

## TYPE: T24-VA & T24-IA



# T24-VA & T24-IA Telemetry Voltage and Current Input Acquisition Module

## Description

The T24-VA & IA are high performance voltage (0-10V) and current (0-20mA calibrated to a 4-20mA range) to radio telemetry converter modules offering precision measurement with high performance two-way telemetry. For use in any measuring application, from torque to weight, vibration to flow, the T24-VA and T24-IA offer users a complete solution to your measurement requirements.

The modules form part of a simple measurement system that offers the opportunity to collect measurements from a variety of sources, enabling accurate and immediate data collection without the requirement for extensive and labour intensive cabling operations.

Low power modes allow the module to 'power down' between transmissions or to 'power off' completely and can be controlled by other T24 products such as the handheld displays or a base station. The module can be configured to last several years on 2 x alkaline AA batteries or alternatively powered from 2 x NiMH or 1 x 3V Lithium.

The high accuracy, low noise measurement electronics deliver high resolution, low drift results which can be user calibrated over 9 points to enable linearization and to deliver results in user definable engineering units. The results can be transmitted at rates up to 200 per second to other T24 devices such as handheld displays, analog outputs and base stations etc.

The licence-free 2.4GHz radio provides a line-of-sight communication range of 800 metres (2,600 feet), extendable by the use of a repeater. The use of the latest DSSS radio technology minimises local radio interference and ensures data integrity and security.

LCM Systems can supply the T24 products integrated into a complete system to meet a variety of different application requirements. Please contact LCM's technical department to discuss your wireless telemetry requirements.

## Specification

Battery life (pair AA cells constantly on)	1 month *
Battery life (pair AA cells 12 sessions/day of 5 mins)	2 years *
Battery life (pair D cells constantly on)	4.5 months *
Battery life (pair D cells 12 sessions/day of 5 mins)	>9 years *
Power supply ACMi and OEM module	2.1 to 3.6 V dc
Power supply ACM	5 to 18 V dc
Radio type	Licence exempt transceiver
Radio frequency	2.4GHz
Transmit power	10mW
Range	Up to 800m (2,600ft)
Operating temperature range	-20 to +55 °C
Storage temperature (no batteries)	-40 to +85 °C
Maximum humidity	95% non condensing
IP rating (ACM & ACMi)	IP67/Nema4

\* Based on transmitting results at 3 per second, 350Ω strain bridge

## Available Options

- Internal antenna
- External antenna
- Choice of enclosures

## Features

- 2 way radio system for data integrity
- Very low power consumption for long battery life
- Very small size
- Up to 800m (2,600ft) wireless range
- Worldwide licence exempt 2.4GHz radio
- Option of handheld remote display or PC interface for data capture
- Remote power on/off (sleep/wake)
- Simple configuration via PC using a base station and telemetry toolkit software

## Typical Applications

- Wireless conversion of process sensors

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# T24-VA & T24-IA Telemetry Voltage and Current Input Acquisition Module

## T24-VA - Voltage Input

Input range	0 to 10 V dc
Calibrated range	0 to 10 V dc
Input impedance	100,000 ohms
Input calibration accuracy	0.1% FR
Offset temperature stability (max)	0.5 ppm/°C
Gain temperature stability (max)	50 ppm/°C
Non linearity before linearization (max)	25ppm of FR
Internal resolution/Bits	16,000,000/24
Noise free resolution/Bits at 1 sample per second	15,000/13.75
Transmission rates	From 5ms to 1 day
Excitation available	5 V dc @ 50 mA

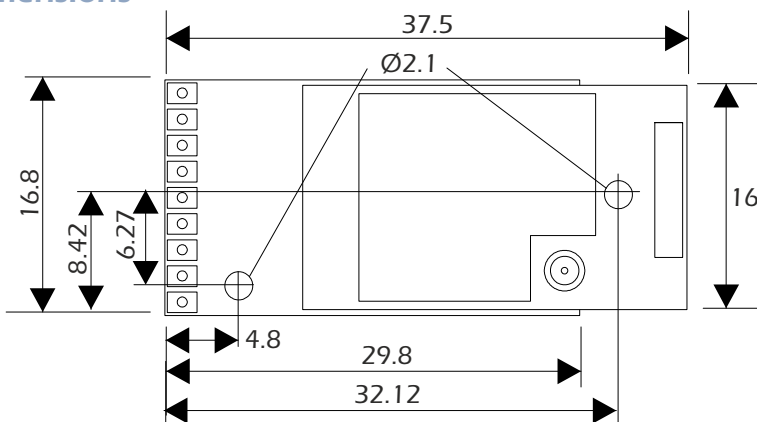
## T24-IA - Current Input

Input range	0 to 20 mA
Calibrated range	4 to 20 mA
Input impedance	47 ohms
Input calibration accuracy	0.1% FR
Offset temperature stability (max)	0.5 ppm/°C
Gain temperature stability (max)	50 ppm/°C
Non linearity before linearization (max)	25ppm of FR
Internal resolution/Bits	16,000,000/24
Noise free resolution/Bits at 1 sample per second	30,000/14.75
Transmission rates	From 5ms to 1 day
Excitation available	5 V dc @ 50 mA

Module transmits and receives using:

1. Full error detection and correction
2. The ability to be switched from sleep to operating mode via radio
3. The ability to switch to low power modes
4. Calibration stored within the module
5. Calibration & configuration via radio telemetry
6. Remote battery check

## Dimensions



CE Complies with EMC directive. 2004/108/EC

FC The Radio Equipment and Telecommunications Terminal Equipment (R&TTE) Directive, 1999/5/EC. Family: RAD24

Industry Canada Industrie Canada IC:7224A-RAD24



Due to continual product development, LCM Systems Ltd reserves the right to alter product specifications without prior notice.

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APPROVED

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