Ixxat®
BY HMS NETWORKS

CAN@net NT 100/200/420

FEATURES AND BENEFITS

FEATURES

- Up to four independent CAN channels (2 CAN FD channels)
- Powerful filter, ID translation, data mapping and multiplexing functionality
- MQTT support for an easy cloud connection (publisher and subscriber)
- Execution of pre-defined actions using event-triggered "Action Rules"
- Programming of any kind of action rules using LUA
- Windows configuration tool for easy configuration via USB or Ethernet
- Configurable security levels for device access (configuration or firmware upload)
- Designed for high performance in industrial environments

BENEFITS

- Easy coupling of CAN and CAN-FD systems and devices
- Bridging of large distances and easy remote system access using Ethernet
- Cost savings due to simple wiring
- Allows system expansion and tree/star topologies
- Increased system reliability
- Line protection by galvanic isolation

CONTENTS OF DELIVERY

- CAN@net NT 100, CAN@net NT 200 or CAN@net NT 420
- User manual
- CD with CAN Gateway Configurator
- CAN VCI driver for Windows
- Mini USB cable

TECHNICAL SPECIFICATIONS

Ethernet interface	10/100 MBit/s, twisted pair, RJ45 connector
CAN transceiver	Texas Instruments SN65HVD251P
CAN channels	CAN@net NT 100: 1 x CAN CAN@net NT 200: 2 x CAN CAN@net NT 420: 4 x CAN (two of them with CAN FD)
CAN connection	CAN@net NT 100: D-Sub 9 CAN@net NT 200: Screw connector CAN@net NT 420: Screw connector
Max. number of bus nodes	120
CAN bus termination resistor	None
CAN baudrates	**Standard CAN:** 5 to 1000 kBaud, **CAN-FD:** 5 to 8000 kBaud

| Power supply	9 V to 36 V DC
Current consumption	typically 110 mA (at 24 V input voltage) or 230 mA (at 12 V input voltage)
Temperature range	Operating temperature -40 °C to +85 °C, Storage temperature -40 °C to +85 °C
Galvanic isolation	1 kV for 1 sec.
Certification	CE, FCC
Housing	Polyamide housing for top hat rail mounting
Protection class	IP20
Size	approx. 114.5 x 99 x 22.5 mm
Weight	approx. 150 g

HOW IT WORKS

OPERATION MODES

CAN-Ethernet Gateway

In gateway mode the CAN@net NT can be directly accessed from e.g. Windows, Linux, VxWorks or QNX based systems as well as from embedded systems, by using a simple ASCII protocol over a standard TCP/IP socket. As CAN-Ethernet Gateway, the CAN@net NT offers easy, flexible access to four independent CAN systems (two CAN FD) via a LAN or via the Internet.

PC Interface

With the included VCI driver for Windows, the CAN@net NT can be operated like all Ixxat CAN PC interfaces. With the CAN@net NT, all VCI-based Ixxat tools, such as the canAnalyser, as well as customer-specific applications based on the VCI driver can be used. The VCI CAN driver offers the possibility to communicate with up to 128 CAN@net NT devices at the same time.


CAN@net NT 420 in PC Interface or Gateway Mode
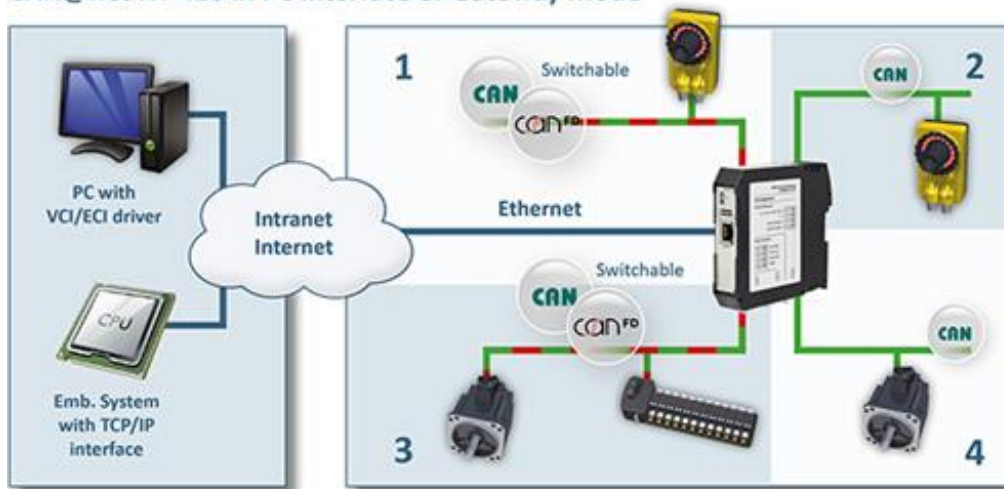
CAN-Ethernet-CAN Bridge

By using up to four CAN@net NT 420 (two CAN@net NT 100/200), a CAN-Ethernet-CAN bridge can be implemented, with each up to four independent CAN channels (2 for the CAN@net NT 200, 1 for the CAN@net NT 100) per device. The bridge allows the exchange of CAN messages between CAN systems over long distances via TCP/IP, using existing Ethernet infrastructures. The segmentation of CAN systems also increases the reliability and failure safety of the entire system.

CAN@net NT 420 in Bridge Mode
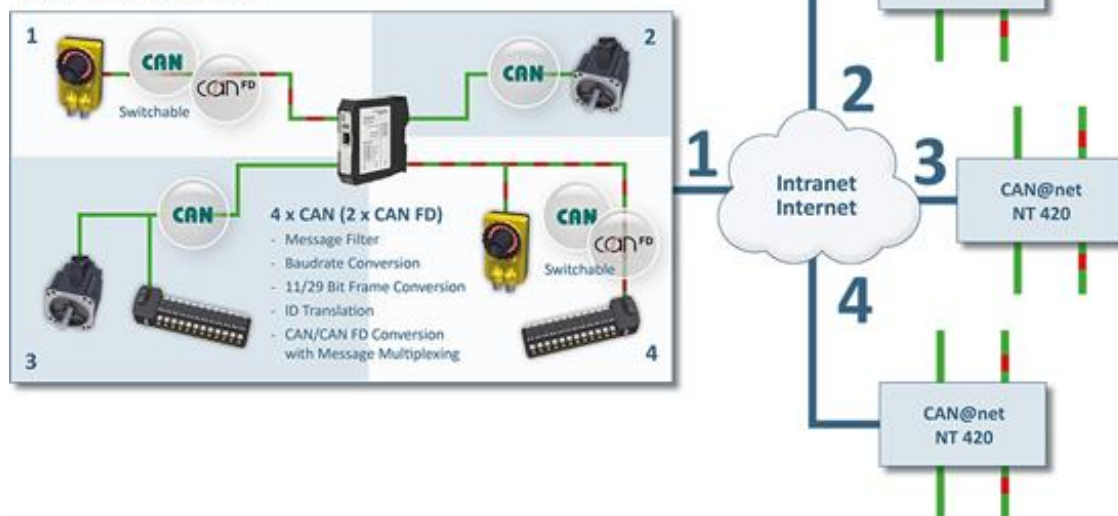
Functions

Filtering and multiplexing

With the help of mapping tables, the exchange of messages between all channels can be configured very flexibly. Filter and conversion rules can be applied to the CAN and CAN FD messages. As a result, the bus load in the individual networks can be reduced since only relevant messages are transmitted 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, MQTT), 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.

MQTT for cloud connection

Whether device status or CAN/CAN FD data, the MQTT functionality of the CAN@net NT enables transmission of various information to the cloud – easily programmable using action rule lists. With free available broker services and APPs, e.g. status messages or system values can be easily transmitted to your smartphone or other devices.

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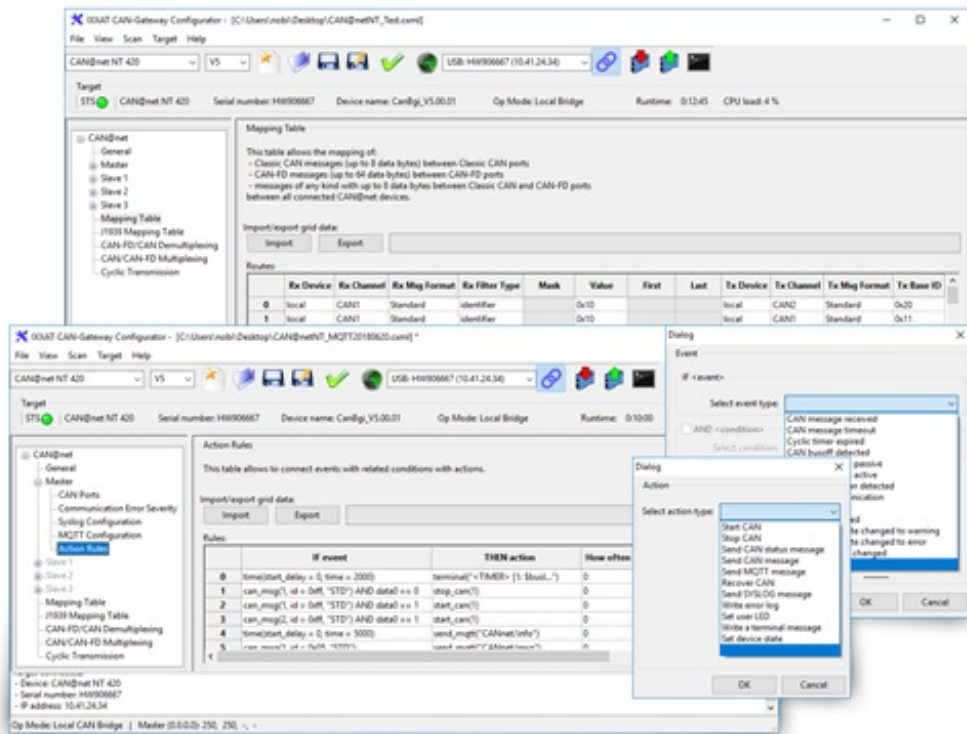
Windows configuration tool supporting CANbridge NT and CAN@net NT