

# **VISY-X**

## **Auxiliary Automatic Tank Gauging (ATG)**

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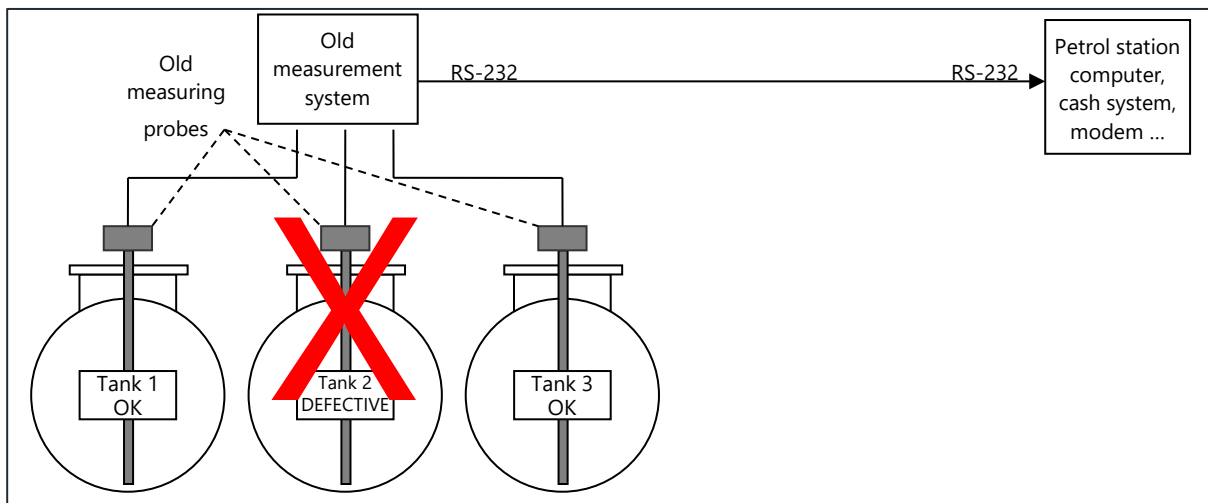
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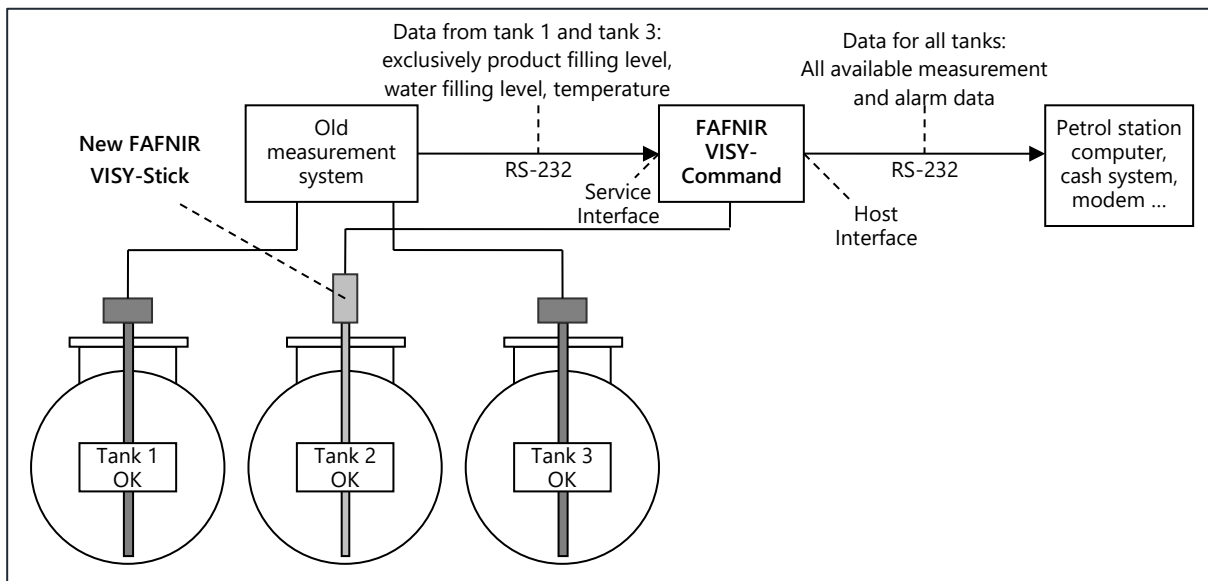
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# 1 Auxiliary Automatic Tank Gauging (Master/Slave)

The VISY-X system is able to expand an existing measuring system and communicate with it in order to retrieve filling level and temperature data. The benefit of this function is the ability to continue using older, already installed tank gauging systems for which spare parts are no longer available. Normally, a failure of one of the individual probes would mean that the complete system would have to be replaced, including all probes that are still working. The function of the auxiliary tank gauging allows old tank gauging components that are still working to remain in use. It is simply a case of replacing the defective probe with a VISY-Stick and then connecting this to a VISY-Command.



Old tank gauging system with defective measuring probe in tank 2



New tank gauging system

Old probes that are still working remain with the existing control unit. This then no longer supplies data directly to the petrol station computer and to the cash system, but rather to the VISY-Command.

## **2 Requirements**

The following fundamental conditions must be fulfilled to install and operate an auxiliary tank gauging system such as the one described before with a VISY-Command:

- For an installed tank gauging system to be operated as an auxiliary tank gauging at the VISY-Command, it must be equipped for data communication via an RS-232 interface that can work in 3-wire mode (RxD, TxD, GND) without control wires (hardware handshake).
- For an installed tank gauging system to be operated as an auxiliary tank gauging at the VISY-Command, it must support one of the serial data protocols that are commonly used in the field of petrol stations.
- The serial interface parameters and data protocol used between the tank gauging system installed and the petrol station computer/cash system must be known and supported by the VISY-X system.
- The auxiliary tank gauging system is connected to the service interface of the VISY-Command control unit, ruling out any other special function for the service interface, e.g. for connecting up a modem or Ethernet converter. (modem or Ethernet converter can only be connected to the host interface.)
- The VI-... interface card in the VISY-Command system must be equipped with firmware version VI-4.01 or a later version for it to work with an auxiliary tank gauging system. Versions with firmware older than VI-4.01 must be updated to the current firmware version.
- The program VISY-Setup Version V4.00 or later is needed for configuring an auxiliary tank gauging system in VISY-Command.
- If dip charts and/or alarm settings are stored in the auxiliary tank gauging system, it must be possible to read these out or off so that they can be transmitted to VISY-Command via VISY-Setup.

### 3 Installation

The following additional documentation must be noted during installation:

- VISY-Setup technical documentation, art. no. 207158
- Technical documentation of the old tank gauging system
- Technical documentation of the petrol station computer or cash system

#### 3.1 Installing the VISY-Stick and the VISY-Command

Install the VISY-Stick and the VISY-Command accordingly to

- VISY-Stick and VISY-Reed technical documentation, art. no. 207194
- VISY-Command technical documentation, art. no. 207184



*The Probe Terminal Number should be corresponding to the number of the tank, i.e. if the probe of tank no. 2 is broken the VISY-Stick that replaces it should be connected to the probe terminal no. 2 of the VISY-Command.*

#### 3.2 Configuring the VISY-Command evaluation unit with the VISY-Setup Software

The VISY-Stick configuration is described in the technical documentation for VISY-Setup. The following describes only the necessary configurations for the auxiliary tank gauging.

The configuration of the auxiliary tank gauging system regarding the probes, the tank tables and the alarm threshold have to be taken over into the VISY-Command by using VISY-Setup.

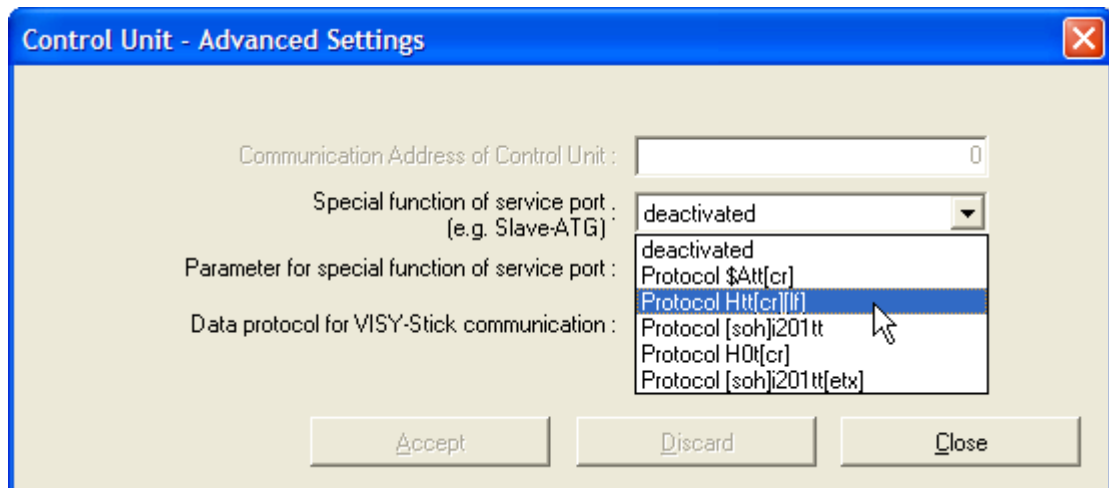
- (1) Open VISY-Setup
- (2) Control Unit (F2) → Advanced Settings...
- (3) Choose protocol for the „Special function of service port“

There are five different protocols to choose:

1. HLS protocol; \$Att[cr]; (z.B. Hectronik)
2. H protocol; Htt[cr] (filling height)
3. VR protocol; [soh]i201tt
4. H protocol; H0t[cr] (filling height)
5. VR protocol; [soh]i201[etx]

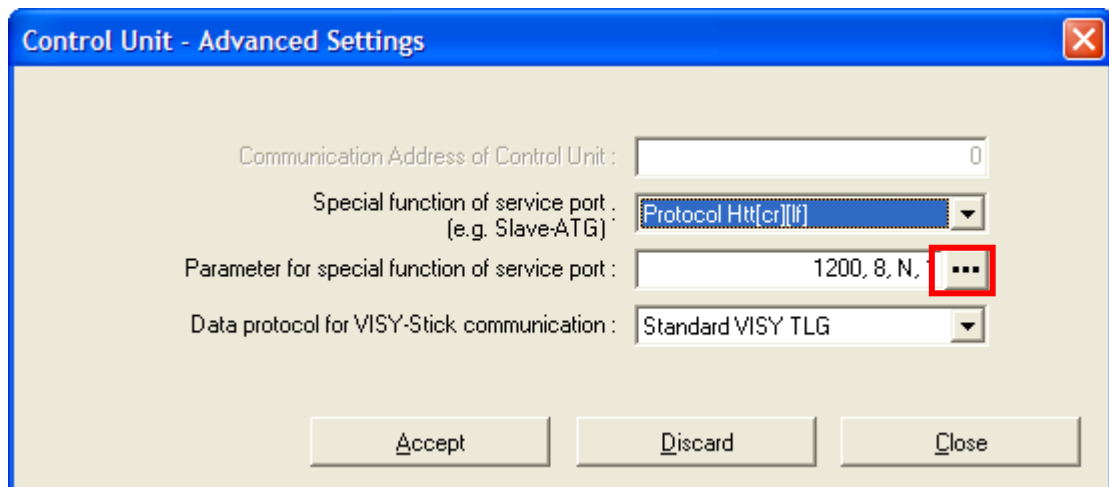


*If the H protocol is selected, the old measurement evaluation unit must transmit the filling height.*

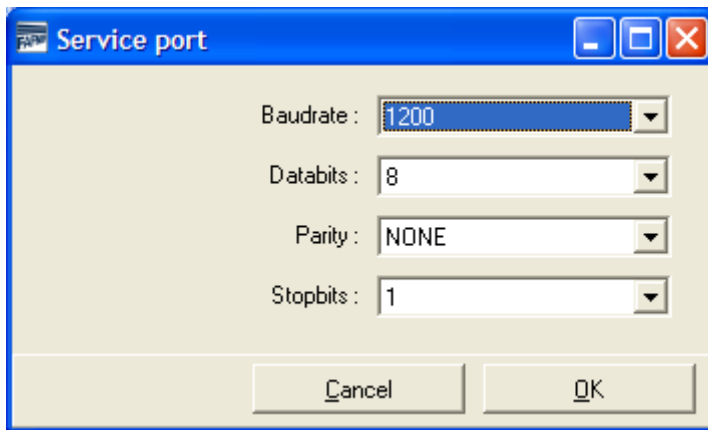


*If the protocol of the old control unit is known:  
Please ask us for the protocol to select.  
Trying each one of the 5 protocols is also possible.*

- (4) To configure the „Parameter for function of service port“ press the „...“button.



- (5) Select corresponding parameter in the appearing window. Please check with the technical documentation of the auxiliary tank gauging system to set the right parameter.



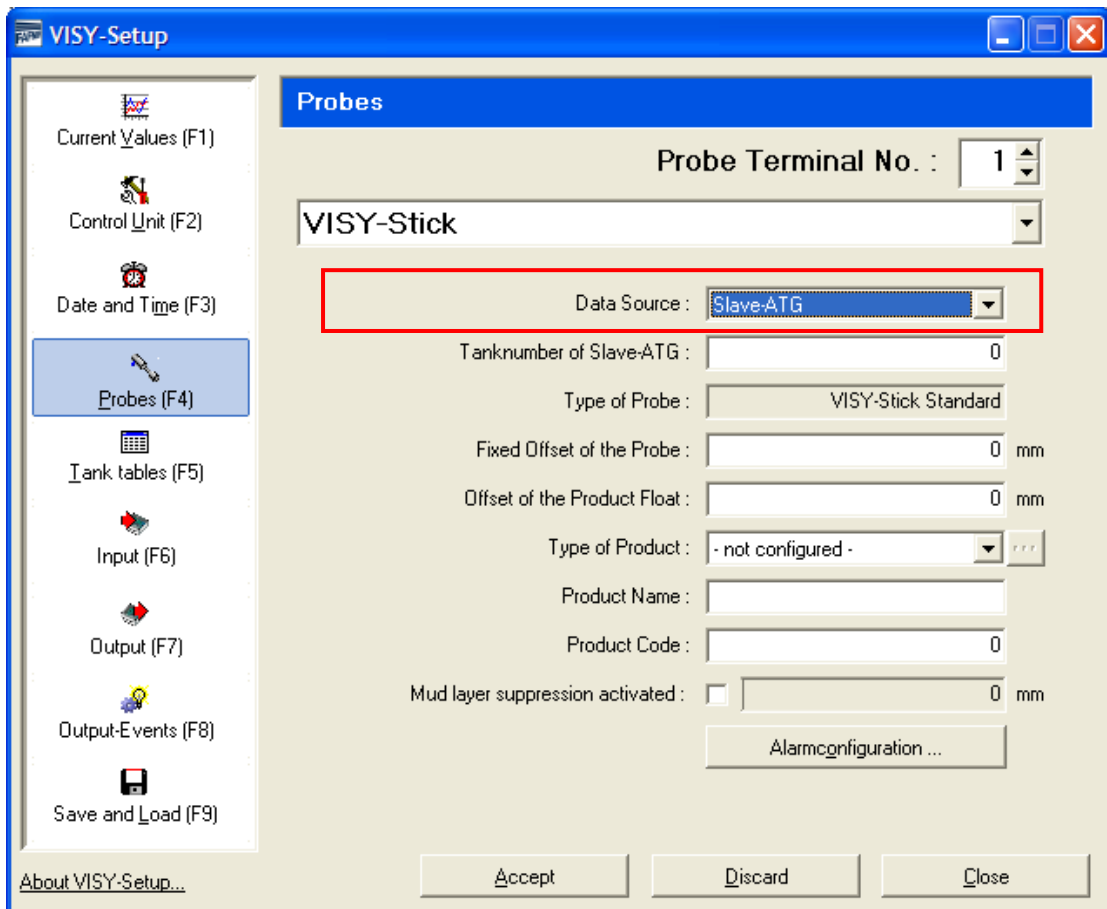
- (6) Select Probes (F4) in the VISY-Setup menu
- (7) Choose „Probe Terminal No.“ → Set „Data Source“ to „Slave ATG“ and enter the corresponding „Tanknumber of Slave-ATG“. Continue as usual.



*Do not enter a „Fixed Offset of the Probe“ for the slave ATG.*



*Use the tank tables of the Slave-ATG for the configuration of the VISY-Command.*





### 3.3 Connecting a Slave-ATG to an VISY-Command

- (1) Disconnect the RS 232 connection between POS and auxiliary tank gauging system.
- (2) Using a 3-core cable to set up a new RS-232 connection between the auxiliary tank gauging system and the service interface (9-pin D-Sub socket on the VI-... card) of VISY-Command. To eliminate the need for soldering on a D-Sub connector, a D-Sub-9M adapter (art. no. 900038) featuring terminal clamps is available separately. A cable length of 12 metres should not be exceeded. Screening of VISY-Command is not necessary. If the auxiliary tank gauging system requires a screened cable, the screening should be located in VISY-Command on the earth point (PE) or directly on the housing earth.

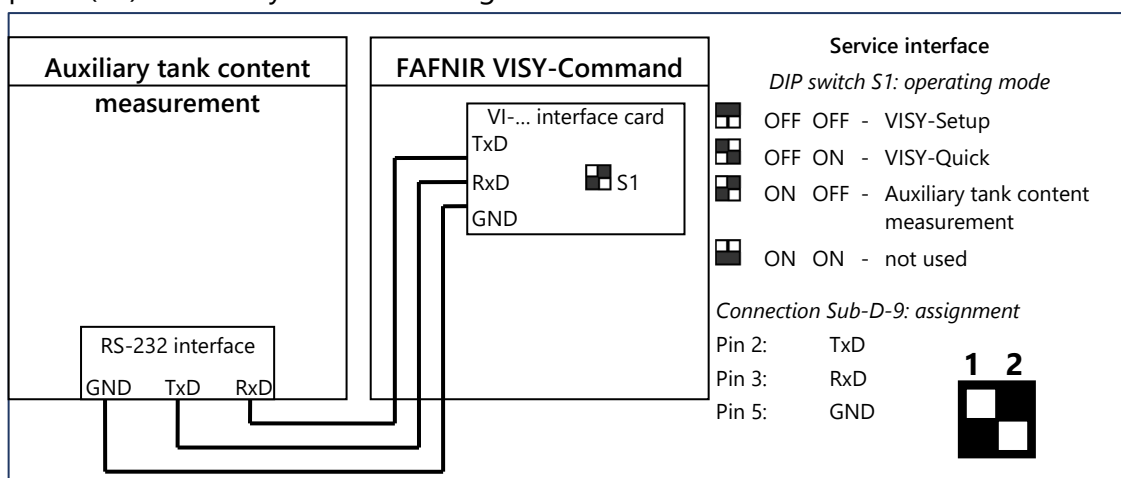


Figure 3: Connection of auxiliary tank gauging to VISY-Command

- (3) Set the DIP switches on the VI-... interface card to the position ON (S1.1) and OFF (S1.2). The interface card now starts data interrogation of the auxiliary tank gauging system. If everything is correctly wired and configured, the data for all tanks should now be available in the petrol station control system or cash system. Delays could arise if the cash system or petrol station control system only occasionally interrogates the tank gauging system data.
- (4) If you want to check whether data from the auxiliary tank gauging system has been correctly read by VISY-Command, set the DIP switches back to the OFF / OFF position (service interface mode = VISY-Setup) and connect VISY-Setup to the service interface again. When doing this, make sure that the DIP switches are in the OFF / OFF position before you disconnect the cable to the auxiliary tank gauging system. By observing this sequence, the data read from the auxiliary tank gauging system remain in VISY-Command for as long as it has been defined in VISY-Setup, configuration item "Timeout...". If you disconnect the cable first, VISY-Command would continue trying to interrogate and then delete the data as it would no longer receive a reply (status code: 11).

## 4 Master/Slave-Combination with two VISY-Commands

The following example describes how to do a master – slave connection with two VISY-Commands:

### 4.1 Configuring the Auxiliary Tank Gauging System (Slave)

With VISY-Setup: Configure the VISY-Stick probes under the menu item "Probes (F4)". Assign the VISY-Stick probe with the "Probe Terminal No." by entering the corresponding "Serial-No. of the Probes".



*The number of the Tank should be corresponding to the "Probe Terminal No."*



*In case of an wireless system the „Probe Terminal No.“ can be freely assigned by entering the serial number.*

The following configurations have to be done:

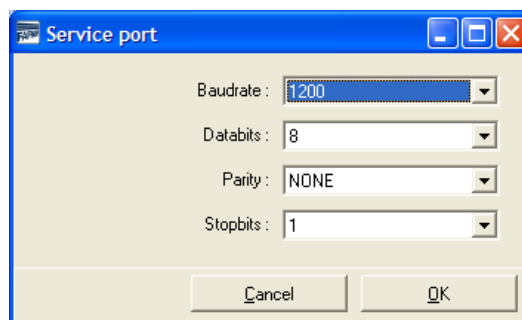
- Enter the „Fixed Offset of the Probe“ under the menu item "Probes (F4)"
- Enter the Hostcode "101" (H-Protocol) under the menu item "Control Unit (F2)"

### 4.2 Configuring the standard function of VISY-Command (Master)

In the menu item "Control Unit" → „Advanced Settings" → "Special function of service port" the protocol „Htt[cr][lf]" must be selected.

- (1) Set the „Parameter for special function of service port" as follows:

- Baudrate: 1200
- Databits: 8
- Parity: NONE
- Stopbits: 1



- (2) Configure the probes of the auxiliary tank gauging system corresponding to chapter 3.1.



*For Probe terminals whose data do not come directly from the VISY-Stick but from the auxiliary Automatic Tank Gauging system (Slave) select the Slave-ATG. "Probes (F4)" → "Data Source" → "Slave-ATG"*



*Enter the serial number or tank number of the probe under "Tank number of slave ATG".*

- (3) Setting of the DIP-Switch „S1“ on the VI-Board of the VISY-Command:

- S1.1 = ON
- S1.2 = OFF



*See chapter 3.2*

- (4) Connect both VISY-Command with a RS-232 cable:

- Slave: RS 232 Host-Interface
- Master: Service-Interface (D-Sub-Connector)



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