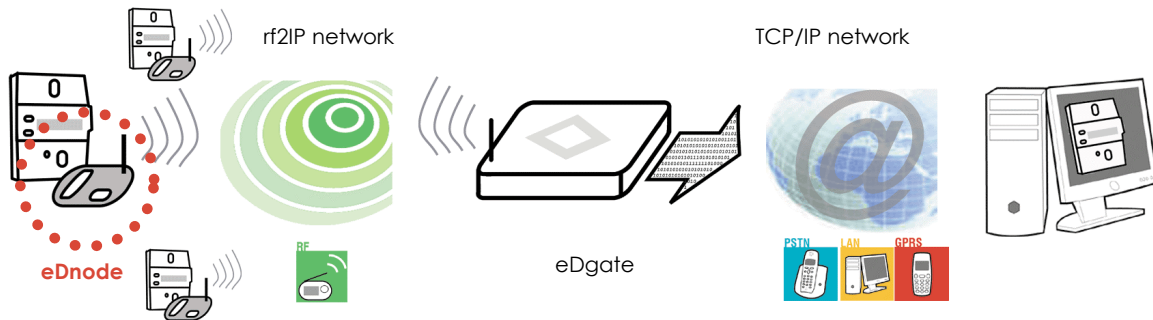




**eDnode**

**Radio Module rf2IP**

The eDnode is a module for connecting equipment to the rf2IP network for communication with eDevice's eDgate which manages the communication between eDnodes and a TCP/IP network over PSTN, LAN Ethernet or GPRS.



**rf2IP Network**

The RF link between the eDnodes and the eDgate operates in the ISM 868 MHz / 915 MHz band with an FSK type coding, a bi-directional and half-duplex token-based dialogue. An 8 bit CRC ensures the control of data coherence.

Each eDnode has a unique MAC address allowing automatic registration to the radio network on the gateway. By default, the eDgate manages up to 16 eDnodes.

The range is better than 200 meters point-of-sight, and around 30 inside buildings.

**Hardware**

The eDnode was designed based on a standard 8 bits microprocessor Microchip. It integrates an antenna which is controlled by a standard radio. The use of standard hardware components ensures not only cost-effectiveness of the eDnode but also the flexibility to generate tailor-mode solutions which are adapted to specific applications and environments. For example it is possible to create a module based on a more powerful PIC microprocessor which is capable of specific data processing at the node level or to optimise energy consumption.

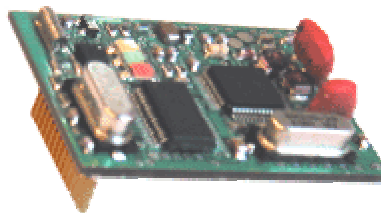
**Software**

The eDnode software manages the access to the radio network for the transmission of variables to/from the host equipment from/to the eDgate. These variables stored in the eDgate memory can be processed by a macro developed for the eDgate using the eDevice SDK. This macro can modify variables over the eDnode's interface to the host equipment or format the data for sending over TCP/IP via PSTN, LAN or GPRS.

Customisation of eDnode software is also possible to allow specific data processing required by your application.

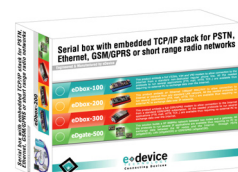
Dimensions: 27 x 36 x 8 mm  
(excluding 15-pin connector and antenna)

eDnode: scale 1/1



**Availability**

Two eDnodes are supplied in the RF evaluation kit (eDkit500). The eDnode is also available separately under reference eDnode. For tailor-made solutions, eDevice proposes to design in accordance with your specifications customized hardware and software, final product design, conception, industrialization and production.





## eDnode

## Radio Module rf2IP

### ▶ Hardware Interface

The I/O's of the eDnode (straight 15-pin connector with 1,27 mm spacing) for connection to the host equipment may be configured by software to provide different interfaces according to your needs:

- 1 TTL serial port with hardware data flow of between 1200 and 9600 bps;
- 4 analogue digital converters (10 bits);
- 4 binary digital outputs;
- 5 binary digital inputs.

All variables/data sent from the host device over the serial port or other interfaces as above are sent over the rf2IP network and stored into the eDgate memory.

### ▶ Consumption

To enable tight energy consumption constraints and long-life endurance, it is possible to program the nodes to set sleep and wake-up stages of certain durations in accordance with the application requirements. For particularly low-power supply devices or for devices without any power supply, eDevice proposes a battery-powered eDnode. The battery-powered eDnode using 4 standard LR6 batteries can operate for up to several years.

The eDnode power consumption is 35mA/3V during transmission and 20mA/3V during reception. In sleep mode the consumption does not exceed the  $\mu$ A range.

### ▶ Interface Card

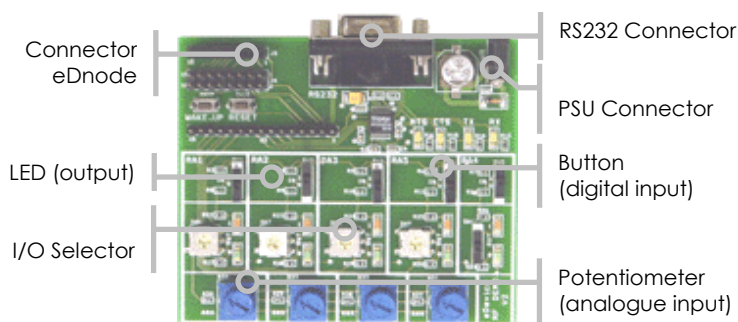
To facilitate the testing and evaluation of the eDnode, eDevice supplies an interface card with several I/O's with each eDkit500. This card enables simple connectivity with the following interfaces:

Name	Number	Description
V <sub>CC</sub> IN	1	Power supply input
V <sub>CC</sub> OUT	2	Output of 3.3VDC regulator
GND	3	Ground
RESET	4	External reset (active high)
WAKEUP	5	External wake up (active high)
RX	6	Serial RS232 Receive data
TX	7	Serial RS232 Transmit data

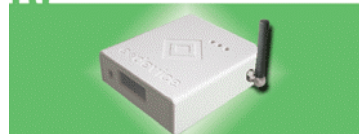
Name	Number	Description
CTS	8	Serial RS232 Clear to send
RTS	9	Serial RS232 Request to send
RA1	10	GPIO or analogue
RA2	11	GPIO or analogue
RA3	12	GPIO or analogue
RA4	13	GPIO
RA5	14	GPIO or analogue

Dimensions: 87 x 80 x 15 mm

eDnode interface card  
Scale 1/2



**RF**



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