (SRPM) values via a large digital readout. To select which value is displayed, simply pick the desired value from the "RPM Channel" dropdown box. This value can be set per Screen, allowing you to pick what RPM value shows on each Screen.

**Choosing a Scale:** The Dash has two different 'Scales' that can be selected from the Scale dropdown menu that changes the numbers above the Segmented Digital RPM Scale above the RPM readout. Selecting "0-8000" will display the numbers "1, 2, ..., 7, 8" above the scale, and selecting the "0-11000" scale will display the numbers "1, 2, ..., 10, 11" above the scale, and change the Segment Display accordingly. Please note that this will not affect or limit the primary RPM display.

**Setting the Warning Lights:** The Dash has three 'Warning Lights' along the topmost ridge of the case. These are as follows:

- Red – Warning Light 1
- Yellow – Warning Light 2
- Green – Warning Light 3

These lights can be set to activate when a specific sensor reaches or goes below a specified value. Simply choose the Sensor Channel you want to monitor, set "Above" or "Below", and enter a value. Once your parameters are reached, the associated light will be lit. You can also choose to have the entire backlight flash when the light is lit by selecting "Yes" from the 'Flash Backlight' dropdown, useful as a shift light, or in a catastrophic event such as the loss of oil pressure.

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**Warning Light 1 Special Modes:** In addition to a standard Warning Light, Light 1 can also be used as a Staging Window indicator, a Shift Light (or Shift) controller, or a combination of Stage and other modes by using the 'Warning Light 1' dropdown box. These are the various modes and their descriptions:

- **Stage Window:** This mode allows you to set 'Low' and 'High' parameters that will illuminate the light when Engine RPM is between the two set values. This is useful for manual staging.
- **Shift Light:** This mode turns the Dash into a basic Shift Light controller, which utilizes the Warning Harness Light 1 output to either engage a shift light or can even be used to control an automatic shift transmission if properly configured. Simply set the desired 'Shift' point for each gear, as well as a 'Drop' point that the engine must fall below to ensure a real shift has occurred (and not wheelspin). For example, if a shift point of "7800" is set, and a drop point of "800" is set, the shift light output will only engage once Engine RPM has reached "7800" and then has fallen to at or below "7000". When the Grey wire on the Warning Harness is brought 'High' (12+ volts applied, typically by a transbrake or clutch switch), the shift logic is brought back to 'Shift 1' and the process is repeated. This is used to automatically reset the light after a burnout.
- **Warning Light:** Default mode of operation (described above).
- **Stage Window / Shift Light:** If the Warning Harness grey input wire is held 'High' (12+ volts applied, typically by a transbrake or clutch switch), the light will act as a Stage Window (described above). Once the transbrake or clutch is released, the light will act as a Shift Light (described above).
- **Stage Window / Warning Light:** If the Warning Harness grey input wire is held 'High' (12+ volts applied, typically by a transbrake or clutch switch), the light will act as a Stage Window (described above). Once the transbrake or clutch is released, the light will act as a Warning Light (described above).

Please note that all the above modes should be **tested THOUROULGHY before track use**, and that **mechanical actions take time**. If an action is desired at "7000" RPM, it may be necessary to set a lower value (such as "6925" or "6895", etc.) to allow enough time for sampling to occur and the action be performed. USE THESE FEATURES AT YOUR OWN RISK.

**Saving the Configuration:** Once configuration is complete, click "Save to Dash".

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## Using the Digital Dash:

Once configured, using the Dash is easy. Simply power on the Data Logger and you will see the message “**Ready For Download**” displayed on the screen. This mode will allow you to connect your Data Logger to the RPM Pro software and download runs, make configuration changes, and edit sensor calibrations. If you wish to enable real-time data streaming to the Dash, press either of the two buttons on the right of the dash. This will bring the dash to life using the configuration last set by the RPM Pro software. To exit real-time mode, simply turn off power to the Data Logger, and turn it back on again. The Dash will be back in “Ready For Download” mode, and changes can again be made.

**Changing screens:** The Dash can display one RPM and up to four sensors per ‘Screen’, with six total ‘Screens’ being available to configure with the sensors of your choice. Once activated, your Dash will default to Screen 1, with other pages being selected by pressing the ‘Up’ or ‘Down’ buttons on the right side of the Dash. For instance, if you are on Screen 1, pressing ‘Up’ will switch to Screen 2. Pressing ‘Down’ would switch back to Screen 1, and so on.

**Changing the brightness:** By pressing both buttons on the Right side of the Dash at the same time, you can enter the brightness modification mode. Just use the ‘Up’ and ‘Down’ buttons on the right to set a brightness between 0 and 100 percent, then press ‘Enter’ to save the setting.

**Saving Changed Sensor Calibrations:** From time-to-time sensors may need to have their calibrations edited, or be replaced altogether. ANY time this occurs, you must update the calibrations in the Dash itself as well. Simply open the “Digital Dash Setup” screen (described above) and click “Save to Dash”. This will copy all Data Logger calibrations to the Dash.

**Dash Warning Harness Pinout:** As described above, the Warning Harness is an optional accessory that can provide output control features to the Dash. Its basic functionality is to provide a controllable Chassis Ground output to specific wires based on what Warning Light is illuminated (described above). Its pinout is as follows:

- Warning Light 1 (Red): Brown Wire (3 Amps MAX)
- Warning Light 2 (Yellow): Orange Wire (3 Amps MAX)
- Warning Light 3 (Green): Yellow Wire (3 Amps MAX)
- Chassis Ground Input: Black Wire (**Required!**)
- Transbrake / Clutch Switch +12v Input: Grey Wire

Remember that **the Warning Harness output is Negative Chassis Ground**. To power a shift light, you would need to connect it to Battery Positive, and connect the Negative lead to Brown.