



- * ultrasonic level and distance gauge with display,
- * compact design
- * any physical units can be displayed
- * adjustable limits and hysteresis
- * extreme value memory
- * freely convertible and scalable 4-20mA output
- * trend and digital displays
- * super-bright signalling LED

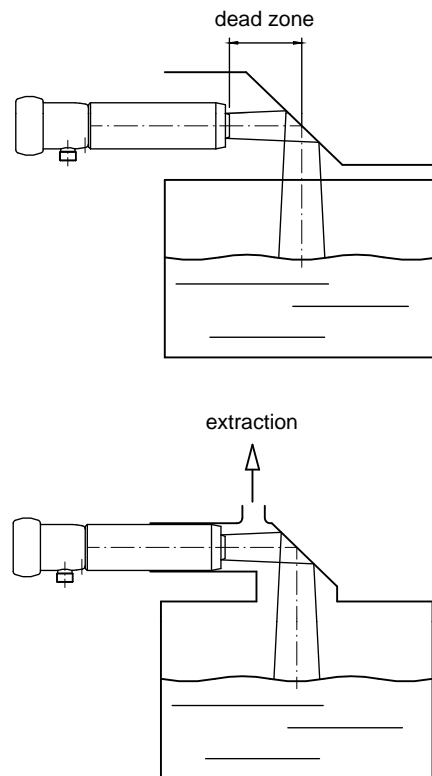
PRINCIPLE

The sensor consists of the primary sensor, an ultrasonic sensor, which determines in a non-contact manner distances to materials of various types (liquids, bulk goods, solids) and the evaluation electronics (Please take all additional data from the omni-sensor-family 51.1.omni and data sheet 51.1.omni2). The ultrasonic sensor operates according to the principle of the measurement of propagation time. Transmitted ultrasonic pulses are reflected at the surface and arrive back at the converter after an echo period. The propagation time is proportional to the distance. The electronic calculate the proportional analog signal and shows the distance in "inch" or "cm" on the LCD Display.

Please take all additional data from the omni-sensor-family 51.1.omni and data sheet 51.1.omni2.

MOUNTING

For mechanical installation there is required : a center hole \varnothing 35,5 mm and fastening holes 3 times \varnothing for the attached screws. Please take care for the right distance to the tank wall and make shure that the ultrasonic beam is reflected back to the sensor head it self. Take care about the "dead zone" in front of the sensor (see sample arrangement of the sensor). If the sensor filter is set to the maximum, intermediate paddels crossing the ultrasonic beam can be ignored (see filter setting in the general description)

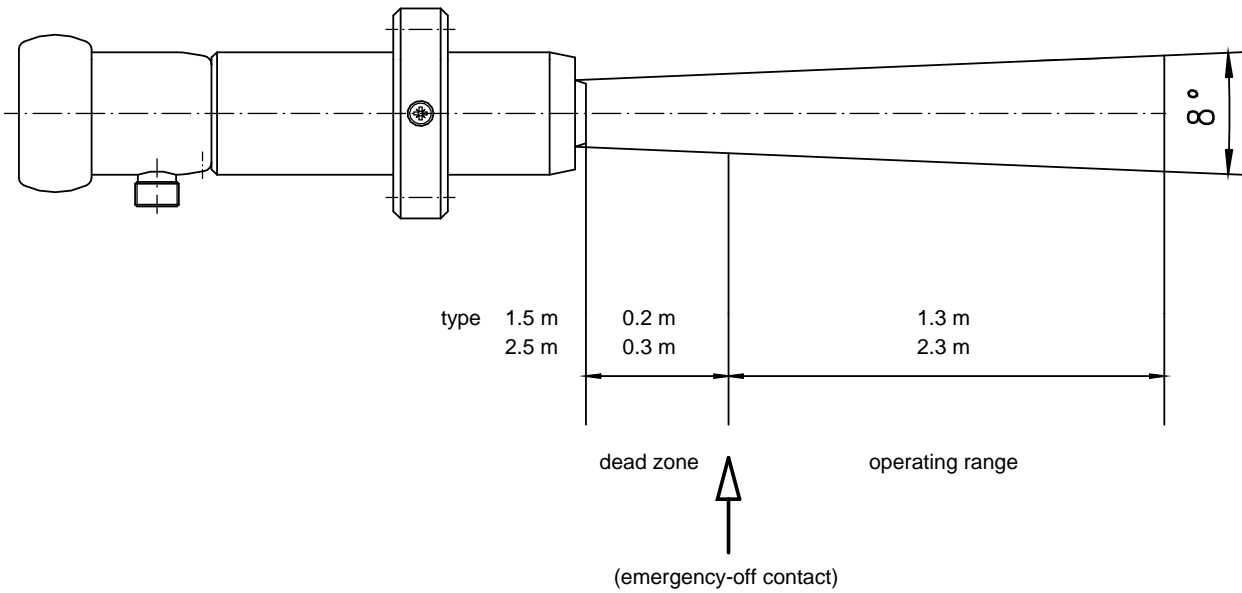


Possible sensor arrangement

Please note that the sensor only has a limited operating range (Figure: Sensor operating range). The most reliable method of application is obtained when you employ the "MIN" and "MAX" values as emergency-off switches.

Another possible method is provided by deviation of the ultrasonic signal at a reflection surface in front of the sensor (see figure: Possible sensor arrangement).

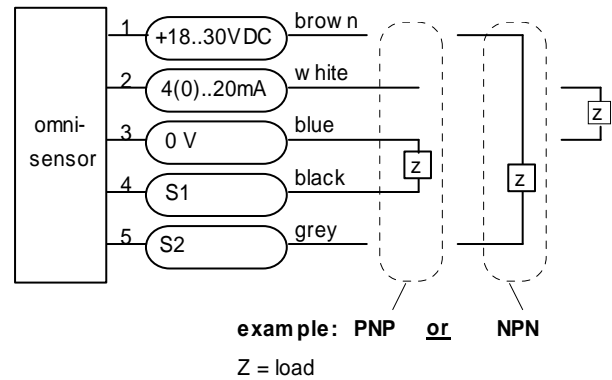
Avoid waves during level measurements and also sloping surfaces on the level to be measured. Temperatures in excess of 60°C on the measured material surface may lead to deviations in the measurement accuracy (a ventilated or extracted dip tube may help here). High dust concentrations reduce the ultrasonic signal and give errant measurement. Foams may be detected depending on the density (test or consultancy required).



TECHNICAL DATA

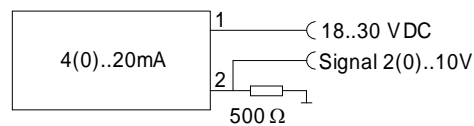
linearity error	<0.3% FS
accuracy	±0.2% FS
temperature error	0.03% / °C
sound cone	8 degrees
supply voltage	<100 mA
operating pressure	on request
operating temperature	0..70°C
storage temperature	-20..80°C
supply voltage	18..30 VDC
power consumption	<3 W
signal output	4(0)..20mA, 2(0)..10V across 500 Ohm resistor to 0V.
switching values S1 and S2	PNP or NPN selectable, 300mA load in sum max., programmable as min. or max. value, short-circuit proof, reverse-polarity proof
hysteresis	adjustable, position of hysteresis depends on min or max.
display	graphical LCD display extended temperature range -20..70°C, 32x16 pixels, back-lit, shows value and units, LED signalling lamp with simultaneous message in display.
connection	at locking plug M 12x1, 5-pole
protection class	IP67
materials	PET 30% GV, Epoxy resin, POM
medium contact materials	
electronic housing materials	housing stainless steel 1.4305 glass tempered mineral glass magnet cobalt samarium ring POM

TERMINAL ASSIGNMENT



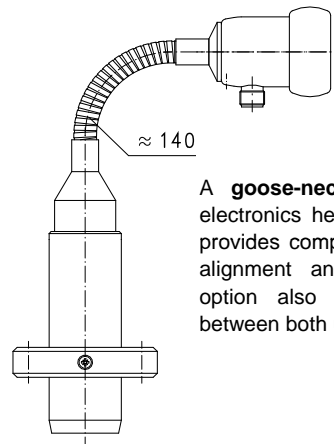
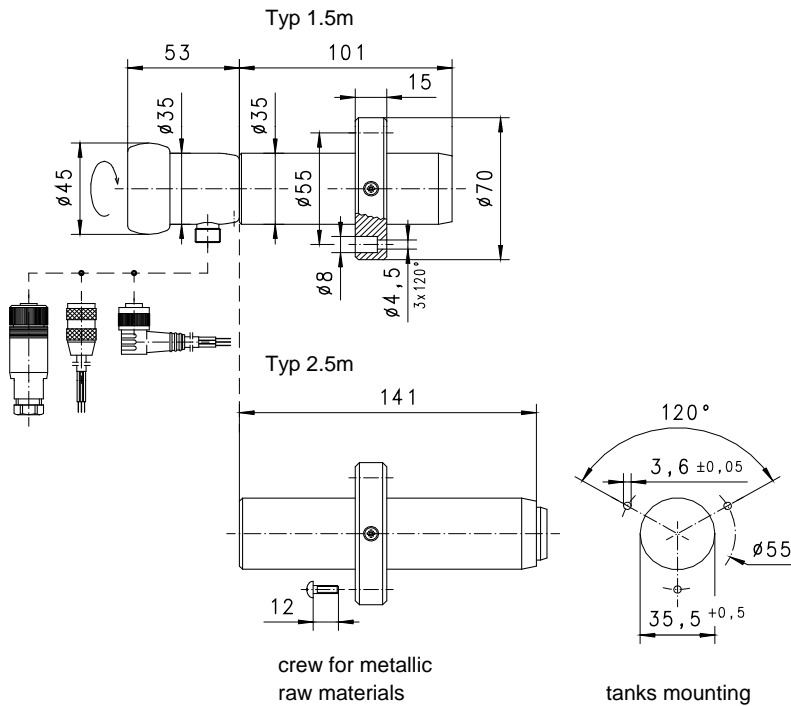
The switchpoints are changing to PNP or NPN depending to your interface automaticly.

Signal output with 2(0)..10V
 Sample:



DIMENSIONS

Type	L
1.5m omni-L15S	101
2.5m omni-L25S	130



A **goose-neck** (optional) between the electronics head and the primary sensor provides complete freedom in the sensor alignment and reading direction. This option also gives thermal decoupling between both units.

NOMENCLATURE

omni-L	15	S	basic type specification
	15		● type 1.5 m
	25		● type 2.5 m
		S	● connection for locking plug M12x1, 5-pole
		H	○ goose-neck

ACCESSORY

Locking plug M12x1

K5	PU-	02	S	G	basic type specification
K5					● ready-made cable 5-pole
KB05					● self makable cable 5-pole
	PU-				● material PUR
		02			● length 2 m
		05			● length 5 m
		10			● length 10 m
			S		● moulded-on plug
				G	● straight plug
				W	● angled plug 90°



All technical changes reserved

●BASIC Standard ○BASIC Programme option □VARIO Special option ⊕ PLUS Accessories ✗ not recommendable