# Application Note – proconX CAN-ETH

Introduction

The gateway proconX CAN-ETH is an expansion device in order to expand the CAN Bus length between load sharing groups. The gateway converts the CAN information to Ethernet (UDP messages) and backwards. The gateway allows the user to take different Ethernet instruments for transmit data. Usually 2 CAN-ETH units are required.

Application examples:

- CAN bus length extensions by Ethernet cable (without switch up to 100m)
- Wireless networking of CAN networks
- CAN bus length extensions by DSL bridging (up to 10km)
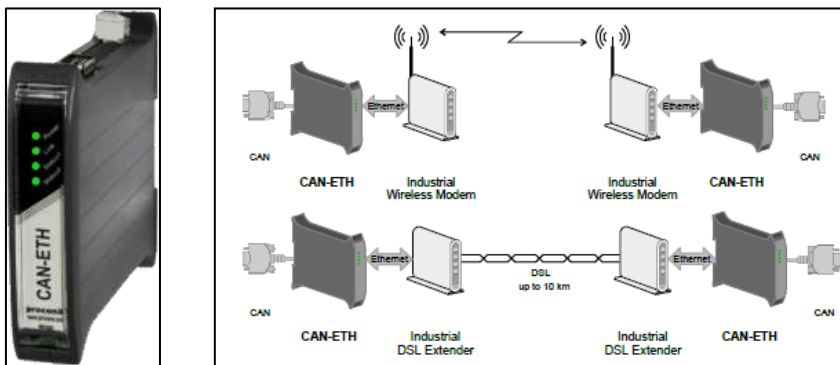

Installation

- Battery supply   Terminal 1   +24VDC

  Terminal 2   Common

- CAN (termination from the CAN interface at the first and last device)
- Ethernet (Crossover for direct connection between CAN-ETHs or straight in combination with a switch or network connection)
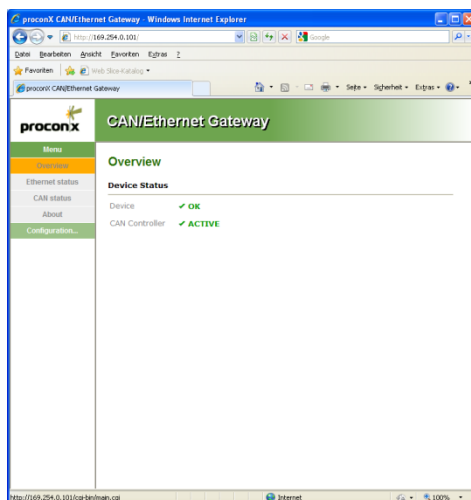
Configuration

1. Preparation

Before configure the CAN-ETH it is necessary to change any dynamic IP addressing from the PC to a unique address. For example the IP address 169.254.0.020.
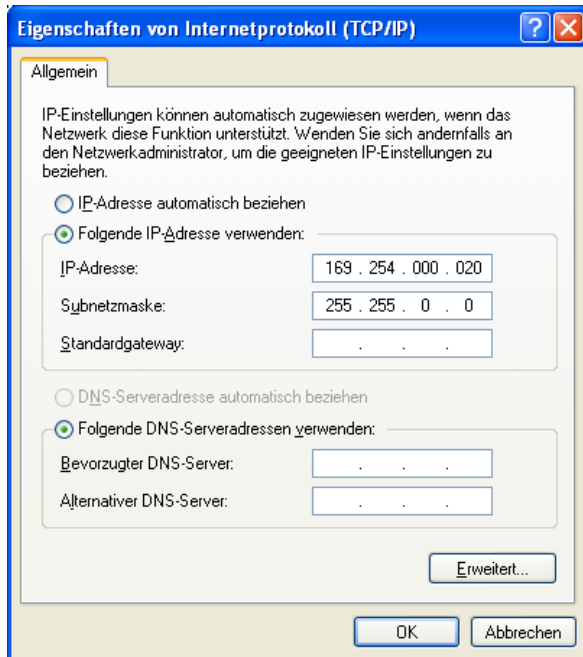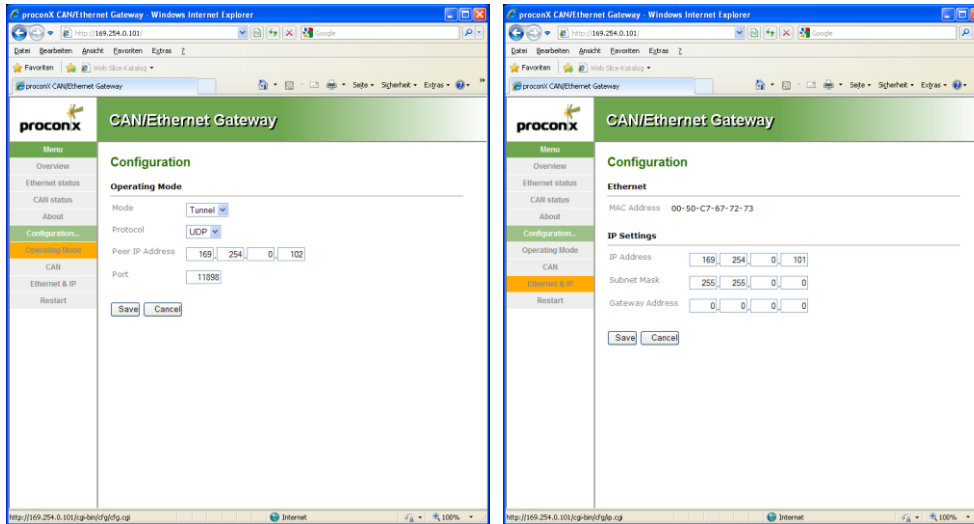

After that use an Ethernet crossover cable and connect the PC with the CAN-ETH.

Start the Internet explorer and enter the default IP from the CAN-ETH (169.254.0.10)
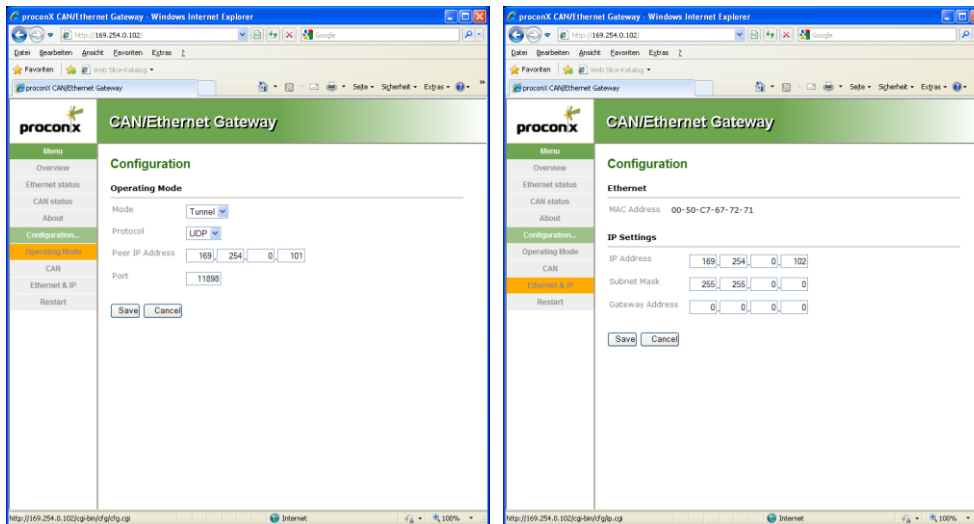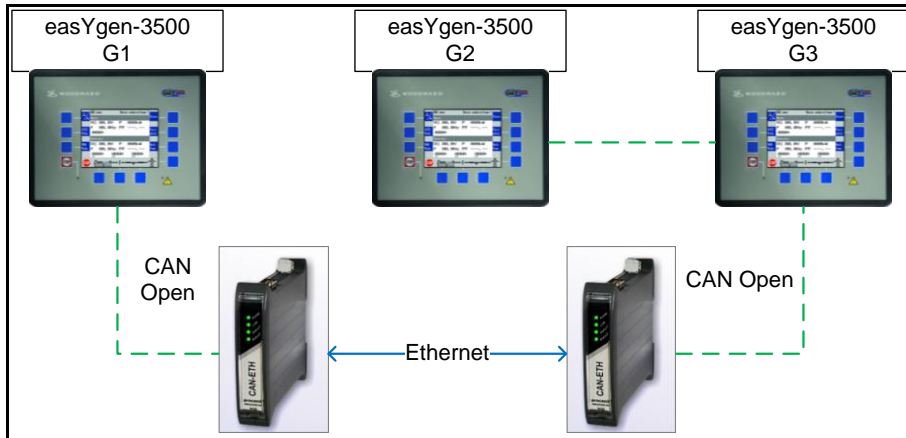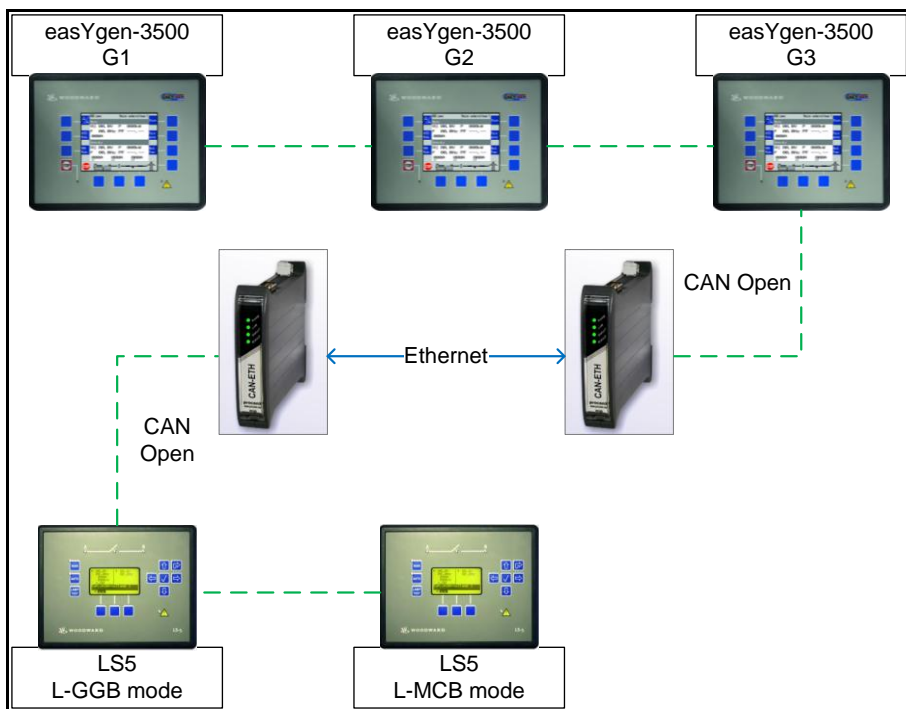
2. Setup the devices

The first CAN-ETH

The second CAN-ETH

Application examples

CAN-ETH between two easYgen load share groups

CAN-ETH between easYgen and LS5

Usage of CAN filters

In application, where determined CAN data is exclusively sent and received within a given location, the filter function of the CAN-ETH can be used to discharge the gateway and the transmission line.

With the CAN hardware filter the gateway doesn't broadcast the complete CAN identifiers across the Ethernet and this prevents overloading of the gateway and misleading or delayed Ethernet UDP messages.
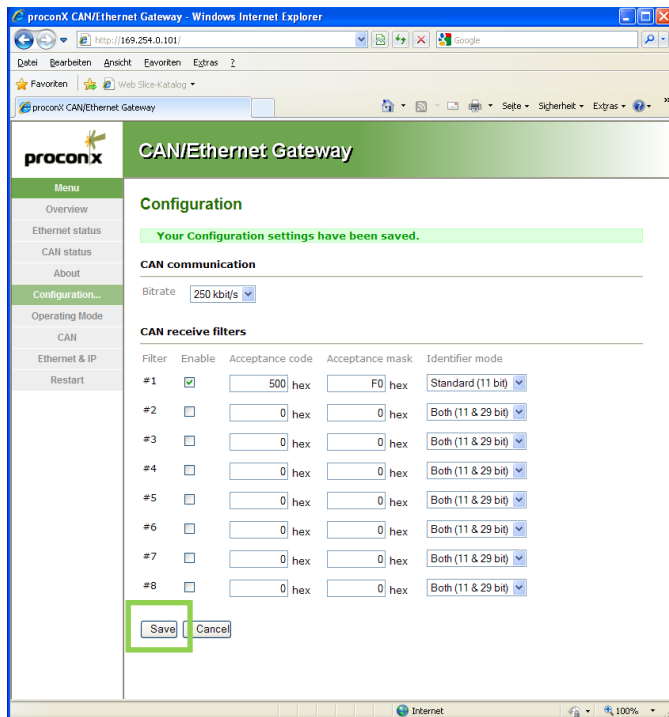
Acceptance code   -> ID Start address   -> Example **500**

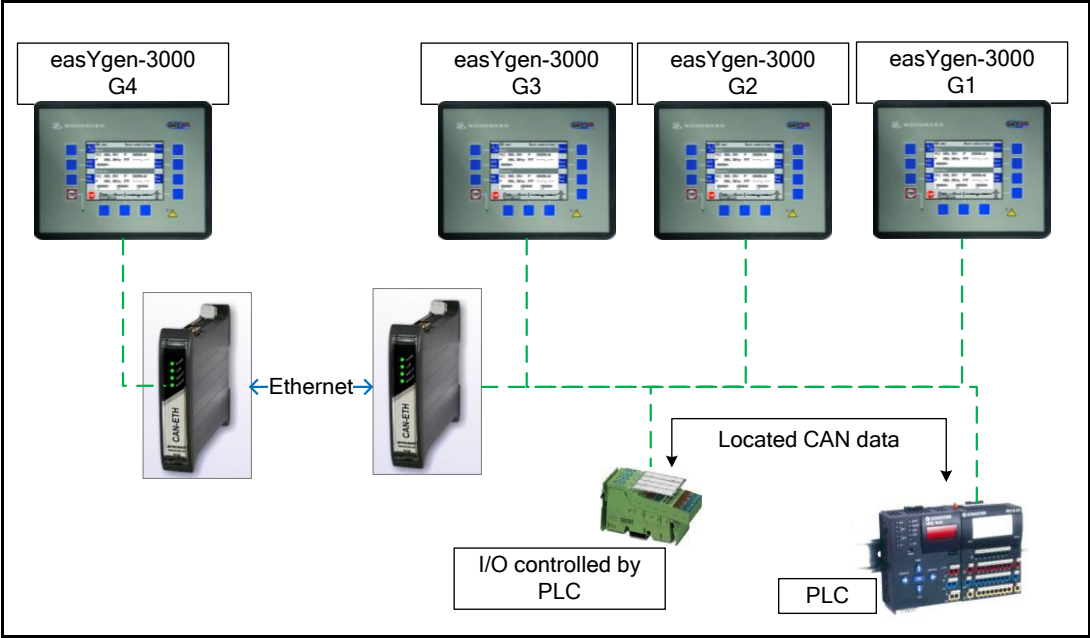Acceptance mask   -> Offset and allowed differences from the acceptance code

Examples of Acceptance masks:

F0 hex = 1111 0000 bin -> ID 500 – 50F -> The message Ids 500…50F hex are passed through

FC hex = 1111 1100 bin -> ID 500 – 503 -> The message Ids 500…503 hex are passed through

F8 hex = 1111 1000 bin -> ID 500 – 507 -> The message Ids 500…507 hex are passed through

Application example

This example shows that some CAN data messages must be not sent via the Ethernet network. In this case the CAN-ETH could be adjusted so that the message Ids from PLC to I/O unit and backwards are filtered out.