A CAN (Controller Area Network) data logger is a device used to capture and record data from the CAN bus in a vehicle. The CAN bus is a communication protocol used in modern vehicles to facilitate communication between various electronic control units (ECUs) or modules.

Here's how a typical CAN data logger works:

1. Data Capture: The CAN data logger connects to the CAN bus of the vehicle using appropriate hardware and interfaces. The CAN bus is responsible for transmitting data between different ECUs, such as the engine control unit, transmission control unit, GPS Position, Proximity Sensor value, ABS system, and more. The data logger taps into this communication network and captures the data being transmitted.

2. Data Storage: The captured data is stored in the memory of the data logger. Depending on the device's capacity, it can store a substantial amount of data for later analysis. The storage can be in the form of built-in memory, an SD card, or other external storage options.

3. Time-Stamping: To provide accurate data analysis, CAN data loggers often include a time-stamping feature. Each recorded data point is associated with a timestamp, allowing for precise synchronization and analysis of events occurring on the CAN bus.

4. Data Retrieval: Once the data logger has captured the desired data, it can be retrieved for analysis and processing. This can be done by connecting the data logger to a computer or using other methods such as wireless transfer or removable storage.

5. Analysis and Interpretation: The captured data can be analyzed using specialized software tools. These tools allow for decoding and interpretation of the CAN data, revealing information such as vehicle speed, engine RPM, GPS Position, Proximity Sensor readings, fault codes, and various other parameters. This analysis helps in diagnosing vehicle issues, performance tuning, and understanding the behavior of different vehicle systems.

CAN data loggers are commonly used in automotive research, diagnostics, performance tuning, and development processes. They provide valuable insights into the functioning of various vehicle systems, allowing engineers, mechanics, and researchers to analyze and troubleshoot vehicle behavior, evaluate performance, and make data-driven decisions.

Specifications and Features:

- This data logger is of great use for capturing data during vehicle field trials
- Supports various CAN protocols like J1939, etc.,
- Supports both CAN and CAN-FD, which can operates in both 12V and 24V DC source
- Includes Real Time Clock(RTC) data
- Includes GPS data (optional)