

Precise Level Switch

LB 471



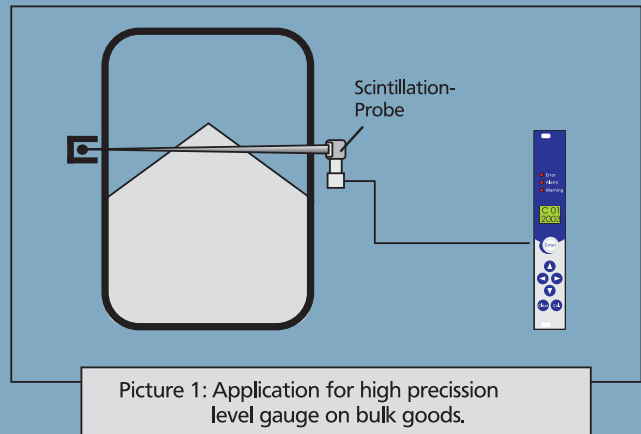
There is no need for changes in the vessel as the components are mounted outside of the vessel. Apart from that, the measuring system is no subject to abrasion and maintenance free due to the contactless measuring technique. The chemical and physical characteristics of the product practically do not influence the measurement. Even under difficult process conditions and when working with aggressive products, the Berthold level switch can be used without any problems. Berthold's level switch has uses in all industrial areas, including the food industry. It can be used in any case where one or more interfaces of liquids or bulk goods have to be monitored. The level switch is suitable for all sorts of containers and tanks, for pipes and feeder chutes.



Level Switch LB 471 for Bulk Goods and Liquids

The radiometric Level Switch is based on the absorption of gamma rays through matter. While passing through the product, the intensity of the gamma rays is weakened. This weakening depends on the measuring path, in this case the bulk cone, of the product. By using highly sensitive scintillation counters, the level measurement can be carried out with some millimeters precision.

An arrangement of a level switch measurement is shown in picture 1. The shielded radiation source is mounted at the height to be measured of the product outside of the container. A scintillation counter for detection is fitted on the opposite side. The detector information is transmitted by means of a 2-core cable to the evaluation unit.



Technical Data

Evaluation Unit LB 4710	
Types	LB 4710-0XX for counter tubes LB 4710-1XX for scintillation counters
Design	– module 3 HE, 4TE max. 19 modules in a special 19" rack – in a housing 3 HE 7TE for any 19" rack – in a wall mounted housing 2 modules
Protection Class	IP 20
Power Supply	18 – 30 V DC or 24 V AC option: 115 – 230 VAC
Power Consumption	approx. 7,5 VA(AC), 7,5 W(DC)
Operating Temperature	0... +60 °C (273 ... 323 K)
Weight	ca. 0,5 kg
Detector Connection	EEx ib IIC
Signal Out	1 Relay for min/max SPDT 1 Relay for failure 1 Relay for warning signal alternative set up as max/min AC: Max. 250 V, max. 1A, max 200 VA DC: Max. 300 V, max. 1A, max. 60 W resistive load
Display	2-line LCD-display with 4 characters, illuminated. Data input via keyboard. Lockable by password.
Time Constant	0,5-999
Automatic Decay Compensation	for ¹³⁷ Cs und ⁶⁰ Co.

Design modification may occur without notice.
For worldwide distribution and service see:
www.BertholdTech.com.

Counter Tubes	
SZ5-GHS-3171-1/2	Probes with one or two counter tubes
GHS-3172-1/2	
ATEX for	II 2G EEx ib d IIC T6
SZ5-GHS-3171-1/2	II 2G EEx de IIC T6
CSA (Option)	Class I Division 2 Group B,C,D Class II Division 2 Group E,F,G
Protection Class	IP 65
Housing	Stainless steel 4,5 kg for GHS 3171 and 6 kg for SZ5 GHS 3171
Operating Temperature	-40 ... +50 °C option: water cooling
Storage Temperature	-40 ... +80 °C
Cable Glands	PG16 for cable diameter: 5 ... 8 mm
Cable	e. g. LiYY 2 x 1,0 maximum 1000 m
Scintillation Counter	
LB 4401.. (with EEx)	Scintillation counter with NaI (TI) crystal
LB 5401.. (none EEx)	25/25, 40/35, 50/50 temp.-stability: +/- 0,1 %
ATEX	II 2G EEx ib d IIC T6 II 2G EEx de IIC T6 II 2D IP 65 T 80 °C
FM (option)	Class I Division 1 Group A,B,C,D Class II Division 1 Group E,F,G Temp. Class T6 (85 °C)
Housing	Stainless steel 6 kg or 18 kg with collimator
Storage Temperature	-40 ... +70 °C
Cable Glands	M16 for cable diameter: 5 ... 8 mm
Operating Temperature	-40 ... +60 °C option: water cooling

