

Signal conditioning instruments for level switches

Capacitive
Process pressure/Hydrostatic

VEGATOR 521, 527
VEGATOR 620, 621,
622
VEGASEL 643



Product Information



VEGA

Content

1	Product description	3
2	Type overview	4
3	Mounting instructions.	6
4	Connecting to power supply	
4.1	Preparing the connection	7
4.2	Wiring plan	7
5	Operation	
5.1	Adjustment elements - VEGATOR 521, 527	11
5.2	Adjustment elements - VEGATOR 620, 621, 622.	12
5.3	Adjustment elements - VEGASEL 643	14
6	Technical data	15
7	Dimensions.	19
8	Product code	20

Take note of safety instructions for Ex applications



Please note the Ex specific safety information that you can find on our homepage www.vega.com/services/downloads and that is also delivered with every instrument with Ex approval. In hazardous areas you should take note of the appropriate regulations, conformity and type approval certificates of the sensors and power supply units. Each VEGATOR with Ex approval is an appropriate intrinsically safe instrument and must not be installed in hazardous areas.

1 Product description

VEGATOR

VEGATOR signal conditioning instruments power the connected sensor, evaluate the sensor signal and output level-dependent switching signals via integrated relay outputs.

VEGATOR 521, 527, 620, 621 and 622 signal conditioning instruments are suitable for level detection in conjunction with continuously measuring sensors with 4 ... 20 mA output, e.g. capacitive probes or pressure transmitters.

They detect for example if a certain level is reached in a vessel and transfer it to the VEGATOR signal conditioning instrument to output a switching signal.

VEGASEL

VEGASEL auxiliary level switches in combination with a continuously measuring sensor and a VEGAMET signal conditioning instrument also provide a switching point for level detection.

Application range

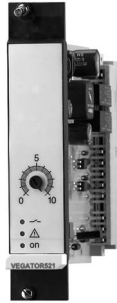
The instruments are mainly used for level detection or pump control.

The different signal conditioning instruments have various mounting options.

- Carrier rail mounting: VEGATOR 620, 621, 622, VEGASEL 643
- Wall mounting: VEGATOR 620, 621, 622, VEGASEL 643
- 19" carrier: VEGATOR 521, 527
- Single housing (type 505): VEGATOR 521, 527

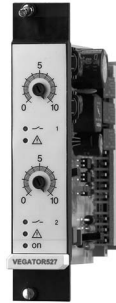
2 Type overview

VEGATOR 521



Applications: Single level detection
 Sensor input: 1 x sensor input
 Hysteresis: Fixed
 Outputs: 1 x level relay, 1 x level transistor, 1 x fail safe relay, 1 x fail safe transistor
 Indication on the instrument: 1 x control lamp for indication of the relay condition, 1 x fault signal lamp
 Approval: ATEX, WHG

VEGATOR 527



Applications: Double level detection, double two-point control
 Sensor input: 2 x sensor input, 1 x switching input
 Hysteresis: Fixed (through sensor installation)
 Outputs: 2 x level relay, 2 x level transistor, 1 x fail safe relay, 1 x fail safe transistor
 Indication on the instrument: 2 x control lamps for indication of the relay conditions, 2 x fault signal lamps
 Approval: ATEX, WHG

VEGATOR 620



Applications: Level detection, overfill protection, dry run protection
 Sensor input: 1 x sensor input, 1 x switching input
 Hysteresis: Fixed
 Outputs: 1 x level relay, 1 x level transistor
 Indication on the instrument: 1 x control lamp for indication of the relay condition, 1 x fault signal lamp
 Approval: -

VEGATOR 621



Applications: Level detection, overfill protection, dry run protection
 Sensor input: 1 x sensor input, 1 x switching input
 Hysteresis: Fixed
 Outputs: 1 x level relay, 1 x level transistor
 Indication on the instrument: 1 x control lamp for indication of the relay condition, 1 x fault signal lamp
 Approval: ATEX, WHG, ship approval

VEGATOR 622



Applications: Two-point control, overfill protection, dry run protection
 Sensor input: 1 x sensor input, 1 x two-point control adjustable
 Outputs: 1 x level relay, 1 x level transistor
 Indication on the instrument: 1 x control lamp for indication of the relay condition, 1 x fault signal lamp
 Approval: ATEX, WHG, ship approval

VEGASEL 643

Applications:	Level detection, overflow protection, dry run protection
Sensor input:	1 x current input, 1 x voltage input, 1 x switching input
Hysteresis	adjustable
Outputs:	1 x level relay, 1 x level transistor
Indication on the instrument:	1 x control lamp for indication of the relay condition, 1 x fault signal lamp
Approval	-

3 Mounting instructions

3.1 VEGATOR 521, 527

Series 500 signal conditioning instruments offer the following installation and mounting options:

- Mounting in single housing type 505 Ex
- Mounting in carrier rail BGT596 (Ex)

Mounting in single housing type 505 Ex

The socket of the single housing type 505 Ex can either be screwed directly to the mounting plate or plugged onto a carrier rail 35 x 7.5 according to EN 50022 or TS32 according to EN 50035.

You can find further information on mounting in the operating instructions manual of the single housing type 505 Ex.



VEGATOR series 500 sensors in Ex version are auxiliary, intrinsically safe instruments and must not be installed in hazardous areas.

Mounting in carrier rail BGT596 (Ex)

Mount the respective module (standard or Ex version) on your carrier BGT596 or BGT596 Ex.

The female multipoint connector is available in the following connection versions:

- Wire-Wrap standard connection 1 x 1 mm
- Plug connection 2,8 x 0.8 mm
- Termi-Point standard connection 1,6 x 0.8 mm
- Soldering connection
- Screw terminals 2 x 0.5 mm²

You can find further information on mounting in the operating instructions manual of the carrier.



When you are mounting the signal conditioning instrument with Ex approval in a carrier, you have to use a VEGA Ex module.

In Ex applications, a protection of IP 20 must be maintained. Cover the gaps or free modules from the front with appropriate blind covers.

Keep a distance of at least 2 TE (10 mm/0.4 in) from the module cards of other manufacturers.

If you want to mount a VEGATOR of series 500 in the complete left position in the carrier, you have to mount a blind cover with at least 4 TE (20 mm/0.8 in) in front of the module of the signal conditioning instrument.

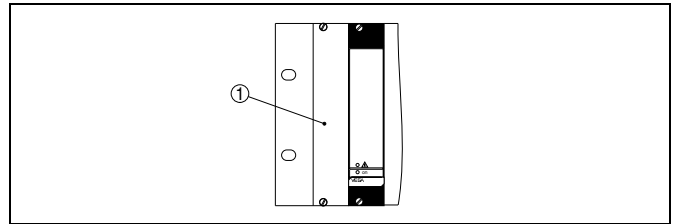


Fig. 1: Distance to the carrier side

1 Blind cover

Instrument coding

All series 500 signal conditioning instruments are provided with different gaps depending on type and version (mechanical coding).

The module is provided with coded pins that can be inserted to prevent accidental interchanging of the various instrument types.

3.2 VEGATOR 620, 621, 622, VEGASEL 643

Installation location

Each series 600 signal conditioning instrument consists of the actual signal conditioning instrument as well as a plug-in socket for carrier rail mounting. Because it has protection class IP 30 or IP 20, the instrument is intended to be used in switching cabinets.



VEGATOR or VEGASEL in Ex version is an auxiliary, intrinsically safe instrument and must not be installed in hazardous areas.

The Ex separating chamber must be plugged in before starting with the setup of the Ex versions of series 600 signal conditioning instruments. The instrument must not be opened.

Mounting

The plug-in socket is constructed for carrier rail mounting according to EN 50022. Power supply is connected to the respective terminals. For neighbouring series 600 signal conditioning instruments, it is possible to continue connection L1 and N directly via the supplied bridges.

Instrument coding

All series 600 signal conditioning instruments are provided with different gaps depending on type and version (mechanical coding).

The module is provided with coded pins that can be inserted to prevent accidental interchanging of the various instrument types.

4 Connecting to power supply

4.1 Preparing the connection

Note safety instructions

Always keep in mind the following safety instructions:

- Connect only in the complete absence of line voltage
- If overvoltage surges are expected, overvoltage arresters should be installed

Take note of safety instructions for Ex applications



In hazardous areas you should take note of the appropriate regulations, conformity and type approval certificates of the sensors and power supply units.

Select power supply

With VEGATOR 521 and 527, the voltage supply can be 20 ... 253 V AC or 20 ... 72 V DC.

With VEGATOR 620, 621, 622 and VEGASEL 643 the voltage supply can be 20 ... 253 V AC, 50/60 Hz or 20 ... 72 V DC.

Selecting connection cable

Power supply of VEGATOR is connected with standard cable according to the national installation standards.

Standard two-wire cable without screening can be used to connect sensors. If electromagnetic interference is expected, screened cable must be used.

Cable screening and grounding

Connect the cable screen on both ends to ground potential. In the sensor, the screen must be connected directly to the internal ground terminal. The ground terminal outside on the housing must be connected to the potential equalisation.

If potential equalisation currents are expected, the screen connection on VEGATOR must be made via a ceramic capacitor (e. g. 1 nF, 1500 V). The low frequency potential equalisation currents are thus suppressed, but the protective effect against high frequency interference signals remains.

Select connection cable for Ex applications



Take note of the corresponding installation regulations for Ex applications. In particular, make sure that no potential equalisation currents flow over the cable screen. In case of grounding on both sides this can be achieved by the use of a capacitor or a separate potential equalisation.



Keep in mind that with Ex versions the Ex separating chamber (above the sensor terminals) must be attached before setup.

4.2 Wiring plan

VEGATOR 521

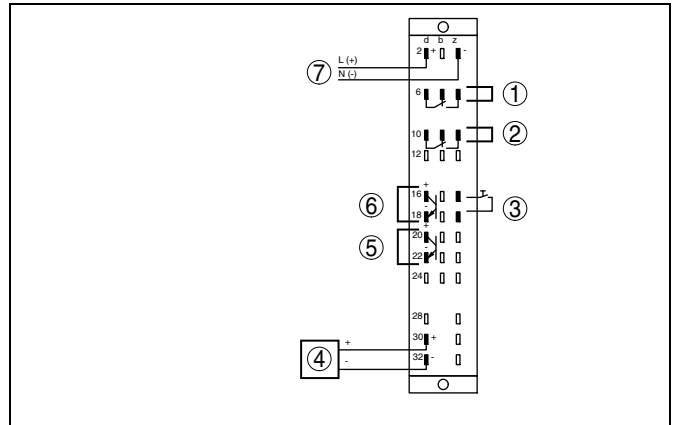


Fig. 2: Wiring plan - VEGATOR 521

- 1 Fail safe relay
- 2 Relay output (limit level)
- 3 Reset of alarm functions
- 4 Sensor input
- 5 Transistor output (limit level)
- 6 Fail safe transistor
- 7 Voltage supply

VEGATOR 527

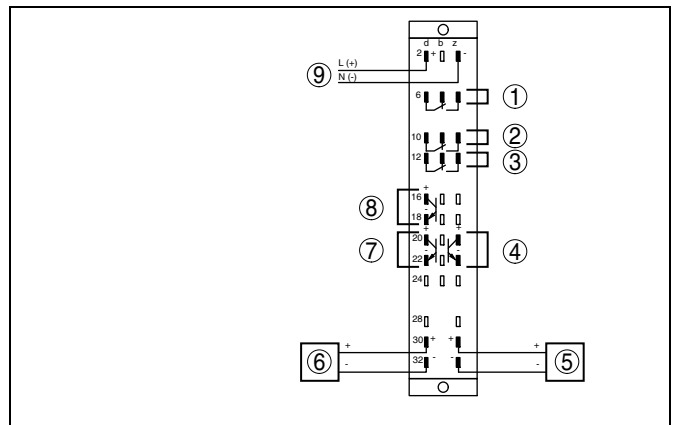


Fig. 3: Wiring plan - VEGATOR 527

- 1 Fail safe relay
- 2 Relay output 1 (limit level 1)
- 3 Relay output 2 (limit level 2)
- 4 Transistor output 2 (limit level 2)
- 5 Sensor input 2
- 6 Sensor input 1
- 7 Transistor output 1 (limit level 1)
- 8 Fail safe transistor
- 9 Voltage supply

VEGATOR 620

VEGATOR 621

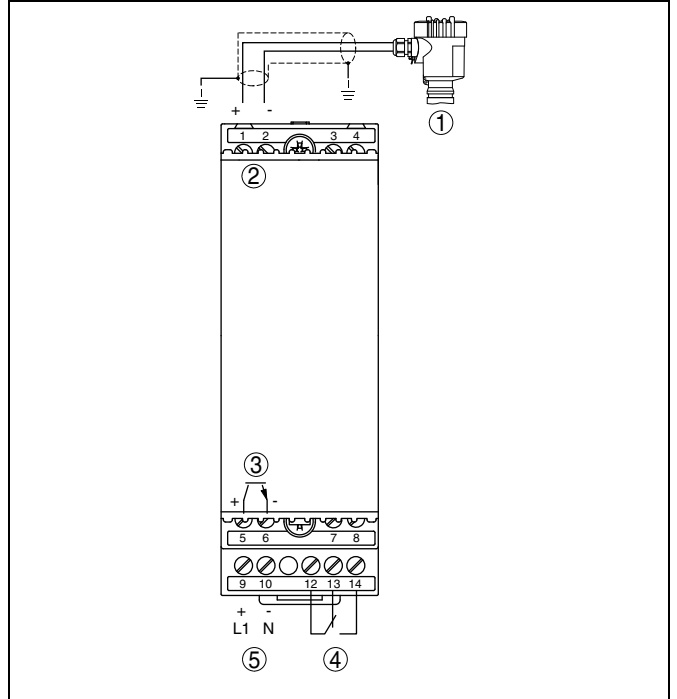
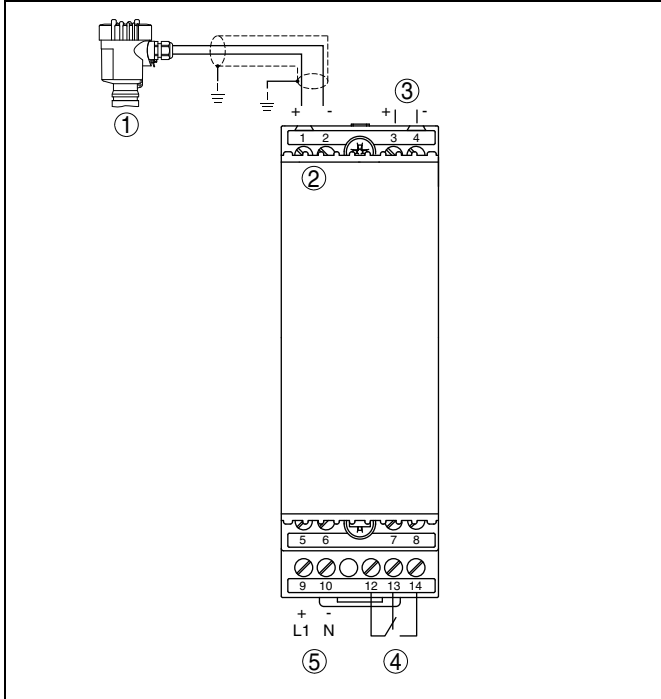


Fig. 4: Wiring plan - VEGATOR 620

Fig. 5: Wiring plan - VEGATOR 621

- 1 Sensor
- 2 Sensor input
- 3 Current input, passive
- 4 Relay output
- 5 Supply voltage

- 1 Sensor
- 2 Sensor input
- 3 Transistor output
- 4 Relay output
- 5 Supply voltage

VEGATOR 622

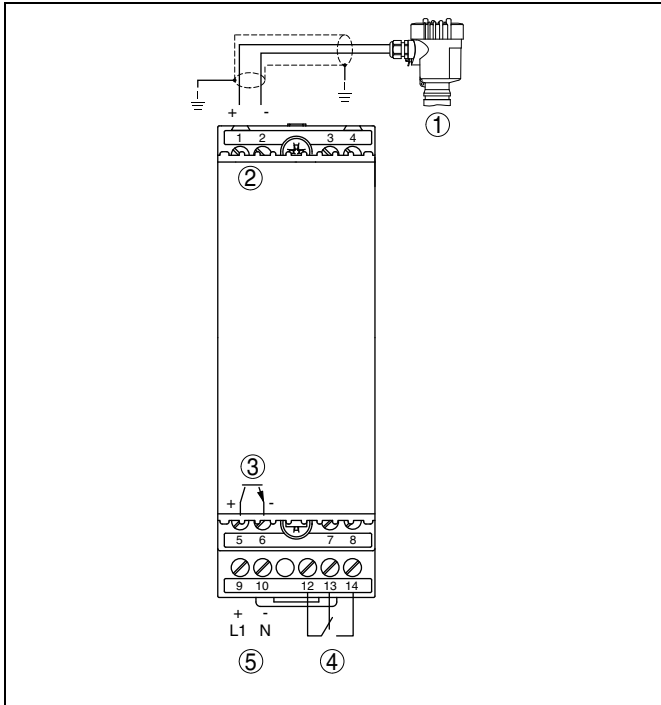


Fig. 6: Wiring plan - VEGATOR 622

- 1 Sensor
- 2 Sensor input
- 3 Transistor output
- 4 Relay output
- 5 Supply voltage

VEGASEL 643

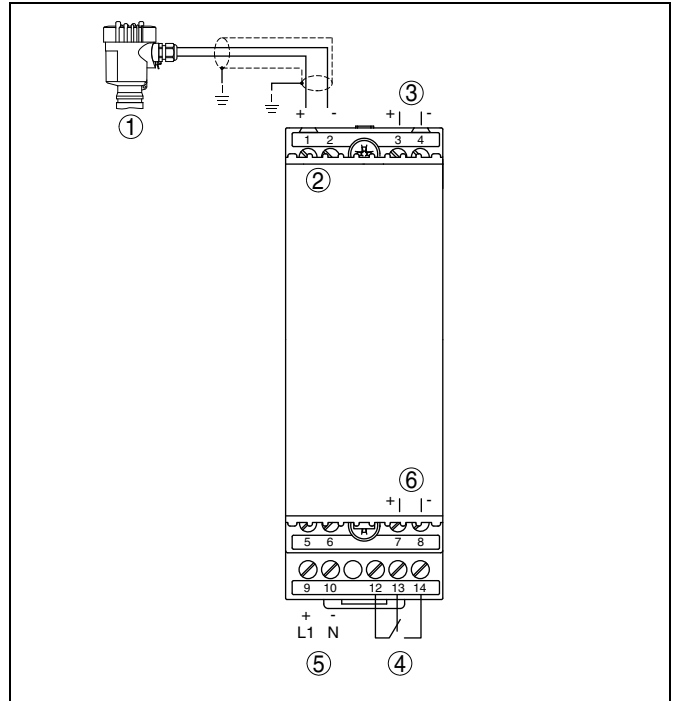


Fig. 7: Wiring plan - VEGASEL 643

- 1 Sensor
- 2 Sensor input
- 3 Current input, passive
- 4 Relay output
- 5 Supply voltage
- 6 Voltage input, passive

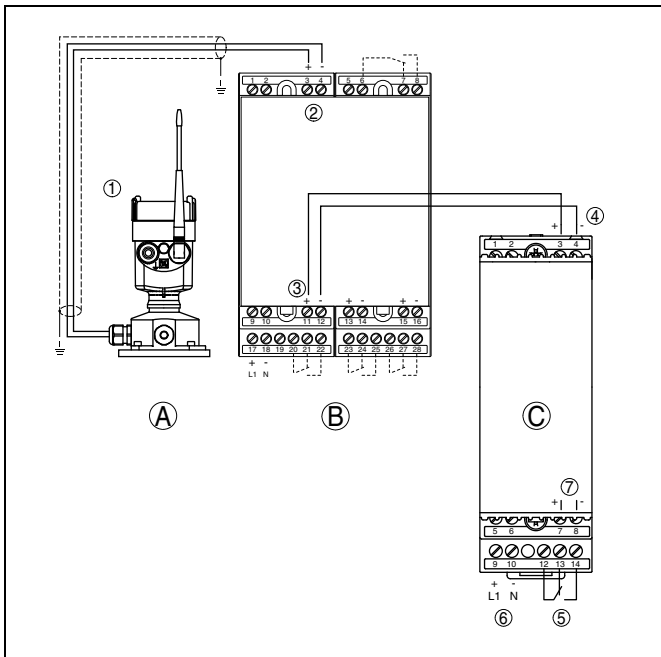


Fig. 8: Wiring plan - VEGASEL 643 as auxiliary level switch on a PLICSRADIO C62

- A PLICSRADIO R62
- B PLICSRADIO C62
- C VEGASEL 643
- 1 PLICSRADIO R62
- 2 Connection to PLICSRADIO R62
- 3 Internal current output (PLICSRADIO C62)
- 4 Current input, passive
- 5 Relay output
- 6 Supply voltage
- 7 Voltage input, passive

5 Operation

5.1 Adjustment elements - VEGATOR 521, 527

VEGATOR 521

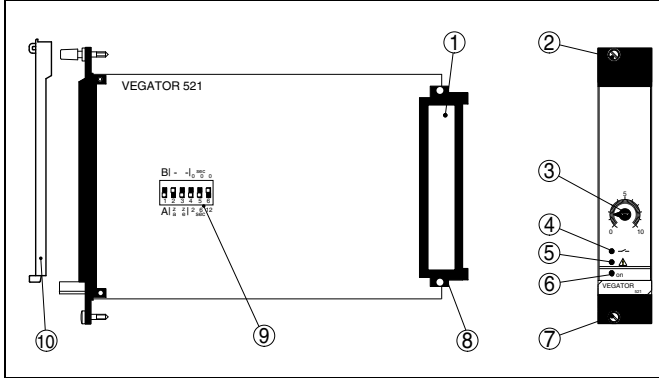


Fig. 9: Indicating and adjustment elements - VEGATOR 521

- 1 Wiring plan
- 2 Fixing screw (lead-sealable)
- 3 Potentiometer
- 4 Control lamp - level relay
- 5 Control lamp - Fault signal
- 6 Control lamp - power supply
- 7 Fixing screw
- 8 Connection plug board
- 9 DIL switch block
- 10 Transparent cover

VEGATOR 527

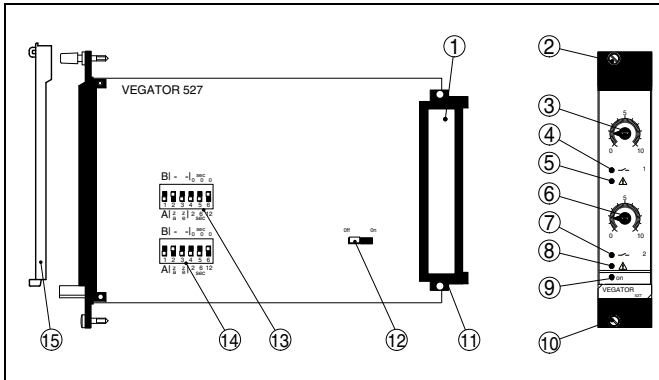


Fig. 10: Indicating and adjustment elements - VEGATOR 527

- 1 Wiring plan
- 2 Fixing screw (lead-sealable)
- 3 Potentiometer - Channel 1
- 4 Control lamp - Level relay 1
- 5 Control lamp - Fault signal channel 1
- 6 Potentiometer - Channel 2
- 7 Control lamp - Level relay 2
- 8 Control lamp - Fault signal channel 2
- 9 Control lamp - power supply
- 10 Fixing screw
- 11 Connection plug board
- 12 Switch - min./max. control
- 13 DIL switch block - channel 1
- 14 DIL switch block - channel 2
- 15 Transparent cover

Control lamps

Control lamps (LED) in the front plate indicate operation, switching status and fault signal.

- Green
 - Operating control lamp
 - Mains voltage on, instrument is operating
- Red
 - Failure lamp
 - Fault on the sensor circuit due to sensor failure or line break
 - If the fail safe relay is deenergized, the red failure lamp will light
- Yellow
 - Relay control lamp
 - The yellow relay control lamp reacts depending on the set mode (A/B)
 - Generally the relay control lamp shows the activated (energized) condition of the relay
 - A dark relay control lamp means that the relay is deenergised (transistor blocks)

DIL switch - Mode

A DIL switch block with 6 switches per channel is located on the circuit board of the signal conditioning instrument

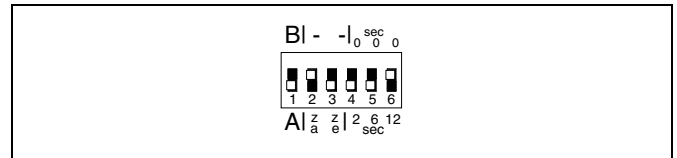


Fig. 11: DIL switch block

The individual switches are allocated as follows:

- 1 - A/B mode
 - A - Max. detection or overflow protection
 - B - Min. detection or dry run detection
- 2 - Switch off delay (za)
- 3 - Switch on delay (ze)
- 4 - Switching delay 2 s
- 5 - Switching delay 6 s
- 6 - Switching delay 12 s

With switch 1 you can adjust the mode (A - overflow protection or B - dry run protection).



Information:

Adjust the requested mode by inserting VEGATOR because the switches are no longer accessible in mounted condition.

With switch 2 and 3 you can set switch off and/or switch on delays independent from each other.

The delay refers to the switching function of the relay and transistor outputs.

In the following example, mode A (max. detection of overflow protection) is selected (switch 1). The switch on delay is activated (switch 3) and the switching delay is set to 8 seconds (switch 4, 5 and 6).

With switches 4, 5 and 6 you can adjust the switching delay respectively. The times of the activated time switches accumulate. If the switch on (ze) and switch off delay (za) are switched on together, the set time applies to both delay modes. Hence the relay deenergises with 8 seconds delay time when the switching point is reached.

Information:
Keep in mind that the switching delay of the sensor and signal conditioning instrument accumulate.

Potentiometer

You can infinitely adjust the switching point of the respective channel with the corresponding potentiometer.

Switch - min./max. control (only with VEGATOR 527)

The switch min./max. control is used for linking both channels (sensor inputs) to one common min./max. signal. So you can realise a pump control.

Fault monitoring

The measuring system is continuously monitored. The following criteria are checked:

- Two-wire cable on line break and shortcircuit
- Interruption of the connection cable to the piezo elements
- Corrosion or damage of the tuning fork (vibrating rod)
- Break of the tuning fork (vibrating rod)
- loss of vibration
- Too low vibrating frequency
- Medium penetrating from the vessel side into the sensor

5.2 Adjustment elements - VEGATOR 620, 621, 622

VEGATOR 620

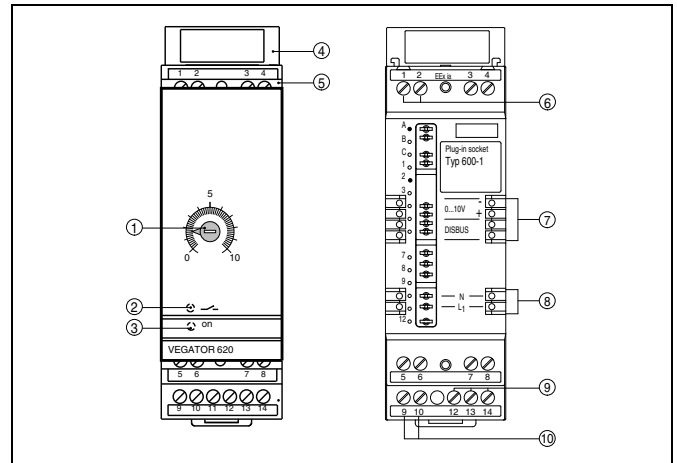


Fig. 12: Indicating and adjustment elements - VEGATOR 620

- 1 Potentiometer
- 2 Control lamp (LED) - level relay
- 3 Control lamp (LED) - power supply
- 4 Ex separating chamber
- 5 Terminals - Passive current input
- 6 Terminals - Sensor input
- 7 Sockets for bridges
- 8 Sockets for bridges - Supply voltage
- 9 Terminals - Relay output
- 10 Terminals - Supply voltage

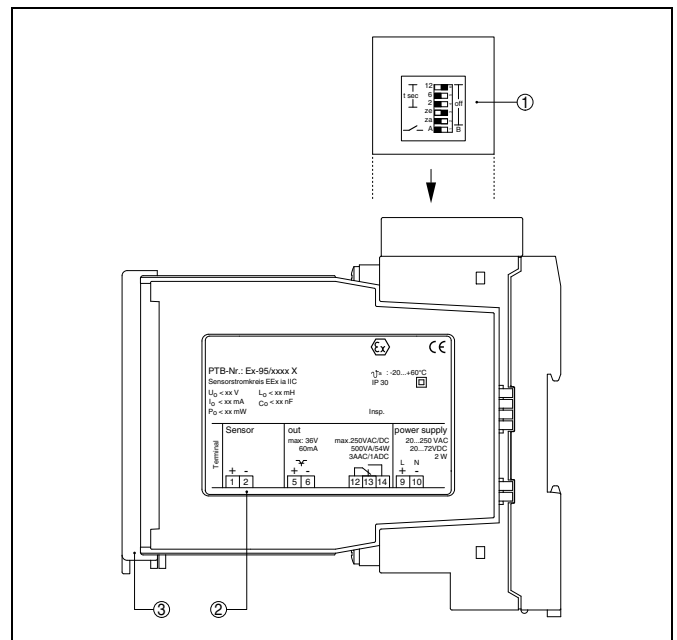


Fig. 13: Indicating and adjustment elements - VEGATOR 620, 621, 622

- 1 DIL switch block
- 2 Type label
- 3 Transparent cover

VEGATOR 621

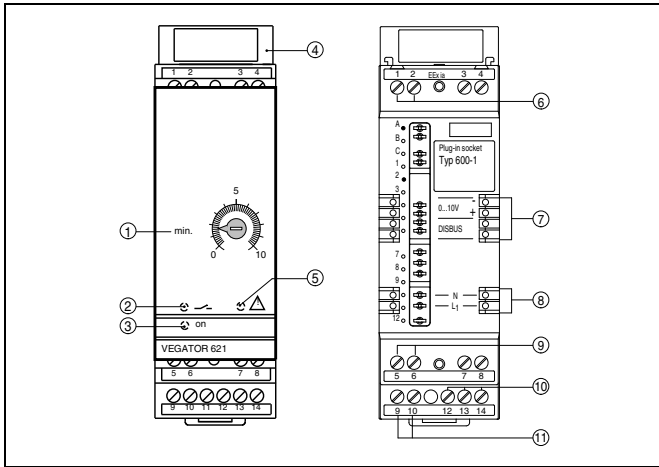


Fig. 14: Indicating and adjustment elements - VEGATOR 621

- 1 Potentiometer
- 2 Control lamp (LED) - level relay
- 3 Control lamp (LED) - power supply
- 4 Ex separating chamber
- 5 Control lamp (LED) - Fault signal
- 6 Terminals - Sensor input
- 7 Sockets for bridges
- 8 Sockets for bridges - Supply voltage
- 9 Terminals - Transistor output
- 10 Terminals - Relay output
- 11 Terminals - Supply voltage

VEGATOR 622

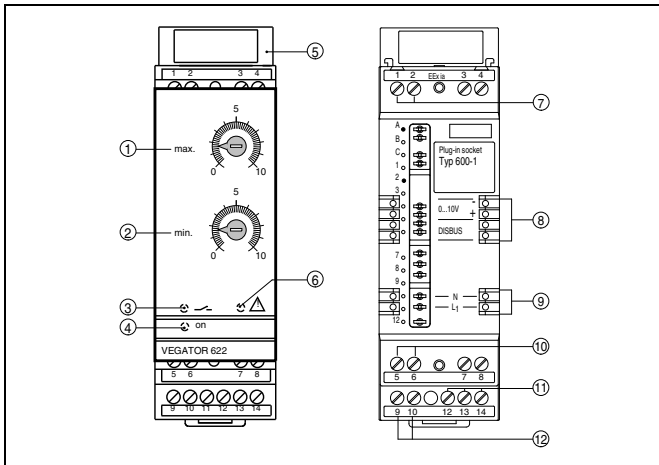


Fig. 15: Indicating and adjustment elements - VEGATOR 622

- 1 Potentiometer - Max. switching point
- 2 Potentiometer - Min. switching point
- 3 Control lamp (LED) - Level relay
- 4 Control lamp (LED) - Voltage supply
- 5 Ex separating chamber
- 6 Control lamp (LED) - Fault signal
- 7 Terminals - Sensor input
- 8 Sockets for bridges
- 9 Sockets for bridges - Supply voltage
- 10 Terminals - Transistor output
- 11 Terminals - Relay output
- 12 Terminals - Supply voltage

Control lamps

Control lamps (LED) in the front plate indicate operation, switching status and fault signal.

- Green
 - Operating control lamp
 - Mains voltage on, instrument is operating
- Red (VEGATOR 621, 622)
 - Failure lamp
 - Fault on the sensor circuit due to sensor failure or line break
 - If the fail safe relay is deenergized, the red failure lamp will light
- Yellow
 - Relay control lamp
 - The yellow relay control lamp reacts depending on the set mode (A/B)
 - Generally the relay control lamp shows the activated (energized) condition of the relay
 - A dark relay control lamp means that the relay is deenergised (transistor blocks)

DIL switch block

Laterally on top (covered in mounted condition) there is a DIL switching block with six switches.

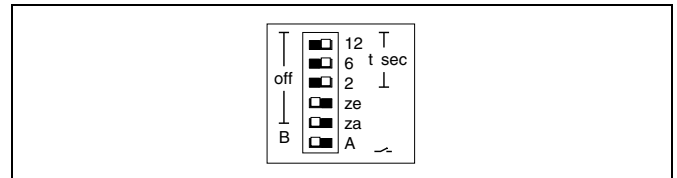


Fig. 16: DIL switch block - VEGATOR 620

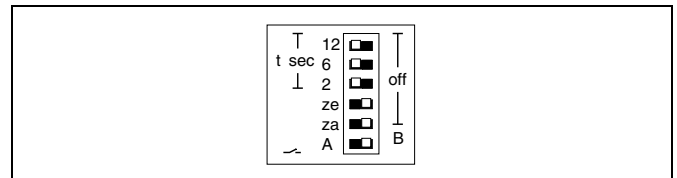


Fig. 17: DIL switch block - VEGATOR 621, 622

The individual switches are allocated as follows:

- 1 - A/B mode
 - A - Max. detection or overflow protection
 - B - Min. detection or dry run detection
- 2 - Switch off delay (za)
- 3 - Switch on delay (ze)
- 4 - Switching delay 2 s
- 5 - Switching delay 6 s
- 6 - Switching delay 12 s

With switch 1 you can adjust the mode (A - overfill protection or B - dry run protection).

With switches 2 and 3 you can set switch off and/or switch on delays independent of each other.

The delay refers to the switching function of the relay.

In the example (see previous illustration), mode A (max. detection of overflow protection) is selected (switch 1). The switch off delay is activated (switch 2) and the switching delay is set to 8 seconds (switch 4, 5 and 6).

With switches 4, 5 and 6 you can adjust the switching delay. The times of the activated time switches accumulate. If the switch on (ze) and switch off delay (za) are switched on together, the set time applies to both delay modes.

Hence the relay deenergises with 8 seconds delay time when the switching point is reached.



Information:

Keep in mind that the switching delay of the sensor and signal conditioning instrument accumulate.

Potentiometer

You can change the respective switching point infinitely with the corresponding potentiometer.

Fault monitoring (VEGATOR 621, 622)

The measuring system is continuously monitored. The following criteria are checked:

- Two-wire cable on line break and shortcircuit
- Medium penetrating from the vessel side into the sensor

5.3 Adjustment elements - VEGASEL 643

VEGASEL 643

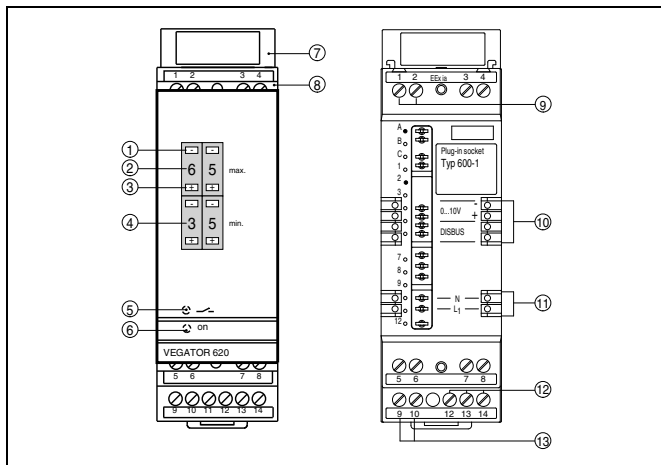


Fig. 18: Indicating and adjustment elements - VEGASEL 643

- 1 Switch for value falling
- 2 Coding switch for max. switching point
- 3 Switch for value rising
- 4 Coding switch for min. switching point
- 5 Control lamp (LED) - Level relay
- 6 Control lamp (LED) - Voltage supply
- 7 Ex separating chamber
- 8 Terminals - Passive current input
- 9 Terminals - Sensor input
- 10 Sockets for bridges
- 11 Sockets for bridges - Supply voltage
- 12 Terminals - Relay output
- 13 Terminals - Supply voltage

Control lamps

Control lamps (LED) in the front plate indicate operation and switching status.

- Green
 - Operating control lamp
 - Mains voltage on, instrument is operating
- Yellow
 - Relay control lamp
 - The yellow relay control lamp reacts depending on the set mode (A/B)
 - Generally the relay control lamp shows the activated (energized) condition of the relay
 - A dark relay control lamp means that the relay is deenergised.

DIL switch block

Laterally on top (covered in mounted condition) there is a DIL switching block with two switches.

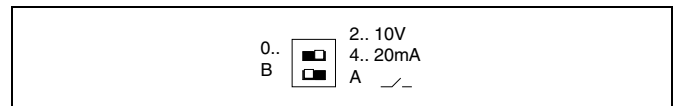


Fig. 19: DIL switch block - VEGASEL 643

The individual switches are allocated as follows:

- 1 - A/B mode
 - A - Max. detection or overflow protection
 - B - Min. detection or dry run detection
- 2 - Current input / Voltage output

With switch 1 you can adjust the mode (A - overflow protection or B - dry run protection).

With switch 2 you can adjust the current input and the voltage output.

- Current input 0 ... 20 mA and voltage output 0 ... 10 V
- Current input 4 ... 20 mA and voltage output 2 ... 10 V

Coding switch

With the two coding switches on the instrument front you can adjust the switching hysteresis.

The figures are in percent and refer to the current and voltage input. With the keys (+ and -) you can adjust the requested value in 1 % and 10 % steps.

6 Technical data

General data

VEGATOR 521, 527

Series	19" module card, multipoint connector according to DIN 41612, including transparent cover (lockable)
Weight	150 g (5.3 oz)

VEGATOR 620, 621, 622, VEGASEL 643

Series	Module unit with plug-in socket for mounting on carrier rail 35 x 7.5 or 35 x 5 according to EN 50022
Weight	170 g (6 oz)
Housing material	Noryl SE100, Lexan 920A
Socket material	Noryl SE100, Noryl SE1 GFN3

Voltage supply

VEGATOR 521, 527

Supply voltage	20 ... 253 V AC, 50/60 Hz, 20 ... 72 V DC
Max. power consumption	4 VA

VEGATOR 620, 621, 622

Supply voltage	20 ... 253 V AC, 50/60 Hz, 20 ... 72 V DC
Max. power consumption	3 W (3 ... 18 VA)

VEGASEL 643

Supply voltage	20 ... 253 V AC, 50/60 Hz, 20 ... 72 V DC
Max. power consumption	1.7 W (4.5 VA)

Sensor input

VEGATOR 521, 527

Quantity	
– VEGATOR 521	1 sensor input
– VEGATOR 527	2 sensor inputs
Data transmission	Analogue
Switching threshold	Adjustable, 4 ... 20 mA
Current limitation	24 mA (permanently short-circuit proof)
Sensor power supply	15 ... 18 V DC
Detection line break	≤ 3.6 mA
Detection shortcircuit	≥ 21 mA
Connection cable	2-wire
Resistance per wire	max. 35 Ω

VEGATOR 620

Quantity	1 active two-wire input (4 ... 20 mA), 1 passive two-wire input (4 ... 20 mA)
Data transmission	Analogue
Hysteresis	80 μA
Switching threshold	12 mA
Current limitation	24 mA (permanently short-circuit proof)
Sensor power supply	24 V DC
Detection line break	≤ 3.6 mA
Detection shortcircuit	≥ 21 mA
Connection cable	2-wire
Resistance per wire (max.)	250 Ω

VEGATOR 621, 622

Quantity	1 active two-wire input (4 ... 20 mA)
Data transmission	Analogue
Hysteresis	
– VEGATOR 621	80 μA
– VEGATOR 622	80 ... 16000 μA
Switching threshold	12 mA
Current limitation	24 mA (permanently short-circuit proof)

Sensor power supply	15 ... 18 V DC
Detection line break	≤ 3.6 mA
Detection shortcircuit	≥ 21 mA
Connection cable	2-wire
Resistance per wire	max. 35 Ω
VEGASEL 643	
Quantity	1 active two-wire input (4 ... 20 mA), 1 passive two-wire input (4 ... 20 mA), 1 passive voltage input (0/2 ... 10 V DC)
Data transmission	Analogue
Hysteresis	1 %
Switching threshold	Adjustable via coding switch
Current limitation	25 mA (permanently short-circuit proof)
Sensor power supply	15 ... 18 V DC
Connection cable	2-wire
Resistance per wire	max. 35 Ω
Resistance per wire	
– Current input	max. 35 Ω
– Voltage input	max. 100 Ω
Temperature error	0.05 %/10 K of range
Switching point error	0.5 % of the adjusted switching point

Relay output

VEGATOR 521, 527, VEGASEL 643

Number, function	
– VEGATOR 521	1 x switching relay (spdt), 1 x fail safe relay (spdt)
– VEGATOR 527	2 x switching relay (spdt), 1 x fail safe relay (spdt)
– VEGASEL 643	1 x switching relay (spdt)
Switching delay	0.2 ... 20 s, directional switching
Mode	A/B switch (A - max. detection or overflow protection, B - min. detection or dry run protection)
Contact	1 x spdt
Contact material	AgNi 0.15 hard gold-plated
Turn-on voltage	≥ 10 mV DC, ≤ 253 V AC/DC
Switching current	≥ 10 μ A DC, ≤ 3 A AC, 1 A DC
Breaking capacity	≤ 500 VA, ≤ 54 W DC

VEGATOR 620, 621, 622

Number, function	1 x switching relay (spdt)
Switching delay	0.2 ... 20 s, directional switching
Mode	A/B switch (A - max. detection or overflow protection, B - min. detection or dry run protection)
Contact	1 x spdt
Contact material	AgNi 0.15 hard gold-plated
Turn-on voltage	≥ 10 mV DC, ≤ 253 V AC/DC
Switching current	≥ 10 μ A DC, ≤ 3 A AC, 1 A DC
Breaking capacity	≤ 500 VA, ≤ 54 W DC

Transistor output

VEGATOR 521, 527

Number, function	
– VEGATOR 521	1 output, synchronously switching with the relay
– VEGATOR 527	2 outputs, synchronously switching with the relays
Galvanic separation	Floating
Maximum values	
– U_B	36 V DC
– I_B	≤ 60 mA
Transistor voltage loss (U_{CE})	approx. 1.5 V at I_B 60 mA
Inverse current (I_o)	≤ 10 μ A

VEGATOR 621

Number, function	1 output, synchronously switching with the relay
------------------	--

Galvanic separation

Maximum values

- U_B
- I_B
- Transistor voltage loss (U_{CE})
- Inverse current (I_0)

Floating

- 36 V DC
- ≤ 60 mA, short-circuit proof
- approx. 1.5 V at I_B 60 mA
- ≤ 10 μ A

Adjustment elements

VEGATOR 521, 527

- DIL switch for preadjustment of the switching delay time and mode
- Potentiometer For adjustment of the switching points
- Switch - min./max. control (VEGATOR 527) for linking of sensor inputs
- Control lamps in the front plate
 - Status indication operating voltage Signal lamp green (LED)
 - Status indication fault signal Signal lamp red (LED)
 - Status indication switching point control Signal lamp yellow (LED)

VEGATOR 620, 621, 622

- DIL switch block for preadjustment of the switching delay time and mode
- Potentiometer For adjustment of the switching points
- Control lamps in the front plate
 - Status indication operating voltage Signal lamp green (LED)
 - Status indication fault signal (VEGATOR 621, 622) Signal lamp red (LED)
 - Status indication switching point control Signal lamp yellow (LED)

VEGASEL 643

- DIL switch block For preadjustment of current input/voltage output and mode
- Coding switch For adjustment of the switching points
- Control lamps in the front plate
 - Status indication operating voltage Signal lamp green (LED)
 - Status indication switching point control Signal lamp yellow (LED)

Ambient conditions

- Ambient temperature -20 ... +60 °C (-4 ... +140 °F)
- Storage and transport temperature -40 ... +70 °C (-40 ... +158 °F)

Electromechanical data

VEGATOR 521, 527

- Electrical connection
 - Carrier BGT596 Ex 33-pole multipoint connector, series F (d, b, z) with coding holes
 - Housing type 505 Ex Screw terminal for wire cross-section up to 1.5 mm² (AWG 16)

VEGATOR 620, 621, 622, VEGASEL 643

- Screw terminals for wire cross-section up to 1.5 mm² (AWG 16)

Electrical protective measures

VEGATOR 521, 527

- Protection
 - Signal conditioning instrument - not mounted IP 00
 - mounted into BGT596 Ex - front side (completely equipped) IP 30
 - mounted into BGT596 Ex - upper and lower side IP 20
 - mounted into BGT596 Ex - wiring side IP 00
 - mounted into housing type 505 Ex IP 30
- Overvoltage category II
- Protection class II

35133-EN-080827

VEGATOR 620, 621, 622, VEGASEL 643

Protection

– Signal conditioning instrument

IP 30

– Terminal socket

IP 20

Overvoltage category

II

Protection class

II

Electrical separating measures

reliable separation (VDE 0106, part 1) between power supply, sensor input, level relay and transistor output

Approvals**VEGATOR 521, 527**

ATEX

ATEX II (1) GD [EEx ia] IIC/IIB

Others

WHG

VEGATOR 621, 622

ATEX

ATEX II (1) GD [EEx ia] IIC

Others

WHG

Ship approval

7 Dimensions

VEGATOR 521, 527

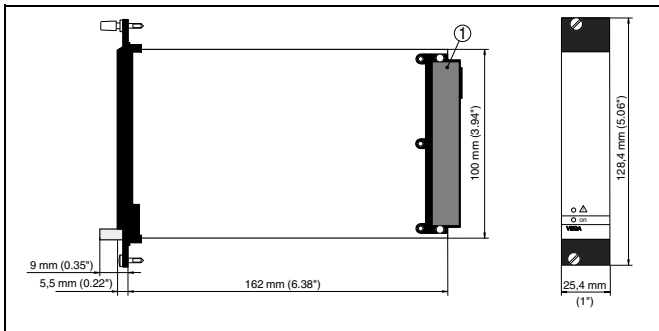


Fig. 20: VEGATOR 521, 527

1 Male multipoint connector

VEGATOR 620, 621, 622, VEGASEL 643

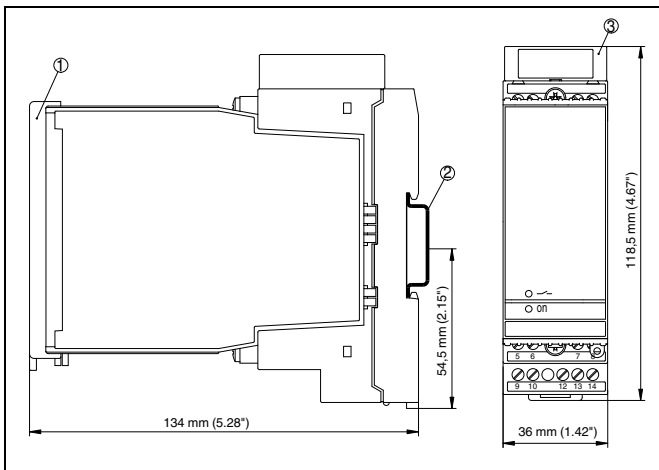
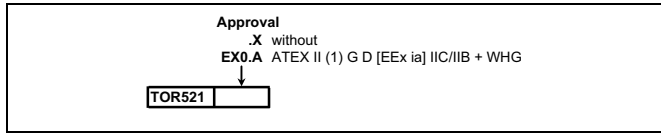


Fig. 21: VEGATOR 620, 621, 622, VEGASEL 643

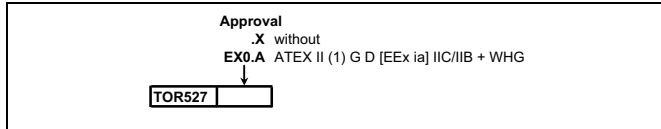
- 1 Transparent cover
- 2 Carrier rail 35 x 7.5 or 35 x 15 according to EN 50022
- 3 Ex separating chamber

8 Product code

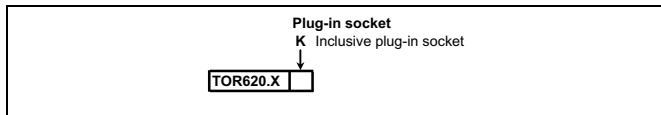
VEGATOR 521



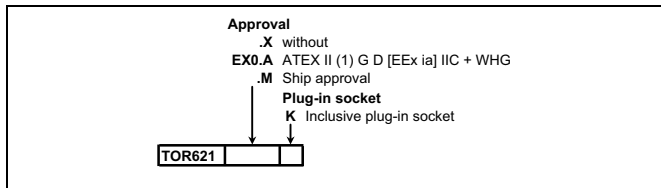
VEGATOR 527



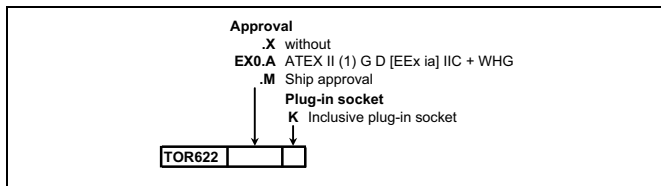
VEGATOR 620



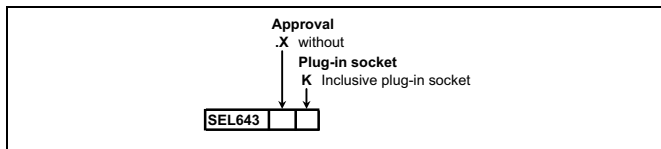
VEGATOR 621



VEGATOR 622



VEGASEL 643





VEGA

VEGA Grieshaber KG
Am Hohenstein 113
77761 Schiltach
Germany
Phone +49 7836 50-0
Fax +49 7836 50-201
E-Mail: info@de.vega.com
www.vega.com



You can find at www.vega.com
downloads of the following

- operating instructions manuals
- menu schematics
- software
- certificates
- approvals

and much, much more