

TRES900S Quick Start Guide

Power Requirements

The Reader needs to be powered with 10 Watts of power, TRES supplies a DC-to-DC converter and a power supply for ease of installation. The positive power and the ground connections are applied to the Reader at the terminal strip (located inside the reader to a DC-to-DC converter). The diagram below should assist you with connecting the new TRES900S. Check that the **RED** and **BLACK** wires are installed correctly to the supplied power supply, follow wire and Power chart below.

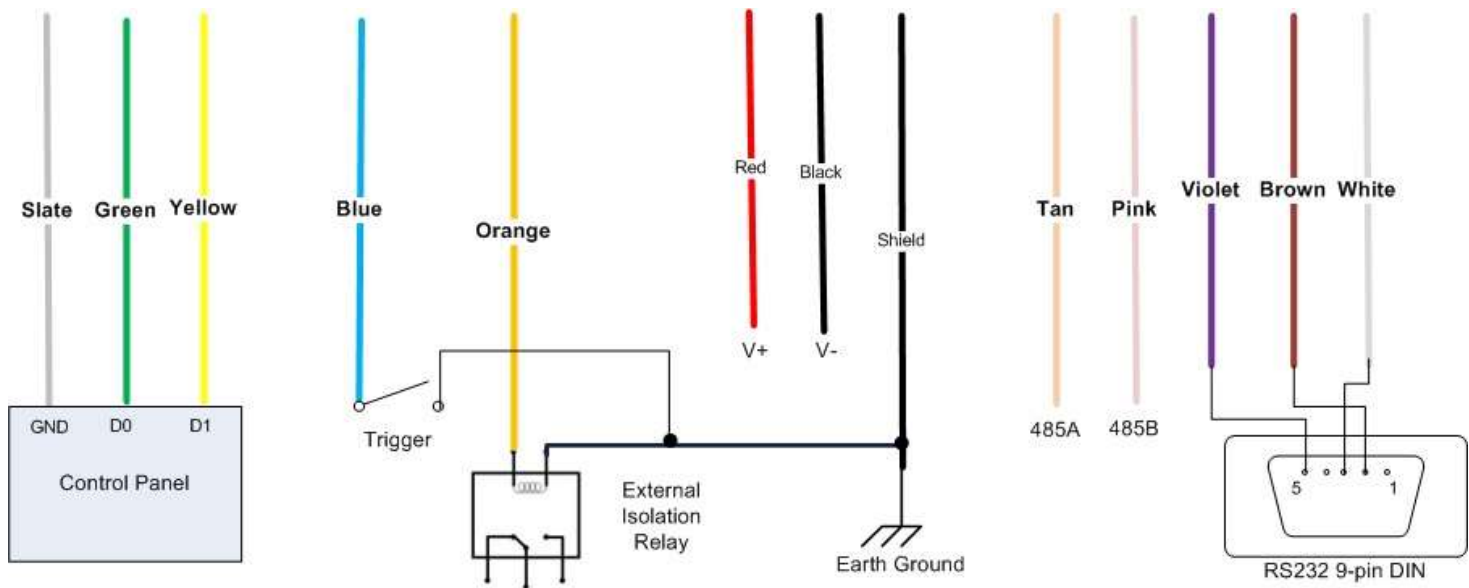
Wiring Guide

Selecting the correct size and type of wire will enhance the performance and reliability of your system. The size of the wire must be large enough to carry the maximum current expected without undue voltage losses.

TRES900S Wiring Description

10watts' Power Wire Chart in feet for TRES Readers										
voltage	8awg	10awg	12awg	14awg	16awg	18awg	20awg	22awg	24awg	26awg
5vDC@2A	458	298	183	115	71	46	29	17	11	7
12vDC@0.84A	1100	715	440	275	170	110	70	40	26	16
24vDC@0.42A	2200	1430	880	550	340	220	140	80	52	32
48vDC@0.21A	4400	2860	1760	1100	680	440	280	160	104	64

The TRES900S is now terminated inside the reader, thus elimination the pigtail. The diagram below will help you with wiring up the new TRES900S to your selected control panel or other controlling device. As you can see in the below diagram, you have trigger functionality (reader sleeps until triggered, low power consumption), internal relay, RS485 (if using multiple readers or OSDP), RS232 connectivity, an external LED (presently used for the LED bar on the face of the Reader) and multiple earth ground terminations for your convenience.



TRES900S UHF Tag Mounting Instructions

It is imperative that these mounting instructions be followed to insure proper performance of the TRES900S Reader. Failure to follow these instructions may result in poor performance.



WS421G + C + W – Windshield Stickers

The WS421 series tags are designed to be mounted in a **vertical** orientation on the **inside** of the vehicle's windshield. This tag is tuned to the dielectric properties of the windshields glass so proper performance is achieved when adhered to the windshields glass. Testing is recommended and can be accomplished by taping (painters' tape is recommended) the tag on a temporary basis only. The WS421 must be mounted at least two inches from the metal support posts on either side/bottom of the windshield. The preferred placement is at the bottom/left (driver's side) of the windshield to avoid antennas or tinting at the top of the windshield and to also ensure that the driver's view of the roadway is not obstructed! We recommend mounting here when the Reader is positioned on the left side of the travel lane... If the Reader is mounted on the right side of the travel lane, this tag mounting position can be duplicated on the right (passenger) side of the windshield.



Center Mounting the tag at the bottom of the rear-view mirror post works nicely when the Readers are mounted directly overhead in the center of the lane. This is the recommended position when a Windshield Stickers or Hangtags are being used.

NOTE: Some car manufacturers will place a “window” in this area of the windshield (no tint or metal) for the express purpose of mounting toll or AVI tags like WS421.

Prior to mounting the mounting area must be clean and free of oils or cleaning solutions. **Do Not Attempt** to remove this sticker once it is applied, you are very likely to compromise the antenna which will render the tag useless. It is preferable to have a crooked tag than to destroy it.

Metallic Windshield Content – some vehicle manufacturers install windshields that contain a significant metal content in them. These are usually higher-end vehicles, though the practice varies widely and can often be found in a few domestic vehicles. When a windshield contains too much metal content, the passive UHF tags will not work – this is not limited to any one manufacturer, this is simple physics. See the suggestions below please.

VIPER – Multi-Surface Tag

The VIPER tag is well-suited for use on highly detuning and difficult-to-tag materials. This tag Meets the Challenges of Narrow Spaces and De-Tuning Materials, orientation is not as critical with this tag. Works on Glass, Headlamps, under side view plastic mirrors, or many other surfaces that are non-metallic. This tag is a good alternate when you encounter **metallic windshields**.



STEALTH – Multi-Surface Tag



The STEALTH is another multi-surface tag that is pre-tuned for metal and can be mounted on almost any surface. Since it is tuned for metal, the STEALTH works best when it is mounted on a metal surface. Most users use this tag for those tough to read vehicles and want a tag that can be hidden behind a plastic material like on the frame of a radiator.

NOTE: Make sure the reader is no lower than 5' from the earth's surface because the reader emits energy 4' from all its sides and the earth will absorb the signal giving you shorted read range.