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# ***Dakota Digital***

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VFD DIGITAL INFORMATION SYSTEM

*The latest in digital technology for the  
Harley-Davidson Motorcycle enthusiast.*

INSTALLATION AND OPERATION MANUAL

*Please read this before beginning installation or wiring.*

## **MODEL HLY-3**

CABLE DRIVEN  
SPEEDOMETER

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***Dakota Digital***

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## ***SPEEDOMETER AND TACHOMETER***

The speedometer and odometer read from the threaded speed cable fitting on the bottom of the housing. This fitting will accept the early model coarse threaded speed cable (5/8"). The speedometer is fully adjustable to any tire size or cable drive using either the 1:1 or 2:1 ratio. The ratio is selected using calibration switch #1. The off (down) position is for 1:1 (1000 rpm=60mph) and on (up) is for 2:1 (2000rpm=60mph). Switch #2 is used for fine adjustment of the speedometer. For normal operation the position for switch #2 is on (up). The calibration switches are found in the opening on the forward, left side of the unit. The speedometer will read from 0 to 255 mph. The odometer will read from 0 to 99,999.9 miles in tenth of a mile increments. The odometer mileage and calibration value are stored in nonvolatile memory and will not be lost when power is turned off.

The tachometer is used by connecting the yellow wire from the display system to the negative side of the ignition coil on dual fire ignition systems. With single fire ignition systems connect the yellow wire to a tach adapter output. The tachometer will read from 400 to 8000 rpm.

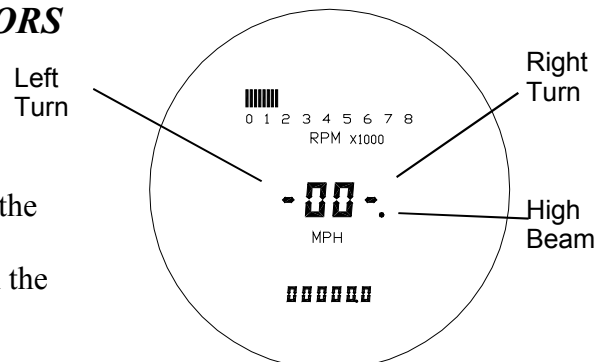
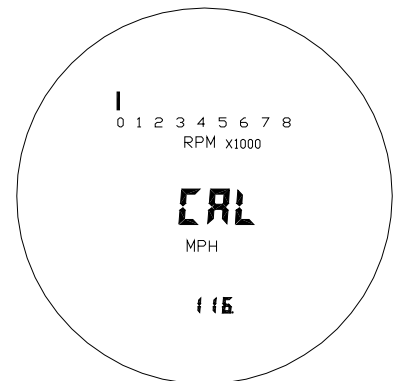
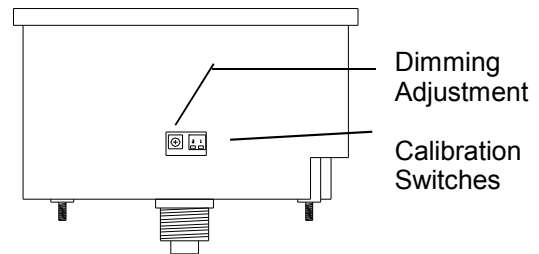
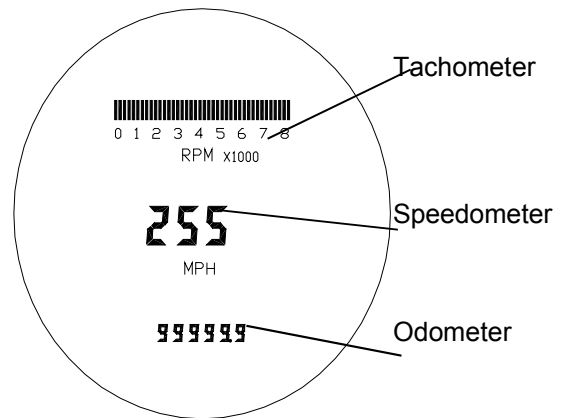
To place the unit into calibration mode, place switch #2 in the off position and then turn the power on. When the system is in calibration mode the speed display will show 'CAL' and the odometer will display a number between 64 and 255. This is the calibration number. The standard number for MPH is 116 and for KPH it is 187. To decrease the calibration number by one, press the trip/reset button. Each time the button is pressed the number will decrease by one. To increase the number, turn switch #2 on and then press the trip/reset button. The number will now increase by one each time the button is pressed. Once the new calibration value is shown, turn power off and then make sure switch #2 is in the on position. The system will now operate normally.

The system is sent out with the calibration number preset to either the standard MPH or for metric units the standard KPH number. If the speedometer is not reading correctly, first determine exactly how far the speed is off. To determine the new calibration number, use this equation: (actual speed) / (speed displayed) x (current calibration value) = new value. If the speedometer showed 66 mph when you were actually going 60, then the new calibration number would be:  $60 / 66 \times 116 = 105$ .

## ***TURN SIGNAL & HIGH BEAM INDICATORS***

The right turn, left turn, and high beam indicators are activated by 12 volts at their respective hook-up wires. The right turn signal wire is green, the left turn signal wire is orange, and the high beam wire is purple. These can be connected to the same wires that the indicator lights are connected to.

The display system wire colors may not match the wire colors in your electrical wire harness.

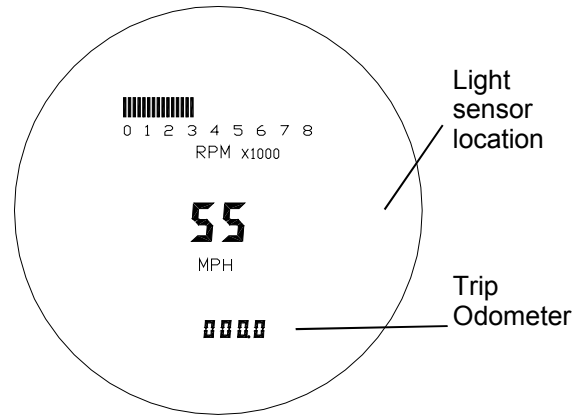


## ***TRIP ODOMETER***

The trip odometer is activated by the push button switch supplied with your display system. The button mounts into the opening for the analog speedometer trip reset that is located on the right side of your speedometer housing. Connect the black wire from the switch to a ground terminal and connect the white/blue wire to the white/blue wire from the display system.

Pressing and releasing the button will toggle the display from the odometer to the trip odometer or from the trip odometer to the odometer. Pressing and holding the button while the trip odometer is displayed will reset the trip odometer. The trip odometer will read from 0 to 999.9 miles.

The sealed push button switch supplied with the system will operate the trip odometer. It can be mounted into the hole where the trip reset handle was on your original speedometer. The switch and )-ring go one from the outside of the housing and the retaining bar and self-tapping screw are mounted from the inside of the housing.



## ***NEUTRAL INDICATOR***

The neutral indicator is activated when the blue wire is grounded. Connect this wire to the neutral switch or to the negative side of the neutral indicator light. When the indicator is activated, a bar on either side of the odometer display will move up and down as shown in the diagram.

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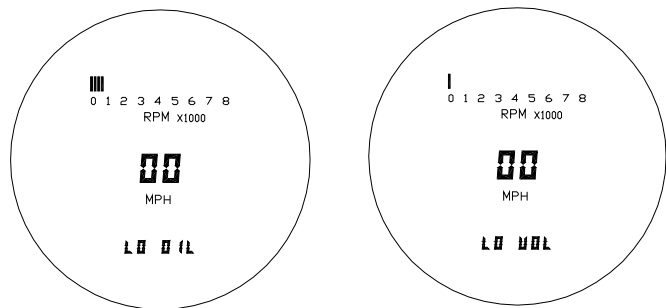
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## ***AUTOMATIC DIMMING FEATURE***

Your display system has an automatic dimming feature that senses when it gets dark and then dims the display intensity. The darkness level that the display will dim at is adjustable. The dimming level adjustment is located on the forward side of the unit, beside the calibration switches. The screw adjustment has a stop at its fully clockwise and fully counterclockwise settings. Do not attempt to turn it further after it reaches the stop as this can cause damage to the unit. Turning the adjustment fully counterclockwise will disable the dimming feature so it will remain at full brightness at all times. Turning it fully clockwise will cause the display system to remain dim at all times.

## ***LOW OIL PRESSURE AND LOW VOLTAGE INDICATORS***

The low oil pressure warning is activated when the gray wire is grounded. Connect this wire to the oil pressure switch or the negative side of the oil warning light. The low voltage warning is activated when the voltage at the red power wire drops below 11 volts. The warning message and the odometer will be displayed alternately on the small display.



## ***TURN SIGNAL CANCEL OUTPUT***

The display system also has a speed output signal for cycles equipped with an automatic turn signal cancel module. The white wire from the harness should be connected to the module where the wire from the original analog speedometer was connected.

## ***WIRING***

In order to ensure that there are no problems with voltage drops causing the system to shut down, a heavy duty, solid state ignition switch is recommended. Also, the black wire should be connected directly to the negative battery terminal to avoid erratic operation due to a poor ground connection.

The wire color code for the display system is as follows:

RED	+12 volt with key on
BLACK	ground (connect directly to battery)
YELLOW	tachometer signal
PURPLE	high beam
ORANGE	left turn
GREEN	right turn
BLUE	neutral indicator
GRAY	oil warning
WHITE/BLUE	trip select/reset switch
WHITE	turn signal cancel signal

## ***WARRANTY***

All DAKOTA DIGITAL instruments are warranted free of defects in material and workmanship for 3 years from the date of purchase. In the event of a problem with one of our products within the warranty period, DAKOTA DIGITAL will replace or repair the instrument at no charge. (The decision to repair or replace is solely that of DAKOTA DIGITAL. DAKOTA DIGITAL is not responsible for shipping costs of products returned under warranty or for labor charges for product installation and removal.) This warranty becomes invalid if the product is misused, altered or installed incorrectly.

For warranty coverage, the product should be sent transportation prepaid via UPS or insured Parcel Post. A copy of the original invoice or dated bill of sale along with a description of the defect is also required.

The above warranties, both expressed and implied, do not cover damages caused by improper assembly, misuse, abuse, fire, unauthorized modifications, floods or acts of God, or reimbursement of customer or shop time. The extent of the warranty is limited only to the product and does not cover any loss or damaged to vehicle, equipment, or non-DAKOTA DIGITAL products.

## ***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 return for repair is not needed. Do not send any money. We will bill you for the repair charges.

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