



T24-AO1 and T24-AO1i

Wireless Telemetry Single Channel Analogue Output Module

Features



- Range of configurable analog outputs including 0-10V 4-20mA, 0-20mA, $\pm 10V$, $\pm 5V$
- Choice of enclosures depending on application.
- Simple configuration via PC using base station with Telemetry Toolkit software
- Integrated antenna.
- 1 year manufacturer's warranty



Introduction

The T24-AO1 and T24-AO1i provides a configurable analog output for the range of T24 acquisition modules.

The T24-AO1i is housed in an IP67 housing for industrial installation whilst the T24-AO1 is designed for desktop mounting with a reduced wireless range of 20 metres.

The output can be selected from the pre-calibrated voltage and current ranges. 0-10Volts, ± 10 Volts, 0-5Volts, ± 5 Volts, 0-20mA, 4-20mA both of which can be used in a 'sink' or source mode.

LED's in the T24-AO1 provides 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-AO1 modules are easily configured by the T24 Toolkit and a base station.

Specifications

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-SA at a height of 3 metres (9.8425 feet) above ground and T24-AO1 held at chest height pointing towards the T24-SA.

T24-AO1

Parameter	Minimum	Typical	Maximum	Units	Notes
External Supply voltage Range	9	12	36	Volts	
Operational Current	-	85	150	mA	
Operating Temperature Range	-40	-	85	Deg C	
Storage Temperature Range	-40	-	85	Deg C	
Reverse polarity Protection	-	-	-36	Volts	Maximum Supply level
Digital output Drive voltage			30	Volts	
Digital output Drive Current			20	mA	
Digital Input Load Impedance			100	Ohms	

Parameter	Minimum	Typical	Maximum	Units	Notes
Voltage output					
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)		TBD		Hz	

PRELIMINARY

Current output					
Resolution		16		Bits	
4-20mA output gain stability	-	0.0060	0.0120	± % FS/°C	
4-20mA output zero stability	-	0.005	0.0100	± % 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)		TBD		Hz	

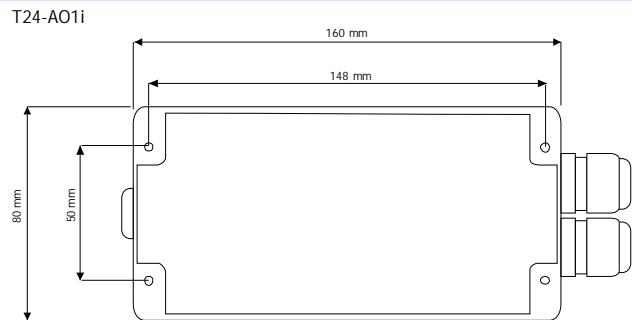
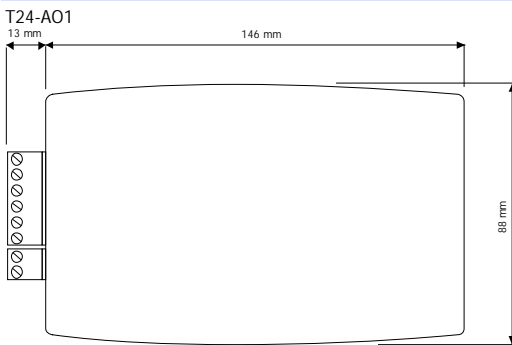
PRELIMINARY

Physical Dimensions & Materials		
T24-AO1	166 X 87 X 26mm	ABS plastic with a soft plastic grip
T24-AO1i	190 X 80 X 55 mm	Light grey ABS with IP65 cable glands. All electronics accessible by removing lid

Product Order Codes

T24-ACM	Wireless Radio Telemetry Acquisition Enclosure	T24-HR	Wireless Radio Telemetry Handheld Display Unlimited Inputs
T24-ACMi	Wireless Radio Telemetry Acquisition Enclosure	T24-HS	Wireless Radio Telemetry Handheld Display Single Inputs
T24-ANTA	Wireless Radio Telemetry Antenna	T24-IA	Wireless Radio Telemetry Current (4-20mA) Acquisition Module
T24-ANTB	Wireless Radio Telemetry Antenna	T24-PR1	Wireless Radio Telemetry Printer
T24-ANTC	Wireless Radio Telemetry Antenna	T24-RM1	Wireless Radio Telemetry Data to Relay output
T24-AO1	Wireless Radio Telemetry Desktop Analogue Output Module	T24-SA	Wireless Radio Telemetry Strain Gauge /Load Cell Acquisition Module
T24-AO1i	Wireless Radio Telemetry Industrial Analogue Output Module	T24-SAF	Wireless Radio Telemetry 2KHz Strain Gauge Acquisition Module
T24-BC1	Battery Charger for T24 Acquisition Modules	T24-SO	Wireless Radio Telemetry Printer and Display Driver
T24-BSi	Wireless Radio Telemetry Industrial Base Station	T24-TK	Wireless Radio Telemetry Toolkit Software
T24-BSu	Wireless Radio Telemetry Base Station USB	T24-VA	Wireless Radio Telemetry Voltage (0-10V) Acquisition Module
T24-DPV	Wireless Radio Telemetry T24 Data Provider Viewer and Logger		
T24-HA	Wireless Radio Telemetry Handheld Display Multiple Inputs		

Mechanical Dimensions



Approvals

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

FC Industry Canada Industrie Canada



Designed, Manufactured & Supported in the UK

