



X24-SAe

mantracourt

## ATEX / IECEx Telemetry Strain Transmitter OEM Module

### Introduction

**ATEX / IECEx telemetry transmitter module measures strain input and periodically transmits data for receipt by X24 or T24 receivers. PCB module provides OEM sensor manufacturers with a quick route to manufacture and supply approved strain bridge sensor products.**

This intrinsically safe board is approved for both Gas Zone 1 and 2 and Dust Zones 21 and 22.

High accuracy ratio-metric input allows for calibration and linearisation for pressure, torque, force and weight measurement in explosive atmospheres.

The X24-SAe provides 5 V excitation to drive transducer loads down to 85 ohms. This transmitter is highly accurate, low noise and uses up to nine point linearisation giving quality measurements from a wide range of strain bridge transducers.

The OEM product X24-SAe has component approvals which allow holders of a QAN or a QAR to "fast track" the design and manufacture of their own ATEX/IECEx products through the equipment certification process using a notified body such as BASEFA, CSA group or UL.



### Product Features

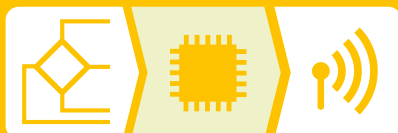
- **OEM Capabilities**  
High performance PCB for OEM integration
- **Intrinsically Safe Electronics**  
Approved for use in explosive atmospheres Zone 1, Zone 2, Zone 21, Zone 22
- **Long Range Transmission**  
Wireless range of up to 800 m (½ mile)
- **Power Efficient**  
Long battery life of up to 5 years
- **High Quality Measurement**  
Calibration and linearisation to engineering units

#### Cross Compatible

Operates with X24 and T24 receivers

I M2  
Ex ib I

II 2GD  
Ex ib IIC Gb  
Ex ib IIIC T135°C Db  
Ta = -20°C to +50°C



### Accessories



**X24-ACMI-SA**  
ATEX / IECEx Telemetry Strain Transmitter Module



**X24-HD**  
ATEX / IECEx Handheld Telemetry Display

## Extend Your Capabilities with our T24 Wireless Modular System



Adaptable and expandable system for safe zones.

Certified transmitters send to 'safe zone' base stations, gateways, analogue and digital outputs.

Find out more at [wirelessensorsystem.com](http://wirelessensorsystem.com)

## Specifications

Specification with 1000R bridge, 2.5mV/V, at 3V supply at 25°C

### Measurement Specifications

<b>Strain gauge excitation system</b>	4 wire
<b>Strain gauge excitation</b>	5 Vdc
<b>Strain gauge resistance (min)</b>	85 Ω
<b>Strain gauge sensitivity (max)</b>	±3.2 mV/V
<b>Offset temperature stability (max)</b>	4 ppm/°C
<b>Gain temperature stability (max)</b>	5 ppm/°C
<b>Non linearity before linearization (max)</b>	25 ppm of FR
<b>Internal resolution/Bits</b>	16,000,000 / 24
<b>Noise free resolution at 1 sample per second</b>	400,000/ 18.75
<b>Transmission rates</b>	From 5ms to 1 day

### Environmental Specifications

<b>Operating Temperature Range</b>	-20 to +50 °C
<b>Storage Temperature</b>	-40 to +85 °C
<b>Humidity</b>	0 to 95 %RH

### Radio

<b>Radio type</b>	License exempt transceiver
<b>Radio frequency</b>	2.4 GHz
<b>Transmit power</b>	10 mW
<b>Range</b>	Up to 800 m

### Power Supply

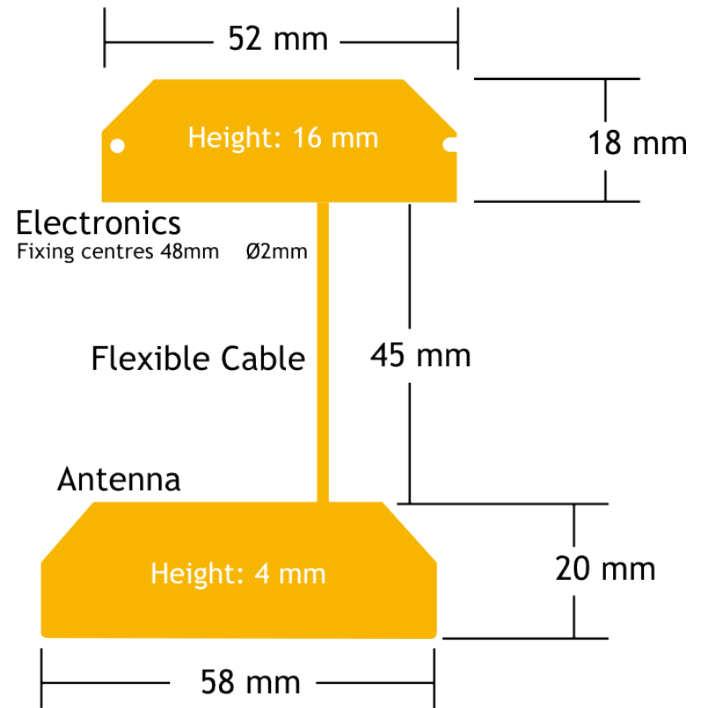
<b>Power Supply Voltage</b>	2.1 to 3.6 Vd
1. Power supply must be capable of supplying 300 mA for 250 μs (Required on start-up, waking and during low power operation)	

### Battery Life in Low Power Mode with 350R Load Cell

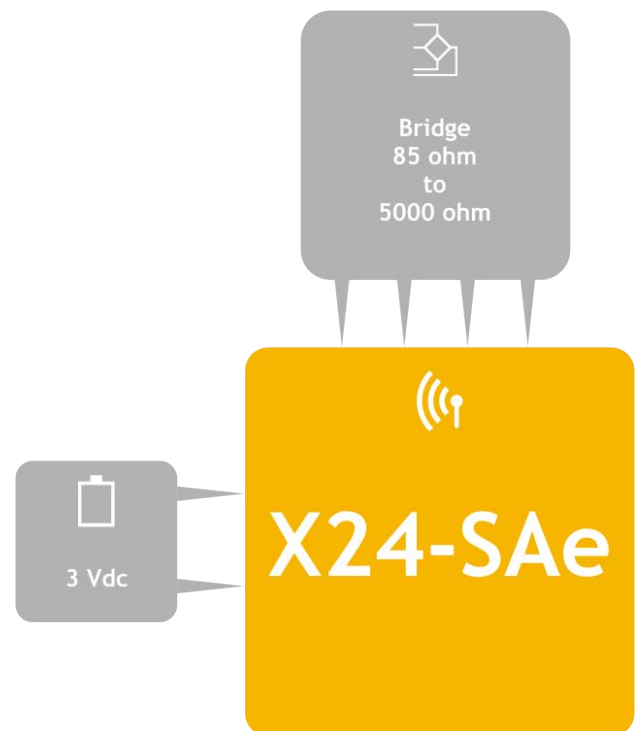
Pair Energizer L91 Lithium AA cells	Battery Life
Constantly on transmitting at 3Hz	30 days
12 sessions per day of 5 minutes at 3Hz	2 years
Constantly on transmitting every 20 secs	5 years

\*Calculate your battery life: [www.mantracourt.net/T24BattCalc.asp](http://www.mantracourt.net/T24BattCalc.asp)

## Mechanical



## Electrical



## Order Codes

### X24-SAe

ATEX / IECEx Telemetry Strain Transmitter OEM Module

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