

FIELD BUS EXTENSION BUS OR FAILSAFE RING



The IRC485 repeater allows the extension of an RS485 field bus when the maximum range is reached.

The amplitude and duration of the repeated data are recalibrated.

For more security, a failsafe ring can be created so that the failure of one unit does not interrupt the functioning of the other terminals in the ring.

The IRC485 repeater ensures the transmission of most RS485 synchronous or asynchronous field buses up to 187.5 kb/s.

Key-features

- 1200 b/s to 187.5 Kb/s
- Byte repetition
- Failsafe ring function
- Profibus DP , MODBUS, DH485, UNITELWAY, SYSMACWAY...
- RS232 / RS422 / RS485 interface
- 2500 Vrms isolation
- DIN rail mounting
- Supply 9 to 40 VDC or 40 to 60 VDC

Applications

Field bus extension.

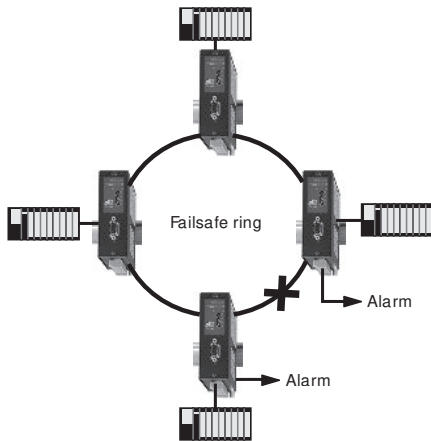
IRC485 RS485 repeater

High-performance field bus extension

The IRC485 regenerates and repeats the signal at its original amplitude and timing for each segment without significantly delaying transmission. A large number of PLCs can thus be connected to the extended bus.

Failsafe ring

When using asynchronous transmission, a failsafe ring can be created: if a module fails or a cable is cut, all the other terminals remain operational.

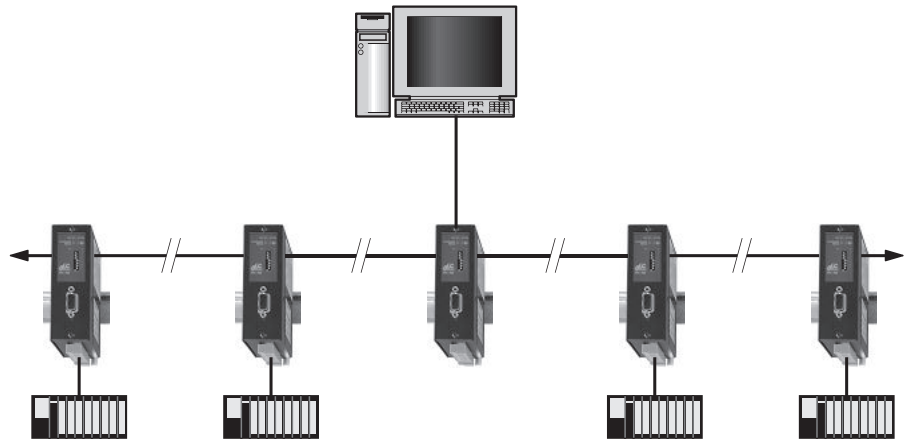


All-in-one: repeater, isolator and interface converter

The IRC485 module brings together in a single product the functions of a repeater, a line isolator and an interface converter. Each of the two lines is galvanically isolated, which guarantees the isolation of the local interface.

Switch configuration

The IRC 485 module can be immediately installed and configured thanks to an easily accessible bank of micro-switches.



Characteristics

Local interface	RS485 / RS422 / RS232
Field bus	PROFIBUS DP, MODBUS, UNITELWAY, DH-485, SYSMAC-WAY...
Type of data transmitted	<ul style="list-style-type: none"> ■ Synchronous or asynchronous ■ Asynchronous : 7 or 8 bits ■ Parity : none / even / odd ■ 1 start, 1 or 2 stops ■ 1200 - 2400 - 4800 - 9600 b/s ■ 19.2 - 38.4 - 57.6 - 115.2 kb/s ■ 93.5 - 187.5 kb/s
Number of segments	<ul style="list-style-type: none"> ■ Unlimited in theory ■ Only limited by error rate ■ Typically, 10 segments
Configuration	8 micro-switches
Dimensions	115 x 38 x 96 mm (h, l, d)
Isolation / line	<ul style="list-style-type: none"> ■ Each line is isolated ■ Isolation voltage : 2500 V rms
E.M.I.	EN 50082-2
Electrical safety	EN 60950
Lightning	EN61000-4 and -5 2kW common and differential modes
Power requirements	9 to 40 VDC or 40 to 60 VDC
Power consumption	50 mA at 24 VDC
Operating temperature	0° / + 60°C
On-line transmission	RS485 on a shielded twisted pair Regeneration of signal amplitude and timing (asynchronous)

Transmission range (shielded twisted pair 50 nF/Km)

Network	Bus		Ring	
Cable Diameter	0.6 mm	1 mm	0.6 mm	1 mm
9 600 b/s	4.5 km	7.5 km	4.5 km	7.5 km
115 200 b/s	0.9 km	1.4 km	0.8 km	0.8 km
93 750 b/s	1 km	1.6 km	1 km	1 km
187 500 b/s	0.75 km	1.1 km	0.5 km	0.5 km

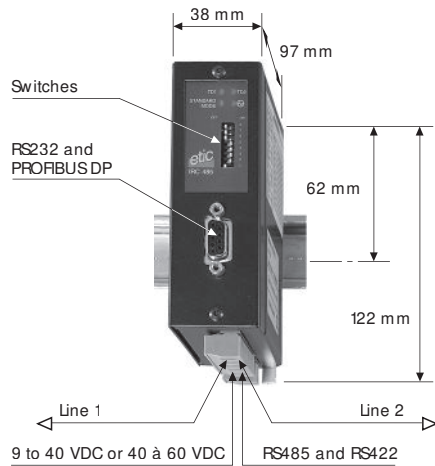
Designation

IRC485 / 24VDC supply voltage
IRC485 / 48VDC supply voltage

Reference

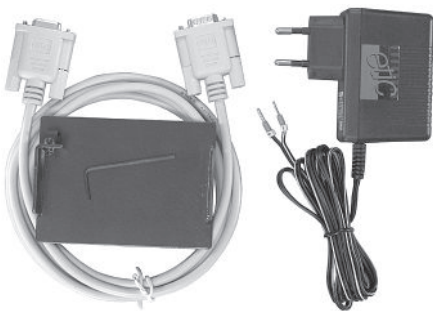
IRC485-0
IRC485-1

Description



Accessories

Designation	Characteristics	Reference
Desktop kit	RS232 cable + AS06 power supply module + desktop adapter	KIT12
RS232 cable	Length 1.5 m - DB9 M / DB9 F	CAB01
Power supply modules	Refer to Power supply modules section for details	AS05 - AS06 - AS07
Line surge protection	Refer to Protections for details	PS01 - PS02
Power supply surge protection	Refer to Protections for details	PS05



KIT12

Connecting cables for PLCs

Refer to Cables section (page 41) to select the cable corresponding to your application.

Delivery content

IRC485-0	Repeater - User guide in English
IRC485-1	