



Automotive
Energy & Power Analysis
Field Service
Environmental
Research & Development

DEWE-CAN-TESTER

Technical Reference Manual



... the precision signal conditioning company



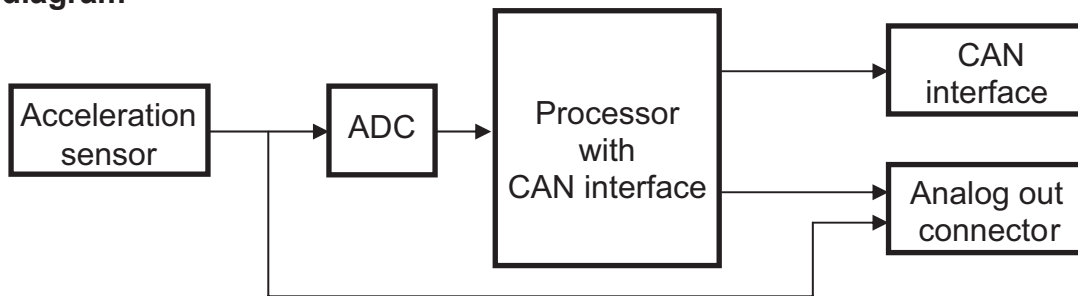
DEWE-CAN-TESTER

DEWE-CAN-TESTER



The DEWE-CAN-TESTER is to test the functionality of the CAN interface of any data acquisition system. In addition to this the DEWE-CAN-TESTER is also a useful tool to check the synchronisation quality of the measurement system between the CAN data and the analog data. This is possible by generating TTL output pulses synchronized with the CAN message. An acceleration sensor is also included for comparing the time delay between analog and CAN data.

Block diagram



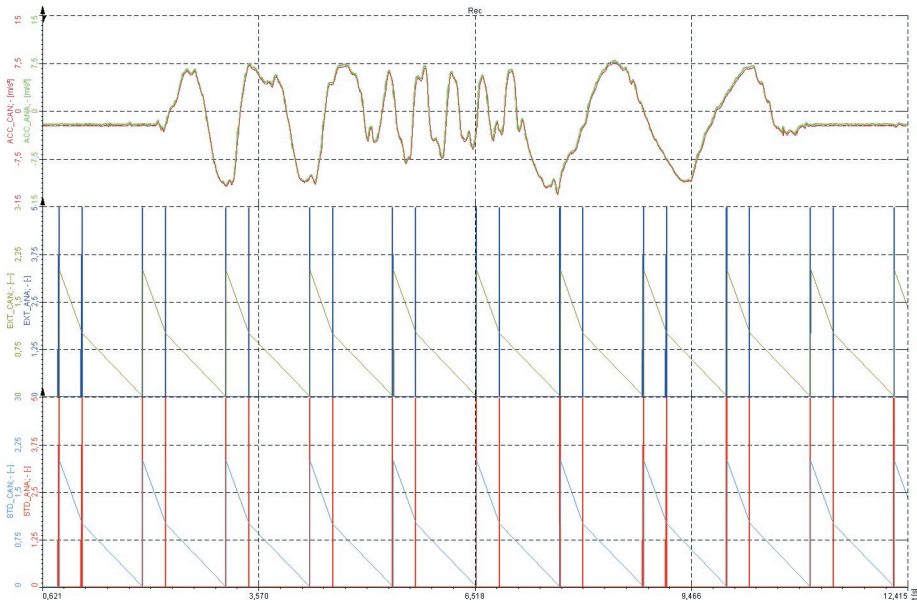
The baud rate of the CAN interface is fixed at 500 kBaud with a standard CAN high speed interface. Please note that during the installation of DEWESoft 6.2 a sample setup (DEWECanTest.dss) for the DEWE-CAN-TESTER and also the CAN library (DEWECanTest.dbc) is automatically installed.

Two LED's showing the status of this test tool. The red LED indicates the power supply. The green LED is flashing if the CAN interface of the data acquisition is set in the right way. In addition to the right BAUD rate it is also needed to switch off the "Listen Only" mode in the DEWESoft CAN hardware setup screen.

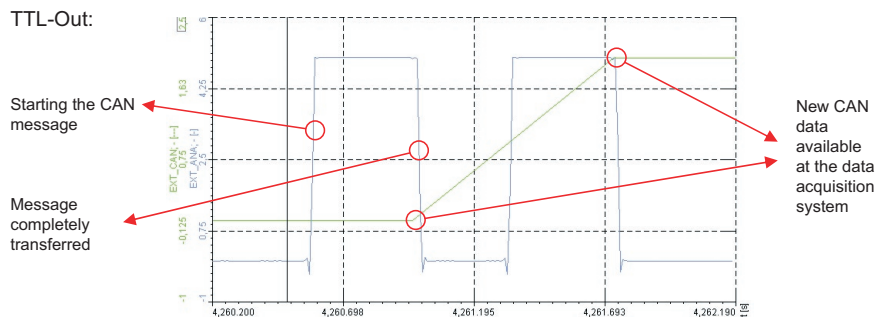
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Data output

The picture beyond shows some data recorded with DEWESoft. The first recorder shows the analog and CAN output of the acceleration sensor. At both diagrams below the TTL output and CAN messages are compared together. One recorder shows an extended and the other a standard identifier message.



Zooming into the recorder gives an idea of the exact timing relation.



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CAN data output format

The list below describes the identifiers of the CAN messages.

CAN data output format						
Identifier (Name, No.)	Channel name	Startbit	Length	Datatype	Scaling (kx+d)	Range
Acceleration, 0A	ACC_CAN	0	10	unsigned, Intel	0,0479, -25.525	$\pm 20 \text{ m/s}^2$
Extended, 28	EXT_CAN	56	2	unsigned, Intel	1	0...2
Standard, 29	STDT_CAN	56	2	unsigned, Intel	1	0...2

Analog output

Output level: 0...5 V

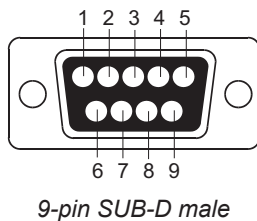
Range: $\pm 20 \text{ m/s}^2$

Sensitivity: $0.1019 \text{ V/m/s}^2 (\pm 5\%)$

Offset: 2.5 V ($\pm 0.2 \text{ V}$)

Output Connectors

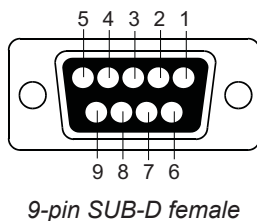
CAN



Pin assignment

1. NC
2. CANL
3. NC
4. NC
5. NC
6. NC
7. CANH
8. NC
9. NC

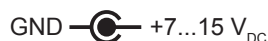
Analog out



Pin assignment

1. EXTENDED MESSAGE digital out
2. STANDARD message digital out
3. NC
4. Reserved
5. ACCELERATION SENSOR analog out (0...5 V)
- 6, 7, 8, 9: GND

Power



RS-232

The RS-232 connector is reserved for future use.

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