

Inventory monitoring with evaluation unit and filling level indication worldwide

VB

Appliance information

Index	Page
Visualization Application Illustration Device configuration	02
Application diagram Function Entry mask	03
Electrical connection Characteristics Dimensions	04
Electrical data Technical data Installation information	04

Visualization

MOLOSvisu VB20

Filling levels / status

Level indication		Inventory monitoring							
Silo/Tank Content	Silo 1 Wheat	Silo 2 Rye	Silo 3 Spelt	Silo 4 Oat	Silo 5 Barley	Silo 6 Maize	Silo 7 Sugar	Silo 8 Salt	User
Content	36,8 %	68,1 %	50,0 %	41,3 %	74,4 %	64,6 %	18,0 %	93,7 %	Password
Measured value, mA	9,9	14,9	12,0	10,6	15,9	14,3	6,8	19,0	Login
Analog input	A1	A2	A3	A4	A5	A6	A7	A8	Filling levels

English ▾

Digital inputs

Input	Silo/Tank	Content/function	Status
D1	Silo 9 empty	Talcum	1 ●
D2	Silo 9 demand	Talcum	1 ●
D3	Silo 8 dryer	Alarm	0 ○
D4	Silo 9 dryer	Alarm	1 ●
D5	Silo 8 heater	Error	1 ●
D6	Silo 9 heater	Error	0 ○
D7	Tank 1 empty	Cooking oil	0 ○
D8	Tank 1 demand	Cooking oil	1 ●

Digital outputs

Output	Input signal for	Status
WE1	Indicator light yellow	1 ●
WE2	Flashlight yellow	1 ●
OE1	Dryer alarm	0 ○
OE2	Heater alarm	1 ●
ERROR	Flashlight red	1 ●

WE Changeover contact
OE Opener
ERROR Output +24 V DC

Actual IP settings

Readout
DHCP: Off
IP: 132.12.2.45
Subnet mask: 255.255.0.0
Gateway: 132.12.2.44
DNS: 132.12.2.2
MAC: 80:30:dc:57:f2:ba
Readout time: 09:01:22

Use

The WebServer VB20 is intended for the visual, graphic, and clear presentation of up to eight filling levels of silos or tanks at the PC, Laptop, Tablet or Smartphone.

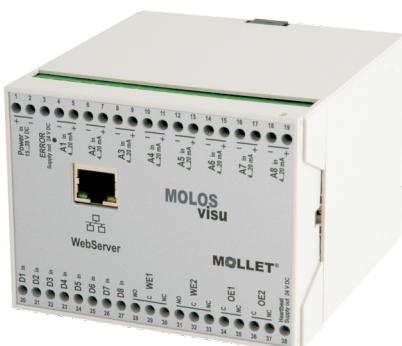
The WebServer VB20 is appropriate for materials requirements planners at the **warehouse operator** of silo or tank warehouses and although at the **supplier** of concentrated feed, flour, salt, sugar, lime, cement, wooden pellets and so on.

Connected to a local network or to the internet the device enables the inspection of the actual filling levels worldwide.

Independent of the location the person entitled is able to inspect the filling levels and to take appropriate measures.

This simplifies the organization of shipment and avoids vacancies.

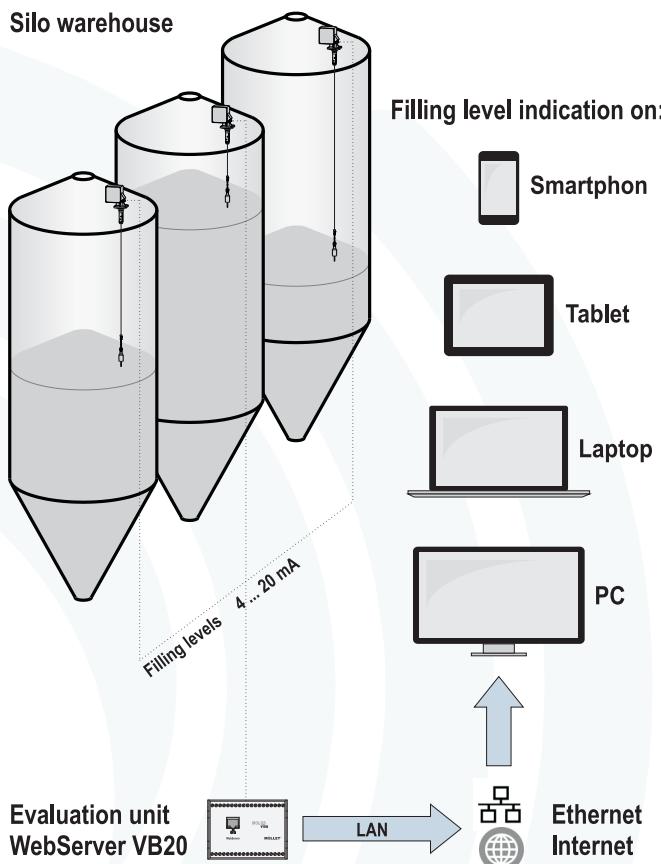
Illustration



Device configuration

- Clear user interface
- Continuous level indication for up to 8 silos
- Status indication for 8 digital inputs
- 5 free programmable outputs
- Network connection via Ethernet 10/100 Mbit/s
- Easy parameterization of the in- and outputs
- Heartbeat function for self-diagnosis
- Simple installation on a top hat rail in a control cabinet
- Menu-driven set up

Application diagram



Function

MOLOSvisu VB20 shows on the free accessible display surface the filling levels of the connected silos in a graphic representation including description of the content, the measured value in mA and the content in percentage. Furthermore, all digital in- and outputs with description and status are displayed.

Eight analog 4 ... 20 mA inputs of filling level measurement devices and eight digital inputs of e.g. level limit switches, thermostat or hygrostat are available at the **WebServer VB20**.

The analog inputs of measured values are displayed as bar graph and supplemented by data of the filling level in % and of measured value in mA.

The digital inputs of measurement results are displayed as status.

Due to the permanent evaluation of the incoming signals the presentation is constantly updated.

In the local network the graphic representation can be reached via Ethernet after entering the IP address of the WebServer into the browser.

With the WebServer the graphic and measurement data can be displayed on a standard browser with any kind of terminal device.

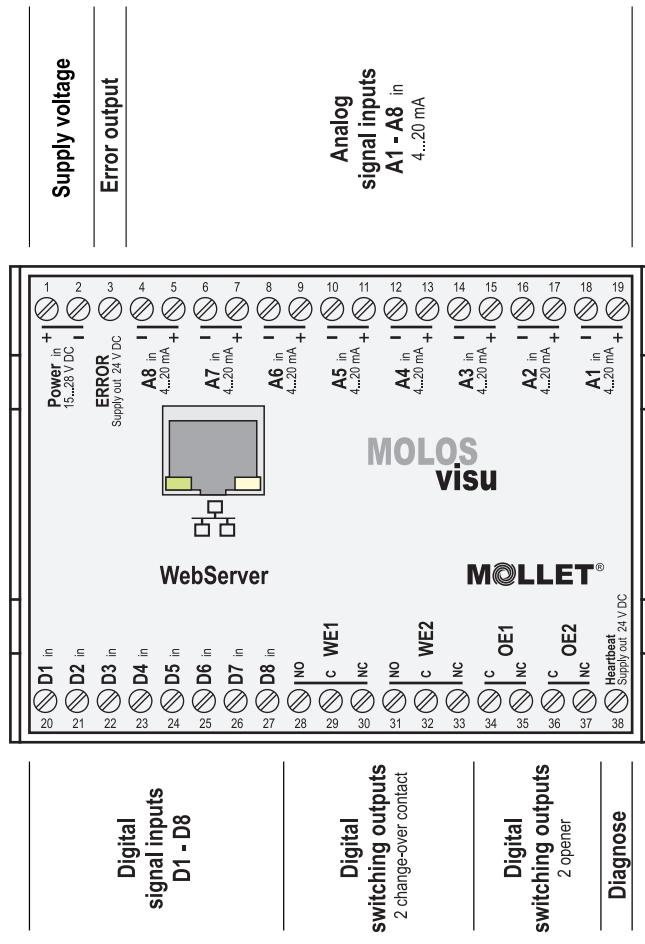
External access via internet happens after corresponding configuration of the router.

Alarms, demand reports, filling permissions, empty announcements etc. can be triggered by the five configurable relay outputs.

Entry mask

MOLLET		MOLOSvisu VB20		Inventory monitoring																																																																																																																																																																																																																									
Insert parameter																																																																																																																																																																																																																													
Analog inputs <table border="1"> <thead> <tr> <th>Input</th> <th>Measured value mA</th> <th>Silo/tank</th> <th>Content</th> <th>Threshold value signals at</th> <th>WE1</th> <th>WE2</th> <th>OE1</th> <th>OE2</th> <th>ERROR</th> </tr> </thead> <tbody> <tr><td>A1</td><td>9.9</td><td>Silo 1</td><td>Wheat</td><td>15 %</td><td><input checked="" type="checkbox"/></td><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr> <tr><td>A2</td><td>14.9</td><td>Silo 2</td><td>Rye</td><td>12 %</td><td><input checked="" type="checkbox"/></td><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr> <tr><td>A3</td><td>12.0</td><td>Silo 3</td><td>Spelt</td><td>10 %</td><td><input checked="" type="checkbox"/></td><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr> <tr><td>A4</td><td>10.6</td><td>Silo 4</td><td>Oat</td><td>19 %</td><td><input checked="" type="checkbox"/></td><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr> <tr><td>A5</td><td>15.9</td><td>Silo 5</td><td>Barley</td><td>20 %</td><td><input checked="" type="checkbox"/></td><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr> <tr><td>A6</td><td>14.3</td><td>Silo 6</td><td>Mais</td><td>15 %</td><td><input checked="" type="checkbox"/></td><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr> <tr><td>A7</td><td>6.8</td><td>Silo 7</td><td>Sugar</td><td>15 %</td><td><input checked="" type="checkbox"/></td><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr> <tr><td>A8</td><td>19.0</td><td>Silo 8</td><td>Salt</td><td>12 %</td><td><input checked="" type="checkbox"/></td><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr> </tbody> </table>		Input	Measured value mA	Silo/tank	Content	Threshold value signals at	WE1	WE2	OE1	OE2	ERROR	A1	9.9	Silo 1	Wheat	15 %	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	A2	14.9	Silo 2	Rye	12 %	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	A3	12.0	Silo 3	Spelt	10 %	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	A4	10.6	Silo 4	Oat	19 %	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	A5	15.9	Silo 5	Barley	20 %	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	A6	14.3	Silo 6	Mais	15 %	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	A7	6.8	Silo 7	Sugar	15 %	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	A8	19.0	Silo 8	Salt	12 %	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Digital inputs <table border="1"> <thead> <tr> <th>Input</th> <th>Status</th> <th>Silo/tank</th> <th>Content/function</th> <th>Delay (1 ... 60 min.)</th> <th>WE1</th> <th>WE2</th> <th>OE1</th> <th>OE2</th> <th>ERROR</th> </tr> </thead> <tbody> <tr><td>D1</td><td>1</td><td>Silo 9 empty</td><td>Talcum</td><td>1 min</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr> <tr><td>D2</td><td>1</td><td>Silo 9 demand</td><td>Talcum</td><td>1 min</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr> <tr><td>D3</td><td>0</td><td>Silo 8 dryer</td><td>Alarm</td><td>1 min</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input checked="" type="checkbox"/></td></tr> <tr><td>D4</td><td>1</td><td>Silo 9 dryer</td><td>Alarm</td><td>2 min</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input checked="" type="checkbox"/></td></tr> <tr><td>D5</td><td>1</td><td>Silo 8 heater</td><td>Error</td><td>2 min</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td></tr> <tr><td>D6</td><td>0</td><td>Silo 9 heater</td><td>Error</td><td>2 min</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td></tr> <tr><td>D7</td><td>0</td><td>Tank 1 empty</td><td>Cooking oil</td><td>2 min</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr> <tr><td>D8</td><td>1</td><td>Tank 1 demand</td><td>Cooking oil</td><td>2 min</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td></tr> </tbody> </table>		Input	Status	Silo/tank	Content/function	Delay (1 ... 60 min.)	WE1	WE2	OE1	OE2	ERROR	D1	1	Silo 9 empty	Talcum	1 min	<input type="checkbox"/>	D2	1	Silo 9 demand	Talcum	1 min	<input type="checkbox"/>	D3	0	Silo 8 dryer	Alarm	1 min	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	D4	1	Silo 9 dryer	Alarm	2 min	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	D5	1	Silo 8 heater	Error	2 min	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	D6	0	Silo 9 heater	Error	2 min	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	D7	0	Tank 1 empty	Cooking oil	2 min	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	D8	1	Tank 1 demand	Cooking oil	2 min	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Radio components: <table border="1"> <tr><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr> <tr><td>Location</td><td><input type="text"/></td></tr> <tr><td>Silo/tank</td><td><input type="text"/></td></tr> <tr><td>Content</td><td><input type="text"/></td></tr> <tr><td>Analog input A1</td><td><input type="text"/></td></tr> <tr><td>Analog input A2</td><td><input type="text"/></td></tr> <tr><td>DigitalInput D1</td><td><input type="text"/></td></tr> <tr><td>DigitalInput D2</td><td><input type="text"/></td></tr> <tr><td>DigitalInput D3</td><td><input type="text"/></td></tr> </table> Digital outputs <table border="1"> <thead> <tr> <th>Output</th> <th>Status</th> <th>Input signal for</th> </tr> </thead> <tbody> <tr><td>WE1</td><td>0</td><td>High alarm</td></tr> <tr><td>WE2</td><td>1</td><td>Low alarm</td></tr> <tr><td>OE1</td><td>0</td><td>Demand</td></tr> <tr><td>OE2</td><td>1</td><td>Alarm</td></tr> <tr><td>ERROR</td><td>1</td><td>Error</td></tr> </tbody> </table>		<input type="checkbox"/>	<input type="checkbox"/>	Location	<input type="text"/>	Silo/tank	<input type="text"/>	Content	<input type="text"/>	Analog input A1	<input type="text"/>	Analog input A2	<input type="text"/>	DigitalInput D1	<input type="text"/>	DigitalInput D2	<input type="text"/>	DigitalInput D3	<input type="text"/>	Output	Status	Input signal for	WE1	0	High alarm	WE2	1	Low alarm	OE1	0	Demand	OE2	1	Alarm	ERROR	1	Error								
Input	Measured value mA	Silo/tank	Content	Threshold value signals at	WE1	WE2	OE1	OE2	ERROR																																																																																																																																																																																																																				
A1	9.9	Silo 1	Wheat	15 %	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																																																																																																																																																																																																																				
A2	14.9	Silo 2	Rye	12 %	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																																																																																																																																																																																																																				
A3	12.0	Silo 3	Spelt	10 %	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																																																																																																																																																																																																																				
A4	10.6	Silo 4	Oat	19 %	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																																																																																																																																																																																																																				
A5	15.9	Silo 5	Barley	20 %	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																																																																																																																																																																																																																				
A6	14.3	Silo 6	Mais	15 %	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																																																																																																																																																																																																																				
A7	6.8	Silo 7	Sugar	15 %	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																																																																																																																																																																																																																				
A8	19.0	Silo 8	Salt	12 %	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																																																																																																																																																																																																																				
Input	Status	Silo/tank	Content/function	Delay (1 ... 60 min.)	WE1	WE2	OE1	OE2	ERROR																																																																																																																																																																																																																				
D1	1	Silo 9 empty	Talcum	1 min	<input type="checkbox"/>																																																																																																																																																																																																																								
D2	1	Silo 9 demand	Talcum	1 min	<input type="checkbox"/>																																																																																																																																																																																																																								
D3	0	Silo 8 dryer	Alarm	1 min	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>																																																																																																																																																																																																																				
D4	1	Silo 9 dryer	Alarm	2 min	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>																																																																																																																																																																																																																				
D5	1	Silo 8 heater	Error	2 min	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>																																																																																																																																																																																																																				
D6	0	Silo 9 heater	Error	2 min	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>																																																																																																																																																																																																																				
D7	0	Tank 1 empty	Cooking oil	2 min	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																																																																																																																																																																																																																				
D8	1	Tank 1 demand	Cooking oil	2 min	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>																																																																																																																																																																																																																				
<input type="checkbox"/>	<input type="checkbox"/>																																																																																																																																																																																																																												
Location	<input type="text"/>																																																																																																																																																																																																																												
Silo/tank	<input type="text"/>																																																																																																																																																																																																																												
Content	<input type="text"/>																																																																																																																																																																																																																												
Analog input A1	<input type="text"/>																																																																																																																																																																																																																												
Analog input A2	<input type="text"/>																																																																																																																																																																																																																												
DigitalInput D1	<input type="text"/>																																																																																																																																																																																																																												
DigitalInput D2	<input type="text"/>																																																																																																																																																																																																																												
DigitalInput D3	<input type="text"/>																																																																																																																																																																																																																												
Output	Status	Input signal for																																																																																																																																																																																																																											
WE1	0	High alarm																																																																																																																																																																																																																											
WE2	1	Low alarm																																																																																																																																																																																																																											
OE1	0	Demand																																																																																																																																																																																																																											
OE2	1	Alarm																																																																																																																																																																																																																											
ERROR	1	Error																																																																																																																																																																																																																											
				<input type="button" value="Insert parameter"/> <input type="button" value="Register radio set"/> <input type="button" value="English"/> <input type="button" value="Reset all"/> <input type="button" value="Import data"/> <input type="button" value="Logout"/>																																																																																																																																																																																																																									

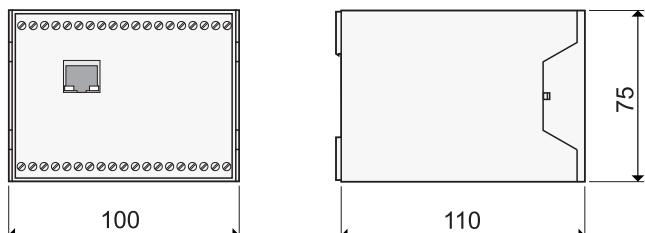
Electrical connection



Characteristics

- All inputs of silo/tank and their content, all digital outputs and configurations of the webserver could be parametrized and displayed.
- The measured values of the analog inputs are displayed in mA and percentage. The measurement results of the digital inputs are indicated as status.

Dimensions



Electrical data

Supply voltage	Supply	15 ... 28 V DC
Power consumption		≤ 22 W
Connection clamps		maximum 2.5 mm ² , screwable
Analog signal inputs	8	4 ... 20 mA
Current output	ERROR	24 V DC, activ
	Capacity	≤ 400 mA
Data transmission		maximum 100 Mbit/s
Reaction time		approx. 1 s
Option EA		
Digital signal inputs	8	24 V DC, passive
		Current sinking ≤ 10 mA
Digital switching outputs	2	Change-over contacts
	2	Opener
Switching capacity		≤ 0,5 A/250 V AC
Current output	Heartbeat	24 V DC, activ
	Capacity	≤ 400 mA

Technical data

Display	Graphical user interface with network-compatible terminal device
Display range	0% ... 100% and 4 ... 20 mA
Digits	1
Measuring range	4 ... 20 mA
Ambient temperature	T _a 0 °C ... 70 °C
Moisture	20% ... 90% (not condensing)
Dimensions	B100 x H75 x T110 mm
Type of protection	IP 40
Material housing	ABS
Weight	385 g
Maintenance	none

Installation information

The WebServer VB20 has to be installed on a top hat rail DIN EN 60715 TH35 in a control cabinet.