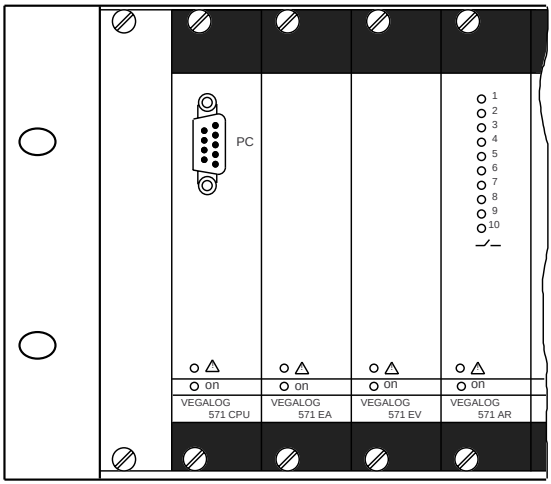
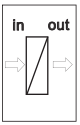
Level and Pressure

Operating Instructions

VEGALOG 571





Contents

Safety information

The described module must only be installed and operated as described in these operating instructions. Please note that other action can cause damage for which VEGA does not take responsibility.

Note Ex-area

Please note the approval documents attached (yellow binder), and especially the included safety data sheet.

1 Product description

1.1 Function and configuration

VEGALOG 571 is a modular processing system for manifold applications in, for example
- level measurement
- density measurement
- gauge measurement
- level detection
- process pressure measurement
- differential pressure measurement
- etc.

Suiting the application and meeting the individual requirements, VEGALOG 571 is composed of several module cards. One CPU-card and peripheral cards are available which are inserted into a carrier.

Function

VEGALOG 571 powers the connected sensors and processes their analogue or digital measuring signals or switching commands. The peripheral cards take over the supply, as well as the preparation of the measuring signal for processing. The processing is made in the CPU via special software consisting of functional components (FB), input components (EB) and output components (AB). The input components receive the measuring signals, the output components provide them via the hardware outputs of the peripheral cards or the CPU:
- as current signal 0/4 ... 20 mA
- as voltage signal 0/2 ... 10 V
- as relay/transistor contact
- as digital signal (RS 232-interface)

Adjustment surface

The adjustment of VEGALOG 571 is made by a PC connected via an RS 232-cable to the PC-interface of the CPU. The adjustment software VEGA Visual Operating (VVO) is installed under Windows™ and enables the easy configuration of measuring systems, as well as the parameter adjustment of connected VEGA-sensors. VVO offers a clear adjustment surface with menu structure, window technology and graphic support.

Configuration

VEGALOG 571 processing system consists of a CPU, one or several peripheral cards, as well as a power supply unit which can be inserted in the 19"-carrier BGT LOG 571. CPU and peripheral cards are module cards in European size (DIN 41 494) with 5 TE-width (25,4 mm). The supply voltage of the cards with 24 V DC is provided, for example, via a power supply unit VEGASTAB 593. The carrier, with a width of 84 TE, and a height of 3 HE, corresponds to the 19"-standard format, is provided with an integral LOGBUS-board for communication among the cards.

A VEGALOG can be equipped with a maximum of two carriers with a total of one CPU, 31 peripheral cards and a power supply unit. Up to 255 measurement loops can be created.

1.2 Software

Software components

Each VEGALOG software consists of max. 255 input, output, DCS and functional components. All components are automatically used by the system when configurating a measurement loop.

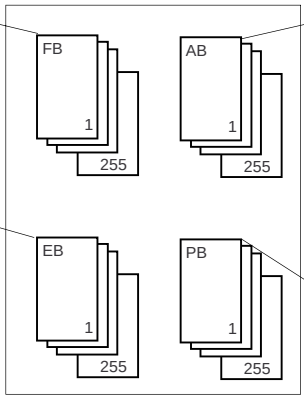
Functional components
Parameter for
- meas. loop 1
- meas. loop 2

…
- meas. loop 255

Input components
Analogue inputs
- current inputs
  0 … 20 mA
  active/passive

Switching inputs
- signals of level switches
- correction signals

Digital input
- VBUS-input



Output components
Analogue outputs
- current outputs
  0 … 20 mA

Switching outputs
- relay outputs
- transistor outputs

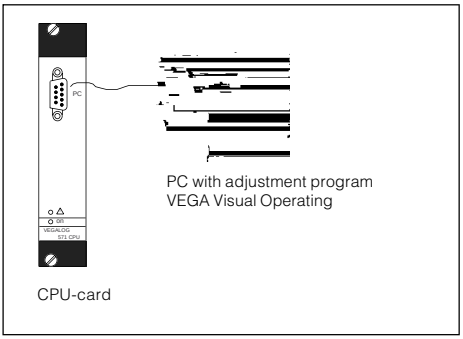
Digital outputs
- DISBUS-output

DCS-components
- DCS-telegram to VEGACOM 557

1.3 Module card types

The modular system of VEGALOG 571 consists of different, special module card types:
- CPU-card
- input cards
- output cards
- communication cards
  for connection to standard bus systems
- power supply card
  for supply of the cards

CPU-card



CPU-card

This computer card is the centre of VEGALOG and has the following functions:
- communication between the individual cards
- calculating tasks such as scaling, linearisation, differential generation etc.
- coupling to the PC via RS 232-interface

Furthermore, the CPU is used for level detection or monitoring of switch on and off times.

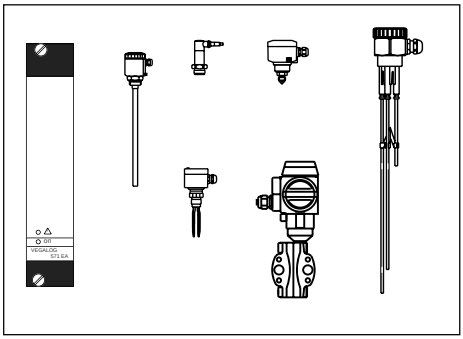
Depending on the number of measurement loops, CPU-cards in different performances of up to 15, 30, 60 or 255 measurement loops are available.
The CPU reads cyclically measured values from the peripheral cards (with, for example, 30 measurement loops in 300 ms-cycle).

These are compared with the programmed data, standardised and processed. The programmed data (configuration data, adjustment parameters etc.) are available in the EEPROM, where they remain even in case of voltage loss. In the memory of the CPU a process picture is created which is provided to the peripheral cards via the LOGBUS.

For back-up, the programmed data can be transferred via the RS 232-interface to the PC and saved there on the hard drive or on a diskette.

Input cards

EA-card



EA-card

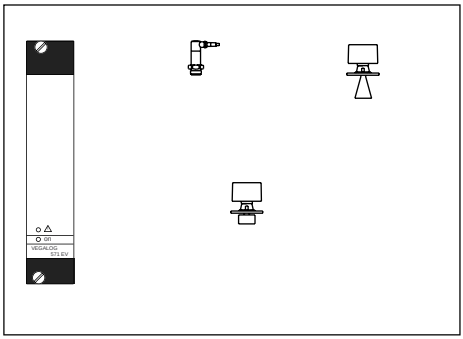
Up to 10 sensors can be connected to the EA-card (input analogue) via active[1)] current inputs 0/4 ... 20 mA:
- capacitive electrodes
- hydrostatic pressure transmitters
- vibrating level switches
- conductive electrodes
- process pressure and differential pressure transmitters
- switching contact (level switch)

[1)] Input active = Sensor is powered by the EA-card
Input passive = Sensor delivers current

The inputs can also be switched passively[1)] and are used for connection of:
- switching contacts with additional current source
- external current sources 0 ... 20 mA

A mixed switching of active/passive[1)] inputs is also permitted within an EA-card.

EV-card



EV-card

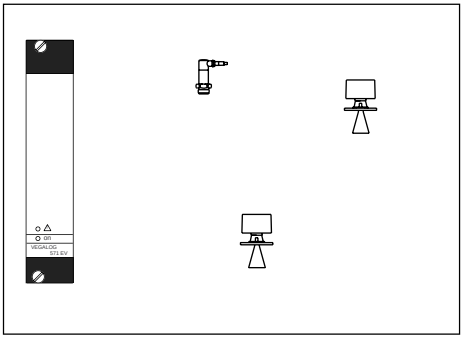
The EV-card (EV = input VBUS) powers up to 15 VBUS-sensors and processes their measured data:
- hydrostatic pressure transmitters
- ultrasonic sensors
- radar sensors

The digital communication between sensors and the EV-card enables the connection of different VBUS-sensors via common two-wire line. This means that a transmission is available which is not only optimally adapted to the conditions of the level measurement, but also has increased immunity to interference. In addition to the real transmission of measured values, it also enables the parameter adjustment of the sensors via the signal conditioning instrument from the control room (local parameter adjustments are carried out via the PC with VVO).

Separators

VEGATRENN 547V Ex
VEGATRENN 548V Ex

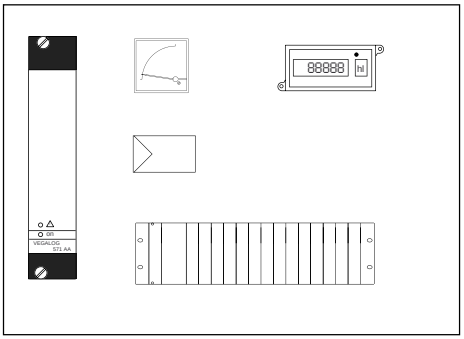
The separators are used for galvanic isolation of the intrinsically safe from the not-intrinsically safe VBUS-measuring lines, and for intrinsically safe supply and signal transmission of Ex-approved VBUS-sensors.



Separators

Output cards

AA-card

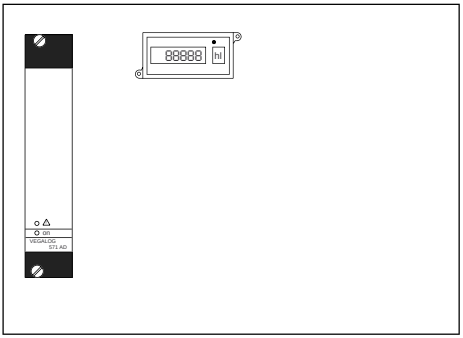


AA-card

The AA-card (AA = output analogue) provides the processing results via up to 10 analogue currents in the range of 0 ... 20 mA. The scaling, as well as the definition as rising or falling characteristics is made via the PC with VVO.

Indicating instruments, recorders, controllers or PLC-systems are connected to these outputs.

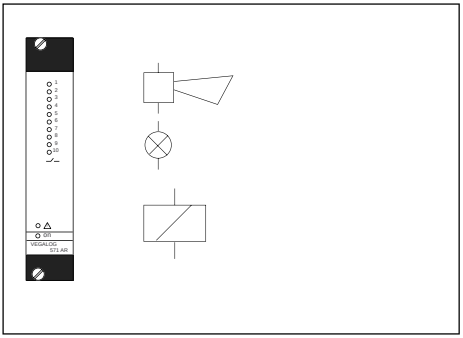
AD-card



AD-card

The AD-card (AD = output DISBUS) brings max. 15 measured values to one DISBUS-line. Up to 30 VEGADIS 174 indicating instruments can be connected to this line.

AR-card

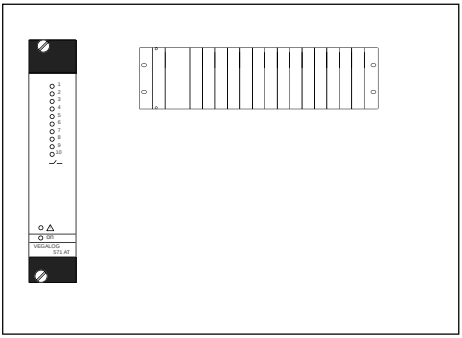


AR-card

The AR-card (AR = output relay) provides 10 relay outputs with floating spdt. The following instruments can be connected:
- acoustic or optic signallers
- magnet valves
- contactors
- etc.

The AR-card is suitable for the output of level, individual or collected fault signals. The switching condition of each relay is indicated via a two-coloured LED in the front facia. This LED lights depending on the parameter adjustment of the relay as level contact or as fail safe relay. Each fail safe relay can be individually co-ordinated to one or several measurement loops. The definition of the relay function, the switch points, as well as the LED-colour is made via the PC with VVO.

AT-card

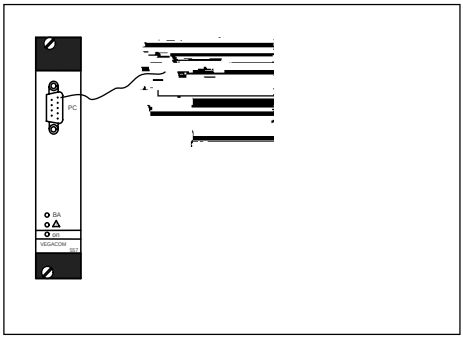


AT-card

The AT-card (AT = output transistor) provides 10 floating outputs via NPN-transistors. Binary input cards of PLC-systems are connected.

The application possibilities and the signalling of the switching condition correspond to the AR-card.

Communication card



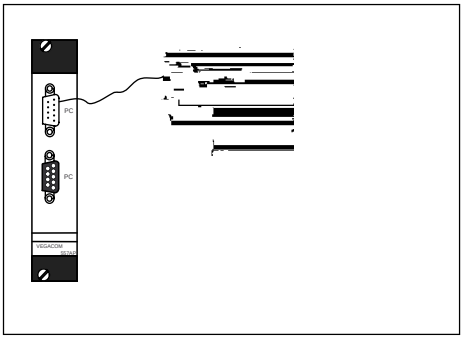
VEGACOM 557

The communication card VEGACOM 557 is an interface converter (Gateway) for conversion of VEGA-specific data formats into standard protocols for connection of the VEGALOG-system to a PLC or DCS. The communication card is available for the following protocols:

- Siemens S5 (3964 R-procedure)
- Modbus (RTU and ASCII)
- Interbus S
- Profibus FMS
- Profibus DP
- VEGA-ASCII

The communication card can be used exclusively to provide the data of VEGALOG to the visualisation software Visual VEGA (VV). For this purpose, the communication card is also available without interface converter function.

Adapter print



VEGACOM 557 AP

With the adapter card VEGACOM 557 AP, the data of the standard protocols (Profibus, Interbus etc.), which are normally only available at the back of the carrier, can also be provided on the front facia.

Power supply card

VEGASTAB 593

VEGASTAB 593

The power supply card powers all VEGALOG cards. The versions VEGASTAB 593-60 (24 V, 45 W) and VEGASTAB 593 (24 V, 120 W) are available.

1.4 Technical data

Common data (except VEGASTAB 593)

Power supply

Operating voltage of the cards	U_{nom} = 24 V DC (18 ... 36 V)
Power consumption	
- CPU-card	max. 6 W
- EA-card	max. 11 W
- EV-card	max. 10 W
- AA-card	max. 9 W
- AD-card	max. 10 W
- AR-card	max. 6 W
- AT-card	max. 6 W
- VEGACOM 557	max. 6 W
Fuse	1 A slow-blow

Electrical connection

Module card	multiple plug acc. to DIN 41 612, series F, 48-pole (d, b, z) with coding hole
Module in carrier BGT LOG 571	suitable multipoint connector acc. to DIN 41 612 with connection via standard technologies

Electrical protective measures

Protection	
not mounted	IP 00
in carrier BGT LOG 571	
- front side completely equipped	IP 40
- upper and lower side	IP 20
- wiring side	IP 00
Protection class	I (in carrier BGT LOG 571)
Overvoltage category	II

CE-conformity CE

The module cards of VEGALOG 571 meet the protective regulations of EMVG (89/336/EWG) and NSR (73/23/EWG). The conformity has been judged acc. to the following standards:

EMVG	Emission	EN 50 081 - 2
	Susceptibility	EN 50 082 - 1
NSR		EN 61 010

Ambient conditions

Permissible ambient temperature	-20°C ... +60°C
Storage and transport temperature	-20°C ... +80°C

Mechanical data

Series	module cards for carrier BGT LOG 571
Dimensions, not mounted	W = 25,4 mm (5 TE), H = 128,4 mm (3 HE), D = 166 mm
Weight per card	approx. 400 g

CPU-card

Interfaces

To LOGBUS	via LOGBUS-socket on the module card
RS 232 via PC	via 9-pole D-SUB-socket (pins) in the front plate of the module card

Electrical separating measures

Galvanic isolation acc. to VDE 0106, part 1	between power supply, LOGBUS-connection and RS 232-interface
- reference voltage	250 V
- isolation resistance	2,3 kV

Indicating elements

LED in front plate	green (on): operating voltage on red: fault signal

EA-card

Meas. data inputs

Number	10 inputs
Kind	analogue two-wire input, active or passive also mixed
Range	0 … 20 mA
Sensors	capacitive electrodes hydrostatic pressure transmitters vibrating level switches conductive electrodes process and differential pressure transmitters
Further connection possibilities	external current sources 0 … 20 mA, switching contacts
Sensor supply voltage	24 V DC
Current limitation	per sensor circuit 26,5 mA, permanently short circuit-proof
Max. input voltage	24 V DC
Switching threshold	adjustable via adjustment software VVO in the range of 4 … 20 mA
Min. hysteresis	80 µA (fixed)
Linearity error	0,1 % of range (for input active and passive)
Average gradient failure	0,5 % of range (only for input passive)
Temperature failure	0,025 %/10 k of range
Connection line	2-wire (standard line)
Resistance per conductor	max. 35 Ω

Interfaces

To LOGBUS	via LOGBUS-plug on the module card

Electrical separating measures

Galvanic isolation	
acc. to VDE 0106, part 1	between power supply, LOGBUS-connection and meas. data inputs
- reference voltage	250 V
Common reference potential	between the individual meas. data inputs (GND)

Indicating elements

LED in front plate	green (on): mains voltage on red: fault signal

EV-card

Meas. data inputs

Number	15 inputs
Data transmission	digital (VBUS)
Sensors	hydrostatic pressure transmitters ultrasonic sensors radar sensors
Sensor supply voltage	3 x 24 V DC, 1 A, short circuit proof (for 5 sensors each)
Connection line	2-wire (screening recommended)
Line length	max. 1000 m [1]
Resistance per conductor	max. 15 Ω [1]

Interfaces

To LOGBUS	via LOGBUS-plug on the module card

Electrical separating measures

Galvanic isolation	
acc. to VDE 0106, part 1	between power supply, LOGBUS-connection and meas. data inputs
- reference voltage	250 V
Common potential	between VBUS-meas. data inputs

Indicating elements

LED in front facia	green (on): operating voltage on red: fault signal

[1] The values are valid for a connected sensor. Note reduction acc. to “Connection instructions for VBUS-sensors“

AA-card

Current outputs

Number	10 outputs
Function	analogue output of processing results
Range	0/4 ... 20 mA (current limitation or fault signal 22 mA)
Load	max. 750 Ω
Resolution	0,05 % of range (10 µA)
Linearity error	0,025 % of range
Temperature error	0,025 %/10 k of range
Load dependent error	with load of 750 Ω: 0,5 % (100 µA)

Interfaces

To LOGBUS	via LOGBUS-plug on the module cards

Electrical separating measures

Galvanic isolation acc. to VDE 0106, part 1	between power supply, LOGBUS-connection and current outputs
- reference voltage	250 V
Common potential	between current outputs (GND)

Indicating elements

LED in front facia	green (on): mains voltage on red: fault signal

AD-card

DISBUS-output

Number	1 output
Function	digital transmission of processing results and system information to VEGADIS 174
Number of instruments to be connected	max. 2 x 15 VEGADIS 174
Connection line	2-wire (screening recommended)
Max. line length	1000 m
Max. line resistance	15 Ω per wire

Interfaces

To LOGBUS	via LOGBUS-plug on module card

Electrical separating measures

Galvanic isolation acc. to VDE 0106, part 1	between power supply, LOGBUS-connection and DISBUS-output
- reference voltage	250 V

Indicating elements

LED in front facia	green (on): operating voltage on red: fault signal

AR-card

Relay outputs

Number	10 outputs
Hysteresis	adjustable
Contact	1 floating spdt each AgNi and hard gold plated
Turn-on voltage	min. 10 mV DC max. 250 V AC, 60 V DC
Switching current	min. 10 µA DC max. 2 A AC, 1 A DC
Breaking capacity	max. 125 VA, 54 W

Interfaces

To LOGBUS	via LOGBUS-plug on the module card

Electrical separating measures

Reliable separation acc. to VDE 0106, part 1	from relays to the power supply and LOGBUS-connection
- reference voltage	250 V
- isolation resistance	2,3 kV
Galvanic isolation between	among relays
- reference voltage	250 V
- isolation resistance	1,5 kV

Indicating elements

LED in front facia	green (on): operating voltage on yellow/red: switching condition as level/ fail safe relay for each relay red: fault signal

AT-card

Transistor outputs

Number	10 outputs
Turn-on voltage	max. 36 V DC
Switching current I_C	max. 60 mA, short circuit proof
Voltage loss U_{CE}	≤ 1,5 V at I_B = 60 mA

Interfaces

To LOGBUS	via LOGBUS-plug on the module card

Electrical separating measures

Galvanic isolation acc. to VDE 0106, part 1	between power supply, LOGBUS-connection and transistor outputs
- reference voltage	250 V
Potential separation between	among transistor outputs
- reference voltage	50 V
- isolation resistance	0,5 kV

Indicating elements

LED in front facia	green (on): operating voltage on yellow/red: switching condition as level/ fail safe transistor for each output red: fault signal

VEGACOM 557

Meas. data input DISBUS
(only used in conjunction with VEGAMET signal conditioning instrument)

Data transmission	DISBUS (digital data transmission)
Connection line	2-wire, screening recommended
Line length	max. 1000 m

Meas. data input LOGBUS

Data transmission	LOGBUS (digital data transmission)
Connection line	connection via BUS-plug

PC-interface

Interface standard	RS 232 C
Line length	max. 15 m
Transmission rate	300, 600, 1200, 2400, 4800, 9600 and 19200 baud
Transmission format	8 data bits, 1 stop bit, even parity or no parity
Plug in the front facia	D-SUB-plug connector, 9-pole, pins

Electrical separating measures

Reliable separation acc. to VDE 0106, part 1	between power supply, LOGBUS, DISBUS, PC-connection and appropriate interface
- reference voltage	250 V
- test voltage	3 kV

Indicating elements

LED in front facia	green BA: communication signal (bus activity) red (flashing): DISBUS/LOGBUS-failure red (permanently): failure green on: operating voltage on

Interface data

see operating instruction VEGACOM 557

Power supply card VEGASTAB 593, 594, 593-60

Common data

Indicating elements

LED in front facia	green on: operating voltage on

Electrical connection

Multiple plug VEGASTAB	acc. to DIN 41 612, d, z, series H, 15-pole
Module carrier	multipoint connector with connection plug 6,3 mm

Electrical protective measures

Protection	
- unassembled	
VEGASTAB 593, 594	IP 20
VEGASTAB 593-60	IP 00
- mounted in carrier	IP 40 (only front)
Protection class	I

CE-conformity CE

The 19"-power supply units VEGASTAB meet the protective regulations of EMVG (89/336/EWG) and NSR (73/23/EWG). The conformity has been judged acc. to the following standards:

		VEGASTAB 593, 594	VEGASTAB 593-60
EMVG	Emission	EN 50 081 - 1	EN 50 081 - 1
	Susceptibility	EN 50 082 - 2	EN 50 082 - 2
NSR		EN 60 950	EN 61 010

Mechanical data

Dimensions	W x H x D = 50,8 (10 TE) x 110 x 171,9 mm
Weight	
- VEGASTAB 593, 594	approx. 550 g
- VEGASTAB 593-60	approx. 1,3 kg

VEGASTAB 593, 594

Power supply

Input voltage	U_{nom} = 230 V AC (196 ... 264 V), 50/60 Hz = 115 V AC (90 ... 132 V), 50/60 Hz (switch for conversion of the input voltage at the housing bottom, factory setting 230 V)
Input current effective	max. 0,8 A at 230 V max. 1,6 A at 115 V
Interference suppression	acc. to VDE 0871, class B, 16 kHz ... 30 MHz

Output

Output voltage	
- VEGASTAB 593	U_{nom} = 24 V DC stabilised
- VEGASTAB 594	U_{nom} = 33 V DC stabilised
Output power	P_{nom} = 120 W
Output current	I_{nom} = 5 A

Other conformities

EMC-conformity	VDE 0160/2, IEC 801, NAMUR VDE 0871/B, EN 55 022/B

Ambient conditions

Permissible ambient temperature	-20°C ... +70°C (+55°C ... +70°C limited)
Storage and transport temperature	-40°C ... +70°C

VEGASTAB 593-60

Power supply

Input voltage	U_{nom} = 230 V AC (196 ... 264 V), 50/60 Hz = 110 V AC (94 ... 127 V), 50/60 Hz = 120 V AC (102 ... 138 V), 50/60 Hz
Input current effective	
- 230 V	max. 0,5 A
- 110 V, 120 V	max. 1,0 A
Fuse	(5 x 20 mm) in the L-line
- 230 V	1 A moderately slow-blow
- 110 V, 120 V	1,6 A moderately slow-blow

Output

Output voltage	U_{nom} = 25 V DC
Output power	P_{nom} = 45 W (40 W at ambient temperature -40°C ... +60°C)
Output current	I_{nom} = 2 A
Resistance	short circuit and open-circuit resistant
Open-circuit voltage	33 V

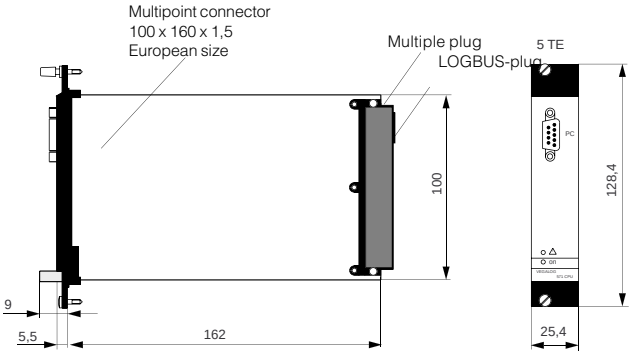
Ambient conditions

Permissible ambient temperature	-20°C ... +60°C (+35°C ... +60°C screwed)
Storage and transport temperature	-40°C ... +70°C

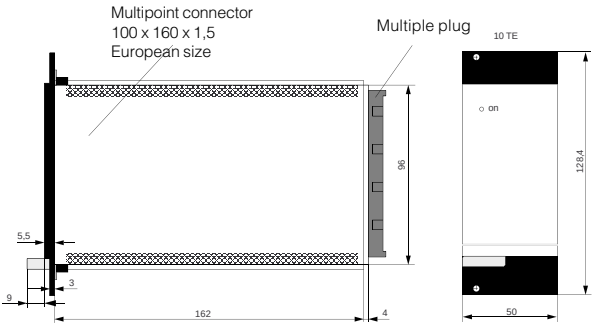
1.5 Dimensions

The dimensions are shown on the example of the CPU-card, they are also valid for the other module cards of VEGALOG.

CPU-card



Power supply card VEGASTAB

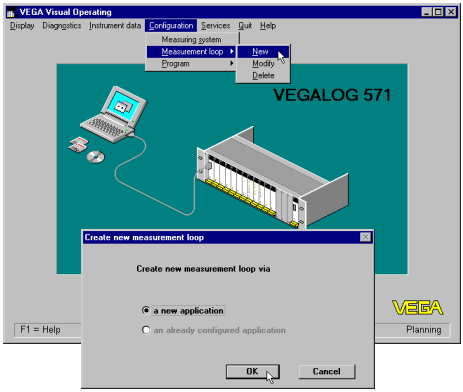


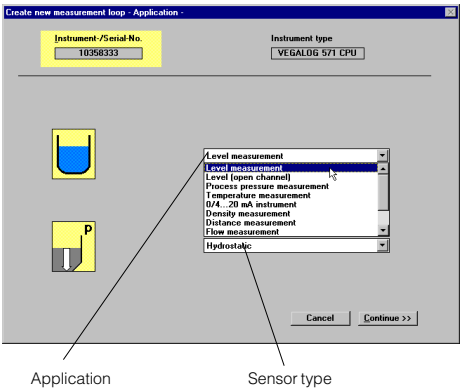
1.6 Applications

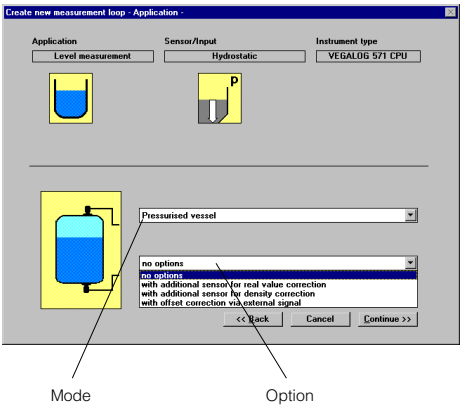
A number of applications can be created in VEGALOG with the VEGA Visual Operating (VVO) adjustment software. On the following pages you see applications with the appropriate sensors, mode and option.

VVO must be stated to create a new application (measurement loop). Click in the main window of VVO on **Configuration**, point to **Measurement loop** and click on **New**. Then confirm the adjustment “a new application“ with **OK**.

In the next window (“Create new measurement loop -Application-“), you first choose the application (e.g. level measurement), then the sensor type (e.g. hydrostatic). Then click on **Continue>>** and choose the mode (e.g. pressurised vessel) and the option (e.g. real value correction).

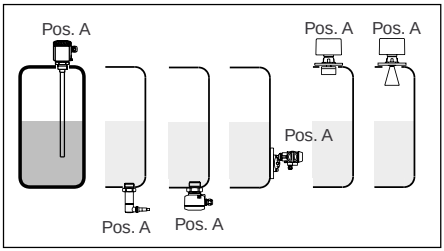






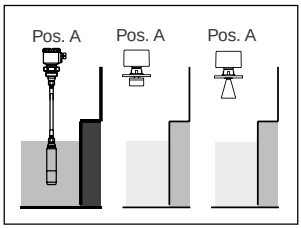
Single measurements

Application: **Level measurement**
Sensor: Capacitive electrodes
Hydrostatic pressure transmitters
Ultrasonic sensors
Radar sensors
Process pressure transmitters
Differential pressure transmitters
Mode: Standard
Option: Correction in the point
Real value correction
Zero point correction
Density correction
Parameter: Level



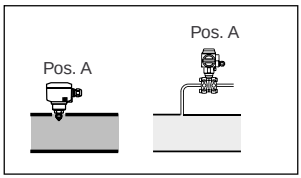
Level measurement

Application: **Gauge measurement**
Sensor: Hydrostatic pressure transmitters
Ultrasonic sensors
Radar sensors
Mode: Standard
Option: none
Parameter: Gauge



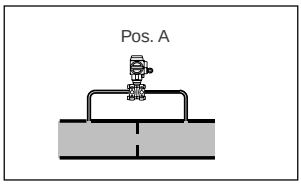
Gauge measurement

Application: **Process pressure measurement**
Sensor: Process pressure transmitters
Differential pressure transmitters
Mode: Standard
Option: Zero point correction
Parameter: Process pressure



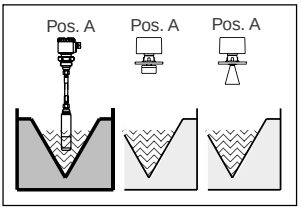
Process pressure measurement as standard pressure measurement

Application: **Process pressure measurement**
Sensor: Differential pressure transmitters
Mode: Difference
Option: none
Parameter: Pressure difference



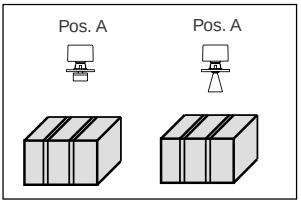
Process pressure measurement as differential pressure measurement

Application: **Flow measurement**
Sensor: Hydrostatic pressure transmitters
Ultrasonic sensors
Radar sensors
Mode: Standard
Option: none
Parameter: Flow



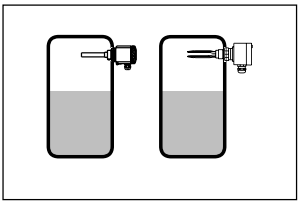
Flow measurement

Application: **Distance measurement**
Sensor: Ultrasonic sensors
Radar sensors
Mode: Standard
Option: none
Parameter: Distance

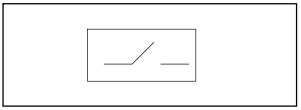


Distance measurement

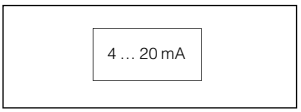
Application: **Level detection**
Sensor: Capacitive electrodes
Vibrating level switch
Mode: Standard
Option: none
Parameter: Level


Level detection

Application: **Connection of a switching contact**
Sensor: External switching contact
Mode: Standard
Option: none
Parameter: Switching condition


Connection of an external switching contact

Application: **Connection of a 4 ... 20 mA-instrument**
Sensor: 4 … 20 mA-instrument (active)
Mode: Standard
Option: none
Parameter: Current

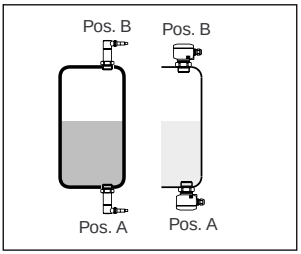


Connection of a 4 … 20 mA-instrument

Application: **Temperature measurement**
Sensor: 0/4 … 20 mA-instrument
Temperature of VBUS-sensors (multi-sensor)
Mode: Standard temperature measurement
Option 0 … 20 mA-instrument
4 … 20 mA-instrument
Parameter: Temperature

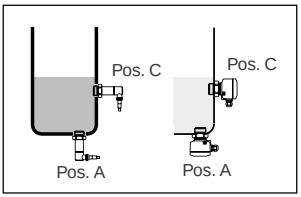
Linked applications

Application: **Level measurement in pressurised vessel**
Sensor: Hydrostatic pressure transmitters
Process pressure transmitters
Mode: Pressurised
Option: Zero point correction
Real value correction
Density correction
Parameter: Level
Gauge pressure
Total pressure



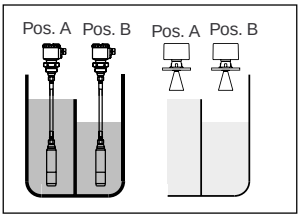
Level measurement in pressurised vessel

Application: **Level measurement, product with variable density**
Sensor: Hydrostatic pressure transmitters
Process pressure transmitters
Mode: Variable density
Option: Zero point correction
Real value correction
Density correction
Parameter: Level
Density
Not corrected level



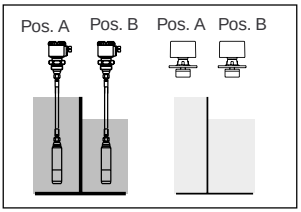
Level measurement, product with variable density (density compensation)

Application: **Level difference**
Sensor: Ultrasonic sensors
Radar sensors
Mode: Difference
Option: Real value correction (only with hydrostatic pressure transmitters)
Parameter: Level 1
Level 2
Level difference



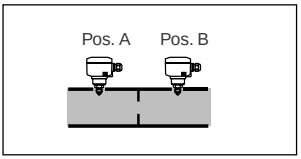
Level measurement, level difference

Application: **Gauge difference measurement**
Sensor: Hydrostatic pressure transmitters
Ultrasonic sensors
Radar sensors
Mode: Difference
Option: Real value correction (only with hydrostatic pressure transmitters)
Parameter: Gauge upstream water
Gauge downstream water
Gauge difference



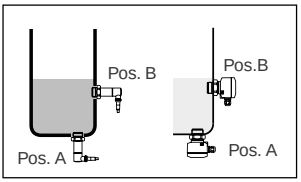
Gauge measurement as gauge difference measurement

Application: **Process pressure measurement as differential pressure measurement**
Sensor: Process pressure transmitters
Mode: Difference
Option: Real value correction
Parameter: Process pressure 1
Process pressure 2
Pressure difference



Process pressure measurement as differential pressure measurement

Application: **Density measurement**
Sensor: Hydrostatic pressure transmitters
Process pressure transmitters
Mode: Standard
Option: Zero point correction
Parameter: Density
Level
Not corrected level

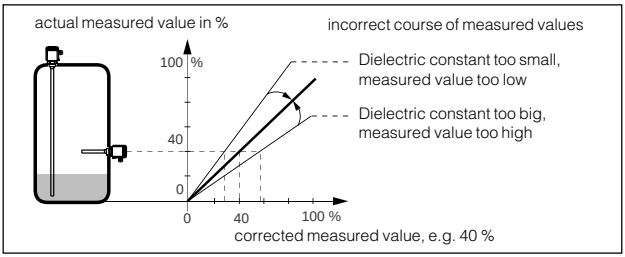


Density measurement

Application: **Arithmetic measurement**
Sensor: Configured measurement loop
Mode: Sum
Difference
Average value
Division
Option: with weighting factors
Density
Ratio
Parameter: Calculated parameter

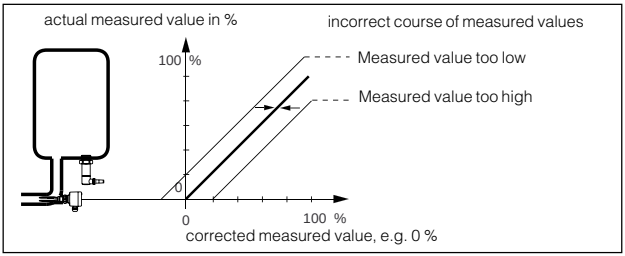
Options

Correction in the point
- ε_r-correction
- only in conjunction with capacitive electrodes
- steepness correction of the adjustment characteristics



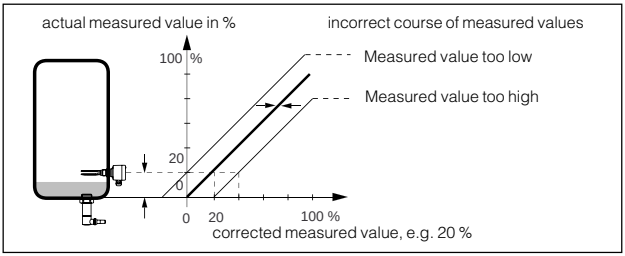
Correction in the point

Zero point correction
- with unpressurised sensor
- parallel shifting of the adjustment characteristics



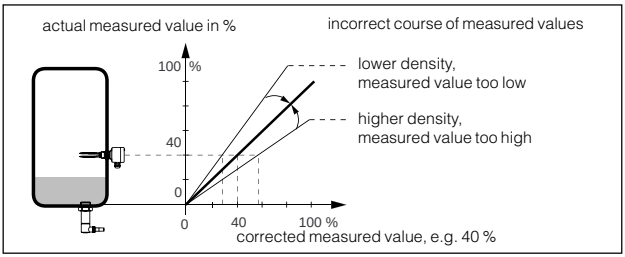
Zero point correction

Real value correction
- with given %-value
- parallel shifting of the adjustment characteristics



Real value correction

Density correction
- only in conjunction with hydrostatic pressure transmitters
- steepness correction of the adjustment characteristics



Density correction

Further options are tare function and monitoring function.

2 Mounting

2.1 Carrier

The module cards of VEGALOG 571 must only be mounted into the 19"-carrier BGT LOG 571, because only this carrier is provided with a special bus board for data transmission between the CPU and the individual peripheral cards of VEGALOG.

A VEGALOG 571 can consist of max. two completely equipped carriers which are connected via a pluggable bus line (see 3 Electrical connection). As the extension of the pluggable bus cable is not allowed, both carriers must be mounted directly one above the other.

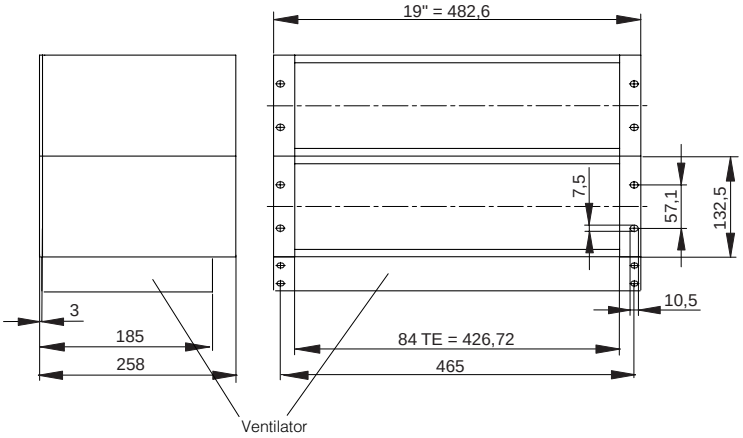
Note:
In the following cases we recommend the mounting of a ventilator to prevent a temperature increase in the VEGALOG:
- when more than one carrier are mounted one above the other
- when more than 2,5 W/TE are consumed in the carrier
- when there is no air circulation in the range of the carrier

2.2 Mounting in carrier

The carrier BGT LOG 571 is supplied completely assembled. For mounting of the individual module cards you only have to place the modules in the required positions. A module consists of:
- a multipoint connector acc. to DIN 41 612, series F, 48-pole (d, b, z)
- two screws
- two coded pins
- two guide rails.

The multipoint connector is available in the following versions:
- Wire-Wrap standard connection 1,0 mm x 1,0 mm
- Plug connection 2,8 mm x 0,8 mm
- Termi-Point standard connection 1,6 mm x 0,8 mm
- Soldering connection
- Screw terminals 0,5 mm^2

Please note the operating instructions of the carrier BGT LOG 571, for mounting the module.



2.3 Selection of the plug position

The plug position for the individual cards is initially individually selectable, the system saves the cards' positions when switched on.

Note:
The plug positions should not be modified later on, as, otherwise, a new configuration would be necessary for the measurement loops already created.

Due to the bus board with the bus plugs, there is a fixed pattern for the use of the modules. It is, therefore, ensured that each module card is inserted into the appropriate multipoint connector, as well as into the LOG-BUS-socket.

Number of TE:
- 84 TE, one thereof 4 TE-blind cover on module 1

Width of the module cards:
- 5 TE for CPU and periphery
- 10 TE for VEGASTAB 593

Number of module cards in BGT LOG 571:
- 16 pieces (e.g. 1 x power supply unit, 1 x CPU and 13 x peripheral cards)

2.4 Coding

A mechanical coding system avoids interchanging among the different module cards in the carrier. It consists of:
- two coded pins in the multipoint connector in the carrier
- two holes in the multiple plug of the appropriate component.

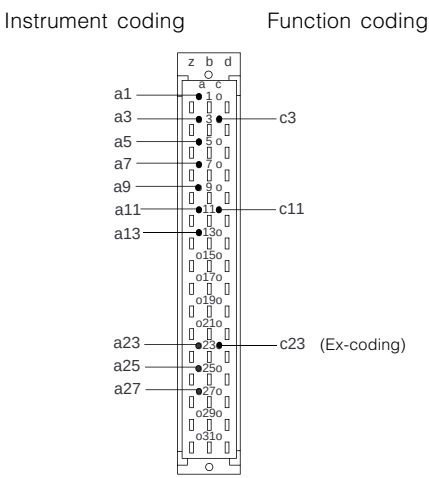
The coded pins are attached to the module.

Equip the multipoint connector with the two coded pins acc. to the "Coding table" and "Position of the coded pins". The function coding characterises the module cards of VEGALOG. The instrument coding differentiates the individual module cards.

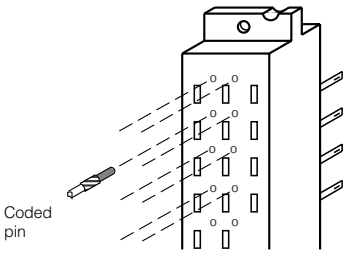
The multiple plugs of the individual module cards are supplied with the appropriate holes for the pin positions.

	Instrument coding	Function coding
CPU-card	a1	c3
EV-card	a3	c3
AA-card	a5	c3
AR-card	a7	c3
AT-card	a9	c3
EA-card	a11	c3
AD-card	a13	c3
VEGACOM 557	a27	c3, c11
VEGATRENN 547V Ex	a23	c11, c23
VEGATRENN 548V Ex	a25	c11, c23
VEGASTAB 593	--	--

Coding table

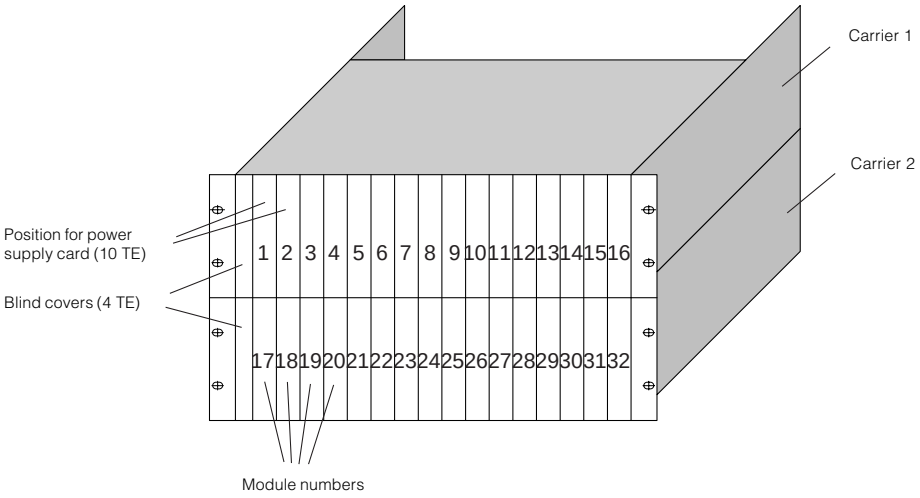


Position of the coded pins



2.5 Co-ordination

The table is used to give a view of the co-ordinated modules. By adding the power consumption of the individual module cards (see “1.4 Technical data“) you can determine whether the power requirement is covered by the power supply used.



Module no. (TE-no.)	Card	max.power requirement (W)
1 (5)		
2 (10)		
3 (15)		
4 (20)		
5 (25)		
6 (30)		
7 (35)		
8 (40)		
9 (45)		
10 (50)		
11 (55)		
12 (60)		
13 (65)		
14 (70)		
15 (75)		
16 (80)		

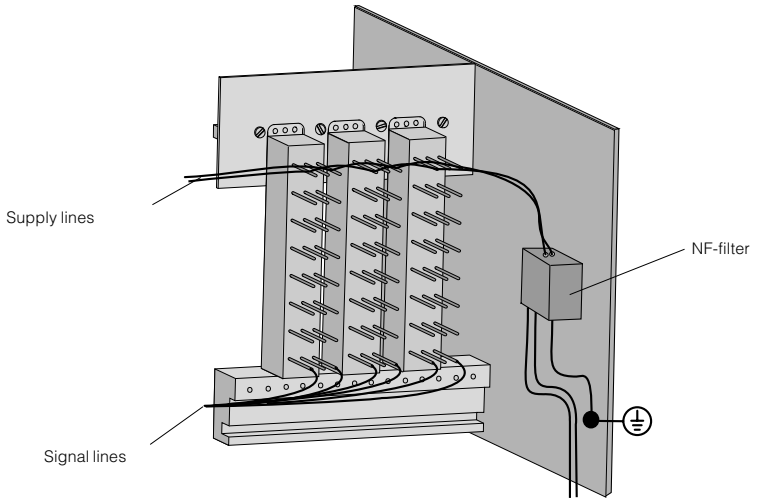
Module no. (TE-no.)	Card	max.power requirement (W)
17 (5)		
18 (10)		
19 (15)		
20 (20)		
21 (25)		
22 (30)		
23 (35)		
24 (40)		
25 (45)		
26 (50)		
27 (55)		
28 (60)		
29 (65)		
30 (70)		
31 (75)		
32 (80)		

3 Electrical connection

3.1 General connection instructions

For electrical connection you should generally observe the following instructions:

- the connection must be made according to the appropriate national installation standards (e.g. in Germany acc. to the VDE-regulations).
- the wiring between the input cards and the sensors can be made with standard two-wire cable.
- if strong electromagnetic interferences are expected, screened cable is recommended. The screening must be earthed at one sensor end.
- the line resistances stated in the technical data must not be exceeded.
- when several ultrasonic or radar sensors are powered via the EV-card, the necessary wire cross-sections must be maintained.
- if overvoltages are expected, we recommend a sensors electronic with integral overvoltage protection or the installation of VEGA-overvoltage arresters.
- the power supply of the VEGALOG-cards must be made with low voltage to keep protection class II. When using VEGASTAB 593, a reliable separation of the mains circuits acc. to DIN/VDE 0106, part 101 is achieved.
- if the power supply is not taken over by VEGASTAB 593, the supply line must be looped via the supplied NF-filter (type: Schaffner FN660-10/06) (see figure).
- the supply line after the filter (24 V DC) should be a loop with the biggest possible distance from the signal lines in order to avoid coupling.
- secure the connected cables or lines by a strain relief which is available from VEGA. This is also used as earth terminal for screened lines.



3.2 Coupling of the carriers

If the number of available modules of a carrier is not sufficient, the VEGALOG 571 can be completed by a second rack.

The carriers are positioned one beneath the other and connected via a supplied bus cable. The bus cable is inserted into a plug connection on the rear of the bus board.

For the configuration with two racks, two switch positions must be checked and, if necessary, adjusted according to the following table:
- hook switch for termination resistor
- slide switch.

Configuration with one rack

Hook switch	closed
Slide switch	position M

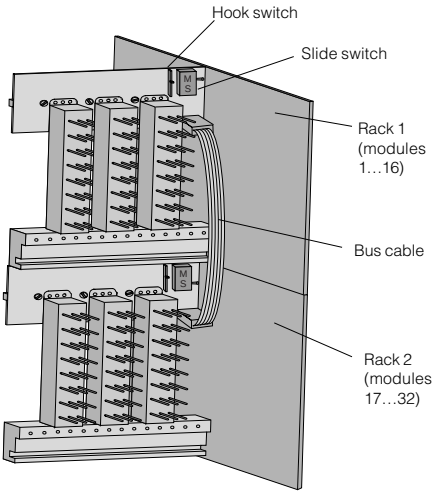
Configuration with two racks

Rack 1

Hook switch	closed
Slide switch	position M

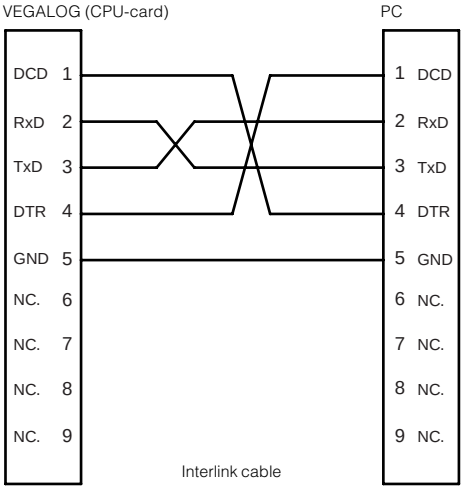
Rack 2

Hock switch	open
Slide switch	position S



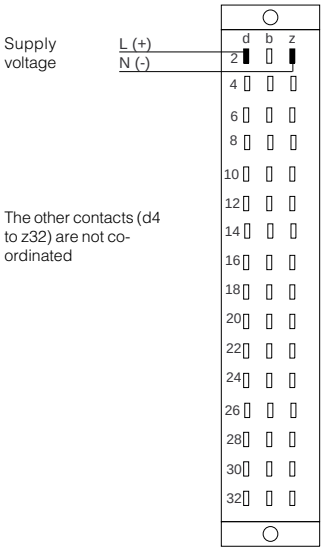
3.3 Interface cable PC - VEGALOG

You connect the PC (with the VVO adjustment software) to the VEGALOG's CPU-card using the RS 232-interface cable (interlink cable) supplied.

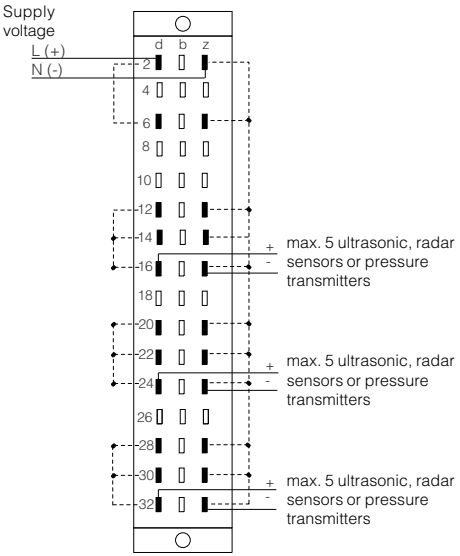


3.4 Connection plans

CPU-card



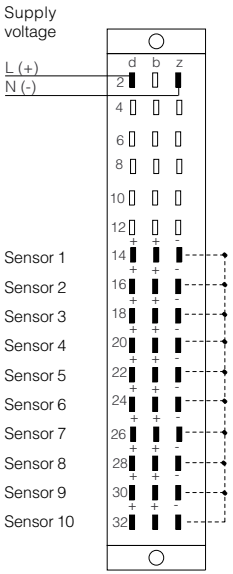
EV-card



Note:

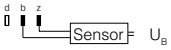
- The connections d12 … d16, d20 … d24 as well as d28 … d32 are connected.
- The connections z12 … z16, z20 … z24 and z28 … z32 are on the same minus potential (broken line).

EA-card

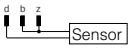


Each sensor input can be switched passively as well as actively.

Connection of an active sensor (sensor delivers current):



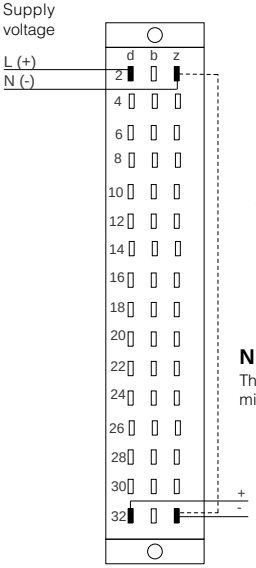
Connection of a passive sensor (EA-card powers sensor):



Note:

All 10 sensor inputs (z14 … z32) are connected (broken line).

AD-card

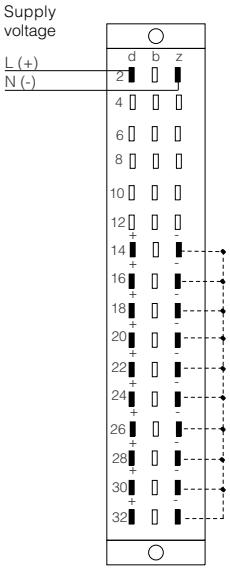


The other contacts (d4 to z32) are not co-ordinated

Note:

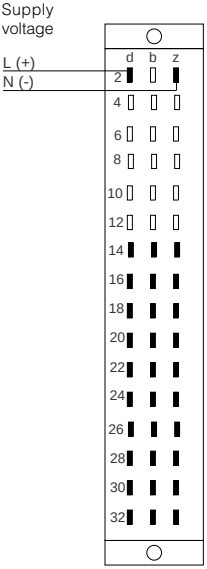
The connection z32 is on the minus potential (broken line).

AA-card



0/4…20 mA output	+	–
1	d14	z14
2	d16	z16
3	d18	z18
4	d20	z20
5	d22	z22
6	d24	z24
7	d26	z26
8	d28	z28
9	d30	z30
10	d32	z32

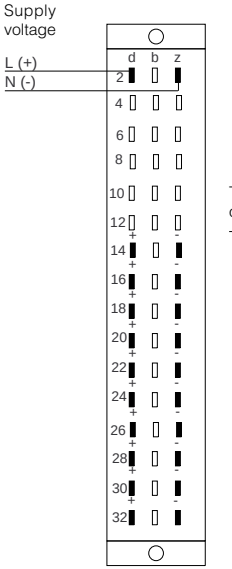
AR-card



Relay output			
1	d14	b14	z14
2	d16	b16	z16
3	d18	b18	z18
4	d20	b20	z20
5	d22	b22	z22
6	d24	b24	z24
7	d26	b26	z26
8	d28	b28	z28
9	d30	b30	z30
10	d32	b32	z32

Note:
The connections z14 … z32 are connected (broken line).

AT-card



Transistor output		
1	d14	z14
2	d16	z16
3	d18	z18
4	d20	z20
5	d22	z22
6	d24	z24
7	d26	z26
8	d28	z28
9	d30	z30
10	d32	z32

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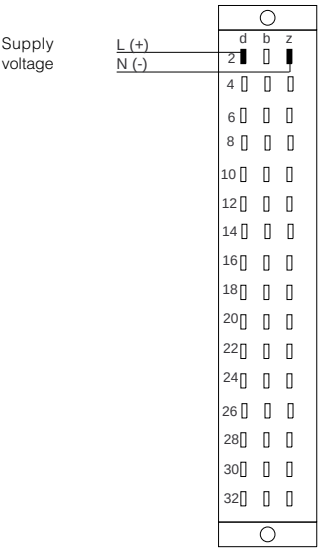
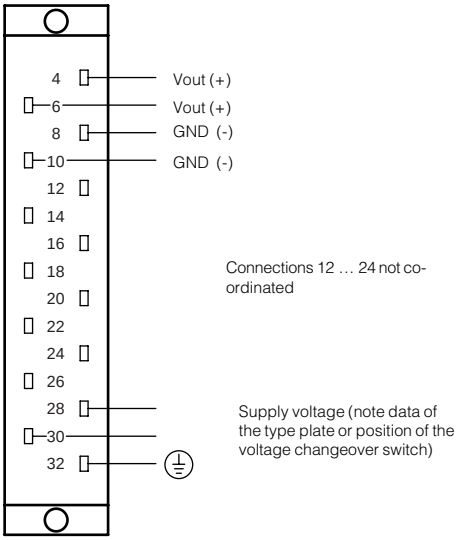


Co-ordination of the data connections: see operating instruction VEGACOM 557

VEGASTAB 593



Multiple plug acc. to DIN 41 612, series H, 15-pole

3.5 Connection instructions for VBUS-sensors

The digital data transmission between the VBUS-sensors and the EV-card enables the connection of several sensors via a common two-wire line. The following limit values are valid:

- Pressure transmitters
  Max. 15 on one two-wire line per EV-card
- Ultrasonic/Radar sensors
  Max. 15 per EV-card, divided into three groups with five pieces each on one two-wire line

For ultrasonic/radar sensors this division is necessary due to the higher power consumption. Make sure that the power supply is sufficient. If several EV-cards are powered from one common power supply unit with additional voltage, the connected sensors are galvanically connected among each other. Each branch with max. five sensors is short circuit proof. The integral current limitation reacts at 1,0 A.

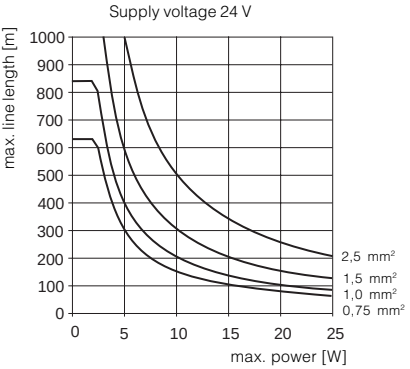
Determination of the required wire cross-section

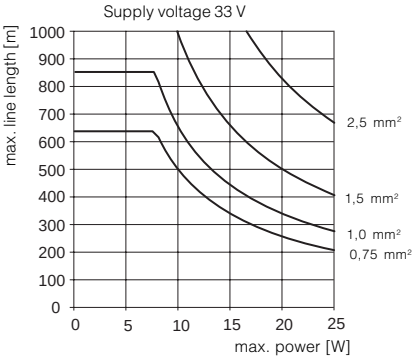
Choose the wire cross-section such that the voltage loss on the appropriate two-wire line is as low as possible. The required wire cross-section depends on the power consumption of the sensors as well as the line length used. Note the following table.

Sensor data / Sensor type	Average power consumption P_M
VEGASON	
51 V … 53 V	0,1 W
83 FV/GV	2,3 W
84 FV/GV	2,9 W
85 FV/GV	2,9 W
87 FV/GV	3,3 W
VEGAPULS	
51 V … 53 V	0,1 W
54 V … 56 V	1,0 W
64 FV/GV/UV	2,0 W
VEGAFLEX	
51 … 52	0,1 W
Pressure transmitter	
D80, D84, D86, D87	0,3 W

The wire cross-section can be determined according to two methods:
- by graphics
- by calculation

Graphic determination





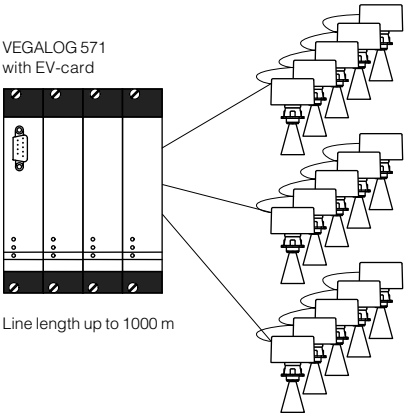
For graphic determination the following procedure is recommended:
- consider each branch separately
- determine the power consumption of the sensors
- estimate the required line length
- read the required wire cross-section out of the graphic via the power and the line length

Example:
- 5 sensors VEGASON 84
- Line length 200 m
- P_M = 5 x 2,9 W = 14,5 W
- Supply voltage 24 V

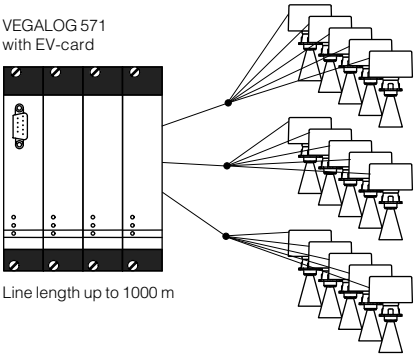
Result:
Cross-section (Cu) 24 V selected acc. to diagram:
A = 1,5 mm².

3.6 Installation example for VBUS-sensors

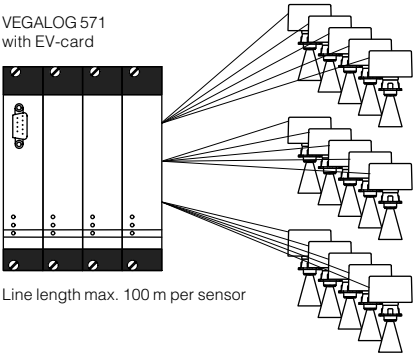
Example 1
One common (two-wire) bus line for five sensors each is looped from the control room up to the last sensor of the group.



Example 2
One common (two-wire) bus line for five sensors each is looped from the control room to the plant and from there, star-shaped, to the sensors. The star point should be as close as possible to the sensors.



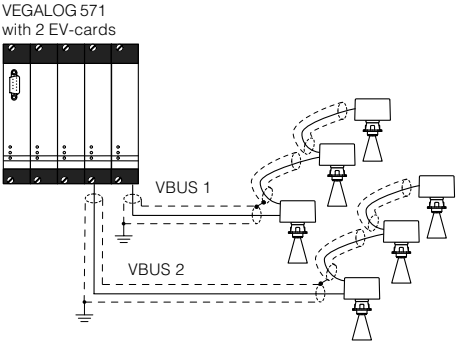
Example 3
Each sensor gets an own line pair (not recommended).



3.7 Screening of the VBUS-line

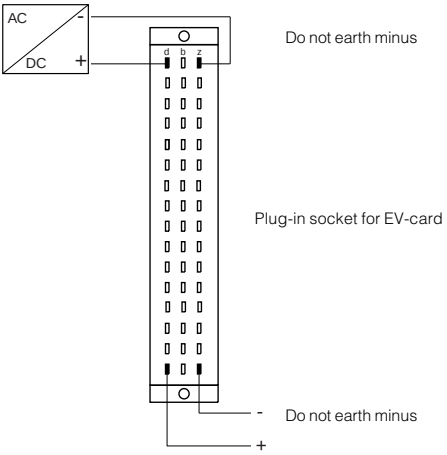
The use of screened lines is recommended for all VBUS-circles. The earthing of the screen should be on one end, close to the processing system. Each EV-card uses an own VBUS-loop.

If only a single VBUS-loop is operated in an interference-free environment, an unscreened line can be used.



For systems consisting of several VBUS-circles, the circles must not be screened together.

3.8 Galvanic isolation



3.9 Additional instructions for Ex-applications

Applications in the range acc. to
- the CENELEC Ex-regulations
- the ElexV (Germany) Zone 0

require the use of approved sensors.

For these applications the appropriate legal documents (test reports, test and conformity certificates) must be observed. These are supplied with the appropriate instrument.

The voltage supply of these sensors must only be made via an intrinsically safe circuit. For this purpose, the sensors are connected via appropriate separating facilities to the appropriate VEGALOG-input card:
- to the EA-card via a safety barrier type 145
- to the EV-card via a safety barrier type 146 or VEGATRENN 546, or via an Ex-separator VEGATRENN 547V Ex, or VEGATRENN 548V Ex

Please also observe the legal documents of these instruments.

Mounting instructions

Please observe the following instructions for mounting:
- VEGALOG 571, as well as the used separating facility, must only be mounted outside the Ex-area
- a separating wall must be added between connection parts of intrinsically and not-intrinsically safe circuits, so that there is a min. distance 50 mm
- max. five safety barriers type 146 or VEGATRENN 546 can be connected to one EV-card
- only one sensor must be connected to each separator or safety barrier
- a 32-pole Ex-module with 10 TE width must be provided in the carrier for each VEGATRENN 546 separator
- if the carrier is equipped with VEGATRENN 546, the following spaces must be kept:
  - ⊕ 10 mm to the left carrier wall (is ensured by blind cover 4 TE = 20,32 mm)
  - ⊕ 6 mm to the non-Ex-component coordinated on the left (is ensured by blind cover 2 TE = 5,08 mm)

In addition, the valid mounting and operating instructions must be observed. The DIN/VDE-regulations, for example, prescribe that the connection lines between separating system and sensor must be marked on their entire length. A light-blue colour must be used for wrapped cable.

Connection instructions

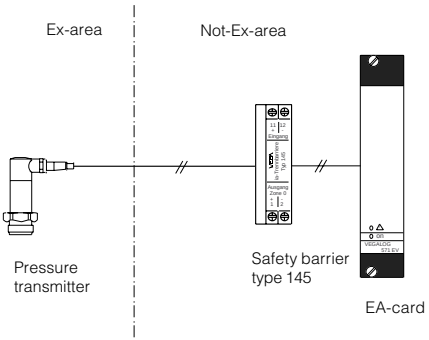
The not-intrinsically safe input of the safety barrier type 145 is connected via a standard two-wire line to the EA-card.

The not-intrinsically safe input of the safety barrier type 146 or VEGATRENN 546 is connected via a standard two-wire line to the EV-card.

If electromagnetic interferences are expected, screened cable should be used. The screen must only be earthed on one sensor or instrument side. The wiring of the intrinsically safe outputs of the safety barrier with the sensors (in hazardous areas) must be made acc. to the valid mounting regulations. In addition the special conditions and instructions in the conformity certificates must be observed.

Connection examples

Safety barrier type 145



The sum of the inner capacitances and inductances of all components must not exceed the max. permissible values of the ia-IIC-circuit, see example:

Data of the ia-IIC-circuit:
L_{ext} max. = 0,5 mH
C_{ext} max. = 56 nF

Data of the components:

Component / Data	Pressure transmitter	1 overvoltage arrester	Line
L_{int}	0,1 mH	0,13 mH	searched
C_{int} 0,3 nF	1 nF	searched	

Determination of the line data:
L_{int} = 0,5 mH – 0,1 mH – 0,13 mH = 0,27 mH
C_{int} = 56 nF – 0,3 nF – 1,0 nF = 54,7 nF

Calculation of the line length:

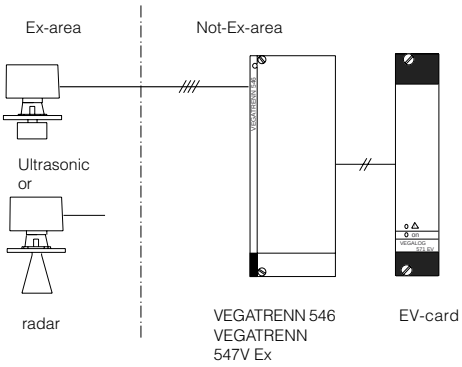
$$l = \frac{0{,}27\ \text{mH}}{0{,}65\ \mu\text{H}^*} \bullet m = 415\ m$$

$$l = \frac{54{,}7\ \text{nF}}{120\ \text{pF}^*} \bullet m = 456\ m$$

To be on the safe side, the line length in this example must not exceed a value of 400 m.

* typical values for unscreened two-wire lines: L' = 0,65 µH/m; C' = 120 pF/m

VEGATRENN 546, VEGATRENN 547V Ex



The sum of the inner capacitances and inductances of all components must not exceed the max. permissible values of the ib-IIC-circuit, see example.

Data of the ib-IIC-circuit:
L_{ext} max. = 1 mH
C_{ext} max. = 580 nF

Data of the components:

Component Data	Ultrasonic sensor	1 overvoltage arrester	Line
L_{int}	65 µH	0,13 mH	searched
C_{int} ~0	1 nF	searched	

Determination of the line data:
L_{int} = 1 mH – 0,065 mH – 0,13 mH = 0,805 mH
C_{int} = 580 nF – 0 nF – 1nF = 579 nF

Calculation of the line length:

$$l = \frac{0{,}805 \text{ mH}}{0{,}65 \text{ µH}^*} \bullet m = 1{,}238 \text{ m}$$

$$l = \frac{579 \text{ nF}}{120 \text{ pF}^*} \bullet m = 4{,}825 \text{ m}$$

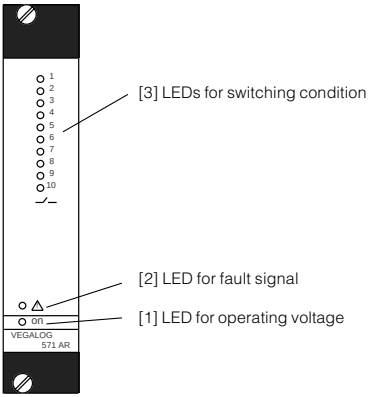
Considering the max. VBUS-line length, the line length in this example must not exceed the value of 1000 m.

* typical values for unscreened two-wire lines: L' = 0,65 µH/m; C' = 120 pF/m

4 Set-up

4.1 Indicating and adjustment elements

Indicating elements



The operating condition is shown by LEDs. The LEDs for operating voltage (1), as well as for failure (2), are available with all module cards. The LEDs for switching condition (3) are only available with the AR-card and AT-card.

[1] Green on:
- lights with voltage supply

[2] Red:
- flashes in case of communication problems on the LOGBUS
- lights during initialisation and during self-check

[3] Red/yellow:
- lights red or yellow depending on the parameter adjustment with energised/de-energised relay or blocking/open transistor

Adjustment elements

The module cards of VEGALOG-systems have no adjustment elements. All adjustment measures are carried out via the PC with the adjustment software VVO.

4.2 Adjustment software VVO

The set-up of VEGALOG 571 is made with the PC via the adjustment software VVO. The PC is connected via an RS 232-cable to the PC-interface of the CPU-card. If your VEGALOG is also equipped with an integral VEGACOM 557, the PC can also be connected to the VEGACOM 557 PC-interface.

The set-up via VVO is made in the same way, first of all the configuration, and then the parameter adjustment.

Configuration and parameter adjustment

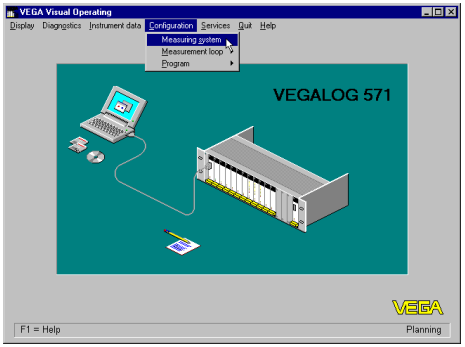
Configuration of a measuring system means the co-ordination of the individual components in an instrument, for example, the connection of an input with an output or the providing of addresses for bus communication. Normally the configuration is a procedure which is carried out once and sets the measuring system into operating condition.

Parameter adjustment means the modification of individual values (e.g. modification of the min./max. adjustment, the integration time etc.). The already configured measuring system is now optimally adapted to the application.

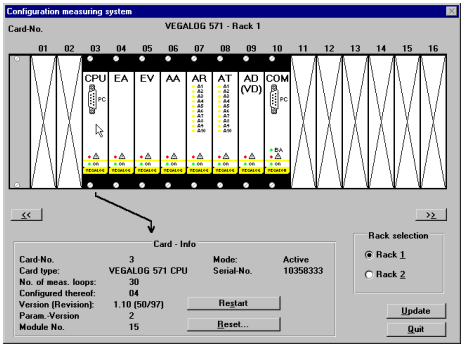
Configuration of VEGALOG

The plug position for the individual cards is initially individually selectable, the system adjusts automatically by auto-configuration when switched on the first time (connecting supply voltage).

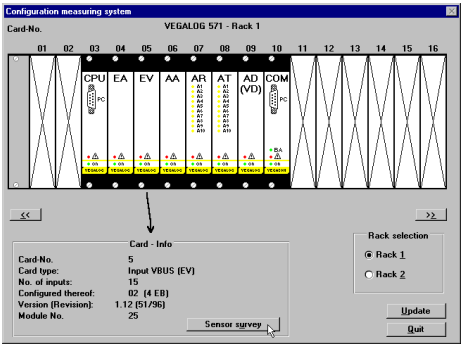
Switch on VEGALOG and connect the CPU-card of VEGALOG to the PC via the RS 232-interface cable. Then start VVO. When VVO has already been started and you then connect VEGALOG, push the function key **F8** on the PC. The screen then shows the picture below. First click on Configuration and then on **Measuring system** to configure the VEGALOG.



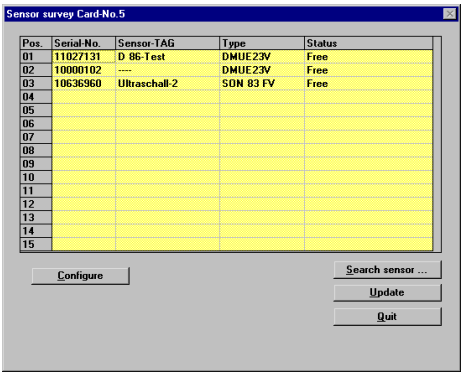
Your VEGALOG is now shown in your configuration. By clicking on a card (e.g. CPU-card) or clicking the buttons **<<** and **>>** you can enquire the card info of all available VEGALOG-cards. If you have clicked on the CPU-card (as shown), you can carry out a **Restart** (equivalent to briefly switching off the CPU) or a **Reset**. With **Reset**, all VEGALOG measurement loops which have already been created, are deleted.



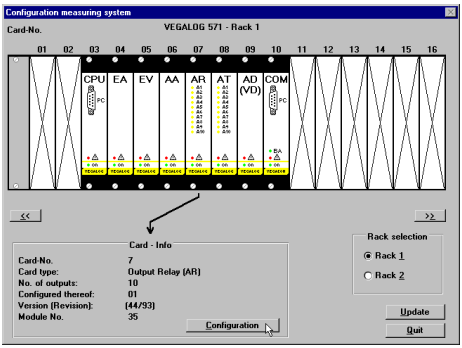
When you have enquired the EV-card (EV stands for input - VBUS-sensor), you can click on the button **Sensor survey**. All the VBUS-sensors connected to the EV-card are listed in the window “Sensor survey Card-no. X“.

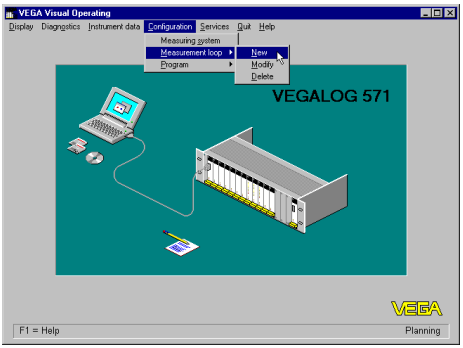


In this window, you can modify sensor designations (Sensor-TAG) and enter serial numbers manually. Click on the appropriate sensor and then click on **Configure**.

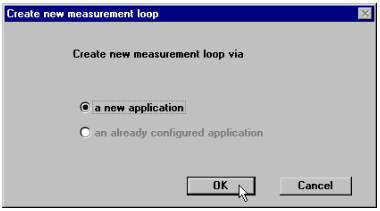


With the AR-card (AR stands for relay output) and the AT-card (AT stands for transistor output), you can carry out pre-adjustments as on the EV-card. Click on **configure** to open the window “Configure switching output“.

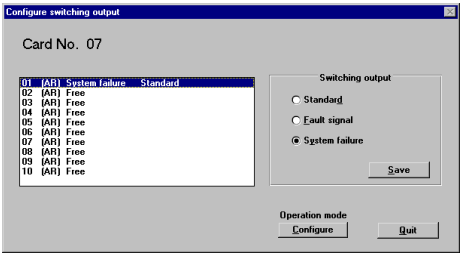




In this position, a fault signal function can be co-ordinated to the switching outputs (relays or transistors), which will later be available for creating measurement loops. Click on **Save**, when you have defined the switching outputs. The configuration as system failure is a special feature. Only one single switching output can be defined as system failure indication. The output does not show failures of individual measurement loops, but failures of the CPU (e.g. a total power loss of the CPU). With **Quit** you return to the main window of VVO.

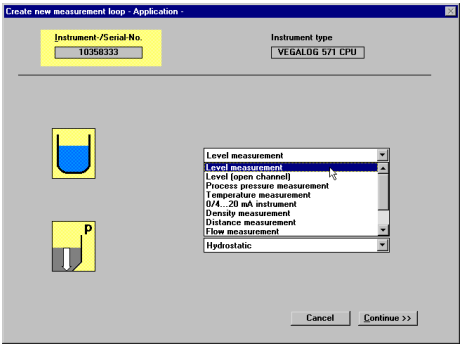


First choose application (e.g. level measurement), then the sensor (e.g. hydrostatic). Then click on **Continue>>**.

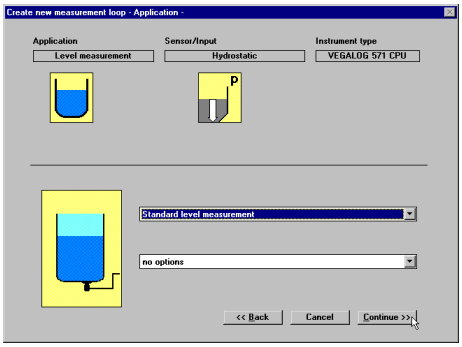


Create new measurement loops

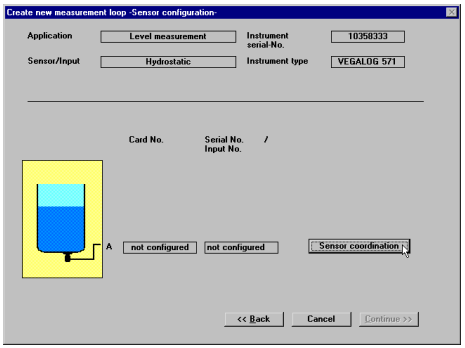
A number of applications can be created in VEGALOG with the adjustment software VVO. Click on **Configuration** in the main window of VVO, point to **Measurement loop** and click on **New**. Then confirm the adjustment “a new application“ with **OK**. The window “Create new measurement loop -Application-“ opens.



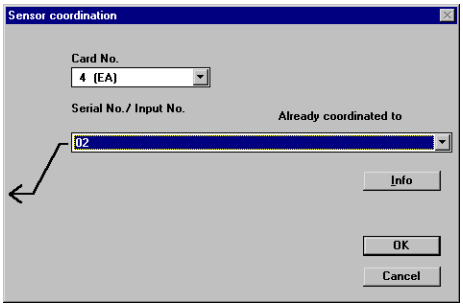
Choose the mode (e.g. standard level measurement) and the option. A possible option would be, for example, “Real value correction“. Then click on **Continue>>**.



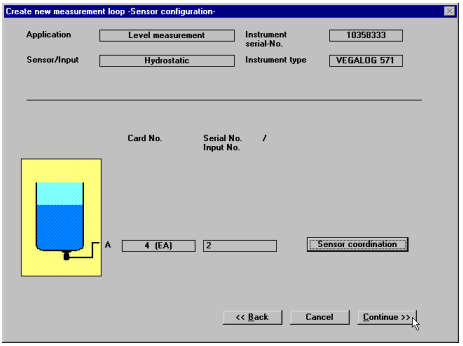
In the window “Create new measurement loop - Sensor configuration“, you see that there is no sensor co-ordinated to the measurement loop. Click on **Sensor coordination**.



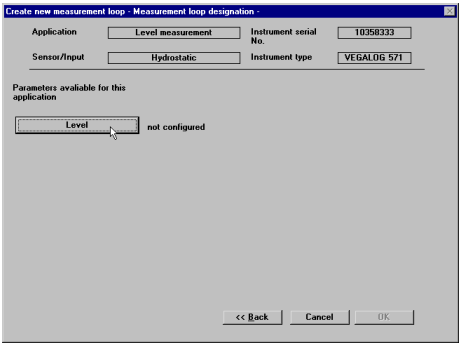
In the window “Sensor coordination“, you can determine which sensor is used for the measurement loop. First choose the card (card no.) to which the sensor is connected (or should be connected) and then the input number. In the example shown, card 4 (analogue inputs), input no. 2. If you now click on **Info,** you see to which card terminals the sensor must be connected. With **OK** you return to the window “Create new measurement loop - Sensor configuration“.



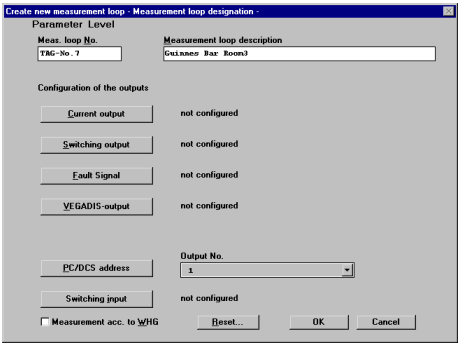
In this window, you can now see that a sensor is co-ordinated to the measurement loop. Therefore, you can click on **Continue>>**.



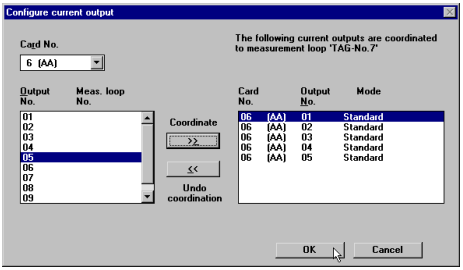
In the window “Create new measurement loop - Measurement loop designation“, you see that the configuration procedure is not yet finished. Click on **Level** – (if, for example, you adjusted “Gauge measurement“ at the beginning of the creation of a new loop, instead of **Level**, then **Gauge** will appear).



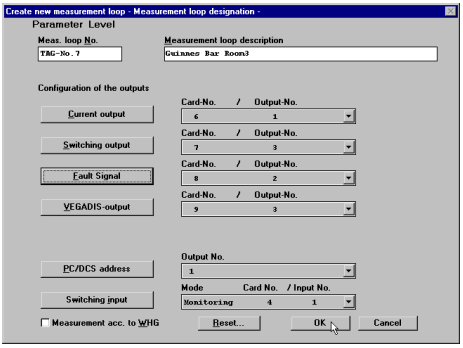
Now you have to add a name for the measurement loop. Enter in the fields “Meas. loop No.“ and “Measurement loop description“, names which clearly identify the measurement loop. It is also possible to configure the outputs. Depending on the VEGALOG equipment, different output modes are available, for example, **current output** (**fault signal** is only active when under “Configuration measuring system“ at least one switching output was defined as fault signal output).



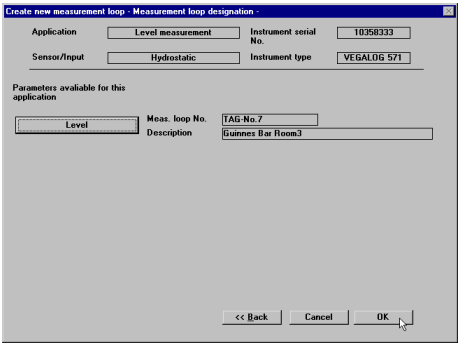
Here you can initially choose the card number (if you have several current output cards available), then click on the output numbers and co-ordinate with **>>** to the measurement loop. It is possible to undo this co-ordination. When you have finished the current outputs, click on **OK**. Proceed in the same way for the other outputs. It is also possible to adjust the mode (standard - reset of alarm functions - hold function) with relay outputs.



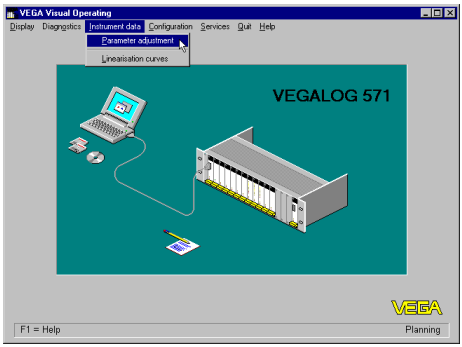
In this window, you can clearly see the configuration of your measurement loop. Click to **OK**.

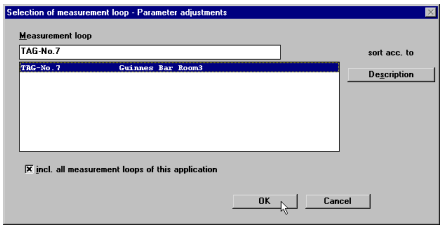


You have here again the possibility to undo the measurement loop configuration. Otherwise click on **OK**. Your measurement loop configuration is then saved and you see the main window of VVO again.

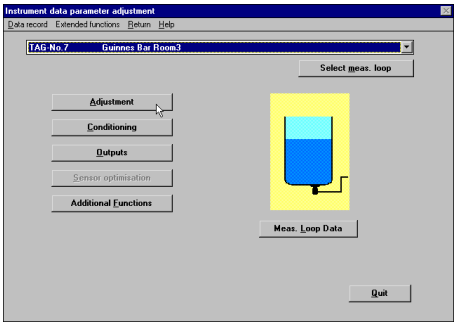


After you have finished the measurement loop configuration, you can start with the parameter adjustment of the measurement loop. Click on **Instrument data**, then on **Parameter adjustment**. In the window “Selection of measurement loop - Parameter adjustment“, you can then select a measurement loop and confirm with **OK**.





In the window “Instrument data parameter adjustment“, you can click on the functions relevant for your measurement loop (e.g. when you have a measurement loop with VBUS-sensor, then only the button **Sensor optimisation** is active). Move through the functions **Adjustment** to **Additional Function**, and then return to the VVO-main window with **Quit**.



5 Diagnosis

5.1 Maintenance

The instrument is maintenance-free.

5.2 Status indication

The mode of the CPU and peripheral cards is indicated via the green and red LED in the front facia. We distinguish between:
- standard operation
- communication problems.

Standard operation

In standard operating condition only the green LED in the front facia lights on all module cards. The red/yellow LEDs on the AR and AT-card only signal the switching condition of the outputs.

Communication problems

Brief communication problems (up to 1 sec.) on the LOGBUS do not effect the status indication.

Hardware failure

Permanent lighting of the red LED means a hardware failure.

5.3 Failure removal

In order to detect the cause of the failure, please use the adjustment software VVO which gives you detailed information on the instrument condition in the menu point “Diagnosis“. Using this, you can take appropriate measures.

The diagnosis information is cyclically updated in a 5 sec-pattern.

5.4 Repair

For safety and guarantee reasons, repair of the instrument must only be carried out by VEGA-staff.

In case of defects, please return the appropriate instrument with a short description of the fault to our repair department.

6 Supplement

6.1 Visualisation

With the visualisation program Visual VEGA (VV), the measured values of the VEGA-processing systems can be shown in graphic and tabular form. Measured value and status information are transferred via the RS 232-interface of VEGACOM 557 or to VEGALOG CPU-card to the PC. These measurement loops can be collected into groups. Direct comparison of several measurement loops is then possible. Furthermore, levels and fault signals are displayed.

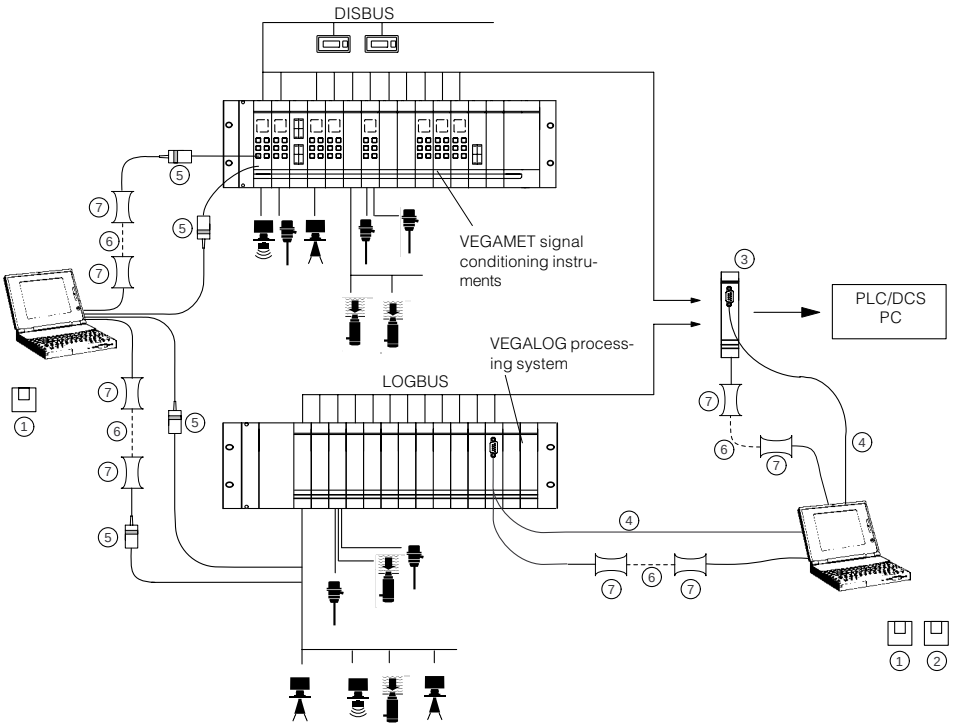
6.2 Communication

By means of the interface converter VEGACOM 557, measured data and status information of the CPU and the peripheral cards can be collected and transferred digitally. In order to do this, VEGACOM is plugged, like a VEGALOG-card, into the carrier and has direct access to the LOGBUS.

The collected data are converted to the following standard data formats:
- Siemens S5 (3964 R-procedure)
- MODBUS (RTU and ASCII)
- VEGA-ASCII
- Interbus S
- PROFIBUS FMS or DP.

It is, therefore, possible to integrate them easily into existing control systems.

6.3 Components for configuration



1 VEGA Visual Operating (VVO)
Adjustment software for the PC for easy configuration and parameter adjustment of VEGA-instruments.

- VEGALOG 571 directly via RS 232-connection cable to CPU-card or VEGACOM 557
- several VEGAMET (series 500) via VEGACOM 557 or individually via VEGACONNECT
- VEGASON, VEGAPULS via VEGACONNECT to the signal line or on the sensor

2 Visual VEGA
Visualisation software for the PC for graphic and tabular demonstration of measured values of VEGA-instruments.

The combining of several measurement loops to groups, saving of fault signals and measured values (recorder function).

Suitable for networks via Windows for Workgroups.

3 VEGACOM 557
Interface converter for conversion of VEGA-specific protocols into standard data formats.

Suitable for connection to the DISBUS-output of VEGAMET signal conditioning instruments series 500 or the LOGBUS of VEGALOG 571 processing system.

4 RS 232-connection cable
Connection cable between PC and VEGA-LOG 571 CPU or VEGACOM 557.

5 VEGACONNECT 2
Connection cable (interface converter) between VEGA-instruments (pressure transmitters, VEGASON, VEGAPULS, VEGAMET) and a PC in conjunction with the adjustment software VEGA Visual Operating.

6 Remote connection
Instead of the direct connection with RS 232-cable or VEGACONNECT 2 the connection can also be made via the telephone line (see operating instructions “Remote parameter adjustment“).

7 Modem
For remote parameter adjustment (adjustment via telephone line), a modem must be connected both on the PC and the side of the instrument.

VEGA

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The statements on types, application, use and operating conditions of the sensors and processing systems correspond to the actual knowledge at the date of printing.

Technical data subject to alteration.