



Geoscanners AB®



TR501

The TR501 transceiver is a specially designed plug-in transceiver for GSSI SIR® Systems compatible antennas. It has both transmit and receive functions in one electronic plug-in.

The TR501 has all the advantages of its predecessors and a great deal of new implementations and performance enhancements. The unit is designed and built to offer the best reliability and repeatability possible in this class of devices.

ELECTRICAL SPECIFICATIONS:

High Voltage Power Consumption	0.289 W
Low Voltage Power Consumption	0.870 W
TX Impulse Rise Time	1.81 nS
TX Impulse FWHM	3.02 nS
TX Peak Voltage	+/- 120 V
RX Aperture Time	520 pS
RX RF Bandwidth	962 MHz
RX RF Dynamic Range	56.53 dB
RX Noise Figure	11.2 dB

Note 1: All values are measured at 50 kHz PRF with a 300 Ohms load with no averaging.

MECHANICAL SPECIFICATIONS:

Dimensions (LxWxH) mm/inch	230x133x82 (mm) / 9.0x5.2x3.2(inch)
Weight Kg/Lbs	0.3 kg / 0.66 Lbs
Ingress Protection Rating	IP51

ENVIRONMENTAL SPECIFICATIONS:

Maximum Temperature °C / °F	+40 °C / +104 °F
Minimum Temperature °C / °F	-10 °C / +14 °F
Maximum Humidity (non-condensing)	96% RH
RoHS Compliant	YES



OPERATING INSTRUCTIONS:

1. Insert the plug in electronics TR501 into the antenna slot. Pay attention that the letters on the antenna and on the TR501 must be facing the same direction.
2. Secure with two bolts the plug in electronics inserting them through the slots (1) and fastening them to the threads in the antenna case.
3. Attach the radar control cable to the plug-in electronics connector (3).
4. If the plug in electronics is going to be used in monostatic mode, that is, only one antenna sending and receiving, then make sure the short coax (5) is attached to the SMA connectors labeled "EXT" and "INT".
5. If the plug in electronics is going to be used in bistatic mode, that is, with the TR501 receiving and an extra transmitter sending, then remove the short coax from the TR501 SMA connector (6) and connect a coax to the SMA connector (4) labeled "EXT". Connect the other end of the coax to the external transmitter.
6. Make sure that the transceiver and the very high power transmitter are firmly attached to the antennas before starting the unit's operation or powering them from the radar unit.
7. If survey wheel encoder operation is desired then connect a GSSI compatible survey wheel cable to the connector (2) in the front panel of the TR501. If you have any doubts whether or not your survey wheel encoder is compatible or not please contact us before attaching it to the unit.

8. A marker button can be attached to the marker connector (7) in the front panel.

Turn on the radar unit and proceed with the survey.

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