Series II
HLY-3013 or HLY-3014
MINI SPEEDOMETER

Introduction:

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

- Industry standard 2-1/16" gauge size.
- Weather-proof construction.
- Push button speedometer calibration.
- Odometer.
- Resettable trip odometer.
- Microprocessor stabilized readings.
- Night dimming with lens label lighting.
- Non-Glare, high contrast lens
- High Visibility VFD display for sunlight readability.

WIRING COLOR CODE FOR GAUGE:

RED	+12 volt power with key on
BLACK	ground for gauge and case (the ring terminal should attach to the top screw on the case.)
GRAY	speed signal input
WHITE/RED	speed sensor power out (if required)
GREEN	switch input
BLUE	night dimming

POWER

Connect the red wire from the main harness to accessory power from the ignition switch.

Never connect this to a battery charger alone. It needs to have a 12 volt battery connected to it. Battery chargers have an unregulated voltage output that will cause the system to not operate properly.

GROUND

The black wire is the main ground for the gauge. A poor ground connection can cause improper or erratic operation. The black wire loops over to the top screw on the back of the case. This ensures a good case ground connection.

SPEEDOMETER

The gray wire connects to the vehicle speed sensor. For two wire pulse generators attached to a speedometer cable, attach one wire from the sensor to ground and connect the other to the SND terminal. If the signal is being shared by a cruise control or ECM, make sure they all use a common ground for the pulse generator.

For inductive pickup's, connect one terminal from the pickup to ground and connect the other terminal to the gray wire on the gauge.

For 3 wire Hall-effect sensors, refer to the installation instructions for the sensor to determine wire color code. Most 3 wire sensors use the following color code: RED – power, BLACK – ground, WHITE – speed signal. Connect the speed signal wire to the gray wire on the gauge, connect the speed power wire to the white w/red stripe, and connect the speed ground wire to the black wire.

For speed sensor integrated into a vehicle wiring harness, consult a service manual to determine the color code and location of the speedometer signal.

The speedometer is fully adjustable and calibration is discussed below.

SPEEDOMETER CALIBRATION

The speedometer calibration is done using the function switch. The speedometer can be calibrated two different ways. The first method is to place the unit in auto-cal mode and drive exactly one mile (one km for metric). The second method is to place the unit in adjust mode and the speed reading can be moved up or down while driving. The green wire is used to enter and change the warning settings. You will need a switch connected with one side to the green wire and the other side to 12 volts.

METHOD 1, AUTOCAL

1. Make sure the key is off so the gauge is not powered.
2. Press and hold the function switch.
3. Turn the key on. With the switch still held, start the engine. The display will show " -- ".
4. Release the function switch. The display will switch between "CAL" (auto cal) and "AdJ".
5. When "CAL" is displayed press the function switch. This will place the unit in auto calibration mode.
6. Release the function switch. The display will show two bars.
7. Drive exactly one mile (or 1km). The bars will move around in a circle as pulses are received from the sensor.
8. Press and release the function switch. The calibration value will be calculated and stored. The gauge will now restart in normal mode with the new speed calibration.

METHOD 2, ADJUST SPEED

1. Make sure the key is off so the gauge is not powered.
2. Press and hold the function switch.
3. Turn the key on. With the switch still held, start the engine. The display will show " -- ".
4. Release the function switch. The display will switch between "CAL" (auto cal) and "AdJ" (adjust).
5. When "AdJ" is displayed press the function switch. This will place the unit in calibration adjustment mode.
6. Release the function switch. The display shows the speed and flashes continuously.
7. Drive at a known speed. Following another vehicle that is driving at a constant, known speed can do this.
8. Press the function switch. The speed reading will begin increasing until the function switch is released. The next time the function switch is pressed, the speed reading will begin decreasing until it is released.
9. Once the speedometer is reading correct release the function switch. The new calibration will be saved if no adjustments are made for 7-10 seconds.

FUNCTION SWITCH/READING MILEAGE

The function switch is connected with one wire to a 12 volt source and the other wire to the GREEN wire from the speedometer harness. If the White/Red wire is not being used to power a speed sensor, it can be used to provide power to the switch. The function switch is used for calibration and to read out the odometer mileage. Pressing and holding the function switch while the gauge is running will display the odometer mileage as follows:

"odo" > thousands > hundreds > tenths

65,432.1 would be displayed as follows: "odo" > " 65" > "432" > " .1"

Pressing and releasing the function switch while the gauge is running will display the trip mileage as follows:

"trP" > hundreds > tenths

123.4 would be displayed as follows: "trP" > "123" > " .4"

The trip mileage will continue to be displayed until the functions switch is momentarily pressed again. Pressing and holding the function switch while the trip mileage is being displayed will reset it to zero.

NIGHT DIMMING

Your display system has a dimming feature that dims the display intensity. Normally the system is at full brightness for daytime viewing. When the blue wire has 12 volts the display intensity will be reduced. Connect this to a park light or tail light circuit, then whenever the headlights are on the display will dim. To have the system at full brightness all of the time, leave the blue wire disconnected.

MOUNTING:

The gauge requires a round hole 2-1/16" in diameter. 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. Gauge depth to the back of the case is 1-1/2". Gauge depth including the mounting studs is 2-3/8".

Troubleshooting guide.

Problem	Possible cause	Solution
Gauge will not light up	Red wire does not have power.	Connect to a location that has power.
	Black wire is not getting a good ground.	Connect ground to a different location.
	Gauge is damaged.	Return gauge for repair.
Gauge lights up, but displays "Er3"	Speed calibration is invalid	Gauge must be recalibrated.
Gauge lights up, but speed will only show zero.	Gray wire is not connected properly.	Check connection from gray wire to. speed signal wire.
	Speed sensor not grounded properly.	Move ground to different location, preferably close to the speedometer.
	Speed sensor is not being turned by transmission.	Check cable connection between sensor and transmission. Sensor can be tested by spinning the cable with a drill.
	Gauge is not calibrated	Gauge must be recalibrated.
	Speed sensor is not working properly.	Test speed sensor and replace if necessary.
Speed reading is erratic or jumps around.	Speed sensor wire is loose or broken.	Check all wire connections and cables for breaks.
	Cable is loose or broken.	Check cable between sensor and transmission or front wheel.
	Poor ground connection.	Check ground on speedometer and sensor.
Speed reading is incorrect.	Gauge is not calibrated correctly.	Gauge must be calibrated.
Gauge will not dim.	Blue wire is not connected correctly.	Check wiring. Blue wire should have 12 volts to dim gauge.
Gauge remains dim at all times.	Blue wire is getting power all of the time.	Connect blue wire to a switch that has power only when the gauge should dim.
Gauge will not go into the SETUP mode.	Switch is not being held in during power up.	Press and hold switch while powering the gauge.
	Switch is not connected properly.	Make sure that the switch supplies 12V to the GREEN wire when pressed.
	Switch is defective.	Replace push button switch.
Gauge will not display the odometer/trip meter.	Switch is not connected properly.	Make sure that the switch supplies 12V to the GREEN wire when pressed.
	Switch is defective.	Replace push button switch.

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. Any returns for warranty work must include a copy of the dated invoice or bill of sale.

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 MERCHANTABLITY, SHALL BE LIMITED TO THE DURATION OF THIS WRITTEN WARRANTY. ANY ACTION FOR BREACH OF ANY WARRANTY HEREUNDER INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABLITY 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 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 if 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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