

SC1000

RF System Test Controller

- M1-M5
- DC-40GHz

Features

The Model SC1000 is an RF test system controller designed to facilitate the concurrent use of up to three signal generators, four power amplifiers, and four different RF loads for broadband RF testing. This device allows multiple pieces of field generation equipment to be integrated into one test set-up, alleviating the need to constantly change cables due to the frequency limitations of the individual pieces.



The export classification for this equipment is EAR99. These commodities, technology or

software are controlled for export in accordance with the U.S. Export Administration Regulations. Diversion contrary to U.S. law is prohibited.

The Model SC1000 offers IEEE-488, RS-232, and manual control of the RF signal routing, and provides front panel indication via a 4 line vacuum fluorescent display. System interlock capability is also provided by sensing a switch closure. If the closure is not detected, the input signal is interrupted. The input signal is also interrupted during signal re-routing in order to assure cold switching of amplifiers and loads.

Additionally, a switchable positive 12VDC signal and several open collector outputs are supplied. These signals can be used to provide external switch capability.

Specifications

Electrical:

Input Power: 90-260 VAC, 50-60 Hz

Voltage Outputs: +12 VDC (switchable), 1A
+24 VDC (unswitched) 500mA

Open Collector Outputs: 4, 800mA current sinking each

RF Connections: Rear Panel bulkhead (See Model Configurations)

RF Power Handling Capability

| Connector Type | K | SMA | N |
|----------------|------|------|-------|
| 0-0.1 GHz | 400W | 450W | 1200W |
| 0.1-0.5 GHz | 200W | 275W | 600W |
| 0.5-1 GHz | 150W | 200W | 450W |
| 1-4 GHz | 75W | 100W | 250W |
| 4-8 GHz | 55W | 75W | 175W |
| 8-10 GHz | 45W | 55W | 150W |
| 10-18GHz | 35W | 50W | ---- |
| 18-40GHz | 25W | ---- | ---- |

NOTE: For VSWR above 1.1:1, Derate power according to the following

| VSWR | Derating Factor |
|-------|-----------------|
| 1.5:1 | .94 |
| 2.0:1 | .88 |
| 2.5:1 | .83 |
| 3.0:1 | .78 |
| 3.5:1 | .73 |
| 4.0:1 | .70 |

Remote Interfaces: IEEE-488, RS-232

Weight: 6.8 kg (15.0 lb)

Size (W x H x D): 48.26 x 13.34 x 44.77 cm (19.0 x 5.25 x 17.625 in)

Export Classification: EAR99

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| MODEL NUMBER | SWITCHES INSTALLED | | | | | | |
|--------------|--------------------|-----|---|---|-----|-----|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| SC1000 | SMA | SMA | N | N | SMA | | |
| SC1000M1 | SMA | SMA | N | N | SMA | SMA | N |
| SC1000M2 | SMA | SMA | | | SMA | | |
| SC1000M3 | SMA | SMA | | | SMA | SMA | |
| SC1000M4 | K | K | | | K | K | |
| SC1000M5 | SMA | SMA | | | SMA | SMA | N |

| | |
|----------|---|
| SC1000 | Controller designed for multi-amplifier/multi-load application where reverse power measurement is not necessary. |
| SC1000M1 | Controller designed for multi-amplifier/multi-load applications with forward and reverse power measurement and emissions feedback. |
| SC1000M2 | Controller accommodates forward power measurement and higher power/higher frequency amplifier and load combinations where switching and cable losses need to be minimized. |
| SC1000M3 | Controller accommodates forward and reverse power measurement and higher power/higher frequency amplifier and load combinations where switching and cable losses need to be minimized. |
| SC1000M4 | Controller accommodates forward and reverse power measurement and higher power/higher frequency (up to 40 GHz) amplifier and load combinations where switching and cable losses need to be minimized. |
| SC1000M5 | Controller accommodates forward and reverse power measurement, higher power/higher frequency amplifier and load combinations where switching and cable losses need to be minimized, and emissions feedback. |

Block Diagram

