

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
- Class I, Division 1 (Zone 0), Intrinsically Safe



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 Configuration Tool via RS232 Serial
Discrete Inputs	· 2 Discrete/Digital Inputs (Dry Contact Only, 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_C7B7_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

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 · (3) 3/4" NPT Female Ports (2x Plugged), Switch Provides 2" NPT Male

Enclosure Casing Material · Aluminum, NEMA 4X, IP66

Mounting Holes · (4) 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 Intervals¹

GENERAL SPECIFICATIONS

Operating Conditions · Ambient Temperature (Class I, Division 1 / Zone 0): -40 °C to 70 °C (-40 °F to 158 °F)

· Ambient Temperature (ATEX/IECEx): -30 °C to 70 °C (-22 °F to 158 °F)

· Humidity: 0 to 99 %, Non-Condensing

Switch Temperature Range · -40 °C to 120 °C (-40 °F to 248 °F)

Switch Pressure Rating · 497.8 PSI

Warranty · 2-Year Parts and Labor

Country of Origin · USA

ORDERING INFORMATION

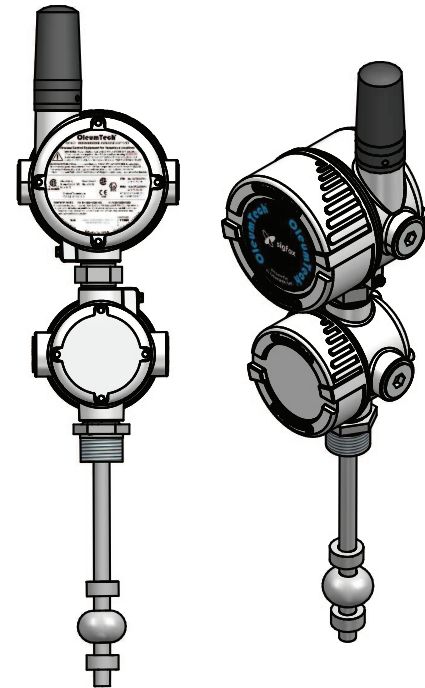
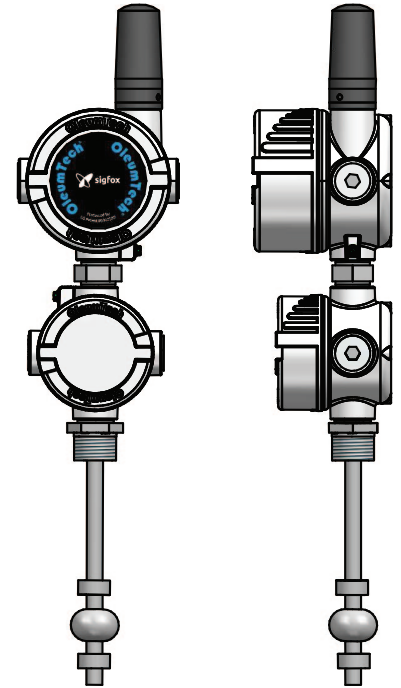
Model Number(s) · RCZ1: SFX-RCZ1-L551 / Remote Antenna-Ready Option, N Connector: SFX-RCZ1-L551-P

· RCZ2: SFX-RCZ2-L551 / Remote Antenna-Ready Option, N Connector: SFX-RCZ2-L551-P

· RCZ4: SFX-RCZ4-L551 / Remote Antenna-Ready Option, N Connector: SFX-RCZ4-L551-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



Single Actuation Switch Ordering Number

HLT — **xxx** — **S**

"T" Indicates Top/Vertical Mount Type	Insertion Length in Inches from Top of Tank to Bottom of Probe	S for Stainless Steel Float
---------------------------------------	--	-----------------------------

Dual Actuation Switch Ordering Number

HLM — **xx** — **xx** — **xx** — **S**

"M" Indicates Top/Vertical Mount Type	Insertion Length in Inches from Top of Tank to Bottom of Probe	L2 - Lower Actuation Point Length in Inches Insertion Length minus 2	L1 - Upper Actuation Point Length in Inches from Top to Upper Float	S for Stainless Steel Float
---------------------------------------	--	--	---	-----------------------------

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.

©2020 OleumTech Corporation. All rights reserved. OleumTech is a registered trademarks of OleumTech Corporation in the United States. All other trademarks and trade names are the property of their respective holders. Specifications, design, and product descriptions subject to change without notice. This device contains proprietary intellectual property protected by US Patent #6967589. Document ID: 67-4088-001_D

