In order to establish internal communication between the FUx1010 meter and the Communications card, the FUx1010 needs to have an operating SITE and to have the Datalogger set.

Set datalogger

Go to Menu: "Logger Setup" Logger Mode: RS232 output Logger Data: On (all data – except Sonilocator - should be selected) Logger Interval: 5 sec. – note: on 4 Channel Meters, min. is 30 sec. Logger Events: None Display Logger: Off

Set the internal communication between the FUx1010 and the Communications card

Go to "Meter Facilities" => "RS-232 Setup" Baud Rate: 9600 Parity: Odd Data Bits: 7 Line Feed: No Network ID: 0 RTS Key time: 0.0 secs <u>External (RS485) settings:</u> Baud rate: set by DIP SW 1 (A)



	A7	A8
9600	OFF	OFF
19200	ON	OFF
38400	OFF	ON
76800	ON	ON

Parity: NONE

Databits: 8

Stopbits: 1

Modbus Network Address is set By DIP SW 1 (A)

	A1	A2	A3	A4	A5	A6
Binary code	1	2	4	8	16	32

DIP SW 2 (B) are used to set the communication protocol and the Profile MODBUS: B7=OFF ; B8=OFF

B1 to B6 are used for Profile selection:

Flow Meter Firmware Version & Configuration	B1	B2	B3	B4	B5	B6
5N01-5.04.05 CH1: Clamp-On	Off	Off	Off	Off	Off	Off
5N01-5.04.05 CH1: Reflexor	On	Off	Off	Off	Off	Off
5N02-5.04.05 CH1: Clamp-On	On	On	On	On	Off	Off
5N02-5.04.05 CH1: Reflexor	On	On	Off	Off	Off	Off
5N03-5.04.05 CH1: Clamp-On CH2: Clamp-On	Off	Off	On	Off	Off	Off
5N03-5.04.05 CH1: Reflexor CH2: Reflexor	On	Off	On	Off	Off	Off
5N03-5.04.05 CH1: Clamp_on CH2: Reflexor	Off	On	On	Off	Off	Off
5N03-5.04.05 DP: Clamp-On	On	On	On	Off	Off	Off
5N03-5.04.05 CH1+2: Clamp-On	Off	Off	Off	On	Off	Off
5N03-5.04.05 CH1-2: Clamp-On	On	Off	Off	On	Off	Off
5N04-5.04.05 CH1: Clamp-On CH2: Clamp-On	On	Off	Off	On	Off	Off
5N04-5.04.05 CH1: Reflexor CH2: Reflexor	On	On	Off	On	Off	Off
5N04-5.04.05 CH1: Clamp-On CH2: Reflexor	Off	Off	On	On	Off	Off
5N04-5.04.05 DP: Clamp-On	On	Off	On	On	Off	On
5N04-5.04.05 CH1+2: Clamp-On	Off	On	On	On	Off	Off
5N04-5.04.05 CH1-2: Clamp-On	On	On	On	On	Off	Off
5MN01-5.04.05 4 Channel Flow: Clamp-On	Off	Off	Off	Off	On	Off
5MN01-5.04.05 CH5: Clamp-On	On	Off	Off	Off	On	Off
5MN01-5.04.05 Quad Path: Clamp-On	Off	On	Off	Off	On	Off
5MN02-5.04.05 4 Channel Flow: Clamp-On	On	On	Off	Off	On	Off
5MN02-5.04.05 CH5: Clamp-On	Off	Off	On	Off	On	Off
5MN02-5.04.05 QP: Clamp-On	On	Off	On	Off	On	Off
5EN02-5.04.05 Ch1: Clamp-On	Off	On	On	Off	On	Off
5EN02-5.04.05 Ch1: Reflexor	On	On	On	Off	On	Off
5EN03-5.04.05 Ch1: Clamp-On Ch2: Clamp-On	Off	Off	Off	On	On	Off
5EN03-5.04.05 Ch1:Reflexor Ch2: Reflexor	On	Off	Off	On	On	Off
5EN03-5.04.05 Ch1: Clamp-On Ch2: Reflexor	Off	On	Off	On	On	Off
5EN03-5.04.05 DP: Clamp-On	On	On	Off	On	On	Off
5EN03-5.04.05 Ch1+2: Clamp-On	Off	Off	On	On	On	Off
5EN04-5.04.05 Ch1: Clamp-On Ch2: Clamp-On	On	Off	On	On	On	Off
5EN04-5.04.05 Ch1: Reflexor Ch2: Reflexor	Off	On	On	On	On	Off
5EN04-5.04.05 Ch1: Clamp On Ch2: Reflexor	On	On	On	On	On	Off
5EN04-5.04.05 Ch1+2: Clamp-On	Off	Off	Off	Off	Off	On
5EN04-5.04.05 DP: Clamp-On	On	Off	Off	Off	Off	On
5PVN01-5.04.05 CH1: Clamp-On	Off	On	Off	Off	Off	On
5PVN02-5.04.05 DP: Clamp-On	On	On	Off	Off	Off	On
5PVN03-5.04.05 DP: Clamp-On	Off	Off	On	Off	Off	On
5BN01-5.04.05 CH1: Clamp-On	On	Off	On	Off	Off	On
5BN02-5.04.05 CH1: Clamp-On CH2: Clamp-On	Off	On	On	Off	Off	On
5DVN02-5.04.05 DP: Clamp-On	On	On	On	Off	Off	On
5DVN03-5.04.05 DP: Clamp-On	Off	Off	Off	On	Off	On
5DVN04-5.04.05 QP: Clamp-On	On	Off	Off	On	Off	On
5GN03-5.04.05 CH1: Clamp-On	Off	On	Off	On	Off	On
5GN04-5.04.05 DP: Clamp-On	On	On	Off	On	Off	On
5GN05-5.04.05 DP: Clamp-On	Off	Off	On	On	Off	On
5GN07-5.04.05 QP: Clamp-On	On	Off	On	On	Off	On

Access the Webinterface:

The default IP Address for the Communication card is 192.168.0.2

For the network connection to function properly, the Settings must also be changed in the PC (this example shows how it is done in Windows 7).

1. Open "Network Connections" on your PC.



2. Right click on Local Area Connection and choose "Properties".

🖗 Local Area Connection Properties	x
Networking Authentication Sharing	
Connect using:	
Intel(R) 82579V Gigabit Network Connection	
Configure	
This connection uses the following items:	
QoS Packet Scheduler	
He and Printer Sharing for Microsoft Networks A SIMATIC Industrial Ethernet (ISO)	
A PROFINET IO RT-Protocol V2.0	
✓ Internet Protocol Version 6 (TCP/IPv6)	
Internet Protocol Version 4 (TCP/IPv4) A Link-Laver Topology Discovery Mapper I/O Driver	
Install Uninstall Properties	
Description	
Transmission Control Protocol/Internet Protocol. The default wide area network protocol that provides communication across diverse interconnected networks.	
OK Cancel	

3. Scroll to Internet Protocol Version 4, and select "properties".

Internet Protocol Version 4 (TCP/IPv4)	Properties ? X
General	
You can get IP settings assigned auton this capability. Otherwise, you need to for the appropriate IP settings.	natically if your network supports ask your network administrator
Obtain an IP address automatical	у
Use the following IP address:	
IP address:	192.168.0.11
Subnet mask:	255.255.255.0
Default gateway:	· · ·
Obtain DNS server address autom	natically
• Use the following DNS server add	resses:
Preferred DNS server:	
Alternate DNS server:	• • •
🔲 Vaļidate settings upon exit	Ad <u>v</u> anced
	OK Cancel

4. Click on "Use the following IP address:" and enter a fixed IP address in same range as the card (192.168.0.xx).

"Subnet mask" must be : 255.255.255.0

Now the web interface can be accessed with a web browser.

5. Activate the SITE by naming it as the active FUx1010. The site name must match the site programmed into the flow meter, for all channels.



6. Press "Submit".

eway Profile Configurat	× (+					E	010	1
92.168.0.2/app/profiles/p	rofiles.htm ::		⊤ C 0, 5	narsh	\$	0 1	1	l
CIEMENS	Configuration update comple	te. Please res	tart the system to load the new Cor	nfiguration.			_	
SIEMENS								
Configuration Pa	arameters						-	
Parameter Name	Parameter Description	Value						
vetwork_nr	Determines the BACnet network number of the Gateway. All BACnet devices that is created will be on this network.	1	Submit					
site_id1	Set to the Site ID of Meter 1	TESTI	Submit					
								ļ
HELP (2)	System Restart				Diagnostics	& Debug	ging	

7. Restart the system (takes approx. 1 minute).

4	Gateway Profile Configurat.	* +		- 0 - ×
6	@ 192.168.0.2/app/profiles/p	profiles.htm	= C Q. Search	☆ 自 ♣ ★ Ξ
	SIEMENS	Configuration update comple	te, Please restart the system to load the new Configuration.	
	Configuration Pr	aramoters		
	Parameter Name	Parameter Description Determines the BACnet network number of the Gateway. All BACnet devices that is created will be on this network.	System about to restart. Press OK to continue	
	site_id1	Set to the Site ID of Mater 1	Cancel	
	HELP (7)	System Restart		Diagnostics & Debugging

8. The configuration is completed.

steway Profile Configurat	. ×				100.000		0	ľ
192.168.0.2/app/profiles/p	profiles.htm		⇒ C	Q, Search	4	ê	+	1
	Server o	onnection lost	. Attempting to reconnect.					ſ
SIEMENS								l
Configuration Pa	arameters							2
Parameter Name	Parameter Description	Value						
network_nr	All BACnet devices that is created will be on this network.	1	Submit					
site id1	Set to the Site ID of Meter 1	TEST1	Submit					
			August a strange of					
					1			ļ
HELP (?)	System Restart				Diagnostic	s & Debu	ugging	j

Diagnostic and debugging:

General info

	v C Q, Search	☆自♣
PG13000001		
Statura Settings info Stats	1	
Status		0
Name	Value	
Driver_Configuration	DCC840	
DCC_Version	V6.04x (A)	
Kernel_Version	V6.13a (A)	
Release_Status	Normal	
Build_Revision	46-199-gd343813	
Build_Date	Wed Dec 18 15:19:43 2013 +0200	
BIOS_Version	3.1.10	
FieldServer_Model	Siemens Option Card	
Data_Points_Used	423	
Data_Points_Max	-	
Application Memory:		
Memory_Percent_Used	2.98%	
	100.10	
	PG13000001 Status Statu	PG13000001 Status Name Value Inver_Configuration DCGH9 DCCH9 DCC, Version V6.51x (A) Reference Rereal_Version V6.51x (A) Reference Budg_Sterion V6.51x (A) Reference Budg_Sterion V6.51x (A) Reference Budg_Sterion 46-199-pdH3813 Budg_Sterion Budg_Sterion 31.10 EastServer_Model Stemmen Option Card Data_priorits_Used 423 Data_priorits_Used 423 Data_priorits_Used 423 Application Memory; 4

Modbus settings

192.168.0.2/htm/fsgui.htm#46_010_4_		∀ C Q Search	☆白◆
SIEMENS			
Navigation	R1 - MODBUS_RTU		
P Paisocooos D About D Setup	Settings Info Stats Error St	ils	
	Settings		0
- D R2 - SUF_Meter	Rame	Value	
- 🗁 P1 - Hart	Connection_Mode	Server	*
- DY R1 - MODBUS_RTU	Client/Server_Mode		
- D Data Arrays	Multidrop_Mode	Yes	
- 🛃 Nodes	Turnaround_Delay	0.005s	
- C Map Descriptors	Config_Mode	-	
- Er oser Hesseges	8302	19200	
	Data_Mts	8 NOVE	
	Flan Bits	1	
	Line Drive On	0.0014	
	Line Drive Off	0.0016	3
	10 Timond	0.0015	
	IP Port.	-	
	and the second se		

Go to "Data Arrays -> C1_AI_01" to check that data is being transmitted from FUx1010 to card.

eway Profile Configurat × 🕜 FSGUI	×	+										10
92.168.0.2/htmv/fsgui.htm=56_010_14_							7 C Q	Search			☆自	÷
SIEMENS												
Navigation	C1,	,AI_01										
Connections Data Arrays D Da DIP DA_DIP DA_DIP_A	Data	Array										_
- DA_DIP_B	Data A	rray Attrib										0
- DA_DIP_S			N	ame					Value			
- DA Praloada	Data	srrav Name				0	1 AI 01					_
DA_LOAD_BIT	E Data i	Cormat					hat					-
- 🔁 DA_LOAD_BASE	Longt	in Rome				2	6					-
- C DA_LOAD_SEC	Dutor	nor hom				-	-					-
DA_NOOE_ADDR	aytes	per stem				- 7	074-					_
- DA BAUD COND	Data	vge				0	.0745					_
DA_BAUD_RATE			Displ	iy Format	Float	-	-	-	_			
- Ci Site Id	Deta A	rray										۰
- C1_Date_Time	Offse	t O	1	2	3	4	5	6	7	8	9	-
- 🗗 C1_Flow_Rate	0	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.020000	850.000000	0.000000	
- C1_Raw_Flow	10	850.000000	14.000000	0.000000	14.000000	26.000000	0.368000	0.118000	-45.560001	-45.560001	-0.005510	
	20	0.000000	0.000000	0.000000	0.000000	0.000000			-		-	
C1_Flow_Vel	- 20											

Check RS485 connection.

MODDUS	-	-				Address	Value	
Slave Address	: 2		Type:	3:Input Registers -	•	30157	850	
Start Address	: 157		Size:	Float 👻				
Total Values	: 2		Format:	-				
ScanRate	: 1000	ms		Signed Decimals				
Timeout	1000	ms						
Ethernet								
IP Address:	192.168.).2] P	Port: 502				
Serial								
ComPort:	COM4	•						
BaudRate:	19200	•	Data	Bits: 8 🔻				
Parity:	NONE	•	StopE	Bits: 1 🔻				
Status	Polle		Responses					
Read Status:	1		1	Clear				
Write Status:	0		0	Clear				
Com Status:	Modbus_	Device	_Ok					
w Data Stream								
2][04][00][9C][00][02][I	31][D6] [02][04][04][44][54][80][00][FC][64	4]			

Example: Read time and date.

Modbus Master V2.b						
Communication Protocol:	RTU OVER F	RS232/485 👻		Modbus Registers		
Modbus				Address	Value	
Slave Address: 2	Туре:	3:Input Registers	•	30101	2015	
Start Address: 101	Size:	Word	•	30102	9	
Total Values: 6	Format:	Decimal	•	30103	24	
ScanRate: 1000 ms	•	Signed Decima	ls 📃	30104	9	
Timeout: 1000 ms				30105	31	
				30106	10	
Ethernet						
IP Address: 132.100.0.2	ŀ	ort: 002				
Serial						
ComPort: COM4 -						
BaudRate: 19200 -	Data	Bits: 8 🔻				
Parity: NONE -	Stop	Bits: 1 🔻				
Status Polls	Responses					
Read Status: 15	15	Clear				
Write Status: 0	0	Clear				
Com Status: Modbus Devic	e Ok					
Single Scan	Write F	Register		Clear Raw Data		
Repeating Scan	Disco	Shreat				Quit
lodbus Master V2.6	RTUOVER	BC232/485				
Modbus				Modbus Registers	0	
Slave Address: 2	Type:	3:Input Registers	•	Address	Value 2015	
Start Address: 101	Size:	Word	-	30101	2010	
Tatal Value 6	Gize.	Decimal	_	30102	24	
	Format:	Docima	•	30104	9	
ScanRate: 1000 ms	\$	Signed Decima	is 📃	30105	31	
Timeout: 1000 ms	,			30106	25	
Ethernet						
IP Address: 192.168.0.2						
	F	Port: 502				
Corial	F	Port: 502				
Serial	F	Port: 502				
Serial ComPort: COM4 -	F	Port: 502				
Serial ComPort: ^{COM4} ▼ BaudRate: ¹⁹²⁰⁰ ▼	F	Port: 502 Bits: 8 -				

Serial									
ComPort:	COM4	•							
BaudRate:	19200	•	DataBits	8 👻					
Parity:	NONE	•	StopBits	1 🔻					
Status									
Read Status:	Polis 17	-	Responses	Clear					
Write Status:	0)	Clear					
Com Statue:	Modbue	Device (<u>р</u>						
12][04][00][64][12][04][0C][07][18][00][09][09][00][00][06][3 [DF][00][0 [1F][00][1	1] [E4] [0 09][00][9][65][1	02][04][0C][07 18][00][09][00 =6]][DF][00][0][1F][00][0	9][00][18][0 F][E4][38] <mark>[0</mark>)][09][00][1 F][0 0 2][04][00][64][00)[0 A][24][3)[06][31][E	B][02][04][(4][02][04][()0][64][00][06][31][[C][07][DF][00][09][(
Single Scan			Write Regis	ter		Clear Raw Data			

Profile 44 (FUG1010-5GN04-5.04.05-DPCO)												
	Modbus			Ethernet/IP			HART		N2			
Data Description	Reg	Bytes	Туре	Tag Name	OS	Format	CMD	VAR	Туре	Ad	Sz	
Site ID	30501	8	String	String_In	0	UINT16		n/a	BD(Byte)	1	8	
Date: Year	30101	2	Integer	Analog_In	0	Float		n/a	ADI(Int)	1	1	
Date: Month	30102	2	Integer	Analog_In	1	Float		n/a	ADI(Int)	2	1	
Date: Day	30103	2	Integer	Analog_In	2	Float		n/a	ADI(Int)	3	1	
Time: Hour	30104	2	Integer	Analog_In	3	Float		n/a	ADI(Int)	4	1	
Time: Minute	30105	2	Integer	Analog_In	4	Float		n/a	ADI(Int)	5	1	
Time: Second	30106	2	Integer	Analog_In	5	Float		n/a	ADI(Int)	6	1	
Inst.Flow Rate Path 1	30109	4	Real	Analog_In	6	Float	129	10-0Ah	ADF(Float)	1	1	
Inst.Flow Rate Path 2	30111	4	Real	Analog_In	7	Float	129	11-0Bh	ADF(Float)	2	1	
Inst.Flow Rate	30107	4	Real	Analog_In	8	Float		n/a	ADF(Float)	3	1	
Avg Flow Rate	30119	4	Real	Analog_In	9	Float	129	0-00h P	ADF(Float)	4	1	
Flow Rate Units	30517	8	String	String_In	4	UINT16	131	0-00h	BD(Byte)	9	8	
Raw Flow Path 1	30133	4	Real	Analog_In	10	Float		n/a	ADF(Float)	5	1	
Raw Flow Path 2	30135	4	Real	Analog_In	11	Float		n/a	ADF(Float)	6	1	
Raw Flow Units	30537	8	String	String_In	8	UINT16		n/a	BD(Byte)	17	8	
Flow Velocity	30141	4	Real	Analog_In	12	Float	129	32-20h T	ADF(Float)	7	1	
Flow Velocity Units	30553	8	String	String_In	12	UINT16	131	32-20h	BD(Byte)	25	8	
Total	30143	4	Real	Analog_In	13	Float	129	33-21h S	ADF(Float)	8	1	
Total Units	30557	8	String	String_In	16	UINT16	131	33-21h	BD(Byte)	33	8	
Sonic Vel Path 1	30157	4	Real	Analog_In	14	Float		n/a	ADF(Float)	9	1	
Sonic Vel Path 2	30159	4	Real	Analog_In	15	Float		n/a	ADF(Float)	10	1	
Sonic Vel	30155	4	Real	Analog_In	16	Float		n/a	ADF(Float)	11	1	
Sonic Vel Units	30577	8	String	String_In	20	UINT16		n/a	BD(Byte)	41	8	
Signal Strength Path 1	30167	4	Real	Analog_In	17	Float		n/a	ADF(Float)	12	1	
Signal Strength Path 2	30168	4	Real	Analog_In	18	Float		n/a	ADF(Float)	13	1	

Refer to the Register map delivered with the card