

MOVING iMAGE TECHNOLOGIES

INSTRUCTIONS

FOR

INSTALLATION, OPERATION, AND MAINTENANCE

OF

IS-20 Power Manager

Part number A000292-xxx

Manual Version 0.2

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Manual

IS-20 POWER MANAGER

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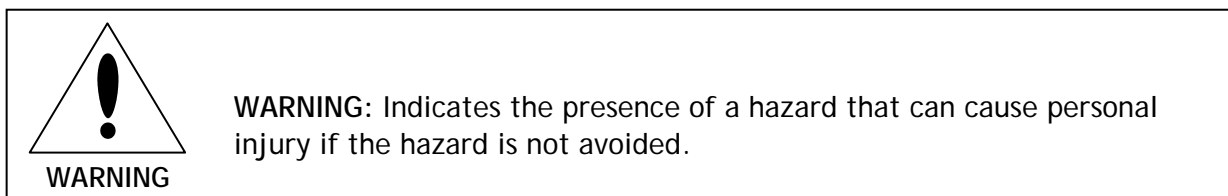
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1. INTRODUCTION

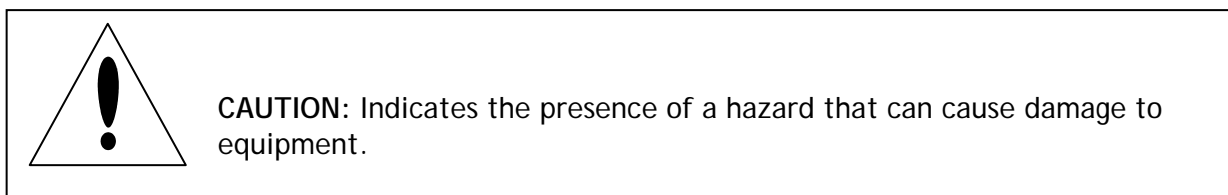
1.1 SPECIAL NOTICES

Two kinds of specific notices are used within this manual to emphasize information.

1.1.1 Warning



1.1.2 Caution



1.2 SAFETY

- ✓ Always disconnect the AC power at the building load center before working on anything inside the unit.

2. GENERAL DESCRIPTION

The MiT model IS-20 Power Manager accepts AC power from the building load center and provides receptacles for 120VAC loads (or 230V loads on International models). It provides switching capability for five of the six circuits, using heavy duty relays. The unit incorporates a 'soft-start' function on each of the five switched channels to reduce the current surge at turn-on and extend the life of relay contacts. EMI filtering and surge suppression are included on all 6 channels.

The unit is housed in a 2U rack-mount enclosure. The unit may be mounted at various locations in a building between the load center and the equipment to be protected.

There are two different versions of the unit, depending on the specific voltage requirements: 120V and 230V. The 120V version uses a standard NEMA 5-20R type duplex receptacle, the International version has IEC 320 C13 type receptacles.

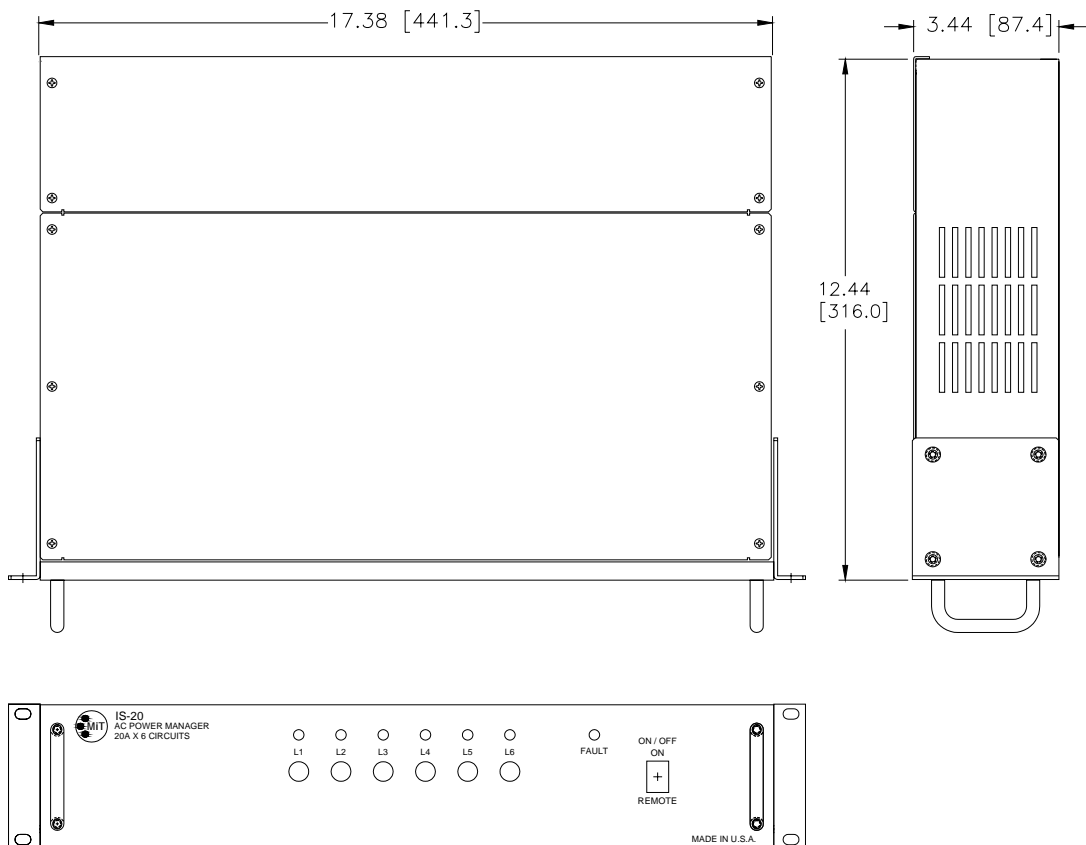


Figure 2-1: Outline

3 INSTALLATION



CAUTION: Users are urged to read this instruction manual thoroughly and understand the procedures described herein before installing the system.

3.1 Electrical Wiring



CAUTION: National and Local electrical codes should be observed at all times.

Note: The MiT IS-20 AC Power Manager is intended to be installed by licensed electricians or other personnel with appropriate training. **The technical information in this manual is provided for use by certified electricians and other qualified personnel ONLY.**

3.2 AC Supply Connections

The unit accepts up to six (6) 120V or 230V AC power feeds, depending on the version ordered. The unit is intended to be permanently hard-wired when installed, approved EMT or flex conduit and fittings must be used to route the wires to the unit. Knockouts are provided in the enclosure to facilitate connections. Terminals are provided to land 6 'Line' connections, 6 Neutral connections, and up to six ground wires.

Note: All neutral connections are bussed together inside the IS-20 unit, so they must be sourced from the same transformer and preferably the same load center.

Note: The ground connections are also bussed together at a common grounding bar inside the unit. Only one ground wire to the unit should normally be needed, however your regional electrical codes might require a ground wire for every 'Line' connection. It's the installer's responsibility to install the unit in accordance with all electrical codes.

AC supply connections are made at TB2 by removing the top cover of the unit. Figure 3-1 shows the connection points. Line 1 is required to be connected to AC power in order to run the unit. The other five circuits may be connected or not, as needed. (Note: if any channel isn't supplied with power the unit will continuously indicate a fault condition for that channel).

The wire used to route power to the unit should be AWG #12 or #10. Note: The largest gauge of wire the terminal blocks will accept is AWG #10. A knockout for a 1.25" conduit fitting is provided for routing the AC wiring.

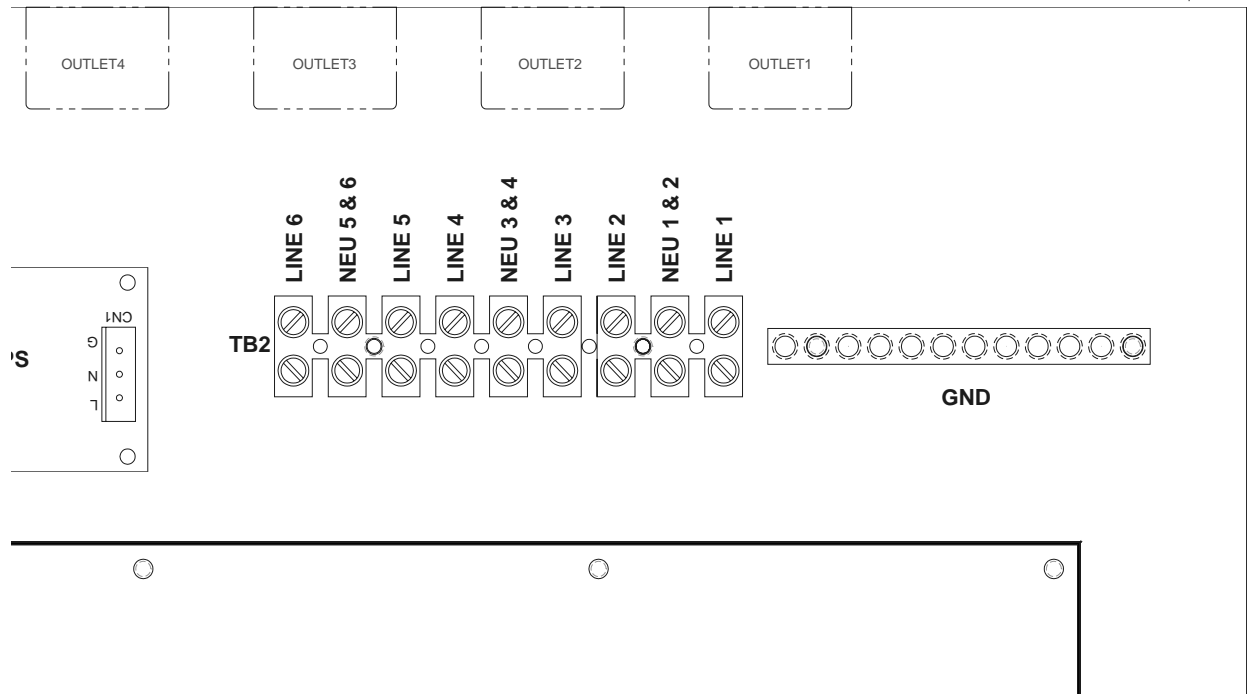


Figure 3-1: AC Input Connection
(cover removed)

3.3 Control Connection

The IS-20 allows the power for the 5 switched loads to be cycled on and off remotely. This on/off control may be done with a network connection, or a dry contact closure from an automation device.

To control the unit with a dry contact closure, connect the two control wires to TB1 pins 3 and 4. When pins 3 and 4 are shorted, the unit will sequentially power on all 5 outputs. When the connection between pin 3 and 4 is removed, the unit will sequentially power all outputs off. The controlling device must be rated for 12V, 5mA. Pin 5 is an output from the IS-20 unit that reflects the Fault status.

To control the unit with a network, connect the network cable to RJ-45 jack J1 on the PCB (see Figure 3-2). You will need to remove the upper cover from the chassis to access the connector. Refer to Section 4 for more information about network control.

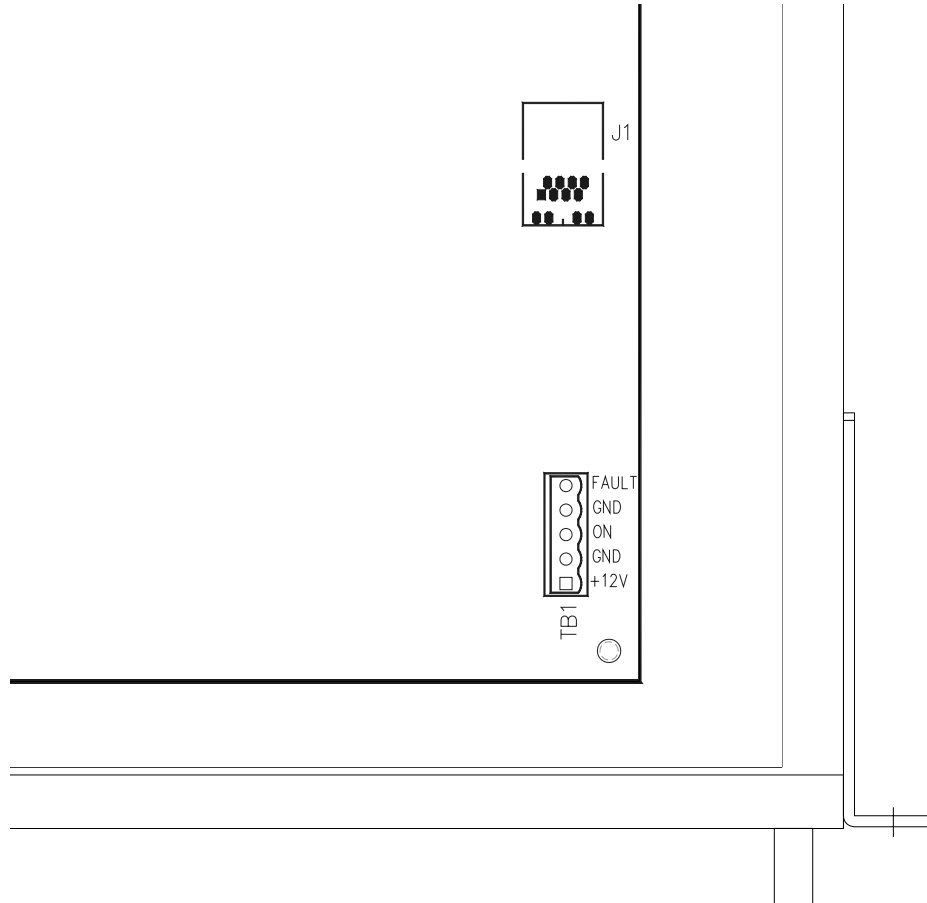


Figure 3-2: Control Connections

3.4 Mechanical mounting

Once the electrical connections are made the unit may be installed in a standard 19" equipment rack. Or the unit may be mounted to a wall if desired. In this case the rack mounting brackets may be removed from the sides.

4 NETWORK CONFIGURATION

4.1 LAN Setup

In order to communicate with the IS-20 Unit via a Local Area Network you'll have to configure the IP address of the unit. Units are configured at the factory with the IP address set to a default value of 192.168.1.70. The IP address is indicated on a label on the outside of the IS-20 chassis.

Note: Please contact MiT Engineering if you would like your IS-20 unit(s) set to a specific IP address at the time of production.

The IP address may be changed by the user after installation. There are two ways to change the configuration setting: using Telnet; or using the "Device Installer" program from the manufacturer of the network and web server used in the IS-20. The IS-20 uses the Lantronix Xport Direct+ platform to provide this function. Contact Lantronix directly to obtain their Device Installer software.

MiT recommends changing the configuration using Telnet because it doesn't require installing any proprietary software.

Procedure to set IP Address:

1. From the Windows Start menu, click RUN and enter the following:

Windows: telnet x.x.x.x 9999

UNIX: telnet x.x.x.x:9999

Where x.x.x.x is the IP address indicated on the label on the IS-20 chassis.

(or you may also use a terminal program such as Hyperterminal, TeraTerm, or equivalent).

2. Click OK. You'll see a MAC address screen appear. Press Enter for Setup mode.
3. Enter 0 (zero) for Server and press Enter. The current IP settings will display.
4. Enter the desired values for each of the four octets for the new IP address. Press Enter after each octet.
5. Save and exit.

In addition to the information provided here, refer to the following web pages for more information about configuring the network server in the IS-20.

<http://www.lantronix.com/support/downloads/?p=XPORTDIRECTPLS>

Refer to chapters 5 and 6 in the Lantronix Xport Direct+ User Guide for more details about these settings.

http://www.lantronix.com/pdf/XPort-Direct-Plus_UG.pdf

5 OPERATION

5.1 Front Panel Controls

The controls on the front panel consist of a manual on/off switch, circuit breakers and status indicator LED lamps for each of the six circuits, and a fault indicator LED lamp.

5.2 Operation

To activate the unit, either turn on the manual switch on the front of the unit, or command it on with the external device controlling it. If using LAN control, see sec. 5.3 for commands. No matter how it's controlled, after activation the IS-20 unit will sequentially activate the outputs over approximately 4-5 seconds.

The green lamps on the front panel indicate that power is activated on each output and that the surge suppression circuitry for that channel is active. If the green lamp isn't lit it may be because the suppression circuit for that channel has failed, i.e. the circuit is no longer protected, however it may still be supplying AC power.



CAUTION: On units with surge suppression, the AC receptacle may still be powered even if the green LED for that circuit is no longer lit.

5.3 LAN On/Off Control

Note: if the unit is commanded 'On' with the manual switch, or by shorting pins 3 and 4 on the control input, it can **not** be turned off remotely using the LAN connection.

To command the IS-20 outputs on or off via the LAN connection, do the following:

1. You will have to establish a TCP/IP connection to the Host address (192.168.1.70 or other IP address that you configured in sec. 4.)
2. Port Number: 10023
3. Send the character "1" to power on the unit, or "0" to power off the unit. You may also send a question mark character "?" which will report the current status of the device. Those are the only three commands the unit recognizes.
4. Terminate the command with a CR or LF character.

If you're controlling the IS-20 with a D-cinema server, here's a typical example of the setup procedure (based on the GDC server, others should be similar):

1. Add the IS-20 as a 'Network Socket'
2. Enter the IP address as previously configured
3. Enter the default port of 10023
4. Transport control is TCP
5. Linefeed type can be CR, LF, or LF CR. You must choose one of the three. The 'None' option will not work.
6. Enter the control cues in a playlist.
7. Enter 'IS-20 ON' for the name and '1' for the Value. Enter 'IS-20 OFF' for the name and '0' for the Value
8. After these steps, **Save**. Now the IS-20 device will be available to work with usual automation macros defined playlists.

5.4 Fault Condition

If the red 'fault' LED is lit it indicates one of the following:

1. That one or more outputs isn't supplying AC voltage like it should be at that moment according to the commands/controls.
2. That the surge suppression components on one or more outputs has failed (on models so equipped).

In a fault condition the 'Fault' output pin on TB1 will be active, the red LED on the front panel will be illuminated, and the information will also be available if the status is polled over the network connection.

Appendix

Parts List, Schematics, and Warranty

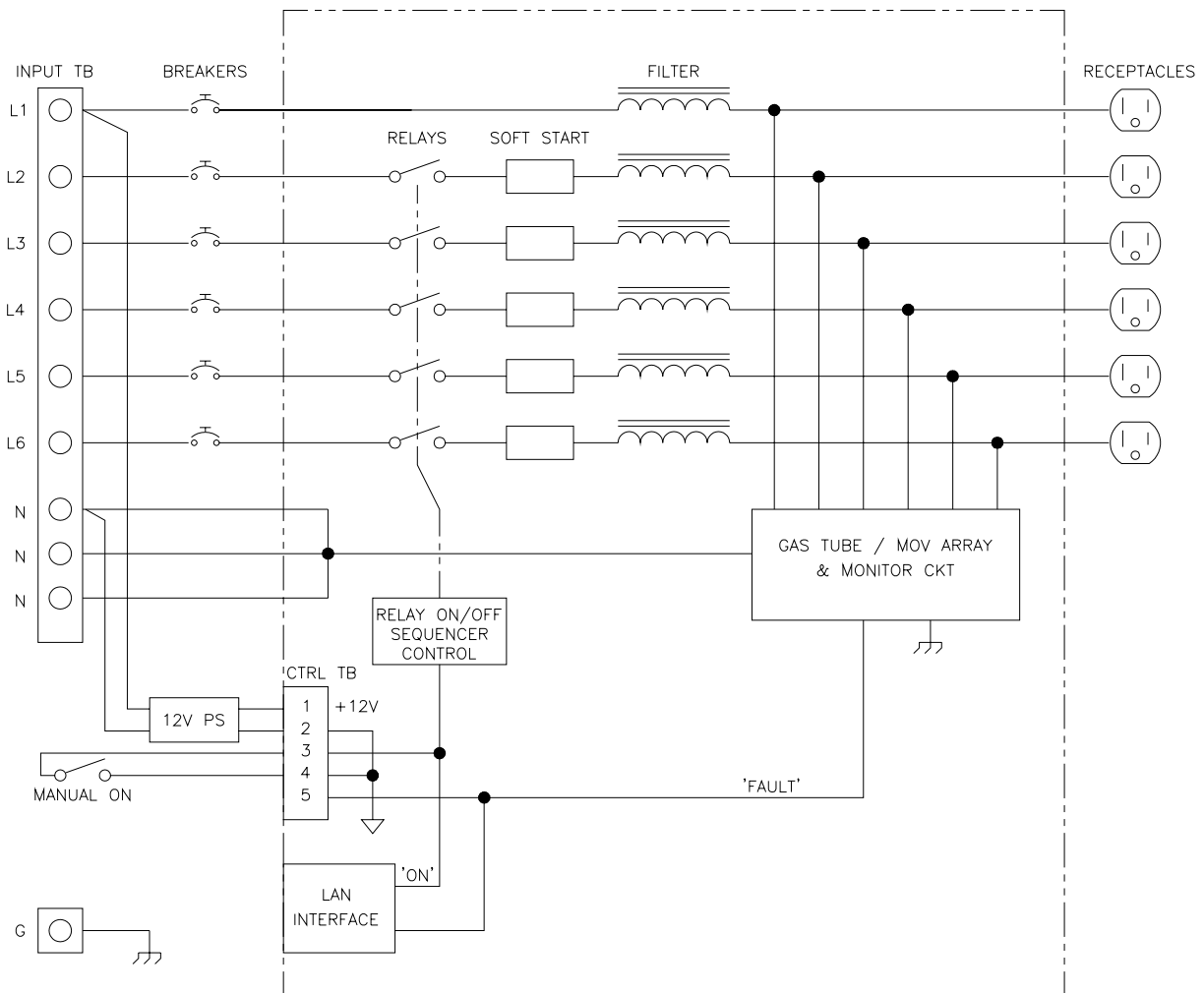
MODELS AND PART NUMBERS

A000292-001	IS-20 Power Manager, 120V
A000292-002	IS-20 Power Manater, 230V

REPLACEMENT PARTS LIST

A000293-001	PCB Assy, IS-20 Power Manager
PE00078-020	Circuit Breaker, Push-reset, single, 20A
PE00562-020	Receptacle, NEMA 5-20R, Duplex, 120V, 20A
PE00533-001	Receptacle, IEC320 C13, 250V, 10A

Schematic Diagram



Standard Product Warranty

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This warranty is subject to change at any time without notice.

CONTACTING MiT

To order parts or request information from MiT, use the address, telephone number, or fax number given on the inside front page of this document. When contacting MiT be prepared to provide:

- Model and serial number.
- Part name and part number, as shown in this manual.
- Original Purchase order number.

The purchase order number is essential for replacement parts requested under warranty. MiT issues credit for defective parts received. Please request a Return Authorization number from MiT for any defective parts.