

Odyssey

Manufactured by **Dakota Digital**

ODY-01-1 or ODY-01-2 SPEEDOMETER

Introduction:

The Odyssey gauge series from Dakota Digital, Inc. incorporates the reliability and quality of our standard gauges, along with several unique features and easy mounting. These features include:

- Odometer and trip mileage.
- Trip mileage can be displayed on ODY-02-03/04 tachometer to have both mileage readings displayed at the same time.
- Turn signal and high beam indicators.
- Simple user adjustable calibration.
- Speed input source can be 4000 or 8000 ppm; pulse generator or ECM.
- Microprocessor stabilized readings.
- Night dimming with lens label lighting.
- High Visibility VFD display for sunlight readability.

The Odyssey speedometer will show the current speed of your vehicle and the number miles accumulated since installing the unit. A resettable trip odometer is also integrated into the unit. When the gauge is used by itself, the button on the left side of the display face will select whether the odometer or trip mileage is shown on the lower display. When used with the ODY-02-03 or ODY-02-04 tachometer both mileage readings will be displayed at the same time. The odometer will be shown below the speed and the trip mileage will be shown below the tach. The four pin connectors on the back of the two gauges must be connected for this to work.

The speedometer is fully adjustable from 1800 - 14500 pulse per mile (kilometer) speed signals. This allows it to be calibrated with either a 4000 or 8000 signal source that is up to $\pm 65\%$ off (± 39 at 60 mph). The odometer is calibrated to the speed reading.

Operation:

The gauge needs only the red and black wires connected to light up. When the blue wire has 12 volts, it will dim the display to a preset level for night viewing. When the green wire has 12 volts, the right turn signal indicator will light. When the orange wire has 12 volts, the left turn signal indicator will light. When the purple wire has 12 volts, the high beam indicator will light.

When the trip button is pressed and released, the lower display will switch between the odometer and trip mileage. When the trip/reset button is held for about 4 seconds, the trip mileage will go to zero.

Calibrating the speedometer:

The speedometer is calibrated at the factory for an 8000 pulse per mile sender (cal # 116). The calibration number for a 4000 pulse per mile signal is 231. The kph equivalents are 187 and 372 respectively.

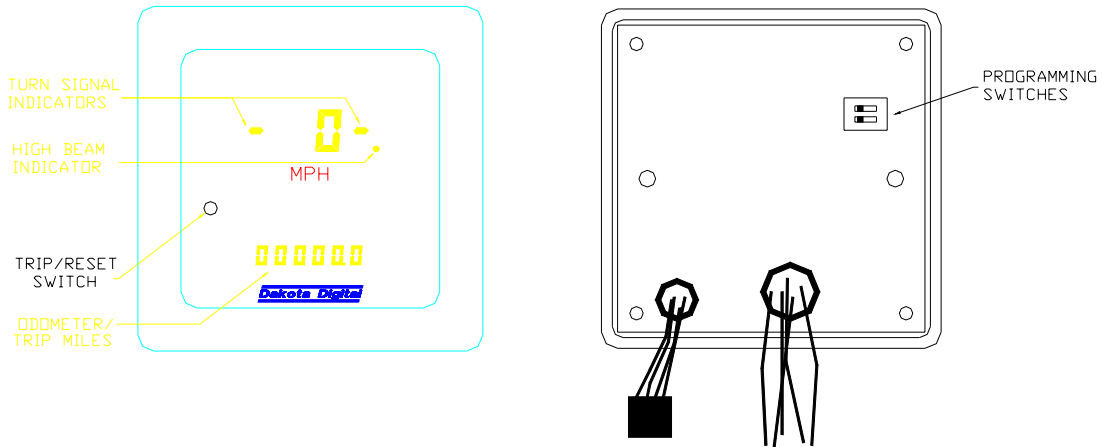
If the speedometer is reading incorrectly, first determine how far off it is. This can be done by following another vehicle that is going a set speed. Record the speed the other vehicle is going (actual speed) as well as the speed that your speedometer showed (gauge speed). The procedure for recalibrating the speedometer is as follows:

1. Make sure the key is off so the gauge is not powered.
2. Locate the two switches at the back of the unit. Turn switch #2 on.
3. Turn the key on. The top display should show 'CAL'. The number on the bottom display is the current cal. number.

4. Determine the new calibration number using the following formula:

$$[\text{new cal. number}] = [\text{current cal. number}] \times [\text{actual speed}] \div [\text{gauge speed}]$$
5. Change the calibration number to match the new one you calculated. This is done using the trip/reset button and the programming switches.

	When trip/reset button is pressed ...
#1 on, #2 on	cal number increases by 1
#1 off, #2 on	cal number increases by 10
#1 on, #2 off	cal number decreases by 1
#1 off, #2 off	cal number decreases by 10
6. When the new number is entered correctly, turn the power off.
7. Make sure that switch #2 is off. The gauge will now operate normally when powered up again.



Connecting to tachometer for trip mileage:

The 4 pin connector coming out of the back of the speedometer is used to display the trip odometer mileage on a compatible tachometer. This will plug into a mating connector coming out of the tachometer. If this feature is not being used, then the 4 pin connector should not be connected to anything.

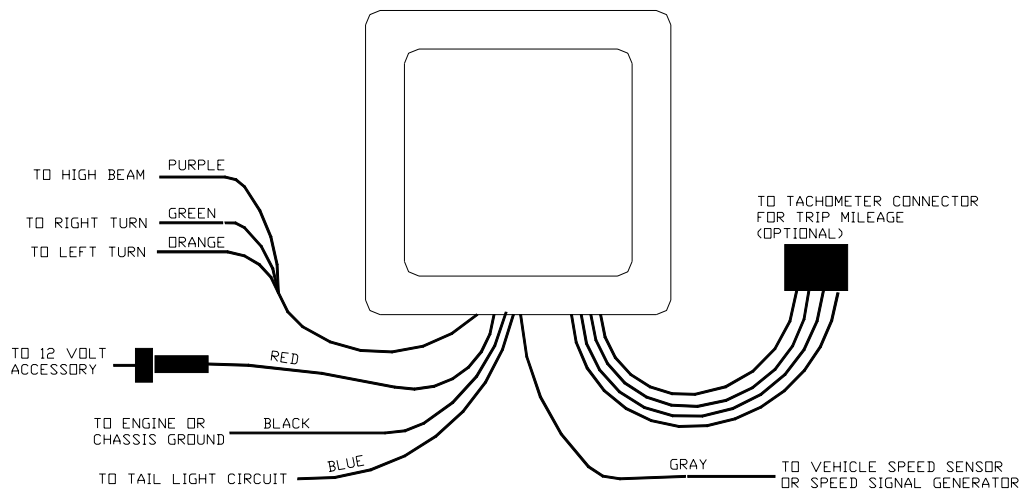
Connecting to speed signal:

The gray wire for the speed signal input can connect to a two wire speed signal generator or to a speed signal from the vehicle wiring harness (if available.) The signal generator should be a 4 or 8 pulse per revolution type (4000 or 8000 pulse per mile). For newer vehicles which already provide a speed signal, consult the service manual to determine wire color and location.

For two wire signal generators, one wire should be grounded and the other wire should be connected to the gray wire from the speedometer. If the signal is being shared by a cruise control or ECM, make sure they all use a common ground for the signal generator.

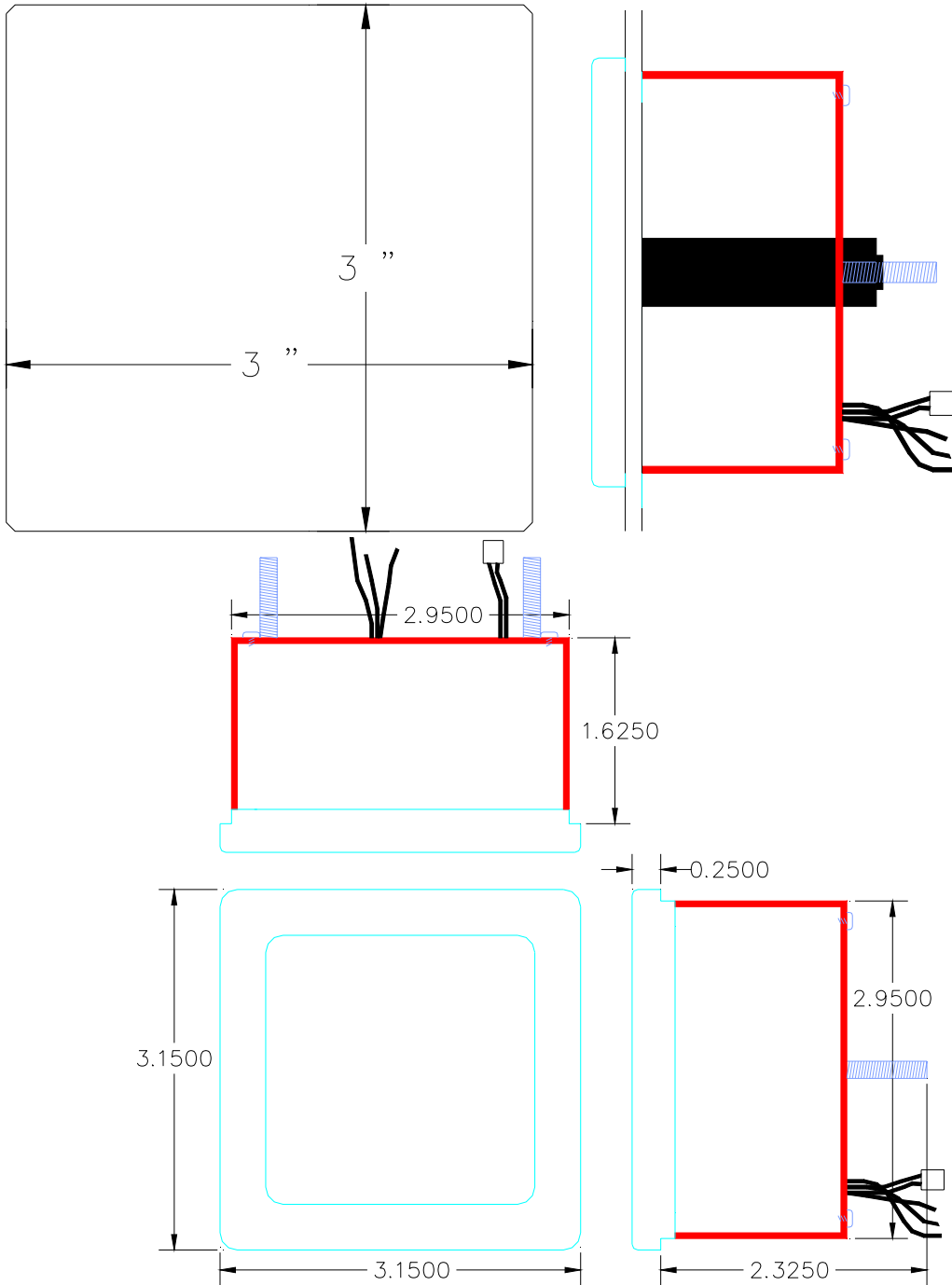
Wiring:

- | | |
|---------|----------------------------------------------------|
| BLACK - | connect to a good ground point in the vehicle. |
| RED | - connect to a 12V accessory terminal for power. |
| BLUE | - connect to the tail light circuit. |
| GRAY | - connect to vehicle speed signal or speed sender. |
| PURPLE | - connect to high beam indicator wire. |
| GREEN- | connect to right turn signal indicator wire. |
| ORANGE | - connect to left turn signal indicator wire. |



Mounting:

The gauge requires a rectangular cut out that is about 2 9/16" x 1 11/16". It should be inserted into the opening from the front and the U-clamp will be installed from the back. Tighten the two nuts on the U-clamp so that the gauge is secure. Figure 2 shows the required cut out for the gauge. Figure 3 shows how the gauge mounts.



Troubleshooting guide.

Problem	Possible cause	Solution
Gauge will not light up	Red wire does not have power. Black wire is not getting a good ground. Fuse is blown.	Connect to a location that has power. Connect ground to a different location. Replace in line fuse. (2 amp)
Gauge lights up, but speed will only show zero.	Gauge is damaged. Gray wire is not connected properly. Speed sensor not grounded properly. Speed sensor is not being turned by transmission.	Return gauge for repair. (see instructions) Check connection from gray wire to speed signal wire. Move ground to different location, preferably close to speedometer ground. Check cable connection between sensor and transmission. Sensor can be tested by spinning the cable with a drill.
Speed reading is erratic or jumps around.	Gauge is not calibrated Speed sensor wire is loose or broken. Cable is loose or broken. Poor ground connection.	Gauge must be recalibrated (see instructions). Check all wire connections and inspect wire for breaks. Check cable between sensor and transmission. Check ground connection on speedometer and sensor.
Speed reading is incorrect.	Gauge is not calibrated correctly.	Gauge must be calibrated (see instructions).
Gauge will not dim.	Blue wire is not connected correctly.	Check wiring connections. Blue wire should have 12 volts with headlights on.
Gauge remains dim at all times.	Blue wire is getting power all of the time.	Connect blue wire to location that only has power when the headlights are on.
High beam and/or turn signal indicators do not work correctly	Wires not connected properly.	Check wiring connections. Indicator will light when the appropriate wire has 12 volts.

SERVICE AND REPAIR

DAKOTA DIGITAL offers complete service and repair of its product line. In addition, technical consultation is available to help you work through any questions or problems you may be having installing one of our units.

Should you ever need to send the unit back for repairs, please package the product in a good quality box along with plenty of packing material. Ship the product by UPS or insured Parcel Post. Be sure to include a complete description of the problem, your full name and address (street address preferred), and a telephone number where you can be reached during the day. An authorization number for products being returned for repair is not needed. Do not send any money. We will bill you for the repair charges.

Technical specifications

Minimum operating voltage	-	7 volts
Maximum operating voltage	-	18 volts
(operating at or near maximum rating for an extended time can damage unit)		
Speed resolution	-	1 MPH (KPH)
Odometer resolution	-	0.1 mile (kilometer)
Speedometer max reading	-	255 MPH (KPH)
Odometer max mileage	-	99,999.9 miles (kilometers)
Trip max mileage	-	999.9 miles (kilometers)
Typical current draw (@ 13.8V)	-	0.13 A

ODYSSEY SERIES DIGITAL GAUGE LIMITED WARRANTY

DAKOTA DIGITAL (the Company) warrants to the ORIGINAL PURCHASER of this product that should it, under normal use and condition, be proven defective in material or workmanship within 24 MONTHS FROM THE DATE OF PURCHASE, such defect(s) will be repaired or replaced (at the Company's option) without charge for parts or labor directly related to repairs of the defect(s).

To obtain repair or replacement within the terms of this Warranty, the product is to be delivered with proof of warranty coverage (e.g. dated bill of sale), name, address, phone number, and specification of defects, transportation prepaid, to the factory. This Warranty is valid for the original purchaser only and may not be transferred.

This warranty does not cover nor extend to damage to vehicle electrical system. This Warranty does not apply to any product or part thereof which in the opinion of the Company has been damaged through alteration, improper installation, mishandling, misuse, neglect, or accident.

This Warranty is in lieu of all other express warranties or liabilities. ANY IMPLIED WARRANTIES, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY, SHALL BE LIMITED TO THE DURATION OF THIS WRITTEN WARRANTY. ANY ACTION FOR BREACH OF ANY WARRANTY HEREUNDER INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY MUST BE BROUGHT WITHIN A PERIOD OF 24 MONTHS FROM DATE OF ORIGINAL PURCHASE. IN NO CASE SHALL THE COMPANY BE LIABLE FOR ANY CONSEQUENTIAL OR INCIDENTAL DAMAGES FOR BREACH OF THIS OR ANY OTHER WARRANTY, EXPRESSED OR IMPLIED, WHATSOEVER. No person or representative is authorized to assume for the Company any liability other than that expressed herein in connection with the sale of this product.

The Company does not warrant that this product cannot be compromised or circumvented. THE EXTENT OF THE COMPANY'S LIABILITY UNDER THIS WARRANTY IS LIMITED TO THE REPAIR OR REPLACEMENT PROVIDED ABOVE AND, IN NO EVENT, SHALL THE COMPANY'S LIABILITY EXCEED THE PURCHASE PRICE PAID TO THE PURCHASER FOR THE PRODUCT.

Some states do not allow limitations on how long an implied warranty lasts or the exclusion or limitation of incidental or consequential damage so the above limitations or exclusions may not apply to you. This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

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