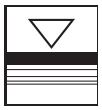
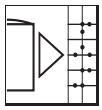
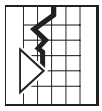
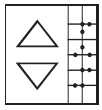
ZBA 117R/09/en/03.02
No. 51002836

Appendix of the operating manual




Memo-Graph

DP-Slave-Module _is Pro Gate®
("profibuscoupler") V1.51 upwards

Connection of Memo-Graph to PROFIBUS DP via serial interface with _is Pro Gate® of ifak system GmbH

Endress+Hauser
The Power of Know How

1 General

1.1 Transportation damage ?

Attention: Please inform both your supplier and shipping agent!

1.2 Complete delivery ?

- these operating instructions
- the DP-Slave-Module _is Pro Gate with user manual

- serial interface connecting cable for Memo-Graph
- disk with GSD-file and bitmaps

Please inform your supplier immediately if anything is missing!

Please take note of the following characters:

Hint: Hints for better installation/operation.

Attention: Ignoring this note can lead to damage of the device or faulty operation.

1.3 Used terms

Profibuscoupler: Even from now the term for _is Pro Gate is **profibuscoupler**.

PROFIBUS-master: All facilities like PLC, PC plug in cards, etc. which fulfil a PROFIBUS-master function are called **PROFIBUS-master** from now on.

2 Installation

2.1 Requirement

The option is only available:
- with a new CPU-board up the unit number xx 542041 (CW12/2000)
- without the "old" PROFIBUS DP option (PROFIBUS Listener) RSG10-E(F,G,H)xxx
- Memo-Graph firmware V2.50 upwards

Hint: The profibuscoupler has to be connected to the serial RS232-interface at the backside of Memo-Graph.

Attention: If the profibuscoupler is cable-connected, the serial interface at the front is not useable!

2.2 Connections/terminal layout

Interface RS232 (backside of Memo-Graph):

Sub-D-connector DIN 41652, jack, 9-pins

Hint: Leave open unused ports

Pin Memo-Graph	profibuscoupler	Colour
5	GND	green
2	RxD	white
3	TxD	brown

	profibuscoupler	
RS485	3	Data B
	8	Data A
	5	GND

Power supply: 24 V DC / 100 mA

2.3 Functionality

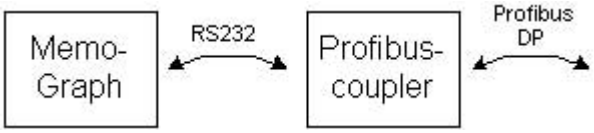
The profibuscoupler is the connection of Memo-Graph to PROFIBUS DP, with the functionality of a DP-slave with cyclic services.

Supported baud rates 45,45k, 93,75k, 187,5k, 500k, 1,5M, 3M, 6M und 12MBaud.

2.4 Termination impedance

The profibuscoupler comes with integrated termination impedances, reside behind the front panel.
Place e.g. a screw-driver in the slit between front panel and clamps and cancel the front panel carefully.
Bridgeover the three opened wrap connexions with the existing plug-in jumpers.
Reinstall the front panel by pressing powerfully. Please take account of the hole for the LED.

2.5 Block diagram



3 Setting up

3.1 General

If the function ***data interface*** is not available in set up, you have to make a **once-only** initialisation.

1. Turn off Memo-Graph
2. Connect the profibuscoupler at the serial RS232 interface at the rear side of Memo-Graph
3. Turn on the profibuscoupler
4. Turn on Memo-Graph

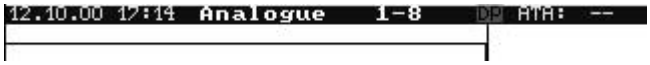
From now on, the function ***data interface*** is available, independent of the existence of the profibuscoupler. And now the functionality appears in the PC-software-package ReadWin®.

The existence of the profibuscoupler will only be detected while initialisation of Memo-Graph. If no profibuscoupler is detected, you can use the serial interface as usual for setting up or read out. If there is a RS485-interface available in Memo-Graph, you can use it for data exchange to PC-software.

3.2 Check existence of the profibuscoupler

After selection of "ext. DP-Slave-Module " on Memo-Graph under ***data interface*** (see next chapter) the hint "DP" in the headline appears.
The background colour gives information about the state of the data interface.

Read background: Problem at connection establishment. You can see detailed info under softkey "Info" (see chapter 3.9).



Green background: Connection established successfully, communication in progress.

3.3 Settings in set up

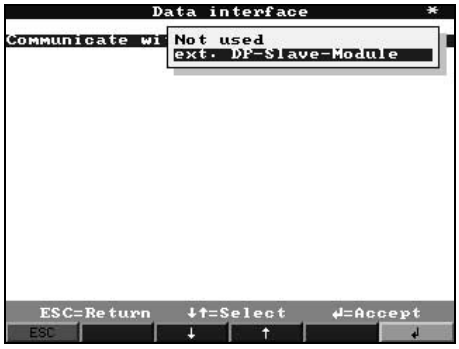
After power up of Memo-Graph the profibuscoupler will be initialised via RS232 (Slave-address, etc.).

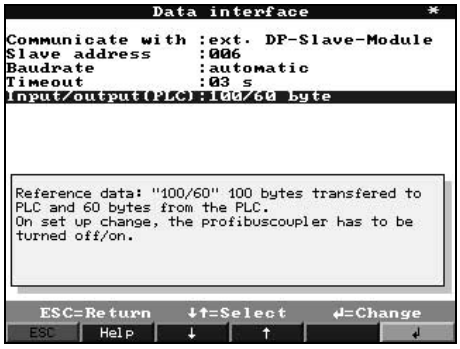
If there is a change in set up which affects e.g. the ring-memory of the measured values, a reinitialisation of Memo-Graph will be carried out, i.e. a reinitialisation of the profibuscoupler.

Consequence: The profibuscoupler retires from DP-side, in order to come back a few seconds later. This produces a "Component part carrier failure" at the PLC. E.g. the Simatic S7 goes in STOP-mode and has to restarted hand controlled to RUN-mode. There is the possibility to intercept the interruption by transferring OB86 to PLC. The PLC then doesn't go in STOP-mode, only the red LED flashes for a short time and the PLC continues in RUN-mode.

These settings are only possible if the once-only initialisation is performed.
And are possible also without cable-connected profibuscoupler.

Under ***/Miscellaneous/Extras /Data interface/Communicate with*** select ***ext. DP-Slave-Module***.



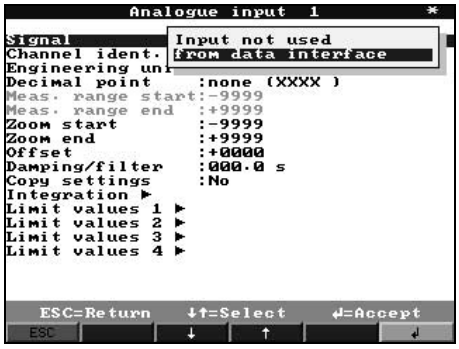


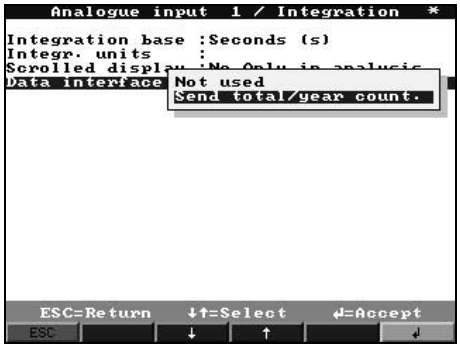
Then select slave-address, baud rate, timeout and reference data structure (see also chapter 4.2).
Please select a slave-address less than 126.

 **Now all inputs and outputs are available, even if they don't really exist.**

3.4 Analogue inputs

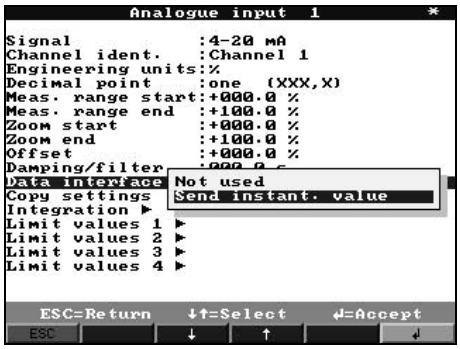
If the analogue inputs don't really exist, only one selection is possible.





I.e. "Analogue inputs" only come from PROFIBUS-master. But it's possible to send the integrated value via data interface.

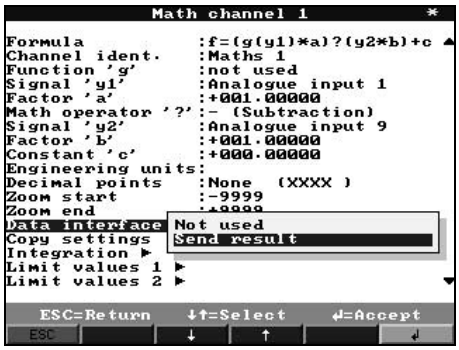
If the analogue inputs are substantial, you can choose the analogue input from the analogue board, of course.

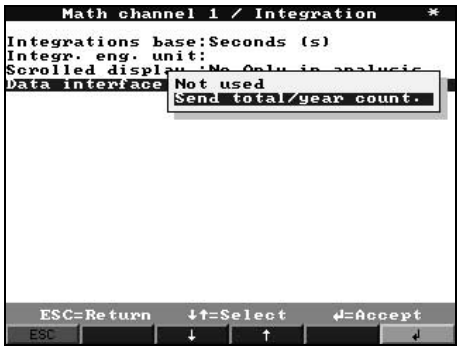


After selection of an substantial analogue input (here "4-20 mA"), you can send this value via data interface to PROFIBUS-master.

3.5 Mathematics channels

Mathematics channels may send via data interface to PROFIBUS-master.



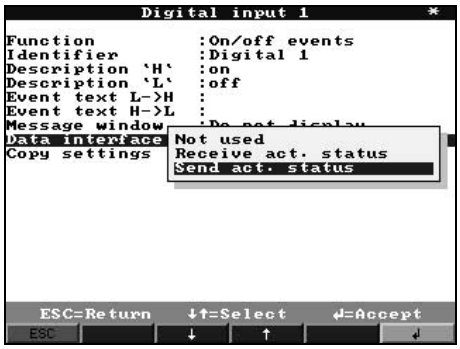


The integrated result may send via data interface to PROFIBUS-master.

3.6 Digital inputs / digital boards

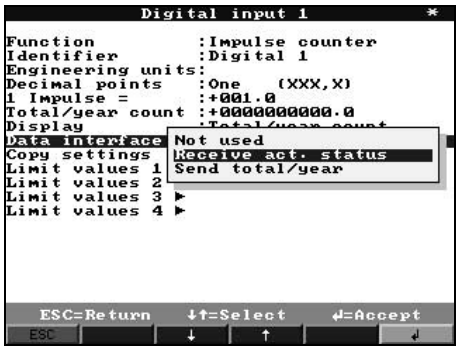
3.6.1 Control input resp. on/off events

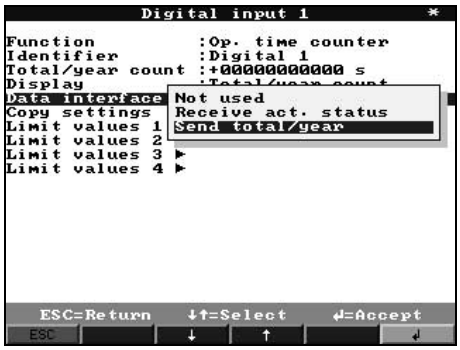
The status can be sent to PROFIBUS-master or the digital status may be received from PROFIBUS-master.



3.6.2 Impulse counter resp. op. time counter

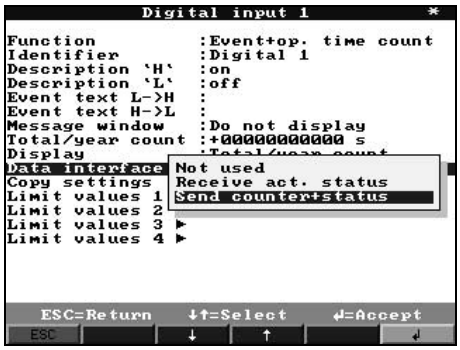
The impulses can be received from PROFIBUS-master, or the impulse counter of a substantial digital input can be sent to PROFIBUS-master.





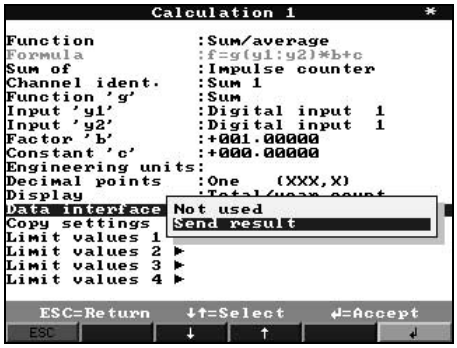
3.6.3 Event + op. time counter

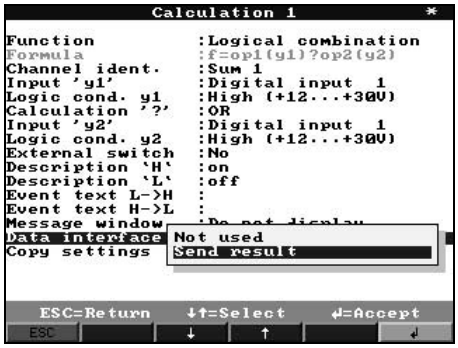
The total counter and the digital status can be sent to the PROFIBUS-master, or the digital status can be received from PROFIBUS-master.



3.7 Combining digital channels

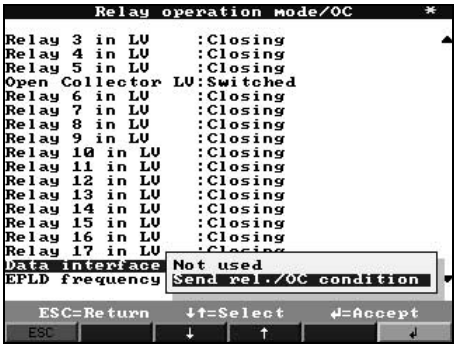
If the combination relates to op. time and impulse counter, the result can be sent as a total counter, with logical combination the status.





3.8 Relays/OC

Under ***/Service/Relay operation mode*** you can select the output of all relays conditions via data interface.



3.9 Control of data transferred

With softkey "Info" and then "DP-Slave" the data structure of the data interface is shown.

e.g. VS1:40.6 : Digital status of combination 1, offset 40 bytes, bit 6
AI2:5 : Analogue input 2 integrated, offset 5 bytes

Communication with profibuscoupler in progress	Memo-Graph is transmitting data to the profibuscoupler.
Communication problems with profibuscoupler	It's not possible to make a link to profibuscoupler.
Profibuscoupler connected	The profibuscoupler is substantial.
Profibuscoupler not connected	The profibuscoupler is not substantial.
Cyclic data transfer on DP-side active	Cyclic data exchange takes place between profibuscoupler and PROFIBUS-master.
No cyclic data transfer active on DP-side	**No** cyclic data exchange takes place between profibuscoupler and PROFIBUS-master.
Memo-Graph ->> PROFIBUS-master **MASTER-IN**:	Structure of data, Memo-Graph sends to PROFIBUS-master: The byte offset is shown after the colon. The bit position of an digital status is shown after the point. **A**x: Analogue input x **AI**x: Analogue input x integrated **M**x: Maths channel x **MI**x: Maths channel integrated x **DI**x: Impulse counter x **DT**x: Time counter x **VI**x: Combination x impulse counter **VT**x: Combination x time counter **DS**x: Digital status of digital input x **VS**x: Digital status of combination x **RL**: Relays conditions ++: Not all value can be transferred (see next chapter)
PROFIBUS-master ->> Memo-Graph **MASTER-OUT**:	Structure of data, PROFIBUS-master sends to Memo-Graph: The byte offset is shown after the colon. The bit position of an digital status is shown after the point. **A**x: Analogue input x **DS**x: Digital status of digital input x ++: Not all value can be transferred (see next chapter)

4 Data exchange

4.1 General

From PROFIBUS-master to Memo-Graph you can send only

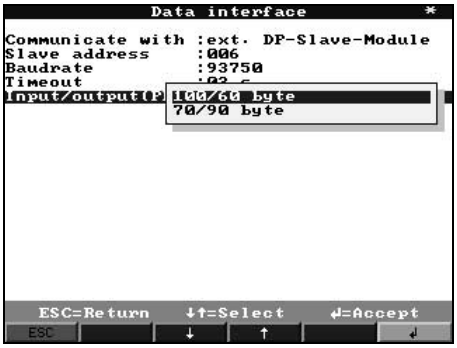
- Analogue values
- Digital states

From Memo-Graph to PROFIBUS-master you can send

- Analogue values
- Integrated analogue values
- Maths channels
- Integrated maths channels
- Digital states
- Impulse counters
- Op. time counters
- Op. time counters with digital status
- Combinations impulse counter
- Combinations op. time counters
- Combinations logical operations
- Relays conditions

4.2 Reference data

It's possible to choose between two combinations of reference data, corresponding on the affords of the process.



Input/output(SPS)	Memo-Graph -> PROFIBUS-master *Input*	PROFIBUS-master -> Memo-Graph *Output*
100/60 byte	100 byte e.g. 8 analogue inputs plus integration and 4 math. functions	60 byte e.g. 8 analogue inputs and 37 digital states
70/90 byte	70 byte e.g. 8 integrated analogue inputs, 4 math. functions, 16 digital states and all relays conditions	90 byte e.g. 16 analogue inputs and 21 digital states

The content of the reference data has the following order:

From Memo-Graph to PROFIBUS-master:

Data	Interpretation	bytes
analogue input 1-16	32-bit floating point (IEEE-754) *1 + status *4	5
analogue input 1-16 integrated	32-bit floating point (IEEE-754) *1 + status *4	5
math. function 1-4	32-bit floating point (IEEE-754) *1 + status *4	5
math. function 1-4 integrated	32-bit floating point (IEEE-754) *1 + status *4	5
digital counter	32-bit floating point (IEEE-754) *1 + status *4	5
digital operating time	32-bit floating point (IEEE-754) *1 + status *4	5
combination counter	32-bit floating point (IEEE-754) *1 + status *4	5
combination op. time	32-bit floating point (IEEE-754) *1 + status *4	5
digital states	8 bit + status *2	2
combination states	8 bit + status *2	2
relays conditions	3 byte (18 bit used) *3	3

i.e. if 16 analogue values and 4 maths channels are sent, all "positions" are occupied, if the reference data structure 100/60 is selected (see chapter 4.2). No other value can be send. Identifiable at "++" under softkey ***Info/DP-Slave*** (see chapter 3.9).

From PROFIBUS-master to Memo-Graph:

Data	Interpretation	bytes
analogue value 1-16	32-bit floating point (IEEE-754) *1 + status *4	5
digital states	8 bit + status *2	2

*1 see chapter 4.2.1
*2 see chapter 4.2.2
*3 see chapter 4.2.4
*4 see chapter 4.2.3

4.2.1 32-bit floating point (IEEE-754)

Octet	8	7	6	5	4	3	2	1
1	SN	(E) 2^7	(E) 2^6					(E) 2^1
2	(E) 2^0	(M) 2^{-1}	(M) 2^{-2}					(M) 2^{-7}
3	(M) 2^{-8}							(M) 2^{-15}
4	(M) 2^{-16}							(M) 2^{-23}

SN = 0: positive value
SN = 1: negative value

$$Zahl = -1^{SN} \cdot (1 + M) \cdot 2^{E-127}$$

E = exponent, M = mantissa

Example: 40 F0 00 00 h = 0100 0000 1111 0000 0000 0000 0000 0000 b

Value $= -1^0 \cdot 2^{129-127} \cdot (1 + 2^{-1} + 2^{-2} + 2^{-3})$

$= 1 \cdot 2^2 \cdot (1 + 0{,}5 + 0{,}25 + 0{,}125)$

$= 1 \cdot 4 \cdot 1{,}875 = 7{,}5$

4.2.2 Digital states

A digital status is described with two bits in two bytes.

Byte 1 bit x = 0: status "Low"
= 1: status "High"
Byte 2 bit x = 0: inactive
= 1: active

4.2.3 Status

- for floating point:

8xH = x = 0: value O.K., no limits exceeded
x = 1: limit value 1 exceeded
x = 2: limit value 2 exceeded
x = 4: limit value 3 exceeded
x = 8: limit value 4 exceeded

x=1,2,4,8 only in direction Memo-Graph -> PROFIBUS-master.

10H = e.g. open circuit, waste value

otherwise = waste value

from PROFIBUS-master to Memo-Graph

80H: value O.K.
not 80H: value **not** O.K.

4.2.4 Relays

The relay conditions are described in 3 bytes:

Byte offset	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
0	Relay 1	Relay 2	Relay 3	Relay 4	Relay 5	OC	Relay 6	Relay 7
1	Relay 8	Relay 9	Relay 10	Relay 11	Relay 12	Relay 13	Relay 14	Relay 15
2	Relay 16	Relay 17	0	0	0	0	0	0

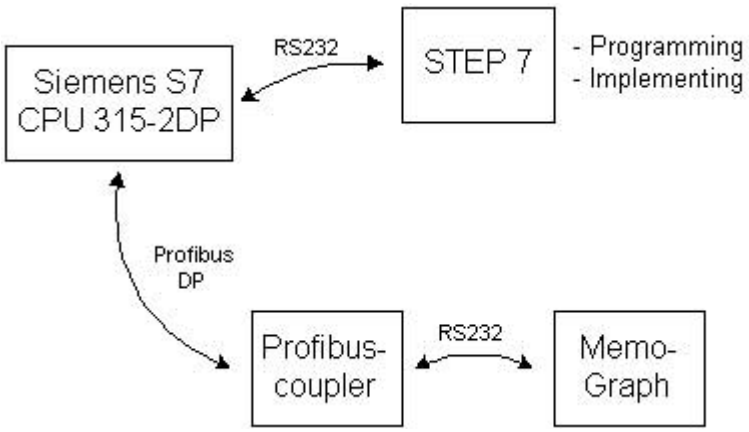
4.2.5 Example

From Memo-Graph to PROFIBUS-master:

channel	value	info	address	data
Analogue 1	4.1	A1:0	0, 1, 2, 3, 4	40 83 33 33 80
Digital impulse 2	12345,6	DI2:5	5, 6, 7, 8, 9	46 40 E6 66 80
Digital 1 status Digital 4 status Combination 1 logic	High, active Low, active High, active	DS1:10.7 DS4:10.6 VS1:10.5	10, 11	A0 E0

5 Implementation in Simatic S7

5.1 Network topology



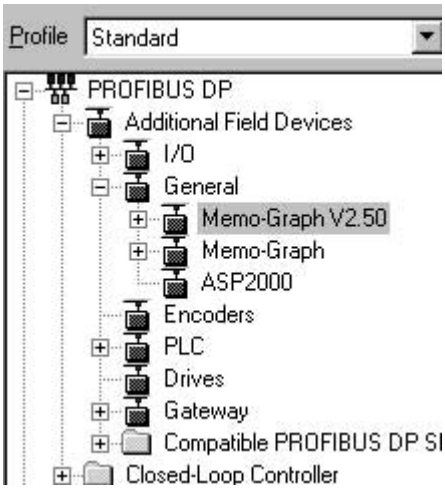
5.2 Hardware configuration

5.2.1 Installation and preparation

5.2.1.1 GSD file

In HW config:

- Copy the GSD and BMP files into the right directory of the configuration software STEP 7.
  e.g.: c:\...\Siemens\Step7\S7data\GSD
  c:\...\Siemens\Step7\S7data\NSBMP



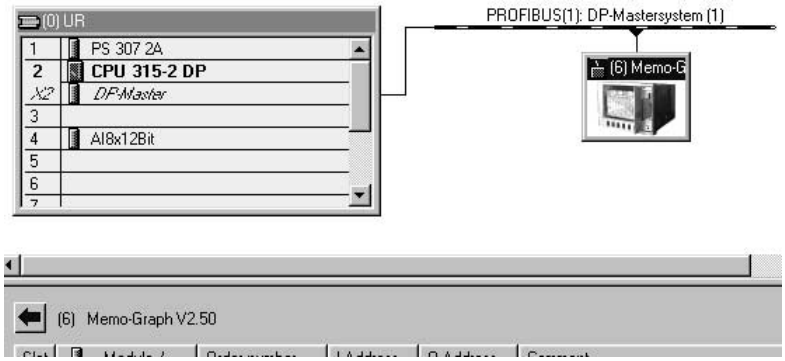
5.2.2 Slave configuration for Memo-Graph

In the HW config.:

- Drag the unit **Memo-Graph V2.50** from the hardware catalogue
- Insert the slave device out of the hardware catalogue
  -> PROFIBUS DP -> Additional field devices -> General
  in the PROFIBUS-DP network, set the node address.

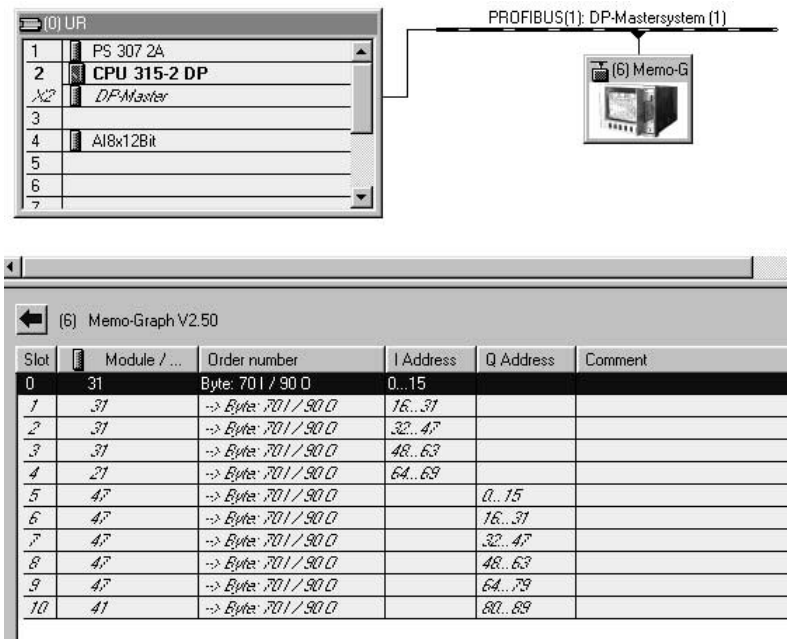
Please differentiate between **Memo-Graph** (profibuscoupler < V1.51)
and **Memo-Graph V2.50** (profibuscoupler V1.51 upwards).
There is a label at the profibuscoupler with the version info (only when V1.51 upwards).

Result:



Note: The assigned device address has to agree with the current (hardware) device address.

- Select the right module for the data structure selected in Memo-Graph (100/60 or 70/90) and drag it to slot 0.



- The addresses for inputs resp. outputs of the reference data are shown as I Address and Q Address, here with hardware address 6 the I addresses 0...69 and Q addresses 0...89.

5.2.3 Configuration download

- Save and compile the configuration.
- Download configuration into the CPU with menu **PLC** -> **Download to Module**.

If the LED "BUSF" still lights after configuration download, the projected network may not fit the physically existing network or the slave module configuration has been done wrongly. Check your network and configuration to discover the fault.

5.3 Specimen program

5.3.1 Address list

Input/Output data address space:

I-address: 0
Q-address: 0

Settings Memo-Graph: (see chapter 3.9)

MASTER-IN: A1:0, A2:5, A3:10
MASTER-OUT: A4:0, A5:5

5.3.2 Program in function block

The following program parts show, how to read and write inconsistent data.
The special functions SFC14 and SFC15 don't function because the data is not consistent.

FC1:

```
      L     ED     0                  // Get 4 byte
      T     MD     0                  // Transfer to marker 0
      L     EB     4                  // Get 1 byte status
      T     MB     4                  // Status to marker 4

      L     ED     5                  // Get 4 byte
      T     MD     5                  // Transfer to marker 5
      L     EB     9                  // Get 1 byte status
      T     MB     9                  // Status to marker 9

      L     ED    10                  // Get 4 byte
      T     MD    10                  // Transfer to marker 10
      L     EB    14                  // Get 1 byte status
      T     MB    14                  // Status to marker 14
```

FC2:

```
      L     MD    15                  // Get FLOATING POINT out of marker
      T     AD     0                  // and send
      L     MB    19                  // Status out of marker
      T     AB     4                  // and send

      L     MD    20                  // Get FLOATING POINT out of marker
      T     AD     5                  // and send
      L     MB    24                  // Status out of marker
      T     AB     9                  // and send
```

Function calls in OB1:

```
CALL    FC1
CALL    FC2
```

5.4 Monitoring

5.4.1 Variable table

In the variable editor marker addresses can be addressed and values accessed. Define the permitted addresses in a new variable table.

Example:

VAT_1 -- Memo-Graph\SIMATIC 300-Station\CPU 315-...

	Address	Symbol	Display format	Status value	Modify value
1	// Value analogue input 1				
2	MD 0		FLOATING_POINT		
3	MB 4		HEX		
4	// Value analogue input 2				
5	MD 5		FLOATING_POINT		
6	MB 9		HEX		
7	// Value analogue input 3				
8	MD 10		FLOATING_POINT		
9	MB 14		HEX		
10	// Value analogue input 4 output				
11	MD 15		FLOATING_POINT		
12	MB 19		HEX		
13	// Value analogue input 5 output				
14	MD 20		FLOATING_POINT		
15	MB 24		HEX		
16					

5.4.2 Monitoring the slave data

Establish the communication between CPU and PG/PC. Enable the monitor function.

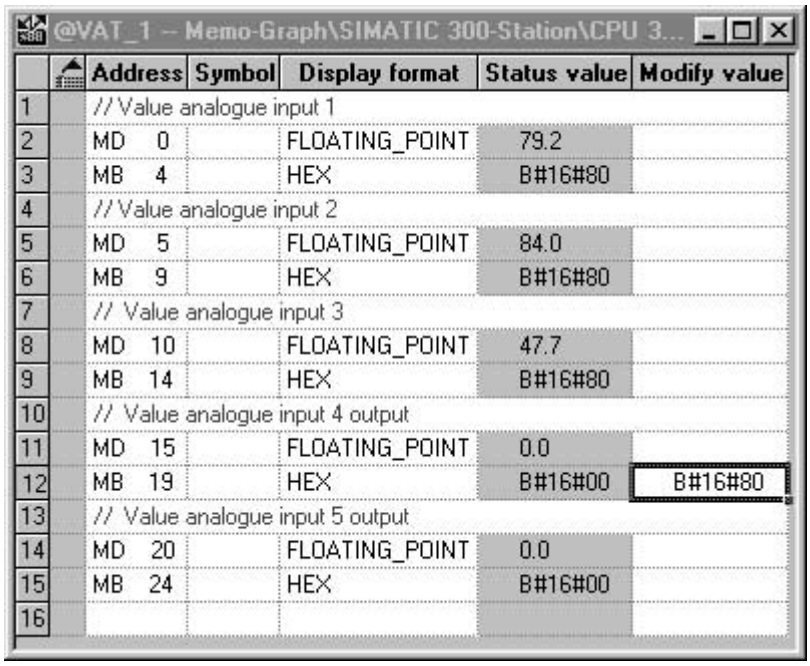
@VAT_1 -- Memo-Graph\SIMATIC 300-Station\CPU 3...

	Address	Symbol	Display format	Status value	Modify value
1	// Value analogue input 1				
2	MD 0		FLOATING_POINT	61.7	
3	MB 4		HEX	B#16#80	
4	// Value analogue input 2				
5	MD 5		FLOATING_POINT	78.3	
6	MB 9		HEX	B#16#80	
7	// Value analogue input 3				
8	MD 10		FLOATING_POINT	98.3	
9	MB 14		HEX	B#16#80	
10	// Value analogue input 4 output				
11	MD 15		FLOATING_POINT	0.0	
12	MB 19		HEX	B#16#00	
13	// Value analogue input 5 output				
14	MD 20		FLOATING_POINT	0.0	
15	MB 24		HEX	B#16#00	
16					

5.4.3 Modify values

For a write job in the data sink of Memo-Graph, the status good (80h) has first to be transferred into the device. Then, the value can be transferred into the data sink as a 4 byte floating point.

- Set the status byte to 80 (hex).

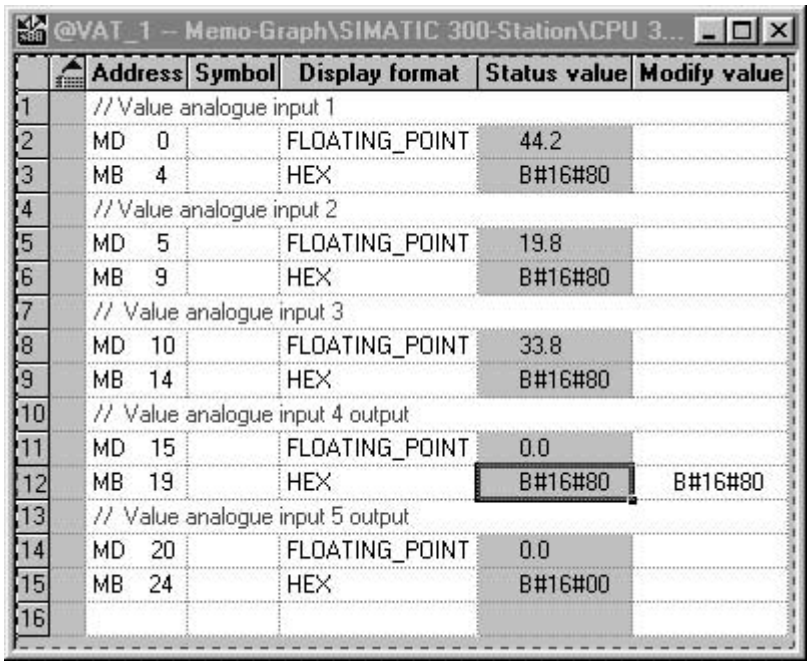


	Address	Symbol	Display format	Status value	Modify value
1	// Value analogue input 1				
2	MD 0		FLOATING_POINT	79.2	
3	MB 4		HEX	B#16#80	
4	// Value analogue input 2				
5	MD 5		FLOATING_POINT	84.0	
6	MB 9		HEX	B#16#80	
7	// Value analogue input 3				
8	MD 10		FLOATING_POINT	47.7	
9	MB 14		HEX	B#16#80	
10	// Value analogue input 4 output				
11	MD 15		FLOATING_POINT	0.0	
12	MB 19		HEX	B#16#00	B#16#80
13	// Value analogue input 5 output				
14	MD 20		FLOATING_POINT	0.0	
15	MB 24		HEX	B#16#00	
16					

- Menu **Variable -> Activate Modify Values**

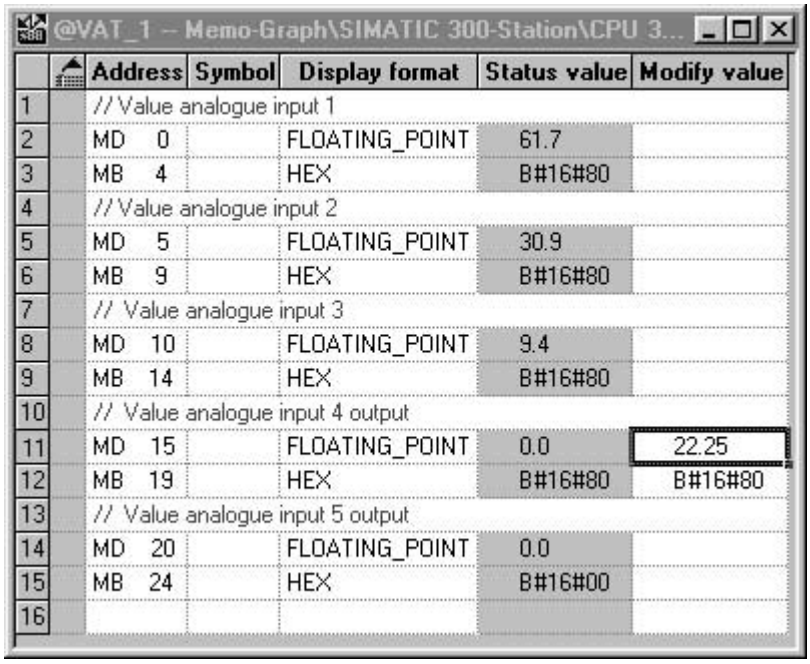
Result:

The status value has been transferred into the device.



	Address	Symbol	Display format	Status value	Modify value
1	// Value analogue input 1				
2	MD 0		FLOATING_POINT	44.2	
3	MB 4		HEX	B#16#80	
4	// Value analogue input 2				
5	MD 5		FLOATING_POINT	19.8	
6	MB 9		HEX	B#16#80	
7	// Value analogue input 3				
8	MD 10		FLOATING_POINT	33.8	
9	MB 14		HEX	B#16#80	
10	// Value analogue input 4 output				
11	MD 15		FLOATING_POINT	0.0	
12	MB 19		HEX	B#16#80	B#16#80
13	// Value analogue input 5 output				
14	MD 20		FLOATING_POINT	0.0	
15	MB 24		HEX	B#16#00	
16					

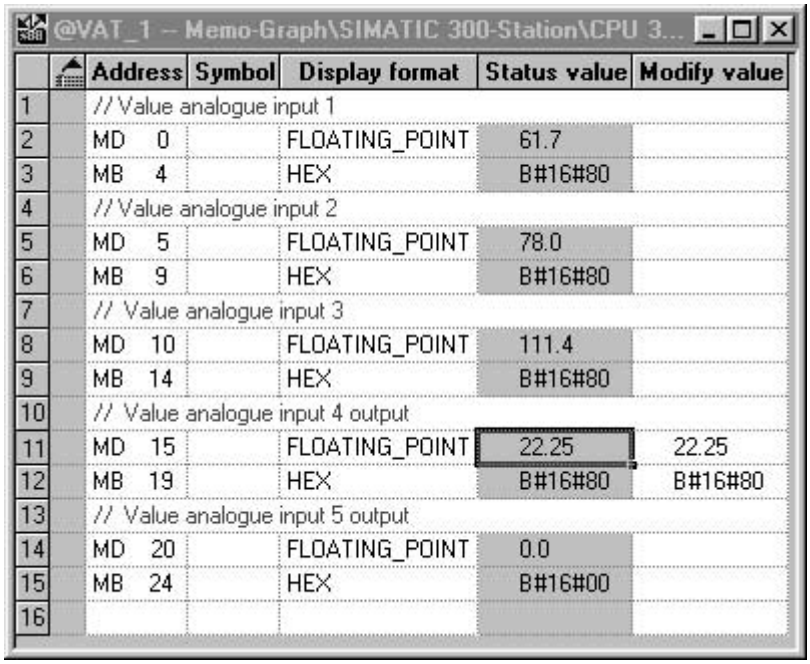
- Set the desired value for transmitting into the device data sink.



	Address	Symbol	Display format	Status value	Modify value
1	// Value analogue input 1				
2	MD 0		FLOATING_POINT	61.7	
3	MB 4		HEX	B#16#80	
4	// Value analogue input 2				
5	MD 5		FLOATING_POINT	30.9	
6	MB 9		HEX	B#16#80	
7	// Value analogue input 3				
8	MD 10		FLOATING_POINT	9.4	
9	MB 14		HEX	B#16#80	
10	// Value analogue input 4 output				
11	MD 15		FLOATING_POINT	0.0	22.25
12	MB 19		HEX	B#16#80	B#16#80
13	// Value analogue input 5 output				
14	MD 20		FLOATING_POINT	0.0	
15	MB 24		HEX	B#16#00	
16					

- Menu **Variable -> Activate Modify Values**

Result:



	Address	Symbol	Display format	Status value	Modify value
1	// Value analogue input 1				
2	MD 0		FLOATING_POINT	61.7	
3	MB 4		HEX	B#16#80	
4	// Value analogue input 2				
5	MD 5		FLOATING_POINT	78.0	
6	MB 9		HEX	B#16#80	
7	// Value analogue input 3				
8	MD 10		FLOATING_POINT	111.4	
9	MB 14		HEX	B#16#80	
10	// Value analogue input 4 output				
11	MD 15		FLOATING_POINT	22.25	22.25
12	MB 19		HEX	B#16#80	B#16#80
13	// Value analogue input 5 output				
14	MD 20		FLOATING_POINT	0.0	
15	MB 24		HEX	B#16#00	
16					

The desired value has been transmitted into the Memo-Graph data sink and is shown on the device display.

5.5 Status codes

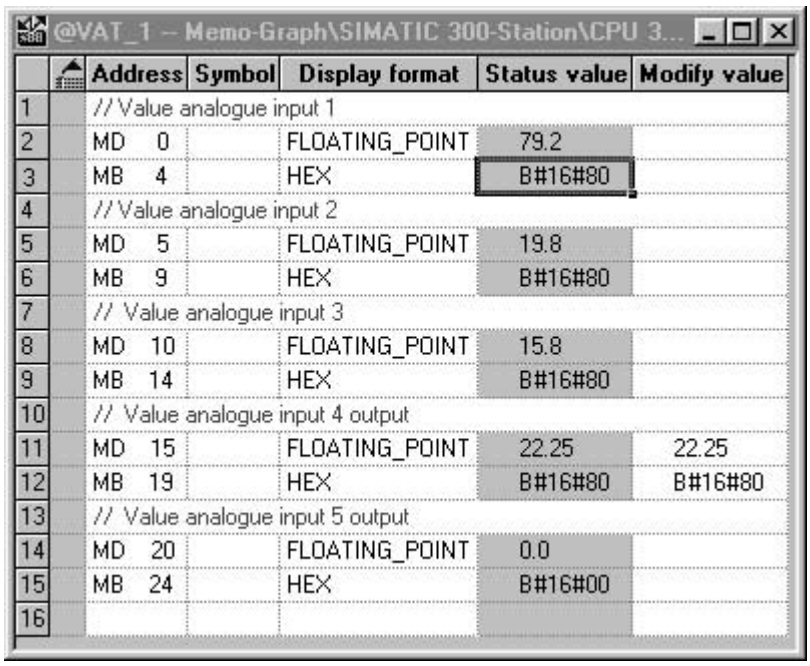
5.5.1 Table

Status	Code	Description
Bad, Sensor failure	10H	Sensor failure, Bad value
Good, ok	80H	No sensor failure
Good, ok, limit 1	81H	Out value exceeds the limit 1
Good, ok, limit 2	82H	Out value exceeds the limit 2
Good, ok, limit 3	84H	Out value exceeds the limit 3
Good, ok, limit 4	88H	Out value exceeds the limit 4

81H, 82H, 84H and 88H only transmitted from Memo-Graph to PROFIBUS-master.

5.5.2 Example of status codes

Measured value and status are good in the defined range:



	Address	Symbol	Display format	Status value	Modify value
1	// Value analogue input 1				
2	MD 0		FLOATING_POINT	79.2	
3	MB 4		HEX	B#16#80	
4	// Value analogue input 2				
5	MD 5		FLOATING_POINT	19.8	
6	MB 9		HEX	B#16#80	
7	// Value analogue input 3				
8	MD 10		FLOATING_POINT	15.8	
9	MB 14		HEX	B#16#80	
10	// Value analogue input 4 output				
11	MD 15		FLOATING_POINT	22.25	22.25
12	MB 19		HEX	B#16#80	B#16#80
13	// Value analogue input 5 output				
14	MD 20		FLOATING_POINT	0.0	
15	MB 24		HEX	B#16#00	
16					

The measured value has exceeded the limit 2:

@VAT_1 -- Memo-Graph\SIMATIC 300-Station\CPU 3...

	Address	Symbol	Display format	Status value	Modify value
1	// Value analogue input 1				
2	MD 0		FLOATING_POINT	61.7	
3	MB 4		HEX	B#16#82	
4	// Value analogue input 2				
5	MD 5		FLOATING_POINT	34.1	
6	MB 9		HEX	B#16#80	
7	// Value analogue input 3				
8	MD 10		FLOATING_POINT	91.3	
9	MB 14		HEX	B#16#80	
10	// Value analogue input 4 output				
11	MD 15		FLOATING_POINT	22.25	22.25
12	MB 19		HEX	B#16#80	B#16#80
13	// Value analogue input 5 output				
14	MD 20		FLOATING_POINT	0.0	
15	MB 24		HEX	B#16#00	
16					

Sensor failure, the value is not useable.

@VAT_1 -- Memo-Graph\SIMATIC 300-Station\CPU 3...

	Address	Symbol	Display format	Status value	Modify value
1	// Value analogue input 1				
2	MD 0		FLOATING_POINT	0.0	
3	MB 4		HEX	B#16#10	
4	// Value analogue input 2				
5	MD 5		FLOATING_POINT	0.0	
6	MB 9		HEX	B#16#10	
7	// Value analogue input 3				
8	MD 10		FLOATING_POINT	0.0	
9	MB 14		HEX	B#16#10	
10	// Value analogue input 4 output				
11	MD 15		FLOATING_POINT	8.0	22.25
12	MB 19		HEX	B#16#00	B#16#80
13	// Value analogue input 5 output				
14	MD 20		FLOATING_POINT	0.0	
15	MB 24		HEX	B#16#00	
16					

6 Troubleshooting

Problem	Cause	Adjustment
Profibuscoupler not detected after turn on Memo-Graph: Message at screen "Profibuscoupler not connected"	Memo-Graph is not able to contact the profibuscoupler.	Profibuscoupler turn off/on. Then turn off/on Memo-Graph
	The serial connection between Memo-Graph and profibuscoupler is wrong.	Please check connection. Have a look at the assignment of the colours (Chapter 2.2).
Hint "DP" doesn't appear in the headline.	Once-only initialisation hasn't been carried out.	Carry out once-only initialisation. (Chapter 3.1).
	Data interface in set up is not activated.	Please activate data interface in set up (Chapter 3.3).
Hint "Automatically baudrate detection failed. Please activate DP-master!"	The detection of the baud rate at DP-side has failed, because of absent activity of master.	- Activate PROFIBUS-master - Select the correct baud rate in set up (Chapter 3.3).
Info/DP-Slave: "No cyclic data transfer active on DP-side"	Reference data (70/90 or 100/60) is different to the configuration in PROFIBUS-master.	Compare with reference data (Chapter 4.2) of PROFIBUS-master. Additional information about the configuration string you can get on the enclosed disk in file readme.pdf.
	PROFIBUS-master.	Please activate PROFIBUS-master
	Baud rate is different.	Compare baud rate.
	Slave-address wrong	The slave-address of Memo-Graph has to match with the projected DP-slave-address (< 126).
Memo-Graph displays only dashes (-----) , even though the PROFIBUS-master sends values.	The transmitted value consists of 5 bytes (4 bytes value and 1 byte status). The **status has to be 80H**, so that Memo-Graph accepts this value. If the status is not 80H the Memo-Graph detects.	Set status (5. byte) to 80H in PROFIBUS-master.
	The status is 80H, bat the value is not a valid IEEE-754-floatingpoint.	Make arrangements that a valid IEEE-754-floatingpoint will be sent.
	The output address range of the PROFIBUS-master has gaps.	Trim the output address range, so that there is no.

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