

## FIBERTRAC 31

Radiation-based sensor for continuous level and interface measurement

### Application area

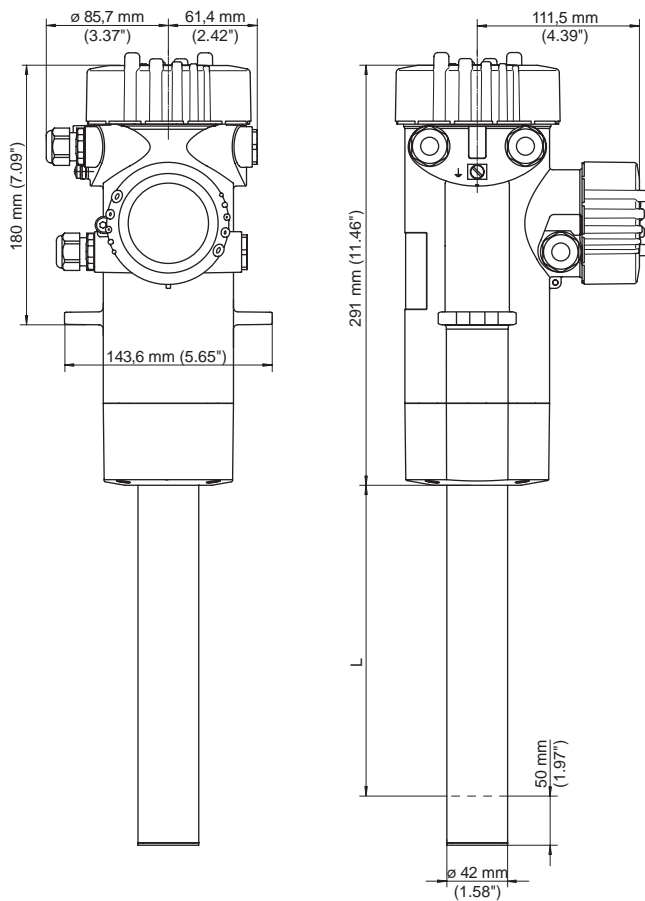
The FIBERTRAC 31 is a radiation-based sensor for continuous measurement of liquids and bulk solids. It is suitable for level and interface measurement under extreme process conditions, in aggressive products or critical product features. The FIBERTRAC 31 delivers precise measuring results even under hardest application conditions.

### Advantages

- High plant availability through non-contact measurement
- Simple mounting on round and conical vessels through flexible detector
- Cost saving through use of only one sensor up to 7 m measuring range

### Technical data

Version:	sensor with flexible plastic detector $\varnothing$ 42 mm
Measuring range:	up to 7 m
Mounting:	from outside on the vessel
Reproducibility:	+/- 0.5 %
SIL qualification:	up to SIL2



**Approval**

- XX** Without .....
- UG** FM (XP-IS) CL. I-III, DIV 1 GR A-G .....
- KG** CSA(XP-IS)CL.I-III,DIV 1GP A-G .....
- DK** ATEX II 2G Ex d ia IIC T6+1D,2D Ex tD IP66 T .....
- DK** IEC Zone 1 Ex d ia IIC T6+Ex tD A20,A21 IP66 T .....

**Version / Ambient temperature**

- 1** Standard / -20°...+50°C .....

**Electronics**

- V** Four-wire 4...20mA/HART® .....
- A** Four-wire 4...20 mA/HART® (Explosion Proof Output) .....
- B** Four-wire 4...20 mA/HART® (Intrinsically Safe Output) .....
- F** Four-wire Foundation Fieldbus .....
- C** Four-wire Foundation Fieldbus (Explosion Proof Output) .....
- D** Four-wire Foundation Fieldbus (Intrinsically Safe Out) .....
- P** Four-wire Profibus PA .....
- E** Four-wire Profibus PA (Explosion Proof Output) .....
- G** 4-wire Profibus PA (Intrinsically Safe Output) .....

**Housing / Protection**

- D** Aluminum / IP66/IP67 .....
- A** Aluminum with 316L conduit mount /IP66/IP67 .....
- W** 316L SS / IP66/IP67 .....
- V** Stainless Steel with 316L conduit mount /IP66/IP67 .....

**Cable entry / Cable gland / Plug connection**

- M** M20x1.5 / without / without .....
- N** 1/2 NPT / without / without .....

**Indicating / Adjustment module (PLICSCOM)**

- X** Without .....
- B** Side mounted with backlight .....

**Additional equipment**

- X** Without .....

**Active length**

- 012** 12"/305 mm .....
- 024** 24"/610 mm .....
- 036** 36"/915 mm .....
- 048** 48"/1219 mm .....
- 060** 60"/1524 mm .....
- 072** 72"/1829 mm .....
- 084** 84"/2134 mm .....
- 096** 96"/2438 mm .....
- 108** 108"/2743 mm .....
- 120** 120"/3048 mm .....
- 132** 132"/3353 mm .....
- 144** 144"/3658 mm .....
- 156** 156"/3962 mm .....
- 168** 168"/4267 mm .....
- 180** 180"/4572 mm .....
- 192** 192"/4877 mm .....
- 204** 204"/5182 mm .....
- 216** 216"/5484 mm .....
- 228** 228"/5791 mm .....
- 240** 240"/6096 mm .....
- 252** 252"/6401 mm .....
- 264** 264"/6706 mm .....
- 276** 276"/7010 mm .....

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## LFXG

### Flexible scintillator detector

The FiberFlex detector utilizes a patented fiber-optic scintillator bundle to measure continuous level in a wide variety of applications. Its flexible rubber coated galvanized steel housing allows the FiberFlex to fit vessel contours and avoid obstructions. The detector features GEN2000 electronics for application flexibility including vapor density compensation, auto standardization and multi-detector networking. The FiberFlex may also be used to measure Interface Level.



**Protocol**

- H- 4 ... 20 mA/HART® .....
- F- Frequency Output .....
- K- 4...20 mA/HART® + RS-485 intergauge bus .....

**Length**

- 012- 12" / 305 mm .....
- 024- 24" / 610 mm .....
- 036- 36" / 915 mm .....
- 048- 48" / 1219 mm .....
- 060- 60" / 1524 mm .....
- 072- 72" / 1829 mm .....
- 084- 84" / 2134 mm .....
- 096- 96" / 2438 mm .....
- 108- 108" / 2743 mm .....
- 120- 120" / 3048 mm .....
- 132- 132" / 3353 mm .....
- 144- 144" / 3658 mm .....
- 156- 156" / 3962 mm .....
- 168- 168" / 4267 mm .....
- 180- 180" / 4572 mm .....
- 192- 192" / 4877 mm .....
- 204- 204" / 5182 mm .....
- 216- 216" / 5484 mm .....
- 228- 228" / 5791 mm .....
- 240- 240" / 6096 mm .....
- 252- 252" / 6401 mm .....
- 264- 264" / 6706 mm .....
- 276- 276" / 7010 mm .....

**Voltage**

- A 90-250VAC 50/60Hz, 10-50VDC .....

**Approval**

- X None .....
- 1 CSA .....
- 3 ATEX .....
- 4 Factory Mutual (FM) .....
- 5 Brazil Cepel .....
- 6 China Nepsi .....
- 7 Japan JIS .....
- 8 Belarus GOST-B .....
- 9 Russia GOST-R .....
- A Korea KTL .....
- B India CCE .....
- C IECEx .....

**Housing Material**

- E- Aluminum w/blue polyester powder coating .....
- J- Aluminum w/black PVC coating .....

**Options**

- X No options .....
- C 2" Conduit adapter with purge fitting (316SS) .....
- D 115VAC Internal Heater Kit for below -20°C ambient .....
- E 230VAC Internal Heater Kit for below -20°C ambient .....
- F 24VDC Internal Heater Kit for below -20°C ambient .....
- 1 3/4 NPT to 1/2 NPT Conduit entry adapter (qty 2 instal) .....
- 2 3/4 NPT to M20 Conduit entry adapter (qty 2 installed) .....

**Options**

- X No options .....
- C 2" Conduit adapter with purge fitting (316SS) .....
- D 115VAC Internal Heater Kit for below -20°C ambient .....
- E 230VAC Internal Heater Kit for below -20°C ambient .....
- F 24VDC Internal Heater Kit for below -20°C ambient .....
- 1 3/4 NPT to 1/2 NPT Conduit entry adapter (qty 2 instal) .....
- 2 3/4 NPT to M20 Conduit entry adapter (qty 2 installed) .....

**Options**

- X No options .....

**Label**

- 0 Standard Brady label .....
- 3 Engraved 316SS label .....
- 4 Custom label .....

**Packing**

- 0 Cardboard Box/Open Skid .....
- 1 Closed Wood crate .....
- 2 Sealed Wood crate .....

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## SOLITRAC 31

### Radiation-based sensor for continuous level and interface measurement

#### Application area

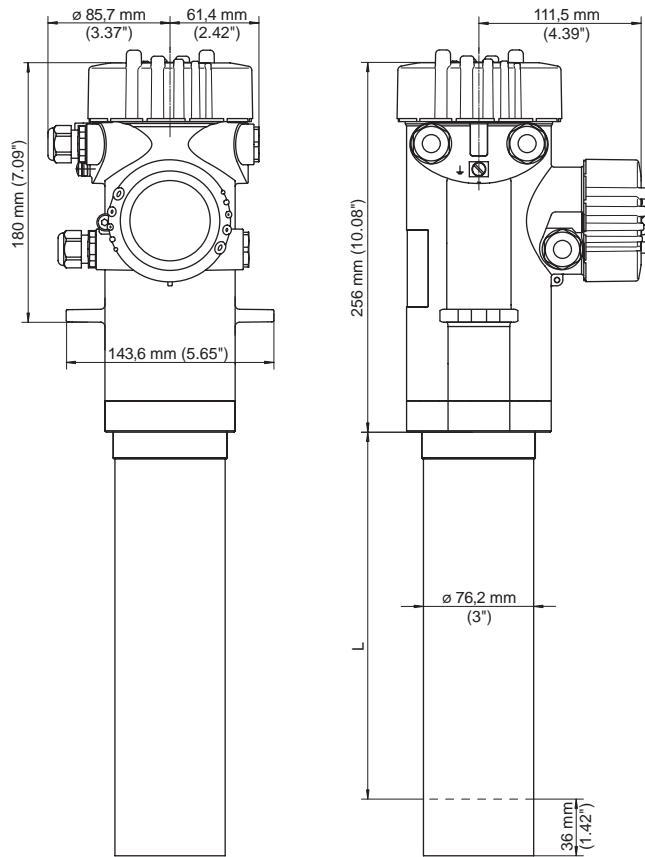
The SOLITRAC 31 is a radiation-based sensor with PVT rod detector for continuous measurement of liquids and bulk solids. It is suitable for level and interface measurement under extreme process conditions, with critical product features or in aggressive products. The SOLITRAC 31 is ideal for use in cylindrical vessels, reactors, autoclaves, separators and mixing vessels.

#### Advantages

- High plant availability through non-contact measurement
- Best measurement performance through PVT detector with maximum sensitivity
- Simple mounting through supplied accessory

#### Technical data

Version:	sensor with PVT rod detector
Measuring range:	up to 3 m
Mounting:	from outside on the vessel
Reproducibility:	+/- 0.5 %
SIL qualification:	up to SIL2



**Approval**

- XX** Without .....
- UG** FM (XP-IS) CL. I-III, DIV 1 GR A-G .....
- KG** CSA(XP-IS)CL.I-III, DIV 1GP A-G .....
- DK** ATEX II 2G Ex d ia IIC T6+1D,2D Ex tD IP66 T .....
- DK** IEC Zone 1 Ex d ia IIC T6+Ex tD A20,A21 IP66 T .....

**Version / Ambient temperature**

- 1** Standard / -40°...+60°C .....

**Electronics**

- V** Four-wire 4...20mA/HART® .....
- A** Four-wire 4...20 mA/HART® (Explosion Proof Output) .....
- B** Four-wire 4...20 mA/HART® (Intrinsically Safe Output) .....
- F** Four-wire Foundation Fieldbus .....
- C** Four-wire Foundation Fieldbus (Explosion Proof Output) .....
- D** Four-wire Foundation Fieldbus (Intrinsically Safe Out) .....
- P** Four-wire Profibus PA .....
- E** Four-wire Profibus PA (Explosion Proof Output) .....
- G** 4-wire Profibus PA (Intrinsically Safe Output) .....

**Housing / Protection**

- D** Aluminum / IP66/IP67 .....
- W** 316L SS / IP66/IP67 .....

**Cable entry / Cable gland / Plug connection**

- M** M20x1.5 / with / without .....
- M** M20x1.5 / without / without .....
- N** 1/2 NPT / without / without .....

**Indicating / Adjustment module (PLICSCOM)**

- X** Without .....
- B** Side mounted with backlight .....

**Additional equipment**

- X** Without .....

**Length**

- 012** 12" / 305 mm .....
- 018** 18" / 458 mm .....
- 024** 24" / 610 mm .....
- 030** 30" / 763 mm .....
- 036** 36" / 915 mm .....
- 042** 42" / 1068 mm .....
- 048** 48" / 1219 mm .....
- 054** 54" / 1372 mm .....
- 060** 60" / 1254 mm .....
- 066** 66" / 1677 mm .....
- 072** 72" / 1829 mm .....
- 084** 84" / 2134 mm .....
- 096** 96" / 2438 mm .....
- 108** 108" / 2743 mm .....
- 120** 120" / 3048 mm .....



## LSG

### Highly sensitive scintillator detector

The LSG detector utilizes a solid scintillator rod to measure continuous level in a wide variety of applications. Its highly sensitive scintillator crystal allows the LSG to measure very low levels of radiation, minimizing source activity. The detector features GEN2000 electronics for application flexibility including vapor density compensation, auto standardization and multi-detector networking. The LSG may also be used to measure Interface Level.





## GM-16 R

Point Level Geiger-Mueller Switch for high / low level alarm applications. Point switch can be configured from one GM tube to six GM tubes for greater sensitivity. Two relays (Process and Failsafe) are provided.



**Version**

**16R-** GM16R w/Remote Electronics(1 tube standard) .....

**Input voltage**

- D** 115VAC 50/60Hz .....
- E** 230VAC 50/60Hz .....

**Certification**

- X** None .....
- 1** CSA .....

**Housing**

- A-** Low Carbon Steel w/blue polyester powder coating .....
- B-** 304SS .....
- C-** 316SS .....
- X-** No housing .....

**Options**

- X** No options .....
- C** 2 GM Tubes .....
- D** 4 GM Tubes .....
- E** 6 GM Tubes .....
- 1** 3/4 NPT to 1/2 NPT Conduit entry adapter (qty 2) .....
- 2** 3/4 NPT to M20 Conduit entry adapter (qty 2) .....

**Options**

- X** No options .....
- C** 2 GM Tubes .....
- D** 4 GM Tubes .....
- E** 6 GM Tubes .....
- 1** 3/4 NPT to 1/2 NPT Conduit entry adapter (qty 2) .....
- 2** 3/4 NPT to M20 Conduit entry adapter (qty 2) .....

**Options**

- X** No options .....
- C** 2 GM Tubes .....
- D** 4 GM Tubes .....
- E** 6 GM Tubes .....
- 1** 3/4 NPT to 1/2 NPT Conduit entry adapter (qty 2) .....
- 2** 3/4 NPT to M20 Conduit entry adapter (qty 2) .....

**Label**

- 0** Standard Brady label .....
- 3** Engraved 316SS label .....

**Packaging**

- 0** Cardboard Box/Open Skid .....
- 1** Closed Wood crate .....
- 2** Sealed Wood crate .....



## GM-17

The GM-17 detector utilizes Geiger-Mueller technology to measure point level for high/low alarm applications. This compact lightweight detector can be configured with up to six GM tubes for appropriate sensitivity. Two SPDT relays (Process and Failsafe) are provided. advanced features include one-point calibration, adjustable dead band, and diagnostics.

The GM-17 may also be used to indicate plugged chutes.



**Version**

17- GM17 (2 tubes standard) .....

**Input voltage**

- F 115VAC 50/60Hz, 10-30VDC .....
- G 230VAC 50/60Hz, 10-30VDC .....

**Certification**

- X None .....
- 1 CSA .....
- 3 ATEX .....
- 4 Factory Mutual (FM) .....
- 5 Brazil INMETRO/UL .....
- 8 Belarus GOST-B .....
- 9 Russia GOST-R .....
- A Korea KTL .....
- B India CCE .....
- C IECEx .....

**Housing**

H- Aluminum w/blue polyester powder coating .....

**Options**

- X No options .....
- D 4 GM Tubes .....
- E 6 GM Tubes .....
- H Carbon Steel Adapter bracket for B1,B2,B3 pipe bracket .....
- K SS Adapter bracket w/GM16 bolt pattern .....
- M Water cooled cap .....
- 1 3/4 NPT to 1/2 NPT Conduit entry adapter (qty 2) .....
- 2 3/4 NPT to M20 Conduit entry adapter (qty 2) .....

**Options**

- X No options .....
- D 4 GM Tubes .....
- E 6 GM Tubes .....
- H Carbon Steel Adapter bracket for B1,B2,B3 pipe bracket .....
- K SS Adapter bracket w/GM16 bolt pattern .....
- M Water cooled cap .....
- 1 3/4 NPT to 1/2 NPT Conduit entry adapter (qty 2) .....
- 2 3/4 NPT to M20 Conduit entry adapter (qty 2) .....

**Options**

- X No options .....
- D 4 GM Tubes .....
- E 6 GM Tubes .....
- H Carbon Steel Adapter bracket for B1,B2,B3 pipe bracket .....
- K SS Adapter bracket w/GM16 bolt pattern .....
- M Water cooled cap .....
- 1 3/4 NPT to 1/2 NPT Conduit entry adapter (qty 2) .....
- 2 3/4 NPT to M20 Conduit entry adapter (qty 2) .....

**Label**

- 0 Standard Brady label .....
- 3 Engraved 316SS label .....

**Packaging**

- 0 Cardboard Box/Open Skid .....
- 1 Closed Wood crate .....
- 2 Sealed Wood crate .....

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## Accessories, Software and Spare Parts - Continuous and Point Level

### Cable:

CABLE.202676	BELDEN 8760 18AWG 2 CONDUCTOR 300V. Used to connect frequency or current signals to SmartPro remote electronics or to user's PLC/DCS unit. Specify length in 1 foot (305mm) increments. Price per foot.
CABLE.202679	Tray Cable - Belden 9341: 18AWG X 2 conductors, twisted pair, 600V, shielded, UV resistant jacket. Used to connect frequency or current signals to SmartPro remote electronics or to user's PLC/DCS input. Specify length in 1 foot (305mm) increments. Price per foot.
CABLE.202698	GM-16R cable - Belden 83396: 22 AWG x 7 Conductors. Used to connect detector with remote electronics. Specify length in 1 foot (305mm) increments. Price per foot
CABLE.247830	Intergauge Communication Cable - Belden 9841: 24 AWG, shielded x 2 twisted pair, 300V. Used to interconnect gauges to utilize RS485 communication. Specify length in 1 foot (305mm) increments. Price per foot.

### Manuals:

Additional copies of manuals on CD

Additional copies of paper manuals

### Software:

244400.	Ohmview Software with USB HART modem
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### Recommended

### Spare Parts:

LFXG and LSG	
245463.	Spare electronics: CPU circuit board, HART w/ RS485
239622.	Spare electronics: CPU circuit board, HART version
247658.	Spare electronics: CPU circuit board, HART version (UG)
241519.	Spare electronics: Power supply circuit board
247661.	Spare electronics: Power supply circuit board, HART version (UG)
GM17 244863.	Fuse: Power supply, 2 amp
GM17EL.T	Geiger Mueller tube
GM17EL.XF	Spare electronics: CPU circuit board - 110 VAC/24VDC
GM17EL.XG	Spare electronics: CPU circuit board - 220 VAC/24VDC

