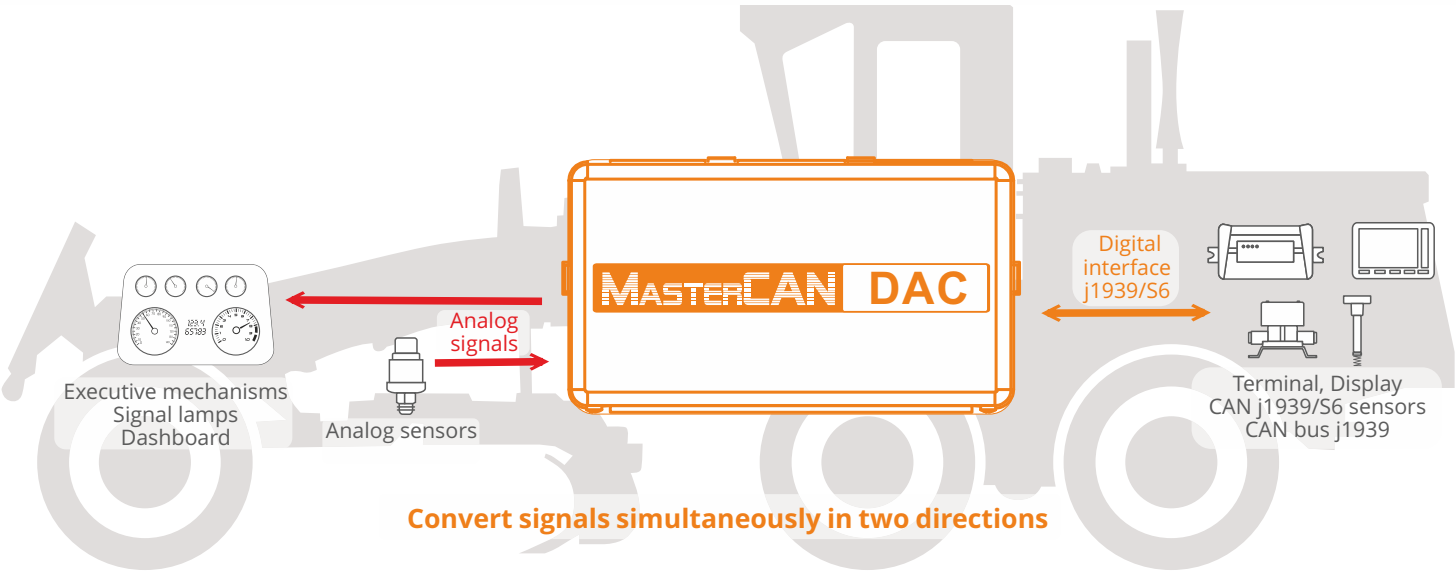
MasterCAN DAC

J1939 i/o modules

Digitalize analog signals of machinery instruments and transfer them to telematics system.

Allow telematics system controlling analog devices and instruments of machinery via CAN j1939 and ISObus messages.



Convert signals simultaneously in two directions

Configuration

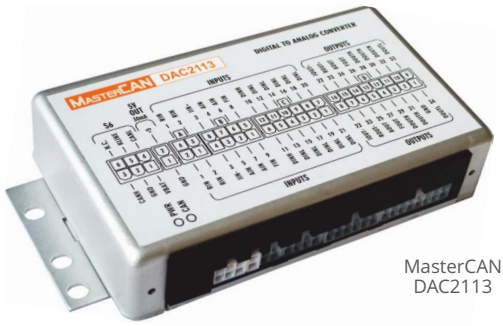
Analog inputs and outputs: selecting type (voltage/frequency/pulse/discrete/resistive) and range of values. Saving calibration table (e.g. for tank fuel volume measurement or axle load measurement) in module's memory.

CAN j1939/S6 digital interface: selecting input message for converting to analog signal or output message to be converted from analog signal. Choice of 10,000+ machinery operation Parameters from embedded S6 Database. Setting up network address and frequency of sending messages over CAN j1939/S6 interface.

Technologies

IoT BURGER S6

MasterCAN DAC15



MasterCAN DAC2113

		MasterCAN DAC15		MasterCAN DAC2113	
Signal types	Value	Inputs, pcs.	Outputs, pcs.	Inputs, pcs.	Outputs, pcs.
CAN j1939/S6 interface		1	1	1	1
Resistive	0.015 ... 50 kOhm	–	1	2	1
Voltage	0.5 ... 9 V	1	1	4	2*
Frequency	0.01 ... 10 kHz	1	1	2	2
Pulse	0.5 ... 9 B / 40 ... 250 ms	–	1	–	–
Current	4 ... 20 mA	–	1	1	1
Discrete		–	2	12	7

combined voltage/frequency input combined voltage/frequency/pulse output * voltage value 0.5 ... 10 V

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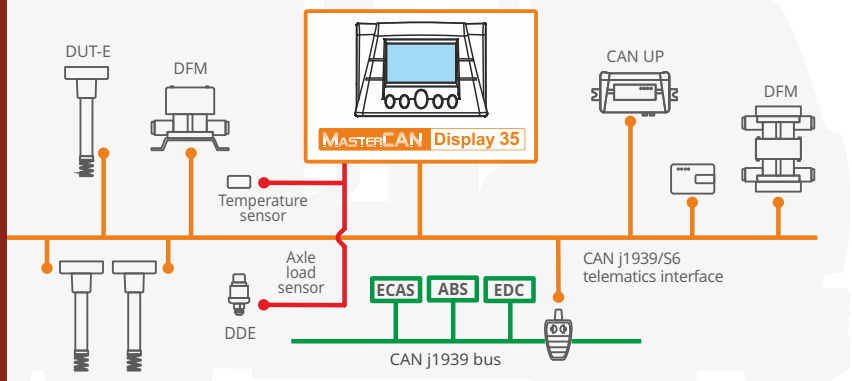
TECHNOTON
ADVANCED MACHINERY TELEMATICS

MasterCAN Display 35

Visual monitoring of machinery operation parameters

- **Automatic scanning and parsing of CAN J1939 and ISOBUS messages**
- **Possibility to parse and display proprietary CAN J1939/71 messages**
- **Conversion of analog signals to CAN-messages**
- **Displays up to 402 machinery operation parameters**
- **Flexible settings of parameters display**

10,000+ machinery parameters in display's database



RPM, coolant and oil temperature, oil temperature.
Volume and temperature of fuel in tanks, fuel consumption by each engine.
Engine operation mode, engine operation time in each mode.
Axle load, pressure in air suspension system.
Active engine failures and DTCs of ECUs.

Total 10,000+ parameters from CAN, ISOBUS, S6 and analog sensors are available for display.

Data sources, which can be simultaneously connected to MasterCAN Display:

- standard automotive **CAN** bus (road vehicles, construction equipment)
- **ISOBUS** of agricultural machinery and equipment
- up to 16 fuel level sensors and up to 16 fuel flow meters
- 2 analog sensors, e.g. axle load sensors
- telematics unit with CAN-interface
- up to 42 analog sensors via MasterCAN DAC I/O module

Technologies:

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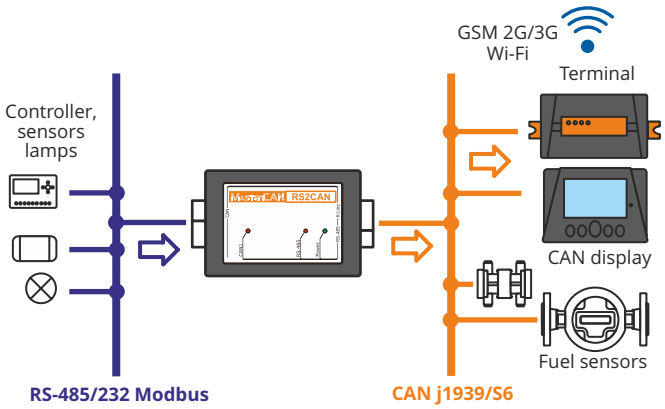
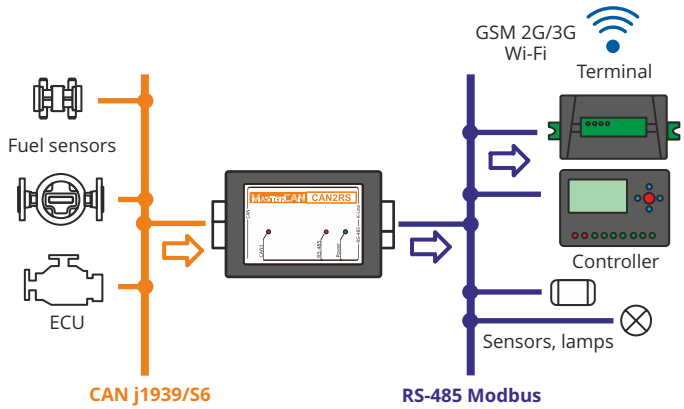
MasterCAN

RS2CAN and CAN2RS data converters

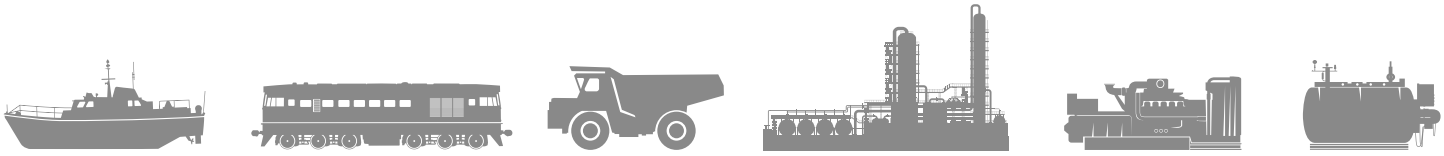




Data converter RS2CAN		
Input interface / protocol RS-485/232 Modbus	➡	Output interface / protocol CAN (SAE j1939/71)

Data converter CAN2RS		
Input interface / protocol CAN (SAE j1939/71)	➡	Output interface / protocol RS-485 Modbus

MasterCAN RS2CAN and CAN2RS converters are consolidating Modbus data from RS-485/232 interfaces and CAN j1939/S6 Telematics interface into a single telematics network.
Converts 100 parameters from/to Modbus.



Data converters are used in complex machinery telematics systems – for vehicles, stationary equipment, power generators, industrial machinery

Features

- ✓ User can select input and output data (CAN messages to Modbus registers).
- ✓ Configuration of CAN and RS-485/232 interfaces' baud rate.
- ✓ Automatic CAN j1939/71 scanning and parsing.
- ✓ MasterCAN CAN2RS can be operated in active (sending requests) and in sniffer modes within CAN interface.

Specifications

Supply voltage	10 ... 45 V
Current consumption (24 V / 12 V)	50/100 mA
Ambient temperature	–40 ... +85 °C
MasterCAN RS2CAN, control mode in RS-485/232	Master
MasterCAN CAN2RS, control mode in RS-485	Slave

MasterCAN RS2CAN interfaces

Input – RS-485 and RS-232, protocol Modbus RTU
Output – CAN 2.0, protocol j1939 + S6

MasterCAN CAN2RS interfaces

Input – CAN 2.0, protocol j1939 + S6
Output – RS-485, protocol Modbus RTU

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TECHNOTON
ADVANCED VEHICLE TELEMATICS

MasterCAN Tool

CAN J1939/S6 Simulator-Analyzer

- Reading and parsing CAN-messages from standard sensors and units of vehicle.
- Development, debugging and integration of telematics hardware and software.

MasterCAN Tool – instrument for professionals in telematics systems integration and electronic unit diagnostics and developers of automotive electronics.

Automotive CAN bus imitation

Functions and advantages

Displaying current values of parameters in decimal and HEX formats.

Displaying current values of parameters in decimal and HEX formats.

Recording values of parameters to a file (logging).

Specifying values of individual parameters and groups for broadcasting to CAN bus (parameter imitation).

Select in 11/29 bit length of identifiers during imitation.

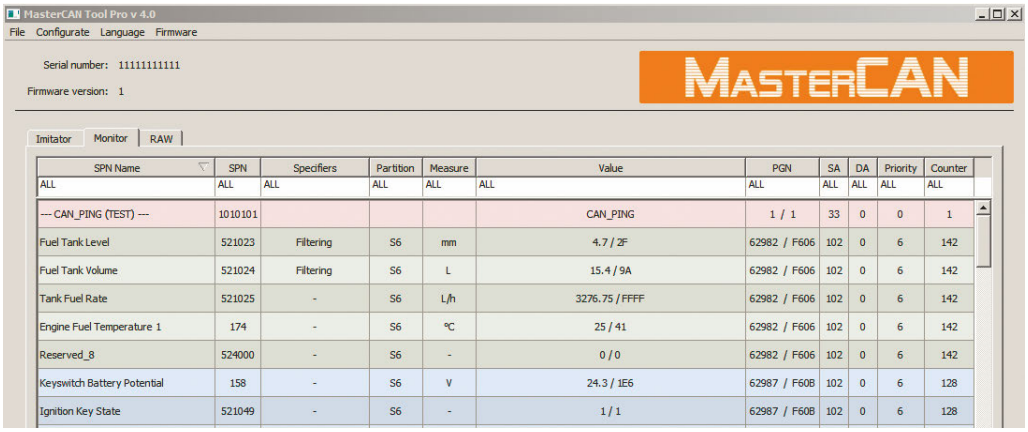
Configurable send/receive data baud rate – 100/125/250/500/1000 kbit/s.

Simple and easy connection to CANbus with CANCrocodile contactless reader.

CAN terminal resistor switch in firmware.

CAN bus load indicator.

Power supply from USB of PC or vehicle's onboard electrical network.



SPN Name	SPN	Specifiers	Partition	Measure	Value	PGN	SA	DA	Priority	Counter
ALL	ALL	ALL	ALL	ALL	ALL	ALL	ALL	ALL	ALL	ALL
--- CAN_PING (TEST) ---	1010101				CAN_PING	1 / 1	33	0	0	1
Fuel Tank Level	521023	Filtering	S6	mm	4.7 / 2F	62982 / F606	102	0	6	142
Fuel Tank Volume	521024	Filtering	S6	L	15.4 / 9A	62982 / F606	102	0	6	142
Tank Fuel Rate	521025	-	S6	L/h	3276.75 / FFFF	62982 / F606	102	0	6	142
Engine Fuel Temperature 1	174	-	S6	°C	25 / 41	62982 / F606	102	0	6	142
Reserved_8	524000	-	S6	-	0 / 0	62982 / F606	102	0	6	142
Keyswitch Battery Potential	158	-	S6	V	24.3 / 1E6	62987 / F60B	102	0	6	128
Ignition Key State	521049	-	S6	-	1 / 1	62987 / F60B	102	0	6	128

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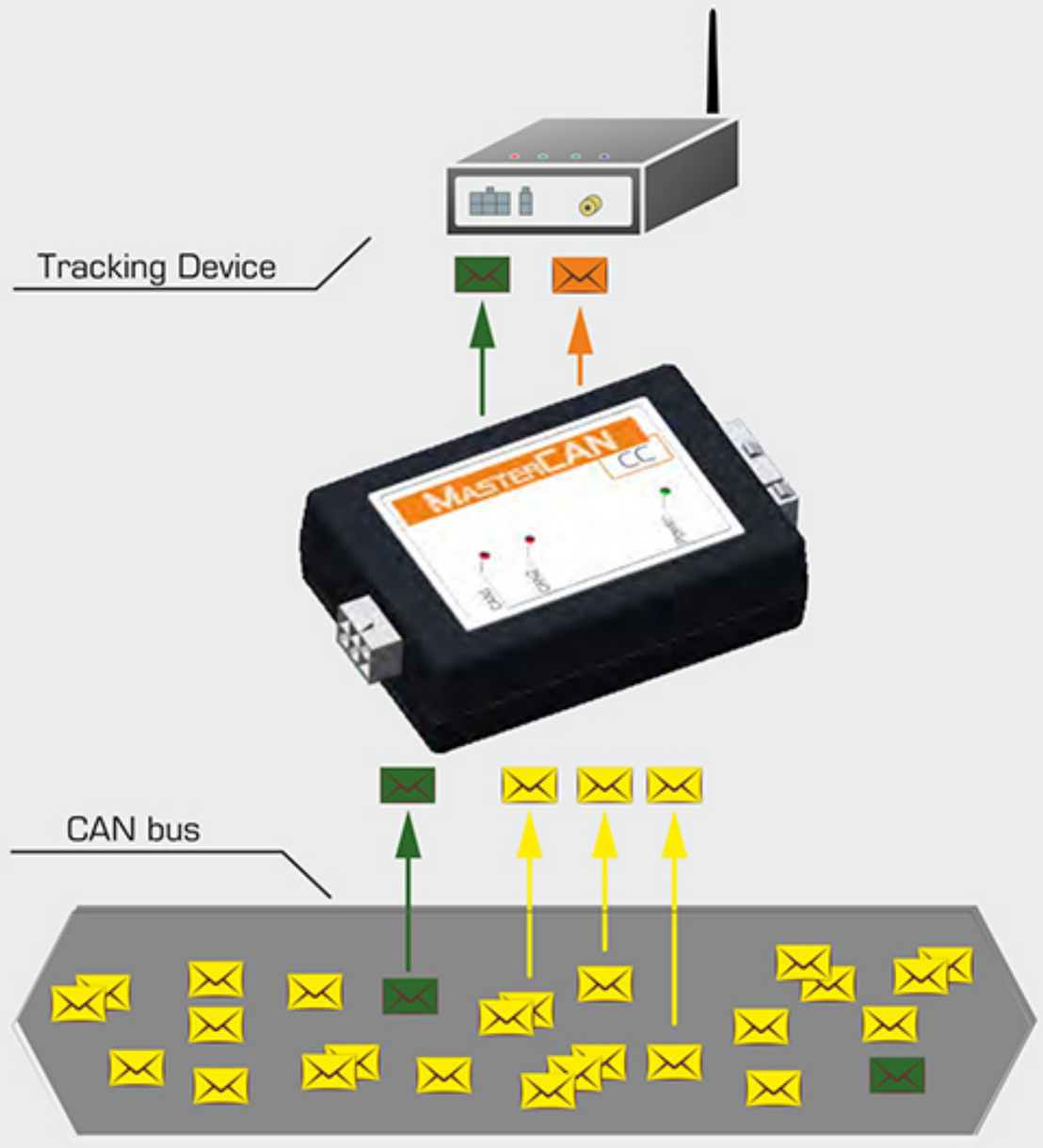
ADVANCED FUEL TELEMATICS

MasterCAN vehicle data interface

Purpose



Full range of vehicle operational data in a friendly format

- CAN bus (SAE J1939) and J1708 bus (SAE J1587) data reading;
- Selection of parameters and arranging them into messages easy to read and process on telematics terminals;
- CAN, RS-232, RS-485 output messages;
- Reading and totalizing data of several DUT-E CAN fuel level sensors and sending corresponding output message.
- Direct power supply.

Telematics message
FMS message
SAE J1939/71 message

S6 COMPLIANT

Specification

Supply voltage, V	10...50
Current consumption, mA	≤ 100
Operating temperature, °C	-40 ...+85
Protection class	IP40
Overall dimensions, mm	94,5x58,5x24,5

Telematics

Telematics messages contain most essential vehicle operation parameters:

- engine speed
- instant fuel consumption
- trip fuel consumption
- engine temperature
- oil pressure
- engine torque
- coolant level
- oil level
- outdoor temperature
- fuel level
- used fuel
- engine operating time

Models

Model	Input interface (protocol)	Output interface (protocol)
MasterCAN CC	CAN (SAE J1939/71)	CAN 2.0B (SAE J1939/71)*
MasterCAN C 232/485	CAN (SAE J1939/71)	RS-232/RS-485 (ASCII/Modbus/DUT-E COM)*
MasterCAN V-GATE	CAN (SAE J1939/71) and J1708 (SAE J1587)	CAN 2.0B (SAE J1939/71)* and RS-232 (ASCII/Modbus/DUT-E COM)*

* The list of messages and parameters should be specified separately

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