

DATASHEET  
**SFX-AD11**



### Highlights

- OleumTech® field-proven technology running on the global Sigfox Low-Power Wide Area (LPWA) network
- 1x analog 0-5 Vdc inputs (24-bit ADC)
- 1x discrete/digital/pulse counter input
- Advanced local LCD display interface
- Powered by a replaceable internal battery pack
- Battery life up to 8 years<sup>1</sup>
- NEMA 4X / IP66 / -40 °C to 70 °C
- 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-AD11 Wireless Analog/Discrete Transmitter 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-AD11 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 a 24-bit high resolution analog input (AI) for monitoring a 0-5Vdc signal. It is also equipped with a discrete/digital input (DI) for setting off an alarm for exception reporting purposes when critical state change occurs.

### 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 with Analog and Discrete Inputs
Embedded Controller	· Ultra-Low Power RISC Microcontroller with Internal FLASH (Field Upgradeable)
Configuration	· OleumTech Sigfox Ready Transmitter Configuration Tool via RS232 Serial / Local Display Interface
Analog Input	· 1x Analog Input (0-5 Vdc), 24-bit ADC
Discrete Input	· 1x Discrete/Digital Input Input: 0-30 Vdc, Dry Contact, Open-drain Output/NPN devices, Debounce Filter 0 - 2000 ms
Local LCD Display	· 32-Character Display (16x2 Lines) with 4 Function Keys + Read Button
Displayable/Reportable Values	· Analog Input / Discrete Input / Discrete Input 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	· Analog Input: Interval Only / Discrete Input: Interval or Based on State Change

## CERTIFICATIONS & COMPLIANCE

EMC/EMI	<ul style="list-style-type: none"> <li>· FCC Part 15 (USA) / IC ICES-003 (Canada)</li> <li>· ACMA (Australia)</li> </ul>
Safety	<ul style="list-style-type: none"> <li>· Class I, Division 1, Groups A, B, C, D T3C; Ex ia IIC T3</li> <li>· Class I, Zone 0; AEx ia IIC T3</li> </ul>
	<ul style="list-style-type: none"> <li>· ATEX: Sira 13ATEX2142X; Ex ia IIC T3 Ga; II 1 G</li> <li>· IECEx: SIR 13.0054X; Ex ia IIC T3 Ga</li> </ul>

## MECHANICAL SPECIFICATIONS

Dimensions	· 5.5" (W) x 12.6" (H) x 4.4" (D) / 140 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 and Includes 1x 3/4" to 1/2" Reducer Bushing)
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

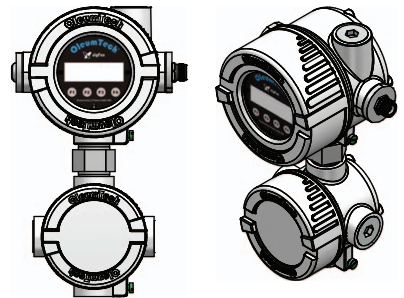
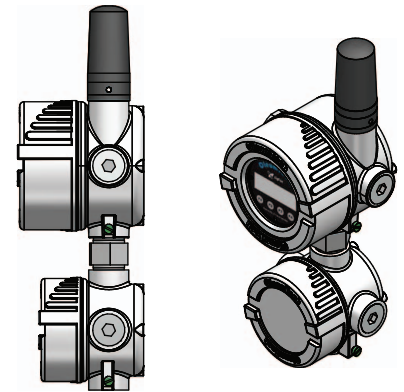
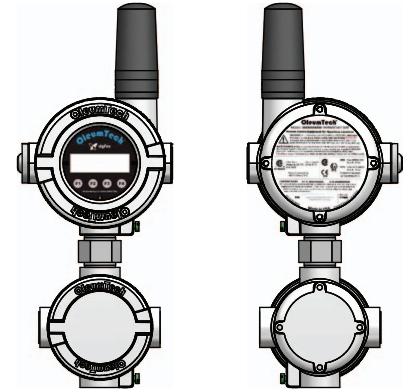
Power Source	· SX1000-BP3, Internal 3.6 Vdc Lithium Battery
Output Power to Sensor	· Supplies 9.5 V, 15 mA Max Total to Analog Sensor
Sensor Power Up Delay	· When Using Battery: 500 ms default (0-30 sec range)
Internal Battery Life	· Up to 8 Years, Based on User Defined Reporting Intervals <sup>1</sup>

## GENERAL SPECIFICATIONS

Operating Conditions	· Ambient Temperature (Class I, Division 1 / Zone 0): -40 °F to 158 °F (-40 °C to 70 °C) / LCD: -20 °C to 70 °C
	· Ambient Temperature (ATEX/IECEx): -22 °F to 158 °F (-30 °C to 70 °C)
	· LCD Screen -4 °F to 158 °F (-20 °C to 70 °C)
	· Humidity: 0 to 99 %, Non-Condensing
Warranty	· 2-Year Parts and Labor
Country of Origin	· USA

## ORDERING INFORMATION

Model Number(s)	· RCZ1: SFX-RCZ1-AD11 / Remote Antenna-Ready Option, N Connector: SFX-RCZ1-AD11-P
	· RCZ2: SFX-RCZ2-AD11 / Remote Antenna-Ready Option, N Connector: SFX-RCZ2-AD11-P
	· RCZ4: SFX-RCZ4-AD11 / Remote Antenna-Ready Option, N Connector: SFX-RCZ4-AD11-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



<sup>1</sup> 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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