APPLIED MEASUREMENTS LTD.
Transducer Specialists...

+44 (0) 118 981 7339
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T24-SA Strain Gauge Telemetry Acquisition Module

Key Features:

- Miniature Acquisition Module for Wireless Strain Gauge Measurement
- 2.4GHz Operating Frequency (Licence Free)
- Range: up to 800m (2,600 ft)
- Strain Gauge Bridge Input
- Resolution up to 400,000 Divisions
- Very Low Power Consumption for Long Battery Life
- Remote 'on' and 'off' to Preserve Battery Life
- Simple Configuration and Calibration via PC using free Telemetry Toolkit Software
- Calibration to Provide any Standard Engineering Unit Output for Given Input

Request Pricing

The T24-SA strain gauge acquisition module is a high performance PCB board designed to be embedded alongside load cells or other strain input sensors to provide wireless strain gauge measurement from bridge-based transducers such as load cells, pressure transducers, torque transducers and strain gauge displacement sensors. Options also available for wireless current (4-20mA) and voltage (0-10V) acquisition (T24-IA & T24-VA).

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

Output rates of up to 200 readings/second are possible at a noise-free resolution of 1 in 50,000, increasing to 1 in 400,000 at a reduced output rate of 1 reading/10 seconds.

The devices 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. Antenna options are available to extend the range. Also 2KHz fast versions are available for high speed applications, please contact our sales team for more information.

Industries:

- Civil Engineering
- Lifting & Handling
- Waste Management
- Alternative Energy
- Construction
- Automotive
- Silo & Weighing Industry
- Marine

Applications:

- Wireless Monitoring of Bridge Structures
- Wireless Monitoring of Anchor Loads
- Wireless Bridge Surveying via GPRS
- Wireless Truck Load Weight Monitoring
- Wireless Skip Weighing System
- Wireless Platform Weighing with Ticket Printing
- Wireless Monitoring of Building Foundations
- Wireless Telemetry Strain Measurement of Wind Turbines
- Remote Load Monitoring of Construction Shoring Struts
- Force Measurement in Formula Racing
- Wireless Silo Weighing
- Superyacht Sail-Track Development
- Telemetry Monitoring on High Altitude Roads
- Radio Telemetry Monitoring of Underwater Turbine
- Wireless Mooring Rope Monitoring
- Wireless Valve Control
- Torque Measurement Using Wireless Technology

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Specification:

Radio	Min	Typical	Max	Units
Licence		Licence Exempt		
Modulation Method		MS (QPSK)		
Radio Type		Transceiver (2 way)		
Data Rate		250		K bits / second
Radio Frequency	2.4000		2.4835	GHz
Power		10		mw
Range*			800	Metres
Channels (DSSS)		15		
*Tests conducted in an open field site with the transmitter at the top of a 3m pole. The receiver was mounted 1.5m off the ground.				

T24-SA				
Measurement	Min	Typical	Max	Units
Strain Gauge Excitation System		-	4 wire	
Strain Gauge Excitation Voltage	4.5	5	5.25	Vdc
Strain Gauge Resistance	85			Ω
Strain Gauge Sensitivity			3.2	+/-mV/V
Offset Temperature Stability		1	4	ppm/°C
Gain Temperature Stability		3	5	ppm/°C
Non Linearity Before Linearisation			25	ppm of FR
Internal Resolution/Bits		16,000,000 / 24		Resolution / Bits
Noise Free Resolution at 1 Sample per Second		400,000 / 18.75		Resolution/Bits
Transmission Rates	From 5 ms to 1 day			
Power Supply				
ACMi and OEM Module	2.1		3.6	Vdc
ACM	5		18	Vdc
Battery Life - Transmitting results at 3 per second, 350R Strain Bridge	Usage		Battery Life	
Pair AA cells	Constantly on		3 weeks	
Pair AA cells	12 sessions per day of 5 minutes		2 years	
Pair DD cells	Constantly on		3.5 months	
Pair DD cells	12 sessions per day of 5 minutes		>5 years	
Environmental				
Operating Temperature Range	-20		+55	°C
Storage Temperature Range (no batteries)	-40		+85	°C
Humidity	0		95	%RH
IP Rating (ACM and ACMi)	IP67/Nema4			

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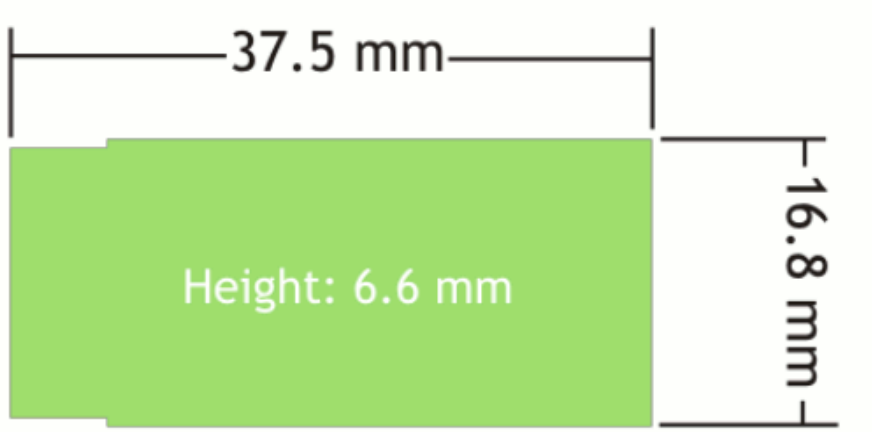
Dimensions (mm):



Ordering Codes:

T24-SA	Wireless Radio Telemetry Strain Gauge /Load Cell Acquisition

Request Pricing

Associated Products:

T24-ACM Wireless Sensor Module Enclosure with External Power

T24-ACMi Mini Sensor Enclosure

T24-ACMm Mini Data Transmitter Case for Strain, 0-20 mA, 0-10 V

T24-SA Strain Gauge to Wireless Telemetry Converter

T24-IA Current to Wireless Telemetry Converter

T24-HA Radio Telemetry Handheld Display up to 12 Inputs

T24-HS Radio Telemetry Portable Display for 1 Wireless Sensor

T24-HR Radio Telemetry Handheld for Multiple Transmitter Modules

T24-BSi Radio Telemetry Base Station with USB, RS485 or RS232

T24-BSu Wireless Radio Telemetry USB Base Station

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Associated Products Continued:

Every T24 transmitter module can be ordered in one of three IP rated enclosures ACM, ACMi, and ACMm, giving you:

- Power Supply
- Water and Dust Protection
- Field Connectivity
- Ready-Made Mounting Solution

Enclosure	ACM			ACMi		ACMm	
Wireless Range / m	800m (2,600 ft)					500m (1,600 ft)	
Power Supply	3-18 Vdc or 2xD cell			3 Vdc (2xAA)		3 Vdc (2xAAA with BB1)	
Battery Life at 1 transmission per second*	1 year			5 months		2 months	
Antenna	ANTA			ANTA		PCB Printed	
Radio Frequency	2.4 GHz						
Operating Temperature /°C	-20 to +55			-20 to +55		-40 to +80	
Environmental Protection	IP67					IP50	
Module Size / mm	164 x 84 x 57			80 x 62 x 34		76 x 35 x 20	
Software & Configuration	T24 Toolkit & T24LOG100						
Input Modules (determined by order code)	SA Strain	SAf Strain (2kHz)	IA Current	VA Voltage	TA Temperature	PA Pulse	RA Potentiometer
Order Codes:	T24-ACM-SA T24-ACMi-SA T24-ACMm-SA	T24-ACM-SAf T24-ACMi-SAf T24-ACMm-SAf	T24-ACM-IA T24-ACMi-IA T24-ACMm-IA	T24-ACM-VA T24-ACMi-VA T24-ACMm-VA	T24-ACM-TA T24-ACMi-TA T24-ACMm-TA	T24-ACM-SA T24-ACMi-SA T24-ACMm-SA	T24-ACM-RA T24-ACMi-RA T24-ACMm-RA