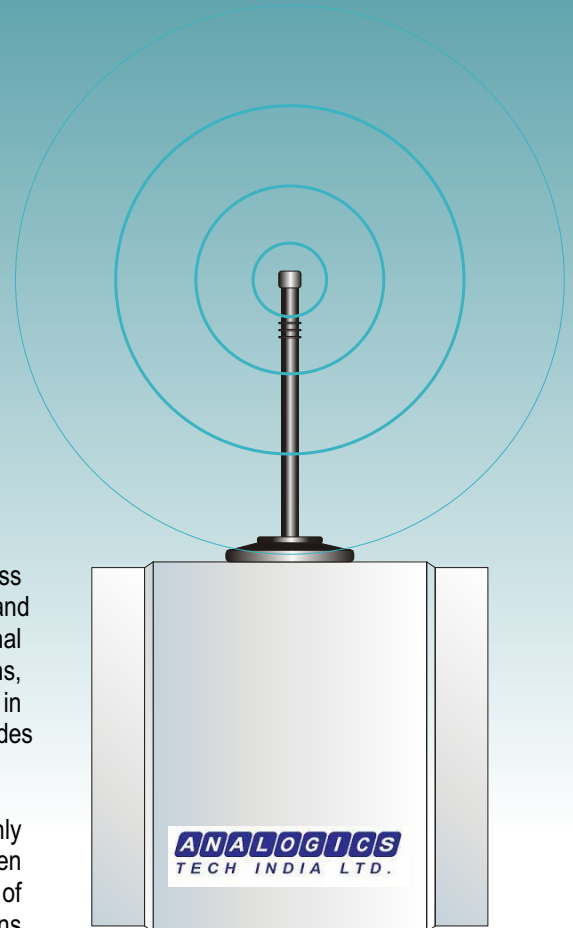


SMART R

LOW POWER RADIO MODEM

Analogics Tech India Limited. Specialized in the Design, Development and Manufacturing of wide range of Hand Held Terminals and Wireless Communication Products. For over 13 years Analogic has developed Hand Held Terminals that are used successfully in various cross-functional applications like, Industrial, mobile, Wireless Data communications, process automation etc., and stands ahead of the competition in innovative race of integrating latest technologies. Analogics also provides State-of-the-art solutions on customized OEM basis to the industry.

The Low Power Radio Modem is an ultra low-power transceiver, mainly intended for 315, 433, 868 and 915 MHz frequency bands. It has been specifically designed to comply with the most stringent requirements of the Low Power short distance control and data communications applications.



An unique UHF RF Radio Modem

The UHF transceiver is designed for very low power consumption and low voltage operated energy meter reading applications. The product is unique with features like compact, low cost, versatile, short range, intelligent data communication etc., The product also has 2/3 isolated digital inputs and outputs. Necessary command sequences will be supplied to operate these tele commands from the user host.

The Radio Modem is designed primarily for FSK systems in the ISM/SRD bands at 315, 433, 866 and 915 MHz, but bands can easily be programmed for operation at other frequencies between 300 MHz and 1000 Mhz. The modem supports max. data-rates up to 19.2 kbit/s.

Features

- Programmable frequency (300-1000 MHz)
- Low operating voltage (3.3 V)
- Active peak current, less than 75mA
- Incoming signal status indication
- High receiver sensitivity (-110 dBm)
- Compact & Light Weight
- Programmable output power, ranging from -20 to +10 dBm
- Suitable for frequency hopping protocols
- User programmable
 - Data Rate
 - Centre Frequency
 - Channel Frequency (Max. 20 Channels)



ANALOGICS
TECH INDIA LTD.

Technical Specifications:

• Related to Transmission

Transmit Data Rate	:	600 to 19,200 Baud
Modulation	:	Binary FSK
Output Power	:	
(Programmable) 433 MHz	:	-20 to 10 dBm
868 MHz	:	-20 to 5 dBm

• Related to Reception

Receiver sensitivity 433 MHz	:	- 109 dBm
868 Mhz	:	- 105 dBm
Output signal phase noise	:	- 85 dBc/Hz
		At 100 KHz offset from carrier

- **Range** : 100 meters plus (open range) with 0 dBi, Omni Directional Antenna

• Frequency / Channel Options

Spread Spectrum Feature	:	Hop rates of 1 to 100 (max.) depending on bit rate and amount of data to be sent during each transmission.
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Channel Selection	:	About 20 channels can be selected through software programmability.
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• Interface/ connectors

Data	:	RS-232, through 9 pin D-type connector
Antenna	:	SMA Connector
Power	:	2 Pin, circular jack

• Power

Supply Voltage	:	3.3 v Typ. (3 to 3.6 v)
Supply current	:	
Transmit Mode (10 dBm)	:	60 mA (Max.)
Receive Mode	:	40 mA (Max.)

• Environmental

Operating Temp.	:	0 to 50 °C
Storage Temp.	:	- 20 to 70 °C
Relative Humidity	:	5 to 90% (non condensing)

• Options

Digital Outputs	:	2 / 3 nos. of isolated relay contacts
Digital Inputs	:	2 / 3 nos. of Opto isolated inputs
Packaging	:	Board only or compact metal enclosure

- **LPR is ideal for battery powered or low powered applications.**

The RF Radio Modem operates at 3.3 V, consuming average current of about 50 mA making it ideal for Battery powered Applications or with integrated meter applications, as the PT burden will be less than 200 mW.

- **Description of a typical application :**

Automatic Meter Reading with ANALOGIC Common Meter Reading Instrument (CMRI).

A set of Low Power Radio Modems connected to Tri-Vector Energy Meters and Analogic CMRI with a spacing of about 100 meters (i.e, any meter to CMRI). The software to link the two product ends is a transparent wireless data link.

Once the command from CMRI is given to the meter to initiate the transmission and the data sent by the meter is received by the radio unit on the CMRI side continuously. The responded radio on the CMRI gets ready to accept the data from the meter till the end of packet is detected, consequently, the meter side LPR enters into receive mode to detect the command provided by the CMRI for the packet and the procedure goes on till the end of data transfer from meter to CMRI (wireless data link).

All these operations can be performed without any manual intervention. The field person can collect the meter data from a distance of 100 meters (open range) instead of going to the exact meter location. The RF data rate between two sets can be 9600kbps (optionally upto 19,200).



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