



## Series II HLY-3073/3074 OIL TEMPERATURE

### 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.
- A warning feature that flashes the gauge readout when outside operating limits.
- User adjustable warning points.
- User selectable Fahrenheit or Celsius units.
- Microprocessor stabilized readings.
- Quick-Start feature to provide accurate readings quickly after being powered up.
- Night dimming with lens label lighting.
- Non-Glare, high contrast lens.
- High Visibility VFD display for sunlight readability.

### Operation:

The PWR terminal should be connected to a 12 volt accessory feed. The case provides the gauge ground. Connect a ground wire to the screw at the bottom rear of the case. When the DIM terminal has 12 volts, it will dim the display for night viewing. The SND terminal is the temperature sender input. **The sender must be Dakota Digital part SEN-1043 or SEN-04.** Sending units from other manufacturers will cause incorrect readings. If a sender is not connected properly, the display will show "EEE". If the SND terminal is shorted to ground, the display will show "--".

The oil temperature gauge will operate and read correctly between the temperature range of 0 - 300° F (0 - 150°C) or 32 – 400°F (0-200°C) depending on the sender type. Because of the wide temperature span, the gauge may not be as accurate below 100° F (38°C). The gauge has a user adjustable high warning level. This can be set to indicate when the oil is beginning to get too hot.

### Sender choices:

Gauge Setting	Unit	Max. temp.	sender part numbers
30F	°F	305°F	SEN-04-1, 04-2, 04-4
40F	°F	395°F	SEN-1043, 04-3
15C	°C	150°C	SEN-04-1, 04-2, 04-4
20C	°C	200°C	SEN-1043, 04-3

Part numbers SEN-1043, SEN-04-1, and SEN-04-3 are 1/8" NPT fittings. Contact Dakota Digital if you need to special order a metric thread sender.

Senders can be mounted into the oil pan (a nut or collar may need to be welded to the pan) or teed into an oil cooler line.

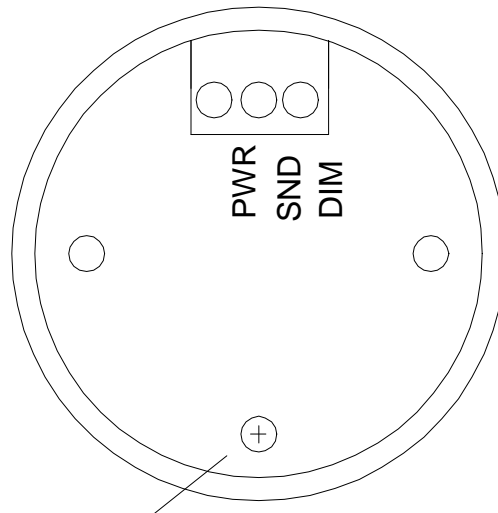
### Setting the warning limits and sender setup:

The SND terminal is used to enter and change the warning settings. You will need a wire connected to the SND terminal that can be momentarily grounded while you watch the gauge.

1. To enter the set mode, turn the key on with the SND wire not grounded. The gauge will display "SEt".
2. Ground the SND wire. The gauge will display "Snd". (If you wait too long the gauge will exit the setup routine and you will need to repeat step #1).
3. Release the SND wire. The gauge will display the current setup. "30F" is for 300°F and "15C" is for 150°C senders. "40F" is for 400°F and "20C" is for 200°C senders.
4. Each time you momentarily ground the SND wire the setup will change.
5. When the desired setup value is displayed, keep the SND wire grounded for about 2 seconds. The gauge will display "HI".
6. Release the SND wire. The gauge will display the current warning temperature.
7. Each time you momentarily ground the SND wire the number will change.
8. When the desired high warning value is displayed, keep the SND wire grounded for about 2 seconds. The gauge will display "--".
9. Turn the key off.

### Wiring:

- |            |   |  |
|------------|---|--|
| PWR        | - | connect to 12 volt power.<br>(An accessory terminal will work for this.) |
| DIM        | - | Night dimming. Leave open or connect to a 12V on/off switch.             |
| SND        | - | connect to the temperature sender.                                       |
| Gauge case | - | connect to a main ground location  |



FOR GROUND CONNECTION

### 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". Gauge depth including the mounting studs is 1-7/8".

## Troubleshooting guide.

Problem	Possible cause	Solution
Gauge will not light up	PWR terminal does not have power. The gauge case is not getting a good ground.	Connect to a location that has power. Connect the ground to a different location.
Gauge lights up, but does not read correctly.	Gauge is damaged. Loose connection on SND terminal. Poor ground connection. Voltage or wiring problem in vehicle wiring harness.	Return gauge for service. (see instructions) Reconnect wire. Move ground to different location Check wiring harness for loose or damaged wires.
Gauge lights up, but displays "Er0".	Gauge is damaged.	Gauge must be returned for service. (see instructions)
Gauge lights up, but displays "----".	SND terminal is shorted to ground. Sender is damaged.	Check wire for damaged insulation. Replace if necessary. Replace sender.
Gauge lights up, but displays sender "EEE".	Sender is not connected to gauge. Wire between gauge and sender is broken. Sender is not grounding properly.	Connect SND terminal on gauge to terminal. Test and replace wire. Sender grounds through it's mounting threads. Make sure the threads are clean. <b>Do Not Use Tape or Sealant on Sender Threads.</b>
Gauge lights up, but displays "Er4".	Sender is damaged. Gauge is damaged.	Replace sender. Return gauge for service. (see instructions)
Gauge lights up, but displays "Er5".	Gauge sender setup needs to be reset.	See "Setting sender setup" in the manual.
Gauge flashes constantly.	Gauge warning points need to be reset. Warning limits are not set properly.	See "Setting the warning limits" in the manual. Reset warning limits.
Gauge will not dim.	Oil is overheating. DIM terminal is not connected correctly.	Check coolant system. Check wiring connections.
Gauge remains dim at all times.	DIM terminal is getting power all of the time. Battery is very low. Gauge is damaged.	Connect DIM wire to location that can be turned off during the day. Recharge or replace vehicle battery. Return gauge for service. (see instructions)

## 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.

## Technical specifications

Minimum operating voltage	-	7 volts	
Maximum operating voltage	-	17 volts	
(operating at or near maximum voltage for an extended time can damage unit)			
Maximum temperature reading	-	305°F (150°C)	395°F (200°C)
Gauge Resolution	-	1°F (1°C)	1°F (1°C)
Gauge accuracy	-	±5°F (±3°C)	±7°F (±4°C)
Typical current draw (@ 13.8V)	-	0.2 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 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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