



LOW-THERMAL MATRIX SCANNER

- Automated Low Thermal Matrix Scanner – 20-Channel 30 Amp
- 20 – 4-Wire Inputs
- 30 Amp Capability
- Automatic or Manual
- 2- or 4-Wire Outputs

MODEL 4220A/30



MODEL 4220A/30 LOW-THERMAL MATRIX SCANNER

The model 4220A/30 was designed to be used in automated resistance and shunt measurement applications where a number of artifacts needed to be calibrated efficiently and accurately. The model 4220A/30 has a total of 20 four terminal inputs and 2 four terminal outputs. The high current relays are located on the A side of the scanner only.

The relays selecting the inputs can be activated using both front panel key operation or using the IEEE-488 interface bus. A corresponding LED indicates which channels are selected. Combined with Measurements International's 6010 or 6242 resistance bridges, the 4220/30 A provides a means to create an automatic resistance measurement system with up to 30 Amp capability.

Ultra-sensitive, high-efficiency, polarized relay technology is used to eliminate self heating in the relay in manufacturing this low-thermal matrix scanner. The relays are the latest technology used in the telephone industry. The relay boards are thermally isolated to maintain equilibrium in the switching areas.

The low-thermal terminals are mechanically connected to the copper pads on the relay boards to reduce the thermals normally generated by soldered connections, thus reducing switching errors.

Interconnecting cable may also be ordered with the 4220A/30 Four Terminal Matrix Scanner. The interconnecting wire comes in either two or four conductor configurations. The wire may be ordered in lengths with screens already attached. No. 18-gauge solid copper, silver plated, screened Teflon cable is used.





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Specifications: Rev 3

Number of Inputs	20
Operation	Matrix
Thermal EMF's	< 50 nanovolts
Error Contribution	< 20 nanovolts
Contact Ratings	Relay – Two Coil Matching
Max Carrying Current (A-Side Only)	30 Amps (AC/DC)
Max Switching Current (A-Side Only)	30 Amps (AC/DC)
Max Carrying Current (B-Side)	4 Amps (AC/DC)
Max Switching Current (B-Side)	2 Amps (AC/DC)
Maximum Voltage	250 Volts
Maximum Switching Voltage	250 VAC/30 VDC
Contact Resistance	< 0.05 Ohms
Expected Relay Life	10 ⁸ Operations
Insulation Resistance	> 10 ¹¹ Ohms
Inputs	Tellurium Copper – Rear Panel
Outputs	Tellurium Copper – Rear Panel
Manual/IEEE-488	Both
Operating Environment	18 to 34 °C, 10 to 80 % RH
Warranty	1 Year Parts & Labour

Dimensions (L × W × H):
 380 × 450 × 270 (mm)

Weight:
 25 kg

Shipping Weight:
 27 kg

Main Power:
 100, 120, 220, 240 V – 50/60 Hz

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