RF Module 2.4G

User's Manual

Revision 02

3/04/2011

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1 General description

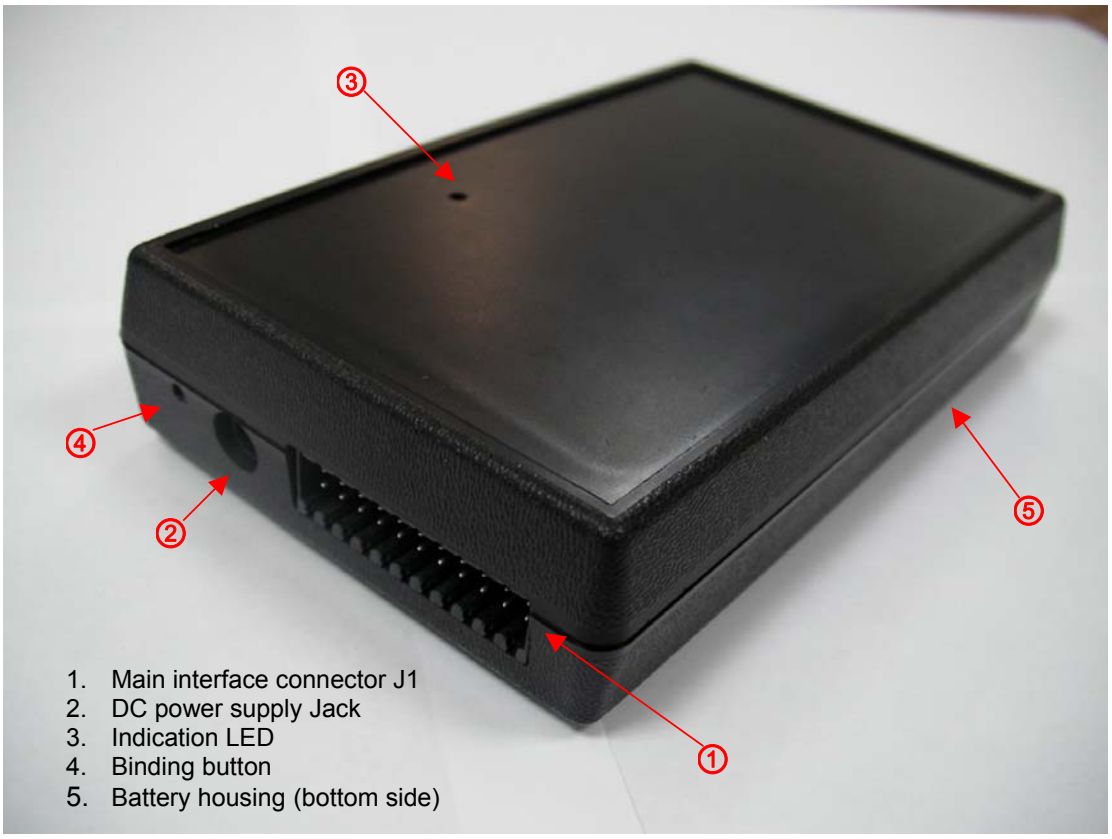
The "RF Module 2.4G" is an end-point device of a general use wireless network application.
It enables implementation of a transparent link of data transmission from a PC to any remote RS232 terminal. It also enables transmission of discrete signals to and from a PC application,
The wireless network of point to multipoint topology shall include single RF Dongle 2.4G device and up to 5 RF Sensor devices.
The RF Sensor is intended to any industrial use.

2 Device Operation

The RF Module Sensor 2.4G device is intended for use as an end-point device in a wireless network constructed of at least on RF Dongle 2.4G device and 1 to 5 RF Module Sensor 2.4G devices.

Refer also to the RF Dongle User's Manual for more information.

3 Detailed Device Description



1. Main interface connector J1
2. DC power supply Jack
3. Indication LED
4. Binding button
5. Battery housing (bottom side)

4 Device Installation

The RF Module Sensor is equipped with 3 magnets installed on the case internal surface. These magnets provide the required mounting elements to a metal surface.
The device can be mounted to any other surface by any other adequate means.
It can also serve as a set-top box.

To operate the device, follow the following steps:

- Set the required application cabling of the interface mating connector (see section "Interface description" for details.
- Install the device at the required location.
- Connect the interface mating connector to the interface connector of the device.
- Connect the DC adapter plug to the DC jack.
- Connect the AD/DC adapter to the AC power source socket.
- The device is ready to use – Set up the wireless network according to the wireless network setup user's guide.

5 Device Interface Description

The following table describes the functionality of each pin of the Interface Connector J1:

Pin #	Function	Description
1	AI_2_L	Alternate analog Input #2
2	AI_1	Analog Input #1
3	GND	Signal Ground
4	AI_2	Analog Input #2
5	TX	RS-232 Transmit
6	AI_3	Analog Input #3
7	DO_1	Discrete Output #1
8	DI_1	Discrete Input #1
9	DO_2	Discrete Output #2
10	DI_2	Discrete Input #2
11	GND	Signal Ground
12	DI_3	Discrete Input #3
13	DO_3	Discrete Output #3
14	DI_4	Discrete Input #4
15	5V_out (through 220Ω)	5 volt drive source for external LED
16	DI_5	Discrete Input #5
17	5V_out	5 volt drive source for 33Ω (min) load. (Load current 150mA max.)
18	DI_6	Discrete Input #6
19	RX	RS-232 Receive
20	DI_7	Discrete Input #7
21	GND	Signal Ground
22	DI_8	Discrete Input #8

The user shall set a mating connector cabling according to the application requirement.

The mating connector type is:

Part Designation: B2L 3.5/22 SN OR
Order No: 1747850000
Manufacturer: Weidmuller

6 Battery Installation

Four (4) alkaline type batteries of size AA shall be installed at the battery housing according to the marked polarity.

CAUTION

RISK OF EXPLOSION IF BATTERY IS REPLACED BY AN INCORRECT TYPE.

DISPOSE OF USED BATTERIES ACCORDING TO THE INSTRUCTIONS

7 Operational Characteristics

Power source:	1) 3-12 Volt DC 2) 4 X "AA" size alkaline batteries
Current Consumption:	Standby (no external load): 10uA typ. Operational (with max load): 250mA
Operating Temperature:	-10 to +45 °C
Tx/Rx frequency Range:	2400 – 2483 MHz
Output Tx power:	+1dBm
Internal Antenna Gain:	+5.5dBi max.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Every system that includes the RF SENSOR module will have a label:

"This product includes the modular RF sensor FCC ID:ZEMSENSOR"

8 FCC part 15 statement and warnings

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

-- Reorient or relocate the receiving antenna.

-- Increase the separation between the equipment and receiver.

-- Connect the equipment into an outlet on a circuit different

from that to which the receiver is connected.

-- Consult the dealer or an experienced radio/TV technician for help.

Warning!

Changes or modifications to this equipment not expressly approved by the Kodak IL LTD could void the user's authority to operate the equipment.

Warning!

This product was tested without special accessories (shielded cables and/or special connectors or other), which must be used with the unit to insure compliance.