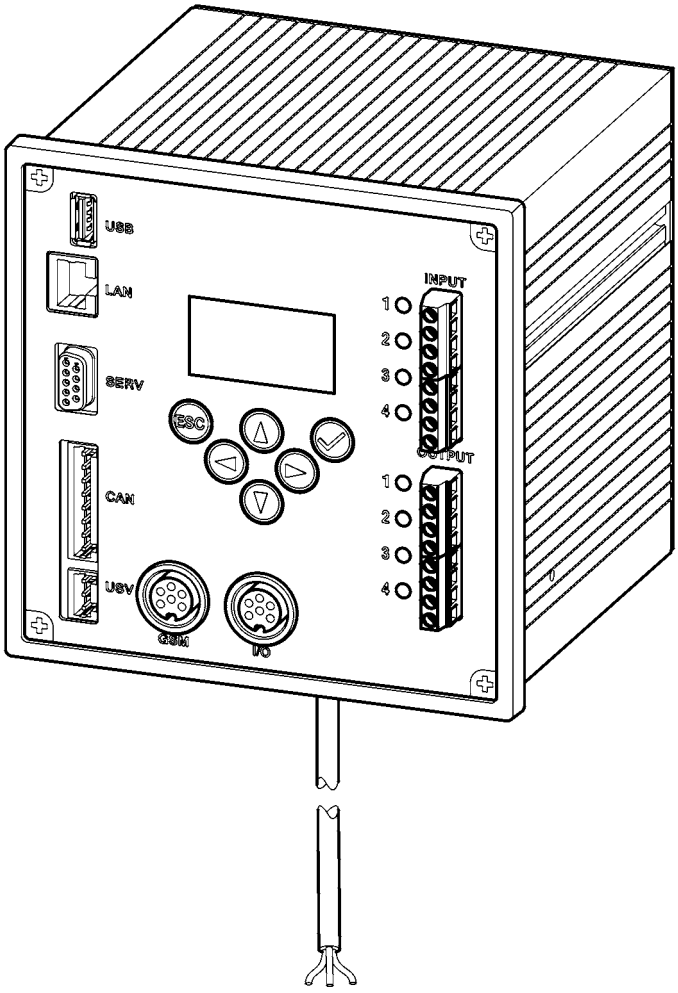
Installation and operating instructions
Notice de montage et de mise en service
Instrucciones de montaje y uso
Istruzioni per il montaggio e l'uso
Montage- en bedrijfsinstructies

Best.-Nr.: 2030016282
ZA3OP0022



DE
EN
FR
ES
IT
NL

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KWC

EN 3

Please refer to the graphics in the German Installation and Operating Instructions.

FR 12

Les graphiques sont disponibles dans la notice de montage et de mise en service allemande.

ES 21

Por favor, consulte los gráficos en las instrucciones alemanas de montaje y uso.

IT 30

Per le grafiche fare riferimento alle Istruzioni per il montaggio e l'uso in tedesco.

NL 39

De tekeningen kunt u in de Duitse montage- en bedrijfsinstructies vinden.

Instructions for BMS connection
ECC2 function controller

Please refer to the graphics in the German Installation and Operating Instructions.

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7. BACnet connection 6
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1. Abbreviations and Units

Best.-Nr.:	Aquarotter Order Number
Conversion	1 mm = 0.03937 inches 1 inch = 25.4 mm

All length specifications in the graphics are in mm.

2. Key

⚠ **Warning!**
Failure to observe can result in injury or even death.

⚠ **Caution!**
Failure to observe can result in material damage.

☞ **Important!**
Failure to observe can cause the product to malfunction.

☞ Useful information for optimally handling the product.

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3. Warranty

Liability is accepted according to the General Terms and Conditions of Business and Supply.
Use original replacement parts only!

4. Important Notes

- Installation, commissioning and maintenance are to be performed only by a qualified technician according to the instructions provided and in accordance with legal requirements and acknowledged rules of technology.
- All technical connection regulations specified by the local water and electricity supply utility companies must be complied with.
- All rights reserved to make technical alterations.

5. Application

ECC function controller included BMS - Data protocols for BacNet - IP, KNX - IP and Modbus - TCP.

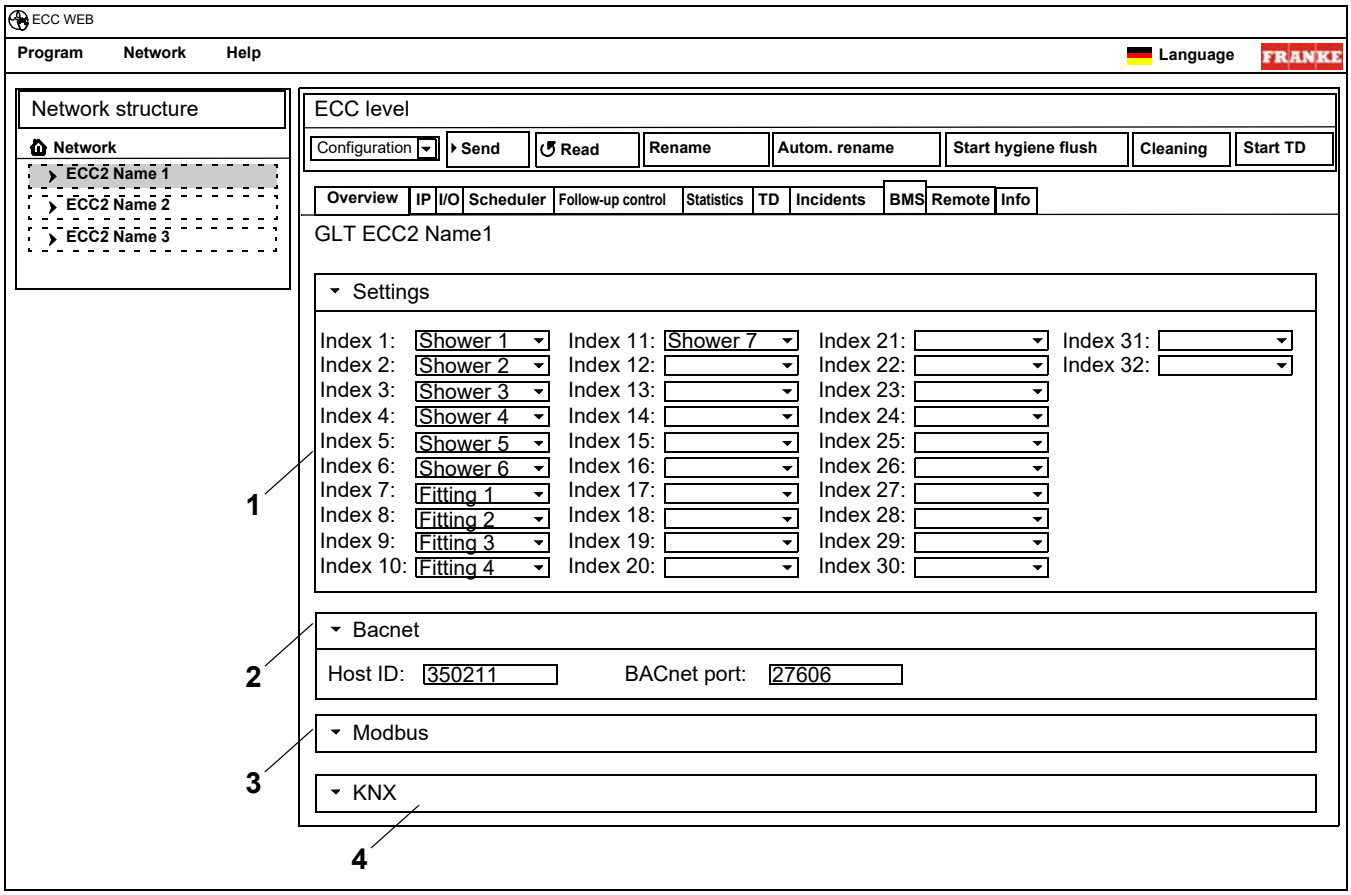
6. WEB application

6.1 Start the Web application.

6.2 Mark the ECC2 function controller in the network structure overview.

- The ECC2 function controller is displayed.

6.3 Select the BMS tab.



6.4 In the Settings box (1), add all modules that are to be connected to the BMS.

6.5 Depending on the protocol used, make the necessary settings in fields Bacnet (2), Modbus (3) or KNX (4).

7. BACnet connection

BACnet Application Specific Controller (B-ASC)

List all BACnet Interoperability Building Blocks Supported (Annex K):
DS-RP-B, DS-RPM-B, DS-WP-B, DM-DDB-B, DM-DOB-B, DM-DCC-B

Standard Object Types Supported:
Object instantiation is static, i.e. objects can not be created or deleted. Refer to tables at end of this document for object details.

Data Link Layer Options:
BACnet IP, (Annex J), Foreign Device

Character Sets Supported:
Indicating support for multiple character sets does not imply that they can all be supported simultaneously.
ISO 10646 (UTF-8)

Object/Property Support Matrix
The following table summarizes the Object Types/Properties Supported:

Property	Object Type					
	Device	Binary Input	Binary Value	Analog Input	Analog Value	DateTime Value
Object Name	*	*	*	*	*	*
Location	*					
Description	*	*	*	*	*	*
Present Value		**	***	**	***	
Out-of-Service		*	*	*	*	
Units		*	*	*	*	
Polarity		*				

* Property is writeable
** Property is writeable if Out-of-Service
*** Property is commandable writeable

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Binary Input Object Instance Summary

The following table summarizes the Binary Input Objects supported:

Instance ID	Object Name	Present Value Access Type
BI0	ECC - TDActive	R
BI1	ECC - Failure	R
BI2	ECC - CANFailure	R
BI3	ECC - USVFailure	R
BI4	ECC - TDPhase5	R
BI5	Armatur x - ActActive1	R
BI6	Armatur x - ActActive2	R
BI7	Armatur x - ActFailure1	R
BI8	Armatur x - ActFailure2	R
BI9	Armatur x - SensFailure1	R
BI10	Armatur x - TDActive	R
BI11	Armatur x - TDSuccess	R

NOTE: For Present Value Access Types, R = Read-only, W = Writeable,
C = Commandable, x Armatur 1..32.
Commandable values support priority arrays & relinquish defaults.

Binary Value Object Instance Summary

The following table summarizes the Binary Value Objects supported:

Instance ID	Object Name	Present Value Access Type
BV0	ECC - TDAbort	C
BV1	ECC - Cleaning	C
BV2	ECC - simultaneity suppression	C
BV3	ECC - StartTD	C
BV4	ECC - StartHygflush	C
BV5	ECC - SetAB	C
BV6	ECC - ResetWarnings	C
BV7	Armatur x - HygDynActor1	C
BV8	Armatur x - HygDynActor2	C
BV9	Armatur x - HygDynActor3	C
BV10	Armatur x - HygFixActor1	C
BV11	Armatur x - HygFixActor2	C
BV12	Armatur x - HygFixActor3	C
BV13	Armatur x - PwronFlushActor1	C
BV14	Armatur x - PwronFlushActor2	C
BV15	Armatur x - PwronFlushActor3	C
BV16	Armatur x - Cleaning	C
BV17	Armatur x - Flowtime reduction	C
BV18	Armatur x - Reserve	C

NOTE: For Present Value Access Types, R = Read-only, W = Writeable,
C = Commandable, x Armatur 1..32.
Commandable values support priority arrays & relinquish defaults.

Analog Input Object Instance Summary
The following table summarizes the Analog Input Objects supported:

Instance ID	Object Name	Present Value Access Type
AI0	Armatur x - TempSensor1	R
AI1	Armatur x - TempSensor2	R
AI2	Armatur x - SerialNumber	R
AI3	Armatur x - ActorCount1	R
AI4	Armatur x - ActorCount2	R
AI5	Armatur x - AMId	R
AI6	Armatur x - Supply	R
AI7	Armatur x - OperHours	R
AI8	Armatur x - Operation	R
AI9	Armatur x - TDPhase	R

NOTE: For Present Value Access Types, R = Read-only, W = Writeable,
C = Commandable, x Armatur 1..32.
Commandable values support priority arrays & relinquish defaults.

Analog Value Object Instance Summary
The following table summarizes the Analog Value Objects supported:

Instance ID	Object Name	Present Value Access Type
AV0	ECC - CleanTime	C
AV1	Armatur x - OperMode 0=OFF; 2=ON; 4=Emergency; 6=Standby; 8= Cleaning	C
AV2	Armatur x - RunTimeChan1	C
AV3	Armatur x - RunTimeChan2	C
AV4	Armatur x - RunTimeChan3	C
AV5	Armatur x - ReachChan1	C
AV6	Armatur x - ReachChan2	C
AV7	Armatur x - ReachChan3	C
AV8	Armatur x - TDGroup	C

NOTE: For Present Value Access Types, R = Read-only, W = Writeable,
C = Commandable, x Armatur 1..32.
Commandable values support priority arrays & relinquish defaults.

DateTime Value Object Instance Summary
The following table summarizes the DateTime Value Objects supported:

Instance ID	Object Name	Present Value Access Type
DT0	Armatur x - LastTD	R

NOTE: For Present Value Access Types, R = Read-only, W = Writeable,
C = Commandable, x Armatur 1..32.
Commandable values support priority arrays & relinquish defaults.

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8. B Modbus connection

The data is read or written via the main commands of the Modbus protocol:

0×01	Read coils. All on/off commands that can be written
0×02	Read discrete Inputs. All on-off states that can be read only
0×03	Read Holding Registers. All values that can assume more than two states and can be written. The range of values is limited to 0 ... 65535 resp. +32768 ... -32767
0×04	Read Input Registers. All values that can assume more than two states and can be read only. The range of values is limited to 0 ... 65535 resp. +32768 ... -32767
0×05	Write single Coil. Change of individual on/off values
0×06	Write single Register. Change of values with more than two states (values range see 0x03).

Data of the ECC (Modbus-Device 100 on the gateway)

Offset	Length	Address	Read	Write	Meaning
1	1	10001	0×02		TD-Active
2	1	10002	0×02		ECC-Failure
3	1	10003	0×02		CAN-Failure
4	1	10004	0×02		USV-Failure
1	1	00001	0×01	0×05	TD-Abort
2	1	00002	0×01	0×05	cleaning active
3	1	00003	0×01	0×05	simultaneity suppression
4	1	00004	0×01	0×05	set-change AB (1=SET-A, 0=SET-B)
5	1	00005	0×01	0×05	start TD
6	1	00006	0×01	0×05	start hygiene flush
7	1	00007	0×01	0×05	reset warnings
1	1	40001	0×03		cleaning time
1		30001	0×04		serial number LOW / HIGH
3		30003	0×04		firmware version (MSB=Major / LSB=Minor)
100		30101	0×04		name (1 sign in each 16-Bit word)

Data of the EM (Modbus devices 1-32 on the gateway)

Offset	Length	Address	Read	Write	Meaning
1	1	00001	0×01	0×05	hygiene flush dynamic actuator 1
2	1	00002	0×01	0×05	hygiene flush dynamic actuator 2
3	1	00003	0×01	0×05	hygiene flush dynamic actuator 3
4	1	00004	0×01	0×05	hygiene flush fix actuator 1
5	1	00005	0×01	0×05	hygiene flush fix actuator 2
6	1	00006	0×01	0×05	hygiene flush fix actuator 3
7	1	00007	0×01	0×05	Power-ON-flush actuator 1
8	1	00008	0×01	0×05	Power-ON-flush actuator 2
9	1	00009	0×01	0×05	Power-ON-flush actuator 3
10	1	00010	0×01	0×05	cleaning
11	1	00011	0×01	0×05	Flowtime reduction
12	1	00012	0×01	0×05	Reserve
1	1	10001	0×02		actuator 1 active
2	1	10002	0×02		actuator 2 active
3	1	10003	0×02		set-change AB (1=SET-A, 0=SET-B)
4	1	10004	0×02		failure actuator 1
5	1	10005	0×02		failure actuator 2
6	1	10006	0×02		failure sensor 1
7	1	10007	0×02		TD active
8	1	10008	0×02		TD active
1	2	30001	0×04		serial number LOW / HIGH
3	4	30003	0×04		firmware-ID (4 Bytes Individual components, coded to Character)
7	1	30007	0×04		temperature sensor 1
8	1	30008	0×04		temperature sensor 2
9	1	30009	0×04		voltage 3
10	1	30010	0×04		supply
11	1	30011	0×04		sensor 3
12	1	30012	0×04		measure 7
13	1	30013	0×04		measure 8
14	1	30014	0×04		actuator count 1
15	1	30015	0×04		actuator count 2
16	1	30016	0×04		armature-ID
17	2	30017	0×04		operation hours
19	2	30019	0×04		last TD
21	1	30021	0×04		TD-Phase
22	14	30022	0×04		minutes since the last activation of the sensor (remark 1)
36	28	30036	0×04		secondssince the last activation of the sensor (remark 2)
100	32	30100	0×04		name (1 sign in each 16-Bit word)

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Offset	Length	Address	Read	Write	Meaning
1		40001	0×03	0×06	operation mode 0=OFF; 2=ON; 4=Emergency; 6=Standby; 8= Cleaning
2		40002	0×03	0×06	run time channel 1
3		40003	0×03	0×06	run time channel 2
4		40004	0×03	0×06	run time channel 3
5		40005	0×03	0×06	reach channel 1
6		40006	0×03	0×06	reach channel 2
7		40007	0×03	0×06	reach channel 3
8		40008	0×03	0×06	TD-group

Remark 1:
There are up to 14 sensors. Each sensor is assigned a value of its own. The values are assigned in the following order:
Sensor 1, Sensor 2, Sensor 3, SBUS sensor 1, ... SBUS sensor 8, External 1, External 2, External 3. If the sensor has never been actuated since the start of the ECC, or if the last actuation is back too long ago, a value of 0×FFFF is returned.

Remark 2:
The number of seconds since the last sensor actuation (as already described in Remark 1 for the minutes). However, two words (32-bit value) will be returned for each sensor. The word at the lower variable address is the LOW-word and the word at the higher address is the HIGH-word.
If the sensor has never been actuated since the start of the ECC, 0xFFFFFFFF is returned. However, the design of the system is such that there can never an overflow, because the internal Unix time is also measured as LONG in seconds since the epoch 01.01.1970 0:00 UTC.

Instructions de connexion GLT
Contrôleur de fonctions ECC2

Les graphiques sont disponibles dans la notice de montage et d'emploi allemands.

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3. Garantie 13
4. Remarques importantes 13
Description du produit
5. Application 13
6. Application Internet 14
7. Connexion au BACnet 15
8. Connexion Modbus 18

1. Abréviations et unités

Best.-Nr.:	Numéro de commande Aquarotter
Conversion	1 mm = 0,03937 pouce 1 pouce = 25,4 mm

Dans les graphiques, toutes les longueurs sont indiquées en mm.

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2. Explication des symboles

⚠ **Avertissement !**
Le non-respect des consignes est susceptible d'induire un danger de mort ou de provoquer des blessures corporelles.

⚠ **Attention !**
Le non-respect des consignes est susceptible de provoquer des dommages matériels.

☞ **Important !**

Le non-respect des consignes est susceptible de provoquer des dysfonctionnements du produit.

☞ Informations utiles pour une utilisation optimale du produit.

3. Garantie

La responsabilité est assumée conformément aux conditions générales de vente et de livraison.
Utiliser uniquement des pièces de rechange d'origine !

4. Remarques importantes

- Seul un spécialiste est habilité à effectuer le montage, la mise en service et l'entretien de l'installation, ces opérations étant effectuées selon les instructions fournies, conformément aux prescriptions légales et aux règles techniques reconnues.
- Il convient de respecter les conditions techniques de raccordement des entreprises locales de distribution d'eau et d'énergie.
- Sous réserve de modifications.

5. Application

Contrôleur de fonctions ECC avec protocoles de données GLT pour IP BacNet, IP KNX et TCP ModBus.

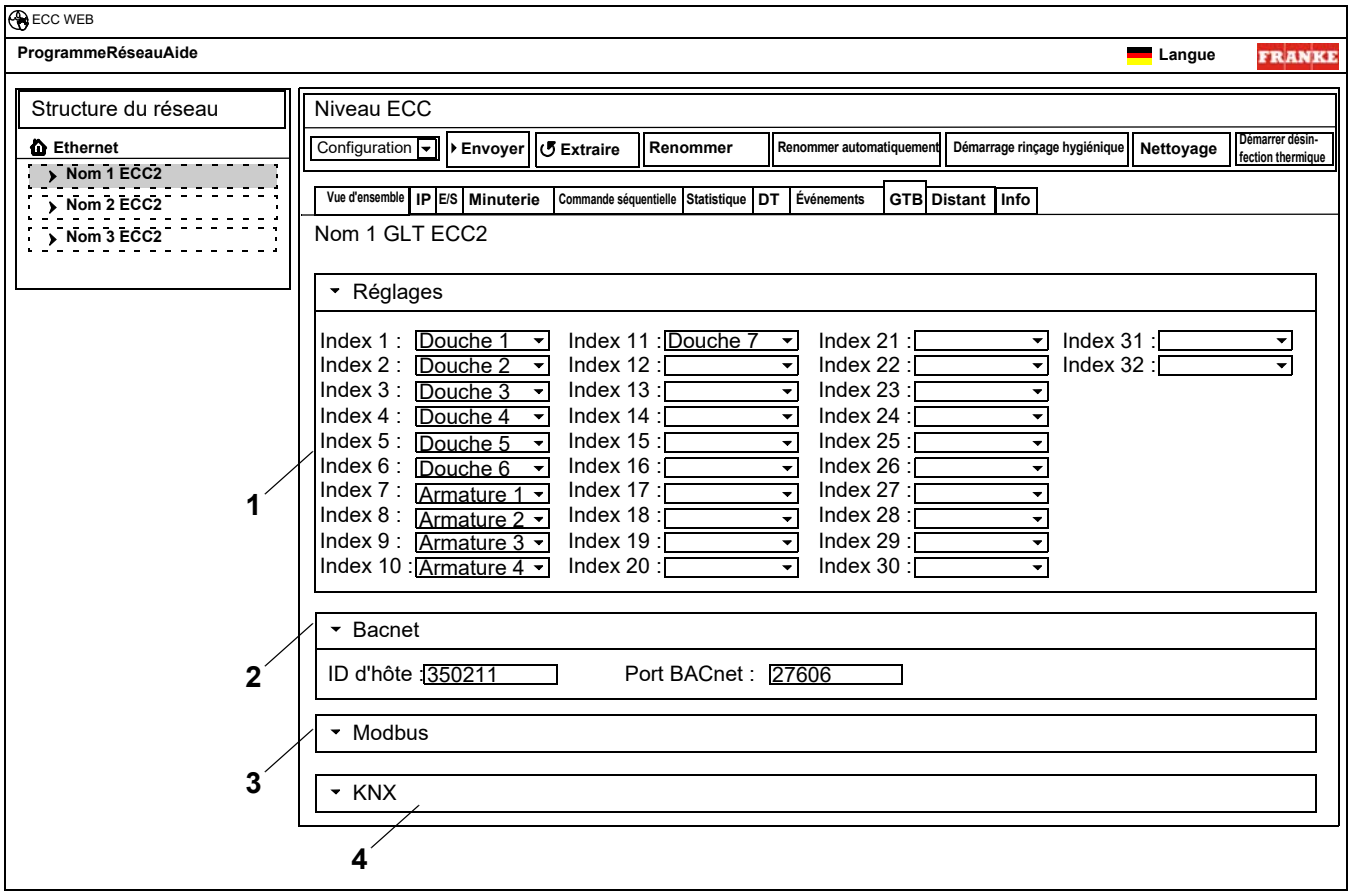
6. Application Internet

6.1 Lancer l'application Internet.

6.2 Cocher le contrôleur de fonctions ECC2 dans l'aperçu de la structure du réseau.

- Le contrôleur de fonctions ECC2 est affiché.

6.3 Sélectionner l'onglet GLT.



6.4 Ajouter, dans le champ Réglages, (1) tous les modules à relier au GLT.

6.5 Selon le protocole utilisé dans les champs Bacnet (2), Modbus (3) ou KNX (4), procéder aux réglages requis.

7. Connexion au BACnet

BACnet Application Specific Controller (B-ASC)

List all BACnet Interoperability Building Blocks Supported (Annex K):
DS-RP-B, DS-RPM-B, DS-WP-B, DM-DDB-B, DM-DOB-B, DM-DCC-B

Standard Object Types Supported:
Object instantiation is static, i.e. objects can not be created or deleted. Refer to tables at end of this document for object details.

Data Link Layer Options:
BACnet IP, (Annex J), Foreign Device

Character Sets Supported:
Indicating support for multiple character sets does not imply that they can all be supported simultaneously.
ISO 10646 (UTF-8)

Object/Property Support Matrix
The following table summarizes the Object Types/Properties Supported:

Property	Object Type					
	Device	Binary Input	Binary Value	Analog Input	Analog Value	DateTime Value
Object Name	*	*	*	*	*	*
Location	*					
Description	*	*	*	*	*	*
Present Value		**	***	**	***	
Out-of-Service		*	*	*	*	
Units		*	*	*	*	
Polarity		*				

* Property is writeable
** Property is writeable if Out-of-Service
*** Property is commandable writeable

Binary Input Object Instance Summary

The following table summarizes the Binary Input Objects supported:

Instance ID	Object Name	Present Value Access Type
BI0	ECC - TDActive	R
BI1	ECC - Failure	R
BI2	ECC - CANFailure	R
BI3	ECC - USVFailure	R
BI4	ECC - TDPhase5	R
BI5	Armatur x - ActActive1	R
BI6	Armatur x - ActActive2	R
BI7	Armatur x - ActFailure1	R
BI8	Armatur x - ActFailure2	R
BI9	Armatur x - SensFailure1	R
BI10	Armatur x - TDActive	R
BI11	Armatur x - TDSuccess	R

NOTE: For Present Value Access Types, R = Read-only, W = Writeable,
C = Commandable, x Armatur 1..32.
Commandable values support priority arrays & relinquish defaults.

Binary Value Object Instance Summary

The following table summarizes the Binary Value Objects supported:

Instance ID	Object Name	Present Value Access Type
BV0	ECC - TDAbort	C
BV1	ECC - Cleaning	C
BV2	ECC - simultaneity suppression	C
BV3	ECC - StartTD	C
BV4	ECC - StartHygflush	C
BV5	ECC - SetAB	C
BV6	ECC - ResetWarnings	C
BV7	Armatur x - HygDynActor1	C
BV8	Armatur x - HygDynActor2	C
BV9	Armatur x - HygDynActor3	C
BV10	Armatur x - HygFixActor1	C
BV11	Armatur x - HygFixActor2	C
BV12	Armatur x - HygFixActor3	C
BV13	Armatur x - PwronFlushActor1	C
BV14	Armatur x - PwronFlushActor2	C
BV15	Armatur x - PwronFlushActor3	C
BV16	Armatur x - Cleaning	C
BV17	Armatur x - Flowtime reduction	C
BV18	Armatur x - Reserve	C

NOTE: For Present Value Access Types, R = Read-only, W = Writeable,
C = Commandable, x Armatur 1..32.
Commandable values support priority arrays & relinquish defaults.

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Analog Input Object Instance Summary

The following table summarizes the Analog Input Objects supported:

Instance ID	Object Name	Present Value Access Type
AI0	Armatur x - TempSensor1	R
AI1	Armatur x - TempSensor2	R
AI2	Armatur x - SerialNumber	R
AI3	Armatur x - ActorCount1	R
AI4	Armatur x - ActorCount2	R
AI5	Armatur x - AMId	R
AI6	Armatur x - Supply	R
AI7	Armatur x - OperHours	R
AI8	Armatur x - Operation	R
AI9	Armatur x - TDPhase	R

NOTE: For Present Value Access Types, R = Read-only, W = Writeable,
C = Commandable, x Armatur 1..32.
Commandable values support priority arrays & relinquish defaults.

Analog Value Object Instance Summary

The following table summarizes the Analog Value Objects supported:

Instance ID	Object Name	Present Value Access Type
AV0	ECC - CleanTime	C
AV1	Armatur x - OperMode 0=OFF; 2=ON; 4=Emergency; 6=Standby; 8= Cleaning	C
AV2	Armatur x - RunTimeChan1	C
AV3	Armatur x - RunTimeChan2	C
AV4	Armatur x - RunTimeChan3	C
AV5	Armatur x - ReachChan1	C
AV6	Armatur x - ReachChan2	C
AV7	Armatur x - ReachChan3	C
AV8	Armatur x - TDGroup	C

NOTE: For Present Value Access Types, R = Read-only, W = Writeable,
C = Commandable, x Armatur 1..32.
Commandable values support priority arrays & relinquish defaults.

DateTime Value Object Instance Summary

The following table summarizes the DateTime Value Objects supported:

Instance ID	Object Name	Present Value Access Type
DT0	Armatur x - LastTD	R

NOTE: For Present Value Access Types, R = Read-only, W = Writeable,
C = Commandable, x Armatur 1..32.
Commandable values support priority arrays & relinquish defaults.

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8. Connexion Modbus

Les données sont lues et écrites par voie des commandes principales du protocole Modbus:

0×01	Read Coils. Toutes les commandes Marche/Arrêt autorisées à l'écriture
0×02	Read discrete Inputs. Tous les états Marche/Arrêt autorisés à la lecture
0×03	Read Holding Registers. Toutes les valeurs qui peuvent assumer plus de deux états et autorisées à l'écriture. La plage des valeurs est limitée à 0 … 65535 resp. +32767 … -32768.
0×04	Read Input Registers. Toutes les valeurs qui peuvent assumer plus de deux états et autorisées à la lecture uniquement. La plage des valeurs est limitée à 0 … 65535 resp. +32767 … -32768.
0×05	Write single Coil. Modification de valeurs Marche/Arrêt isolées
0×06	Write single Register. Modification de valeurs avec plus de deux états (plage des valeurs voir 0x03).

Données ECC (Modbus-Devices 100 à la passerelle)

Offset	Length	Address	Read	Write	Meaning
1	1	10001	0×02		TD-Active
2	1	10002	0×02		ECC-Failure
3	1	10003	0×02		CAN-Failure
4	1	10004	0×02		USV-Failure
1	1	00001	0×01	0×05	TD-Abort
2	1	00002	0×01	0×05	cleaning active
3	1	00003	0×01	0×05	simultaneity suppression
4	1	00004	0×01	0×05	set-change AB (1=SET-A, 0=SET-B)
5	1	00005	0×01	0×05	start TD
6	1	00006	0×01	0×05	start hygiene flush
7	1	00007	0×01	0×05	reset warnings
1	1	40001	0×03		cleaning time
1		30001	0×04		serial number LOW / HIGH
3		30003	0×04		firmware version (MSB=Major / LSB=Minor)
100		30101	0×04		name (1 sign in each 16-Bit word)

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Données EM (Modbus-Devices 1-32 à la passerelle)

Offset	Length	Address	Read	Write	Meaning
1	1	00001	0×01	0×05	hygiene flush dynamic actuator 1
2	1	00002	0×01	0×05	hygiene flush dynamic actuator 2
3	1	00003	0×01	0×05	hygiene flush dynamic actuator 3
4	1	00004	0×01	0×05	hygiene flush fix actuator 1
5	1	00005	0×01	0×05	hygiene flush fix actuator 2
6	1	00006	0×01	0×05	hygiene flush fix actuator 3
7	1	00007	0×01	0×05	Power-ON-flush actuator 1
8	1	00008	0×01	0×05	Power-ON-flush actuator 2
9	1	00009	0×01	0×05	Power-ON-flush actuator 3
10	1	00010	0×01	0×05	cleaning
11	1	00011	0×01	0×05	Flowtime reduction
12	1	00012	0×01	0×05	Reserve
1	1	10001	0×02		actuator 1 active
2	1	10002	0×02		actuator 2 active
3	1	10003	0×02		set-change AB (1=SET-A, 0=SET-B)
4	1	10004	0×02		failure actuator 1
5	1	10005	0×02		failure actuator 2
6	1	10006	0×02		failure sensor 1
7	1	10007	0×02		TD active
8	1	10008	0×02		TD active
1	2	30001	0×04		serial number LOW / HIGH
3	4	30003	0×04		firmware-ID (4 Bytes Individual components, coded to Character)
7	1	30007	0×04		temperature sensor 1
8	1	30008	0×04		temperature sensor 2
9	1	30009	0×04		voltage 3
10	1	30010	0×04		supply
11	1	30011	0×04		sensor 3
12	1	30012	0×04		measure 7
13	1	30013	0×04		measure 8
14	1	30014	0×04		actuator count 1
15	1	30015	0×04		actuator count 2
16	1	30016	0×04		armature-ID
17	2	30017	0×04		operation hours
19	2	30019	0×04		last TD
21	1	30021	0×04		TD-Phase
22	14	30022	0×04		minutes since the last activation of the sensor (remark 1)
36	28	30036	0×04		secondssince the last activation of the sensor (remark 2)
100	32	30100	0×04		name (1 sign in each 16-Bit word)

Offset	Length	Address	Read	Write	Meaning
1		40001	0×03	0×06	operation mode 0=OFF; 2=ON; 4=Emergency; 6=Standby; 8= Cleaning
2		40002	0×03	0×06	run time channel 1
3		40003	0×03	0×06	run time channel 2
4		40004	0×03	0×06	run time channel 3
5		40005	0×03	0×06	reach channel 1
6		40006	0×03	0×06	reach channel 2
7		40007	0×03	0×06	reach channel 3
8		40008	0×03	0×06	TD-group

Remarque 1 :
Il existe un maximum de 14 capteurs. Une valeur individuelle est attribuée à chaque capteur. L'affectation aux valeurs est réalisée dans l'ordre suivant :
capteur 1, capteur 2, capteur 3, capteur SBUS 1, ... capteur SBUS 8, externe 1, externe 2, externe 3. Si le capteur n'a pas encore été actionné depuis le départ de l'ECC, ou si le dernier actionnement se trouve trop loin dans le passé, une valeur de 0×FFFF est fournie.

Remarque 2 :
Le nombre de secondes depuis le dernier actionnement du capteur (comme décrit sous remarque 1 pour les minutes). Cependant, deux mots (valeur 32 bit) sont fournis par capteur. Le mot destiné à l'adresse de variable inférieure est le mot LOW, le mot destiné à l'adresse supérieure est le mot HIGH.
Si le capteur n'a pas encore été actionné après le démarrage de l'ECC, la valeur fournie sera 0xFFFFFFFF. Un trop-plein est impossible par principe, car l'heure Unix interne est également mesurée comme LONG en secondes depuis l'ère - 01.01.1970 0:00 heure UTC.

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Instrucciones sobre la conexión GLT
Controlador de funciones ECC2

Puede consultar los gráficos en las instrucciones de montaje y servicio alemanas.

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Descripción del producto

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1. Abreviaturas y unidades

Best.-Nr.:	Número de pedido de Aquarotter
Conversión	1 mm = 0,03937 pulgadas
	1 pulgada = 25,4 mm

Todas las indicaciones de longitud de los gráficos están expresadas en mm.

2. Explicación de los símbolos

⚠ **¡Advertencia!**
La no observación puede entrañar un riesgo mortal o provocar lesiones personales.

⚠ **¡Atención!**
La no observación puede ocasionar daños materiales.

☞ **¡Importante!**
La no observación puede producir errores de funcionamiento en el producto.

☞ Información útil para el manejo óptimo del producto.

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3. Garantía

Asumimos responsabilidad conforme a las condiciones generales de entrega y comerciales.
Utilice únicamente piezas de repuesto originales.

4. Advertencias importantes

- Las operaciones de montaje, puesta en servicio y mantenimiento deben correr a cargo exclusivamente de un experto que actúe conforme a lo dispuesto en las instrucciones adjuntas y según las normativas legales y las reglas reconocidas de la técnica que se encuentren en vigor.
- Observe asimismo las condiciones de conexión de las empresas locales abastecedoras de agua y energía.
- Reservado el derecho de introducir modificaciones.

5. Aplicación

Controlador de funciones ECC, incluidos los protocolos de datos GLT para BacNet - IP, KNX - IP y ModBus - TCP.

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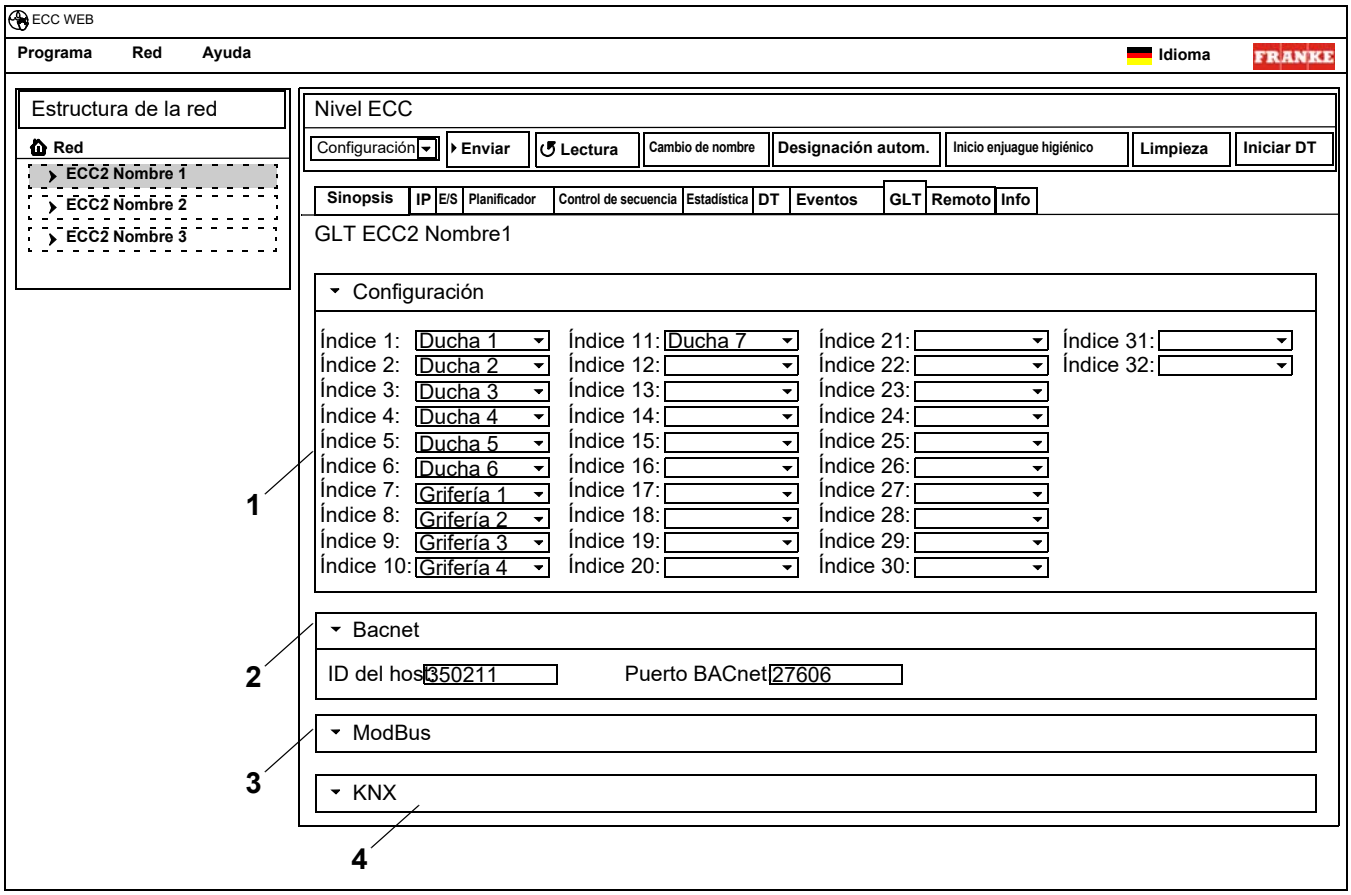
6. Aplicación Web

6.1 Inicie la aplicación Web.

6.2 Seleccione el controlador de funciones ECC2 en la visión global de la estructura de la red.

- Se muestra el controlador de funciones ECC2.

6.3 Seleccione la ficha GLT.



6.4 En el campo Configuración (1) añada todos los módulos que deban conectarse al sistema GLT.

6.5 En función del protocolo utilizado, defina las opciones de configuración necesarias en el campo Bacnet (2), ModBus (3) o KNX (4).

7. Conexión BACnet

BACnet Application Specific Controller (B-ASC)

List all BACnet Interoperability Building Blocks Supported (Annex K):
DS-RP-B, DS-RPM-B, DS-WP-B, DM-DDB-B, DM-DOB-B, DM-DCC-B

Standard Object Types Supported:
Object instantiation is static, i.e. objects can not be created or deleted. Refer to tables at end of this document for object details.

Data Link Layer Options:
BACnet IP, (Annex J), Foreign Device

Character Sets Supported:
Indicating support for multiple character sets does not imply that they can all be supported simultaneously.
ISO 10646 (UTF-8)

Object/Property Support Matrix
The following table summarizes the Object Types/Properties Supported:

Property	Object Type					
	Device	Binary Input	Binary Value	Analog Input	Analog Value	DateTime Value
Object Name	*	*	*	*	*	*
Location	*					
Description	*	*	*	*	*	*
Present Value		**	***	**	***	
Out-of-Service		*	*	*	*	
Units		*	*	*	*	
Polarity		*				

* Property is writeable
** Property is writeable if Out-of-Service
*** Property is commandable writeable

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Binary Input Object Instance Summary

The following table summarizes the Binary Input Objects supported:

Instance ID	Object Name	Present Value Access Type
BI0	ECC - TDActive	R
BI1	ECC - Failure	R
BI2	ECC - CANFailure	R
BI3	ECC - USVFailure	R
BI4	ECC - TDPhase5	R
BI5	Armatur x - ActActive1	R
BI6	Armatur x - ActActive2	R
BI7	Armatur x - ActFailure1	R
BI8	Armatur x - ActFailure2	R
BI9	Armatur x - SensFailure1	R
BI10	Armatur x - TDActive	R
BI11	Armatur x - TDSuccess	R

NOTE: For Present Value Access Types, R = Read-only, W = Writeable,
C = Commandable, x Armatur 1..32.
Commandable values support priority arrays & relinquish defaults.

Binary Value Object Instance Summary

The following table summarizes the Binary Value Objects supported:

Instance ID	Object Name	Present Value Access Type
BV0	ECC - TDAbort	C
BV1	ECC - Cleaning	C
BV2	ECC - simultaneity suppression	C
BV3	ECC - StartTD	C
BV4	ECC - StartHygflush	C
BV5	ECC - SetAB	C
BV6	ECC - ResetWarnings	C
BV7	Armatur x - HygDynActor1	C
BV8	Armatur x - HygDynActor2	C
BV9	Armatur x - HygDynActor3	C
BV10	Armatur x - HygFixActor1	C
BV11	Armatur x - HygFixActor2	C
BV12	Armatur x - HygFixActor3	C
BV13	Armatur x - PwronFlushActor1	C
BV14	Armatur x - PwronFlushActor2	C
BV15	Armatur x - PwronFlushActor3	C
BV16	Armatur x - Cleaning	C
BV17	Armatur x - Flowtime reduction	C
BV18	Armatur x - Reserve	C

NOTE: For Present Value Access Types, R = Read-only, W = Writeable,
C = Commandable, x Armatur 1..32.
Commandable values support priority arrays & relinquish defaults.

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Analog Input Object Instance Summary
The following table summarizes the Analog Input Objects supported:

Instance ID	Object Name	Present Value Access Type
AI0	Armatur x - TempSensor1	R
AI1	Armatur x - TempSensor2	R
AI2	Armatur x - SerialNumber	R
AI3	Armatur x - ActorCount1	R
AI4	Armatur x - ActorCount2	R
AI5	Armatur x - AMId	R
AI6	Armatur x - Supply	R
AI7	Armatur x - OperHours	R
AI8	Armatur x - Operation	R
AI9	Armatur x - TDPhase	R

NOTE: For Present Value Access Types, R = Read-only, W = Writeable,
C = Commandable, x Armatur 1..32.
Commandable values support priority arrays & relinquish defaults.

Analog Value Object Instance Summary
The following table summarizes the Analog Value Objects supported:

Instance ID	Object Name	Present Value Access Type
AV0	ECC - CleanTime	C
AV1	Armatur x - OperMode 0=OFF; 2=ON; 4=Emergency; 6=Standby; 8= Cleaning	C
AV2	Armatur x - RunTimeChan1	C
AV3	Armatur x - RunTimeChan2	C
AV4	Armatur x - RunTimeChan3	C
AV5	Armatur x - ReachChan1	C
AV6	Armatur x - ReachChan2	C
AV7	Armatur x - ReachChan3	C
AV8	Armatur x - TDGroup	C

NOTE: For Present Value Access Types, R = Read-only, W = Writeable,
C = Commandable, x Armatur 1..32.
Commandable values support priority arrays & relinquish defaults.

DateTime Value Object Instance Summary
The following table summarizes the DateTime Value Objects supported:

Instance ID	Object Name	Present Value Access Type
DT0	Armatur x - LastTD	R

NOTE: For Present Value Access Types, R = Read-only, W = Writeable,
C = Commandable, x Armatur 1..32.
Commandable values support priority arrays & relinquish defaults.

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8. Conexión ModBus

Los datos se leen o se escriben a través de los comandos principales del protocolo ModBus.

0×01	Read Coils. Todos los comandos de activación y desactivación que se pueden escribir
0×02	Read discrete Inputs. Todos los estados de activación y desactivación que solo pueden leerse
0×03	Read Holding Registers. Todos los valores que adoptan más de dos estados y pueden describirse. El margen de valores está limitado de 0 a 65535 o de +32767 a -32768.
0×04	Read Input Registers. Todos los valores que adoptan más de dos estados y solo pueden leerse. El margen de valores está limitado de 0 a 65535 o de +32767 a -32768.
0×05	Write single Coil. Modificación de valores de activación y desactivación individuales
0×06	Write single Register. Modificación de valores con más de dos estados (para el margen de valores, véase 0x03).

Datos del ECC (dispositivos ModBus 100 en la gateway))

Offset	Length	Address	Read	Write	Meaning
1	1	10001	0×02		TD-Active
2	1	10002	0×02		ECC-Failure
3	1	10003	0×02		CAN-Failure
4	1	10004	0×02		USV-Failure
1	1	00001	0×01	0×05	TD-Abort
2	1	00002	0×01	0×05	cleaning active
3	1	00003	0×01	0×05	simultaneity suppression
4	1	00004	0×01	0×05	set-change AB (1=SET-A, 0=SET-B)
5	1	00005	0×01	0×05	start TD
6	1	00006	0×01	0×05	start hygiene flush
7	1	00007	0×01	0×05	reset warnings
1	1	40001	0×03		cleaning time
1		30001	0×04		serial number LOW / HIGH
3		30003	0×04		firmware version (MSB=Major / LSB=Minor)
100		30101	0×04		name (1 sign in each 16-Bit word)

Datos del módulo electrónico (dispositivos ModBus 1-32 en la gateway)

Offset	Length	Address	Read	Write	Meaning
1	1	00001	0×01	0×05	hygiene flush dynamic actuator 1
2	1	00002	0×01	0×05	hygiene flush dynamic actuator 2
3	1	00003	0×01	0×05	hygiene flush dynamic actuator 3
4	1	00004	0×01	0×05	hygiene flush fix actuator 1
5	1	00005	0×01	0×05	hygiene flush fix actuator 2
6	1	00006	0×01	0×05	hygiene flush fix actuator 3
7	1	00007	0×01	0×05	Power-ON-flush actuator 1
8	1	00008	0×01	0×05	Power-ON-flush actuator 2
9	1	00009	0×01	0×05	Power-ON-flush actuator 3
10	1	00010	0×01	0×05	cleaning
11	1	00011	0×01	0×05	Flowtime reduction
12	1	00012	0×01	0×05	Reserve
1	1	10001	0×02		actuator 1 active
2	1	10002	0×02		actuator 2 active
3	1	10003	0×02		set-change AB (1=SET-A, 0=SET-B)
4	1	10004	0×02		failure actuator 1
5	1	10005	0×02		failure actuator 2
6	1	10006	0×02		failure sensor 1
7	1	10007	0×02		TD active
8	1	10008	0×02		TD active
1	2	30001	0×04		serial number LOW / HIGH
3	4	30003	0×04		firmware-ID (4 Bytes Individual components, coded to Character)
7	1	30007	0×04		temperature sensor 1
8	1	30008	0×04		temperature sensor 2
9	1	30009	0×04		voltage 3
10	1	30010	0×04		supply
11	1	30011	0×04		sensor 3
12	1	30012	0×04		measure 7
13	1	30013	0×04		measure 8
14	1	30014	0×04		actuator count 1
15	1	30015	0×04		actuator count 2
16	1	30016	0×04		armature-ID
17	2	30017	0×04		operation hours
19	2	30019	0×04		last TD
21	1	30021	0×04		TD-Phase
22	14	30022	0×04		minutes since the last activation of the sensor (remark 1)
36	28	30036	0×04		secondssince the last activation of the sensor (remark 2)
100	32	30100	0×04		name (1 sign in each 16-Bit word)

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Offset	Length	Address	Read	Write	Meaning
1		40001	0×03	0×06	operation mode 0=OFF; 2=ON; 4=Emergency; 6=Standby; 8= Cleaning
2		40002	0×03	0×06	run time channel 1
3		40003	0×03	0×06	run time channel 2
4		40004	0×03	0×06	run time channel 3
5		40005	0×03	0×06	reach channel 1
6		40006	0×03	0×06	reach channel 2
7		40007	0×03	0×06	reach channel 3
8		40008	0×03	0×06	TD-group

Observación 1:
Existe un máximo de 14 sensores. A cada sensor se le asigna un valor propio. La asignación a los valores se realiza en la siguiente secuencia:
sensor 1, sensor 2, sensor 3, sensor SBUS 1, ... sensor SBUS 8, Externo 1, Externo 2, Externo 3. Si el sensor no se ha activado nunca desde el inicio del ECC, o si hace mucho tiempo que se activó por última vez, se devuelve un valor de 0×FFFF.

Observación 2:
Número de segundos transcurridos desde la última activación del sensor (como se ha descrito ya en la observación 1 para los minutos). No obstante se devuelven dos palabras (valor de 32 bits) por cada sensor. En este punto la palabra que se encuentra en la dirección de variable más pequeña es la palabra LOW, mientras que la que se encuentra en la dirección más alta es la palabra HIGH.
Si el sensor no se ha accionado nunca desde el inicio del ECC, se devuelve 0xFFFFFFFF. No obstante, en principio no se da un desbordamiento, puesto que el tiempo Unix interno también se mide como LONG en segundos desde el momento en cuestión (01/01/1970 0.00 h UTC).

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Istruzioni sull'integrazione GTC
Controllore di funzionamento ECC2

Per le grafiche fare riferimento alle istruzioni per il montaggio e l'uso in tedesco.

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Descrizione del prodotto
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7. Integrazione BACnet 33
8. Integrazione BModbus 36

1. Abbreviazioni e unità

Best.-Nr.:	Numero d'ordine Aquarotter
Fattore di conversione	1 mm = 0,03937 pollici 1 pollice = 25,4 mm

Tutte le quote nelle grafiche sono espresse in millimetri.

2. Spiegazione dei simboli

⚠ **Avvertenza!**
La mancata osservanza può causare pericolo per la vita o lesioni corporee.

⚠ **Attenzione!**
La mancata osservanza può causare danni materiali.

☞ **Importante!**
La mancata osservanza può causare malfunzionamenti del prodotto.

☞ Informazioni utili per l'uso ottimale del prodotto.

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3. Garanzia

La garanzia viene accordata conformemente alle nostre condizioni generali di vendita e consegna.
Utilizzare esclusivamente pezzi di ricambio originali!

4. Avvertenze importanti

- Montaggio, messa in esercizio e manutenzione solo da parte di un tecnico specializzato secondo le presenti istruzioni, nel rispetto delle prescrizioni di legge e delle regole riconosciute della tecnica.
- Rispettare le condizioni tecniche di allacciamento delle società locali di erogazione di energia elettrica e di approvvigionamento idrico.
- Con riserva di modifiche tecniche.

5. Uso

Controllore di funzionamento ECC inclusi protocolli dati GTC per BacNet IP, KNX IP e ModBus TCP.

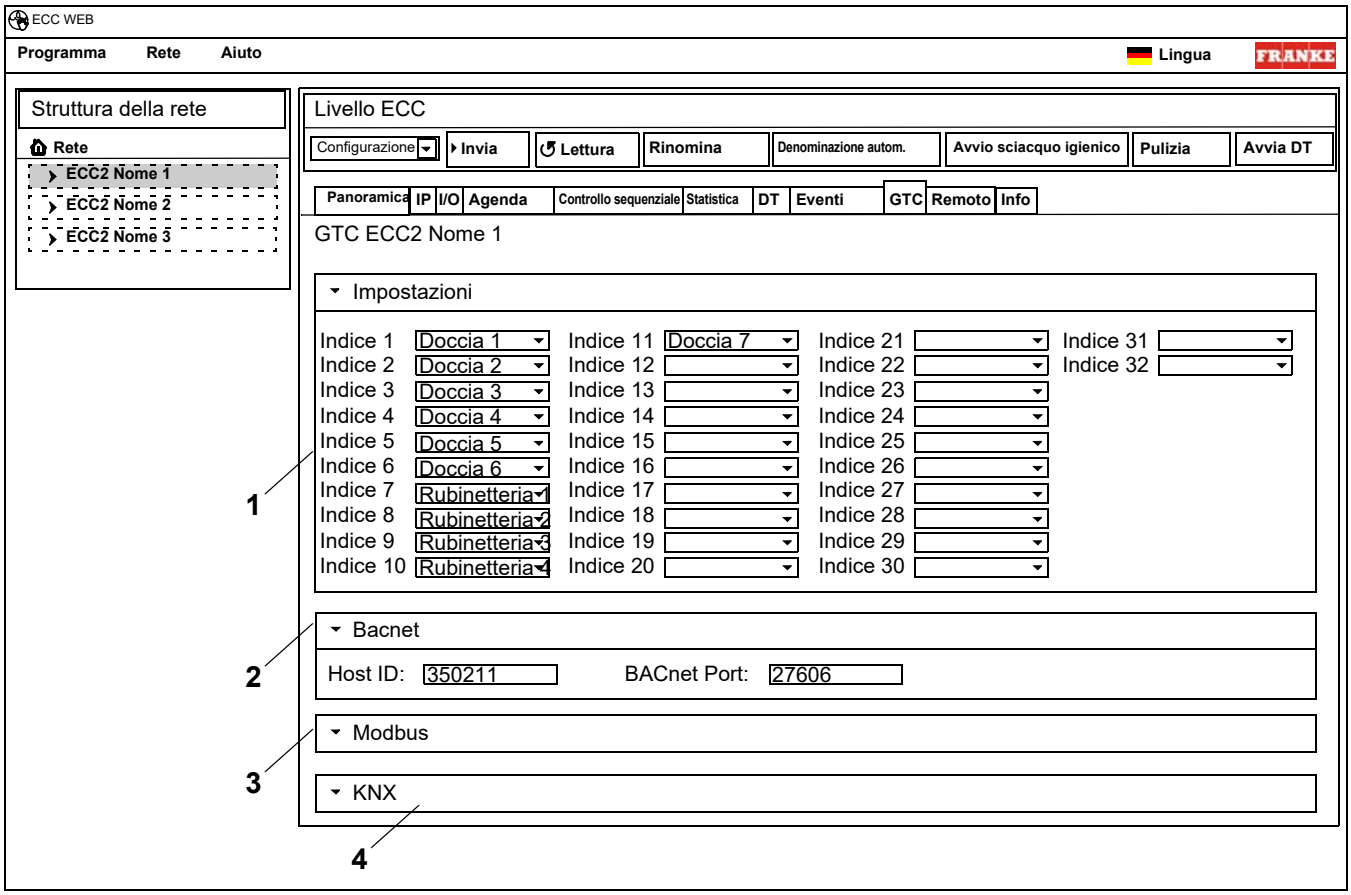
6. Applicazione WEB

6.1 Avviare l'applicazione web.

6.2 Selezionare il controllore di funzionamento ECC2 nella panoramica della struttura della rete.

- Viene visualizzato il controllore di funzionamento ECC2.

6.3 Selezionare la scheda GTC.



6.4 Nel campo Impostazioni (1) aggiungere tutti i moduli che devono essere integrati nella GTC.

6.5 Eseguire le impostazioni necessarie nel campo Bacnet (2), Modbus (3) o KNX (4), a seconda del protocollo utilizzato.

7. Integrazione BACnet

BACnet Application Specific Controller (B-ASC)

List all BACnet Interoperability Building Blocks Supported (Annex K):
DS-RP-B, DS-RPM-B, DS-WP-B, DM-DDB-B, DM-DOB-B, DM-DCC-B

Standard Object Types Supported:
Object instantiation is static, i.e. objects can not be created or deleted. Refer to tables at end of this document for object details.

Data Link Layer Options:
BACnet IP, (Annex J), Foreign Device

Character Sets Supported:
Indicating support for multiple character sets does not imply that they can all be supported simultaneously.
ISO 10646 (UTF-8)

Object/Property Support Matrix
The following table summarizes the Object Types/Properties Supported:

Property	Object Type					
	Device	Binary Input	Binary Value	Analog Input	Analog Value	DateTime Value
Object Name	*	*	*	*	*	*
Location	*					
Description	*	*	*	*	*	*
Present Value		**	***	**	***	
Out-of-Service		*	*	*	*	
Units		*	*	*	*	
Polarity		*				

* Property is writeable
** Property is writeable if Out-of-Service
*** Property is commandable writeable

Binary Input Object Instance Summary

The following table summarizes the Binary Input Objects supported:

Instance ID	Object Name	Present Value Access Type
BI0	ECC - TDActive	R
BI1	ECC - Failure	R
BI2	ECC - CANFailure	R
BI3	ECC - USVFailure	R
BI4	ECC - TDPhase5	R
BI5	Armatur x - ActActive1	R
BI6	Armatur x - ActActive2	R
BI7	Armatur x - ActFailure1	R
BI8	Armatur x - ActFailure2	R
BI9	Armatur x - SensFailure1	R
BI10	Armatur x - TDActive	R
BI11	Armatur x - TDSuccess	R

NOTE: For Present Value Access Types, R = Read-only, W = Writeable,
C = Commandable, x Armatur 1..32.
Commandable values support priority arrays & relinquish defaults.

Binary Value Object Instance Summary

The following table summarizes the Binary Value Objects supported:

Instance ID	Object Name	Present Value Access Type
BV0	ECC - TDAbort	C
BV1	ECC - Cleaning	C
BV2	ECC - simultaneity suppression	C
BV3	ECC - StartTD	C
BV4	ECC - StartHygflush	C
BV5	ECC - SetAB	C
BV6	ECC - ResetWarnings	C
BV7	Armatur x - HygDynActor1	C
BV8	Armatur x - HygDynActor2	C
BV9	Armatur x - HygDynActor3	C
BV10	Armatur x - HygFixActor1	C
BV11	Armatur x - HygFixActor2	C
BV12	Armatur x - HygFixActor3	C
BV13	Armatur x - PwronFlushActor1	C
BV14	Armatur x - PwronFlushActor2	C
BV15	Armatur x - PwronFlushActor3	C
BV16	Armatur x - Cleaning	C
BV17	Armatur x - Flowtime reduction	C
BV18	Armatur x - Reserve	C

NOTE: For Present Value Access Types, R = Read-only, W = Writeable,
C = Commandable, x Armatur 1..32.
Commandable values support priority arrays & relinquish defaults.

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Analog Input Object Instance Summary

The following table summarizes the Analog Input Objects supported:

Instance ID	Object Name	Present Value Access Type
AI0	Armatur x - TempSensor1	R
AI1	Armatur x - TempSensor2	R
AI2	Armatur x - SerialNumber	R
AI3	Armatur x - ActorCount1	R
AI4	Armatur x - ActorCount2	R
AI5	Armatur x - AMId	R
AI6	Armatur x - Supply	R
AI7	Armatur x - OperHours	R
AI8	Armatur x - Operation	R
AI9	Armatur x - TDPhase	R

NOTE: For Present Value Access Types, R = Read-only, W = Writeable,
C = Commandable, x Armatur 1..32.
Commandable values support priority arrays & relinquish defaults.

Analog Value Object Instance Summary

The following table summarizes the Analog Value Objects supported:

Instance ID	Object Name	Present Value Access Type
AV0	ECC - CleanTime	C
AV1	Armatur x - OperMode 0=OFF; 2=ON; 4=Emergency; 6=Standby; 8= Cleaning	C
AV2	Armatur x - RunTimeChan1	C
AV3	Armatur x - RunTimeChan2	C
AV4	Armatur x - RunTimeChan3	C
AV5	Armatur x - ReachChan1	C
AV6	Armatur x - ReachChan2	C
AV7	Armatur x - ReachChan3	C
AV8	Armatur x - TDGroup	C

NOTE: For Present Value Access Types, R = Read-only, W = Writeable,
C = Commandable, x Armatur 1..32.
Commandable values support priority arrays & relinquish defaults.

DateTime Value Object Instance Summary

The following table summarizes the DateTime Value Objects supported:

Instance ID	Object Name	Present Value Access Type
DT0	Armatur x - LastTD	R

NOTE: For Present Value Access Types, R = Read-only, W = Writeable,
C = Commandable, x Armatur 1..32.
Commandable values support priority arrays & relinquish defaults.

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8. Integrazione BModbus

I dati sono letti e scritti con i comandi principali del protocollo Modbus:

0×01	Read Coils. Tutti i comandi on/off scrivibili.
0×02	Read discrete Inputs. Tutti gli stati on/off che possono essere solo letti.
0×03	Read Holding Registers. Tutti i valori che possono assumere più di due stati ed essere descritti. Il campo di valori è limitato a 0 … 65535 e +32767 … -32768.
0×04	Read Input Registers. Tutti i valori che assumono più di due stati e possono essere solo letti. Il campo di valori è limitato a 0 … 65535 e +32767 … -32768.
0×05	Write single Coil. Variazione di singoli valori on/off.
0×06	Write single Register. Variazione di valori con più di due stati (campo di valori vedi 0x03).

Dati dell'ECC (dispositivi Modbus 100 sul Gateway)

Offset	Length	Address	Read	Write	Meaning
1	1	10001	0×02		TD-Active
2	1	10002	0×02		ECC-Failure
3	1	10003	0×02		CAN-Failure
4	1	10004	0×02		USV-Failure
1	1	00001	0×01	0×05	TD-Abort
2	1	00002	0×01	0×05	cleaning active
3	1	00003	0×01	0×05	simultaneity suppression
4	1	00004	0×01	0×05	set-change AB (1=SET-A, 0=SET-B)
5	1	00005	0×01	0×05	start TD
6	1	00006	0×01	0×05	start hygiene flush
7	1	00007	0×01	0×05	reset warnings
1	1	40001	0×03		cleaning time
1		30001	0×04		serial number LOW / HIGH
3		30003	0×04		firmware version (MSB=Major / LSB=Minor)
100		30101	0×04		name (1 sign in each 16-Bit word)

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Dati dell'EM (dispositivi Modbus 1-32 sul Gateway)

Offset	Length	Address	Read	Write	Meaning
1	1	00001	0×01	0×05	hygiene flush dynamic actuator 1
2	1	00002	0×01	0×05	hygiene flush dynamic actuator 2
3	1	00003	0×01	0×05	hygiene flush dynamic actuator 3
4	1	00004	0×01	0×05	hygiene flush fix actuator 1
5	1	00005	0×01	0×05	hygiene flush fix actuator 2
6	1	00006	0×01	0×05	hygiene flush fix actuator 3
7	1	00007	0×01	0×05	Power-ON-flush actuator 1
8	1	00008	0×01	0×05	Power-ON-flush actuator 2
9	1	00009	0×01	0×05	Power-ON-flush actuator 3
10	1	00010	0×01	0×05	cleaning
11	1	00011	0×01	0×05	Flowtime reduction
12	1	00012	0×01	0×05	Reserve
1	1	10001	0×02		actuator 1 active
2	1	10002	0×02		actuator 2 active
3	1	10003	0×02		set-change AB (1=SET-A, 0=SET-B)
4	1	10004	0×02		failure actuator 1
5	1	10005	0×02		failure actuator 2
6	1	10006	0×02		failure sensor 1
7	1	10007	0×02		TD active
8	1	10008	0×02		TD active
1	2	30001	0×04		serial number LOW / HIGH
3	4	30003	0×04		firmware-ID (4 Bytes Individual components, coded to Character)
7	1	30007	0×04		temperature sensor 1
8	1	30008	0×04		temperature sensor 2
9	1	30009	0×04		voltage 3
10	1	30010	0×04		supply
11	1	30011	0×04		sensor 3
12	1	30012	0×04		measure 7
13	1	30013	0×04		measure 8
14	1	30014	0×04		actuator count 1
15	1	30015	0×04		actuator count 2
16	1	30016	0×04		armature-ID
17	2	30017	0×04		operation hours
19	2	30019	0×04		last TD
21	1	30021	0×04		TD-Phase
22	14	30022	0×04		minutes since the last activation of the sensor (remark 1)
36	28	30036	0×04		secondssince the last activation of the sensor (remark 2)
100	32	30100	0×04		name (1 sign in each 16-Bit word)

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Offset	Length	Address	Read	Write	Meaning
1		40001	0×03	0×06	operation mode 0=OFF; 2=ON; 4=Emergency; 6=Standby; 8= Cleaning
2		40002	0×03	0×06	run time channel 1
3		40003	0×03	0×06	run time channel 2
4		40004	0×03	0×06	run time channel 3
5		40005	0×03	0×06	reach channel 1
6		40006	0×03	0×06	reach channel 2
7		40007	0×03	0×06	reach channel 3
8		40008	0×03	0×06	TD-group

Nota 1:
Sono presenti fino a 14 sensori. Ad ogni sensore è assegnato un proprio valore. L'assegnazione ai valori viene eseguita nella seguente sequenza:
sensore 1, sensore 2, sensore 3, sensore SBUS 1, ... sensore SBUS 8, esterno 1, esterno 2, esterno 3. Se il sensore non è stato ancora mai attivato dall'avvio dell'ECC o se l'ultima attivazione risale a molto tempo fa, viene fornito il valore 0×FFFF.

Nota 2:
Il numero di secondi trascorsi dall'ultima attivazione del sensore (come già descritto nella Nota 1 per i minuti). Vengono fornite tuttavia due parole (valore di 32 bit) per sensore, dove la parola nell'indirizzo variabile più piccolo è la parola LOW e nell'indirizzo più grande la parola HIGH.
Se il sensore non è stato mai attivato dall'avvio dell'ECC, viene fornito 0xFFFFFFFF. Per principio, un overflow non sarà possibile poiché il tempo interno Unix viene misurato come LONG in secondi dall'epoca - 01.01.1970 0:00 ore UTC.

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Handleiding GLT-koppeling
ECC2-functie-controller

De grafieken kunt u vinden in de montage- en gebruikershandleiding.

Inhoudsopgave

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1. Afkortingen en eenheden

Best.-Nr.:	Aquarotter-bestelnummer
Omrekening	1 mm = 0,03937 inch 1 inch = 25,4 mm

In de grafieken zijn alle lengtematen aangegeven in mm.

2. Tekenverklaring

⚠ **Waarschuwing!**
Het niet in acht nemen kan leiden tot levensgevaar of lichamelijk letsel.

⚠ **Let op!**
Het niet in acht nemen kan leiden tot materiële schade.

☞ **Belangrijk!**
Het niet in acht nemen kan leiden tot functiestoringen van het product.

☞ Handige informatie voor een optimale omgang met het product.

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3. Garantie

Onderhoud moet worden uitgevoerd conform de algemene leverings- en handelsvoorwaarden.
Alleen originele reserveonderdelen gebruiken!

4. Belangrijke aanwijzing

- Montage, ingebruikname en onderhoud mogen alleen door een vakman worden uitgevoerd, conform de meegeleverde handleiding en overeenkomstig de wettelijke voorschriften en de algemene technische voorschriften.
- De technische aansluitvoorwaarden van de plaatselijke water- en energiemaatschappijen moeten in acht worden genomen.
- Wijzigingen voorbehouden.

5. Toepassing

ECC-functiecontroller inclusief GLT - gegevensprotocollen voor BacNet - IP, KNX - IP en ModBus - TCP.

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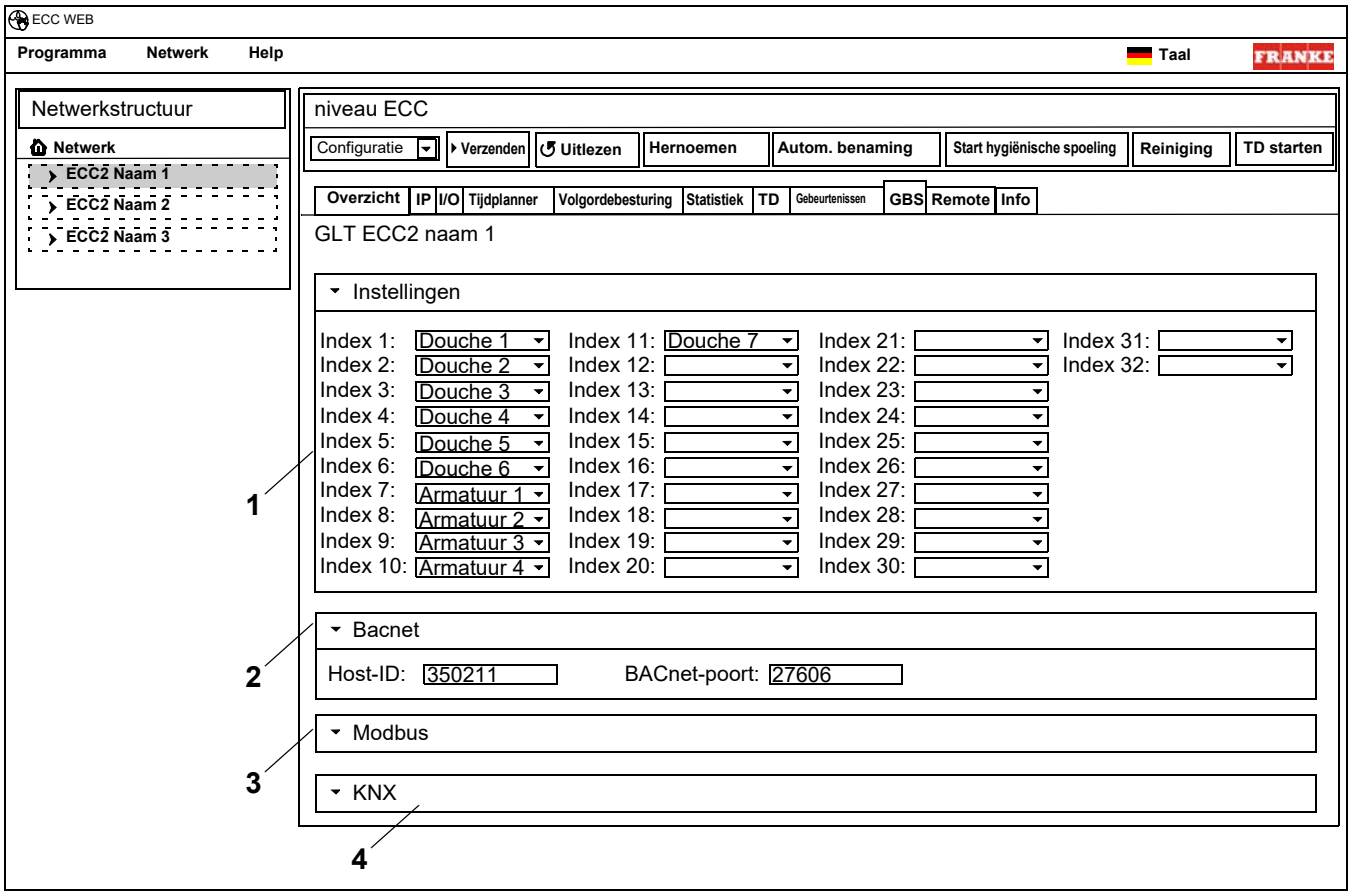
6. INTERNET-gebruik

6.1 De internettoepassing starten.

6.2 De ECC2-functie-controller in het overzicht Netwerkstructuur markeren.

- De ECC2-functie-controller wordt weergegeven.

6.3 Het tabblad GLT selecteren.



6.4 In het veld Instellingen (1) alle modules toevoegen die op het GLT moeten worden gekoppeld.

6.5 Afhankelijk van het gebruikte protocol in het veld Bacnet (2), Modbus (3) of KNX (4) de vereiste instellingen uitvoeren.

7. BACnet-koppeling

BACnet Application Specific Controller (B-ASC)

List all BACnet Interoperability Building Blocks Supported (Annex K):
DS-RP-B, DS-RPM-B, DS-WP-B, DM-DDB-B, DM-DOB-B, DM-DCC-B

Standard Object Types Supported:
Object instantiation is static, i.e. objects can not be created or deleted. Refer to tables at end of this document for object details.

Data Link Layer Options:
BACnet IP, (Annex J), Foreign Device

Character Sets Supported:
Indicating support for multiple character sets does not imply that they can all be supported simultaneously.
ISO 10646 (UTF-8)

Object/Property Support Matrix
The following table summarizes the Object Types/Properties Supported:

Property	Object Type					
	Device	Binary Input	Binary Value	Analog Input	Analog Value	DateTime Value
Object Name	*	*	*	*	*	*
Location	*					
Description	*	*	*	*	*	*
Present Value		**	***	**	***	
Out-of-Service		*	*	*	*	
Units		*	*	*	*	
Polarity		*				

* Property is writeable
** Property is writeable if Out-of-Service
*** Property is commandable writeable

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Binary Input Object Instance Summary

The following table summarizes the Binary Input Objects supported:

Instance ID	Object Name	Present Value Access Type
BI0	ECC - TDActive	R
BI1	ECC - Failure	R
BI2	ECC - CANFailure	R
BI3	ECC - USVFailure	R
BI4	ECC - TDPhase5	R
BI5	Armatur x - ActActive1	R
BI6	Armatur x - ActActive2	R
BI7	Armatur x - ActFailure1	R
BI8	Armatur x - ActFailure2	R
BI9	Armatur x - SensFailure1	R
BI10	Armatur x - TDActive	R
BI11	Armatur x - TDSuccess	R

NOTE: For Present Value Access Types, R = Read-only, W = Writeable,
C = Commandable, x Armatur 1..32.
Commandable values support priority arrays & relinquish defaults.

Binary Value Object Instance Summary

The following table summarizes the Binary Value Objects supported:

Instance ID	Object Name	Present Value Access Type
BV0	ECC - TDAbort	C
BV1	ECC - Cleaning	C
BV2	ECC - simultaneity suppression	C
BV3	ECC - StartTD	C
BV4	ECC - StartHygflush	C
BV5	ECC - SetAB	C
BV6	ECC - ResetWarnings	C
BV7	Armatur x - HygDynActor1	C
BV8	Armatur x - HygDynActor2	C
BV9	Armatur x - HygDynActor3	C
BV10	Armatur x - HygFixActor1	C
BV11	Armatur x - HygFixActor2	C
BV12	Armatur x - HygFixActor3	C
BV13	Armatur x - PwronFlushActor1	C
BV14	Armatur x - PwronFlushActor2	C
BV15	Armatur x - PwronFlushActor3	C
BV16	Armatur x - Cleaning	C
BV17	Armatur x - Flowtime reduction	C
BV18	Armatur x - Reserve	C

NOTE: For Present Value Access Types, R = Read-only, W = Writeable,
C = Commandable, x Armatur 1..32.
Commandable values support priority arrays & relinquish defaults.

Analog Input Object Instance Summary

The following table summarizes the Analog Input Objects supported:

Instance ID	Object Name	Present Value Access Type
AI0	Armatur x - TempSensor1	R
AI1	Armatur x - TempSensor2	R
AI2	Armatur x - SerialNumber	R
AI3	Armatur x - ActorCount1	R
AI4	Armatur x - ActorCount2	R
AI5	Armatur x - AMId	R
AI6	Armatur x - Supply	R
AI7	Armatur x - OperHours	R
AI8	Armatur x - Operation	R
AI9	Armatur x - TDPhase	R

NOTE: For Present Value Access Types, R = Read-only, W = Writeable,
C = Commandable, x Armatur 1..32.
Commandable values support priority arrays & relinquish defaults.

Analog Value Object Instance Summary

The following table summarizes the Analog Value Objects supported:

Instance ID	Object Name	Present Value Access Type
AV0	ECC - CleanTime	C
AV1	Armatur x - OperMode 0=OFF; 2=ON; 4=Emergency; 6=Standby; 8= Cleaning	C
AV2	Armatur x - RunTimeChan1	C
AV3	Armatur x - RunTimeChan2	C
AV4	Armatur x - RunTimeChan3	C
AV5	Armatur x - ReachChan1	C
AV6	Armatur x - ReachChan2	C
AV7	Armatur x - ReachChan3	C
AV8	Armatur x - TDGroup	C

NOTE: For Present Value Access Types, R = Read-only, W = Writeable,
C = Commandable, x Armatur 1..32.
Commandable values support priority arrays & relinquish defaults.

DateTime Value Object Instance Summary

The following table summarizes the DateTime Value Objects supported:

Instance ID	Object Name	Present Value Access Type
DT0	Armatur x - LastTD	R

NOTE: For Present Value Access Types, R = Read-only, W = Writeable,
C = Commandable, x Armatur 1..32.
Commandable values support priority arrays & relinquish defaults.

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8. Modbus-koppeling

De gegevens worden via de hoofdcommando's van het Modbus-protocol gelezen resp. geschreven:

0×01	Read Coils. Alle Aan-/Uit-commando's die kunnen worden geschreven
0×02	Read discrete Inputs. Alle Aan-Uit-statussen, die alleen kunnen worden gelezen
0×03	Read Holding Registers. Alle waarden die meer dan twee statussen aannemen en die kunnen worden beschreven. Het waardenbereik is begrensd tot 0 … 65535 resp. +32767 … -32768.
0×04	Read Input Registers. Alle waarden die meer dan twee statussen aannemen en die alleen kunnen worden gelezen. Het waardenbereik is begrensd tot 0 … 65535 resp. +32767 … -32768.
0×05	Write single Coil. Verandering van afzonderlijke Aan-/Uit-waarden
0×06	Write single Register. Verandering van waarden met meer dan twee statussen (waardenbereik zie 0x03).

Gegevens van ECC (Modbus-Devices 100 op Gateway)

Offset	Length	Address	Read	Write	Meaning
1	1	10001	0×02		TD-Active
2	1	10002	0×02		ECC-Failure
3	1	10003	0×02		CAN-Failure
4	1	10004	0×02		USV-Failure
1	1	00001	0×01	0×05	TD-Abort
2	1	00002	0×01	0×05	cleaning active
3	1	00003	0×01	0×05	simultaneity suppression
4	1	00004	0×01	0×05	set-change AB (1=SET-A, 0=SET-B)
5	1	00005	0×01	0×05	start TD
6	1	00006	0×01	0×05	start hygiene flush
7	1	00007	0×01	0×05	reset warnings
1	1	40001	0×03		cleaning time
1		30001	0×04		serial number LOW / HIGH
3		30003	0×04		firmware version (MSB=Major / LSB=Minor)
100		30101	0×04		name (1 sign in each 16-Bit word)

Gegevens van EM (Modbus-Devices 1-32 op Gateway)

Offset	Length	Address	Read	Write	Meaning
1	1	00001	0×01	0×05	hygiene flush dynamic actuator 1
2	1	00002	0×01	0×05	hygiene flush dynamic actuator 2
3	1	00003	0×01	0×05	hygiene flush dynamic actuator 3
4	1	00004	0×01	0×05	hygiene flush fix actuator 1
5	1	00005	0×01	0×05	hygiene flush fix actuator 2
6	1	00006	0×01	0×05	hygiene flush fix actuator 3
7	1	00007	0×01	0×05	Power-ON-flush actuator 1
8	1	00008	0×01	0×05	Power-ON-flush actuator 2
9	1	00009	0×01	0×05	Power-ON-flush actuator 3
10	1	00010	0×01	0×05	cleaning
11	1	00011	0×01	0×05	Flowtime reduction
12	1	00012	0×01	0×05	Reserve
1	1	10001	0×02		actuator 1 active
2	1	10002	0×02		actuator 2 active
3	1	10003	0×02		set-change AB (1=SET-A, 0=SET-B)
4	1	10004	0×02		failure actuator 1
5	1	10005	0×02		failure actuator 2
6	1	10006	0×02		failure sensor 1
7	1	10007	0×02		TD active
8	1	10008	0×02		TD active
1	2	30001	0×04		serial number LOW / HIGH
3	4	30003	0×04		firmware-ID (4 Bytes Individual components, coded to Character)
7	1	30007	0×04		temperature sensor 1
8	1	30008	0×04		temperature sensor 2
9	1	30009	0×04		voltage 3
10	1	30010	0×04		supply
11	1	30011	0×04		sensor 3
12	1	30012	0×04		measure 7
13	1	30013	0×04		measure 8
14	1	30014	0×04		actuator count 1
15	1	30015	0×04		actuator count 2
16	1	30016	0×04		armature-ID
17	2	30017	0×04		operation hours
19	2	30019	0×04		last TD
21	1	30021	0×04		TD-Phase
22	14	30022	0×04		minutes since the last activation of the sensor (remark 1)
36	28	30036	0×04		secondssince the last activation of the sensor (remark 2)
100	32	30100	0×04		name (1 sign in each 16-Bit word)

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Offset	Length	Address	Read	Write	Meaning
1		40001	0×03	0×06	operation mode 0=OFF; 2=ON; 4=Emergency; 6=Standby; 8= Cleaning
2		40002	0×03	0×06	run time channel 1
3		40003	0×03	0×06	run time channel 2
4		40004	0×03	0×06	run time channel 3
5		40005	0×03	0×06	reach channel 1
6		40006	0×03	0×06	reach channel 2
7		40007	0×03	0×06	reach channel 3
8		40008	0×03	0×06	TD-group

remark 1:
Er zijn max. 14 sensoren. Aan elke sensor is een eigen waarde toegewezen. De toewijzing van de waarden vindt plaats in deze volgorde:
Sensor 1, sensor 2, sensor 3, SBUS-sensor 1, ... SBUS-sensor 8, extern 1, extern 2, extern 3. Als de sensor vanaf de start van de ECC nog nooit is bediend of lang geleden werd bediend, wordt een waarde van 0×FFFF geleverd.

remark 2:
Het aantal seconden sinds de laatste sensorbediening (zoals beschreven onder opmerking 1 voor de minuten reeds beschreven). Er worden echter twee woorden (32-bits waarde) er sensor geleverd. Hierbij is het woord voor het kleinere variabelenadres het LOW-woord en het woord voor het hogere adres het HIGH-woord.
Als de sensor nog nooit vanaf de start van de ECC is bediend, wordt 0xFFFFFFFF geleverd. Een overflow is in principe niet mogelijk, doordat de interne Unix-tijd eveneens als LONG in seconden vanaf het tijdvak - 01-01-1970 0:00 uur UTC - wordt gemeten.

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