

IRIG-B TTL TO RS485 CONVERTER



SLC-1010

Why IRIG-B TTL to IRIG-B RS485 required?

The IRIG-B TTL signal is a time synchronization protocol that can be transmitted up to 50m maximum using coaxial cable. So the relay which is to be received the IRIG-B TTL signal may be far away from the IRIG-B source. The relay may be not able to synchronize with the GPS. To avoid such an incident in the field, some of the relays have provision to receive IRIG-B RS485 signal. The IRIG-B RS485 signal can able travel up to 1200m without any booster. All Time source equipment may not be supplied with IRIG-B RS485 signal output. The converter will act as a bridge between GPS Time source and Relays for time synchronization.



Overview

SLC-1010 series converter is used to convert the IRIG-B TTL to IRIG-B RS485 signal. It provides easy and affordable connectivity to substation equipment and power generation and distribution equipment. It converts the IRIG-B TTL input format like 002, 004, 006 & IEEE1344 and IEEE C37.118 to RS485 output with the same format. With this Plug-N-Play unit, you can expand your IRIG-B TTL signal to a long distance. The converter supports 2-wire RS-485. It can able to support a minimum of 32 nodes or 128 nodes (1/4 UL) based on unit load. It is rugged and surge-protected equipment. Its cabinet can be mounted directly on a wall without the need for additional brackets. It has an inbuilt power supply module, therefore, doing away with the need for an external power adapter. It consists of BNC connector for IRIG-B TTL input and a terminal block for IRIG-B RS485 outputs. There is a LED indication for Power & signal outputs. The power supply can be customized when ordering.

Features

- Converts the IRIG-B TTL to IRIG-B RS485 signal
- Industrial grade enclosed in a rugged, rustless housing
- Wall mountable
- RS485 signal can be transmitted up to 1200m
- LED indications for Power & signal outputs
- The supply voltage can be customized
- Built-in surge protection and static protection
- Built-in 120-ohm termination resistor

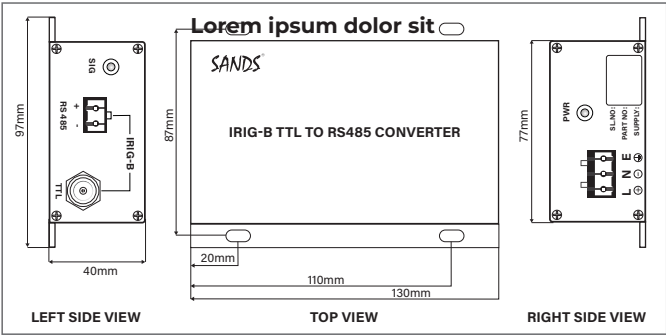
Application

- Substation
- Power Generation and Distribution plant

Specification

Power Supply		
Standard	85 to 260V AC, 1φ, (47Hz to 63Hz) or 90V to 370V DC	
Custom	24VDC or 48VDC	
Power Consumption	<5W	
Input Signal		
IRIG-B (PWM/TTL)	Logic 0	:0V +250mV
	Logic 1	:3V to 5V +10%
Connector	BNC, Female	
User Interface		
Status LED	Signal & Power	
Environment		
Operating Temp	0°to 50°C	
Humidity	95% Non-Condensing	
Mechanical		
Installation	Wall Mountable	
Dimension	40mm (H) x 100mm (W) x 135mm (D) ±5mm	
Weight	<250g	
Protection Class	IP20	
Output Signal		
Output	IRIG-B RS485	
Distance	1200m	
Number of Output	1	
Connector	Pluggable Terminal Block, 120Ω	

Dimensional Drawing



Installation

- The following describes the installation of the System hardware.
- Connect power supply
 - Connection of the IRIG-B signal from IRIG-B Source
 - Switch on the power supply
 - Observe SIG LED Blinking & Power LED Glows Red

Installation of the Enclosure

- The System is assembled in a Wall Mountable Enclosure. The following steps are to be carried out:
- Place the unit in the control panel and fix the mounting brackets on the front side of the rack using Screws.
 - Ensure that there is sufficient space between the connection side of the rack and the control panel to allow for the connection of cables to the System.

Note: At higher temperatures, active cooling/ventilation is recommended.

AC Power Supply

Attention should be paid to the following when connecting the power supply

- ♦ Correct voltage type AC
- ♦ Voltage level

The power feed is via a 3 pin phoenix combicon connector. The phase should be connected to 'L(+)'. Neutral should be Connected to 'N (-)'. Connect the input connector to the mains power supply and switch the line circuit breaker ON.

Note: The System can be damaged if incorrect voltage is connected

DC Power Supply

Ensure that the external power supply is switched off. When connecting the supply cable make sure that the polarity is correct and the equipment is earthed. The power feed is via a 3pin phoenix combicon connector. The positive pole should connect to 'L (+)'. The negative pole should be connected to 'N (-)'. Connect the input connector to the mains power supply and switch the line circuit breaker ON.

Note: The System can be damaged if incorrect voltage is connected.

Safety and Warning Instruction

Please read these instructions fully in order to guarantee safe operation of the equipment and to be able to use all the functions.

Caution: Never work on an open unit when voltage is applied! Danger to life!

The System is an installation device. Installation and commissioning may only be carried out by suitably qualified specialist personnel. In doing so the respective country-specific specifications must be observed

Before commissioning ensure that:

- ♦ The power supply has been connected correctly and electrical shock protection is in place
- ♦ The earth wire is connected
- ♦ All output cables are suitably sized
- ♦ Sufficient convection is guaranteed

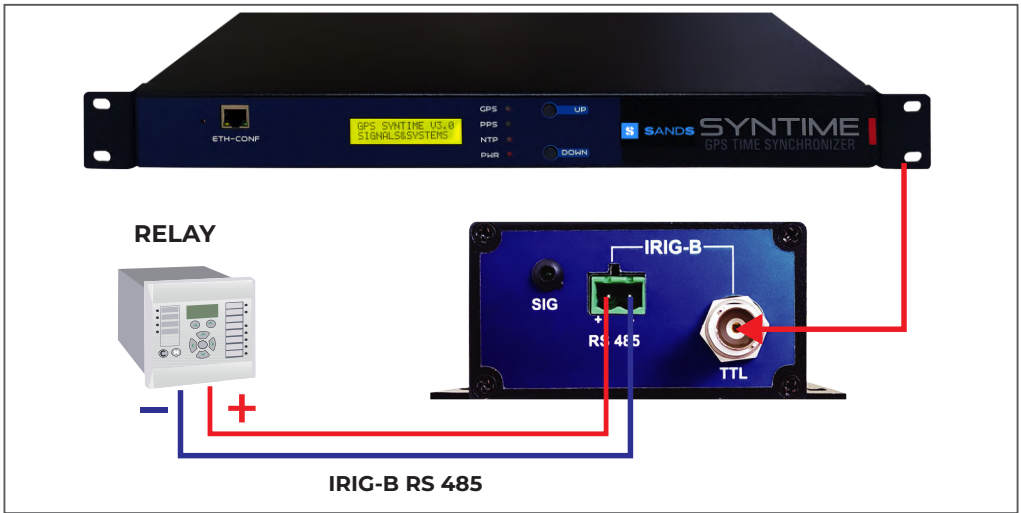
Note: The equipment may contain life-threatening components and a high level of stored energy.

Operation

IRIG-B TTL input is the source for this system. IRIG-B RS85 is the output from this converter. The system has a BNC connector for IRIG-B TTL input and a terminal for IRIG-B RS485 output. Terminal block indicated with IRIG-B+ (Positive Signal) and IRIG-B-(Negative Signal) of RS485 output. SIG LED indication is provided to know the input signal from the IRIG-B source. Verify the Status LED after connecting the Power Supply and IRIG-B input.

POWER LED	It will glow Red when the converter is powered ON. It will go OFF when no power supply.
SIG LED	It will blink Green when IRIG-B input available. It will go OFF when IRIG-B input not available.

Connection Details



Prices are subject to actual requirements, contact sales for pricing

Product development is continuous process- Specification Subject to change
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