



Data Proof 164B Low Thermal Scanner is designed to allow direct comparisons of four-terminal resistance standards. With two four-terminal output lines and sixteen four-terminal channel inputs, this scanner is an ideal companion for your automatic direct-current-comparator resistance bridge or for a variety of other applications. Make four-terminal resistance comparisons simply by selecting one device on the A channel and another on the B channel. All four connections for both devices in the matrix are switched. All other devices are left floating.

The 164B Quad Scanner offers switching with typically less than 20 nanovolts thermal offsets for precision measurements. These results are achieved by the special care that was taken in product design. The switches used are latching relays requiring only a short pulse to actuate,

and thus no self-heating occurs. All relays are mounted in a heavy machined aluminum box to maintain thermal equilibrium in the switching area.

Leakages between high and low circuit is reduced by switching the high and low on different boards. The 164B offers convenient operation from either the front panel or from the IEEE-488 bus.

The logical input and output configuration makes for an easy connection to fully automate your automated bridge. With the extremely low thermal offsets, this scanner can also be used for a variety of direct four-terminal comparisons applications.

SPECIFICATIONS

Thermoelectric Potentials:

Less than 20 nanovolts typical
50 nanovolts maximum

Relay Contact Ratings:

Life: >10,000,000 cycles at low levels
Initial contact resistance: 0.05 Ω maximum
Current: 2A maximum at 10 volts
Voltage switched: 100 volts max. at 1 mA
Voltage non-switched: 1,000 volts maximum
Leakages, channel to ground: 10¹² Ω

REAR PANEL CONNECTIONS

Inputs

16 by four-terminal low thermal binding posts.
Tellurium copper gold flashed per Mil-G-45204.

Outputs: Four pair of low thermal binding posts

Bus Inputs: 24 pin IEEE-488 connector

Size in inches (millimeters): 5.2 (133) high, 17.7 (451) wide
16.5 (420) deep

Scanner Control:

Local - using front panel push buttons
Remote - via IEEE-488 bus (includes)