

DATASHEET
SFX-LS51



Highlights

- OleumTech® field-proven technology running on the global Sigfox Low-Power Wide Area (LPWA) network
- Single or dual actuation (high / high-high)
316 stainless steel probe with 2" NPT
Float material: 316 SS
- Quick and easy mating connection eliminates wiring hassle and error
- Switch of desired length sold separately
- Powered by a replaceable internal battery pack
- Battery life up to 8 years¹
- NEMA 4X / IP66 / -40 °C to 70 °C (Transmitter)
- -40 °C to 120 °C / 497.8 PSI (Switch)
- Industrially-hardened self-contained design
- A global solution – Zones RCZ1/2/4
- Remote antenna-ready option available
- Intrinsically Safe, Class I, Div 1 (Zone 0) certified



OleumTech Sigfox Ready Transmitters



Sigfox Base Stations



Sigfox Cloud™



Third-Party Customer IT

Unlock the True Potential of IoT (Internet of Things)

Easiest Way to Get Data in the Cloud

The OleumTech® Sigfox Ready SFX-LS51 Wireless High Level Switch Transmitter is designed for deployment anywhere in the world that Sigfox has network coverage. By leveraging the Sigfox Low Power Wide Area (LPWA) network, you can take advantage of the world's leading Internet of Things (IoT) connectivity service, offering a software-based communications solution where all the network and computing complexity is managed in the Sigfox CLOUD™.

Designed for Use in Hazardous Locations

The SFX-LS51 is certified for use in Class I, Division 1 (Zone 0) hazardous locations. It is intrinsically safe, designed not to cause a spark, and can be serviced without being removed from a process. This device provides the ability to monitor up to two actuation points for high and high-high level detection. Custom switch lengths are available.

Inherently Secure

The Sigfox Ready Transmitters take advantage of the built-in firewall since they are not directly connected to the internet and do not use Internet Protocol. Layered on top of this secure foundation, OleumTech provisions each device with a unique symmetrical authentication key. Each message sent by the transmitter contains a cryptographic token that is computed based on this authentication key and verified by each Sigfox Base Station.

Extremely Reliable

The Sigfox architecture is based on multiple base stations receiving each broadcasted and repeated message, building redundancy into the solution. Data Integrity, availability, and confidentiality are at the core of the offering.

Technical Specifications

HARDWARE FEATURES

| | |
|----------------------|--|
| Device Functionality | · Class I, Division 1 (Zone 0) IoT Wireless Transmitter Supporting OleumTech High Level Switches |
| Embedded Controller | · Ultra-Low Power RISC Microcontroller with Internal FLASH (Field Upgradeable) |
| Configuration | · OleumTech Sigfox Ready Transmitter Configuration Tool via RS232 Serial |
| Discrete Inputs | · 2x Discrete/Digital Inputs Input: 0-30 Vdc, Dry Contact, Open-drain Output/NPN devices, Debounce Filter 0 - 2000 ms |
| Reportable Values | · Discrete Inputs 1 and 2 / Discrete Inputs 1 and 2 Count (32-bit) / Battery Voltage |
| Device Diagnostics | · Health Tag: Battery Voltage |

WIRELESS COMMUNICATIONS

| | |
|--------------------------------------|--|
| | · RCZ1: Europe, Oman, South Africa Certificate ID: P_009D_53CD_01 |
| Sigfox Radio Zones/Regions Supported | · RCZ2: USA, Canada, Mexico, Brazil Certificate ID: P_009D_D78E_01 · RCZ4: Australia, New Zealand, Colombia, Peru, Singapore Certificate ID: P_009D_D78E_01 |

| | |
|------------------------|-------------------------------------|
| Wirelessly Connects To | · Sigfox Base Stations |
| Data Reporting Modes | · Interval or Based on State Change |

CERTIFICATIONS & COMPLIANCE

EMC/EMI · FCC Part 15 (USA), IC ICES-003 (Canada), ACMA (Australia)

Safety · Class I, Division 1, Groups A, B, C, D T3C; Ex ia IIC T3
· Class I, Zone 0; AEx ia IIC T3
· ATEX: Sira 13ATEX2142X; Ex ia IIC T3 Ga; II 1 G
· IECEx: SIR 13.0054X; Ex ia IIC T3 Ga

MECHANICAL SPECIFICATIONS

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|---------------------------|--|
| Dimensions | · 5" (W) x 12.6" (H) x 4.4" (D) / 127 mm (W) x 320 mm (H) x 112 mm (D) |
| Package Dimensions | · 10.25" (W) x 14" (H) x 6.5" (D) / 260mm (W) x 356mm (H) x 165mm (D) |
| Weight | · Net: 4.75 lbs / 2.1 kg; Gross: 6.5 lbs / 2.9 kg |
| Connection Fittings | · 3x 3/4" NPT Female Ports (2x Plugged), Switch Provides 2" NPT Male |
| Enclosure Casing Material | · Aluminum, NEMA 4X, IP66 |
| Mounting Holes | · 4x M5 Female Threads; Horizontal Spacing: 2.76" (70 mm); Vertical Spacing: 3.70" (94 mm) |

ELECTRICAL SPECIFICATIONS

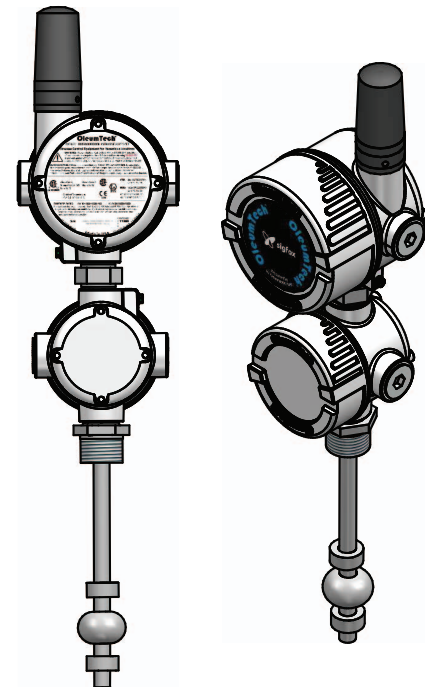
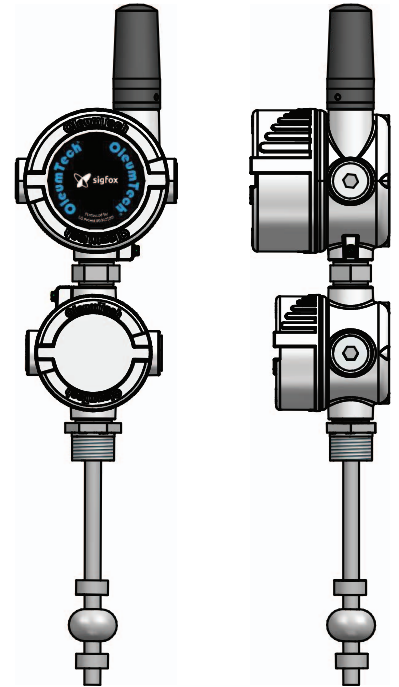
| | |
|-----------------------|---|
| Power Source | · SX1000-BP3, Internal 3.6 Vdc Lithium Battery |
| Internal Battery Life | · Up to 8 Years, Based on User Defined Reporting Intervals ¹ |

GENERAL SPECIFICATIONS

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|--------------------------|---|
| Operating Conditions | · Ambient Temperature (Class I, Division 1 / Zone 0): -40 °F to 158 °F (-40 °C to 70 °C) · Ambient Temperature (ATEX/IECEx): -22 °F to 158 °F (-30 °C to 70 °C) · Humidity: 0 to 99 %, Non-Condensing |
| Switch Temperature Range | · -40 °F to 248 °F (-40 °C to 120 °C) |
| Switch Pressure Rating | · 497.8 PSI |
| Warranty | · 2-Year Parts and Labor |
| Country of Origin | · USA |

ORDERING INFORMATION

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|----------------------|---|
| Model Number(s) | · RCZ1: SFX-RCZ1-LS51 / Remote Antenna-Ready Option, N Connector: SFX-RCZ1-LS51-P · RCZ2: SFX-RCZ2-LS51 / Remote Antenna-Ready Option, N Connector: SFX-RCZ2-LS51-P · RCZ4: SFX-RCZ4-LS51 / Remote Antenna-Ready Option, N Connector: SFX-RCZ4-LS51-P |
| Battery Model Number | · Use Only SX1000-BP3, 3.6 V Lithium Battery Pack |
| Configuration Cable | · SX1000-CC2, 20-ft All-in-One Configuration Cable |
| High Level Switch | · Single Actuation xxx = length in inches: HLT-xxx / HLT-xxx-S (316SS float) Actuation location is 2" from bottom of probe · Dual Actuation: HLM-xx-xx-xx / HLM-xx-xx-xx-S (316SS float) Overall Length High-High Level Actuation (measured from top of probe) High Level Actuation (measured from top of probe) |



¹ Ambient temperature and 140 transmissions per day were used to calculate battery life. The data only applies to a new battery part number SX1000-BP3. Actual battery life may vary depending on environmental factors, application, and usage. Use data shown above only as general point of reference.

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