rf/microwave instrumentation

The AR RF/Microwave Instrumentation Model FM7004 is a versatile electric and magnetic field monitoring system which performs all measurement display and control functions for field related testing. The FM7004 accepts inputs from up to 4 isotropic Field Probes which are all sold separately to match the test application.
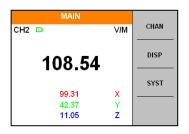
The FM7004 field monitor provides four digital interfaces (IEEE-488, USB, RS-232, and Ethernet) and a highly readable, user configurable, graphic Liquid Crystal Display. The monitor is menu driven and can be controlled from the front panel or remotely through any of the interfaces. The FM7004 displays up to four probe readings simultaneously, in any combination of the "E" field or "H" field 7000 series probes. Readings from each axis, plus the composite reading, are displayed simultaneously. The FM7004 recognizes each attached 7000 series probe (FP, FH, FL, PL) and automatically displays the proper decimal places and units. Any faults that occur will be logged and the unit is programmed to be self correcting when possible. As a software driven instrument, field monitor software upgrades can be made through the USB port.

The isotropic field probes, have an integral optical transceiver which communicates with the field monitor through a twin fiber optic cable. The operator can select minimum, maximum or average reading from any or all selected probes thus enjoying complete flexibility in choice of signal input. Minimum and maximum hold capability has also been incorporated with local or remote controlled start and stop.

The FM7004 has the ability to correct probe readings over frequency using a set of correction factors stored in its internal memory. The FM7004 allows for up to six tables of field probe correction factors to be stored. One table of correction factors can contain up to 30 different frequency points. The tables are loaded on the FM7004 using the USB port and the Table Loader program.

Single Probe X,Y,Z Display

DISPLAY MODES

Multi-probe X,Y,Z Display

Min/Max/Average Display

Min/Max Hold Display

SPECIFICATIONS

Sensitivity..0.4–1000 V/m (probe dependent)
12.0 mA/m–17 A/m (probe dependent)

Frequency response ....5 kHz - 60 GHz (probe dependent)

Inputs...Up to 4 independent probes, through 4 F/O FSMA pairs

Overload withstand..Probe dependent

Output ....graphical, color LCD digital display, resolution 0.01
IEEE-488 interface
USB 2.0 (test and measurement class)
RS-232 interface (19200 Baud)
Ethernet

Sample Rate ....Probe dependent

Power requirements
        Input voltage...Universal input 90 - 260 VAC, 50-60 Hz
        Input current ....0.2 - 0.6 Amps
        Input type ....IEC Inlet with filter
        Fuse ....1A, 5x20 mm slow blow

Operating temperature range..10 - 40° C (50 - 104° F) @ 5 - 95% RH non-condensing

Enclosure..Desktop case, 2U high

Correction factor tables
        Number of tables ....Stores up to 6 different tables (each table corresponding to one probe)
        Frequency points per table....................................2 to 30

Weight
        without enclosure ....2.3 kg (5 lb)
        with enclosure ....6.7 kg (14.75 lb)

Size (WxHxD)
        without enclosure ....48.3 x 9.0 x 25.4 cm (9 x 3.5 x 10 in)
        with enclosure ....49.8 x 12.7 x 30.5 cm (19.6 x 5.0 x 12.0 in)

MODEL	DESCRIPTION
FM7004	Housed in a 2U instrument case
FM7004M1	Rack mount (Instrument case removed)
FM7004M2	Housed in a 3U instrument case to allow for one FI7000 to be installed
FM7004M3	Housed in a 4U instrument case to allow for two FI7000's to be installed
FM7004M4	Housed in a 6U instrument case to allow for four FI7000's to be installed