# ECD-100
# ELECTRONIC CABLE DRIVE

The Dakota Digital ECD-100 is designed operate a cable-driven speedometer from a transmission or ECM electric speed signal. Cables are available for GM thread-on (5/8" thread), GM clip-on, or Ford clip-on. The supplied cable threads on to one end of the ECD-100 and the wiring harness exits on the other end. Do not use the vehicle's original speedometer cable; use the one supplied with the ECD-100. The module is fully sealed and can be mounted under the dash or in the engine compartment. The module should not be mounted under the vehicle due to the danger of road debris causing damage. The unit is fully adjustable from the comfort of your driver's seat.

| GM 5/8" thread | GM clip-on | Ford clip-on |

## ECD-100 wiring connections:

RED – 12V power with key on.
BLACK – Ground.
WHITE – Vehicle speed signal.
GREEN – Input for setup switch. (grounding to activate)

For 2-wire transmission speed sensors that are not connected to anything else, the polarity of the wires does not matter. Connect one wire to the WHITE wire on the ECD-100 and the other to the same ground point as the BLACK wire on the ECD-100. Twisting the ground and signal wires around each other provides an additional level of interference protection. The speed signal wire should not be routed alongside tach, ignition, or other high current or high voltage wires.

For vehicles which have a vehicle speed signal from a transmission controller or ECM, tap into the VSS wire and connect it to the WHITE wire on the ECD-100. Consult a vehicle service manual or wiring diagram to determine wire color and location.

# Speedometer calibration:

The green wire will need to be touched to a ground point or a push button switch wired in with one side of the switch to the green wire and the other side to ground. The LED's on the unit will indicate the setup mode and the unit will also move the speedometer needle to different positions to do the setup without having to see the control unit. The needle position may not point exactly onto the stated speedometer number, but will be close.

Entering setup:
> Press and hold the switch while turning the key on. The speedometer needle will move up to about 15 MPH and the RED light will be on steady. Release the switch. The needle should move up to about 30 MPH.

AutoCal:
> Press and release the switch unit the needle is at about 30 MPH.
> Press and hold the switch until the needle drops to 0.
> Release the switch. The needle will move up to about 10 MPH.
> Begin driving a marked mile. The needle will move up to about 30 MPH while it is receiving a speed signal and will drop to about 10 MPH when no signal is present.
> At the end of the mile, press the switch again. The needle will drop to zero to indicate calibration is complete.
> Release the switch and the unit will begin normal operation.

Adjust:
> Press and release the switch until the needle is at about 20 MPH.
> Press and hold the switch until the needle drops to 0.
> Release the switch. The needle will now operate normally as you drive.
> Drive at a constant speed, following another vehicle, using GPS, or some other method to verify your actual speed.
> Each time you press and hold the switch the speed reading will begin changing. Release the switch and press it again to move in the opposite direction.
> When no changes have been made for several seconds the new calibration will be saved.

Preset:
> Press and release the switch until the needle is at about 45 MPH.
> Press and hold the switch until the needle drops to 0.
> Release the switch. The following table shows the pulse per mile (ppm) presets available.
> Press and release the switch to change the selection, press and hold to save.
> 10 MPH = 4000 ppm, 20 MPH = 8000 ppm, 30 MPH = 16000 ppm, 40 MPH = 64000 ppm, 50 MPH = 128000 ppm, and 0 MPH = factory preset.

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During normal operation, the RED light will be off and the GREEN light will be on steady when no speed signal is present and flashing when a speed signal is being received.
If the RED light is flashing rapidly, then the cable is stuck and not able to turn. Some stock speedometers may become very stiff at low temperatures (below freezing) and not allow the cable to turn. Make sure your stock speedometer is in good working condition.

## *Trouble shooting guide*

| Problem | Possible Cause | Solution |
|---|---|---|
| Speedometer will not work. GREEN and RED lights off. | No power to ECD-100. | Check the power and ground wires on the ECD-100. It should be 11-15 V dc. |
| Speedometer will not work. RED light on steady. | ECD-100 is in setup mode. Green wire is grounded. | The green wire should be disconnected for normal operation. |
| Speedometer will not work. RED light flashing rapidly and GREEN light on steady. | ECD-100 cable is not turning. | Check the cable for kinks and verify the speedometer turns freely. |
| Speedometer will not work. GREEN light on steady. | No input signal. | Test for 1-20 volts AC at the white wire with the wheels spinning. |
| | Grounding interference. | Make sure both the speed sensor and ECD-100 are grounded at the same location. |
| Speedometer will not work. GREEN light flashing. | Speedometer is not connected. | Check speedometer cable connections at both ends. |
| | Speedometer is damaged. | Repair or replace speedometer. |
| Speedometer will read when the vehicle is sitting still. | Tach wire too close to speed signal wire. | Route the speed signal and tachometer wires away from each other to avoid interference. |
| | Ground interference. | Make sure the speed sensor and ECD-100 are grounded together. |
| At the end of AutoCal the speedometer needle goes to 45 MPH. | Speed signal is too low or too high. | Check speed sensor is operating correctly. |
| | Distance driven is too short or too long. | Make sure the distance driven is one mile. |

## 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 products. Please read through the Troubleshooting Guide.  There, you will find the solution to most problems.

**Should you ever need to send the unit back for repairs, please call our technical support line, (605) 332-6513, to request a Return Merchandise Authorization number.**  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 the RMA number on the package, and include a complete description of the problem with RMA number, your full name and address (street address preferred), and a telephone number where you can be reached during the day.  Any returns for warranty work must include a copy of the dated sales receipt from your place of purchase.  Send no money.  We will bill you after repair.


## Dakota Digital 24 Month Warranty

DAKOTA DIGITAL 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 Dakota Digital's option.

This warranty does not cover nor extend to damage to the vehicle's systems, and does not cover removal or reinstallation of the product.  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 expressed 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.  No person or representative is authorized to assume, for Dakota Digital, any liability other than expressed herein in connection with the sale of this product.