
Model 7172 Instruction Manual Addendum

This manual addendum is being provided in order to quickly supply you with the latest information available. Please review these changes and incorporate them into the manual before operating or servicing the unit.

Replace Specifications.

Page 2-25, Paragraph 2.7.2 Radio Frequency Interference, replace with

2.7.2 Electromagnetic interference (EMI)

The electromagnetic interference characteristics of the Model 7172 Low Current 8×12 Matrix Card comply with the electromagnetic compatibility (EMC) requirements of the European Union as denoted by the CE mark. However, it is still possible for sensitive measurements to be affected by external sources. In these instances, special precautions may be required in the measurement setup.

Sources of EMI include:

- radio and television broadcast transmitters
- communications transmitters, including cellular phones and handheld radios
- devices incorporating microprocessors and high speed digital circuits
- impulse sources as in the case of arcing in high-voltage environments

The effect on instrument performance can be considerable if enough of the unwanted signal is present. A common problem is the rectification by semiconductor junctions of RF picked up by the leads.

The equipment and signal leads should be kept as far away as possible from any EMI sources. Additional shielding of the measuring instrument, signal leads, and sources will often reduce EMI to an acceptable level. In extreme cases, a specially constructed screen room may be required to sufficiently attenuate the troublesome signal.

Many instruments incorporate internal filtering that may help to reduce RFI effects in some situations. In some cases, external filtering may also be required. Such filtering, however, may have detrimental effects on the desired signal.

Page 4-5, Paragraph 4.4.3 replace NOTE with:

NOTE

The following procedure should be performed at an ambient temperature of 23°C and at a relative humidity of less than 50%.

Page 4-8, Paragraph 4.4.4 replace NOTE with:

NOTE

The following procedure must be performed at an ambient temperature of 23°C and at a relative humidity of less than 50%.

Model 7172 Specifications

MATRIX CONFIGURATION: Single 8 rows × 12 columns.

Expanding the columns can be done internally by connecting the rows of multiple 7172 cards together with coax jumpers.

OFFSET CURRENT SELF TEST: An on board electrometer circuit measures offset current when rear panel switch is pushed. Pass/fail LEDs indicate if offset is above or below 500fA. On board SMB connector outputs voltage proportional to current (1mV/10fA).

CROSSPOINT CONFIGURATION: 2-pole Form A (Signal, Guard).

CONNECTOR TYPE: 3 lug triax (Signal, Guard, Chassis).

MAXIMUM SIGNAL LEVEL:

Pin to pin or pin to chassis: 200V.

1A carry/0.5A switched, 10VA.

CONTACT LIFE:

Cold Switching: 10^8 closures.

At Maximum Signal Level: 10^5 closures.

PATH RESISTANCE

(Per Conductor): $<1.0\Omega$ initial, $<1.5\Omega$ at end of contact life.

CONTACT POTENTIAL:

Differential (Signal to Guard): $<30\mu\text{V}$.

Single ended (Guard to Guard or Signal to Signal): $<60\mu\text{V}$.

OFFSET CURRENT: $<500\text{ fA}$, 150fA typical.

ISOLATION:

Path (Signal to Signal): $>10^{13}\Omega$, 0.4pF typical.

Differential (Signal to Guard): $>10^9\Omega$, 170pF typical.

Common (Signal and Guard to Chassis): $>10^9\Omega$, 430pF typical.

CROSSTALK :

(1MHz, 50 Ω Load): $<-70\text{dB}$.

INSERTION LOSS:

(1MHz, 50 Ω Load): 0.22dB typical.

3dB BANDWIDTH:

(50 Ω Load, 50 Ω Source): 30MHz typical.

RELAY DRIVE CURRENT

(Per Crosspoint): 30mA.

RELAY SETTling TIME: $<2\text{ms}$.

ENVIRONMENT:

Offset Current and Path Isolation Specifications:

23°C, $<50\%$ R.H.

Operating: 0° to 50°C, up to 35°C at 70% R.H.

Storage: -25° to +65°C.

ACCESSORY SUPPLIED: Instruction manual.

Specifications subject to change without notice.

