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WEKA transmitters: Resistant output or current supplied voltage output (3-wire)			
Transmitter	Media temperature	Connection	
29710	-50°C ... +150°C	Cable	6
29710-W	-50°C ... +350°C	Cable	7

WEKA transmitters: Current output 4...20mA (2-wire)			
Transmitter	Media temperature	Connection	
31967	-50°C ... +150°C	Cable	8
31967-W	-50°C ... +250°C	Cable	9
31967-K	-50°C ... +150°C	Terminal box	10
31967-KST	-50°C ... +150°C	Plug-in connector	11

WEKA transmitters for hazardous areas: Intrinsically safe (Ex i) 			
Resistant output, current supplied voltage output (3-wire) or current output 4...20mA (2-wire)			
Transmitter	Media temperature	Connection	Marking
29710-NI	-50°C ... +150°C	Cable / resistant, voltage	II 2 G Ex ia IIC T4 Gb II 2 D Ex ia IIIC T115°C
32607-NI	-50°C ... +150°C	Cable / current	II 2 G Ex ia IIC T4 Gb II 2 D Ex ia IIIC T115°C

WEKA transmitters for hazardous areas: Flameproof enclosures (Ex d) 			
Resistant output, current supplied voltage output (3-wire) or current output 4...20mA (2-wire)			
Transmitter	Media temperature	Connection	Marking
29710-ND	-50°C ... +150°C	Cable / resistant, voltage	II 2 G Ex db IIC T6 Gb II 2 D Ex tb IIIC T85°C Db
32608-ND	-50°C ... +150°C	Cable / current	II 2 G Ex db IIC T6 Gb II 2 D Ex tb IIIC T85°C Db

WEKA transmitters for use with HART®, Profibus PA® or Foundation Fieldbus™ converter module interface					
4...20mA current output or resistance output					
WEKA transmitters with resistance output or current supplied voltage output					
Transmitter	Media temperature	Connection	Protection class	Zone	
29710-R	-50°C ... +150°C	Cable	Non-hazardous	-	20
29710-R-NI 	-50°C ... +150°C	Cable	Ex i	Zone 1 and 2	21
29710-R-W	-50°C ... +350°C	Cable	Non-hazardous or Ex i *	Zone 1 and 2	22
29710-R-ND 	-50°C ... +150°C	Cable	Ex d	Zone 1 and 2	23
* The transmitter can be used as a simple electrical apparatus as defined by EN60079-11					
HART® converter, ready to connect, mounted in junction box					
Converter	Description	Compatible transmitters			
HART 37383	HART® converter in IP65 metal enclosure	29710-R and 29710-R-W			24
HART 40038	HART® converter in IP65 metal enclosure with digital display	29710-R and 29710-R-W			25
HART 37384 	HART® converter - Intrinsically safe	29710-R-NI and 29710-R-W			26
HART 38021 	HART® converter - Flameproof enclosures	29710-R-ND			27
Profibus PA® and Foundation Fieldbus™ converter, ready to connect, mounted in junction box					
Converter	Description	Compatible transmitters			
PA+FF 40268	Profibus PA® and FF™ converter in IP65 metal enclosure	29710-R and 29710-R-W			28

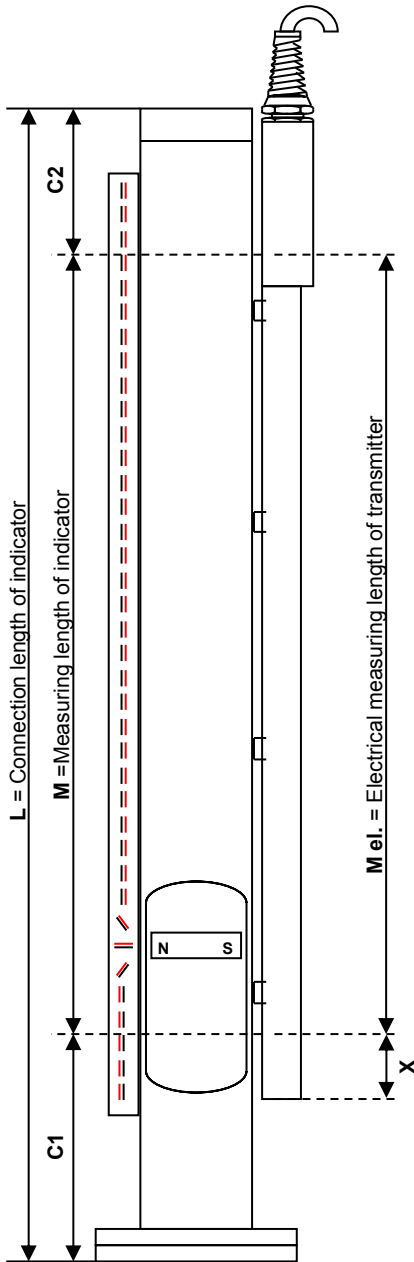
Magnetostrictive transmitters with 4- 20 mA current output (2-wire) with HART® protocol 					
Installation	Installation of magnetostrictive transmitters for WEKA Visual Level Indicators				29
Transmitter	Media Temperatures:	Output	Note	Zone	
38614	-50°C ... +120°C	4...20mA		-	30
38614-W	-50°C ... +250°C	4...20mA	for high media temp.	-	31
38614-NI 	-40°C ... +450°C	4...20mA	Ex i	Zone 1	32
38614-ND 	-40°C ... +450°C	4...20mA	Ex d, with or without display	Zone 1	33

Ex-Info 	Classification of hazardous zones and marking of equipment	34
Ex-5.7	Extract of standard of simple electrical apparatus	35

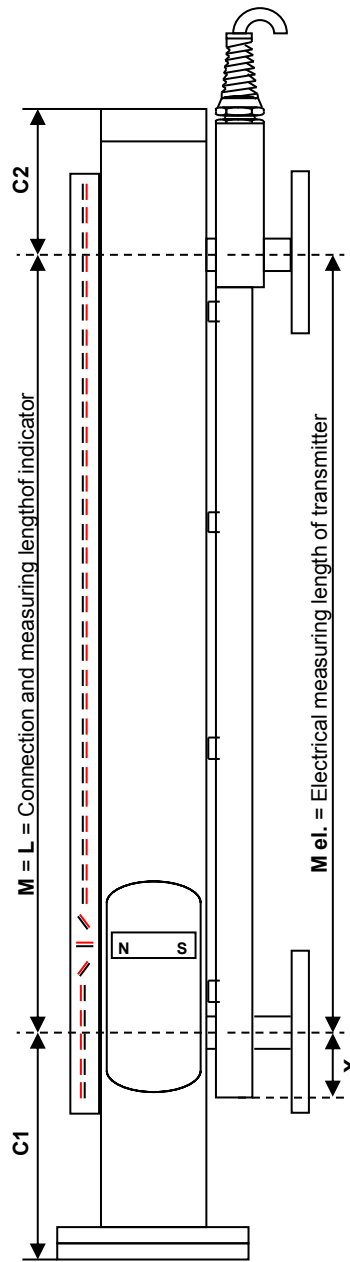
Type code

	available for:	index:-.....-.....-010-.....	
Type of transmitter				
3-wire: resistant output or current supplied voltage output		29710		
2-wire: 4...20mA current output, current sink		31967		
2-wire: Intrinsically safe Ex ia; 4...20mA current output, current sink		32607		
2-wire: Flameproof enclosures Ex d, 4...20mA current output, current sink		32608		
Specialities				
Standard		no marking		
With resistant output for HART®, Profibus PA® and Foundation Fieldbus™	29710	R		
Transmitter with bi-stable reed switch at the top end	29710 / 31967	BI		
Execution				
Standard		no marking		
for high media temperature	29710 / 31967	W		
with terminal box	31967	K		
with plug connector	31967	KST		
Intrinsically safe Ex ia	29710 / 32607	NI		
Flameproof enclosures, Ex id	29710 / 32608	ND		
Size of resistance				
10 Ohm per step (not applicable for NI/ND)	all	010		
Resolution				
5mm	all	05		
10mm	all	10		

Level Indicator A-version



Level Indicator K-version



Terminology:

- L = Length between process connections
- M = Measuring length (indication length) of level indicator
- M el. = Measuring length of transmitter
- C1 = Bottom float extension
- C2 = Top float extension
- X = Initiating point of transmitter
 - 10 mm resolution -> X = 65 mm
 - 5 mm resolution -> X = 30 mm
 - 29710-R-xx version -> see datasheet

Visual level indicators version -A and -K are recommended for most applications.

Visual level indicators version -B and -O may require special dimensions and should be confirmed by WEKA before ordering.

Transmitter length:

Type -K and -O magnetic level indicators:
 M el. = M = L or M el. = according to customer order (<M)

Type -A and -B magnetic level indicators:
 M el. = M or M el. = according to customer order (<M)

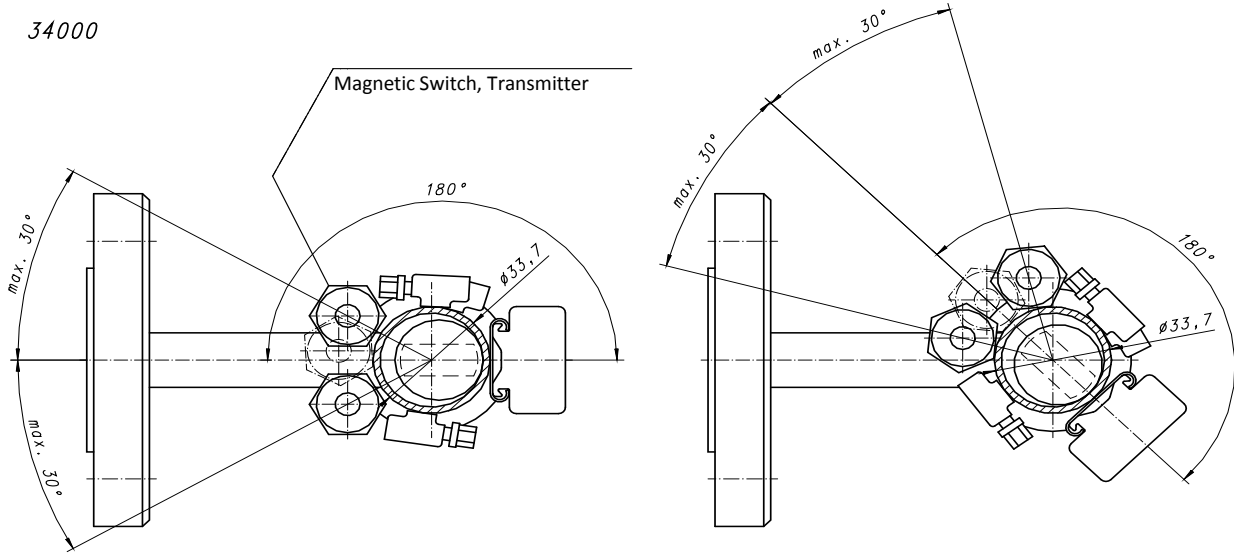
Note:

When M el. < M, then a bi-stable reed switch is necessary.
 For transmitters type 29710-R-x-010-xx M el. must be > M.

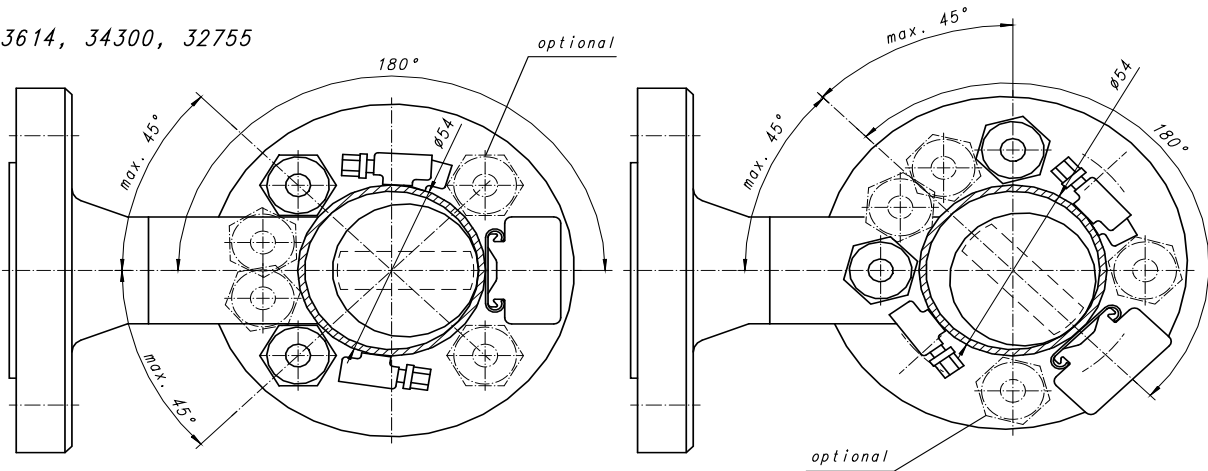
Mounting **Normal:** Installation 180 °C opposite of the indication rail with the permitted tolerance according to the tube diameter (refer to layout below)
Cable exit upwards.

Variation: Mounting the Transmitter adjacent to the indication rail except for Smartline.
Cable exit upwards.

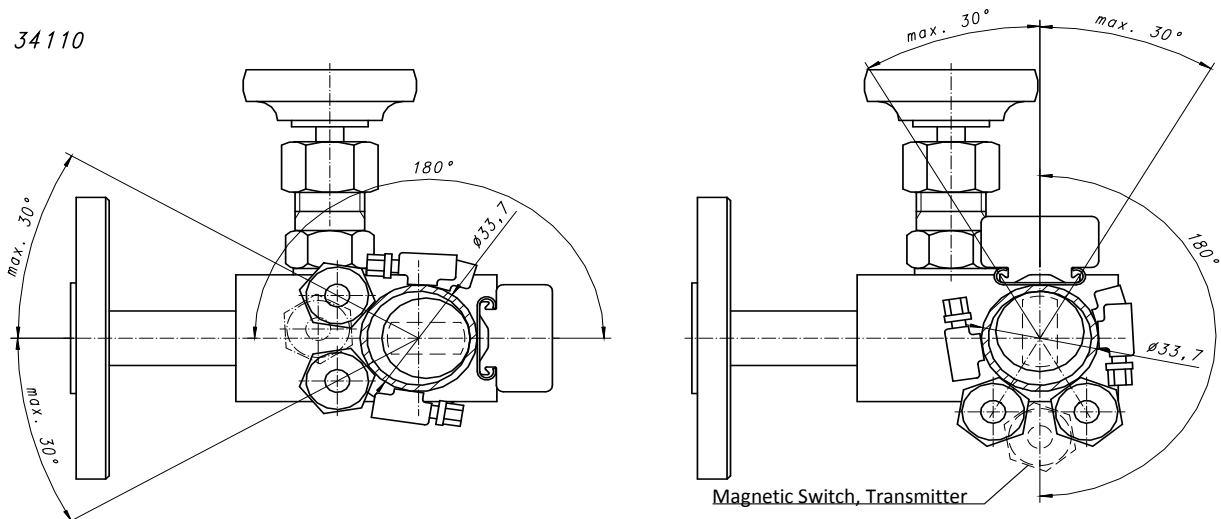
34000



23614, 34300, 32755



34110



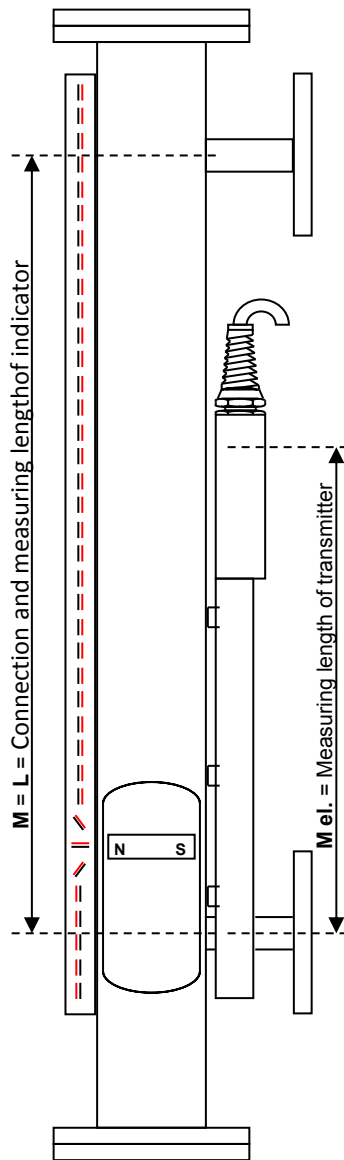


Figure 1

Identification

Type XXXXX-Bi-xx-010-xx

Example

31967-Bi-W-010-05

Principles of operation:

The permanent magnet inside the float activates the reed switches of the transmitter depending on the vertical position of the 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.), the value of the electrical signal output will jump to 115% of the total measuring range. This over-limit value of the signal will remain constant for any level above the total measuring range (M el.). See figure 2.

Since the over-limit output signal represents a non-defined level, a second high-limit bi-stable reed switch can be fitted.

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

Possible error condition:

If the bi-stable reed switch is closed due to any other reasons such as during transport, or forced by an external magnetic field, the output signal will be incorrect. See Figure 3.

Corrective actions:

- Install the transmitter module 180° opposite to the indication rail. See Installation Instructions, datasheet 20010501.
- OR fill the vessel on which the level indicator is installed so that the float rises above the bi-stable reed switch. Empty the vessel, so the bi-stable reed switch is operated through one complete close-open cycle.
- OR pass a permanent bar magnet with its south pole pointing towards the transmitter downwards from top to bottom over the bi-stable reed switch and that the switch opens.

As a result the level transmitter will give the correct output signal. See Figure 2.

Signal output
with correctly adjusted transmitter

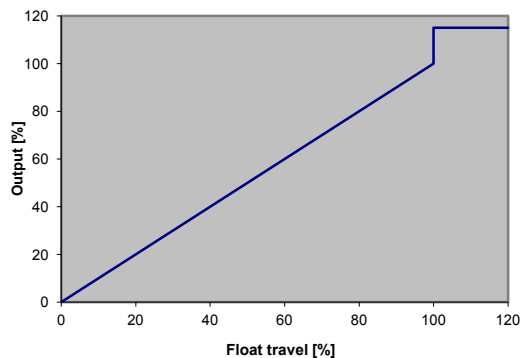


Figure 2

Faultive signal output
with closed bi-stable reed-switch

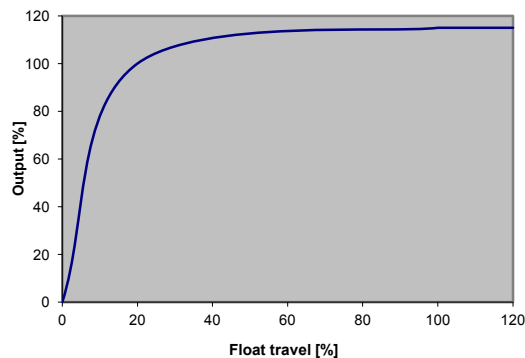


Figure 3