



Level



Pressure



Flow



Temperature



Liquid
Analysis



Registration



Systems
Components



Services



Solutions

Operating Instructions

Visual Data Manager (VDM)

Memo-Graph

Additional manual for Russian Version- Replaces the chapter 4 of the standard manual BA153R/09/a3; Software: GLY20DA

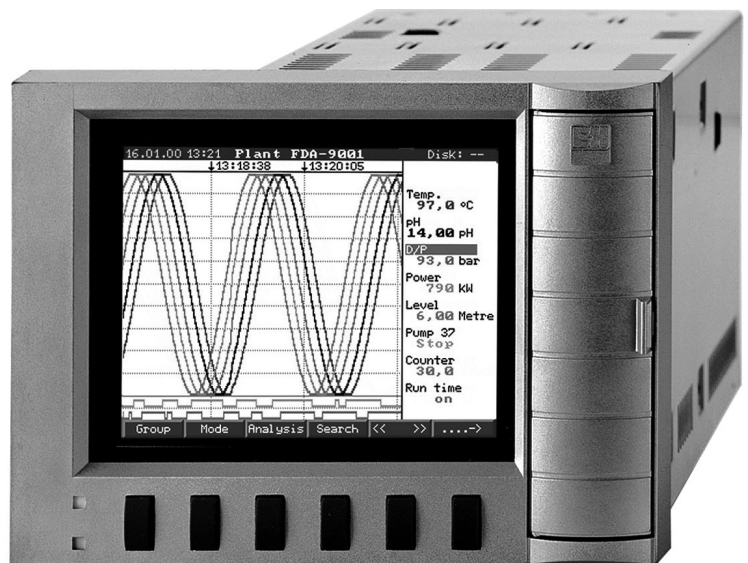


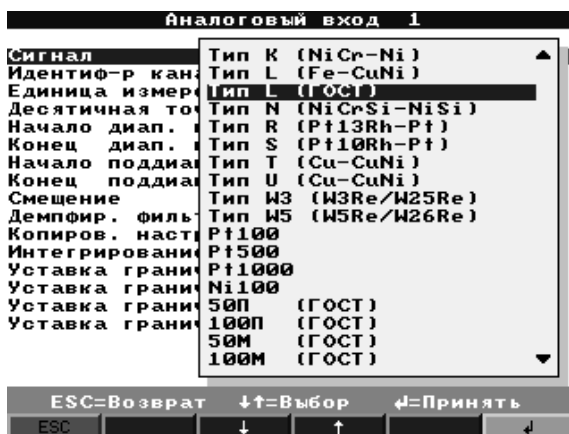
Table of contents

1	Additional Sensors	3			
2	Wiring	3			
2.1	Quick wiring guide	3			
2.2	Terminal diagram	5			
2.2.1	Power supply board (slot 3)	5			
2.2.2	Multifunction input boards 1 and 2	6			
2.2.3	Digital input/output boards 1 or 2	7			
			2.2.4	CPU board (slot 0)	8
			2.2.5	Front-mounted RS 232 interface* (jack plug)	9
			2.3	Connecting a device to the Ethernet (TCP/IP)	9
			2.3.1	Ethernet connection	9
			2.3.2	Operating location	10
			2.4	Ingress protection class	10
			2.5	Post-connection check	10

1 Additional Sensors

The following GOST standard sensors can be additionally configured with this special version Software GLY20DA:

- Pt50
- Pt100
- Cu50
- Cu100
- Type L Thermocouple



2 Wiring

2.1 Quick wiring guide



Caution!

Before wiring, please compare the supply voltage with the information specified on the nameplate. If safe operation is no longer possible (e.g. visible damage) please place the device out of service and secure it against unintentional start-up.

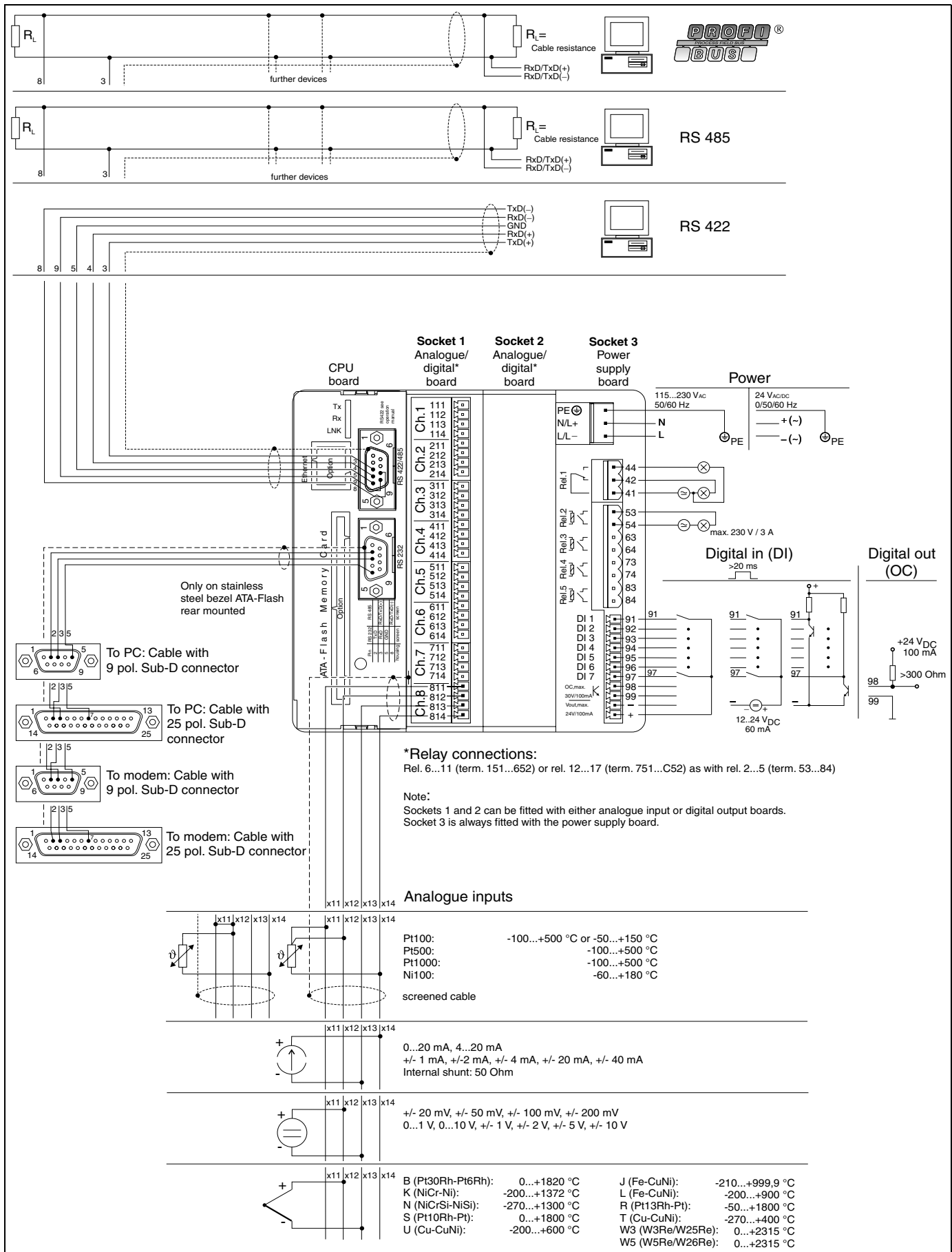


Figure 1: Connections/terminal diagram

**Caution!**

Depending on the order, slots 1 or 2 can be fitted with different boards (with analogue and/or digital inputs/outputs). Please carry out connection in accordance with terminal diagram.

2.2 Terminal diagram

**Caution!**

If high-energy transients occur when using long signal cables, we recommend connecting a suitable overvoltage protection (e.g. E+H HAW 561 (51003570) and HAW 560 (51003571)).

Use screened signal cables for:

- Resistance thermometers, thermal elements and measuring ranges <1 V.
- Serial interfaces.

2.2.1 Power supply board (slot 3)

Supply voltage 115 to 230 V _{AC} power unit, 50/60 Hz:		Supply voltage 24 V _{AC/DC} power unit, 0/50/60 Hz:	
L	Phase L	L+	+ supply voltage (or alternating voltage)
N	Zero conductor N	L-	- supply voltage (or alternating voltage)
PE	Earth/protective earth	PE	Earth/protective earth

Standard relay output* (changeover contact) on power supply board:

41	Relay 1	changeover contact
42	Relay 1	NC contact
44	Relay 1	NO contact

Optional relay outputs* on power supply board:

53	Relay 2	contact 1
54	Relay 2	contact 2
63	Relay 3	contact 1
64	Relay 3	contact 2
73	Relay 4	contact 1
74	Relay 4	contact 2
83	Relay 5	contact 1
84	Relay 5	contact 2

Optional open collector output* (NPN Transistor):

98 Collector

99 Emitter



Note!

The opening and closing function (= activation and deactivation of the relay coil or the open collector output) in case of a limit value can be defined in the set-up “Set-up - Signal settings - Digital outputs (Relay / OC)”

Optional digital inputs on power supply board:

91	Digital input 1
92	Digital input 2
93	Digital input 3
94	Digital input 4
95	Digital input 5
96	Digital input 6
97	Digital input 7

Optional auxiliary voltage output on power supply board for digital inputs (galvanically isolated from the system, short-circuit proof, not stabilised):

+ Auxiliary voltage typ. approx. +24 V / max. 100 mA

- Auxiliary voltage ground



Note!

If the auxiliary voltage is to be used for the digital inputs on the digital boards (slots 1 or 2), the “-” terminal on the auxiliary voltage must be connected to the “-” terminal on the digital boards for potential equalisation.

2.2.2 Multifunction input boards 1 and 2 (on slot 1 or 2)**Analogue inputs:**

The first digit (x) of the three-digit terminal number corresponds to the associated channel (1.. to 8..: channels 1 to 8, or A.. to H..: channels 9 to 16).

	Current	Voltage/Thermal elements	Resistance thermometer
x11			A
x12		+	a (scythe / expansion line)
x13	-	-	
x14	+		B

2.2.3 Digital input/output boards 1 or 2 (on slot 1 or 2)

Digital inputs on digital board(s):

Digital board 1		Digital board 2	
191	Digital input 8	391	Digital input 23
192	Digital input 9	392	Digital input 24
193	Digital input 10	393	Digital input 25
194	Digital input 11	394	Digital input 26
195	Digital input 12	395	Digital input 27
196	Digital input 13	396	Digital input 28
197	Digital input 14	397	Digital input 29
198	Digital input 15	398	Digital input 30
199	Digital input 16	399	Digital input 31
291	Digital input 17	491	Digital input 32
292	Digital input 18	492	Digital input 33
293	Digital input 19	493	Digital input 34
294	Digital input 20	494	Digital input 35
295	Digital input 21	495	Digital input 36
296	Digital input 22	496	Digital input 37
-	Digital board I ground	-	Digital board II ground

Relay outputs* on digital board(s):

Digital board 1		Digital board 2	
151	Relay 6, contact 1	751	Relay 12, contact 1
152	Relay 6, contact 2	752	Relay 12, contact 2
251	Relay 7, contact 1	851	Relay 13, contact 1
252	Relay 7, contact 2	852	Relay 13, contact 2
351	Relay 8, contact 1	951	Relay 14, contact 1
352	Relay 8, contact 2	952	Relay 14, contact 2
451	Relay 9, contact 1	A51	Relay 15, contact 1
452	Relay 9, contact 2	A52	Relay 15, contact 2
551	Relay 10, contact 1	B51	Relay 16, contact 1
552	Relay 10, contact 2	B52	Relay 16, contact 2
651	Relay 11, contact 1	C51	Relay 17, contact 1

Digital board 1		Digital board 2	
652	Relay 11, contact 2	C52	Relay 17, contact 2



Note!

The opening and closing function (= activation and deactivation of the relay coil) in case of a limit value can be defined in the set-up “Set-up - Signal settings - Digital outputs (Relay / OC)”

2.2.4 CPU board (slot 0)

Interfaces (rear side):

Sub-D connector as per DIN 41652, socket, nine pin



Note!

As a rule, unoccupied connections should be left empty.

Standard interface: RS 232*

Pin	RS 232
2	TxD
3	RxD
5	GND
Housing	Screen



Note!

Please observe the correct pin assignment when connecting the rear-mounted RS 232 directly to a PC or modem:

Signal	9-pin RS 232 to device	9-pin RS 232 to PC	25-pin RS 232 to PC	9-pin RS 232 to modem	25-pin RS 232 to modem
TxD	2	2	3	3	2
RxD	3	3	2	2	3
GND	5	5	7	5	7
Screen	Housing	(Housing)	(Housing)	(Housing)	(Housing)

Optional interface: alternatively RS 485 or Profibus DP (bus monitor)

Pin	RS 485	PROFIBUS-DP
3	RxD/TxD (+)	RxD/TxD (+)
4		
5		
8	RxD/TxD (-)	RxD/TxD (-)

Pin	RS 485	PROFIBUS-DP
9		
Housing	Screen	Screen

2.2.5 Front-mounted RS 232 interface* (jack plug)



Note!

The front-mounted interface only comes as standard with the device version with die-cast front and door, not for the IP 65 / NEMA 4X stainless steel front.

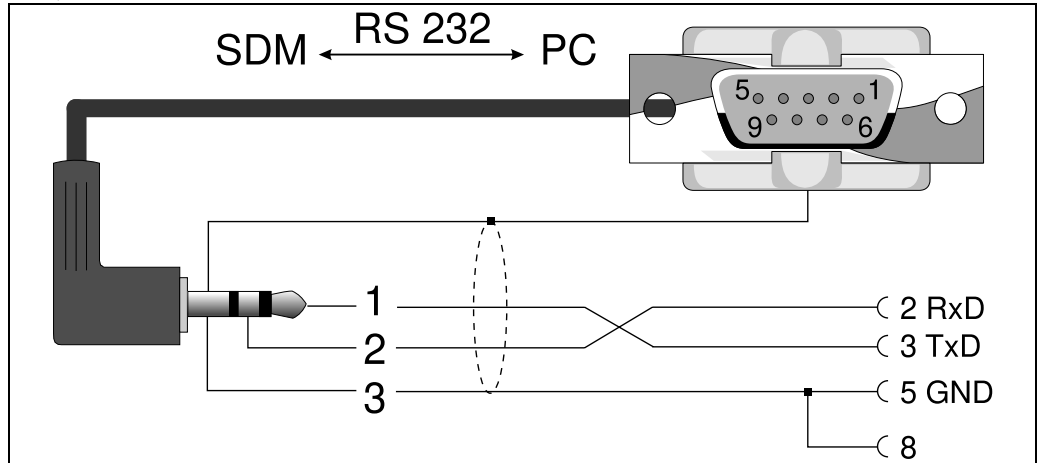


Figure 2: Front-mounted interface RS232

2.3 Connecting a device to the Ethernet (TCP/IP)

In principle, all devices equipped with an internal Ethernet interface can be integrated into a PC network (TCP/IP Ethernet).

The device(s) can be accessed by any of the PCs in the network using PC software. It is not necessary to install driver software ("COM redirection") on the PC because the PC software has direct access to the Ethernet.

The system parameters "IP address", "Subnet mask" and "Gateway" are input directly at the device.

Changes to the system parameters are not activated until the SETUP menu is closed and the settings accepted. Only then will the device work with the new settings.



Note!

It is not possible for several clients (PC) to communicate with a server (device) at the same time. If a second client (PC) tries to establish a connection, he receives an error message.

2.3.1 Ethernet connection

An IEEE 802.3 compatible connector on a screened RJ45 plug on the rear side of the device is available as a network connection. The device can be connected to a hub or switch via this connection. The pin assignment corresponds to a standard MDI interface (AT&T258), so that a 1:1 cable with a

maximum length of 100 metres can be used here.

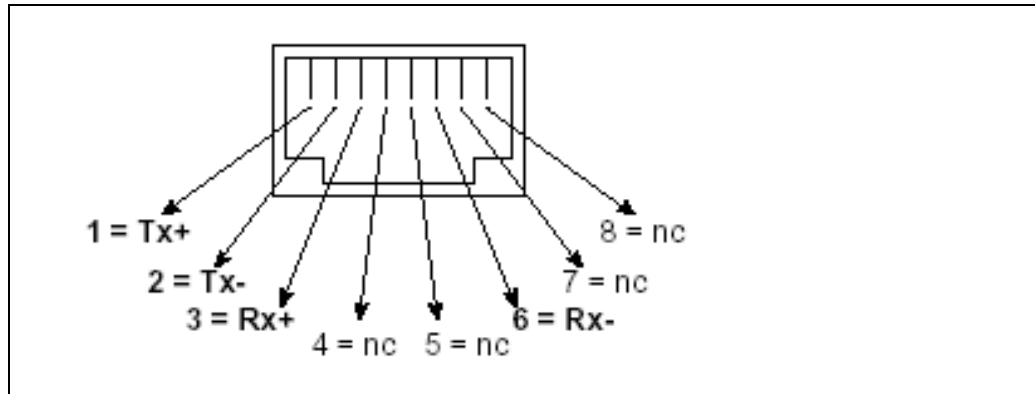


Figure 3: RJ45 socket (pin assignment AT&T256)

Meaning of the LED's

There are three LEDs next to the Ethernet connections. These indicate the status of the Ethernet interface.

Yellow LED: When the device is transmitting data it flashes irregularly, otherwise is continuously on.

Green LED: When the device is receiving data it flashes irregularly, otherwise is continuously on.

Red LED: Is on when the device is connected to a network. If this LED is not illuminated then communication is impossible.

The following standards are supported:

10BaseT, 10 MBit/s

The devices function according to the 10BaseT standard with 10MBit/s. It is, however, also possible to integrate the device into a 100BaseTx network via an auto-sensing hub or switch. This kind of auto-sensing component sets itself automatically to the transmission rates supported by the end device.

2.3.2 Operating location

The operating location of the device should be selected such that the network-specific maximum permitted cable length of 100 metres is not exceeded.

Please ensure that all connections are inserted only when the end devices are switched off.

2.4 Ingress protection class

The device with stainless steel front meets all the requirements of ingress protection IP65 (NEMA 2x). The device with metallic die-cast front and door meets all the requirements of ingress protection IP54 (NEMA 4x).

2.5 Post-connection check

After completing the device's electrical connections, carry out the following checks:

Device status and specifications	Notes
Is the device or cable damaged (visual inspection)?	–
Electrical connection	Notes

Does the supply voltage match the information on the nameplate?	Compare nameplate on the device
Are the mounted cables relieved of tension?	–

Index

D

Digital inputs 7

I

Interfaces 8

O

Open Collector 6

P

Power supply board 5

R

Relay output 5

www.endress.com/worldwide

Endress+Hauser 
People for Process Automation
