



# RADIOWORLD

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**Talon UDC - UHF Data  
radio/controller with I/O**  
**£1570.00**

## DESCRIPTION

## signal paths

### Talon Features:

- MAP (module assembly production) technology allows you to purchase only the hardware features (GPS, analog/digital I/O) needed for your application
  - LMR (land mobile radio) frequencies
  - Embedded GPS module (**optional**)
  - Data throughput of 9600 bps
  - Field configurable as master or remote
  - Real time SCADA and telemetry
  - Transparent operation
  - Forward error correction
  - State of the art transceiver
  - Max transmit power of 6 W
  - Data integrity through internal software
  - Supports general packet radio operations
  - Peer to peer communications
  - Single radio can be used as a digipeater
  - Remote programming capability from base unit
  - ESP (efficient spectrum positioning) Tracking Software
- ### Talon Specifications

### Modem Specifications:

Operating modes and protocols Transparent, TUP, Connected/Unconnected, Packet (AX.25L2), KISS, HOST, POLL

Interface EIA/TIA 232 RS-232 compatible interface

Over the air data rate 9600 bps (4800 baud) scramble and FEC user selectable

Modulation QLFASK

Port speed 19.2 k

Operating voltage 8 - 15 V dc @ 3 A max

Current drain Transmit: 2.5 A @ 13.8 V dc

Receive: 100 mA @ 13.8 V dc

Certifications FCC and IC type accepted

GPS Specifications (for optional GPS receiver)

General L1 (1575.42 MHz) frequency, C/A code 8 channel, continuous tracking receiver, 32 correlators

Accuracy Horizontal: <6 m (50%), <9 m (90%)

Altitude: <11 m (50%), <18 m (90%)

Velocity: 0.06 m/s

PPS:  $\pm 95$  ns

Acquisition Time Reacquisition: <2 s (90%)

Hot start: <14 s (50%), <18 s (90%)

Warm start: <38 s (50%), <45 s (90%)

Cold start: <90 s (50%), <170 s (90%)

Cold start requires no initialization. Warm start implies last position, time and almanac are saved by backup power. Hot start implies ephemeris also saved.

Dynamics Acceleration: 4 g (39.2 m/s<sup>2</sup>)

Motional jerk: 20 m/s<sup>3</sup>

Operational limits Altitude: <18000 m or velocity <515 m/s

I/O Board Specifications (for optional Telemetry I/O board)

Analog inputs Eight buffered (hi impedance) inputs, 0 V to +5 V.

Jumper selectable 249 Ohm, 1% resistor allows use with 2-wire or 3-wire 0 to 20 mA dc input.

Buffer/protection op amps limit voltage to the 10 bit A/D converter to 4.950 V.

Discrete inputs Four CMOS logic level inputs. Inputs are pulled hi in the absences of input signal, and may be activated by a low impedance path to ground (such as a switch, relay contact, open collect BJT, open drain FET, or optocoupler output).

Analog outputs Four outputs, 0 to 4.995 V dc into 10k minimum load<

Discrete outputs Four open-drain FET outputs, will switch up to 50 V dc and up to 115 mA.

Diagnostic Port RS-232. May be used only if GPS option is not also installed.

#### Radio Specifications:

General Integral transceiver

Transmitter Meets FCC part 90 requirements

Transmitter output power Programmable up to 6 W

Duty Cycle 50% (30 s TX max) @ 6 W

Receiver sensitivity  $1 \times 10^{-6}$  BER @ -105 dBm

Frequency range Talon UDC VHF: 136 - 162, 148 - 174 MHz

Talon UDC UHF: 400 - 420, 450 - 470 MHz

Frequency stability 1.55 PPM

Carrier power <1 W to 6 W

Carrier power accuracy +0 / -0.7 dBm

RF output Imp. 50 ohms

Frequency steps 12.5 kHz

RX adjacent Chl. (EIA) -60 dB @ 12.5 kHz

Radio status indication PWR. TX, RX, 3 programmable

Environmental Specifications

Operating temperature -30 to +60 degrees Celsius

Humidity Up to 95% RH non-condensing

Mechanical Specifications & Connectors

Enclosure Formed aluminum

Dimensions (H×W×D) 2.4"×6.5"×4.95" (61 mm × 165 mm × 126 mm)

Weight (mass) 1.5 lbs (0.68 kg)

GPS Antenna Connection MCX (female)

Radio Antenna Connection N (female)

Data Connection DB-9 (female)

Power Connection Combicon 2-terminal connector  
(mating connector supplied)

#### Diagnostics:

Data available Interior temperature, Supply Voltage, RSSI

Data source I/O port, Over the air

Warranty The Talon UDC is protected by a two-year limited warranty to the original owner