

Dataw ISM Radio Modem





OEM UHF -RADIO MODEM with RS 232 serial interface

DATAW DW4965 ISM Radio Modem (0-9600 b/s) provide low- to medium speed data communications in a single-unit, easy to install package. The modem utilizes one simplex UHF –radio channel at separate transmit and receive periods. Operating speeds depend on the type of modulation (AFSK or baseband) see below at "Modulation". Since Dataw Radio Modems have no protocol of their own, the software protocol or raw data can utilize the entire throughput of the channel.

As the modem has no error correction (FEC or ARQ) capabilities, a suitable terminal transfer protocol is necessary. Due to simplex radio channel operation, transfer must be performed during separate transmit and receive periods. A simultaneous full duplex transfer is possible using separate modems for transmitting and receiving. Dataw Radio Modems are housed in an aluminium casing. The mother board comprises the modem and the radio transmitter and receiver units. A suitable link hop distance is essentially dependent on environmental conditions and the antennas and their directivity. See also "RF-output power" below.

THE RS232 INTERFACE

No mechanical switches. All control operations are performed by RS 232 signals.

	<u>D9 PIN</u>	(connected from pin to pin according to the table below)
Transmit data	TxD 3	Output data from Terminal, input to Modem
Received data	RxD 2	Input data to Terminal, output from Modem
Request to send	RTS 7	Terminal wants to send data. This signal switches the Modem to transmit and receive. Output from Terminal, input to Modem.
Clear to send	CTS 8	Modem announces to terminal, that sending data is now possible. Output from Modem, input to terminal. Delay between RTS high - CTS high is approximately 9 ms.
Signal ground	GND 5	Also power supply and case ground
Data carrier	DCD 1	Data is available for receiving. Output from Modem, input to Terminal
*Received signal strength	RSSI 6	This analog signal indicates the relative received signal strength. It can be used for accurate direction of the antennas. The level of RSSI is between 1 and 4 volts.
*Channel select	CH4	Channel switching the low level of this signal represents channel 1, and high channel 2 respectively.
*Power supply in	Vcc 9	Supply voltage 11-15 V DC

(*Inputs/outputs not compatible to RS232C standard but available as extras at 9-pole connector.)

SPECIFICATIONS

Data speed	0-9600 b/s (baseband modulation), 0-1200 b/s (AFSK) different versions
Frequency range	one or two channels, preselected by crystals
Channel spacing	25 kHz
RF-output power	10 mW. Max antenna gain 0 dB + antenna cable loss. For 25 mW ERP use an antenna with gain of 4dB + antenna cable loss.
Data communications	Polling and CSMA networks
Suggested protocols	ANSI X3.28, CCITT V.25
Modulation	0-1200 b/s: AFSK FM CCITT V.23 0-9600 b/s: direct FSK
Nominal deviation	±2.5 kHz on 25 kHz channel spacing
Temperature range	-20-+55 °C operating
Stability	±2.0 kHz -20-+55 °C on 25 kHz channel spacing
Sensitivity	better than -110 dBm RF input level to 1E-2 BER
Antenna connector	50 ohm TNC female
Interface	RS 232, D9 female
Operating voltage	+11-+25 V at D-connector pin 9
Current consumption	<55 mA receiving, <80 mA transmitting
Dimensions	65x140x30 mm
Weight	0.23 kg
Type approved to	EN 300 220-1

Specifications are subject to change



ULTRACOM OY

Address: P.O. Box 20, 90441 Kempele, FINLAND
Telephone: INT +358 8 563 5600
Telefax: INT +358 8 520 8717
Street Address: Tarjusojantie 11, Kempele