INSTRUCTIONS MANUAL

RV0 10/24

ODG

UPGRADE PACK

INSTRUMENTS CLUSTER

TACHOMETER #136.16.08

PRESENTATION

The 100mm tachometer was designed and developed for installation in vehicles with spark ignition systems (OTTO cycle) or Diesel cycle.

FEATURES:

Translucent lighting with 7 selectable colors and dimmer function.

To control the lighting intensity (dimmer function), it is necessary to install it together with the 100mm ODG speedometer or the Dimmer Module code ODG 148.0.0.0.0, which must be purchased separately.

ASSEMBLY:

The instrument can be fixed directly to the dashboard, using the included fixing clip.The configuration key must be fixed in the chosen location using the self-adhesive tape on the key base.

INSTALLATION

The installation is relatively simple, however, it is recommended that it be done by a professional with experience in automotive electrical systems and the tools required.

Use a circuit test light to identify the function of the original cables of the old panel connector and other necessary signals.

We recommend not soldering the cable joints, as this makes the joint rigid and may cause the cable to break.

The instrument can be fixed directly to the panel, using the included fixing clamp.

The configuration keshould be fixed in the chosen location using the self-adhesive tape. Clean the surface where the key will be fixed well to ensure better adhesion.

White Cable / Lighting Signal - The White cable of the main harness is responsible for lighting the panel. It must be connected directly to the headlight switch (half light / taillights) BEFORE the vehicle's original rheostat / dimmer.

Yellow Cable / +12V battery - The Yellow cable of the main harness is part of the panel power circuit. It must be connected directly to the battery positive (line 30). It is responsible for maintaining the instrument power supply and when the ignition is turned off, it allows the pointers to return to the beginning of the scale and the

odometer values to be saved. As soon as the pointers return, the yellow cable circuit is turned off internally, completely interrupting battery consumption to prevent it from discharging.

Red Cable / +12V ignition - The red cable of the main harness is responsible for activating the instrument. It must be connected to the +12V post-key (line 15) that does not turn off when the starter motor is activated.

The original instrument harness normally has an accessory +12V, but this turns off during the start, causing the pointers to start twice and may even corrupt the panel's memory. It should not be used.

Tachometer Signal:

Otto cycle engines - The tachometer input for Otto cycle engines can be connected to different points, such as:

- tachometer output from the ECU (electronic injection control unit)
- tachometer output from the ignition module.
- HALL distributor signal (middle pin of the 3-pin distributor)
- negative pulse signal from the coil. ***(except in vehicles with MSD type ignition modules)***

These four points provide a tachometer signal; however, to avoid electromagnetic noise problems, we do not recommend reading the signal directly from the coil, as it is a major generator of this type of interference.

In vehicles with MSD type ignition modules, the tachometer signal must be read from the exclusive tachometer output of the module itself.

Diesel cycle engines: for Diesel cycle engines, the tachometer signal must be obtained from the alternator (usually W terminal).

Green cable: this is the rotation signal input with a square waveform.

Green/white cable: this is the rotation signal input with a sinusoidal waveform.

The type of the alternator rotation signal does not depend on whether it is Otto or Diesel!

Note: ***Ground*** *the* ***Green*** *cable if you are not using it.*

Isolate *the* ***Green/White*** *cable if you are not using it.*

If the* instrument *displays fluctuations in the indications, it is likely that electromagnetic interference is occurring and causing such fluctuations. In this case, check for wear on the spark plugs, spark plug wires, rotor and distributor cap. Always use suppressive spark plug wires and resistive spark plugs.

WE DO NOT RECOMMEND INSTALLING THIS PANEL ON VEHICLES WITH POINTS DISTRIBUTOR due to the high noise level generated by this type of distributor.

SETTINGS

Number of cylinders:

1) Turn off the ignition key and the headlight to interrupt the power supply.

2) Press and hold the key, turn on the ignition key; it is not necessary to start the engine if it is an Otto Cycle.

3) The pointer will position itself outside the scale, at the bottom where there are small numbers (2, 4, 6 and 8) that identify the possible Otto Cycle engines, 4 cylinders with lost spark and 4, 6 and 8 cylinders with conventional ignition.

The pointer will then position itself on the line corresponding to 600 RPM and will advance in increments of 50 RPM until it reaches 1200 RPM and then return to the 8 cylinder position.

To configure Otto Cycle engines, simply release the key when the pointer is positioned on the chosen displacement.

The pointer will initialize itself by moving across the entire scale and will be ready for use.

To configure Diesel Cycle engines, programming must be done with the engine running steadily at idle.

The RPM value must be known .

Start the engine while holding down the setting button;

The pointer will position itself at 600 RPM and will increase by 50 RPM.

Release the button as soon as the pointer reaches the RPM value corresponding to idle speed.

The instrument will perform a self-adjustment that may take a few seconds, during which time the shift may flash.

After this, the instrument will reset and be ready for use!

LIGHTING

To select the lighting color, follow the procedures below:

- With the ignition key and headlights off, press and hold the button.

- Turn on the headlights and wait 3 seconds and release the button.

- The panel will light up in the last programmed color; each time you press the button again, the lighting color will change.

- When you reach the desired color, just wait 15 seconds and the panel will flash, indicating that it has memorized the selected color.

Note: *For the color and intensity of the lighting to be controlled by the speedometer, the purple and brown cables of the tachometer must be connected to the respective cables of the speedometer and the configuration must be done through it.*

SHIFT LIGHT

To program the rotation at which the warning light will turn on, follow the procedure below.

With the engine running, accelerate until it reaches the desired rotation and press the button while it is at this rotation.

The warning light will flash, indicating that it has recorded the desired value.

ELECTRICAL CONNECTIONS

MAIN HARNESS

Red:	(+) Ignition Positive (Line 15)
Yellow:	(+) Direct battery positive (Line 30)
White:	(+) Headlight switch (half light)
Black:	(-) Ground (chassis or battery)
Brown:	Brightness intensity control input(DIMMER)
Green:	HALL type RPM signal
Green/White:	INDUCTIVE type RPM signal
Purple:	Color control Input

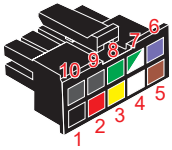
*The **RED** cable must be connected to the +12V ignition that does not turn off when starting, preventing the device from starting when turning the key and trying to start again when starting.*

*The **YELLOW** cable must be connected to the +12V battery (line 30), as it is responsible for maintaining the device's power supply and allows the pointer to return to its initial position after the ignition is turned off.*

*The **WHITE** cable must be connected before the potentiometer/rheostat (if the vehicle has an original dimmer). Directly to the cable that comes out of the Headlight/Taillight switch that powers the external lamps and does not have brightness control.*

MAIN HARNESS - 10 Ways

Isolate unused cables



1 - Black	GND	6 - Purple	Color command input
2 - Red	+12V Ignition	7 - Gr/White	RPM Sinusoidal input
3 - Yellow	+12V Battery	8 - Green	RPM Hall input|
4 - White	+12V Taillight		
5 - Brown	Dimmer Output		

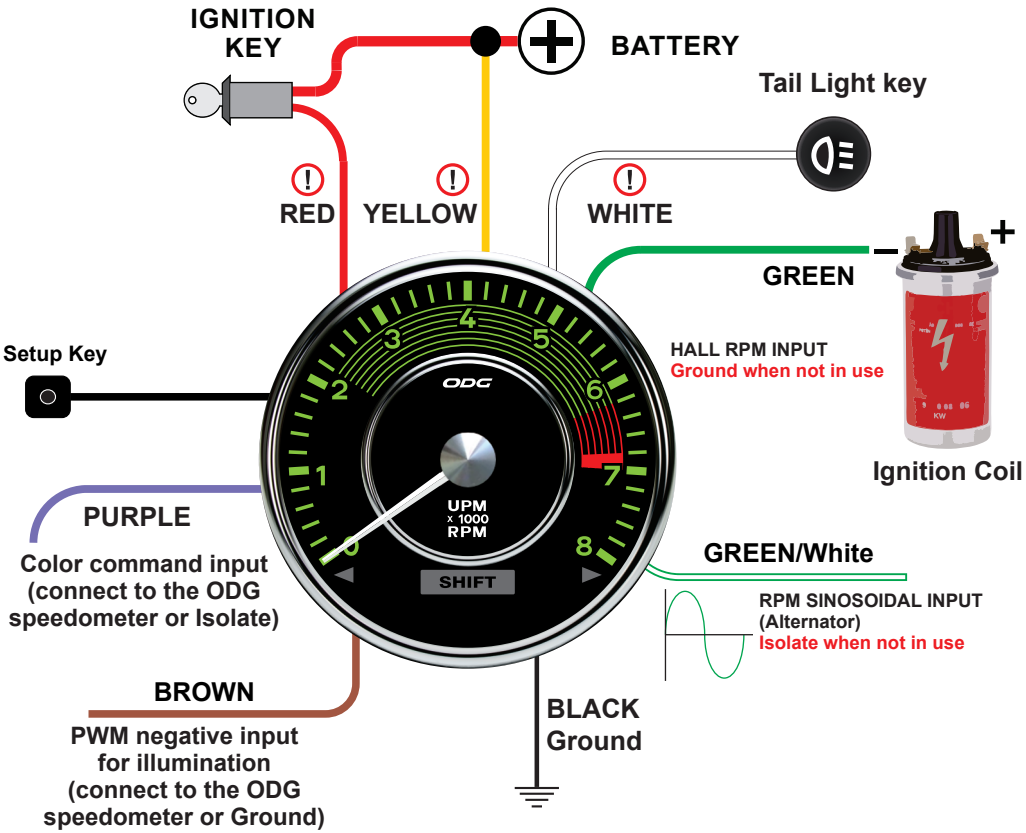
PACKAGE CONTENT

1 Speedometer
1 Main Harness
1 Indicators Harness
1 Temperature Harness
1 Fuel Level Harness
1 Configuration Keyboard
1 Mounting Bracket
1 Instructions Manual
1 Warranty Certificate
1 ODG Sticker

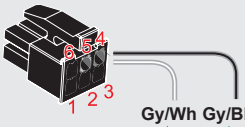
TECHNICAL SPECIFICATIONS

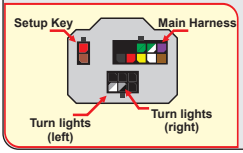
Supply Voltage: . . . . . 9 a 16 Vdc
Maximum Fuel Level Resistance: . . . . . 1k ohm
Compatible Temperature Sensor: . . . . . MTE4054 / MTE3088
Compatible Speed Sensor: . . . . . .Sensor type HALL or INDUTIVE
Maximum number of pulses for speedometer: 2000 pulses/0.1mile
Operating Current: . . . . . 750mA (max)
Resting Current: . . . . . < 1mA
Cables: . . . . . 20AWG x 20"

ELECTRICAL DIAGRAM:

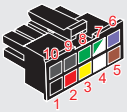


INDICATORS HARNESS - 6 Ways
(if available)



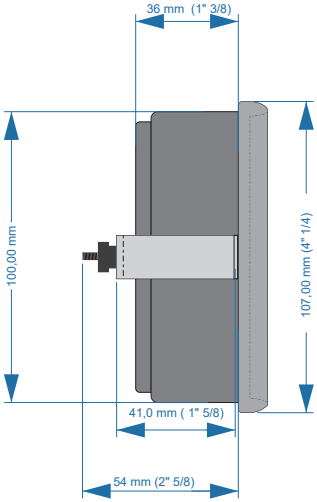


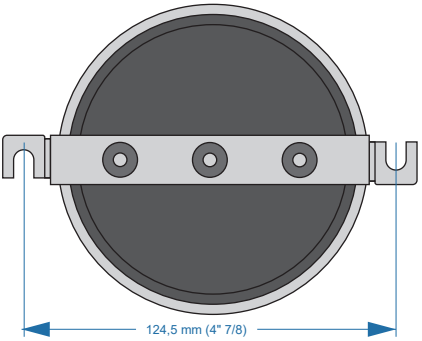
MAIN HARNESS - 10 Ways

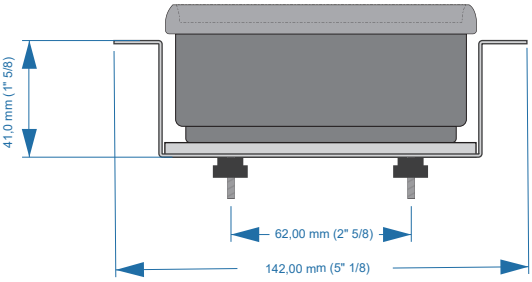


1 - Black	GND
2 - Red	+12V Ignition
3 - Yellow	+12V Battery
4 - Branco	+12V Taillight
5 - Brown	Dimmer Input
6 - Purple	Color Command Input
7- Gr/Wh *	Indutive RPM Signal
8 - Green *	Hall RPM Signal
9- NC	
10- NC	

DIMENSIONS:







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TACHOMETER