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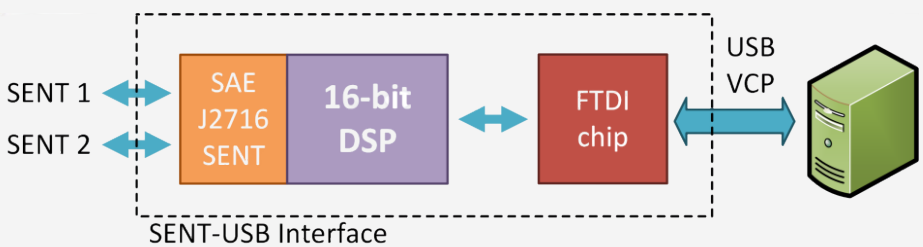
SAE J2716 USB Interface

The SENT-USB is a two-channel SAE J2716 (Single Edge Nibble Transmission - SENT) to USB interface that easily connects a SENT bus to any computer with an USB port. The converter is powered from USB and features two bi-directional SENT channels and an USB virtual COM port. The device comes with a free-of-charge PC application for SENT communication analysis and simulation. An open communication protocol over the virtual serial port enables the user to integrate the interface into an existing system.

FEATURES

- Two SAE J2716 (SENT) channels
- Each channel configurable as TX/RX
- USB Interface (Virtual COM port)
- USB-powered
- Configurable SENT channel parameters
- Supports Fast, Short Serial, and Enhanced Serial messages
- Supports SPC mode
- On-board non-volatile memory
- Intelligent message filtration
- Free PC application for configuration, reception, transmission and logging
- Communication protocol for integration into existing systems
- Device's firmware upgradable over USB
- Table or DIN-rail mount
- Hardware and firmware customization on request



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Each SENT channel can be configured independently to suit all use cases: 2 RX channels / 1 RX and 1 TX channel / 2 TX channels. Channel parameters (direction, tick time, nibble count, filtration) are configurable and the configuration can be stored in the device's non-volatile memory. Fast, Short Serial, and Enhanced Serial message formats are supported. An intelligent filtration of incoming SENT frames has been introduced so that serial communication does not get overloaded.

A PC application for configuring the device and for monitoring, logging and simulation of SENT communication is available for free. The device offers a communication protocol over its USB virtual COM port (VCP) so that the user can easily integrate the device into an existing system, such as test benches and HiL rigs. The protocol enables the user to configure the device's parameters as well as transmit and receive SENT Fast and Slow messages.

TECHNICAL SPECIFICATION

SENT

Channels	2x bi-directional SENT channel, each channel configurable as RX or TX
Specification	SAE J2716 (2016), Pause Pulse Support, SPC Mode Support
Tick time	3 - 90 us (lower values on request)
Data nibbles	1 - 6
Message format	Fast, Short Serial, Enhanced Serial
Reception filtration	No filtration, On change, Skip frames

General

Configuration	Non-volatile memory for storing configuration of SENT channels and communication parameters
PC application	Free Windows application for device configuration, reception and transmission of SENT Fast/Slow frames
Firmware	Upgradable from PC
Microcontroller	16-bit DSP

Electrical and Mechanical

Power input	USB-powered, no external power needed
Auxiliary power input	To lower USB consumption: 9 - 30 V DC input with polarity protection
Power output	5 V DC output for sensors (limited to 200 mA)
Consumption	80mA @ 5 V (5V output is not considered)
LEDs	3x Status Indicator, 1x Power
Button	1x Tactile switch (reset factory defaults)
Connectors	1x Micro-USB, 1x Terminal block 8-pin (3.5 mm pitch)
Dimensions (L x W x H)	108 x 54 x 30 mm
Weight	80 g
Operating temperature	0 to 70 °C
Protection	IP20
Placement	Table (adhesive pads included), DIN-rail mount (clip sold separately)

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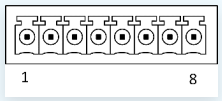
Communication Interface

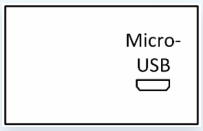
USB	FTDI FT232RL (USB 2.0)
Serial communication	Virtual COM port
Baud rate	Configurable: 115 200 / 230 400 / 460 800 / 921 600
Communication protocol	Binary protocol for easy integration

Connector 1 - SENT and Power

PIN	NAME
1	GND
2	SENT1 TX
3	SENT2 RX
4	SENT2 TX
5	GND
6	5V output
7	GND
8	Vin (optional)



Connector 2 - USB and Power

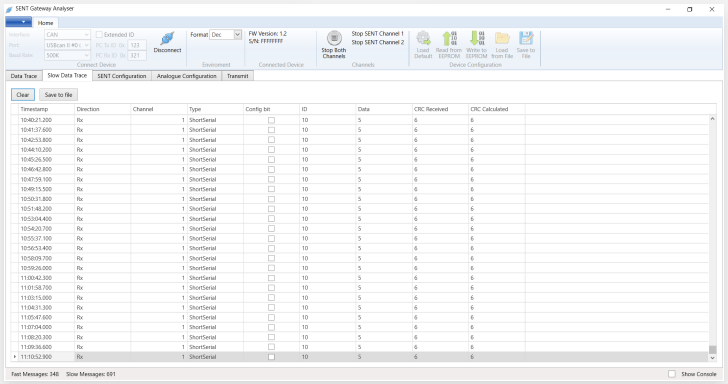


The interface is USB-powered, Vin can be used to lower the power drawn from USB.

Micro-USB connector uses a standard pinout.

Ordering Information

Product Number	Description
SENT-USB	SAE J2716 USB Interface
SENT-DIN-CLIP	Clip for mounting on a DIN rail



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