

## 8.8 TROUBLESHOOTING THE POWER SUPPLY

**WARNING:** On the power supply there are many parts that carry dangerous high voltages. Some of these voltages remain some time after disconnecting the unit from the mains. Therefore, it is recommended to wait at least five minutes after having disconnected the unit from the mains, before removing the unit. If working on the power supply unit under live condition cannot be avoided, it must be done by a qualified technician who is aware of the dangers involved. The use of an mains isolation transformer is strongly recommended.

The table below indicates the output voltages, currents and power figures delivered by the power supply. To determine whether a certain fault condition is initiated by the power supply itself or by the connected oscilloscope circuits, a dummy load is listed in the table. The table gives also an example of the resistor types that can be used to compose the dummy load. The resistors and connector (ordering number 5322 267 70308) that fits on connector X1002 can be ordered.

Supply voltage	Current drain	Substitution resistance	Dissipated power	Dummy load resistors
+5 V	1735 mA	2.9 $\Omega$	5.4W	3x 10 $\Omega$ /4W (4822 112 21054) in parallel
-5.2V	550 mA	9.1 $\Omega$	2.8W	10 $\Omega$ /4W (4822 112 21054)
+12 V	1160 mA	10.3 $\Omega$	13.9W	22 $\Omega$ /7W (4822 112 41063) and 27 $\Omega$ /7W (4822 112 41065) in parallel
-12 V	850 mA	14.2 $\Omega$	10.1W	27 $\Omega$ /7W (4822 112 41065) and 33 $\Omega$ /7W (4822 112 41067) in parallel
+18 V	350 mA	51.4 $\Omega$	6.3W	2x 27 $\Omega$ /4W (4822 112 21065) in series
-18 V	195 mA	92.5 $\Omega$	3.5W	2x 47 $\Omega$ /4W (4822 112 21072) in series
+58 V	60 mA	966 $\Omega$	12.1W	2x 470 $\Omega$ /7W (4822 112 41098) in series
-58 V	80 mA	725 $\Omega$	4.7W	330 $\Omega$ /4W (4822 112 21094) and 390 $\Omega$ /4W (4822 112 21096) in series
+10 Vref	9 mA	1100 $\Omega$	0.1W	--
6.3Vac	240 mA	26.3 $\Omega$	1.5W	--
-2.2kV	700 $\mu$ A	3.1M $\Omega$	1.55W	--
+14.5kV	50 $\mu$ A	290 M $\Omega$	0.7W	--

Another way of fault location is the use of the extension board with ordering code 5322 218 61479. On this board there is a jumper that can be removed to switch off the EHT-converter. For safety reasons it is strongly recommended to use this feature.

The current drawn from a certain supply voltage can be measured after having removed the series choke and connecting a current meter instead of it. The chokes are L1273 (+5 V), L1201 (-5.2 V), L1202 (+12 V), L1203 (-12 V), L1204 (+18 V), L1206 (-18 V), L1208 (+58 V) and L1209 (- 58 V).