



DIG4000

4 way digital air pressure gauge

Manufactured by Dakota Digital for Air Ride Technologies.

Features:

- A warning feature that flashes the gauge readout when outside operating limits.
- An output for an external warning light or buzzer.
- User adjustable warning points.
- Microprocessor stabilized readings.
- Quick-Start feature to provide accurate readings quickly after being powered up.
- Automatic Night dimming.
- High Visibility, full character VFD display.
- Automatic display selection for two or four sender operation.

The air pressure gauge will read wet or dry air pressure. The sender used for this gauge is an oil pressure sending unit, so it is compatible with air, water, oil, and fuel. The air pressure gauge will operate and read correctly between the pressure range of 0 - 145 psi. The gauge has a user adjustable low and high warning level.

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 for night viewing. The Gray, Purple, Orange, and Green wires are for the pressure senders. **The senders must be part DIG1050.** Sending units from other manufacturers will cause incorrect readings. SEN-03-1 has 1/8" NPT threads. If other thread sizes are needed, an adapter fitting should be used to change the thread size. If a sender is giving an incorrect reading, the display will show "EE". If the sender is shorted to ground, the display will show "--".

Pressing the switch on the front of the gauge will change the display to the next reading. With four senders, the left side pressure will be displayed on the left side and the right side pressure on the right. An "F" or "R" will be displayed in the center for Front or Rear. With two senders the pressure will be displayed on the left side and "FRNT" or "REAR" will be displayed on the right.

The display will flash whenever one of the displayed pressures is out of the warning set limits.

Setting the warning limit:

The low and high warning limits can be set to different values. The switch on the front of the gauge is used for setting the warning limit. The procedure for setting the warning limit is as follows:

1. Press and hold the switch while you turn the key on. The display should light up and show "SET".
2. Release the switch. The display will now show "xxx HIGH" where xxx is the current high pressure warning point.
3. Each time the switch is pressed the high warning point will increase. Once the reading reaches 142 it will start over at 82 again.
4. When the desired high warning point is displayed press and hold the switch. The display will change to " xx LOW" where xx is the current low pressure warning point.
5. Release the switch. Use the switch to increment through the low warning values until the desired value is shown.
6. Press and hold the switch. The display will show "FINISH".
7. Release the switch. The gauge will restart with the new warning points.

Using external warning indicators:

The yellow wire provides a ground trigger whenever any of the senders are outside the set limits. Low current indicators (less than 1/4 A) can be activated directly by connecting their power wire to 12 volts and connecting their ground wire to the yellow output wire.

For higher current buzzers or lights, a relay will need to be used to switch the indicator on. Dakota Digital's RLY-1 30A relay may be used for this. One of the coil wires should be connected to 12 volts and the other coil wire connected to the yellow warning wire. When the gauge is outside its limits, the relay will turn on. The relay contact wires can be used to switch the higher current.

WARNING!
CONNECTING A HIGH CURRENT
INDICATOR DIRECTLY TO THE
WARNING OUTPUT WILL DAMAGE
THE UNIT.

Wiring for 4 senders:

- RED - connect to 12 volt power.
(An accessory terminal will work for this.)
- BLACK - connect to a good ground point in the vehicle.
- BLUE - connect to the tail light circuit.
- GRAY - connect to the left front pressure sender.
- PURPLE - connect to the left rear pressure sender.
- ORANGE - connect to the right front pressure sender.
- GREEN - connect to the right rear pressure sender.
- YELLOW - can connect to the negative side of a relay, light, or buzzer.

Wiring for 2 senders (FRONT/REAR ONLY):

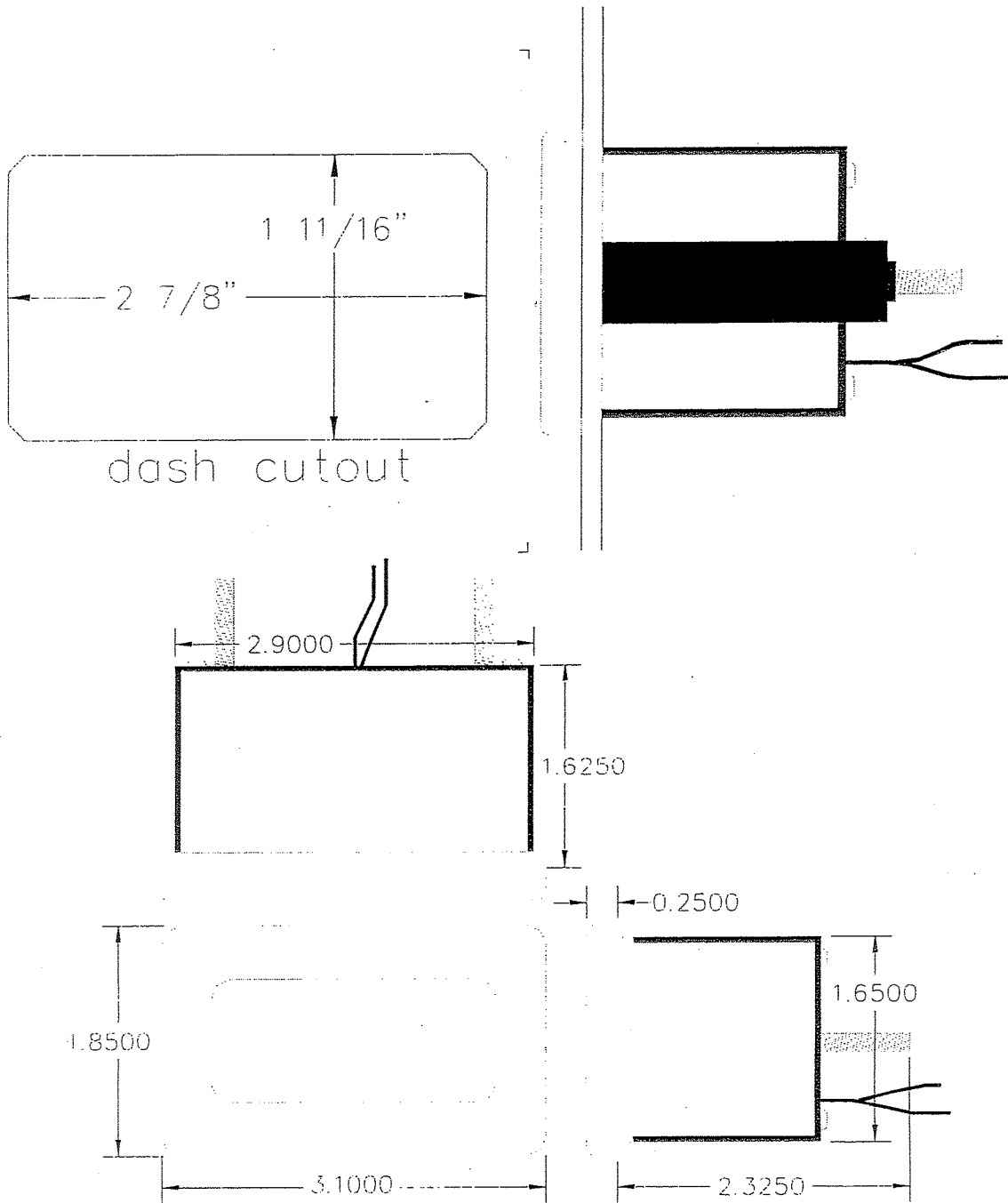
- RED - connect to 12 volt power.
(An accessory terminal will work for this.)
- BLACK - connect to a good ground point in the vehicle.
- BLUE - connect to the tail light circuit.
- GRAY - connect to the front pressure sender.
- PURPLE - connect to the rear pressure sender.
- ORANGE - DO NOT CONNECT
- GREEN - DO NOT CONNECT
- YELLOW - can connect to the negative side of a relay, light, or buzzer.

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.	Connect to a location that has power. Connect ground to a different location.
Gauge lights up, but displays "EE".	Gauge is damaged. Sender is not connected to gauge. Wire between gauge and sender is broken. Sender is not grounding properly.	Return gauge for repair. (see instructions) Connect wires from gauge to sender terminals. Test and replace wire. Sender grounds through it's mounting threads. Make sure the threads are clean. Do Not Use Tape or Sealant on Sender Threads.
Gauge lights up, but displays "--".	Gauge is damaged. Sender is damaged. Sender wire is shorted to ground.	Return gauge for repair. (contact factory) Return for replacement. (see instructions) Check wire for damaged insulation, replace if necessary.
Gauge lights up, but does not read correctly.	Gauge is damaged. Loose connection on red power wire. Poor sender ground. Poor ground connection. Incorrect sender type.	Return gauge for repair. (contact factory) Reconnect red wire. Make sure sender case is getting a solid ground. Move ground to different location Make sure sender has been replaced with the correct type (DIG1050).
Gauge flashes constantly.	Warning limits are not set properly. Vehicle has improper air pressure.	Reset warning limits. Check air level and air pump.
External warning indicator does not work.	Indicator not connected properly. Indicator does not work. Gauge output has been damaged.	Check indicator wiring connections. Repair or replace indicator. Return gauge for repair. (see instructions)
Gauge will not dim.	Blue wire is not connected correctly. Gauge is damaged.	Check wiring connections. Return gauge for repair. (contact factory)
Gauge remains dim at all times.	Blue wire is getting power all of the time. Battery is very low. Gauge is damaged.	Connect blue wire to location that only has power when the headlights are on. Recharge or replace vehicle battery. Return gauge for repair. (contact factory)

Mounting:

The gauge requires a rectangular cut out that is about 2 7/8" 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.



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)		
Maximum pressure reading	-	145 psi
Gauge Resolution	-	1 psi
Accuracy (0-100 psi)	-	4 psi (gauge and sender combined)
Accuracy (100-145 psi)	-	8 psi (gauge and sender combined)
Typical current draw (@ 13.8V)	-	0.2 A

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 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.

Dakota Digital

3421 Hovland Drive
Sioux Falls, SD 57107
Phone: (605) 332-6513
FAX: (605) 339-4106