SDM-CAN
Datalogger-to-CANbus Interface Module

Samples CANbus Data Directly

Uses latest CAN controller

Overview

The SDM-CAN allows a Campbell Scientific datalogger to sample data directly from a CANbus communication network. This allows testing and verification of CANbus-based data alongside measurements made independently via the datalogger's input channels. The SDM-CAN also supports transmission of data onto a CANbus network.

Benefits and Features

❯ Supports various CAN modes

❯ Uses latest Philips Can controller

❯ Can be used in many networking applications, including vehicle testing

Technical Description

CANbus data can be stored (and synchronized) with other data values measured directly by the datalogger, allowing testing and verification of CANbus-based data alongside measurements made independently via the datalogger's input channels. The SDM-CAN also supports transmission of data onto a CANbus network.

The SDM-CAN uses the latest Philips SJA1000 CAN controller clocked at 16 MHz; CAN 2.0A and 2.0B active and passive modes are supported, which includes SAE J1939. The CANbus protocol is used in a number of networking applications, including vehicle data acquisition systems (VDAS).

The SDM-CAN can act as a passive "listen-only" device, poll remote devices for data, or act as a sensor. To poll remote devices it sends or responds to Remote Frame Requests. It acts as a sensor by sending data packets to the CANbus network. The SDM-CAN supports baud rates up to 1 MB (1 M, 800 k, 500 k, 250 k, 125 k, 50 k, 20 k, and lower). Non-standard baud rates may be possible. CAN data frames can also be built and sent.

The datalogger enables individual modules through an addressing scheme; up to 15 SDM-CANs can be connected to one datalogger.

SDM-CAN Helper

SDM-CAN Helper is an add-on program for our RTDAQ Real-Time Data Acquisition Soft ware. This add-on program walks users through the process of configuring their SDM-CAN, connecting the SDM-CAN to the datalogger, sending an appropriate program to the datalogger, and setting up their datalogger to collect specific values from the CANbus network.

SDM-CAN Helper is available, at no charge, from the Downloads section. Users must have a valid installation of RTDAQ on their computer to install the SDM-CAN Helper program.

For comprehensive details, visit: **www.campbellsci.eu/sdm-can**

Specifications

Function	Allows a data logger to sample data directly from a CANbus communication network. Uses latest CAN controller.
Number of Channels	1
Operating Temperature	Tested from -40° to +80°C.
Operating Voltage	7 to 26 Vdc
Isolation	Optional (switch-selectable) galvanic isolation between the data logger and the CANbus. The minimum isolation breakdown is 50 V; this barrier is for signal isolation only (that is, it is not a safety barrier).
Controller	Uses the latest Philips SJA1000 CAN controller clocked at 16 MHz.
CANbus Physical Connection	Conforms to CIA draft standard 102 version 2, 9-pin D connector. (The interface will differ from this standard only with respect to pin 9, which outputs 5 Vdc instead of 7 to 13 Vdc.)
Screw Terminal Block	A three-way, unpluggable screw terminal block for CAN High, Low, and G is provided.
Safety	For safety reasons, can disable CANbus transmit and acknowledge via a jumper (for example, for in-vehicle, listen-only monitoring)
Dimensions	❱ 17.5 x 10.0 x 2.3 cm (6.9 x 3.9 x 0.9 in.) ❱ The device can be vertically mounted with all the connectors on the top surface.
Weight	0.3 kg (0.14 lb)

Typical Current Consumption

Active in Self-Powered, Isolated Mode	❱ 120 mA (dominant state) ❱ 70 mA (recessive state)
Active, Non-Isolated	❱ 30 mA (recessive state) ❱ 70 mA (dominant state)
Standby	< 1 mA (with or without isolation)
Communications with Data Logger	50 mA
RS-232 Port Active	50 mA

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