

VISY-Input 8

Digital 8-channel Input Box



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1 Introduction

VISY-Input 8 is a digital 8-channel input box, installed in a case with IP 66 protection. It serves as a link between alarm outputs of external devices and the tank level gauge VISY-X.

With VISY-Input 8 the external alarm signals can be transmitted to the VISY-Command. This allows a central indication of external alarms at one point. As VISY-Input 8 has its own housing it can be installed at any position chosen for the best wiring. The connection to the tank level gauge VISY-X can be realised with a reasonable communication cable. Up to eight devices of VISY-Input 8 can be connected to VISY-Command for simultaneous operation.

2 Installation

2.1 Safety precautions

The following safety precautions must be observed during installation of the VISY-Input 8:

- The VISY-Input 8 is designed for operation within the VISY-X system only.
- Modifications of the VISY-Input 8 are prohibited without the prior consent of the manufacturer.
- Every installation and maintenance work, with the exception of functional tests, must be performed in de-energised condition only.
- The installation and configuration of VISY-Input 8 must be carried out only by expert personnel. Specialised knowledge must be obtained by regular training.
- Operators, installers and service technicians must comply with all applicable safety regulations. This also applies to any local safety regulations and accident prevention regulations not stated in this technical documentation.

The safety instructions in this manual are marked as follows:



If you do not observe these safety instructions, the risk of an accident exists or the VISY-X system could be damaged.



Useful information in these instructions, that should be observed, is printed in italics and marked with this symbol.

2.2 Requirements

VISY-Input 8 can only be connected to the VISY-X system, if the VISY-Command is equipped with a communication adapter VISY-ICI 485, which is connected to a VI-... interface card of version VI-4 or higher.

2.3 Installation

VISY-Input 8 must securely be mounted to a wall inside of a building. The casing cover must be removed to reach the mounting holes.

2.4 Design and construction

The following figure shows the position of connections, LEDs and controls of the VISY-Input 8.

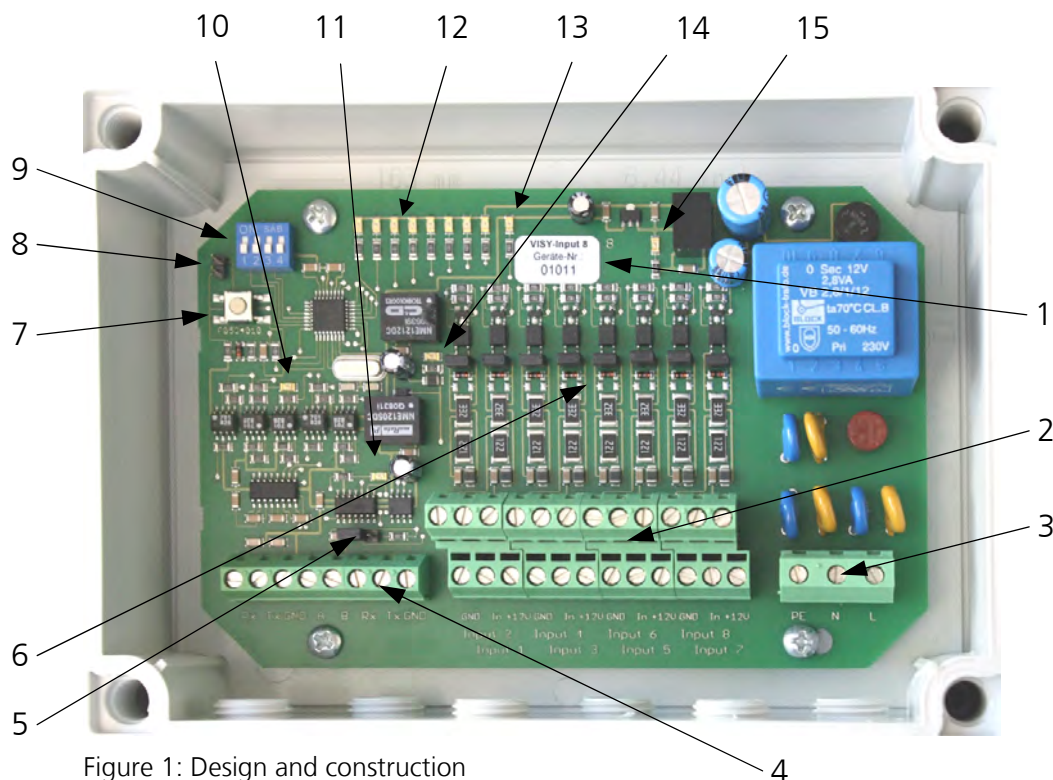


Figure 1: Design and construction

2.4.1 Device information

- (1) Label with the serial number that unambiguously identifies the device. When doing the configuration using VISY-Setup the serial number has to be entered to address the device.

2.4.2 Connections

- (2) 24-pole screw terminal for the connection of the input signals
- (3) 3-pole screw terminal for the connection of the auxiliary power
- (4) 8-pole screw terminal for the connection of the communication lines

2.4.3 Controls

- (5) Jumper for the activation of the terminating impedance for the RS-485 network. Under normal circumstances, the communication in the RS-485 network should be trouble-free without the activation of the terminating impedance (jumper not plugged in), as the data rate is relatively low.
- (6) Jumper (one for each input) for selection of the input signal (relay contact or voltage input). The jumper must be fitted, if the input is used for relay contacts (factory setting). If the input is used for voltage input, the jumper must be removed.
- (7) Reset button for manufacturing purposes only. During normal operation the reset button must not be pressed, as no input signals would be transferred temporary.
- (8) Jumper for manufacturing purposes only. During normal operation the jumper must be removed to prevent malfunction.
- (9) 4-way DIP switch, currently without function.

2.4.4 LEDs

- (10) Receive LED (red)
- (11) Transmit LED (red)
- (12) Input LED (yellow) – one for each input
- (13) Status LED (yellow)
- (14) 12 V LED (green) – power supply for external relay contacts
- (15) Operating voltage LED (green)

2.5 Auxiliary power

The supply of auxiliary power (230 VAC) has to be realized by a fixed installation. The wires of the power supply have to be connected to the terminals PE, N and L of the 3-pole screw terminal.

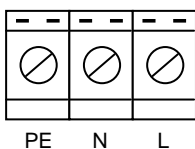


Figure 2: 3-pole screw terminal for auxiliary power

2.6 Inputs

VISY-Input 8 is equipped with eight input terminals to read alarms signalled from external devices. Each individual input can either work as a digital voltage input or as an input for a relay contact. The configuration of the input signal is to be defined by the jumper positions and the wire connection at the 3-pol terminal screw. The terminal screws are from left to right assigned to the inputs 2,4,6, and 8 at the upper line and to the inputs 1,3,5, and 7 at the lower line. For the position of these jumpers see figure 1.

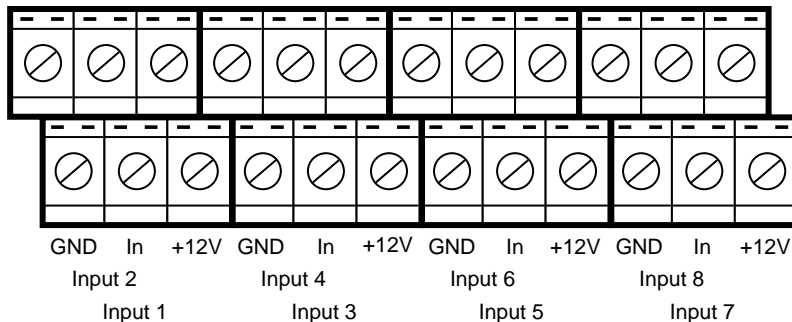


Figure 3: Screw terminal for the inputs

2.6.1 Digital voltage input

If an input should operate as digital voltage input, the jumper of this input must be removed. The external voltage has to be connected to the terminals "In" and "GND" of the input.

When an input is used as voltage input, this input is galvanically isolated from all the other inputs (assuming that the jumper is removed). Within the defined input voltage range (0 ... 24 V DC) the inputs are safe against reverse connection.

Switching threshold: If $U_{in} < 1$ V DC, the input is deactivated. If $U_{in} > 2$ V DC, the input is activated.

2.6.2 Input for a relay contact

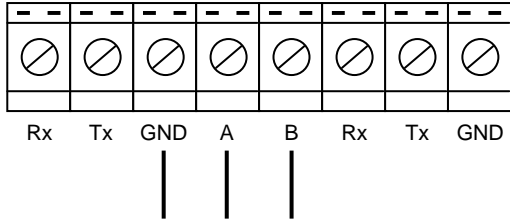
If an input should operate as input for a relay contact, the jumper of this input must be fitted (factory setting). The external relay contact has to be connected to the terminals "In" and "+12 V" of the input.

VISY-Input 8 has an internal 12 V power supply to supply external relay contacts. The maximum current via the relay contact is limited to 10 mA \pm 10 %.

2.7 Connecting to VISY-Command

Up to eight devices of VISY-Input 8 can simultaneously be operated by the VISY-X system. For connection of VISY-Input 8 the communication adapter VISY-ICI 485 is necessary, which must be installed inside the VISY-Command. The communication between VISY-ICI 485 and VISY-Input 8 is done via a galvanically isolated RS-485 interface. The communication line is to be connected at the terminals A, B und GND of the 8-pole screw terminal.

For the wiring of the VISY-Input 8 module, a 3-core cable with signal ground (GND) is recommended in order to improve immunity against interferences.



The connection of communication lines at the clamps RX and TX is not supported yet.

Figure 4: Screw terminal for the communication

Additional information about the connection of the communication lines can be found in the documentation of VISY-ICI 485.

- Technical Documentation VISY-ICI 485 (English) – Art.-Nr. 207150

3 Configuration

Changing the configuration means adopting the function of VISY-Input 8 to the requirements of the application. In the VISY-Input 8 device only the operation of individual inputs have to be configured by fitting or removing the jumper that belongs to each input (see chapter 2.6).

Further configuration of the VISY-Input 8 follows, as typical for the tank level gauging system VISY-X, with the configuration software VISY-Setup. Please note the detailed information about configuration in the following instruction manual.

- Technical Documentation VISY-Setup V4 (English) – Art.-Nr. 207158, or newer



After the configuration it is highly recommended to test, if the alarm signalling works as expected.

4 Fault diagnosis

VISY-Input 8 has several LEDs that help with fault diagnosis. For the location of these LEDs see figure 1.

4.1 Operating voltage LED (15)

The green operating voltage LED indicates, if the VISY-Input 8 is supplied with voltage. The LED lights up permanently, when the auxiliary power is switched on. If the LED flickers or is off, a problem with the auxiliary power or with the internal power supply unit is indicated.

4.2 12 V LED (14)

The green 12 V LED indicates if 12 V are supplied for external relay contacts. The LED lights up permanently, when the auxiliary power is switched on. If the LED flickers or is off, a problem with the auxiliary power or with the internal power supply unit is indicated.

4.3 Status LED (13)

The yellow status LED indicates the status of the communication between the VI- ... interface card in the VISY-Command and the VISY-Input 8.

The following table lists the possible indications of the status LED and explains the meanings.

Status LED	Error	Description
on	no error	data are received regularly without problems
off	no communication	no data have been received since the last power up or reset
flash (1 time)	communication interrupted	communication is interrupted for more than 1 minute

Table 1: Status LED



Under normal conditions the Status LED should constantly be on.

4.4 Input LEDs (12)

The eight yellow input LEDs indicate, whether the inputs are activated or deactivated. From left to right the LEDs are assigned to the inputs 1 to 8.



If an input is used as voltage input, the related input LED is on, when the voltage at the terminals "In" und "GND" is in the range of +5V to +24V.



If an input is used as input for a relay contact, the related input LED is on, when the terminals "In" und "+12V" are connected via the closed external relay contact.

4.5 Receive LEDs (10) / Transmit LED (11)

The two red communication LEDs indicate whether data are received or transmitted.



Under normal conditions the communication LEDs should flash regularly.

5 Technical Data

Dimensions:	H 60 x B 180 x T 130 [mm] (without screw joints)
Protection category:	IP66
Ambient temperature:	0 °C ... +40 °C
Auxiliary power:	230 VAC \pm 10 %, 50 - 60 Hz, \leq 4 VA
Communication:	1 x RS-485, galvanically isolated, 3-pole screw terminal with signal ground (GND) for the connection to the VISY-ICI 485 2 x RS-232 (not supported yet)
Inputs:	8 Inputs, which can be used either as digital voltage inputs or inputs for relay contacts
Voltage input:	5 V DC (about 1 mA) ... 24 V DC (about 7 mA), galvanically isolated, maximum input voltage 24 V DC
Input for relay contact:	internal power supply, 12 V DC, current via relay contact limited to 10 mA \pm 10 %

Table 2: Technical Data

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