SOMAT

ECOM

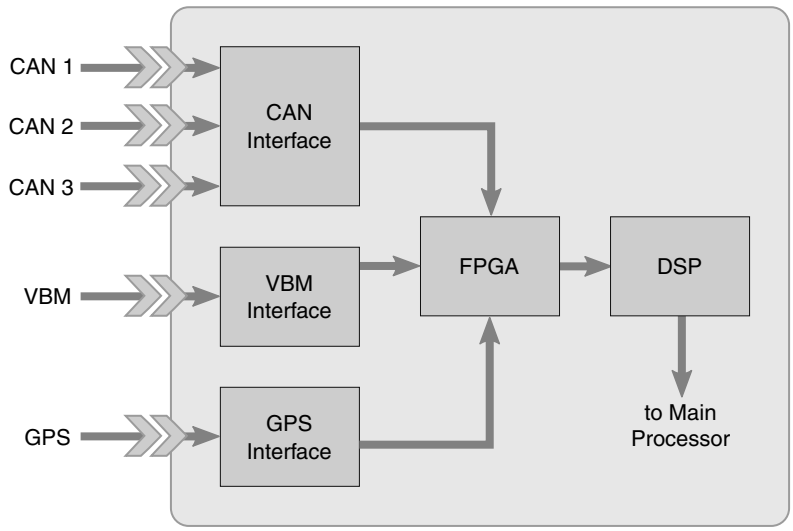
eDAQ Vehicle Network Communications Layer

Data Sheet

Special Features

- **Three dedicated CAN device interfaces, one vehicle bus module interface and one GPS communications port for SoMat GPS devices**
- **Up to 254 vehicle bus channels available per input**
- **Includes many predefined databases, such as J1939 and OBDII**

Block Diagram



HBM

Detailed Description

The SoMat ECOM Vehicle Network Communications Layer offers three dedicated CAN device interfaces, a vehicle bus module (VBM) interface and a GPS communications port designed to work with SoMat GPS devices. All interfaces use a SoMat M8 female bulkhead connector. The ECOM is an extremely versatile layer, providing a direct correlation between vehicle bus channels with physical data (e.g. analog, thermocouple and frequency) as well as GPS. Up to 254 vehicle bus channels can be recorded per input, allowing total eDAQ system channel counts to be virtually limitless. Unlike other data acquisition products, vehicle bus channels do not consume any analog inputs. In fact, all 254 channels are input directly through a single connector.

The ECOM can be used as a passive eavesdropper on the controller network or, when needed, can become an active participant, making frequent requests for specific information. The ECOM layer utilizes a simple logical masking scheme to identify required frames in an easily managed textual database which identifies where a unique message is within the frame. These methods allow for a short learning curve and easy manipulation using tools such as Microsoft Excel® where parameter group numbers (PGN), parameter identifiers (PID) or even direct address information can be added or modified. The ECOM layer comes with many predefined databases, such as J1939 and OBDII, simplifying access to standard information.

Ordering Options

Order No.	Description
1-ECOM-2	eDAQ Vehicle Network Communications Layer Includes: (4) 1-SAC-TRAN-MP-2-2 Transducer Cables
1-ECPU-PLUS-COM-2	eDAQ Plus Base Processor with ECOM Layer Includes: (1) 1-SAC-EPWR15-2 Power Cable, (1) 1-SAC-ESR9/XO-2 Communications Cable, (1) 1-SAC-EDIO-2 Digital I/O Transducer Cable and (4) 1-SAC-TRAN-MP-2-2 Transducer Cables Refer to the ECPU-PLUS data sheet for more information

Accessories (Order Separately)

Order No.	Description
1-EGPS-5HZ-2	GPS Receiver - 5 Hz Update
1-EVBM-J1708-2	Vehicle Bus Module - J1708 Requires: (1) Extension Cable (not included)
1-EVBM-VPW-2	Vehicle Bus Module - J1850 VPW Requires: (1) Extension Cable (not included)
1-EVBM-KWP2000-2	Vehicle Bus Module - ISO9141 KWP2000 Requires: (1) Extension Cable (not included)

Cables (Order Separately)

Order No.	Description
1-SAC-TRAN-MP-2-2	Transducer Cable - Male/Pigtail - 2 Meters Length
1-SAC-TRAN-MP-10-2	Transducer Cable - Male/Pigtail - 10 Meters Length
1-SAC-EXT-MF-0.4-2	Extension Cable - Male/Female Connectors - 0.4 Meters Length
1-SAC-EXT-MF-2-2	Extension Cable - Male/Female Connectors - 2 Meters Length
1-SAC-EXT-MF-5-2	Extension Cable - Male/Female Connectors - 5 Meters Length
1-SAC-EXT-MF-10-2	Extension Cable - Male/Female Connectors - 10 Meters Length
1-SAC-EXT-MF-15-2	Extension Cable - Male/Female Connectors - 15 Meters Length

Specifications

Parameter	Units	Value
Layer dimensions width length height	 cm cm cm	 23 25 3.3
Layer weight	kg	2.0
Temperature range	°C	-20 ... 65
Relative humidity range, non-condensing	%	0 ... 90
CAN protocol		2.0A and 2.0B
CAN baud rates	bps	1M, 500k, 400k, 250k, 125k, 100k, 50k and 41.6k
Transducer power voltage range (200 mA)	V	3 ... 12
Power consumption [1] no load EGPS-5HZ VBM	 W W W	 1.31 1.64 2.07

[1] Power consumption measurements include the efficiency of the power supply.

Standards

Category	Standard	Description
Shock	MIL-STD-810F	Method 516.5, Section 2.2.2 Functional Shock - ground vehicle
Vibration	MIL-STD-202G	Method 204D, Test condition C (10 *g* swept sine tested from 5 Hz to 2000 Hz)

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