



Geoscanners AB®



PRFPLUS-600

The PRFPLUS-600 is a specially developed support unit that enables SIR® Systems from GSSI to run the very high power transmitter model 778 at high PRF. It allows running antennas in bi-static mode with the VHP-TX 778 exceeding the maximum allowable pulse repetition frequencies and/or scan rates of radars like the SIR-2, SIR-2000, SIR-20 and SIR-3000.

The PRFPLUS-600 as a companion to the GSSI very high power transmitter VHP-TX 778 is targeted to work together with all the antennas that accept plug-in electronics with the GSSI interface. That is the models 3205 and 3207 from GSSI and SUBECHO-40, -70 and -150 from Radarteam Sweden AB.

ELECTRICAL SPECIFICATIONS:

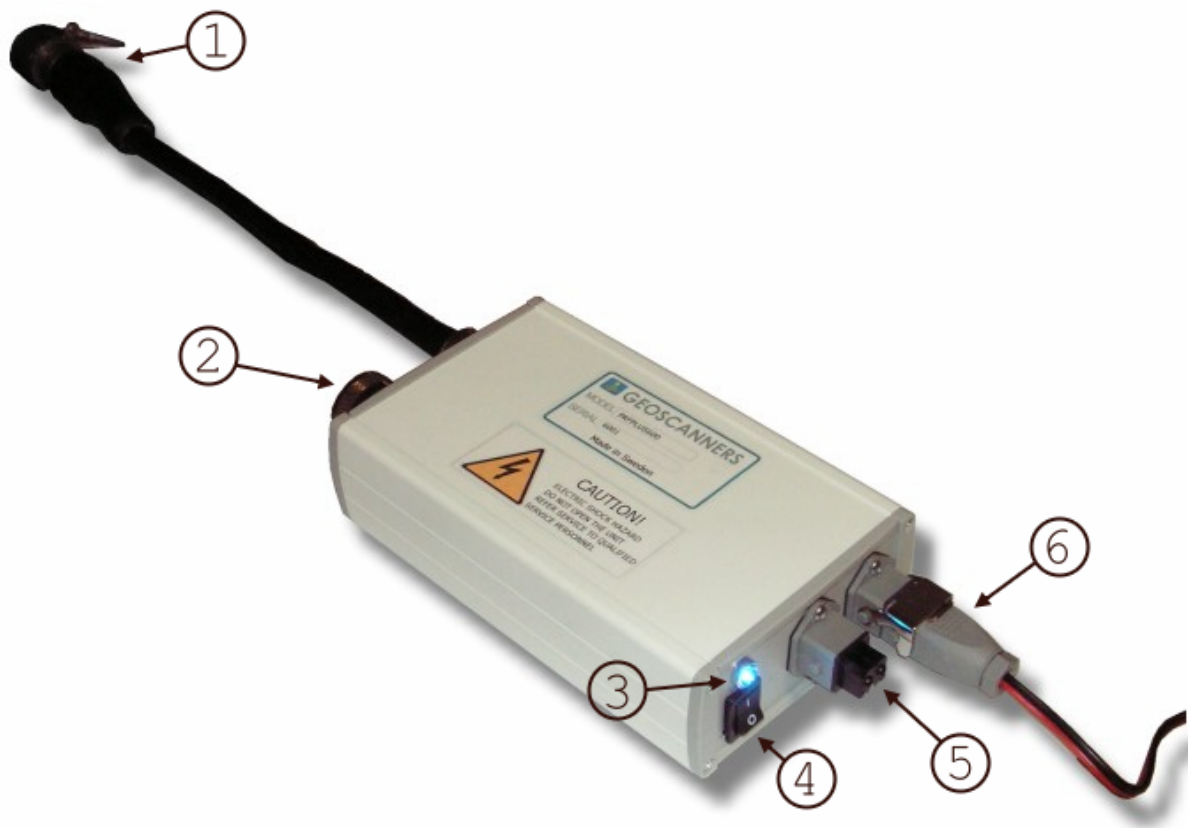
Minimum Input Voltage	10.5 V
Maximum Input Voltage	16.5 V
Maximum Input Current	778 mA
Output No. 1	Control output to 769DA2 or similar
Output No. 2	Bi-passed Power to Radar system

MECHANICAL SPECIFICATIONS:

Dimensions (LxWxH) mm/inch	175x106x45 (mm) / 6.9x4.1x1.7(inch)
Weight Kg/Lbs	0.6 kg / 1.32 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. Connect the control cable (1) from the PRFPLUS-600 to the radar system.
2. Connect the antenna control cable to the output (2) from the PRFPLUS-600.
3. Attach the antenna control cable to the plug-in electronics 769DA2 or similar.
4. Remove the short coax from the transceiver and connect a coax to the BNC connector labeled "OUT". Connect the other end of the coax to the very high power transmitter 778.
5. Make sure that the transceiver and the very high power transmitter are firmly attached to the antennas.
6. Check that the On/Off switch (4) on the PRFPLUS-600 is in the off position.
7. Attach the power cable to the PRFPLUS-600 power input (6).
8. Turn on the PRFPLUS-600 by the switch (4) in the front of it. And wait approximately half a second. The blue led (3) should light up indicating that everything is ok.
9. Turn on the radar unit and proceed with the survey.

FAULT CONDITIONS:

The PRFPLUS-600 is prepared to detect several fault conditions and indicate about them to the operator via the front panel led and the radar system if it was attached. The blue front panel led gives the following codes depending on the detected fault condition:

1. The LED flashes approximately once per second – that indicates the battery voltage is above 16.5 and therefore the unit will not operate properly.
2. The LED flashes approximately twice per second – that indicates the battery voltage is below 10.5 and therefore the unit will not operate properly.
3. The LED flashes approximately three times per second – that indicates the high voltage is overloaded or a short circuit is present at the output.

Independently of the fault condition the PRFPLUS-600 always remove the power going to the very high power transmitter in order to protect the electronics from damage. The PRFPLUS-600 will not resume operation until the power has been recycled.

The PRFPLUS-600 is transparent to the radar system and no special measures should be taken from the radar side to ensure proper operation of the PRFPLUS-600.

The PRFPLUS-600 has been extensively tested together with the VHP-TX 778. Despite the fact that the very high power transmitter works at 100 kHz and 120 scans/seconds rate it is advised to run it at 80 scans/seconds or less when using 100 kHz pulse repetition frequencies. The reason for this is that the electronics in the VHP-TX 778 at higher scans rates gets hot and it can lead to unreliable operation.

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