

# IRIS RS-485



## IRIS - General

IRIS RS-485 is part of the IRIS series. The IRIS products are developed for monitoring and controlling other systems. IRIS units usually work in networks communicating with each other via radio, on the 433 MHz band. An IRIS network can consist of units of different types and usually there is at least one unit with an interface that enables it to communicate with the end-user. It could be for example a serial port, a GSM/GPRS module or an Internet connection and a database.

To enhance the quality of the radio communication IRIS acknowledges every data package sent. If the transmitting unit doesn't get a receipt that the package was received correctly it tries again for a predefined number of times.

## IRIS RS-485 - Configuration

IRIS RS-485 is configurable and can be used in many different ways. It could be simple applications like radio modems and replacements for serial cables in difficult environments or more complex application that evaluates the data before it take actions. All is depending on how it's configured. It's easy to configure the IRIS modules using the configuration program available on the IRIS website. It's possible to change the serial interface parameters, like baudrate, number of bits, parity and stop bits, predefined text strings and many more. For more information about configuration see the configuration manual. Both the configuration manual and the configuration program are available for download on the IRIS website - [www.irisnetwork.se](http://www.irisnetwork.se).

## IRIS RS-485 - Application

The simplest application is the transparent radio modem. The IRIS unit receives the data from an external source and sends it to another IRIS unit that's relays it to another external system. None of the IRIS units tries to interpret the data. This is useful for replacing serial cables and for sending data over long distances, more than 1000 meters with free line of sight.

For more advanced use there are a number of possibilities. The IRIS units can compare text received via both the radio and the serial interface with predefined strings. Wildcards (\* and ?) can be used to replace characters in the text string. This makes the interpretation of the received text more flexible. After the interpretation the unit can take actions. There are a variety of actions. The IRIS unit has internal functions such as timers, counters, logical flags and various parameters. This makes it possible to program the units to do much more than just relaying the data.

The unit can create and send both fixed text string and strings with parameters. The parameters can for example contain the unit's id or alias, the received text, status of logical flags, RSSI and values of timers and counters. The created text messages can be sent as commands to other units or as information to the user. There is a special command that changes the value of the logical flags and outputs on other units.



**For more information about IRIS units and systems, please visit the IRIS website:**

[www.irisnetwork.se](http://www.irisnetwork.se)





## Technical data

### Radio communication:

Frequency: 433.050 - 434.775 MHz; 439.700 - 439.975 MHz  
 Channel pattern: 25 kHz channel spacing  
 70 channels from 433.050 to 434.775 MHz  
 (12 channels from 439.700 to 439.975 MHz  
 for the Swedish market)  
 Sensitivity: -112 dBm @ 50 ohm  
 Modulation type: FSK  
 Bit rate: 4800 bit/s  
 Range: > 1 km (in line of sight)

### Serial interface:

Level: EIA RS-422/RS-485  
 Speed: 300-115200 Baud  
 Data bits: 7 or 8  
 Stop bits: 1 or 2  
 Parity: Odd, even or none

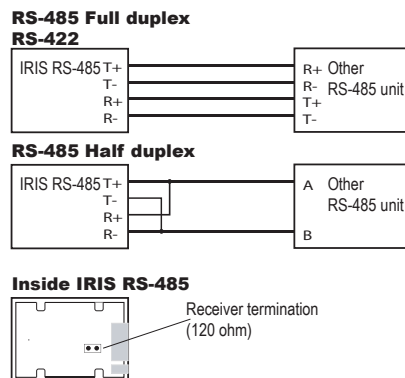
### Power supply:

Voltage: 12-24 VDC (2.1 mm DC Socket)  
 Current consumption: 80 mA  
 90-100 mA on transmission

### Miscellaneous:

Size (without antenna): 70x95x30 mm  
 Temperature range: -10 – +55 °C

### Connect to other units:



TRL-Funksysteme GmbH  
 Hans-Böckler-Strasse 5a · D-63110 Rodgau – Jügesheim  
 Telefon: +49 (0) 6106 – 66 64 44 · Fax: +49 (0) 6106 – 66 64 45  
 E-mail: info@trlfunk.de · www.trlfunk.de

© 2004-2005 of Ideus AB  
 This radio equipment/product satisfies the significant requirements and other relevant stipulations of the "Guideline 1999/5/EG"



This document is copyrighted and all rights are reserved by Ideus AB. This document may not, in whole or in part, be copied, photocopied, or translated without the prior written consent of Ideus AB. This document contains proprietary information which is not to be used or brought to knowledge of a third part without the prior written consent of Ideus AB.