The CarChip Pro (#8226) data logger records vehicle trip and performance data to provide a detailed history of driver performance and vehicle operation. Recorded data includes; trip start and end times, vehicle speeds, rates of acceleration and braking, and any detected OBD II trouble codes. The CarChip Pro also provides additional vehicle monitoring capabilities including the logging of additional engine data parameters and detailed "accident" data for all sudden stops. It can also emit an audible alarm whenever a driver exceeds user-determined speed limits. Using the included CarChip software, you can see the logged data in summary, record, plot, or table formats and also export it to other applications.

The CarChip Pro data logger plugs into your car’s OBD II port and is compatible with most passenger cars and light trucks model years 1996 and later. All CarChip Pros require CarChip software version 2.3 or later.

**General**

- **Operating Temperature**: -40° to +185°F (-40° to +85°C)
- **Primary Power, Connected to Vehicle**: 9 to 16 VDC, 80 mA with vehicle running, 17 mA with the vehicle’s power off
- **Primary Power, Connected to Computer**: USB powered
- **Backup Power**: Internal battery, minimum of 5 years total, with data logger not powered by vehicle or computer; 10-15 year life in normal use
- **Memory**: 512KB
- **Data Logging Capacity**: 300 hours maximum, depending on logging intervals and number of optional parameters selected
- **Time & Date**: Accurate to +/- 2 seconds per day
- **Mounting**: 16-pin OBD II connector
- **Computer Interface**: USB
- **Computer Cable Length**: 4’ (1.2 m)
- **Alarm**: Adjustable, audible alarm for exceeding speed, acceleration, and deceleration limits, when enabled in software
- **Status LED**: LED, flashes to indicate CarChip status, when enabled in software
- **Dimensions**: 1.80” x 1.00” x 1.32” (46 mm x 26 mm x 34 mm)
- **Weight**: 0.7 oz. (20.5 g)

**Software System Requirements**

- **Operating System**: Windows XP, Vista®, 7
- **Disk Space**: 5 MB free disk space
- **Display**: Windows-compatible VGA minimum, 800 x 600 resolution

**OBD II Compatibility**

- **Supported Protocols**: J1850-41.6, J1850-10.4, ISO9141, KWP2000 (ISO 14230), CAN (Control Area Network ISO 11898)
- **CarChip-Compatible Vehicles**:
  - **US Market**: Most domestic and import vehicles model years 1996 and later
  - **European Market**: Some vehicles model years 1996 - 1999 and most vehicles model year 2000 and later vehicles compliant with the supported protocols listed above.
  - **Elsewhere**: Undetermined. 1996 and later vehicles that are compliant with the supported protocols may or may not be CarChip Compatible.
- **Incompatible Vehicles**: CarChip meets and complies with most of the supported protocols used with US market vehicles. Despite this, incompatibilities still exist. Review the CarChip Pro Exclusions List to see the known exceptions, exclusions and anomalies, available on www.davisnet.com.
CarChip Pro

Data Display

**Trip Log Summary View**  
Start date and time, duration, distance, maximum 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 (up to 4 optional data parameters), comments.

**Trip Log Plot View**  
Line graph for vehicle speed and up to 4 optional data parameters

**Trip Log Table View**  
Elapsed time for trip and speed every 1, 5, 10, 20, 30, or 60 seconds. Up to four other parameters every 5, 10, 20, 30 or 60 seconds.

**Activity Log Summary View**  
Date and time, CarChip ID, description of event

**Activity Log Event View**  
Date and time, CarChip ID, description of event, 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, and corresponding 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, OBD II freeze-frame info (parameters included in freeze-frame vary from vehicle to vehicle)

Data Options

**Supported Unit Systems**  
U.S., Metric, S.I., Custom (mix of U.S., Metric, and S.I.)

**Vehicle Speed Logging Interval**  
1, 5, 10, 20, 30 or 60 seconds

**Other Parameter Sampling Intervals**  
5, 10, 20, 30, or 60 seconds

**Vehicle Speed Bands**  
4 user-configurable bands identify normal vs. excessive vehicle speeds

**Calculated Data**  
Hard and extreme braking, hard and extreme acceleration

**Number of Optional Engine Data Parameters**  
23 total possible as supported by vehicle, up to 4 can be selected at a time
### CarChip Pro Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Range</th>
<th>Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vehicle Speed</td>
<td>0 to 158 mph, 0 to 255 km/h, 0 to 70 m/s</td>
<td>0.6 mph, 1 km/h, 0.3 m/s</td>
</tr>
<tr>
<td>Trip Distance Traveled</td>
<td>0 to 10,000 miles, 0 to 16,000 km</td>
<td>0.1 mile, 0.1 km</td>
</tr>
<tr>
<td>Acceleration/Deceleration Threshold</td>
<td>0 to 3 G, 0 to 30 m/sec²</td>
<td>0.03 G, 0.3 m/sec²</td>
</tr>
<tr>
<td>Engine Speed</td>
<td>0 to 16,384 rpm</td>
<td>1 rpm</td>
</tr>
<tr>
<td>Throttle Position</td>
<td>0 to 100%</td>
<td>0.1%</td>
</tr>
<tr>
<td>Coolant Temperature</td>
<td>-40° to +420°F, -40° to +215°C</td>
<td>2°F, 1°C</td>
</tr>
<tr>
<td>Engine Load</td>
<td>0 to 100%</td>
<td>0.1%</td>
</tr>
<tr>
<td>Air Flow Rate</td>
<td>0 to 8714 lb/min, 0 to 655.35 gm/sec</td>
<td>0.1 lb/min, 0.01 gm/sec</td>
</tr>
<tr>
<td>Intake Air Temperature</td>
<td>-40° to +420°F, -40° to +215°C</td>
<td>2°F, 1°C</td>
</tr>
<tr>
<td>Intake Manifold Pressure</td>
<td>0 to 255 kPaA</td>
<td>0.3 in. hg., 1 kPaA</td>
</tr>
<tr>
<td>Fuel Pressure</td>
<td>0 to 765 kPaG</td>
<td>0.5 psiG, 3 kPaG</td>
</tr>
<tr>
<td>O₂ Sensor Voltage (up to 8 monitored)</td>
<td>0 to 1.275 V</td>
<td>0.005 V</td>
</tr>
<tr>
<td>Ignition Timing Advance</td>
<td>-64° to 63.5°</td>
<td>0.5°</td>
</tr>
<tr>
<td>Short Term Fuel Trim (up to 2 monitored)</td>
<td>-100% to 99.22%</td>
<td>0.8%</td>
</tr>
<tr>
<td>Long Term Fuel Trim (up to 2 monitored)</td>
<td>-100% to 99.22%</td>
<td>0.8%</td>
</tr>
<tr>
<td>Battery Voltage</td>
<td>6 to 16 VDC</td>
<td>0.01 VDC</td>
</tr>
</tbody>
</table>

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

### Package Dimensions

<table>
<thead>
<tr>
<th>Product #</th>
<th>Package Dimensions (Length x Width x Height)</th>
<th>Package Weight</th>
<th>UPC Codes</th>
</tr>
</thead>
<tbody>
<tr>
<td>8226</td>
<td>10.00&quot; x 6.00&quot; x 2.00&quot; (254 mm x 152 mm x 50 mm)</td>
<td>6.50 oz. (0.184 kg)</td>
<td>0 11698 00887 2</td>
</tr>
<tr>
<td>8226B</td>
<td>8.38&quot; x 7.25&quot; x 2.00&quot; (235 mm x 185 mm x 51 mm)</td>
<td>9.40 oz. (0.266 kg)</td>
<td>0 11698 00888 9</td>
</tr>
<tr>
<td>8226 (4-pack)</td>
<td>10.00&quot; x 6.00&quot; x 5.00&quot; (254 mm x 152 mm x 127 mm)</td>
<td>1 lb. 10 oz. (0.792 kg)</td>
<td>3 0011698 00887 3</td>
</tr>
<tr>
<td>8226B (4-pack)</td>
<td>10.25&quot; x 9.00&quot; x 8.25&quot; (261 mm x 229 mm x 210 mm)</td>
<td>3 lbs. 2 oz. (1.361 kg)</td>
<td>3 0011698 00888 0</td>
</tr>
</tbody>
</table>