CANbridge NT 200/420

Configurable CAN-to-CAN Bridge/Router with CAN FD Support

The CANbridge NT is offered in two versions, as CANbridge NT 200 with 2 classic CAN channels and as CANbridge NT 420 with 4 CAN channels, where 2 channels can be switched between CAN and CAN FD.
Both devices allow the easy coupling of CAN (CAN FD) networks, including networks with different bit rates or frame formats (11/29 bit identifier). The bridges/routers have a powerful microcontroller that can perform message filtering, ID translation and data multiplexing (e.g. required for CAN FD to CAN message conversion), at this even bursts at higher data rates can be processed without message loss.

FEATURES AND BENEFITS

FEATURES

- Up to 4 CAN (2 CAN FD) channels in one device
- Powerful filter, ID translation, data mapping and multiplex functionality
- Execution of pre-defined actions using event-triggered "Action Rules"
- Programming of any kind of action rules using LUA
- Configurable security levels for device access (configuration or firmware upload)
- Windows configuration tool for easy configuration via USB

BENEFITS

- Easy coupling of CAN and CAN FD systems and devices
- Cost savings due to simple wiring
- Allows system expansion and tree/star topologies
- Increased system reliability
- Line protection by galvanic isolation

CONTENTS OF DELIVERY

- CANbridge NT 200 or CANbridge NT 420
- CD with CAN-Gateway Configurator
- Manual
- Mini USB cable

TECHNICAL SPECIFICATIONS

CAN bitrates	5 to 1000 kBit/s
CAN FD bitrates	Arbitration rate up to 1000 kBit/s, data rate up to 8000 kbit/s. The data rates are verified by tests. User-defined bit rates are possible. Attention: The maximum data rate can be exceeded depending on the concrete operating conditions (cable length, settings made, remote stations,...), but it can also not be reached.
CAN bus termination resistor	None

Max. number of bus nodes	120
Power supply	9 V to 36 V DC
Current consumption	Typically 110 mA (at 24 V input voltage) or 220 mA (at 12 V input voltage)
Galvanic isolation	1 kV for 1 sec
Operating temperature	-40 °C to +85 °C
Protection class	IP20
Dimensions	114.5 x 99 x 22.5 mm
Weight	Approx. 150 g
Certification	CE, FCC, UL

HOW IT WORKS

Unlike a CAN Repeater, which only translates the electric signals, the CAN messages are received completely by the CANbridge NT and then sent to the other CAN or CAN FD network in line with existing filter, conversion, port mapping or multiplex rules (Store-Forward principle). With two CANbridge NT 420 it is possible to transmit messages between two Classic CAN networks via a CAN FD network (CAN tunnel).

CANbridge NT 200

- 2 x CAN
- Action Rules and LUA-Script
- Message Filter
- Baudrate Conversion
- 11/29 Bit Frame Conversion

CANbridge NT 420

- 4 x CAN (2 x CAN FD)
- Action Rules and LUA-Script
- Message Filter
- Baudrate Conversion
- 11/29 Bit Frame Conversion
- ID Translation
- CAN/CAN FD Conversion with Message Multiplexing

Filtering and multiplexing

By using mapping tables the message reception/transmission is possible between all 4 channels. With the aid of filter and conversion rules,

CAN or CAN FD messages can be filtered or modified. With these mechanism, the bus load can be reduced in the individual networks by only sending messages which are of interest to the other network. For SAE J1939 applications a special mapping table is provided, adapted to the specific parameters. The data multiplexing/demultiplexing functionality enables the mapping of e.g. CAN-FD data to several standard CAN messages and vice versa.

Action Rules

In response to received messages, device or CAN bus status events, a variety of actions can be performed automatically, e.g. sending messages (CAN, CAN FD), changing device settings or switching device LEDs. Action rules are created through intuitive drop-down menus for events and actions within the Windows-based device configuration tool or by using LUA scripts.

Cyclic transmission

The cyclic transmission feature enables cyclic forwarding of messages. Both, messages and cycle times are defined within a central cyclic transmission table.

CONFIGURATION

The configuration of the CANbridge NT and the firmware upload is done with an intuitive to operate Windows configuration tool via USB. With the tool, the configuration of filter, mapping, multiplexer or translation rules can be carried out very easily, without programming skills.
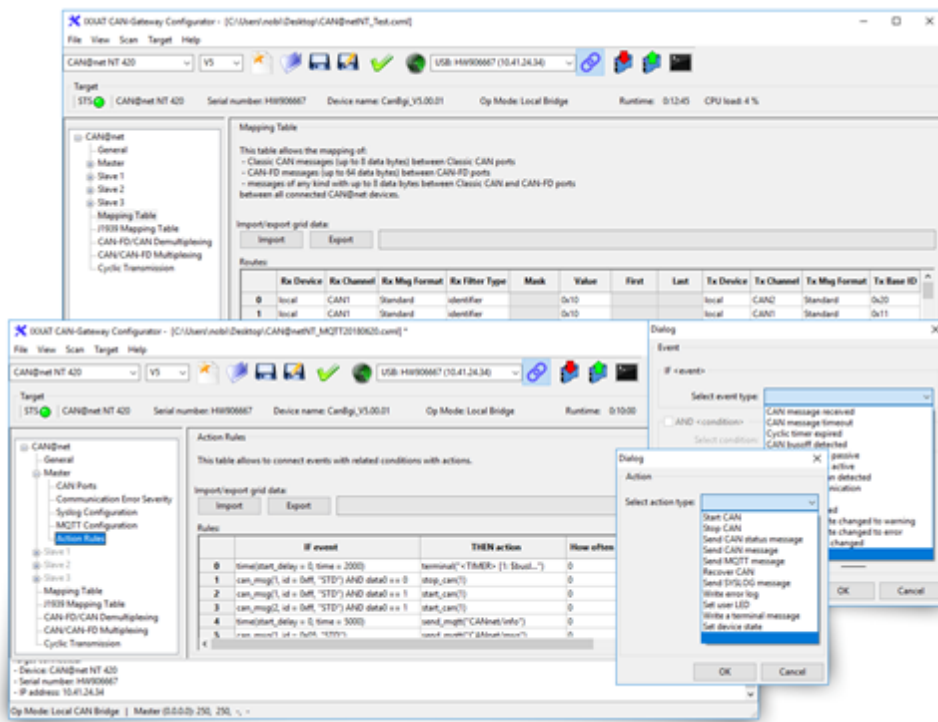
Windows configuration tool supporting CANbridge NT and CAN@net NT

Order number

1.01.0331.20000	CANbridge NT200 - 2 x CAN
1.01.0331.42000	CANbridge NT420 - 4 x CAN (2 channels switchable between CAN and CAN FD)

Accessories

Type	Order number	Product image
Sub-D9 Connector with CAN Termination	1.04.0075.03000	

CAN cable	1.04.0076.00180	
Y CAN cable	1.04.0076.00001	
More accessories and detailed information...		