

RS-232 to SAE J1939 Converter

Model 1939STB



Description

The 1939STB provides a communication link between a host computer RS-232 port and a SAE-J1939 bus. The 1939STB complies with the SAE-J1939/11 specification and supports the physical layer. Although SAE-J1939 is CAN based, the 1939STB has no support for standard CAN frames (11 bit). The baud rate on the J1939 port is fixed at 250 kbps. The RS-232 side supports baud rates of 9600, 19.2k, 38.4k, 57.6 kbps.

Communication between the host PC and the J1939 bus employs control headers for transmission and reception from the SAE-J1939 bus. The control headers break down as follows:

Transmit Header

The transmit header has 4 bytes for control, and 4 to 16 bytes of data arranged as shown in the following table:

Byte 1	Byte 2	Byte 3	Byte 4	Up to 16 Bytes data
81	21	Function code // Message number	Reserved // # of bytes in message	---

Function Codes:

0001 = Move information in data field to the J1939 bus

0010 = Internal commands; (vendor code; set baud rate (RS-232 port))

Byte	Function	Byte	Function
0	Message control byte 1 (internal)	8	Data
1	Message control byte 2 (internal)	9	Data
2	Priority (3bits); data page (1bit); PF (4bits)	10	Data
3	PF cont. (4bits); PS (4bits)	11	Data
4	PS cont. (4bits); Source Address (4bits)	12	Data
5	Source Address cont. (4bits)	13	Data
6	Message Configuration (internal)	14	Data
7	Data	15	Reserved

Physical Description

Length:	5.3 in (134 mm)
Width:	2.8 in (70 mm)
Height:	1.0 in (25.4 mm)
Serial Connection:	DB9 female, DCE
SAE-J1939 Connection:	Terminal blocks
Power Connection:	Terminal blocks
Temperature:	0 to 70° C
Input Power Requirement:	10 to 42 VDC
Meets physical layer SAE-J1939/11	
Fully compatible with ISO 11898-24v standard	

Reception Header

The reception header uses 2 bytes for control and up to 16 bytes of data.

Byte 1	Byte 2	Up to 16 bytes of data
42	Message type // Bytes in message	---

Message Type:

0000 = data from J1939 bus

0001 = error message (data field contains messages function)

WARNING!

This Model 1939STB Converter Module allows you to connect to active SAE J-1939 networks. It is possible that your transmissions through this converter module could cause malfunction of the network operation, damage to the software or equipment, or bodily harm.

**Do Not Transmit Any Messages to The Network
without a complete understanding of the operation of the network.**

B&B Electronics Mfg. Co. specifically disclaims any responsibility for damage or injury to software, hardware, equipment or persons as a result of using this product.

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