



Standards	Scope
J1939	Commercial vehicles, Ship and Diesel engines, Stationary diesel engines
NMEA2000	Navigation and other devices in maritime applications
ISO 11783 = ISOBUS	Agricultural and forestry machinery, based on J1939
ISO 11992	Point-to-point communication between tractor and trailer, based on J1939

## J1939SRV

### J1939 – NMEA2000 – ISOBUS

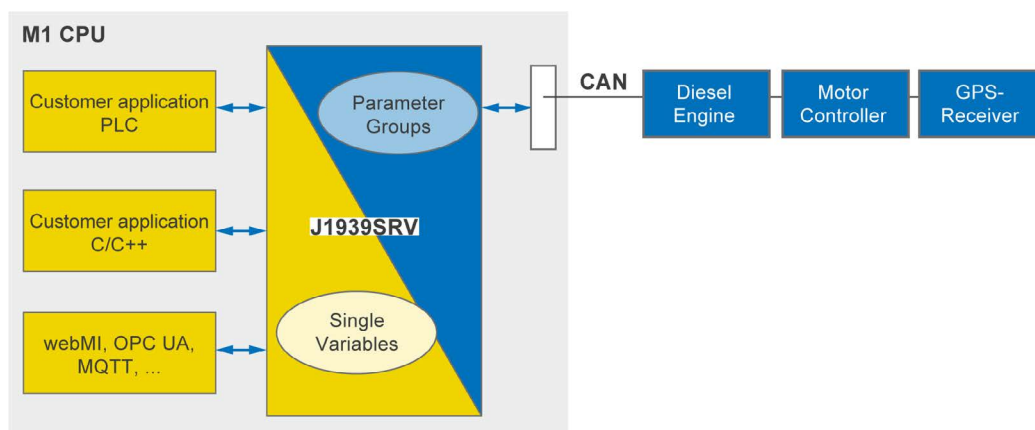
The J1939SRV is a software module for the M1 controller and enables communication in accordance with many CAN-based standards.

The listed standards define data structures for the particular applications. The content of the data packets (unlike CANopen on the same port) does not depend on the configuration, but is defined by the standard. A data packet corresponds to a previously defined parameter group and can be uniquely identified by the bus stations via the message ID.

The configuration only requires the entry of a parameter group number and the selection of the data direction (Tx/Rx). Information on data content and telegram repetition rates are stored for all parameter groups known in the module. Other parameter groups can also be used, the missing communication parameters can be set by the user in configuration dialogs.

Diagnostic messages from bus stations can also be received and displayed with their error number.

The user data from the parameter groups is sorted by source address and created in the system as variables that can be read or written individually. This means that the data can be used in the SolutionCenter or in a visualization without any further programming effort. Application programs can read the received values without additional libraries and provide their actual values for transmission.



**Possible applications**

- Monitoring and control of diesel engines
- M1 as an engine controller or input device
- M1 as a data and error logger
- Reading of position and speed information from GPS receivers in accordance with NMEA2000

**Range of functions**

- Communication in accordance with the standards J1939, NMEA2000, ISOBUS (ISO 11783), ISO 11992
- Cyclical or triggered data transmission
- Receipt of data incl. multipacket telegrams with timeout monitoring and quality display
- Receipt and display of diagnostic messages
- Installation as software module, multiple instances possible. Each instance occupies one CAN port on the controller.
- Variable interface to application programs, no additional libraries necessary

<b>J1939SRV</b>	
<b>System requirements</b>	
System software	M-Base 3.95 or higher
Hardware requirements	Free CAN port on the controller. Mixed operation with CANopen on the same port is not supported
<b>Configuration</b>	
Configuration tool	SolutionCenter with configuration dialogs
Storage of the configuration	Is stored directly in the central configuration file of the controller
Use of DCF files	No, the J1939 standard does not follow CANopen and does not use DCF files
<b>Range of functions</b>	
Automatic cyclical sending of parameter groups	Yes
Sending of parameter groups after receiving Transmit Requests	Yes, Global Requests and Destination Specific Requests are possible.
Sending of parameter groups by triggers from the customer software	Yes
Receipt of parameter groups with timeout monitoring	Yes
Sending of Transmit Requests to other bus stations	Yes
Receipt of Multipacket Messages	Yes
Receipt of Diagnostic Messages	Yes, with display of active device trouble codes
Number of known parameter groups from J1939	4166 standardized parameter groups can be selected directly by specifying the PGN
Other parameter groups	Yes, as "Generic PGN". These can be used in the same way as known groups by configuring the missing parameters such as transmission interval, structure, etc.
Marking invalid values	Quality information for each parameter group. Timeout and faulty CAN bus status lead to "BAD".
Automatic return after error states on the CAN bus	Yes
Preventing the sending of uninitialized values	Controllable via global transmit flag
Supported protocols	J1939, NMEA 2000, ISO 11992, ISO 11783 (ISOBUS)
<b>System requirements</b>	
System software	M-Base 3.95 or higher
Hardware requirements	Each instance requires a free CAN port on the controller. Mixed operation with CANopen on the same port is not supported.