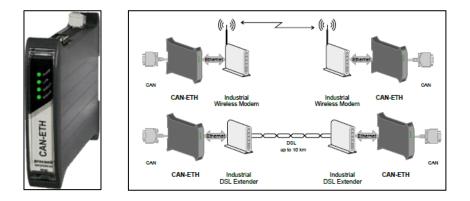
Application Note – proconX CAN-ETH

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



- 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

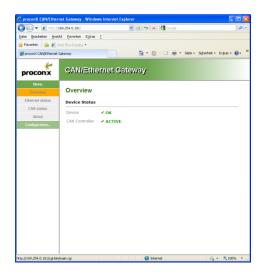
1. Preparation

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.

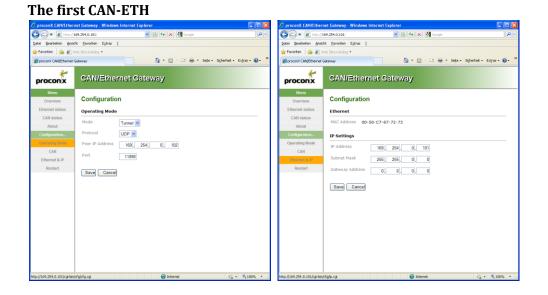
Eigenschaften von Internetprotokoll (TCP/IP) 🛛 🔹 🛛									
Allgemein									
IP-Einstellungen können automatisch zugewiesen werden, wenn das Netzwerk diese Funktion unterstützt. Wenden Sie sich andernfalls an den Netzwerkadministrator, um die geeigneten IP-Einstellungen zu beziehen.									
○ IP-Adresse automatisch beziehen									
─⊙ Folgende IP- <u>A</u> dresse verwenden:									
IP-Adresse:	169 . 254 . 000 . 020								
S <u>u</u> bnetzmaske:	255.255.0.0								
<u>S</u> tandardgateway:									
○ D <u>N</u> S-Serveradresse automatisch beziehen									
Folgende DNS-Serveradressen verwenden:									
Bevorzugter DNS-Server:									
Alternativer DNS-Server:									
Erweitert									
	OK Abbrechen								

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

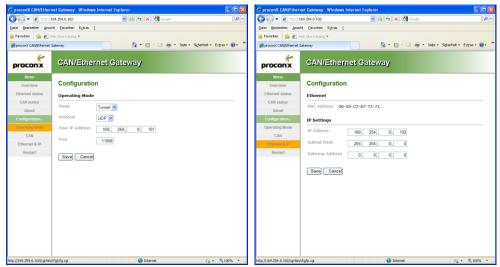
Start the Internet explorer and enter the default IP from the CAN-ETH (169.254.0.10)



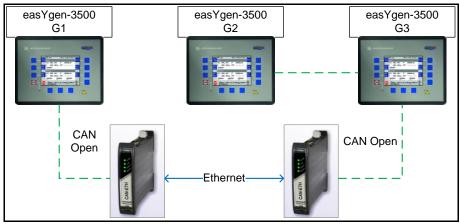
2. Setup the devices



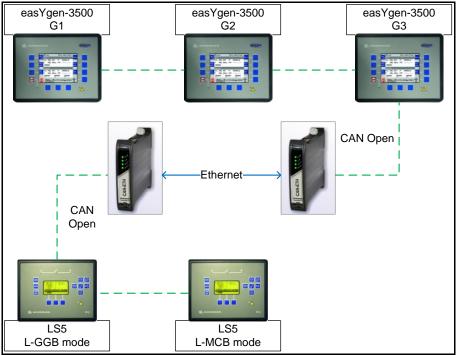
The second CAN-ETH



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.

C proconX CAN/Ether	net Gatewa	ıy - Windo	ws Internet f	xplore	1				
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SproconX CAN/Ethernet (Gateway				<u></u>	• 🔊	🔹 📑 🖶 🔹 Seite 🕶	Sigherheit + I	Extras 🛛 🕡 🗸
proconx	CAN	l/Ethe	ernet G	atev	way				
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CAN status				angs .					
About		ommuni	cation						
Configuration	Bitrate	250 kt	oit/s 🔽						
Operating Mode									
CAN	CAN re	eceive fi	ters						
Ethernet & IP	Filter	Enable	Acceptance	code	Acceptance m	ask 1	Identifier mode		
Restart	#1	v	500	hex	F0 h	iex [Standard (11 bit) 💌		
	#2		0	hex	0 H	iex [Both (11 & 29 bit) 💌		
	#3		0	hex	0	ex [Both (11 & 29 bit) 🔽		
	#4		0	hex	0 h	ex [Both (11 & 29 bit) 💌		
	#5		0	hex	0 h	iex [Both (11 & 29 bit) 👻		
	#6		0	hex	0 H	ex [Both (11 & 29 bit) 🔽		
	#7		0	hex	0 H	ex [Both (11 & 29 bit) 🔽		
	#8		0	hex	0 h	ex [Both (11 & 29 bit) 👻		
	Save	Canc	el						
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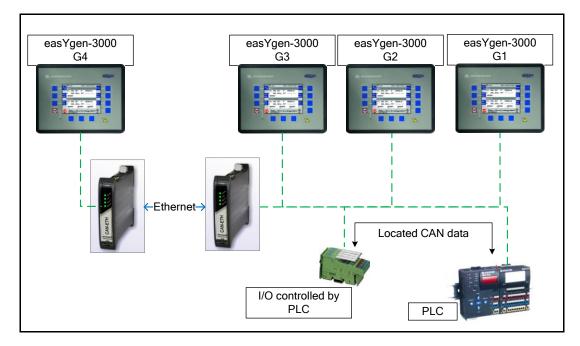
Acceptance code -> ID Start address -> Example 500

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.