

# DriveRight® CarChip™ Fleet

OBDII Data Logger and Software



8240

CarChip Fleet records trip and performance data from your vehicle's OBDII port for later download to a PC computer. The downloaded data provides a detailed history of the vehicle's performance and operation. Recorded data includes trip start and end times, vehicle speeds plus rates of acceleration and braking, engine performance data, all detected OBDII trouble codes, and detailed "accident" data for all sudden stops. CarChip Fleet is compatible with most passenger cars and light trucks sold in the US since 1996 and with many cars sold elsewhere in the world since that time.

CarChip Fleet requires DriveRight Fleet Management Software (FMS) version 3.1 or later, purchased separately. Separate CarChip software included with DriveRight FMS allows you to view engine performance data and vehicle trouble codes.

## Specifications

### Physical

Operating Temperature	-40° to +185°F (-40° to +85°C)
Primary Power, Connected to Vehicle	12 VDC, 25 mA
Primary Power, Connected to Computer	9 VDC, AC-Power Adapter Provided
Backup Power	Internal battery, 10-15 year life in normal use
Memory	512KB
Data Logging Hours	300 hours max., 42 hours min., depending on the number of data parameters and the selected time intervals.
Time & Date	Accurate to +/- 2 seconds per day
Mounting	16-pin OBDII connector
Computer Interface	Serial, DB9
Computer Cable Length	5' (1.5m)
Indicator Lamp	LED, flashes to indicate unit status
Dimensions	1.33" x 1.875" x 1" (35 mm x 48 mm x 25 mm)
Weight	0.9 oz. (25g)

### OBDII Compatibility

Supported Protocols	J1850-41.6, J1850-10.4, ISO9141, KWP2000 (ISO 14230)
Protocols Not Supported (as of 6/23/2003)	CAN (Controller Area Network - ISO 11898)
Supported US Vehicles	Most domestic and import vehicles, 1996 or later.
US Vehicles Not Supported (as of 6/23/2003)	The following model year 2003 vehicles use the CAN protocol and are not currently supported: Ford 6.0L A/T F250 Diesel, Ford 6.0L A/T F350 Diesel, 6.0L A/T Excursion Diesel, 3.0L A/T Lincoln LS, 3.9L A/T Lincoln LS, 3.9L Thunderbird, 2.3L A/T Focus, 2.3L M/T Focus, Saturn ION, Mazda 6 2.3L and 3.0L, Saab 9-3 2.0L 175 hp & 210 hp
Supported European Vehicles	Some 1996 and later vehicles and most 2000 and later vehicles compliant with the supported protocols listed above
Vehicles Supported Elsewhere	Most 1996 and later vehicles compliant with supported OBDII protocols

### Data Display in CarChip Software (included with DriveRight FMS)

Trip Log Summary View	Start date and time, duration, distance, max speed, time in top speed band, number of hard braking events, number of extreme braking events, number of hard acceleration events, number of extreme acceleration events, vehicle ID
Trip Log Report View	Vehicle ID, CarChip data logger ID, start time, end time, duration, time spent at idle, time spent in first speed band, time spent in second speed band, time spent in third speed band, time spent in fourth speed band, distance, average speed, maximum speed, number of hard braking events, number of extreme braking events, number of hard acceleration events, number of extreme acceleration events, list of logged parameters, comments
Trip Log Plot View	Line graph for vehicle speed plus line graphs for up to four optional parameters
Trip Log Table View	Elapsed time for trip and speed every 5 seconds plus up to four optional engine data parameters

Activity Log Summary View . . . . .	Date and time, CarChip ID, description of event
Activity Log Event View . . . . .	Date and time, CarChip ID, description of event, and comments
Accident Log Summary View . . . . .	Date and time, CarChip ID, maximum speed in log
Accident Log Stop View . . . . .	Date and time, CarChip ID, maximum speed in log, comments
Accident Log Plot View . . . . .	Date and time, line graph of vehicle speed for 20 seconds prior to stop
Accident Log Table View . . . . .	Vehicle speed for each of the 20 seconds prior to the stop
Trouble Log Summary View . . . . .	Date and time, vehicle ID, trouble code, problem description
Trouble Log Problem View . . . . .	Date and time, vehicle ID, CarChip ID, trouble code, problem description, comments, OBDII freeze frame info (freeze frame parameter vary from car to car)

## Data Options

Supported Unit Systems . . . . .	U.S., Metric, S.I., Custom (mix of U.S., Metric, and S.I.)
Vehicle Speed Logging Interval . . . . .	5 seconds
Vehicle Speed Bands . . . . .	4, user configurable, identifies normal vs. excessive vehicle speeds
Calculated Data . . . . .	Hard and extreme braking, hard and extreme acceleration
Number of Optional Engine Data Parameters . . . . .	23 total, up to 4 can be selected at a time
Optional Parameters Logging Intervals . . . . .	5, 10, 20, 30, or 60 seconds, user selected

## Fixed Data Parameters

Parameter	Range*	Resolution*
Vehicle Speed	0 to 158 mph, 0 to 255 kph, 0 to 70 m/s	0.6 mph, 1 kph, 0.3 m/s
Trip Distance Traveled	0 to 10,000 miles, 0 to 16,000 km	0.1 mile, 0.1 km
Acceleration/Deceleration Threshold	0 to 3 G, 0 to 30 m/sec <sup>2</sup>	0.03 G, 0.3 m/sec <sup>2</sup>

## Optional Engine Data Parameters

Parameter	Range*	Resolution*
Engine Speed	0 to 16,384 rpm	1 rpm
Throttle Position	0 to 100%	0.1%
Coolant Temperature	-40° to +420°F, -40° to +215°C	2°F, 1°C
Engine Load	0 to 100%	0.1%
Air Flow Rate	0 to 8714 lb/min, 0 to 655.35 gm/sec	0.1 lb/min, 0.01 gm/sec
Intake Air Temperature	-40° to +420°F, -40° to +215°C	2°F, 1°C
Intake Manifold Pressure	0 to 75 in. hg., 0 to 255 kPaA	0.3 in. hg., 1 kPaA
Fuel Pressure	0 to 110 psiG, 0 to 765 kPaG	0.5 psiG, 3 kPaG
O2 Sensor Voltage	0 to 1.275 V	0.005 V
Ignition Timing Advance	-64° to 63.5°	0.5°
Short Term Fuel Trim	-100% to 99.22%	0.8%
Long Term Fuel Trim	-100% to 99.22%	0.8%
Battery Voltage	6 to 16 VDC	0.01 VDC

\*Range and resolution of sensor measurements only. Accuracy is dependent on the accuracy of the vehicle's sensors.