

# T24-AO1i Wireless Telemetry Analogue Output Module

## Features

- 2 way radio system for data integrity
- Wide operating voltage range (9-32vdc)
- 0-10V, 4-20mA, 0-20mA,  $\pm 10V$  and  $\pm 5V$  analogue outputs available
- Worldwide licence exempt 2.4 GHz radio
- Integrated internal antenna
- 120 metre (400 feet) range maximum
- Simple configuration via PC using a base station and Telemetry Toolkit software.
- Environmentally sealed to IP65

## Typical Applications

- Wireless shackle load cells
- Wireless link load cells
- Platform Weighing
- Vehicle Weighing
- Rotating machine force measurement
- Balancing Systems
- Simple Centre of Gravity

## Description

T24-AO1i provides a configurable analog output for the range of T24 acquisition modules. The T24-AO1i is housed in an IP65 housing for industrial installation.

The output can be selected from the pre-calibrated voltage and current ranges. 0-10Volts,  $\pm 10$ Volts, 0-5Volts,  $\pm 5$ Volts, 0-20mA, 4-20mA. which can be used in either 'sink' or source mode.

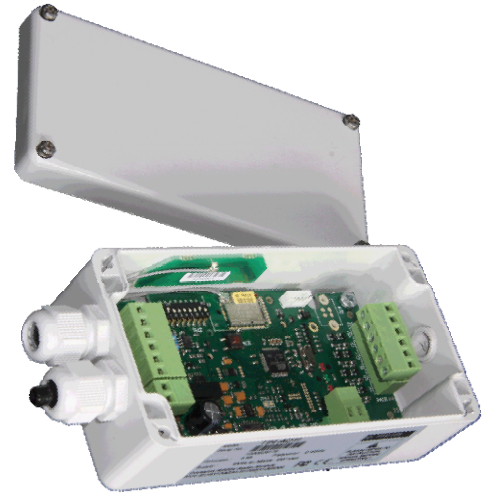
LED's in the T24-AO1i provide indication of the state of the radio link, remote battery life and remote status. The T24-AO1i uses open collectors outputs to relay this information

A digital Input allows for zeroing of the incoming data value.

The T24-AO1i modules are easily configured using the T24 Toolkit software and a base station.

LCM Systems can supply the T-24 products integrated into various sensors, to form a wireless sensor system. There are several standard products which utilise the T24 range, including the TELSHACK range and RILL ranges.

Please contact LCM's technical department to discuss your wireless load cell requirements.



## Specification

### General Radio

Parameter	Min	Typical	Max	Units
License	License Exempt			
Modulation method	MS (QPSK)			
Radio type	Transceiver (2 way)			
Data rate	250			K bits/sec
Radio Frequency	2.4000		2.4835	GHz
Power	1			mw
Range RAD24i (Integrated antenna)			120 (400)	Metres (feet) *
Range RAD24e (External antenna)			200 (650)	Metres (feet) *
Channels (DSSS)	16			

\* Maximum range achieved in open field site with T24-AO1i at a height of 3 metres above ground

### Electrical

Parameter	Min	Typical	Max	Units
External Supply voltage Range	9	12	36	Volts
Operational Current	-	85	150	mA
Operating Temperature Range	-40	-	85	°C
Reverse polarity Protection	-	-	-36	Volts
Digital output Drive Current				20 mA
Digital output Drive voltage				30 Volts
Digital Input Load Impedance				100 Ohms

# Wireless Telemetry Analogue Output Module

TYPE: T24-AO1i

Voltage Output	Min	Typical	Max	Units
Resolution		16		Bits
output gain stability	-	0.008	0.015	± % FS/°C
output zero stability	-	0.006	0.015	± % FS/°C
Short term stability (1 hr)	-	0.003	0.01	± % FS
Long term stability (10k hrs)	-	0.03	0.1	± % FS
Residual ripple		40		mV p-p
Minimum load impedance		5000		Ohms
Linearity	-	0.007	0.01	± % FS
Bandwidth (-3dB)		200		Hz

Current Output	Min	Typical	Max	Units
Resolution		16		Bits
4-20mA output gain stability	-	0.0060	0.0120	± % FS/°C
4-20mA output zero stability	-	0.005	0.010	± % FS/°C
Short term stability (1 hr)	-	0.006	0.018	± % FS
Long term stability (10k hrs)	-	0.06	0.2	± % FS
Residual ripple		0.032		mA p-p
Settling time to ±0.5uA (thermal effects)	-	5	-	secs
Maximum load impedance		500		Ohms
Linearity	-	0.01	0.02	± % FS
Bandwidth (-3dB)		200		Hz

## Approvals

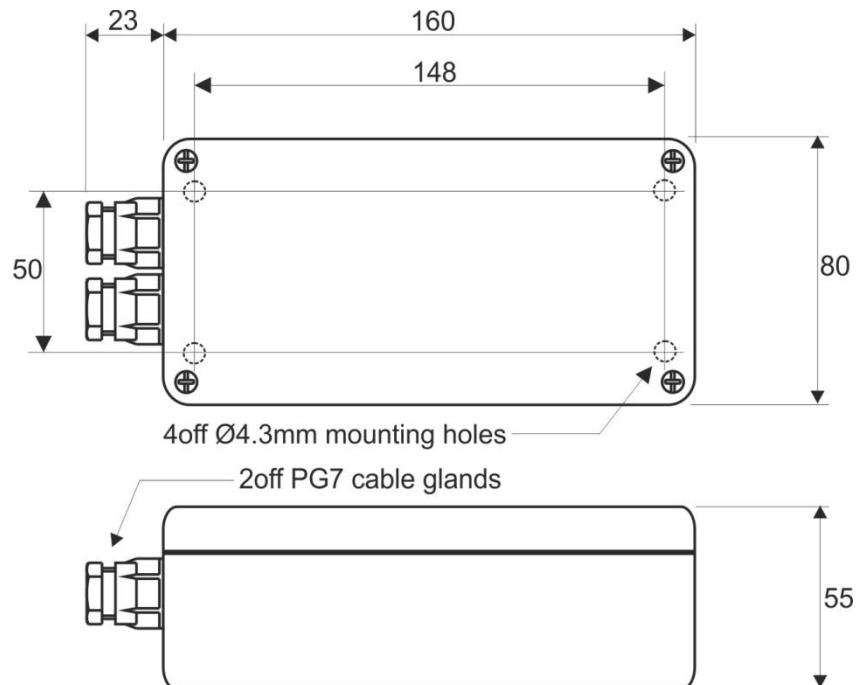
**CE**, Complies with EMC directive. 2004/108/EC  
The Radio Equipment and Telecommunications Terminal  
Equipment (R&TTE) Directive, 1999/5/EC.

**FC**  
Family:  
RAD24

**Industry Canada Industrie Canada**  
IC:7224A-RAD24

## Mechanical Dimensions

All dimensions in  
millimeters



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

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