

Guidelines and Instructions	Page
Selection and installation of transmitters for Weka Visual Level Indicators	Installation 2
General information about bi-stable reed-switch type level transmitters	Bi-stable reed 3

Weka transmitters: Voltage output (3-wire)				
Media temperature	Connection		Transmitter	
-50°C ... +150°C	Cable		29710	4
-50°C ... +350°C	Cable		29710-W	5

Weka transmitters: Current output 4...20mA (2-wire)				
Media temperature	Connection		Transmitter	
-50°C ... +150°C	Cable		31967	6
-50°C ... +250°C	Cable		31967-W	7
-50°C ... +150°C	Terminal box		31967-K	8
-50°C ... +150°C	Plug-in connector		31967-KST	9

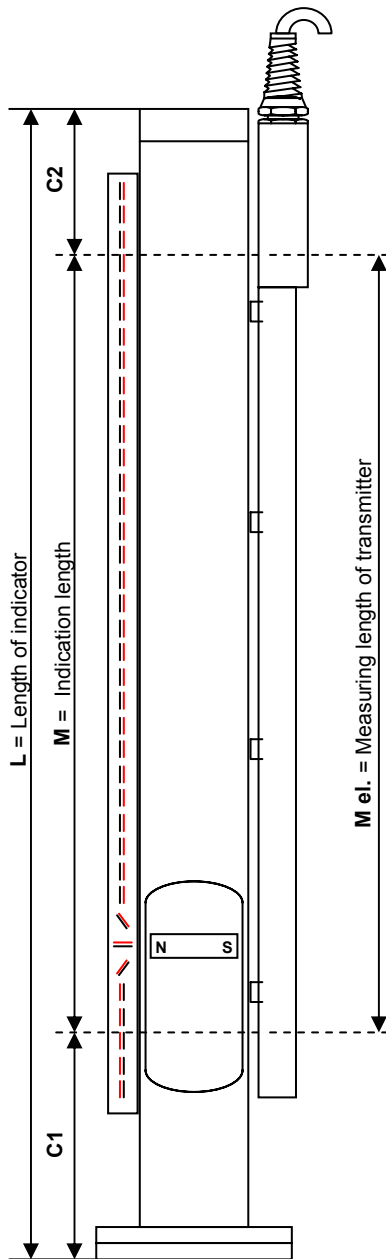
Weka transmitters for hazardous areas: intrinsically safe (EEx i) Voltage output (3-wire)				
Media temperature	Connection	Approval	Temp. Class	Transmitter
-50°C ... +150°C	Cable	SEV	T6	29710-Ex 10

Weka transmitters for hazardous areas. Type of protection "intrinsically safe (EEx i)" Current output 4...20mA (2-wire)				
Media temperature	Connection	Approval	Temp. Class	Transmitter
-50°C ... +150°C	Cable	SEV	T4	32607/SE 11
-50°C ... +150°C	Cable	ISSeP	T3	32607/CE 12

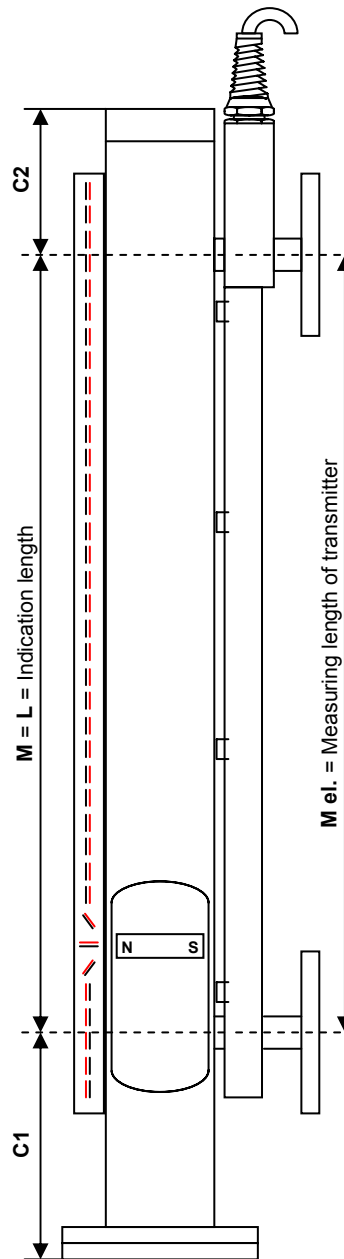
Weka transmitters for hazardous areas. Type of protection "capsuled (EEx d)" Current output 4...20mA (2-wire)				
Media temperature	Connection	Approval	Temp. Class	Transmitter
-50°C ... +150°C	Cable	SEV	T6	32608 13

WEKA transmitter in combination with HART® transmitter modules 4...20mA current output plus HART® digital communication (2-wire)				
Weka transmitters with resistance output				
Media temperature	Connection	Protection class	Zone	Transmitter
-50°C ... +150°C	Cable	Non-hazardous	-	29710-R 14
-50°C ... +150°C	Cable	EEx i	Zone 1 and 2	29710-R-Ex 15
-50°C ... +350°C	Cable	Non-hazardous or EEx i *	Zone 1 and 2	29710-R-W 16
-50°C ... +150°C	Cable	EEx d	Zone 1 and 2	32608-R 17
* The transmitter can be used as a simple electrical device as defined by EN50020				
HART® transmitter, ready to connect, mounted in junction box				
Description		Compatible transmitters		Transmitter
HART® transmitter in IP65 metal enclosure		29710-R and 29710-R-W		HART 37383 18
HART® transmitter - intrinsically safe		29710-R-Ex and 29710-R-W *		HART EEx i 37384 19
HART® transmitter - explosion proof		32608-R		HART EEx d 38021 20

Level Indicator Version -A



Level Indicator Version -K



Terminology:

- L = Length between process connections
- M = Measuring length (indication length) of level indicator
- M el. = Measuring length of transmitter
- C1 = Lower float extension
- C2 = Upper float extension

Visual level indicators type -A and -K are recommended for applications where there are space constraints. In some cases visual level indicators type -B and -O require special dimensions.

Transmitter length:

M el. = M = L or M el. = per customer order

Type -A and -B magnetic flag level indicators:
M el. = M or M el. = per customer order

Note: **A transmitter with bi-stable reed is necessary where M el. < M .
For using HART transmitters M el. must be > M .**

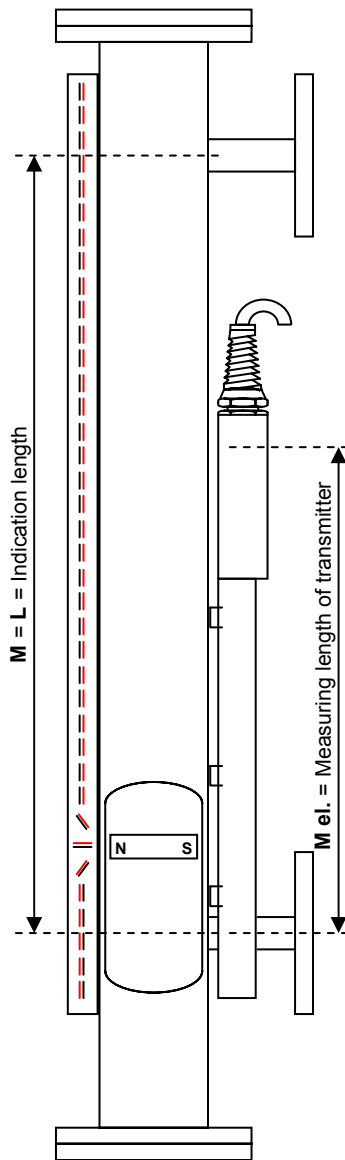


Figure 1

Identification Type XXXXX-Bi

Example 31967-Bi

Principles of operation:

A permanent magnet inside the float activates the transmitter's reed switches, depending on the vertical position of its float. This results in an electrical signal output proportional to the level of liquid in the indicator's float chamber.

If the float rises above the transmitter's measuring range (M el.), for any reason, the value of the transmitter's electrical signal output will jump to 115% of its measuring range. This over-limit value of the signal will be constant for any level of the float above the upper end of the transmitter's measuring range (M el.). See Figure 2.

Since the over-limit output signal represents an indefinable level, a second high-limit bi-stable reed-switch can be fitted to overcome this.

This second bi-stable reed-switch closes when the south pole of the float's magnet reaches the high limit level, stays closed while the float is at any level above this, and opens again when the float drops to this level again. See figure 2.

Possible error condition:

If the bi-stable reed switch is closed due to other reasons (during transport, or due to an external magnetic field), the output signal will be incorrect (see Fig. 3).

Corrective action:

- Install the transmitter module 180° opposite the visual level indicator (see Installation Instructions, document # 20010501)
- Fill the vessel on which the level indicator is installed so that the float rises above the bi-stable reed-switch; then empty the vessel, so that the bi-stable reed-switch is operated through one complete close-open cycle.
- Pass a permanent bar magnet with its south pole near the transmitter module, downwards from above to below the bi-stable reed-switch, so that the switch opens.

This should result in the level transmitter giving the correct output signal, as shown in Figure 2.

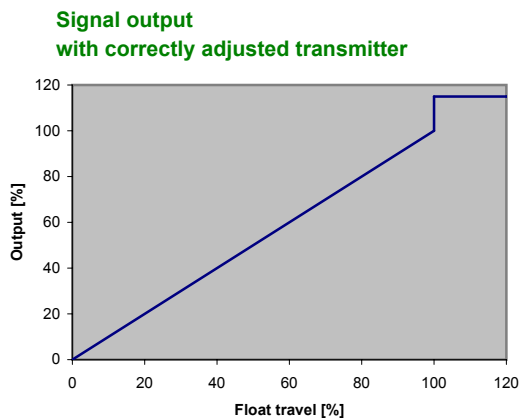


Figure 2

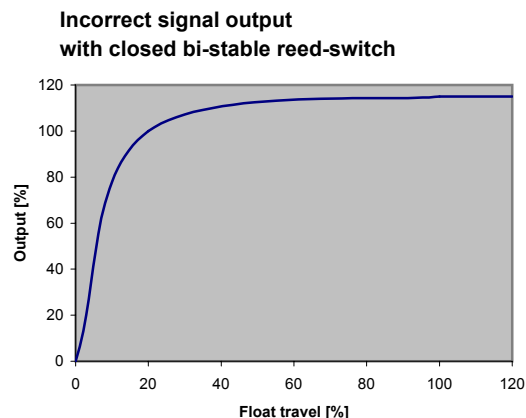
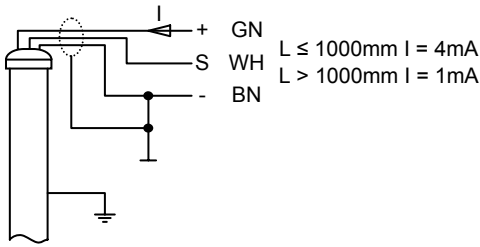


Figure 3

External electrical connections



Description:

**Transmitter for use with
Weka Visual Level Indicators**

The transmitter module is mounted to the outside of the float chamber, opposite the magnetic flag indicator module (see data sheet 20010501). The magnet in the float activates the reed-switches in the transmitter, depending on the level of liquid in the float chamber, thereby changing the effective value of a resistance network. This converts an excitation current input into a variable voltage output signal that can be fed directly to a remote indicating or recording instrument.

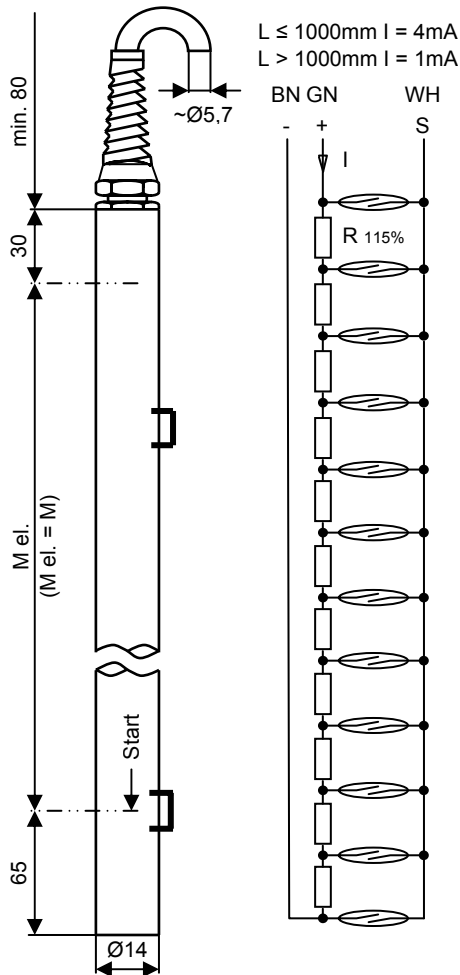
If the liquid level rises above the measuring range of the transmitter (30 mm) the output signal jumps to 115%.

Product code:
[For details see page 1](#)

29710-010-10 10mm resolution
29710-010-05 5mm resolution
M el. = Measuring length in mm

Dimensions

Internal circuit



29710-010-10 29710-010-05

Resolution

10mm 5mm

Transmitter housing tube dia.

Ø 14 / 10 Ø 17 / 14

Measuring length "M el."

200mm (min.) to 4000mm (max.)

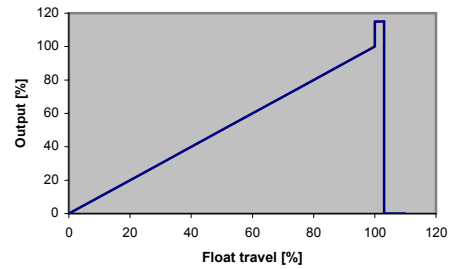
Longer measuring lengths available with types 34067, 34167, and 34267

Supply current

$L \leq 1000\text{mm } I = 4\text{mA}$
 $L > 1000\text{mm } I = 1\text{mA}$

Signal output

- With $R = 10\Omega$ and $I = 1\text{mA}$
10mV per step (1cm)
- With $R = 10\Omega$ and $I = 4\text{mA}$
40mV per step (1cm)



Operating temperature

Media temperature -50°C ... +150°C
Ambient temperature (Ta) -20°C ... +50°C

Enclosure

IP68 - 10bar (EN60529)

Materials

Housing tube Stainless steel 316 / 316L
Cable gland PA; with bend protection; grey
- Seal NBR
Cable (Standard 5m) PVC; grey; 3 x 0.34mm²;
approx. 5.7mm dia.; shielded
Resistant to most oils/petroleum products
Name plate Polyester; silver; black printing

Installation

(When ordering level indicators with transmitters mounting clips are included, when ordering transmitters as spare parts please indicate pipe size)

For pipe diameter 30...40mm and 40...57mm Part no. 80648
For pipe diameter 57...80mm Part no. 84043

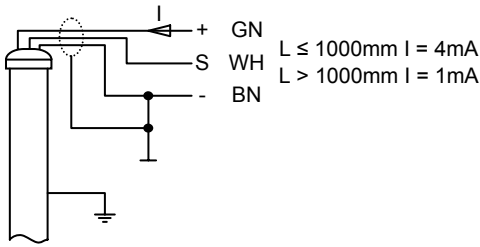
Note

Please read the instructions in our document # 20010501 before attempting installation.

The cable shielding is not connected with the transmitter housing: this should preferably be done by the user.

The transmitter can be used as a resistor network only when leads WH and BN, or WH and GN, are connected.

External electrical connections



Description:

**Transmitter for use with
Weka Visual Level Indicators
for media temperature up to +350°C**

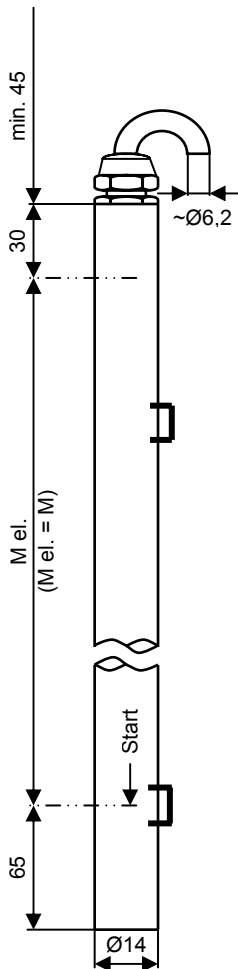
The transmitter module is mounted to the outside of the float chamber, opposite the magnetic flag indicator module (see data sheet 20010501). The magnet in the float activates the reed-switches in the transmitter, depending on the level of liquid in the float chamber, thereby changing the effective value of a resistance network. This converts an excitation current input into a variable voltage output signal that can be fed directly to a remote indicating or recording instrument.
If the liquid level rises above the measuring range of the transmitter (30 mm) the output signal jumps to 115%.

Product code:
[For details see page 1](#)

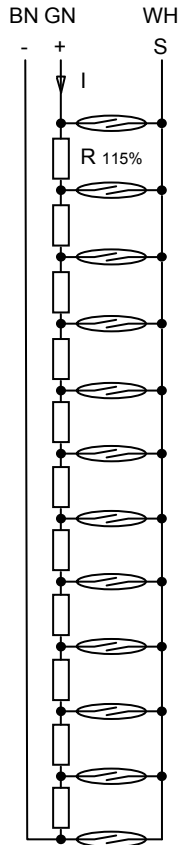
29710-010-10 10mm resolution
29710-010-05 5mm resolution
M el. = Measuring length in mm

Dimensions

Internal circuit



L ≤ 1000mm I = 4mA
L > 1000mm I = 1mA



29710-W-010-10 29710-010-W-05

Resolution

10mm 5mm

Transmitter housing tube dia.

Ø 14 / 10 Ø 17 / 14

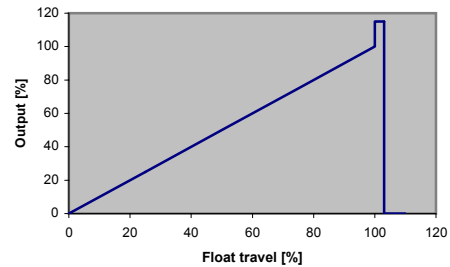
Measuring length "M el."

200mm (min.) to 4000mm (max.)

Longer measuring lengths available with types 34067, 34167, and 34267

Supply current

L ≤ 1000mm I = 4mA
L > 1000mm I = 1mA



Signal output

- With R = 10Ω and I = 1mA
10mV per step (1cm)
- With R = 10Ω and I = 4mA
40mV per step (1cm)

Operating temperature

Media temperature -50°C ... +350°C
Ambient temperature (Ta) -20°C ... +50°C

Enclosure

IP68 - 10bar (EN60529)

Materials

Housing tube Stainless steel 316 / 316L
Cable gland Brass, nickel plated
- Seal Viton
Cable (Standard 5m) Silicone; red; 3 x 0.75mm²;
approx. 6.2mm dia.
Resistant to oils/petroleum products
Name plate Polyester; silver; black printing

Installation

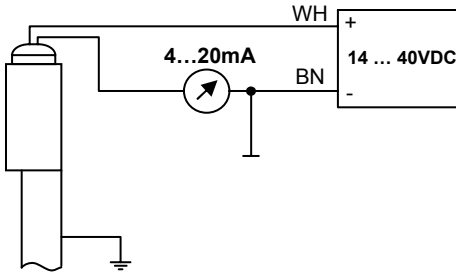
(When ordering level indicators with transmitters mounting clips are included, when ordering transmitters as spare parts please indicate pipe size)

For pipe diameter 30...40mm and 40...57mm Part no. 80648
For pipe diameter 57...80mm Part no. 84043

Note

Please read the instructions in our document # 20010501 before attempting installation.
The cable shielding is not connected with the transmitter housing: this should preferably be done by the user.
The transmitter can be used as a resistor network only when leads WH and BN, or WH and GN, are connected.

External electrical connections

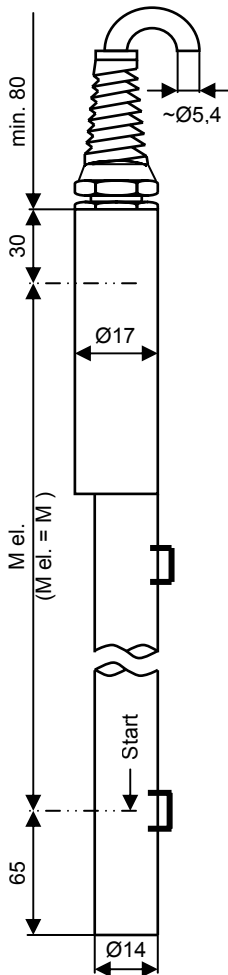


Description

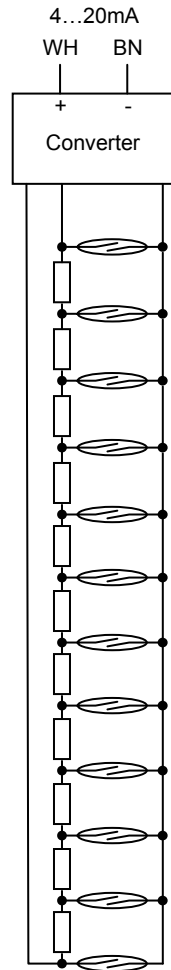
**Transmitter, 2-wire,
4...20 mA current output, for use with
Weka Visual Level Indicators**

The transmitter module is mounted to the outside of the float chamber, opposite the magnetic flag indicator module (see data sheet 20010501). The magnet in the float activates the reed-switches in the transmitter, depending on the level of liquid in the float chamber, changing the effective value of a resistance network. The resulting voltage output is converted by an internal electronic circuit to a 4...20 mA signal. If the liquid level rises above the measuring range of the transmitter (30 mm) the output signal jumps to 115% (ca. 22,5mA).

Dimensions



Internal circuit



Installation

(When ordering level indicators with transmitters mounting clips are included, when ordering transmitters as spare parts please indicate pipe size)

For pipe diameter	30...40mm and 40...57mm	Part no.	80648
For pipe diameter	57...80mm	Part no.	84043

Note

Please read the instructions in our document # 20010501 before attempting installation. The cable shielding is not connected with the transmitter housing: this should preferably be done by the user.

Product code:
[For details see page 1](#)

31967-010-10 10mm resolution
31967-010-05 5mm resolution
M el. = Measuring length in mm

31967-010-10 31967-010-05

Resolution

10mm 5mm

Transmitter housing tube dia.

Ø 14 / 10 Ø 17 / 14

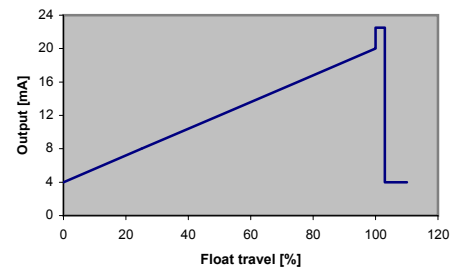
Measuring length "M el."

200mm (min.) to 4000mm (max.)

Longer measuring lengths available with types 34067, 34167, and 34267

Signal output

4...20mA current loop



Loop supply voltage

14 ... 40VDC

Operating temperature

Media temperature -50°C ... +150°C
Ambient temperature (Ta) -20°C ... +50°C

Enclosure

IP68 - 10bar (EN60529)

Materials

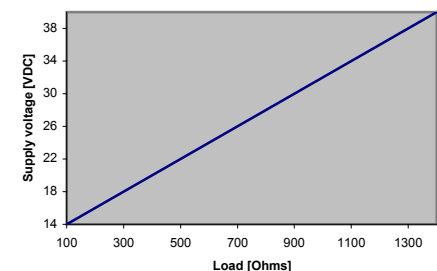
Housing tube
Cable gland
- Seal
Cable (Standard 5m)

Stainless steel 316 / 316L
PA with bend protection; grey
NBR
PVC; grey; 3 x 0.75mm²;
approx. 5.4mm dia.
Resistant to most oils/petroleum products
Polyester; silver; black printing

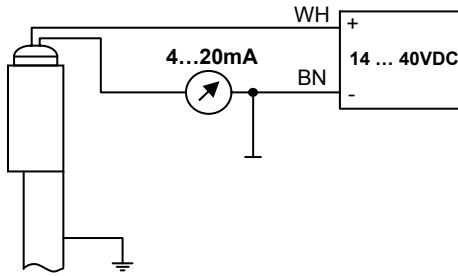
Name plate

Output load

max. 100Ω at 14VDC
max. 1.4KΩ at 40VDC



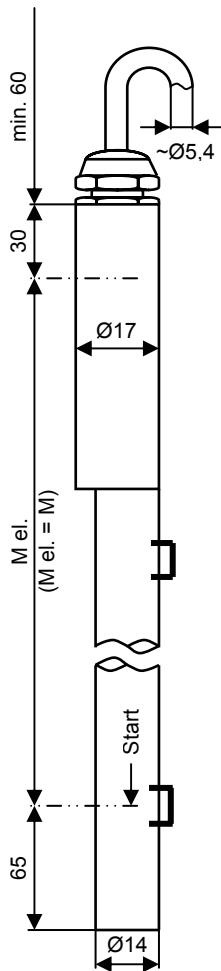
External electrical connections



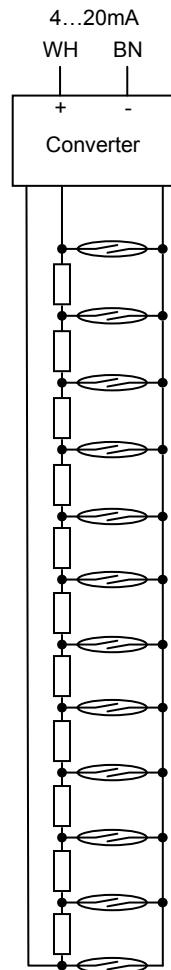
Description: Transmitter with 4...20 mA output, for use with Weka Visual Level Indicators for media temperature up to +250°C

The transmitter module is mounted to the outside of the float chamber, opposite the magnetic flag indicator module (see data sheet 20010501). The magnet in the float activates the reed-switches in the transmitter, depending on the level of liquid in the float chamber, changing the effective value of a resistance network. The resulting voltage output is converted by an internal electronic circuit to a 4...20 mA signal. If the liquid level rises above the measuring range of the transmitter (30 mm) the output signal jumps to 115% (ca. 22,5mA).

Dimensions



Internal circuit



Product code: 31967-W-010-10 10mm resolution
31967-W-010-05 5mm resolution
M el. = Measuring length in mm

31967-W-010-10 31967-W-010-05

Resolution 10mm 5mm

Transmitter housing tube dia. Ø 14 / 10 Ø 17 / 14

Measuring length "M el." 200mm (min.) to 4000mm (max.)
Longer measuring lengths available with types 34067, 34167, and 34267

Signal output
4...20mA current loop

Loop supply voltage
14 ... 40VDC

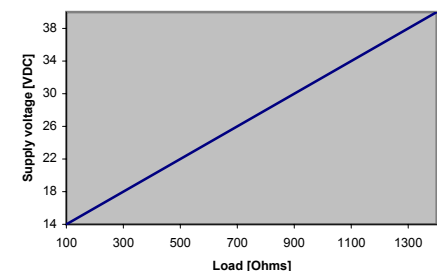
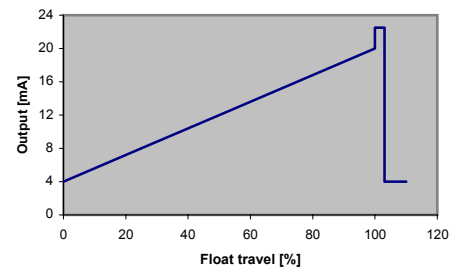
Operating temperature
Media temperature -50°C ... +250°C
Ambient temperature (Ta) -20°C ... +50°C

Enclosure IP68 - 10bar (EN60529)

Materials
Housing tube Stainless steel 316 / 316L
Cable gland Brass, nickel plated
- Seal Viton
Cable (Standard 5m) Silicone; red; 3 x 0.5mm²; approx. 6.2mm dia.
Resistant to oils/petroleum products
Polyester; silver; black printing

Name plate

Output load
max. 100Ω at 14VDC
max. 1.4KΩ at 40VDC



Installation

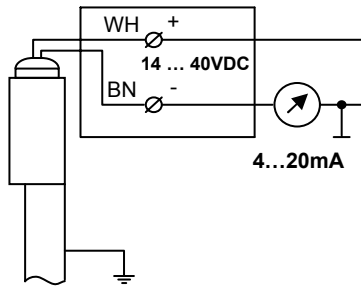
(When ordering level indicators with transmitters mounting clips are included, when ordering transmitters as spare parts please indicate pipe size)

For pipe diameter	30...40mm and 40...57mm	Part no.	80648
For pipe diameter	57...80mm	Part no.	84043

Note

Please read the instructions in our document # 20010501 before attempting installation.
The cable shielding is not connected with the transmitter housing: this should preferably be done by the user.

External electrical connections



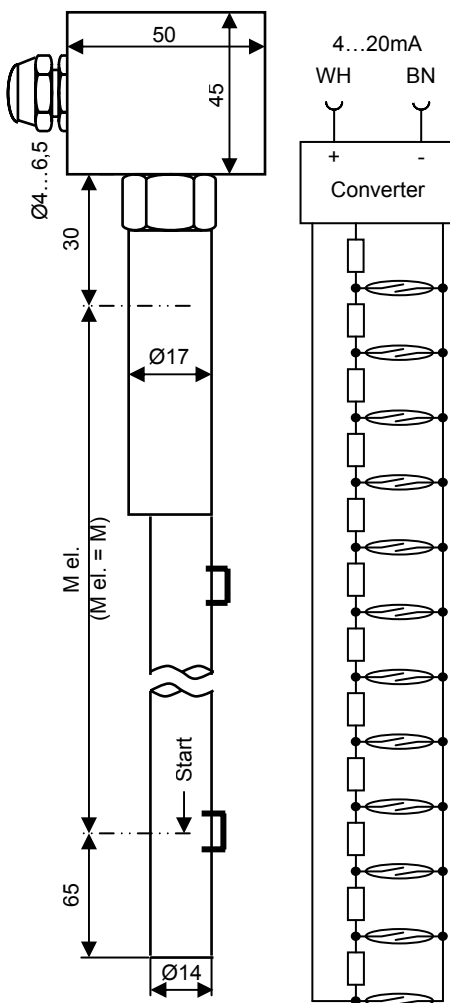
Description: Transmitter with 4...20 mA output and terminal box connections for use with Weka Visual Level Indicators

The transmitter module is mounted to the outside of the float chamber, opposite the magnetic flag indicator module (see data sheet 20010501). The magnet in the float activates the reed-switches in the transmitter, depending on the level of liquid in the float chamber, changing the effective value of a resistance network. The resulting voltage output is converted by an internal electronic circuit to a 4...20 mA signal. If the liquid level rises above the measuring range of the transmitter (30 mm) the output signal jumps to 115% (ca. 22,5mA).

Product code: 31967-K-010-10 10mm resolution
31967-K-010-05 5mm resolution
M el. = Measuring length in mm

Dimensions

Internal circuit



31967-K-010-10 31967-K-010-05

Resolution 10mm 5mm
Transmitter housing tube dia. Ø 14 / 10 Ø 17 / 14

Measuring length "M el." 200mm (min.) to 4000mm (max.)
Longer measuring lengths available with types 34067, 34167, and 34267

Signal output 4...20mA current loop

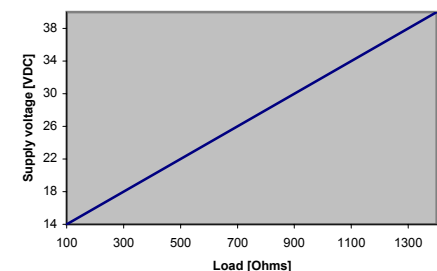
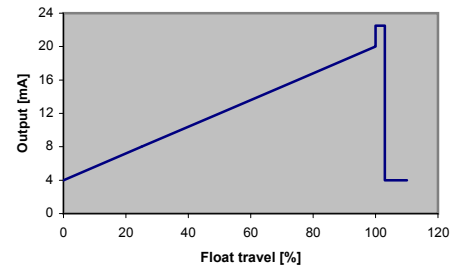
Loop supply voltage 14 ... 40VDC

Operating temperature
Media temperature -50°C ... +150°C
Ambient temperature (Ta) -20°C ... +50°C

Enclosure IP65 (EN60529)

Materials
Housing tube Stainless steel 316 / 316L
Terminal box Alu. DIN1725; unpainted; 45 x 50 x 30mm
Cable gland Brass; nickel plated; M12 x 1.5
- Cable compatibility 4...6.5mm dia.; max. 2 x 0.5mm²
- Seal NBR
Name plate Polyester; silver; black printing

Output load
max. 100Ω at 14VDC
max. 1.4KΩ at 40VDC



Installation

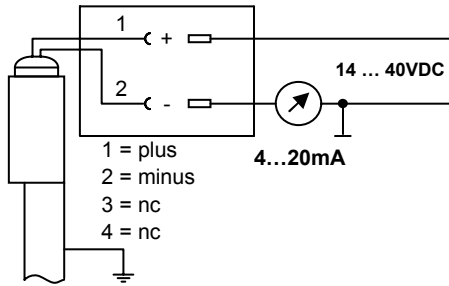
(When ordering level indicators with transmitters mounting clips are included, when ordering transmitters as spare parts please indicate pipe size)

For pipe diameter 30...40mm and 40...57mm Part no. 80648
For pipe diameter 57...80mm Part no. 84043

Note

Please read the instructions in our document # 20010501 before attempting installation.
The cable shielding is not connected with the transmitter housing: this should preferably be done by the user.

External electrical connections



Description:

**Transmitter with 4...20 mA output
and plug-in connector for use with
Weka Visual Level Indicators**

The transmitter module is mounted to the outside of the float chamber, opposite the magnetic flag indicator module (see data sheet 20010501). The magnet in the float activates the reed-switches in the transmitter, depending on the level of liquid in the float chamber, changing the effective value of a resistance network. The resulting voltage output is converted by an internal electronic circuit to a 4...20 mA signal.
If the liquid level rises above the measuring range of the transmitter (30 mm) the output signal jumps to 115% (ca. 22,5mA).

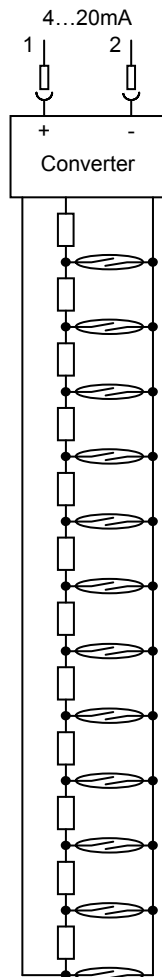
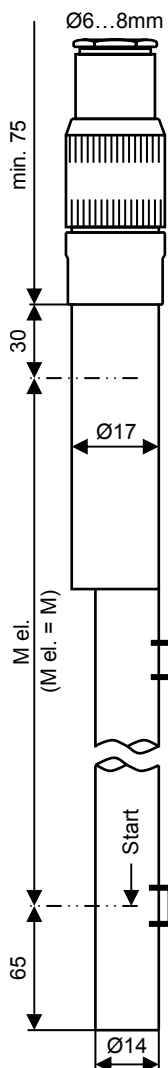
Product code:

[For details see page 1](#)

31967-KST-010-10 10mm resolution
31967-KST-010-05 5mm resolution
M el. = Measuring length in mm

Dimensions

Internal circuit



31967-KST-010-10 31967-KST-010-05

Resolution

10mm 5mm

Transmitter housing tube dia.

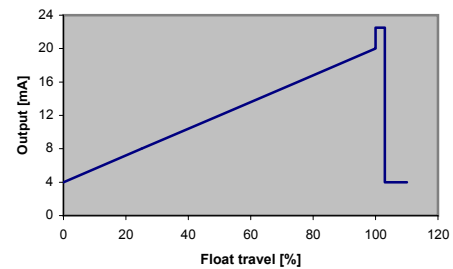
Ø 14 / 10 Ø 17 / 14

Measuring length "M el."

200mm (min.) to 4000mm (max.)
Longer measuring lengths available with types 34067, 34167, and 34267

Signal output

4...20mA current loop



Loop supply voltage

14 ... 40VDC

Operating temperature

Media temperature -50°C ... +150°C
Ambient temperature (Ta) -20°C ... +50°C

Enclosure

IP67 (EN60529) im gesteckten Zustand

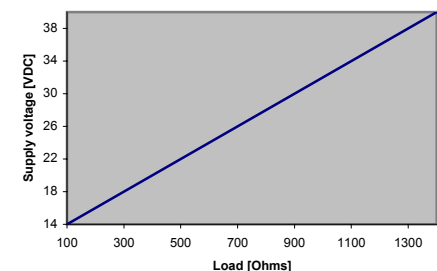
Materials

Housing tube
Connector body
- Contacts
- Cable compatibility
- Seal
Name plate

Stainless steel 316 / 316L
CuZn alloy; matt chrome-plated
4-pin; soldered; CuZn alloy; gold-plated
6...8mm dia. Conductors: 1mm² max.
NBR
Polyester; silver; black printing

Output load

max. 100Ω at 14VDC
max. 1.4KΩ at 40VDC



Installation

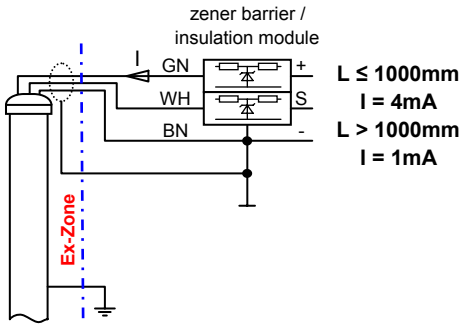
(When ordering level indicators with transmitters mounting clips are included, when ordering transmitters as spare parts please indicate pipe size)

For pipe diameter 30...40mm and 40...57mm	Part no. 80648
For pipe diameter 57...80mm	Part no. 84043

Note

Please read the instructions in our document # 20010501 before attempting installation.
The cable shielding is not connected with the transmitter housing: this should preferably be done by the user.
The connector plug is included with this transmitter.

External electrical connections



Description

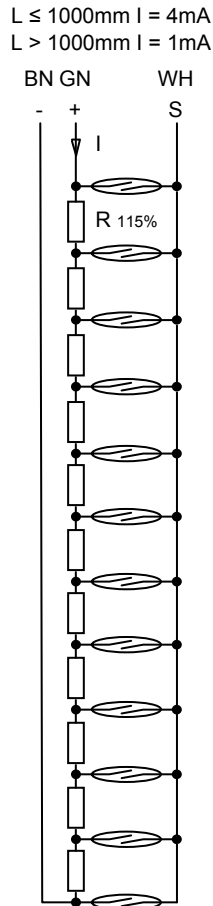
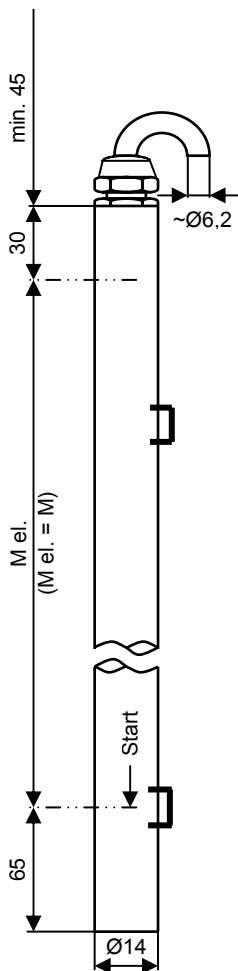
Intrinsically safe transmitter, protection rating EEx ia IIC T6, for use with Weka Visual Level Indicators

The transmitter module is mounted to the outside of the float chamber, opposite the magnetic flag indicator module (see data sheet 20010501). It is functionally similar to the model 29710-010-xx. This transmitter is compatible with Zones 1 and 2, gas groups IIA, IIB, and IIC, and temperature classes T1 through T6. It must be connected through a certified energy limiting device (e.g. Zener barrier) that is installed in a safe area, and guarantees the electrical limit values specified below. The metal housing of the transmitter must be connected to protection ground.

Product code: **29710-Ex-010-10** 10mm resolution
29710-Ex-010-05 5mm resolution
M el. = Measuring length in mm

Dimensions

Internal circuit



29710-Ex-010-10 29710-010-Ex-05

Resolution

10mm 5mm

Transmitter housing tube dia.

Ø 14 / 10 Ø 17 / 14

Measuring length "M el."

200mm (min.) to 4000mm (max.)

Certificate (SEV)

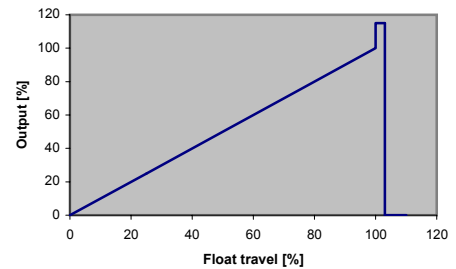
ASEV 98.5 50848.01

Supply current

L ≤ 1000mm I = 4mA
L > 1000mm I = 1mA

Signal output

- With R = 10Ω and I = 1mA
10mV per step (1cm)
- With R = 10Ω and I = 4mA
40mV per step (1cm)



Operating temperature

Media temperature -50°C ... +150°C
Ambient temperature (Ta) -20°C ... +40°C
Surface temperature T6 (max. 85°C)

Enclosure

IP68 - 10bar (EN60529)

Materials

Housing tube Stainless steel 316 / 316L
Cable gland PA with bend protection; grey
- Seal NBR
Cable (Standard 5m) PVC; blue; 3 x 0.75mm²; approx. 6.2 mm dia.; shielded
Resistant to most oils/petroleum products
Polyester; silver; black printing

Name plate

Electrical limit values

U_{max} = 15 VDC. U_i = 22.6 V max.
I_{max} = 4 mA. I_i = 160 mA max.

Installation

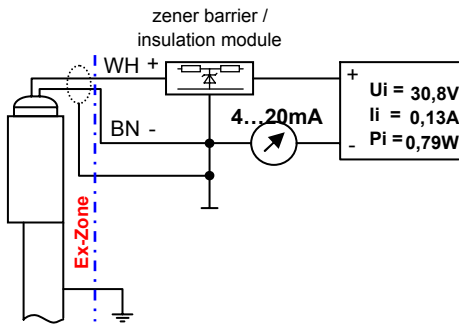
(When ordering level indicators with transmitters mounting clips are included, when ordering transmitters as spare parts please indicate pipe size)

For pipe diameter 30...40mm and 40...57mm Part no. 80648
For pipe diameter 57...80mm Part no. 84043

Note

Please read the instructions in our document # 20010501 before attempting installation. The cable shielding is not connected with the transmitter housing: this should preferably be done by the user. The transmitter can be used as a resistor network only when leads WH and BN, or WH and GN, are connected. The relevant certificates are available in the Weka Products CD or at our web-site: www.weka-ag.ch

External electrical connections



Description:

**Intrinsically safe transmitter with 4...20 mA output
 EEx ia IIC T4 rated, with SEV certificate, for use
 with Weka Visual Level Indicators**

The transmitter module is mounted to the outside of the float chamber, opposite the magnetic flag indicator module (see data sheet 20010501). It is functionally similar to the model 31967-.

This transmitter is compatible with Zones 1 and 2, gas groups IIA, IIB, and IIC, and temperature classes T1, T2, T3, and T4.

It must be connected through a certified energy limiting device (e.g. Zener barrier) that is installed in a safe area, and guarantees the electrical limit values specified below.

The metal housing of the transmitter must be connected to protection ground.

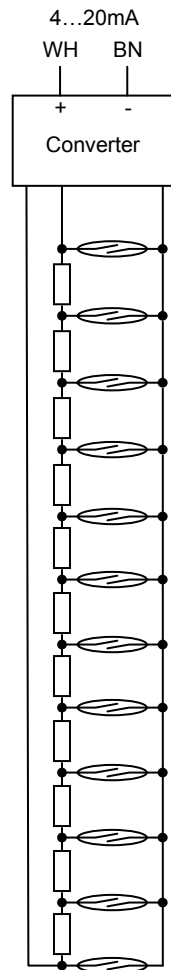
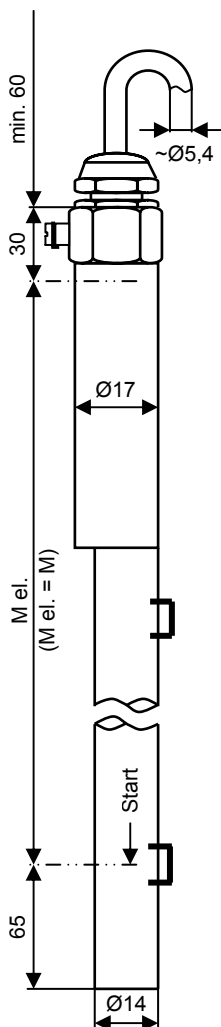
Product code:

32607-010-10/SE 10mm resolution
32607-010-05/SE 5mm resolution
M el. = Measuring length in mm

[For details see page 1](#)

Dimensions

Internal circuit



32607-010-10/SE 32607-010-05/SE

Resolution

10mm 5mm

Transmitter housing tube dia.

Ø 14 / 10 Ø 17 / 14

Measuring length "M el."

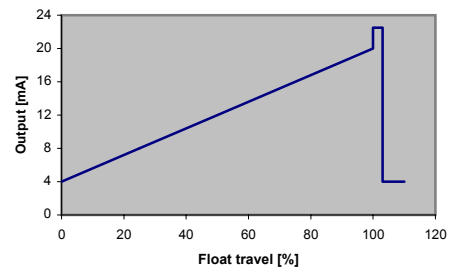
200mm (min.) to 4000mm (max.)

Certificate (SEV)

ASEV 97.1 10563.01

Signal output

4...20mA current loop



Electrical limit values

Ui = max. 30.8V
 li = max. 130mA
 Pi = max. 790mW
 Ci = max. 10nF
 Li ~ 0mH

Operating temperature

Media temperature
 Ambient temperature (Ta)
 Surface temperature

-50°C ... +150°C
 -20°C ... +50°C
 T4 (max. 135°C)

Enclosure

IP68 - 10bar (EN60529)

Materials

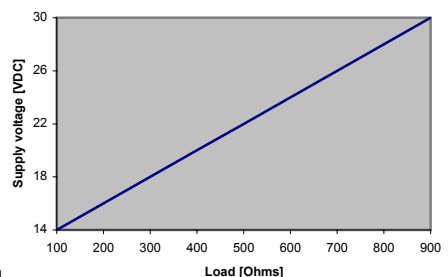
Housing tube
 Cable gland
 - Seal
 Cable (Standard 5m)

Stainless steel 316 / 316L
 PA; blue
 NBR
 PVC; blue; 2 x 0.75mm²; dia. ~5.4mm, shielded
 Resistant to most oils/petroleum products
 Polyester; silver; black printing

Name plate

Output load (including energy limiting device and cables)

max. 100Ω at 14VDC
 max. 900Ω at 30VDC



Installation

(When ordering level indicators with transmitters mounting clips are included, when ordering transmitters as spare parts please indicate pipe size)

For pipe diameter 30...40mm and 40...57mm Part no. 80648
 For pipe diameter 57...80mm Part no. 84043

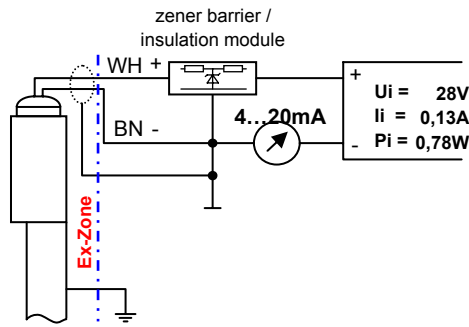
Note

Please read the instructions in our document # 20010501 before attempting installation.

The cable shielding is not connected with the transmitter housing: this should preferably be done by the user.

The relevant certificates are available in the Weka Products CD or at our web-site: www.weka-ag.ch

External electrical connections



Description:

Intrinsically safe transmitter with 4...20 mA output
EEx ia IIC T3 rated, with CENELEC certificate, for use
with Weka Visual Level Indicators

The transmitter module is mounted to the outside of the float chamber, opposite the magnetic flag indicator module (see data sheet 20010501). It is functionally similar to the model 31967-. This transmitter is compatible with Zones 1 and 2, gas groups IIA, IIB, and IIC, and temperature classes T1, T2, and T3.

It must be connected through a certified energy limiting device (e.g. Zener barrier) that is installed in a safe area, and guarantees the electrical limit values specified below.

The metal housing of the transmitter must be connected to protection ground.

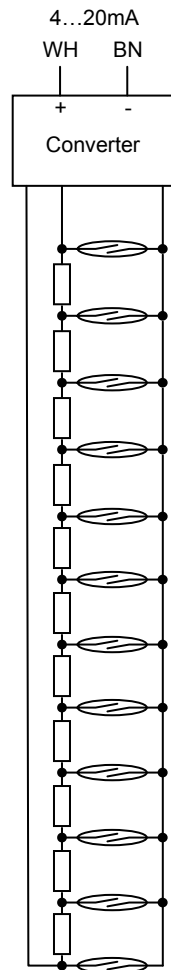
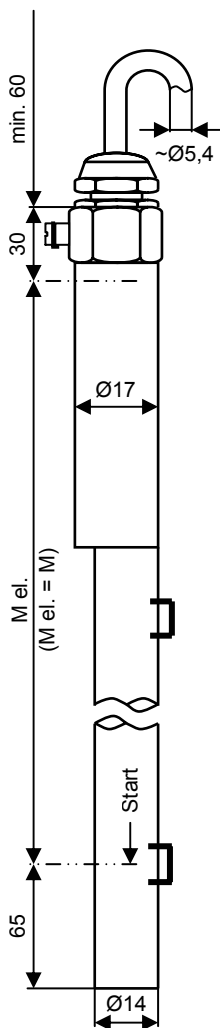
Product code:

32607-010-10/CE 10mm resolution
32607-010-05/CE 5mm resolution
M el. = Measuring length in mm

[For details see page 1](#)

Dimensions

Internal circuit



32607-010-10/CE 32607-010-05/CE

Resolution

10mm 5mm

Transmitter housing tube dia.

Ø 14 / 10 Ø 17 / 14

Measuring length "M el."

200mm (min.) to 4000mm (max.)

Certificate (CENELEC)

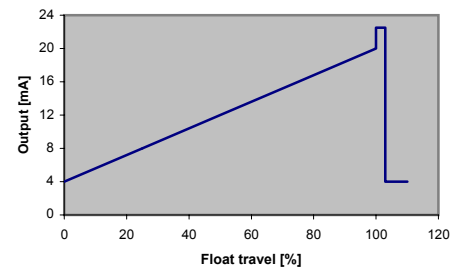
ISSeP 92C.101.170X

Signal output

4...20mA current loop

Electrical limit values

Ui = max. 28V
li = max. 130mA
Pi = max. 780mW
Ci = max. 54nF
Li ~ max. 20µH



Operating temperature

Media temperature -50°C ... +150°C
Ambient temperature (Ta) -20°C ... +80°C
Surface temperature T3 (max. 200°C)

Enclosure

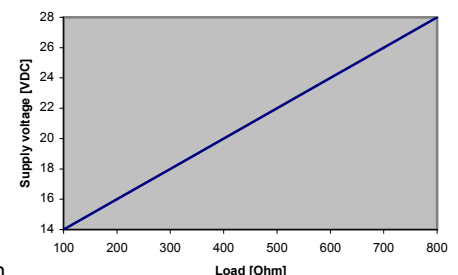
IP68 - 10bar (EN60529)

Materials

Housing tube Stainless steel 316 / 316L
Cable gland PA; blue
- Seal NBR
Cable (Standard 5m) PVC; blue; 2 x 0.75mm²; dia. ~5.4mm
Shielded
Resistant to most oils/petroleum products
Name plate Polyester; silver; black printing

Output load (including energy limiting device and cables)

max. 100Ω at 14VDC
max. 800Ω at 28VDC



Installation

(When ordering level indicators with transmitters mounting clips are included, when ordering transmitters as spare parts please indicate pipe size)

For pipe diameter 30...40mm and 40...57mm Part no. 80648
For pipe diameter 57...80mm Part no. 84043

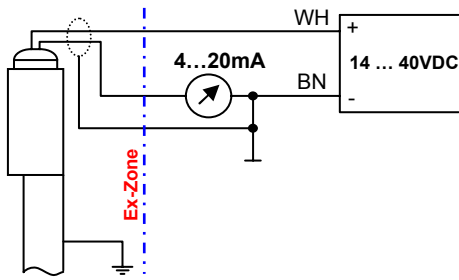
Note

Please read the instructions in our document # 20010501 before attempting installation.

The cable shielding is not connected with the transmitter housing: this should preferably be done by the user.

The relevant certificates are available in the Weka Products CD or at our web-site: www.weka-ag.ch

External electrical connections



Description:

Explosion-proof transmitter with 4...20 mA output EEx d IIC T6 rated, with CENELEC certificate, for use with Weka Visual Level Indicators

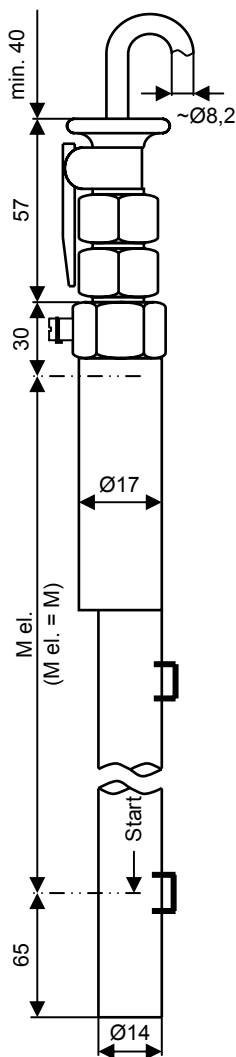
The transmitter module is mounted to the outside of the float chamber, opposite the magnetic flag indicator module (see data sheet 20010501). It is functionally similar to the model 31967-. This transmitter is compatible with Zones 1 and 2, gas groups IIA, IIB, and IIC, and temperature classes T1 through T6. The metal housing of the transmitter must be connected to protection ground.

Product code:

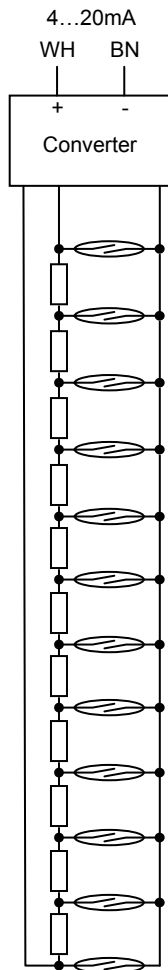
32608-010-10

[For details see page 1](#)

Dimensions



Internal circuit



Installation

(When ordering level indicators with transmitters mounting clips are included, when ordering transmitters as spare parts please indicate pipe size)

For pipe diameter	30...40mm and 40...57mm	Part no.	80648
For pipe diameter	57...80mm	Part no.	84043

Note

Please read the instructions in our document # 20010501 before attempting installation. The cable shielding is not connected with the transmitter housing: this should preferably be done by the user. The relevant certificates are available in the Weka Products CD or at our web-site: www.weka-ag.ch

Resolution

10mm

Transmitter housing tube dia.

Ø 14 / 10

Measuring length "M el."

200mm (min.) to 4000mm (max.)

Certificate (SEV)

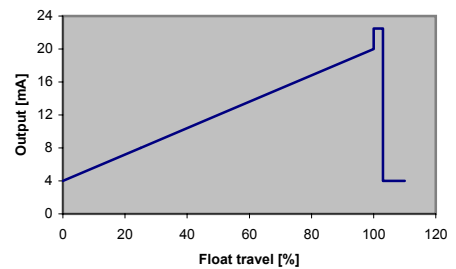
ISSeP 93C.103.1071

Signal output

4...20mA current loop

Electrical limit values

Unominal = max. 28V



Operating temperature

Media temperature -50°C ... +150°C
 Ambient temperature (Ta) -20°C ... +40°C
 Surface temperature T6 (max. 85°C)

Enclosure

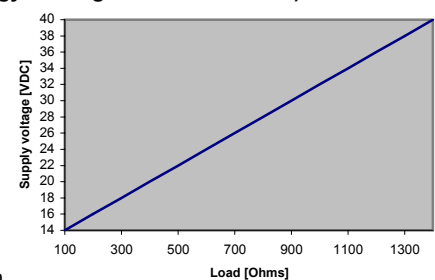
IP68 - 10bar (EN60529)

Materials

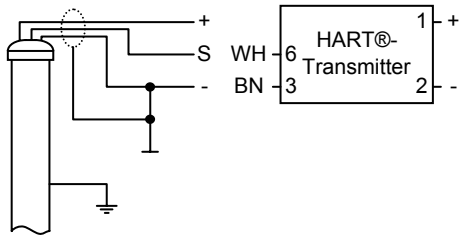
Housing tube Stainless steel 316 / 316L
 Cable gland Brass, nickel plated; PTB 00 ATEX 1059
 - Seal NBR
 Cable (Standard 5m, shielded) PVC; grey; 2 x 0.75mm²; approx. 8.2mm dia.; shielded
 Resistant to most oils/petroleum products
 Name plate Polyester; silver; black printing

Output load (including energy limiting device and cables)

max. 100Ω at 14VDC
 max. 1.4kΩ at 40VDC



External electrical connections

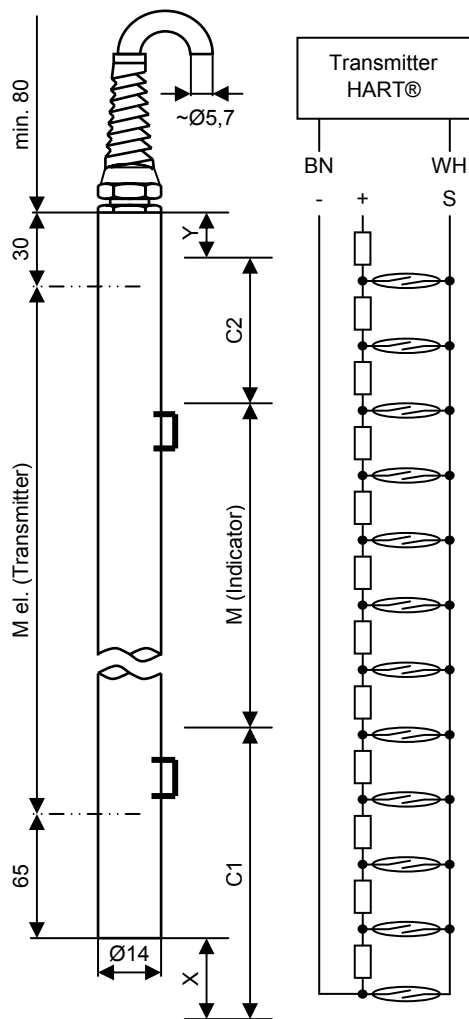


Description: Transmitter with HART® interface and 4...20 mA current output, for use with Weka Visual Level Indicators

The transmitter module is mounted to the outside of the float chamber, opposite the magnetic flag indicator module (see data sheet 20010501). The float magnet activates the reed-switches in the transmitter, depending on the liquid level in the float chamber, consequently varying the effective value of a resistance network. This is converted into a 2-wire 4-20 mA current output with superimposed HART digital communication. The transmitter's measuring length (M el.) must be selected so that it is greater than the level indication range (see table below). Transmitter settings are selected through the HART communication channel.

Dimensions

Internal circuit



Product code: 29710-R
M el. = (see below)
[For details see page 1](#)

Measuring length "M el." 250mm (min.) to 4000mm (max.)

Level Indicator	Media Density	x	y	Measuring Length (M el.)
	[g/cm ³]	[mm]	[mm]	[mm]
23614-A /-K	≥ 0,6	25	5	= M + 195
34300-A /-K	≥ 0,6	40	5	= M + 190
32755-A /-K	≥ 0,6	55	5	= M + 180
34000-A /-K u. 34110-K	0,6	20	10	= M + 330
34000-A /-K u. 34110-K	0,7	20	10	= M + 230
34000-A /-K u. 34110-K	0,8	20	10	= M + 160
34000-A /-K u. 34110-K	1,0	20	10	= M + 120
34000-A /-K u. 34110-K	1,2	20	10	= M + 120

Valid for standard level indicators. For others, calculate M el. as follows:
M el. [mm] = M + C1 - X - 65 + C2 + Y - 30 (M = measuring length of indicator)

HART- Transmitter	HART 37383
Transmitter housing tube dia.	Ø 14 / 10
Resolution	10mm
Power supply	See HART Transmitter data sheet
Operating temperature	
Media temperature	-50°C ... +150°C
Ambient temperature (Ta)	-20°C ... +50°C
Enclosure	IP68 - 10bar (EN60529)
Materials	
Housing tube	Stainless steel 316 / 316L
Cable gland	PA; with cable bend protection; grey
- Seal	NBR
Cable (Standard 5m, shielded)	PVC; grey; 2 x 0.34mm ² ; approx. 5.7 dia.; shielded
	Resistant to most oils/petroleum products
Name plate	Polyester; silver; black printing

Installation

(When ordering level indicators with transmitters mounting clips are included, when ordering transmitters as spare parts please indicate pipe size)

For pipe diameter	30...40mm and 40...57mm	Part no.	80648
For pipe diameter	57...80mm	Part no.	84043

Note

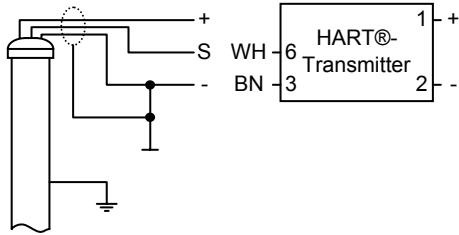
Please read the instructions in our document # 20010501 before attempting installation.

The cable shielding is not connected with the transmitter housing: this should preferably be done by the user.

The transmitter can be connected as resistor network only when leads WH and BN are connected.

The transmitter can be inverted, with the cable entry below. For this, the appropriate HART transmitter setting must be changed.

External electrical connections

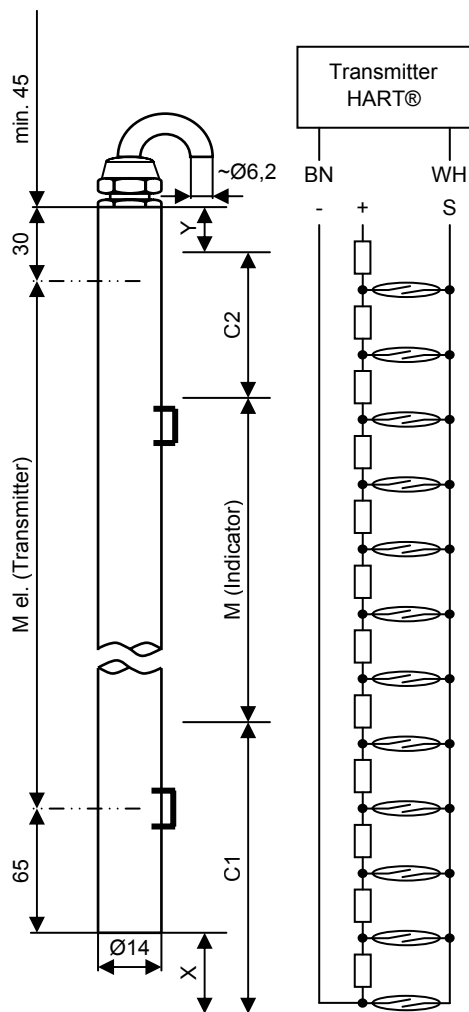


Description: Intrinsically safe transmitter with HART® interface and 4...20 mA current output, for use with Weka Visual Level Indicators

The transmitter module is mounted to the outside of the float chamber, opposite the magnetic flag indicator module (see data sheet 20010501). The float magnet activates the reed-switches in the transmitter, depending on the liquid level in the float chamber, consequently varying the effective value of a resistance network. This is converted into a 2-wire 4-20 mA current output with superimposed HART digital communication. The transmitter's measuring length (M el) must be selected so that it is greater than the level indication range (see table below). Transmitter settings are selected through the HART communication channel.

Dimensions

Internal circuit



Product code: 29710-R-Ex
M el. = (see below)
[For details see page 1](#)

Measuring length "M el." 250mm (min.) to 4000mm (max.)

Level Indicator	Media Density	x	y	Measuring Length (M el.)
	[g/cm ³]	[mm]	[mm]	[mm]
23614-A /-K	≥ 0,6	25	5	= M + 195
34300-A /-K	≥ 0,6	40	5	= M + 190
32755-A /-K	≥ 0,6	55	5	= M + 180
34000-A /-K u. 34110-K	0,6	20	10	= M + 330
34000-A /-K u. 34110-K	0,7	20	10	= M + 230
34000-A /-K u. 34110-K	0,8	20	10	= M + 160
34000-A /-K u. 34110-K	1,0	20	10	= M + 120
34000-A /-K u. 34110-K	1,2	20	10	= M + 120

Valid for standard level indicators. For others, calculate M el. as follows:
M el. [mm] = M + C1 - X - 65 + C2 + Y - 30 (M = measuring length of indicator)

HART- Transmitter	HART EEx i 37384
Transmitter housing tube dia.	Ø 14 / 10
Resolution	10mm
Power supply	See HART Transmitter data sheet
Operating temperature	
Media temperature	-50°C ... +150°C
Ambient temperature (Ta)	-20°C ... +40°C
Surface temperature	T6 (max. 85°C)
Enclosure	IP68 - 10bar (EN60529)
Materials	
Housing tube	Stainless steel 316 / 316L
Cable gland	PA; blue
- Seal	NBR
Cable (Standard 5m, shielded)	PVC; blue; 2 x 0.75mm ² ; dia. ~6.2mm approx. 6.2 mm dia.; shielded
	Resistant to most oils/petroleum products
	Polyester; silver; black printing

Installation

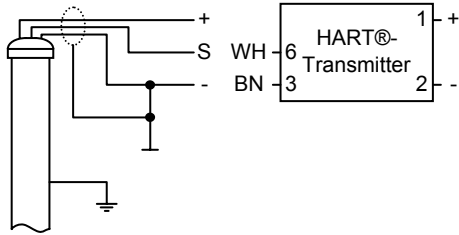
(When ordering level indicators with transmitters mounting clips are included, when ordering transmitters as spare parts please indicate pipe size)

For pipe diameter	30...40mm and 40...57mm	Part no.	80648
For pipe diameter	57...80mm	Part no.	84043

Note

Please read the instructions in our document # 20010501 before attempting installation.
The cable shielding is not connected with the transmitter housing: this should preferably be done by the user.
The transmitter can be used as a resistor network only when leads WH and BN are connected.
The transmitter can be inverted, with the cable entry below. For this, the appropriate HART transmitter setting must be changed.

External electrical connections



Description: Transmitter with 4...20 mA output and HART® interface for media temperature up to +350°C, for use with Weka Visual Level Indicators

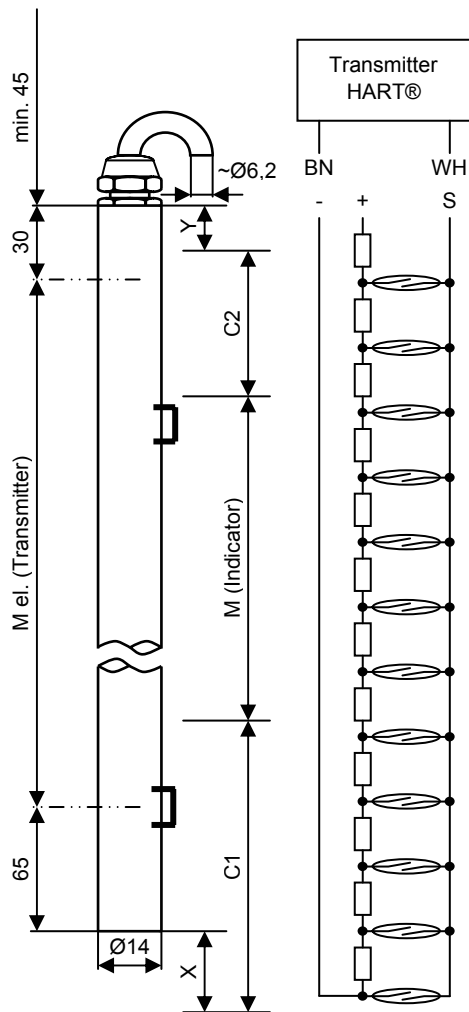
The transmitter module is mounted to the outside of the float chamber, opposite the magnetic flag indicator module (see data sheet 20010501). The float magnet activates the reed-switches in the transmitter, depending on the liquid level in the float chamber, consequently varying the effective value of a resistance network. This is converted into a 2-wire 4-20 mA current output with superimposed HART digital communication. The transmitter's measuring length (M el.) must be selected so that it is greater than the level indication range (see table below). Transmitter settings are selected through the HART communication channel.

Product code: 29710-R-W
M el. = (see below)
[For details see page 1](#)

Dimensions

Internal circuit

Measuring length "M el." 250mm (min.) to 4000mm (max.)



Level Indicator	Media Density	x	y	Measuring Length (M el.)
	[g/cm ³]	[mm]	[mm]	[mm]
23614-A /-K	≥ 0,6	25	5	= M + 195
34300-A /-K	≥ 0,6	40	5	= M + 190
32755-A /-K	≥ 0,6	55	5	= M + 180
34000-A /-K u. 34110-K	0,6	20	10	= M + 330
34000-A /-K u. 34110-K	0,7	20	10	= M + 230
34000-A /-K u. 34110-K	0,8	20	10	= M + 160
34000-A /-K u. 34110-K	1,0	20	10	= M + 120
34000-A /-K u. 34110-K	1,2	20	10	= M + 120

Valid for standard level indicators. For others, calculate M el. as follows:
M el. [mm] = M + C1 - X - 65 + C2 + Y - 30 (M = measuring length of indicator)

HART- Transmitter [HART 37383](#) [HART EEx i 37384](#)

Transmitter housing tube dia. Ø 14 / 10

Resolution 10mm

Power supply See HART transmitter data sheet

Operating temperature
Media temperature -50°C ... +350°C
Ambient temperature (Ta) -20°C ... +50°C

Enclosure IP68 - 10bar (EN60529)

Materials
Housing tube Stainless steel 316 / 316L
Cable gland Brass, nickel plated
- Seal Viton
Cable (Standard 5m) Silicone; red; 2 x 0.75mm² ; dia. ~6,2mm
Shielded
Resistant to oils/petroleum products
Name plate Polyester, silber, black printing

Installation

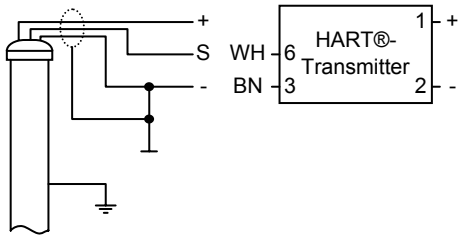
(When ordering level indicators with transmitters mounting clips are included, when ordering transmitters as spare parts please indicate pipe size)

For pipe diameter 30...40mm and 40...57mm Part no. 80648
For pipe diameter 57...80mm Part no. 84043

Note

Please read the instructions in our document # 20010501 before attempting installation.
The cable shielding is not connected with the transmitter housing: this should preferably be done by the user.
The transmitter can be used as a resistor network only when leads WH and BN are connected.
The transmitter can be inverted, with the cable entry below. For this, the appropriate HART transmitter setting must be changed.

External electrical connections



Description:

Explosion-proof transmitter with HART transmitter, EEx d IIC T6 rated, with CENELEC certificate, for use with Weka Visual Level Indicators

The transmitter module is mounted to the outside of the float chamber, opposite the visual level indicator (see data sheet 20010501). The float magnet activates the reed-switches in the transmitter, depending on the liquid level in the float chamber, consequently varying the effective value of a resistance network. This is converted into a 2-wire 4-20 mA current output with superimposed HART digital communication. The transmitter's measuring length (M el) must be selected so that it is greater than the level indication range (see table below). Transmitter settings are selected through the HART communication channel.

Product code:

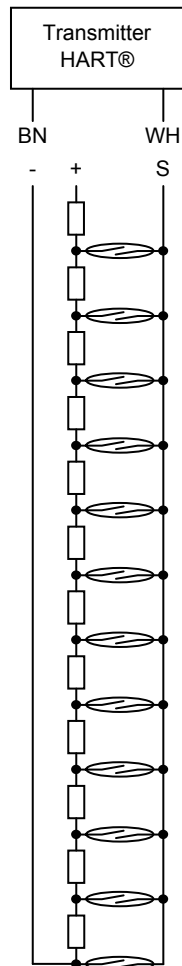
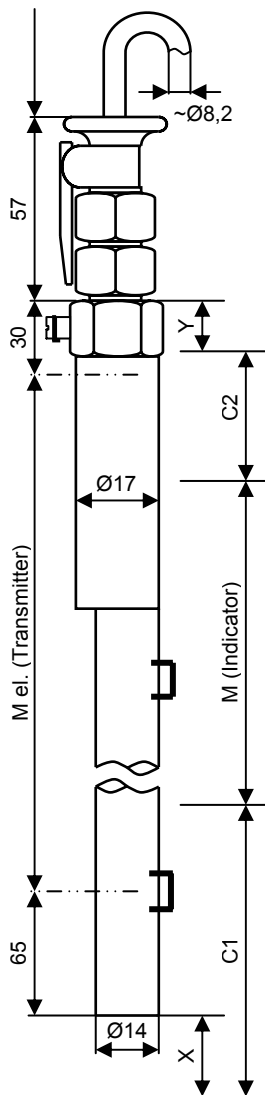
32608-R

[For details see page 1](#)

M el. = (see below)

Dimensions

Internal circuit



Measuring length "M el."

250mm (min.) to 4000mm (max.)

Level Indicator	Media Density	x	y	Measuring Length (M el.)
	[g/cm ³]	[mm]	[mm]	[mm]
23614-A /-K	≥ 0,6	25	5	= M + 195
34300-A /-K	≥ 0,6	40	5	= M + 190
32755-A /-K	≥ 0,6	55	5	= M + 180
34000-A /-K u. 34110-K	0,6	20	10	= M + 330
34000-A /-K u. 34110-K	0,7	20	10	= M + 230
34000-A /-K u. 34110-K	0,8	20	10	= M + 160
34000-A /-K u. 34110-K	1,0	20	10	= M + 120
34000-A /-K u. 34110-K	1,2	20	10	= M + 120

Valid for standard level indicators. For others, calculate M el. as follows:
M el. [mm] = M + C1 - X - 65 + C2 + Y - 30 (M = measuring length of indicator)

HART- Transmitter

[HART EEx d 38021](#)

Transmitter housing tube dia.

Ø 14 / 10

Resolution

10mm

Power supply

See HART transmitter data sheet

Operating temperature

Media temperature -50°C ... +150°C
Ambient temperature (Ta) -20°C ... +40°C
Surface temperature T6 (max. 85°C)

Enclosure

IP68 - 10bar (EN60529)

Materials

Housing tube Stainless steel 316 / 316L
Cable gland Brass, nickel plated
- Seal NBR
Cable (Standard 5m) PVC; grey; 2 x 0.75mm² ; approx. 8.2mm dia.; shielded
Resistant to most oils/petroleum products
Polyester, silver, black printing

Installation

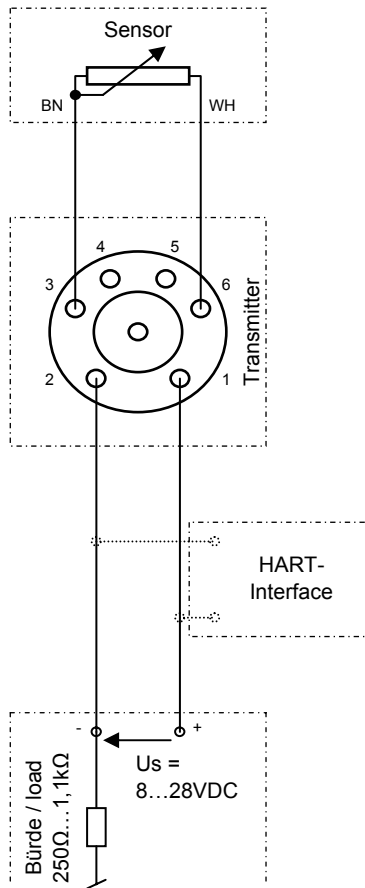
(When ordering level indicators with transmitters mounting clips are included, when ordering transmitters as spare parts please indicate pipe size)

For pipe diameter 30...40mm and 40...57mm Part no. 80648
For pipe diameter 57...80mm Part no. 84043

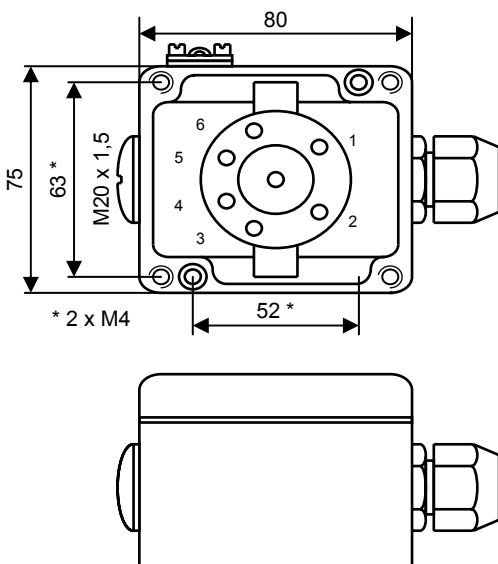
Note

Please read the instructions in our document # 20010501 before attempting installation.
The cable shielding is not connected with the transmitter housing: this should preferably be done by the user.
The transmitter can be used as a resistor network only when leads WH and BN are connected.
The transmitter can be inverted, with the cable entry below. For this, the appropriate HART transmitter setting must be changed.

External electrical connections



Dimensions



Description:

Transmitter module with HART® interface and 4-20 mA current loop output, for use with Weka Level Transmitter 29710-R

The transmitter module fastened to the float chamber generates a resistance output proportional to the liquid level in the chamber. The transmitter converts this variable resistance into a 2-wire 4-20 mA current output with superimposed HART digital communication. Zero and range setting of the transmitter is done through the HART communication channel. For high temperature applications, the transmitter can be installed at a distance (up to 10m) from the level indicator and transmitter.

Product code

37383

Resolution

[See 29710-R transmitter data sheet](#)

Housing dimensions

80 x 75 x 57mm

Cable entry

Threaded socket, M20 x 1.5

Installation

On mounting plate (38148) or at other suitably prepared location; using 2 x M4 screws at 52 x 63 mm diagonal spacing

Specifications

Loop supply voltage	8 to 28VDC
Voltage drop	8VDC
Isolation voltage	Test = 1.5kVAC; operation = 50VAC
Communication	Loop Link 5905 & HART®
Current loop output	4...20mA
Response time	440ms
Transmitter fault output	3.5mA or 23mA (programmable)
Input	0Ω (min.) to 7000Ω (max.)
Minimum span	25Ω
Lead wire resistance	Max. 5Ω
Transmitter current	0.2mA, nominal
Basic accuracy	≤ +/- 0.1Ω
Temperature coefficient	≤ +/- 5mΩ / °C
Zero offset	Max. 50% of selected span

Operating temperature

Media temperature	29710-R	-50°C ... +150°C
Operating temperature		-40°C ... +85°C
Ambient temperature (Ta)		-20°C ... +50°C

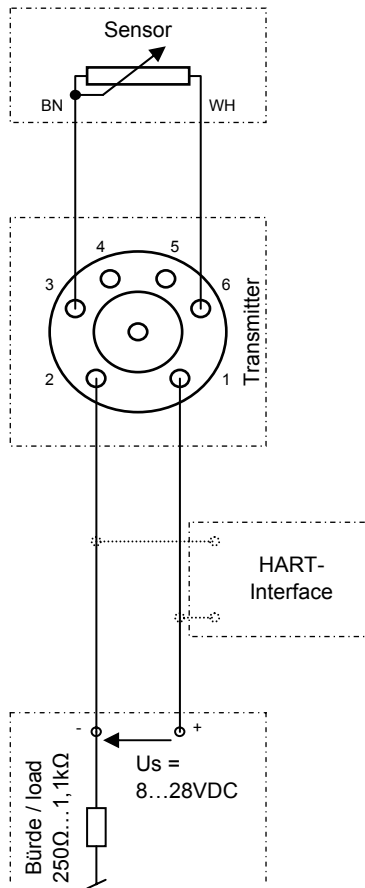
Enclosure

IP65 (EN60529)

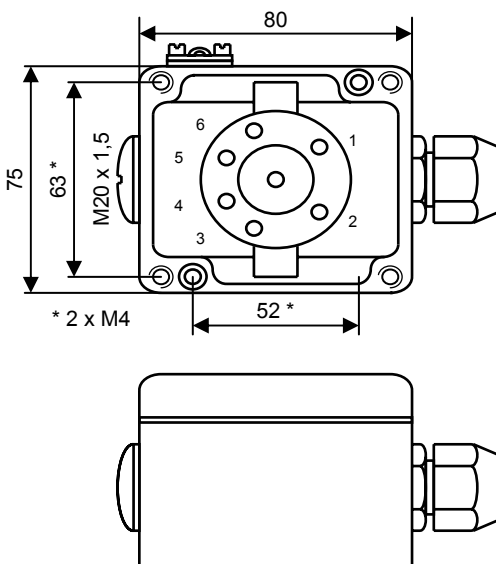
Materials

Housing	Aluminium.; blue; with grounding terminal
Cable gland	PA; grey; M20x1.5
- Seal	NBR
- Cable compatibility	Dia. 3 ... 7mm; max. 2 x 1mm ²

External electrical connections



Dimensions



Description:

Intrinsically safe transmitter with HART® transmitter, for use in zone 1 and 2, in conjunction with Weka transmitter 29710-R or 29710-W-R

The transmitter module fastened to the float chamber generates a resistance output proportional to the liquid level in the chamber. The transmitter converts this variable resistance into a 2-wire 4-20 mA current output with superimposed HART digital communication. Zero and range setting of the transmitter is done through the HART communication channel. For high temperature applications, the transmitter can be installed at a distance (up to 10m) from the level indicator and transmitter.

Product code

37384

Resolution

[See 29710-R](#) or [29710-R-W transmitter](#)

Housing dimensions

80 x 75 x 57mm

Cable entry

Threaded socket, M20 x 1.5

Installation

On mounting plate (38148) or at other suitably prepared location; using 2 x M4 screws at 52 x 63 mm diagonal spacing

Specifications

Loop supply voltage	8 to 28VDC
Voltage drop	8VDC
Isolation voltage	Test = 1.5kVAC; operation = 50VAC
Communication	Loop Link 5905 & HART®
Current loop output	4 - 20mA
Response time	440ms
Transmitter fault output	3.5mA or 23mA (programmable)
Input	0Ω (min.) to 7000Ω (max.)
Minimum span	25Ω
Lead wire resistance	Max. 5Ω
Transmitter current	0.2mA, nominal
Basic accuracy	≤ +/- 0,1Ω
Temperature coefficient	≤ +/- 5mΩ / °C
Zero offset	Max. 50% of selected span

Operating temperature

Media temperature	29710-R	-50°C ... +150°C
	29710-W-R	-50°C ... +350°C
Transmitter operating temp.		-40°C ... +85°C
Ambient temperature Ta	für T1, T2, T3, T4	-20°C ... +85°C
	für T5, T6	-20°C ... +60°C

Enclosure

IP65 (EN60529)

Materials

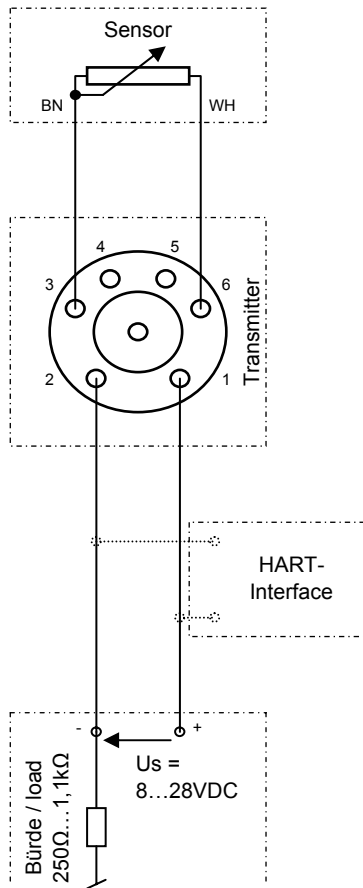
Housing	Aluminium.; blue; with grounding terminal
Cable gland	PA; grey; M20x1.5
- Seal	NBR
- Cable compatibility	Dia. 3 ... 7mm; max. 2 x 1mm ²

CE 0539 II 1G EEx ia IIC T6 DEMKO 99 ATEX 126963

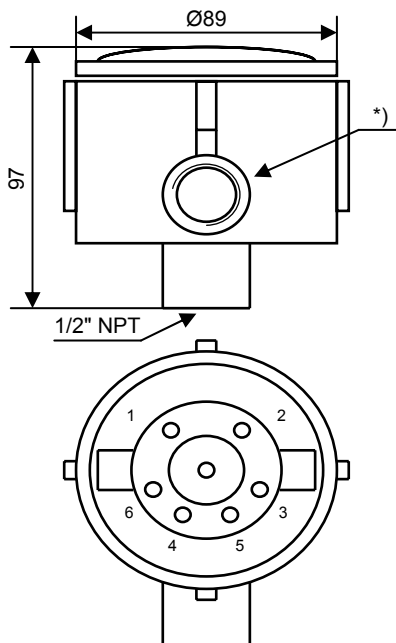
Electrical limit values

U _i =	max. 28VDC
I _i =	max. 120mA
P _i =	max. 840mW
C _i =	≤ 1nF
L _i =	≤ 10μH

External electrical connections



Dimensions



Description:

Explosion-proof transmitter with HART® and 4-20 mA current outputs, for use with Weka transmitter 32608-R

The transmitter module fastened to the float chamber generates a resistance output proportional to the liquid level in the chamber. The transmitter converts this variable resistance into a 2-wire 4-20 mA current output with superimposed HART digital communication. Zero and range setting of the transmitter is done through the HART communication channel. For high temperature applications, the transmitter can be installed at a distance (up to 10m) from the level indicator and transmitter.

Product code

38021

Resolution

[See 32608-R transmitter data sheet](#)

Housing dimensions

Dia. 130mm (approx) x 97mm (height)

Cable entry *)

Threaded socket, M20 x 1.5 or 1/2"NPT

Installation

Mounted on the level indicator (or at other suitably prepared location) using a clip (84242) and coupling (20000710).

Specifications

Loop supply voltage	8 to 28VDC
Voltage drop	8VDC
Isolation voltage	Test = 1.5kVAC; operation = 50VAC
Communication	Loop Link 5905 & HART®
Current loop output	4 - 20mA
Response time	440ms
Transmitter fault output	3.5mA or 23mA (programmable)
Input	0Ω (min.) to 7000Ω (max.)
Minimum span	25Ω
Lead wire resistance	Max. 5Ω
Transmitter current	0.2mA, nominal
Basic accuracy	≤ +/- 0,1Ω
Temperature coefficient	≤ +/- 5mΩ / °C
Zero offset	Max. 50% of selected span

Operating temperature

Media temperature	32608-R	-50°C ... +150°C
Transmitter operating temp.		-40°C ... +85°C
Ambient temperature Ta		-20°C ... +50°C

Enclosure

IP68 - 10bar (EN60529)

Materials

Housing	Aluminium; grey; EEx d
Cable gland	Brass; nickel plated; PTB 00 ATEX 1059
- Seal	NBR
- Cable compatibility	Dia. 7 ... 9mm; max. 2 x 1mm ²