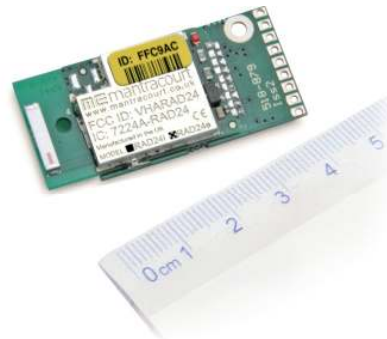


Wireless Telemetry Pulse Acquisition Module

Features



- Miniature acquisition module for pulse related measurement
- Exceptionally low power for long battery life
- Transmits on license free 2.4GHz
- Remote 'on' and 'off' to preserve battery life
- 100 / 200m range depending on Antenna
- Simple Configuration and Calibration via PC using free Telemetry Toolkit Software
- Can be calibrated to provide any standard engineering unit output for given input



Introduction

The T24-PA pulse acquisition module is a high performance PCB designed for the collection and processing of pulse related measurements. This includes measuring the period between pulses to provide outputs in Hz, RPM and Time as well as actual pulse counting.

Miniature in size, the device transmits on license-free 2.4Ghz, avoiding local radio interference to ensure data integrity and security.

Data is provided in real time at variable speeds with a direct line of sight range of 100 or 200 meters which can be extended with the use of high gain antenna's and repeaters.

The module's transmit to a range of receivers including handheld indicators, digital displays, analogue and serial outputs, PC display and wireless printer (please see separate sheets) and has various powering options.

Also available in IP rated enclosures.
See T24-ACM, T24-ACMi and T24-ACMm.

Specifications

General Radio

	Min	Typical	Max	Units
Licence		Licence 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)			100 (400)	Metres (feet) *
Range RAD24e (External Antenna)			200 (650)	Metres (feet) *
Channels (DSSS)		16		

*Maximum range achieved in open field site with the T24 acquisition module at a height of 3 metres (9.8 feet) above ground and T24-HS held at chest height pointing towards the acquisition module. Specification at 3V supply at 25°C

T24-PA - Embedded Pulse Acquisition Module

Measurement	Min	Typical	Max	Units
Sensor Excitation Voltage	4.5	5	5.25	VDC
Input Range in Time	333×10^{-6}	-	2	sec
Input Range in Frequency	0.5	-	3,000	Hz
Input Range in RPM (presuming 1 pulse / rev)	30	-	180,000	RPM
Accuracy % input error @ 1 Hz	-	-	0.15	%
Accuracy % input error @ 1 kHz	-	-	0.175	%
Accuracy % input error @ 2 kHz	-	-	0.2	%
Accuracy % input error @ 3 kHz	-	-	0.25	%
Accuracy interval resolved to		0.25		μ sec

Electrical	Min	Typical	Max	Units
Power Supply Voltage	2.1	3.0	3.6	VDC
Power Supply Ripple			50	mV ac pk-pk

Power Supply current	Min	Typical	Max	Units
Normal Mode		35	65	mA
Standby / Low Power Mode		5	40	μ A

Environmental	Min	Typical	Max	Units
Operating Temperature Range	-40		+85	$^{\circ}$ C
Storage Temperature	-40		+85	$^{\circ}$ C
Humidity	0		95	%RH

Physical	
Normal Mode	16.8 x 37.5 x 6.5mm

Module Transmits & Receives giving:

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

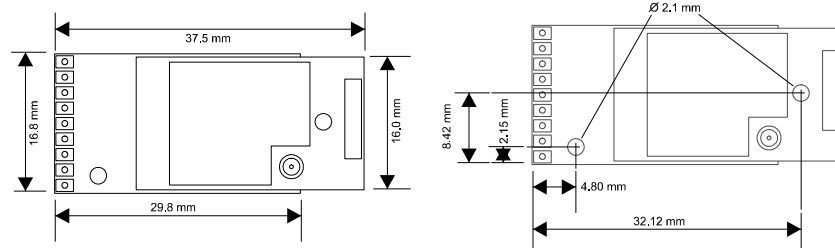
Product Order Codes

T24-PAi Wireless Pulse Acquisition PCB with Internal Antenna.
 T24-PAe Wireless Pulse Acquisition PCB with fitting for External Antenna.

For more up to date information visit our website
www.mantracourt.co.uk/products/wireless-telemetry

Mechanical Dimensions

T24-PA - PCB Module



Approvals

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



Industry Canada Industrie Canada



Designed, Manufactured & Supported in the UK

In the interests of continued product development, Mantracourt Electronics Limited reserves the right to alter product specifications without prior notice.