

Capacitive level probe - Type Leveltec -



Example: Leveltec S and R, with different adapters

FEATURES

- LEVEL DETECTION IN FLUIDS, PUMP PROTECTION, PROTECTION AGAINST DRY RUN, EMPTY / FULL INDICATION
- INSTALLATION WITH DIFFERENT PROCESS CONNECTIONS WITH RESPECT OF HYGIENIC ASPECTS
- LEVELTEC R FOR OXIDISING MEDIA E.G. H₂O₂
- CONSTANT SWITCH-POINT WITHOUT ANY ALIGNMENT
- DIRECT CONNECTION TO SPS OR PLS

DESCRIPTION

The product family of level probes **Leveltec of the types Standard S, R, P, HAT, VAS** is used for level monitoring and for dry run protection with non conductive media. The capacitive measuring method allows a wide application range also with changing media. An electromagnetic wave penetrates the media and depending on the dielectric constant ϵ the propagation time of the electromagnetic wave is influenced. Crusts, foam and condensate are not detected.

The output signal can be connected directly to a SPS or PLS for processing. The adaption to the process with respect of hygienic aspects is assured by a proper selection of the welding parts and front flat assembly to the process. The adoption of sockets for vibrating forks is possible. Due to the resistance against cleaning temperatures sterilisations and CIP cleaning cycles are executable. For highly oxidizing media, e.g. H₂O₂ as cleaning detergent, the application of **Leveltec R** is recommended.

Independently of the conductivity of the media the controllable **Leveltec P** is especially well suited for level detection in pipes and vessels. The specialness is the alignment (optional) of the switching level of the output signal to the additional control input, which is controlled by the SPS / PLS. The switching status of the output signal is indicated by a LED (constantly, dichromatic) on the connecting circuit board.

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TECHNICAL DATA

Housing	
Material codes	Housing 1.4301 / 1.4305
	Threaded connector end WS 22, 1.4571
	Coupling part PEEK
Process connection	G ½ B with metallic sealing cone Coupling part PEEK (conform to FDA standards) Connection head stainless steel V2A 1.4305
El. Connection	- Cable gland: M16 x 1,5 -optional: M12 plug in - strip terminal
Operational temperature	Process temp.: -20... +100°C Ambient temp.: -20... + 80°C Cleaning temp.: 0... +140°C, max.30 Min.
Operational pressure	max. 10 bar (with zem / TP 16)
Switching-function	High- / Low level control are determined by the polarity of the auxiliary supply, Constant indication by dichromatic LED
Time delay	0,1 s preset
Output signal	Active output 50 mA max., short-circuit-proof
Supply voltage	18...35 V DC, max. 25 mA without switching load
Interference resistance	Conform to CE
Installation position	optimal: horizontal mounting, sensor tip should immerse almost completely
Weld-in accessories	- zem / TP 16, metallic sealing G ½ B - Connecting adapters: VARIVENT DN 50/40 (d = 68 mm), pipe screwing DIN 11851, starting DN 40 all types are installed in pipes DIN 11851, adapter sleeves for vibrating forks
OPTIONS	external switching status indication by LED

TECHNICAL SPECIALTIES

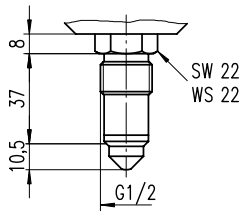
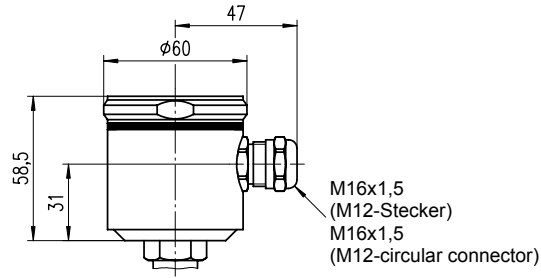
Leveltec S	reliable detection at water contents of the media > 20% factory made adjustment of the Dk value $\epsilon = 20$ Sensitivity adjustment at the trimmer (optional, on the board) - Higher sensitivity > turn trimmer in + - direction (for low or no water content of the media) - Lower sensitivity > turn trimmer in - - direction (for crusting or foaming media)
Leveltec P	- controllable level switch – Adjustment of the sensitivity to the media to be measured by connection of clamp 4 (e.g. via SPS/PLS), by that the following ranges can be selected: - standard range (clamp 4 with GND or not connected) = normal sensitivity, detection of up to 80% of all media in the food production, with water contents of the media >20%, switching level at Dk value $\epsilon > 20$ - H-range (connection of clamp 4 with 'plus' of the supply voltage) = high sensitivity, adjusted e.g. for fruit juice concentrates, high percentage alcohol, edible oil, for media with low or no water content, switching level at Dk value $\epsilon > 2$
Type	
Leveltec R	Same as Leveltec S , but the tip of the probe is layered with PTFE as a protection against oxidizing media
Leveltec HT	Designed for high temperatures, application e.g. in isolated vessels or frequently happening process temperatures up to 140°C
Leveltec VAS	Probe length 100 mm, sensor tip of V4A (1.4435), e.g. for special installations in vessels (installable with zem / VAS adapter sockets)

Installation advices

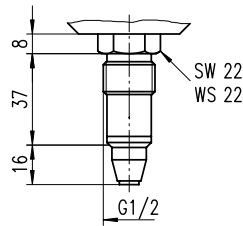
- No use of isolating sealing materials.
- The PEEK coupling part should immerse almost completely in the media to ensure proper function.
- Recommended is horizontal installation e.g. in pipes with '10h' or '14h' position respectively.
- With acid or aqueous media mismeasurements can happen if strong crusts occur.

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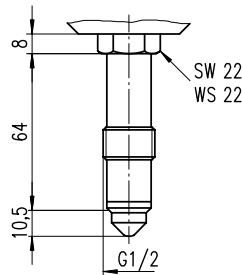
DIMENSIONAL DRAWINGS



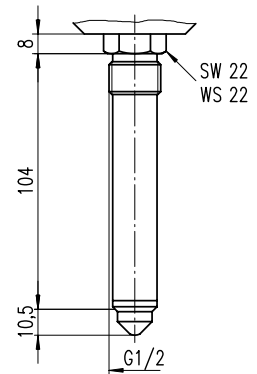
LEVELTEC S / LEVELTEC P



LEVELTEC R

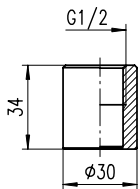


LEVELTEC HT

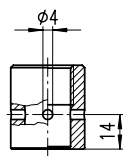


LEVELTEC VAS

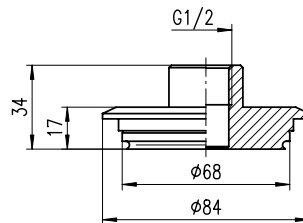
Prozessanschlussadapter: (weitere Ausführungen auf Anfrage)
adapters for process-connection: (other constructions on request)



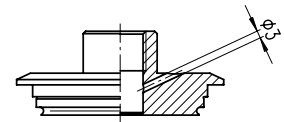
zem / TP16



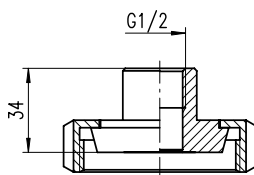
zem / TP16 - LB
mit Leckagebohrungen
with borehole for
leakage control



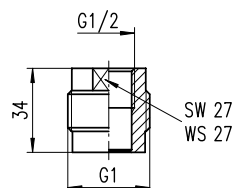
zfl / VA - TP16
VARIVENT - Flansch d=68mm
VARIVENT - flange d=68mm



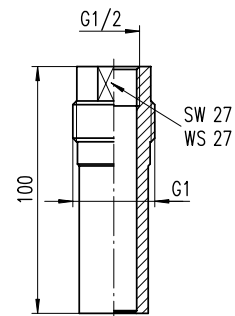
zfl / VA - TP16 - LB
VARIVENT - Flansch d=68mm
mit Leckagebohrungen
VARIVENT - flange d=68mm
with borehole for leakage control



zfl / MG ... - TP16
Kegelstutzen DIN 11851 - DN40 ... DN50
conical nozzle DIN 11851 - DN40 ... DN50



zem / AML
Adaptermuffe L
adapter socket L



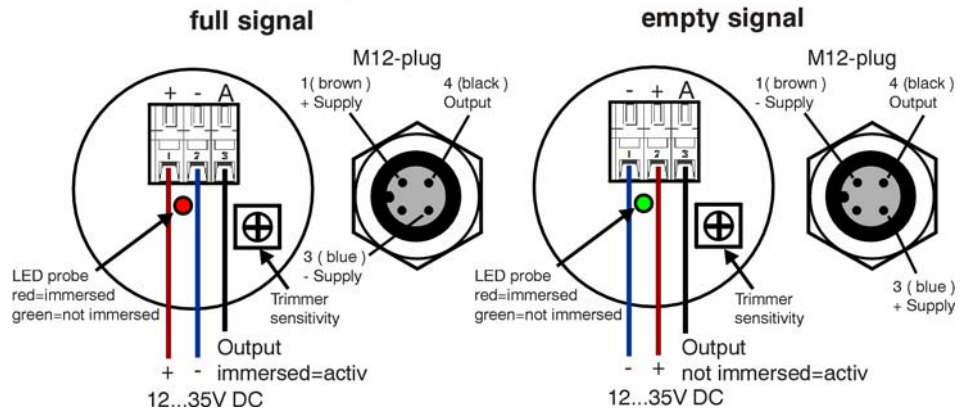
zem / VAS
Adaptermuffe VAS
adapter socket VAS

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ELETRICAL CONNECTION

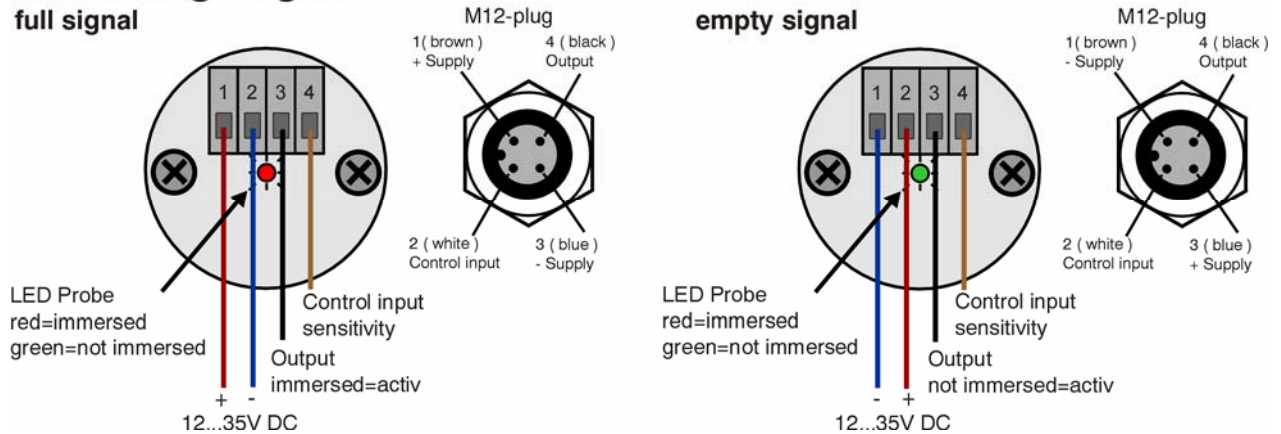
Leveltec Type Standard (S) / HT / VAS

Connecting diagram



Leveltec Typ P (controlable)

Connecting diagram



ORDER INFORMATION

Electronic	
S	Standard electronic
P	Programmable electronic
HT	High temperature version

Type	
B	Standard type
R	Type for oxidising media
VAS	Special probe length

Electrical connection	
C	Cable gland M16 x 1,5
M	M12 plug in

LEVELTEC			
LEVELTEC	HT	B	

Our products are constantly in further development, therefore subjects to modifications.