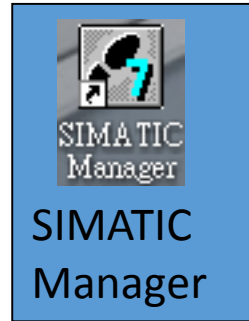


GW-7553 (Modbus TCP Slave)

Example for SIMATIC STEP 7

- **Example 1:Receives DO data from Modbus Master**
- **Example 2:Receives AO data from Modbus Master**
- **Example 3:Refreshes DI data to Modbus Master**
- **Example 4:Refreshes AI data to Modbus Master**

Receive 24-channel DO value from Modbus Master

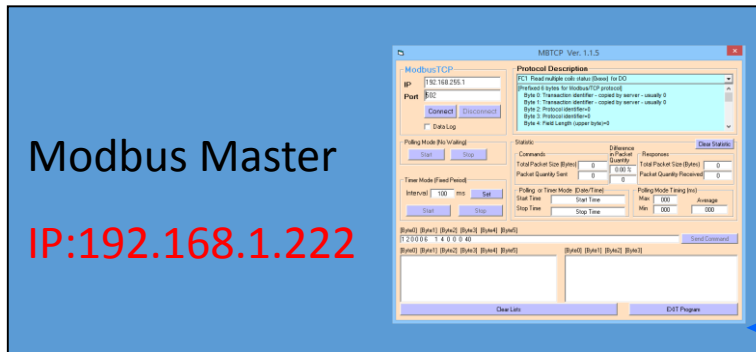


SIMATIC PLC
* PROFIBUS Device (Master)



GW-7553

- PROFIBUS Device (Slave)
- Station ID:2
- Modbus Device (TCP Slave)
- **IP: 192.168.1.223**



Modbus Master
IP:192.168.1.222



Receive 24-channel DO value from Modbus Master




HW Config - [SIMATIC 300 Station (Configuration) -- S7_GW7553]

Station Edit Insert PLC View Options Window Help

(0) UR

1	
2	CPU313 C-2 DP(1)
X2	DP
2.2	DI16/DO16
2.4	Count
3	
4	
5	

PROFIBUS(1): DP master system (1)



(2) GW-7553

Select GW-7553 module

PROFIBUS(1): DP master system (1)

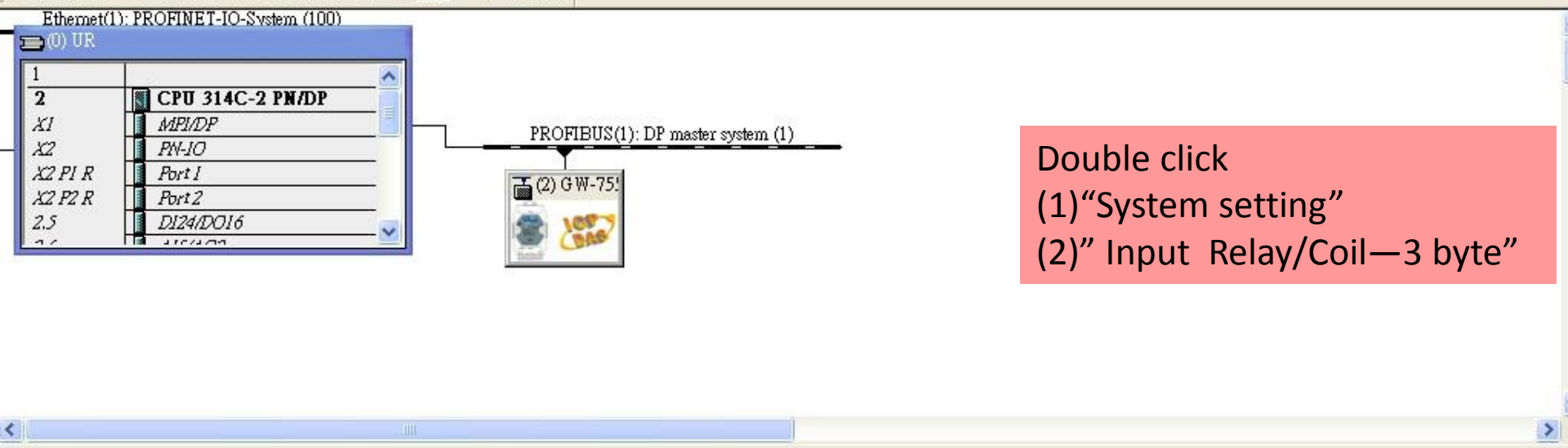
PROFIBUS address	Module	Order number	Firmware	Diagnostic address	Comment
2	GW-7553(DPV1)			1022	

Receive 24-channel DO value from Modbus Master



HW Config - [SIMATIC 300 Station (Configuration) -- S7_ProB]

Station Edit Insert PLC View Options Window Help



Double click
(1) "System setting"
(2) "Input Relay/Coil--3 byte"

Suchen: 7553

Profile: Standard

- Universal module
- System setting
- Output Relay/Coil--1 byte
- Output Relay/Coil--2 byte
- Output Relay/Coil--3 byte
- Output Relay/Coil--4 byte
- Output Relay/Coil--5 byte
- Output Relay/Coil--6 byte
- Output Relay/Coil--7 byte
- Output Relay/Coil--8 byte
- Output Relay/Coil--9 byte
- Output Relay/Coil--10 byte
- Output Relay/Coil--11 byte
- Output Relay/Coil--12 byte
- Output Relay/Coil--13 byte
- Output Relay/Coil--14 byte
- Output Relay/Coil--15 byte
- Output Relay/Coil--16 byte
- Output Relay/Coil--17 byte
- Output Relay/Coil--18 byte
- Output Relay/Coil--19 byte

(2) GW-7553(DPV1)

Slot	DP ID	Order Number / Designation	I Address	Q Address	Comment
1	24DO	System setting		0...2	
2	2I	--> System setting	0...5		
3	24DI	Input Relay/Coil--3 byte	6...8		
4					

⋮

Input Relay/Coil--3 byte

Receive 24-channel DO value from Modbus Master



HW Config - [SIMATIC 300 Station (Configuration) -- S7_Pro8]

Station Edit Insert PLC View Options Window Help

Ethernet(1): PROFINET-IO-System (100)

Slot	DP ID	Order Number / Designation	I Address	Q Address
1	24DO	System setting		0...2
2	2I	--> System setting	0...5	
3	24DI	Input Relay/Coil--3 byte	6...8	

(1) Double click GW-7553 icon

PROFIBUS(1): DP master

(2) GW-7553

Properties - DP slave

General Parameter Assignment (2) Select "Parameter Assignment"

Parameters	Value
Station parameters	
DP Interrupt Mode	DPV0
General DP parameters	
Device-specific parameters	
baud rate	115200 baud
parity	none
data	8 data bit
stop bit	1 stop bit
Modbus Type	Slave
Modbus Format	Modbus TCP
I/O Safe Mode	Retain Last Value
Byte Order	Little Endian(Intel format)
Output Data Mode	Auto
Modbus Device ID (S)	1
Modbus Polling Interval(ms) (M)	500
Query timeout Value(ms)(M)	500
TCP Connect Num(T)/(M)	1

OK Cancel Help

Receive 24-channel DO value from Modbus Master



HW Config - [SIMATIC 300 Station (Configuration)]

Station Edit Insert PLC View Options Window Help

- New... Ctrl+N
- Open... Ctrl+O
- Open ONLINE
- Close
- Save
- Save and Compile Ctrl+S**
- Properties...
- Import...
- Export...
- Consistency Check Ctrl+Alt+K
- Check CiR Compatibility Ctrl+Alt+F
- Print... Ctrl+P
- Print Preview...
- Page Setup...
- 1 S7_GW7553\SIMATIC 300 Station
- 2 S7_7550testCom\SIMATIC 300 Station
- 3 S7_7553cpm\SIMATIC 300 Station
- 4 S7_7553\SIMATIC 300 Station
- Exit Alt+F4

HW Config - [SIMATIC 300 Station (Configuration) -- S7_GW7553]

Station Edit Insert PLC View Options Window Help

Download... Ctrl+L

Upload...

Download Module Identification...

Upload Module Identification to PG...

Faulty Modules...

Module Information... Ctrl+D

Operating Mode... Ctrl+I

Clear/Reset...

Set Time of Day...

Monitor/Modify

Update Firmware...

Save Device Name to Memory Card...

Ethernet ▶

PROFIBUS ▶

Save Service Data...

(0) UR	
1	
2	CPU
X2	DP
2.2	DI16
2.4	COU2
3	
4	
E	

(2) GW-7553

Receive 24-channel DO value from Modbus Master



S7_GW7553 -- C:\Program Files\Siemens\Step7\s7proj\S7_GW7~3

S7_GW7553

- SIMATIC 300 Station
 - CPU313 C-2 DP(1)
 - S7 Program(1)
 - Sources
 - Blocks

System data OB1 OB82 OB86 **VAT_1**

Double click

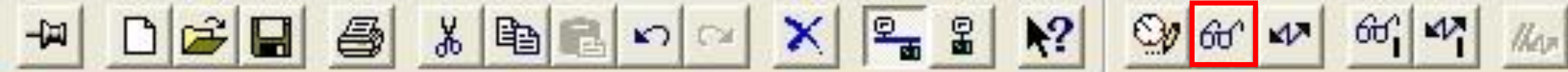
- Cut Ctrl+X
- Copy Ctrl+C
- Paste Ctrl+V
- Delete Del
- Insert New Object
 - Organization Block
 - Function Block
 - Function
 - Data Block
 - Data Type
 - Variable Table**
- PLC
- Rewire...
- Compare Blocks...
- Reference Data
- Check Block Consistency...
- Print
- Rename F2
- Object Properties... Alt+Return
- Special Object Properties

Receive 24-channel DO value from Modbus Master



Var - VAT_1

Table Edit Insert PLC Variable View Options Window Help



VAT_1 -- S7_Pro8SIMATIC 300 Station\CPU 314C-2 PN/DP

Click "monitor variable"

	Address	Symbol	Display format	Status value	Modify value
1	IB 6		HEX		
2	IB 7		HEX		
3	IB 8		HEX		
4					
5					

24DI	Input Relay/Coil--3 byte	6..8
------	--------------------------	------

Receive 24-channel DO value from Modbus Master



MBTCP Ver. 1.1.4

ModbusTCP

IP : 192.168.1.223 (1)Enter the IP address of the GW-7553 module

Port : 502

Connect Disconnect

(2)Click "Connect"

Protocol Description

Byte 0: Net ID (Station number)
Byte 1: FC=0F (hex)
Byte 2-3: Reference number
Byte 4-5: Bit count
Byte 6: Byte count (B=(bit count + 7)/8)

ModbusTCP Control

Polling Mode (no wait)

Start Stop

Timer mode (fixed period)

Interval ms **Set**

Start Stop

Statistic Clear Statistic

Command	Packet Quantity	Response	
Total Packet bytes	62	Total Packet bytes	36
Packet Quantity sent	4	Packet Quantity received	3
	Difference		
	25.00 %		
	1		

Polling or Timer mode (Date/Time)

Start time Stop time

Polling Mode Timing (ms)

Max Average

Min

[Byte0] [Byte1] [Byte2] [Byte3] [Byte4] [Byte5]

Send Command

[Byte0] [Byte1] [Byte2] [Byte3] [Byte4] [Byte5] [Byte6] [Byte7] [Byte0] [Byte1] [Byte2] [Byte3] [Byte4] [Byte5]

Clear Lists EXIT Program

Receive 24-channel DO value from Modbus Master



Var - VAT_1

Table Edit Insert PLC Variable View Options Window Help

VAT_1 -- @S7_Pro8SIMATIC 300 StationCPU 314C-2 PN/DP S7 Program(2) ONLINE

Address	Symbol	Display format	Status value	Modify value
1	IB 6	HEX	B#16#22	
2	IB 7	HEX	B#16#33	
3	IB 8	HEX	B#16#44	
4				
5				
6				
7				

MBTCP Ver. 1.1.4

ModbusTCP

IP: 192.168.1.223
Port: 502

Connect Disconnect

Data Log

Protocol Description

FC15 Force multiple coils (0xxxx) for DO

Byte 0: Net ID (Station number)
Byte 1: FC=0F (hex)
Byte 2-3: Reference number
Byte 4-5: Bit count
Byte 6: Byte count (B=(bit count + 7)/8)
Byte 7-(B+6): Data to be written (least significant is first coil!)

Clear Statistic

Polling Mode (no wait)
Start Stop

Timer mode (fixed period)
Interval: 100 ms Set
Start Stop

Statistic

Command	Packet Quantity Difference	Response
Total Packet bytes: 30	0.00 %	Total Packet bytes: 24
Packet Quantity sent: 2	0	Packet Quantity received: 2

Polling or Timer mode (Date/Time)
Start time: Start Time
Stop time: Stop Time

Polling Mode Timing (ms)
Max: 0 Average: 000
Min: 1000

[Byte0] [Byte1] [Byte2] [Byte3] [Byte4] [Byte5]
1 2 0 0 6 01 0f 00 00 00 18 03 22 33 44

[Byte0] [Byte1] [Byte2] [Byte3] [Byte4] [Byte5] [Byte6] [Byte7] [Byte0] [Byte1] [Byte2] [Byte3] [Byte4] [Byte5]
01 02 00 00 00 06 --> 01 0f 00 00 00 18 03 22 33 44

[Byte0] [Byte1] [Byte2] [Byte3] [Byte4] [Byte5]
01 02 00 00 00 06 --> 01 0f 00 00 00 18

Send Command

Clear Lists EXIT Program

Write DO to Modbus slave

Write DO command, data: 22 33 44

GW-7553 response command

Receive 2-channel AO value from Modbus Master

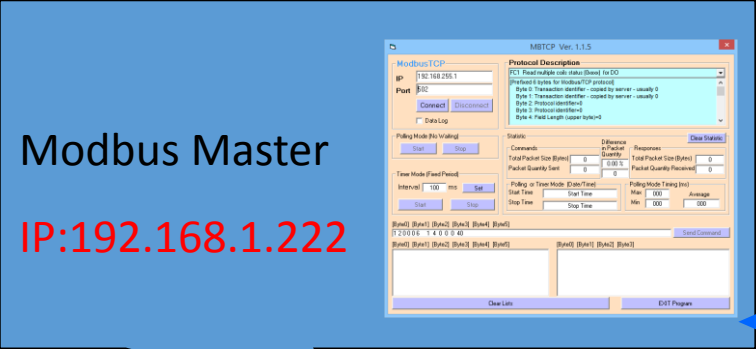


SIMATIC PLC
* PROFIBUS Device (Master)



GW-7553

- PROFIBUS Device (Slave)
- Station ID:2
- Modbus Device (TCP Slave)
- **IP: 192.168.1.223**



Modbus Master
IP:192.168.1.222



Receive 2-channel AO value from Modbus Master



HW Config - [SIMATIC 300 Station (Configuration) -- S7_GW7553]

Station Edit Insert PLC View Options Window Help

PROFIBUS(1): DP master system (1)

(2) GW-7553

Select GW-7553 module

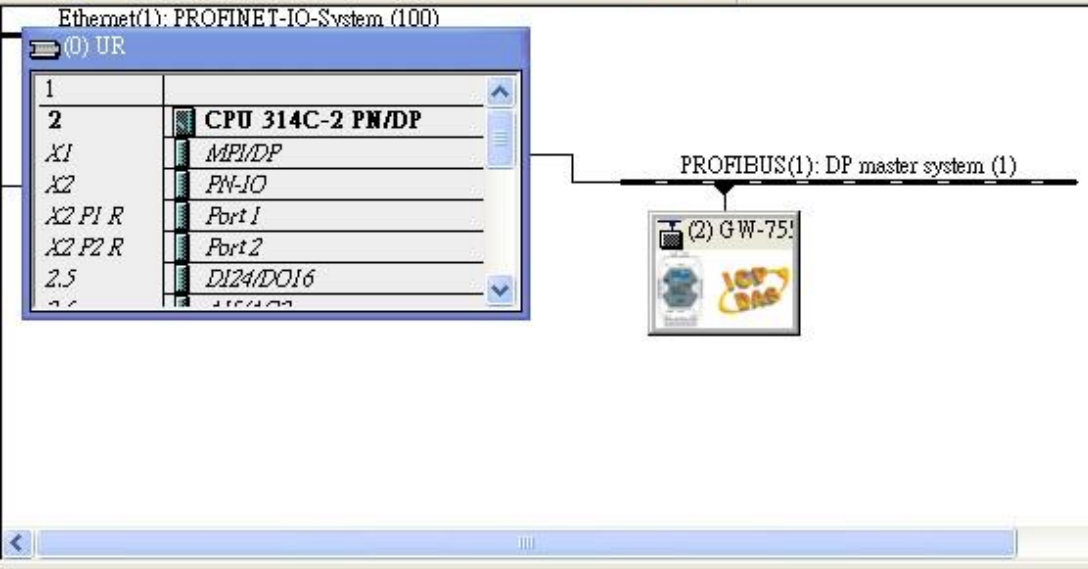
PROFIBUS address	Module	Order number	Firmware	Diagnostic address	Comment
2	GW-7553(DPV1)			1022	

Receive 2-channel AO value from Modbus Master



HW Config - [SIMATIC 300 Station (Configuration) -- S7_Pro8]

Station Edit Insert PLC View Options Window Help



Double click
(1) "System setting"
(2) "Input Register--2 word"

(2) GW-7553(DPV1)

Slot	DP ID	Order Number / Designation	I Address	Q Address	Comment
1	24DO	System setting		0..2	
2	2I	--> System setting	0..5		
3	2AI	Input Register--2 word	256...259		
4					

Suchen: 7553

Profile: Standard

- Universal module
- System setting
- Output Relay/Coil--1 byte
- Output Relay/Coil--2 byte
- Output Relay/Coil--3 byte
- Output Relay/Coil--4 byte
- Output Relay/Coil--5 byte
- Output Relay/Coil--6 byte
- Output Relay/Coil--7 byte
- Output Relay/Coil--8 byte
- Output Relay/Coil--9 byte
- Output Relay/Coil--10 byte
- Output Relay/Coil--11 byte
- Output Relay/Coil--12 byte
- Output Relay/Coil--13 byte
- Output Relay/Coil--14 byte
- Output Relay/Coil--15 byte
- Output Relay/Coil--16 byte
- Output Relay/Coil--17 byte
- Output Relay/Coil--18 byte
- Output Relay/Coil--19 byte

⋮

Input Register--2 word

Receive 2-channel AO value from Modbus Master



HW Config - [SIMATIC 300 Station (Configuration) -- S7_Pro8]

Station Edit Insert PLC View Options Window Help

Ethernet(1): PROFINET-IO-System (100)

(0) UR

1	
2	CPU 314C-2 PN/DP
X1	MPI/DP
X2	PN-IO
X2 P1 R	Port 1
X2 P2 R	Port 2
2.5	DI24/DO16

PROFIBUS(1): DP

(2) GW-753

(1) Double click GW-7553 icon

(2) GW-7553(DPV1)

Slot	DP ID	...	Order Number / Designation	I Address	Q Add.
1	24DO		System setting		0...2
2	2I		--> System setting	0...5	
3	2AI		Input Register--2 word	256...259	

Properties - DP slave

General Parameter Assignment (2) Select "Parameter Assignment"

Parameters	Value
Station parameters	
DP Interrupt Mode	DPV0
General DP parameters	
Device-specific parameters	
baud rate	115200 baud
parity	none
data	8 data bit
stop bit	1 stop bit
Modbus Type	Slave
Modbus Format	Modbus TCP
I/O Safe Mode	Retain Last Value
Byte Order	Little Endian(Intel format)
Output Data Mode	Manual
Modbus Device ID (S)	1
Modbus Polling Interval(ms) (M)	500
Query timeout Value(ms)(M)	500
TCP Connect Num(T)/M)	1

OK Cancel Help

Receive 2-channel AO value from Modbus Master



HW Config - [SIMATIC 300 Station (Configuration)]

Station Edit Insert PLC View Options Window Help

- New... Ctrl+N
- Open... Ctrl+O
- Open ONLINE
- Close
- Save
- Save and Compile Ctrl+S**
- Properties...
- Import...
- Export...
- Consistency Check Ctrl+Alt+K
- Check CiR Compatibility Ctrl+Alt+F
- Print... Ctrl+P
- Print Preview...
- Page Setup...
- 1 S7_GW7553\SIMATIC 300 Station
- 2 S7_7550testCom\SIMATIC 300 Station
- 3 S7_7553cpm\SIMATIC 300 Station
- 4 S7_7553\SIMATIC 300 Station
- Exit Alt+F4

HW Config - [SIMATIC 300 Station (Configuration) -- S7_GW7553]

Station Edit Insert PLC View Options Window Help

Download... Ctrl+L

Upload...

Download Module Identification...

Upload Module Identification to PG...

Faulty Modules...

Module Information... Ctrl+D

Operating Mode... Ctrl+I

Clear/Reset...

Set Time of Day...

Monitor/Modify

Update Firmware...

Save Device Name to Memory Card...

Ethernet ▶

PROFIBUS ▶

Save Service Data...

(0) UR	
1	
2	CPU
X2	DP
2.2	DI16
2.4	COU
3	
4	
E	

(2) GW-7553

Receive 2-channel AO value from Modbus Master



S7_GW7553 -- C:\Program Files\Siemens\Step7\s7proj\S7_GW7~3

S7_GW7553

- SIMATIC 300 Station
 - CPU313 C-2 DP(1)
 - S7 Program(1)
 - Sources
 - Blocks

System data OB1 OB82 OB86

VAT_1

Double click

- Cut Ctrl+X
- Copy Ctrl+C
- Paste Ctrl+V
- Delete Del
- Insert New Object ▶
 - Organization Block
 - Function Block
 - Function
 - Data Block
 - Data Type
 - Variable Table
- PLC ▶
- Rewire...
- Compare Blocks...
- Reference Data ▶
- Check Block Consistency...
- Print ▶
- Rename F2
- Object Properties... Alt+Return
- Special Object Properties ▶

Receive 2-channel AO value from Modbus Master



Var - VAT_1

Table Edit Insert PLC Variable View Options Window Help



Click "monitor variable"

VAT_1 -- S7_Pro8\SIMATIC 300 Station\CPU 314C-2 PN/DP\...

	Address	Symbol	Display format	Status value	Modify value
1	PIW 256		HEX		
2	PIW 258		HEX		
3					
4					

2AI	Input Register--2 word	256...259
-----	------------------------	-----------

Receive 2-channel AO value from Modbus Master



MBTCP Ver. 1.1.4

ModbusTCP

IP : 192.168.1.223 (1) Enter the IP address of the GW-7553 module

Port : 502

Connect Disconnect

(2) Click "Connect"

Protocol Description

Byte 0: Net ID (Station number)
Byte 1: FC=0F (hex)
Byte 2-3: Reference number
Byte 4-5: Bit count
Byte 6: Byte count (B=(bit count + 7)/8)

ModbusTCP Control

Polling Mode (no wait)

Start Stop

Timer mode (fixed period)

Interval ms **Set**

Start Stop

Statistic Clear Statistic

Command	Packet Quantity	Response	
Total Packet bytes	62	Total Packet bytes	36
Packet Quantity sent	4	Packet Quantity received	3
	Difference		
	25.00 %		
	1		

Polling or Timer mode (Date/Time)

Start time Stop time

Polling Mode Timing (ms)

Max Average

Min

[Byte0] [Byte1] [Byte2] [Byte3] [Byte4] [Byte5]

Send Command

[Byte0] [Byte1] [Byte2] [Byte3] [Byte4] [Byte5] [Byte6] [Byte7] [Byte0] [Byte1] [Byte2] [Byte3] [Byte4] [Byte5]

Clear Lists EXIT Program

Receive 2-channel AO value from Modbus Master



Var - YAT_1

Table Edit Insert PLC Variable View Options Window Help

Address	Symbol	Display format	Status value	Modify value
1	PIW 256	HEX	W#16#BBAA	
2	PIW 258	HEX	W#16#DDCC	
3				
4				
5				
6				
7				

MBTCP Ver. 1.1.4

Write AO to Modbus slave

ModbusTCP

IP: 192.168.1.223
Port: 502
Connect Disconnect
 Data Log

Protocol Description

FC16 Write multiple registers (4xxxx) for AO

Byte 0: Net ID (Station number)
Byte 1: FC=10 (hex)
Byte 2-3: Reference number
Byte 4-5: Word count
Byte 6: Byte count (B=2 x word count)
Byte 7-(B+6): Register values

Clear Statistic

Statistic

Command	Total Packet bytes: 51	Packet Quantity Difference: 0.00 %	Response	Total Packet bytes: 36
	Packet Quantity sent: 3	0		Packet Quantity received: 3

Timer mode (fixed period)

Interval: 100 ms Set
Start Stop

Polling or Timer mode (Date/Time)

Start time: Start Time
Stop time: Stop Time

Polling Mode Timing (ms)

Max	0	Average
Min	1000	000

[Byte0] [Byte1] [Byte2] [Byte3] [Byte4] [Byte5]

1 2 0 0 0 6 01 10 00 00 00 02 04 aa bb cc dd

[Byte0] [Byte1] [Byte2] [Byte3] [Byte4] [Byte5] [Byte6] [Byte7] [Byte0] [Byte1] [Byte2] [Byte3] [Byte4] [Byte5]

01 02 00 00 00 06 -> 01 10 00 00 00 02 04 AA BB CC DD 01 02 00 00 00 06 -> 01 10 00 00 00 02

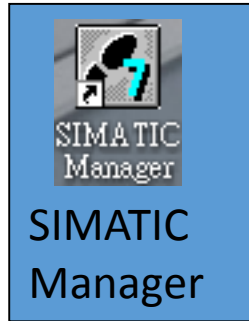
Write AO command, data : AA BB CC DD

GW-7553 response command

Send Command

Clear Lists EXIT Program

Refresh 16-channel DI value to Modbus Master

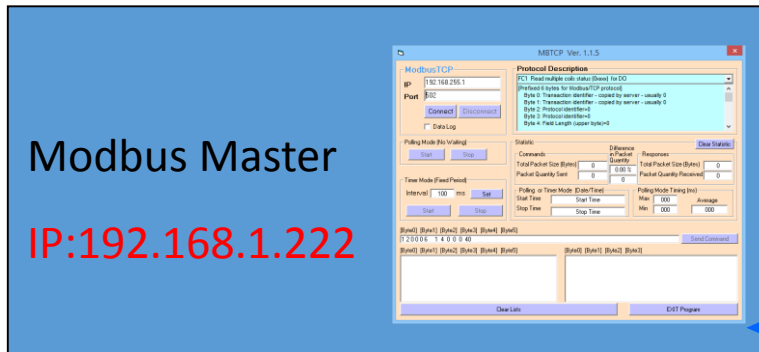


SIMATIC PLC
* PROFIBUS Device (Master)



GW-7553

- PROFIBUS Device (Slave)
- Station ID:2
- Modbus Device (TCP Slave)
- **IP: 192.168.1.223**



Modbus Master
IP:192.168.1.222



Refresh 16-channel DI value to Modbus Master



HW Config - [SIMATIC 300 Station (Configuration) -- S7_GW7553]

Station Edit Insert PLC View Options Window Help

0) UR

1	
2	CPU313 C-2 DP(1)
X2	DP
2.2	DI16/DO16
2.4	Count
3	
4	
5	

PROFIBUS(1): DP master system (1)

Select GW-7553 module

PROFIBUS(1): DP master system (1)

PROFIBUS address	Module	Order number	Firmware	Diagnostic address	Comment
2	GW-7553(DPV1)			1022	

Refresh 16-channel DI value to Modbus Master



HW Config - [SIMATIC 300 Station (Configuration) -- S7_Pro8]

Station Edit Insert PLC View Options Window Help



Ethernet(1): PROFINET-IO-System (100)

Slot	Module
1	
2	CPU 314C-2 PN/DP
X1	MPI/DP
X2	PN-IO
X2 P1 R	Port 1
X2 P2 R	Port 2
2.5	DI24/DO16

PROFIBUS(1): DP master system (1)



Double click
(1) "System setting"
(2) "Output Relay/Coil--2 byte"

Suchen: 7553

Profile Standard

Module	Address
Universal module	
System setting	
Output Relay/Coil--1 byte	
Output Relay/Coil--2 byte	
Output Relay/Coil--3 byte	
Output Relay/Coil--4 byte	
Output Relay/Coil--5 byte	
Output Relay/Coil--6 byte	
Output Relay/Coil--7 byte	
Output Relay/Coil--8 byte	
Output Relay/Coil--9 byte	
Output Relay/Coil--10 byte	
Output Relay/Coil--11 byte	
Output Relay/Coil--12 byte	
Output Relay/Coil--13 byte	
Output Relay/Coil--14 byte	
Output Relay/Coil--15 byte	
Output Relay/Coil--16 byte	
Output Relay/Coil--17 byte	
Output Relay/Coil--18 byte	

(2) GW-7553(DPV1)

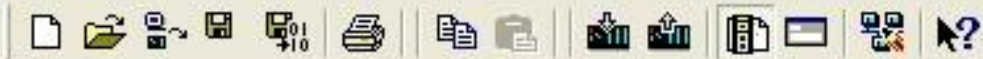
Slot	DP ID	Order Number / Designation	I Address	Q Address	Comment
1	24DO	System setting		0..2	
2	2I	--> System setting	0..5		
3	16DO	Output Relay/Coil--2 byte		3..4	
4					
5					

Refresh 16-channel DI value to Modbus Master



HW Config - [SIMATIC 300 Station (Configuration) -- S7_Pro8]

Station Edit Insert PLC View Options Window Help



Ethernet(1): PROFINET-IO-System (100)

(0) UR

1	
2	CPU 314C-2 PN/DP
X1	MPI/DP
X2	PN-IO
X2 P1 R	Port 1
X2 P2 R	Port 2
2.5	DI24/DO16

PROFIBUS(1): DP

(2) GW-7553

(1) Double click GW-7553 icon

Properties - DP slave

General Parameter Assignment (2) Select "Parameter Assignment"

Parameters	Value
General DP parameters	
Device-specific parameters	
baud rate	115200 baud
parity	none
data	8 data bit
stop bit	1 stop bit
Modbus Type	Slave
Modbus Format	Modbus TCP
I/O Safe Mode	Retain Last Value
Byte Order	Little Endian(Intel format)
Output Data Mode	Auto
Modbus Device ID (S)	1
Modbus Polling Interval(ms) (M)	500
Query timeout Value(ms)(M)	500
TCP_Connect_Num(T)(M)	1
Hex parameter assignment	

OK Cancel Help

(2) GW-7553(DPV1)

Slot	DP ID	Order Number / Designation	I Address	Q Address
1	24DO	System setting		0...2
2	2I	--> System setting	0...5	
3	16DO	Output Relay/Coil--2 byte		3...4
4				

Refresh 16-channel DI value to Modbus Master



HW Config - [SIMATIC 300 Station (Configuration)]

Station Edit Insert PLC View Options Window Help

- New... Ctrl+N
- Open... Ctrl+O
- Open ONLINE
- Close
- Save
- Save and Compile Ctrl+S**
- Properties...
- Import...
- Export...
- Consistency Check Ctrl+Alt+K
- Check CiR Compatibility Ctrl+Alt+F
- Print... Ctrl+P
- Print Preview...
- Page Setup...
- 1 S7_GW7553\SIMATIC 300 Station
- 2 S7_7550testCom\SIMATIC 300 Station
- 3 S7_7553cpm\SIMATIC 300 Station
- 4 S7_7553\SIMATIC 300 Station
- Exit Alt+F4

HW Config - [SIMATIC 300 Station (Configuration) -- S7_GW7553]

Station Edit Insert PLC View Options Window Help

Download... Ctrl+L

Upload...

Download Module Identification...

Upload Module Identification to PG...

Faulty Modules...

Module Information... Ctrl+D

Operating Mode... Ctrl+I

Clear/Reset...

Set Time of Day...

Monitor/Modify

Update Firmware...

Save Device Name to Memory Card...

Ethernet ▶

PROFIBUS ▶

Save Service Data...

(0) UR	
1	
2	CPU
X2	DP
2.2	DI16
2.4	COU2
3	
4	
E	

(2) GW-7553

Refresh 16-channel DI value to Modbus Master



S7_GW7553 -- C:\Program Files\Siemens\Step7\s7proj\S7_GW7~3

The screenshot shows the SIMATIC Manager interface. On the left, a project tree is expanded to show 'S7 Program(1)' > 'Sources' > 'Blocks'. A context menu is open over the 'Blocks' folder. The menu items are: Cut (Ctrl+X), Copy (Ctrl+C), Paste (Ctrl+V), Delete (Del), Insert New Object (highlighted), PLC, Rewire..., Compare Blocks..., Reference Data, Check Block Consistency..., Print, Rename (F2), Object Properties... (Alt+Return), and Special Object Properties. The 'Insert New Object' sub-menu is also open, showing options: Organization Block, Function Block, Function, Data Block, Data Type, and Variable Table (highlighted). In the top right corner, a red box highlights the 'VAT_1' object. Below it, a red box contains the text 'Double click'.

Object	Shortcut
Cut	Ctrl+X
Copy	Ctrl+C
Paste	Ctrl+V
Delete	Del
Insert New Object	
PLC	
Rewire...	
Compare Blocks...	
Reference Data	
Check Block Consistency...	
Print	
Rename	F2
Object Properties...	Alt+Return
Special Object Properties	

Object Type
Organization Block
Function Block
Function
Data Block
Data Type
Variable Table

Refresh 16-channel DI value to Modbus Master



Var - @Variable table1

Table Edit Insert PLC Variable View Options Window Help



@Variable table1 ONLINE

Click "monitor variable"

		Address	Symbol	Display format	Status value	Modify value
1		QB 3		HEX	B#16#00	
2		QB 4		HEX	B#16#00	<input type="text"/>
3						

16DO	Output Relay/Coil--2 byte	<input type="text" value="3..4"/>
------	---------------------------	-----------------------------------

Refresh 16-channel DI value to Modbus Master



MBTCP Ver. 1.1.4

ModbusTCP

IP : 192.168.1.223 (1)Enter the IP address of the GW-7553 module

Port : 502

Connect **Disconnect**

(2)Click "Connect"

Protocol Description

Byte 0: Net ID (Station number)
Byte 1: FC=0F (hex)
Byte 2-3: Reference number
Byte 4-5: Bit count
Byte 6: Byte count (B=(bit count + 7)/8)

ModbusTCP

Polling Mode (no wait)

Start **Stop**

Timer mode (fixed period)

Interval ms **Set**

Start **Stop**

Statistic **Clear Statistic**

Command	Packet Quantity	Response	
Total Packet bytes	62	Total Packet bytes	36
Packet Quantity sent	4	Packet Quantity received	3
	25.00 %		
	1		

– Polling or Timer mode (Date/Time)

Start time	Stop time
Start Time	Stop Time

– Polling Mode Timing (ms)

Max	Average
0	000
Min	1000

[Byte0] [Byte1] [Byte2] [Byte3] [Byte4] [Byte5]

1 2 0 0 6 **Send Command**

[Byte0] [Byte1] [Byte2] [Byte3] [Byte4] [Byte5] [Byte6] [Byte7] [Byte0] [Byte1] [Byte2] [Byte3] [Byte4] [Byte5]

Clear Lists **EXIT Program**

Refresh 16-channel DI value to Modbus Master



Var - @Variable table1

Table Edit Insert PLC Variable View Options Window Help

@Variable table1 ONLINE

Address	Symbol	Display format	Status value	Modify value
1	QB 3	HEX	B#16#AB	B#16#AB
2	QB 4	HEX	B#16#CD	B#16#CD
3				
4				

MBTCP (1)Click "modify variable"

(2)Read DI From Modbus slave

ModbusTCP

IP : 192.168.1.223
Port : 502

Connect Disconnect

Data Log

Protocol Description

FC2 Read multiple input discretes (1xxxx) for DI

Byte 0: Net ID (Station number)
Byte 1: FC=02
Byte 2-3: Reference number
Byte 4-5: Bit count

[Response]

Polling Mode (no wait)
Start Stop

Statistic

Command	Total Packet bytes	12	Packet Quantity Difference	0.00 %	Response	Total Packet bytes	11
	Packet Quantity sent	1		0		Packet Quantity received	1

Clear Statistic

Timer mode (fixed period)
Interval 100 ms Set
Start Stop

Polling or Timer mode (Date/Time)
Start time Start Time
Stop time Stop Time

Polling Mode Timing (ms)
Max 0 Average
Min 1000 000

[Byte0] [Byte1] [Byte2] [Byte3] [Byte4] [Byte5]
1 2 0 0 0 6 01 02 00 00 00 10

Send Command

[Byte0] [Byte1] [Byte2] [Byte3] [Byte4] [Byte5]
01 02 00 00 00 06 --> 01 02 00 00 00 10

Read DI command

[Byte0] [Byte1] [Byte2] [Byte3] [Byte4] [Byte5]
01 02 00 00 00 05 --> 01 02 02 AB CD

GW-7553 response command, data: AB CD

Clear Lists EXIT Program

Refresh 4-channel AI value to Modbus Master

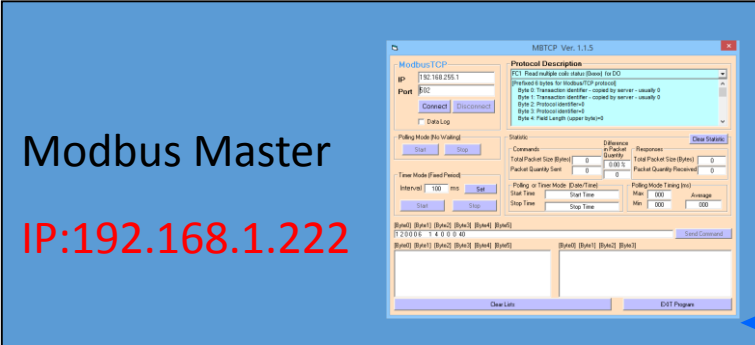


SIMATIC PLC
* PROFIBUS Device (Master)



GW-7553

- PROFIBUS Device (Slave)
- Station ID:2
- Modbus Device (TCP Slave)
- **IP: 192.168.1.223**



Modbus Master
IP:192.168.1.222



Refresh 4-channel AI value to Modbus Master



HW Config - [SIMATIC 300 Station (Configuration) -- S7_GW7553]

Station Edit Insert PLC View Options Window Help

0) UR

1	
2	CPU313 C-2 DP(1)
X2	DP
2.2	DI16/DO16
2.4	Count
3	
4	
5	

PROFIBUS(1): DP master system (1)

Select GW-7553 module

PROFIBUS(1): DP master system (1)

PROFIBUS address	Module	Order number	Firmware	Diagnostic address	Comment
2	GW-7553(DPV1)			1022	

Refresh 4-channel AI value to Modbus Master

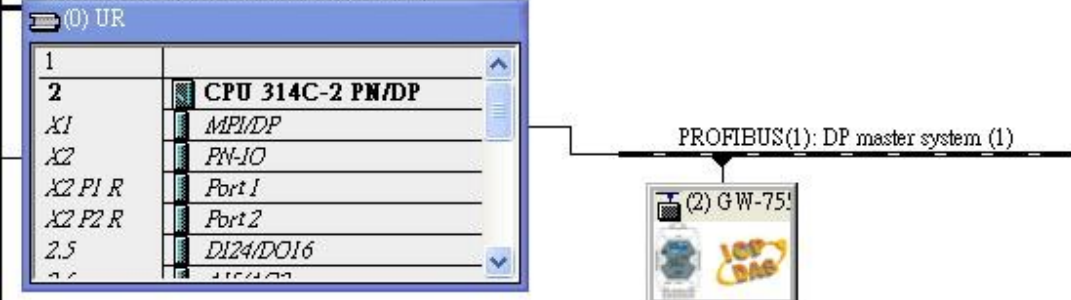


HW Config - [SIMATIC 300 Station (Configuration) -- S7_Pro8]

Station Edit Insert PLC View Options Window Help



Ethernet(1): PROFINET-IO-System (100)



Double click
(1) "System setting"
(2) "Output Register--4 word"

(2) GW-7553(DPV1)

Slot	DP ID	Order Number / Designation	I Address	O Address	Comment
1	24DO	System setting		0...2	
2	2I	--> System setting	0...5		
3	4AO	Output Register--4 word		256...263	
4					
5					

Suchen: 7553

Profile Standard

- GW-7553(DPV1)
 - Universal module
 - System setting
 - Output Relay/Coil--1 byte
 - Output Relay/Coil--2 byte
 - Output Relay/Coil--3 byte
 - Output Relay/Coil--4 byte
 - Output Relay/Coil--5 byte
 - Output Relay/Coil--6 byte
 - Output Relay/Coil--7 byte
 - Output Relay/Coil--8 byte
 - Output Relay/Coil--9 byte
 - Output Relay/Coil--10 byte
 - Output Relay/Coil--11 byte
 - Output Relay/Coil--12 byte
 - Output Relay/Coil--13 byte
 - Output Relay/Coil--14 byte
 - Output Relay/Coil--15 byte
 - Output Relay/Coil--16 byte
 - Output Relay/Coil--17 byte
 - Output Relay/Coil--18 byte



Output Register--4 word

Refresh 4-channel AI value to Modbus Master



HW Config - [SIMATIC 300 Station (Configuration) - S7_Pro8]

Station Edit Insert PLC View Options Window Help



Ethernet(1): PROFINET-IO-System (100)

(0) UR

1	
2	CPU 314C-2 PN/DP
X1	MPI/DP
X2	PN-IO
X2 P1 R	Port 1
X2 P2 R	Port 2
2.5	DI24/DO16

(1) Double click GW-7553 icon



Properties - DP slave

General **Parameter Assignment** (2) Select "Parameter Assignment"

Parameters	Value
Station parameters	
DP Interrupt Mode	DPV0
General DP parameters	
Device-specific parameters	
baud rate	115200 baud
parity	none
data	8 data bit
stop bit	1 stop bit
Modbus Type	Slave
Modbus Format	Modbus TCP
I/O Safe Mode	Retain Last Value
Byte Order	Little Endian(Intel format)
Output Data Mode	Auto
Modbus Device ID (S)	1
Modbus Polling Interval(ms) (M)	500
Query timeout Value(ms)(M)	500
TCP Connect Num(T)/M)	1

OK Cancel Help

(2) GW-7553(DPV1)

Slot	DP ID	Order Number / Designation	I Address	Q Address
1	24DO	System setting		0...2
2	2I	--> System setting	0...5	
3	4AO	Output Register--4 word		256...263
4				

Refresh 4-channel AI value to Modbus Master



HW Config - [SIMATIC 300 Station (Configuration)]

Station Edit Insert PLC View Options Window Help

- New... Ctrl+N
- Open... Ctrl+O
- Open ONLINE
- Close
- Save
- Save and Compile Ctrl+S**
- Properties...
- Import...
- Export...
- Consistency Check Ctrl+Alt+K
- Check CiR Compatibility Ctrl+Alt+F
- Print... Ctrl+P
- Print Preview...
- Page Setup...
- 1 S7_GW7553\SIMATIC 300 Station
- 2 S7_7550testCom\SIMATIC 300 Station
- 3 S7_7553cpm\SIMATIC 300 Station
- 4 S7_7553\SIMATIC 300 Station
- Exit Alt+F4

HW Config - [SIMATIC 300 Station (Configuration) -- S7_GW7553]

Station Edit Insert PLC View Options Window Help

Download... Ctrl+L

Upload...

Download Module Identification...

Upload Module Identification to PG...

Faulty Modules...

Module Information... Ctrl+D

Operating Mode... Ctrl+I

Clear/Reset...

Set Time of Day...

Monitor/Modify

Update Firmware...

Save Device Name to Memory Card...

Ethernet ▶

PROFIBUS ▶

Save Service Data...

(0) UR	
1	
2	CPU
X2	DP
2.2	DI16
2.4	COU
3	
4	
E	

(2) GW-7553

Refresh 4-channel AI value to Modbus Master



S7_GW7553 -- C:\Program Files\Siemens\Step7\s7proj\S7_GW7~3

The screenshot shows the SIMATIC Manager interface. On the left, a project tree is expanded to show 'S7 Program(1)' > 'Sources' > 'Blocks'. A context menu is open over the 'Blocks' folder. The menu items are: Cut (Ctrl+X), Copy (Ctrl+C), Paste (Ctrl+V), Delete (Del), Insert New Object (highlighted), PLC, Rewire..., Compare Blocks..., Reference Data, Check Block Consistency..., Print, Rename (F2), Object Properties... (Alt+Return), and Special Object Properties. The 'Insert New Object' submenu is also open, showing: Organization Block, Function Block, Function, Data Block, Data Type, and Variable Table (highlighted). In the top right corner, a red box highlights the 'VAT_1' object. Below it, a red box contains the text 'Double click'.

Object	Shortcut
Cut	Ctrl+X
Copy	Ctrl+C
Paste	Ctrl+V
Delete	Del
Insert New Object	
PLC	
Rewire...	
Compare Blocks...	
Reference Data	
Check Block Consistency...	
Print	
Rename	F2
Object Properties...	Alt+Return
Special Object Properties	

Object
Organization Block
Function Block
Function
Data Block
Data Type
Variable Table

Refresh 4-channel AI value to Modbus Master



Var - VAT_1

Table Edit Insert PLC Variable View Options Window Help



Click "monitor variable"

VAT_1 -- S7_Pro8\SIMATIC 300 Station\CPU 314C-2 PN/DP

	Address	Symbol	Display format	Status value	Modify value
1	PQW 256		HEX		
2	PQW 258		HEX		
3	PQW 260		HEX		
4	PQW 262		HEX		
5					
6					
4AO		Output Register--4 word			256...263

Refresh 4-channel AI value to Modbus Master



MBTCP Ver. 1.1.4

ModbusTCP

IP : 192.168.1.223 (1) Enter the IP address of the GW-7553 module in

Port : 502

Connect Disconnect

(2) Click "Connect"

Protocol Description

Byte 0: Net ID (Station number)
Byte 1: FC=0F (hex)
Byte 2-3: Reference number
Byte 4-5: Bit count
Byte 6: Byte count (B=(bit count + 7)/8)

Polling Mode (no wait)

Start Stop

Statistic

Clear Statistic

Command	Packet Quantity	Response	
Total Packet bytes	62	Total Packet bytes	36
Packet Quantity sent	4	Packet Quantity received	3
		Packet Quantity Difference	25.00 %
			1

Timer mode (fixed period)

Interval ms **Set**

Start Stop

Polling or Timer mode (Date/Time)

Start time

Stop time

Polling Mode Timing (ms)

Max	Average
<input type="text" value="0"/>	<input type="text" value="000"/>
<input type="text" value="1000"/>	<input type="text" value="000"/>

[Byte0] [Byte1] [Byte2] [Byte3] [Byte4] [Byte5]

Send Command

[Byte0] [Byte1] [Byte2] [Byte3] [Byte4] [Byte5] [Byte6] [Byte7] [Byte0] [Byte1] [Byte2] [Byte3] [Byte4] [Byte5]

Clear Lists EXIT Program

Refresh 4-channel AI value to Modbus Master



Var - VAT_1

Table Edit Insert PLC Variable View Options Window Help

YAT_1 -- @S7_Pro8\SIMATIC 300 Station\CPU 314C-2 PN/DP\S7 Program

Address	Symbol	Display format	Status value	Modify value
1	PQW 256	HEX	...	W#16#AABB
2	PQW 258	HEX	...	W#16#0CDD
3	PQW 260	HEX	...	W#16#EEFF
4	PQW 262	HEX	...	W#16#1122
5				
6				
7				

MBTCP Ver. 1.1.4

ModbusTCP

IP: 192.168.1.223
Port: 502

Connect Disconnect

Data Log

Protocol Description

FC4 Read multiple input registers (3xxxx) for AI

[Response]
Byte 0: Net ID (Station number)
Byte 1: FC=04
Byte 2: Byte count of response (B=2 x word count)
Byte 3-(B+2): Register values

Polling Mode (no wait)
Start Stop

Statistic
Clear Statistic

Command
Total Packet bytes: 12
Packet Quantity sent: 1
Packet Quantity Difference: 0.00% / 0

Response
Total Packet bytes: 17
Packet Quantity received: 1

Timer mode (fixed period)
Interval: 100 ms
Set Start Stop

Polling or Timer mode (Date/Time)
Start time: Start Time
Stop time: Stop Time

Polling Mode Timing (ms)
Max: 0 Average: 000
Min: 1000

[Byte0] [Byte1] [Byte2] [Byte3] [Byte4] [Byte5]
1 2 0 0 6 01 04 00 00 00 04

[Byte0] [Byte1] [Byte2] [Byte3] [Byte4] [Byte5]
01 02 00 00 00 06 --> 01 04 00 00 00 04

[Byte0] [Byte1] [Byte2] [Byte3]
01 02 00 00 00 08 --> 01 04 0B BB AA DD CC FF EE 22 11

Send Command

Clear Lists

(1)Click "modify variable"

(2)Read AI From Modbus slave

Read AI command

GW-7553 response command,
data : BB AA DD CC FF EE 22 11