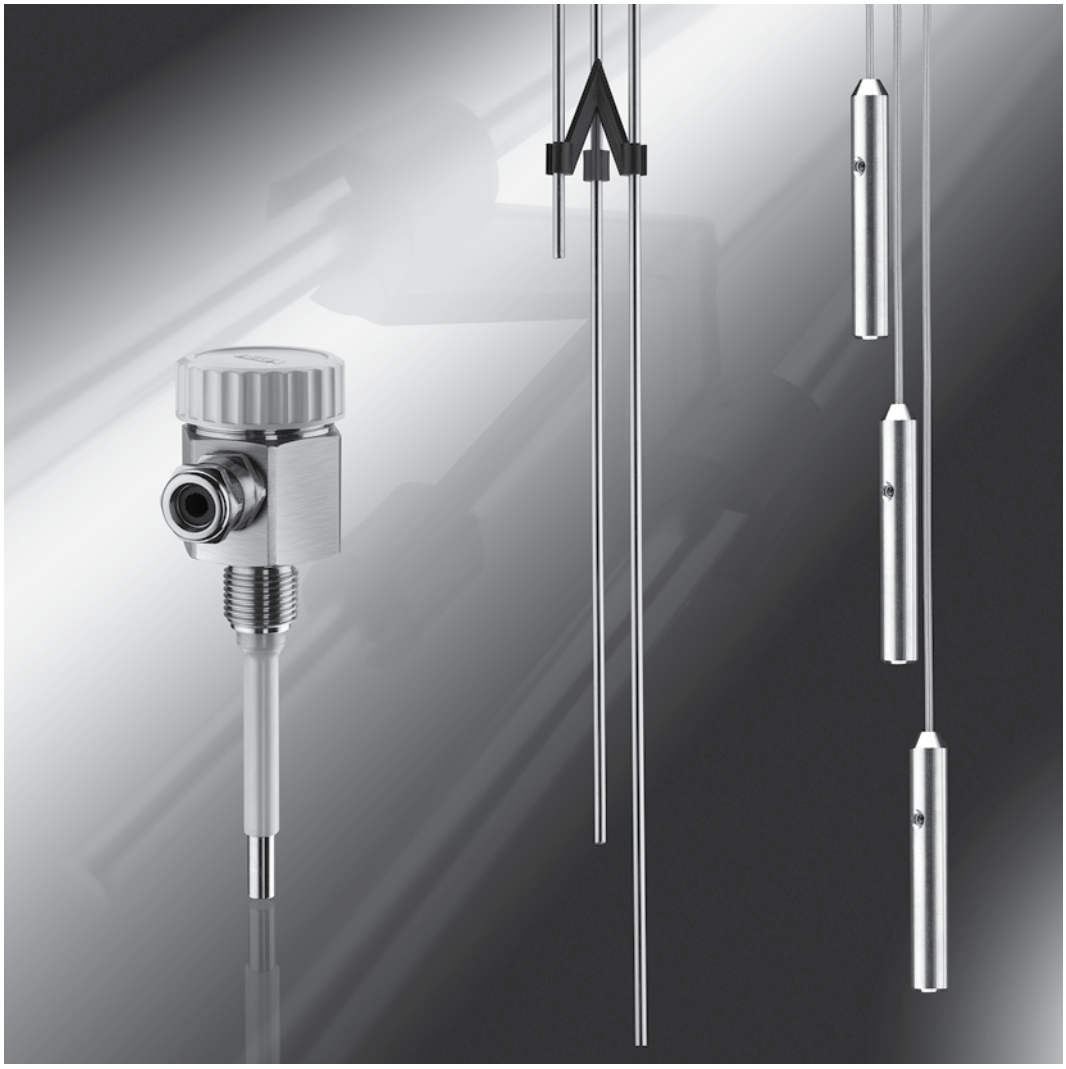
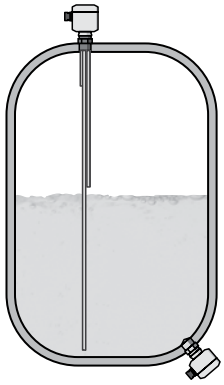
Conductive

Level detection



VEGAKON

Proven compact limit switches

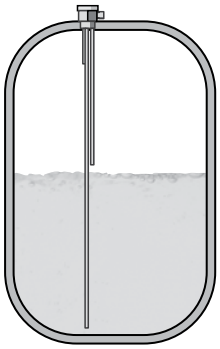


Measuring principle and applications

The instruments work according to the conductive measuring principle and are used in conductive liquids. The probe detects the product resistance when being immersed. A low alternating current flows which is detected by the integrated electronics and converted into a switching command. The switching point is determined via the mounting position or the length of the respective probe. The easy and robust construction of the sensors offers a maintenance-free and reliable level detection in all areas of industrial measurement technique. Typical applications are e.g. overfill protection, pump control or dry run protection in vessels or pipelines.

Conductive probes EL

Flexible level detection



Measuring principle and applications

The instruments are used for level detection in conductive liquids. For operation of the conducitve probe, a VEGATOR 256 C or 632 signal conditioning instrument is required. When the electrode is immersed, a low alternating current flows which is detetcted by the VEGATOR signal conditioning instrument, processed and converted into a respective switching command. The switching point is determined via the mounting position or the length of the respective probe. The easy and robust construction of the sensors offers a maintenance-free and reliable level detection in all areas of industrial measurement technique. Typical applications are e.g. overfill protection, pump control or dry run protection in vessels and pipelines.

Overview

Instrument type	Probe length	Process fitting	Process temperature	Process pressure
VEGAKON 61 Partly insulated compact limit switch Isolation: PTFE 	---	Thread G1, 1 NPT, cone	-40 … +150 °C	-1 … +25 bar (-100 … +2500 kPa)
VEGAKON 66 Compact limit switch, partly insulated rod Isolation: PP 	0.12 … 4 m	Thread G1½	-40 … +100 °C	-1 … +6 bar (-100 … +600 kPa)
EL 1 Partly insulated rod Isolation: PFTE 	up to 4 m	Thread G½	-50 … +130 °C	-1 … +63 bar (-100 … +6300 kPa)
EL 3 Partly insulated rod Isolation: PFTE 	up to 4 m	Thread G1½	-50 … +130 °C	-1 … +63 bar (-100 … +6300 kPa)
EL 4 Partly insulated rod Isolation: PP 	up to 4 m	Thread G1½	-20 … +100 °C	-1 … +6 bar (-100 … +600 kPa)
EL 6 Partly insulated cable Isolation: PP/FEP 	up to 50 m	Thread G1½	-20 … +100 °C	-1 … +6 bar (-100 … +600 kPa)
EL 8 Partly insulated rod Isolation: PE 	up to 1 m	Thread G½	-10 … +60 °C	-1 … +6 bar (-100 … +600 kPa)

Instrument type	Input	Hysteresis	Output	Operating voltage
VEGATOR 256C Signal conditioning instruments for conductive probes 	Single channel	fix	1 x relay output	20 … 250 V AC, 50/60 Hz
VEGATOR 632 Signal conditioning instruments for conductive probes 	Double channel	adjustable	2 x relay output	85 … 253 V AC, 50/60 Hz or 20 … 30 V AC, 50/60 Hz resp. 20 … 60 V DC

VEGAKON 61

SPEED

Conductive limit switch for liquids for front-flush mounting

Application area
The VEGAKON 61 is a condcutive limit switch for conductive liquids. The instrument is best suited as full and empty detector in pipelines.

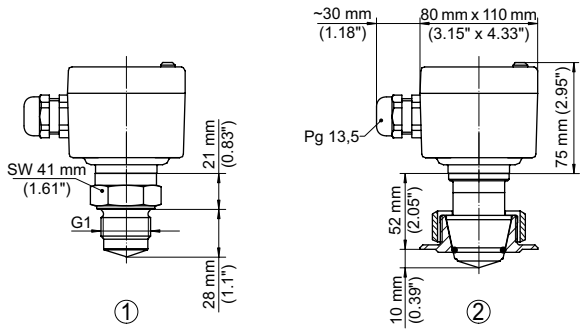
Your benefit
– Time and cost-saving setup without adjustment with medium
– Optimum cleanability through front-flush mounting
– Maintenance-free operation through probe insensitive to buildup

Technical data

Version:	compact limit switch
Process fitting:	thread G1, 1 NPT cone DN 25
Materials:	316L, PTFE
Process temperature:	-40 … +150 °C
Process pressure:	-1 … +25 bar (-100 … +2500 kPa)

Approval
.X without
Process fitting
G1 Thread G1A (DIN 3852-A) PN25
K1 Cone DN25PN25
Electronics
R Relay output 20...72VDC/20...250VAC(3A)
T Floating transistor (NPN/PNP) 10...55VDC
Process temperature
X -40...100°C
Z -40...150°C (with temperature adapter)

KON61 [ ] [ ] [ ] [ ]



1 Threaded version
2 Cone version

You will find further process fittings and options under www.vega.com/configurator.
You will find further drawings and tables under www.vega.com/downloads.
You will find mounting accessory, welded sockets and housing overviews in chapter "Accessory".

Welded socket for VEGAKON 61

SPEED

suitable for

1 VEGAKON 61

Version / Material

KA Conus DN25 / 316L

GA Thread G1 (DIN 3852-A) / 316L

GL Thread G1(DIN 3852-A) suitable f. foodstuffs / 316L

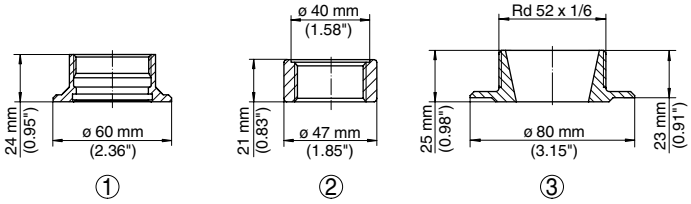
Test certificate

B C 3.1-Certificate/Mat.

A H 2.2-Certificate/Mat.

X without

ESTKN.			



1 Thread G1 suitable for foodstuffs
2 Thread G1
3 Cone DN 50

VEGAKON 66

SPEED

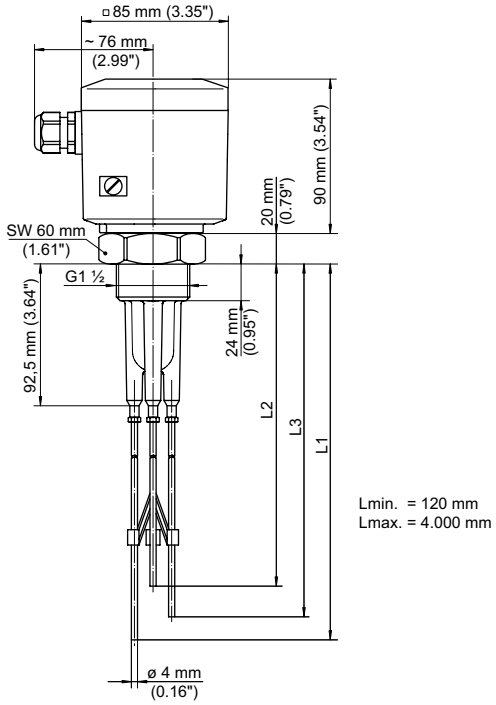
Conductive multiple rod limit switch for liquids

Application area
The VEGAKON 66 is a conductive limit switch for conductive liquids. The instrument is suitable as full or empty detector in pipelines.

Your benefit
- Reliable pump control through multiple rod probe
- High flexibility through shortenable rod probes
- Reduced stock-keeping through exchangeable rod probes

Technical data

Version:	compact limit switch
Probe length:	up to 4 m
Process fitting:	thread G1½
Material:	PPN
Process temperature:	-40 … +100 °C
Process pressure:	-1 … +6 bar (-100 … +600 kPa)



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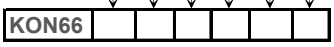
Approval
.X without
Process fitting / Material
G Thread G1½ (DIN 3852-A) / PPN
Number of rod electrodes
2 2 rod electrodes
3 3 rod electrodes
X without rod electrodes
Material rod electrodes
V 316Ti
Housing / Protection
P Plastic PBT / IP66
M Aluminium plastic-coated / IP66/IP67
Electronics
R Relay (DPDT) 20...72VDC/20...250VAC(5A)
T Floating transistor (NPN/PNP) 10...55VDC



Rod length L1 in mm (longest electrode)
316Ti (120-4000 mm) per 500 mm
Rod length L2 in mm (shortest electrode)
316Ti (120-4000 mm) per 500 mm
Rod length L3 in mm
316Ti (120-4000 mm) per 500 mm

EL 1

SPEED

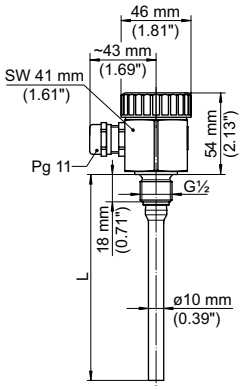
Conductive rod electrode

Application area
The rod electrode EL 1 is a universal level switch for conductive liquids. The instrument is ideal as overfill and dry run protection in conjunction with VEGATOR 256C and VEGATOR 632 signal conditioning instruments.

Your benefit
- Simple installation in narrow space applications through small sensor dimensions
- Low maintenance costs through robust design
- High flexibility through shortenable probe

Technical data

Version:	partly insulated rod
Probe length:	up to 4 m
Process fitting:	thread G½
Materials:	316Ti, PE
Process temperature:	-50 … +130 °C
Process pressure:	-1 … +63 bar (-100 … +6300 kPa)



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Approval

.X Without

EX.X ATEX II 1G, 1/2G, 2G Ex ia IIC T6

EX.A ATEX II 1G, 1/2G, 2G Ex ia IIC T6 + WHG

Number of rods

1 with 1 rod electrode

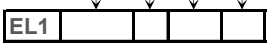
Material rod

VT 316Ti

Line break monitoring

X without

M Line break monitoring for VEGATOR 632



Rod length in mm

316Ti (40-4000 mm) per 250 mm

EL 3

SPEED

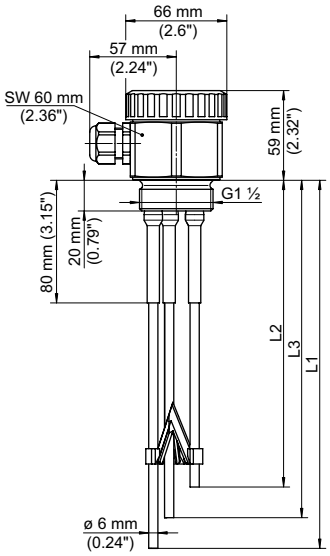
Conductive multiple rod electrode

Application area
The multiple rod electrode EL 3 is a universal level switch for conductive liquids. The instrument is ideal as overfill and dry run protection or pump control in conjunction with VEGATOR 256C and VEGATOR 632 signal conditioning instruments.

Your benefit
- Simple setup with minimum time and cost expenditure
- High flexibility through shortenable probe
- Maintenance-free through robust design

Technical data

Version:	partly insulated rod
Probe length:	up to 4 m
Process fitting:	thread G1½
Materials:	316Ti, PTFE
Process temperature:	-50 … +130 °C
Process pressure:	-1 … +63 bar (-100 … +6300 kPa)



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Approval

.X Without

EX.X ATEX II 1G, 1/2G, 2G Ex ia IIC T6

EX.A ATEX II 1G, 1/2G, 2G Ex ia IIC T6 + WHG

Number of rods

2 with 2 rod electrodes

3 with 3 rod electrodes

4 with 4 rod electrodes

5 with 5 rod electrodes

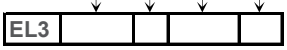
Material rod

VTV 316Ti

Line break monitoring

X without

M Line break monitoring for VEGATOR 632



L1 in mm (longest)

316Ti (50-4000 mm) per 500 mm

L2 in mm (shortest)

316Ti (35-4000 mm) per 500 mm

L3 in mm

316Ti (50-4000 mm) per 500 mm

L4 in mm

316Ti (50-4000 mm) per 500 mm

L5 in mm

316Ti (50-4000 mm) per 500 mm

EL 4

SPEED

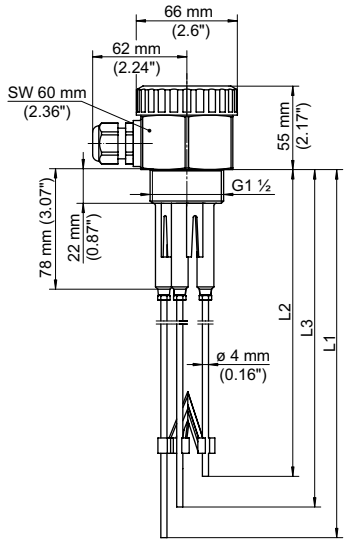
Conductive multiple rod electrode

Application area
The multiple rod electrode EL 4 is a universal level switch for conductive liquids. The instrument is ideal as overfill and dry run protection or pump control in conjunction with VEGATOR 256C and VEGATOR 632 signal conditioning instruments.

Your benefit
- Reliable pump control through multiple rod probe
- High flexibility through shortenable probe
- Reduced stockkeeping through exchangeable rod probes

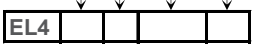
Technical data

Version:	partly insulated rod
Probe length:	up to 4 m
Process fitting:	thread G1½
Materials:	316Ti, PP
Process temperature:	-20 … +100 °C
Process pressure:	-1 … +6 bar (-100 … +600 kPa)



You will find further process fittings and options under www.vega.com/configurator.
You will find further drawings and tables under www.vega.com/downloads.
You will find mounting accessory, welded sockets and housing overviews in chapter "Accessory".

Approval
.X Without
Number of rods
2 with 2 rod electrodes
3 with 3 rod electrodes
4 with 4 rod electrodes
5 with 5 rod electrodes
Material rod
VTK 316Ti
Line break monitoring
X without
M Line break monitoring for VEGATOR 632



L1 in mm (longest)
316Ti (100-4000 mm) per 500 mm
L2 in mm (shortest)
316Ti (100-4000 mm) per 500 mm
L3 in mm
316Ti (100-4000 mm) per 500 mm
L4 in mm
316Ti (100-4000 mm) per 500 mm
L5 in mm
316Ti (100-4000 mm) per 500 mm

EL 6

SPEED

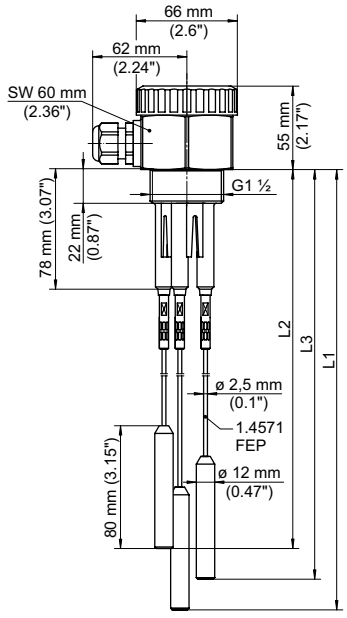
Conductive multiple cable electrode

Application area
The multiple cable electrode EL 6 is a universal level switch for conductive liquids. The instrument is ideal as overfill and dry run protection or pump control in conjunction with VEGATOR 256C and VEGATOR 632 signal conditioning instruments.

Your benefit
- Economical pump control through multiple cable probe
- High flexibility through shortenable cable probes
- Reduced stockkeeping through exchangeable cable probes

Technical data

Version:	partly insulated cable
Probe length:	up to 50 m
Process fitting:	thread G1½
Materials:	316Ti, PP/FEP
Process temperature:	-20 … +100 °C
Process pressure:	-1 … +6 bar (-100 … +600 kPa)



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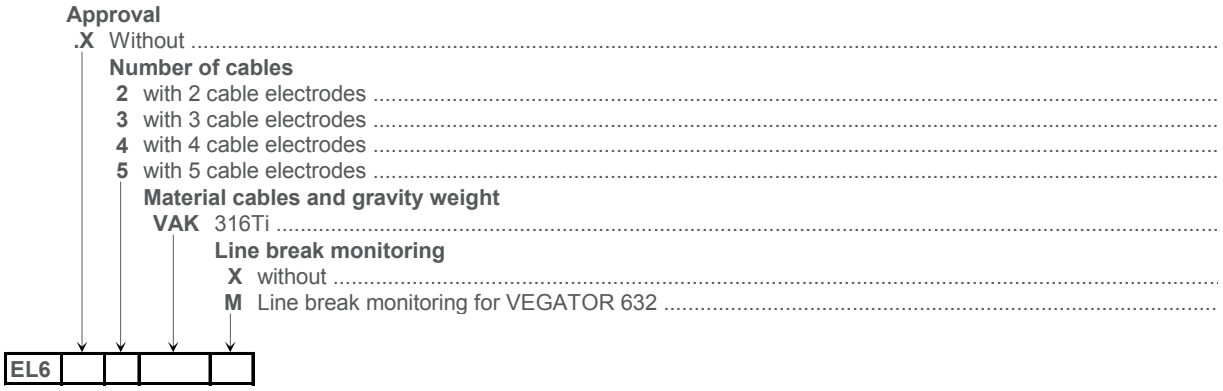


L1 in mm (longest)
316Ti/FEP insulated (220-50000 mm) per 1000 mm

L2 in mm (shortest)
316Ti/FEP insulated (220-50000 mm) per 1000 mm

L3 in mm
316Ti/FEP insulated (220-50000 mm) per 1000 mm

L4 in mm
316Ti/FEP insulated (220-50000 mm) per 1000 mm

L5 in mm
316Ti/FEP insulated (220-50000 mm) per 1000 mm

EL 8

SPEED

Conductive rod electrode

Application area
The rod electrode EL 8 is a universal level switch for conductive liquids. The instrument is ideal as overfill or dry run protection in conjunction with VEGATOR 256C and VEGATOR 632 signal conditioning instruments.

Your benefit
– Price-favourable level detection
– Simple installation in narrow space applications through small sensor dimensions

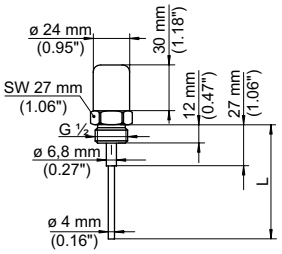
Technical data

Version:	partly insulated rod
Probe length:	up to 1 m
Process fitting:	thread G½
Materials:	316Ti, PE
Process temperature:	-10 … +60 °C
Process pressure:	-1 … +6 bar (-100 … +600 kPa)

Approval
.X Without .....
Number of rods
1 with 1 rod electrode .....
Rod material
VEG 316Ti .....

EL8 | | |

Rod length in mm
316Ti (27-3000 mm) per 250 mm



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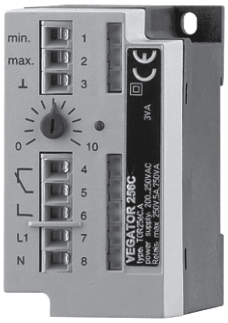
VEGATOR 256C

SPEED



Signal conditioning instrument for conductive electrodes

Application area
The VEGATOR 256C is a signal conditioning instrument for conductive electrodes EL 1 … EL 8. Applications are simple level detections or pump controls.

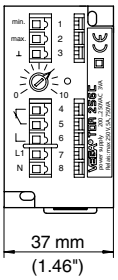
Your benefit
- Compact unit of voltage supply and processing of a conductive probe
- Simple adjustment of the switching point via a potentiometer
- Simple installation through carrier rail mounting

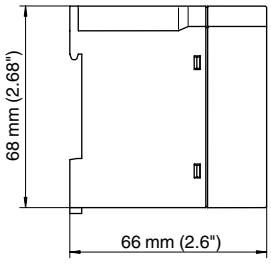
Technical data

Input:	1 x level detection or 1 x pump control
Output:	1 x relay output
Response sensitivity:	1 … 200 kOhm adjustable
Switching hysteresis:	approx. 20 %
Operating voltage:	20 … 250 V AC, 50/60 Hz
Mounting:	wall or carrier rail 35 x 7.5 acc. to EN 50022

Operating voltage
- **E** 24VAC
- **B** 100...130VAC
- **A** 200...250VAC

TOR256C.X





VEGATOR 632

SPEED

Signal conditioning instrument for conductive electrodes

Application area

The VEGATOR 632 is a double channel signal conditioning instrument for conductive electrodes type EL. Applications are level detections and pump controls. In conjunction with multiple rod or cable electrodes several VEGATOR 632 can be combined with the probe.

Your benefit

- Two independent level detections or one min./max. control (two-point control)
- Integrated fault monitoring with LED indication detects shortcircuit and line break
- Simple mounting through carrier rail

Technical data

Input:	double channel
Output:	2 x relay output
Response sensitivity:	adjustable (max. 200 kOhm)
Operating voltage:	85 … 253 V AC, 50/60 Hz or 20 … 30 V AC, 50/60 Hz, 20 … 60 V DC
Mounting:	carrier rail 35 x 7.5 acc. to EN 50022

Approval

XX without .....

CX ATEX II(1)G[Ex ia] IIC/IIB + II(1)D[Ex iaD] .....

CA ATEX II(1)G[Ex ia] IIC/IIB + II(1)D[Ex iaD] + WHG .....

Version

D 20...30V AC / 20...60V DC .....

A 90...250V AC .....

TOR632. | | |