QUICK START GUIDE

KEPCO An ISO 9001 Company.

HSF
600W

SINGLE OUTPUT 3U
HOT SWAP PLUG-IN POWER SUPPLIES

I — INTRODUCTION

SCOPE OF MANUAL. This Quick Start Guide covers the installation and operation of the Kepco HSF 600W Series of Hot Swap Plug-in Power Supplies. Full specifications are listed in the applicable 600W standard (non-metered), and metered (M, MZ) HSF Operator Manual that can be downloaded from the Kepco web site at:

www.kepcopower.com/support/opmanls.htm#hsf

These power supplies are designed to be installed in Kepco's RA 19-4C Rack Adapter. The RA 19-4C Operator Manual can be downloaded from the Kepco web site at:

www.kepcopower.com/support/opmanls.htm#ra19-4c

FACTORY DEFAULTS. This guide covers only units as shipped from the factory with the two internal DIP switches set to default configuration (see Figure 1). For other configurations, refer to applicable Operator Manual.

DESCRIPTION. The Kepco HSF 600 Watt Series are hot swappable, high frequency switching, plug-in power supplies. Models may be selected for outputs of 12V, 15V, 24V, 28V or 48V. They employ power factor correction and are designed to operate in a fault tolerant power system with a nominal a-c input of 100V a-c to 240V a-c (input voltage range 85 to 265 Va-c), 50-60 Hz (input frequency range 47-440Hz). A built-in current balancing circuit and OR-ing diodes allow configuration for hot-swap and parallel-redundant N+1 operation.

OPTIONS. M and MZ models include a digital meter which displays either voltage or current as determined by a front panel switch. M Models require a minimum output voltage to power the meter, alarm relay and VDC ON indicator and for proper load sharing in parallel configurations.

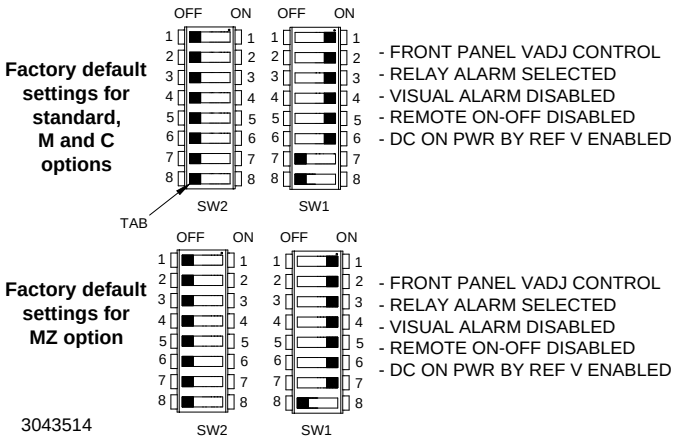

FIGURE 1. DIP SWITCH FACTORY DEFAULTS

MZ models can be adjusted down to 0V output without affecting operation of meter, alarm relay, VDC ON indicator, or parallel load sharing. C models allow independent current monitoring of non-metered models. RoHS-compliant models indicated by HSF* (e.g., HSF 28*23M).

TABLE 1. HSF 600W HOT SWAP MODELS

MODELS	12V	15V	24V	28V	48V
600W	HSF 12-53	HSF 15-43	HSF 24-27	HSF 28-23	HSF 48-13
NOTE: Options include suffix M, MZ, or C: M or MZ for meter; C for current monitor, HSF* indicates RoHS compliance.					

II — INSTALLATION

PRIOR TO MOUNTING. Two internal DIP switches are preconfigured for the factory defaults listed above. To change the factory defaults, refer to the applicable operator manual and configure the DIP switches prior to installation.

KEYING. The units are keyed by voltage at the factory. Refer to the RA 19-4C Operator Manual to make the rack adapter slot match the HSF.

MOUNTING THE POWER SUPPLY. Release the two cap head screw retaining latches (see Figure 2) by loosening the cap-head screw approximately 1/2 turn CCW (use 5/32" hex key) and slide to open (up) position. Insert power supply in the slot, then retighten the cap-head screws CW until snug. **DO NOT OVERTIGHTEN!** To release, follow the same procedure, except lift the latch to the top of the slot. Be sure to move the latch completely up or down to ensure full engagement/disengagement of the latching mechanism. When HSF is not installed in rack adapter, secure latch in open (up) position to prevent damage.

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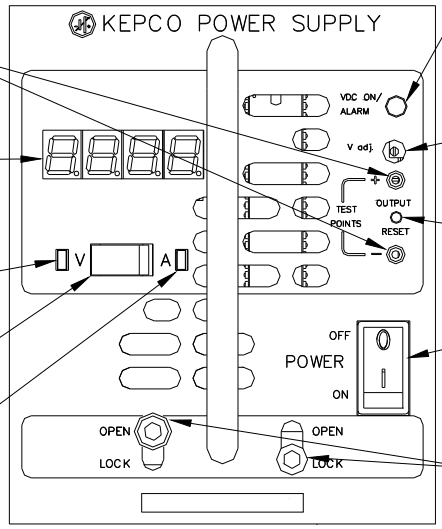
CONNECTIONS. All connections are made at the rear panel of the RA 19-4C Rack Adapter (see RA 19-4C Operator Manual).

REMOVAL. To remove a power supply, first use the POWER switch to turn off the unit. Release the two cap head screw retaining latches (see Figure 2) by loosening the cap-head screw approximately 1/2 turn CCW (use 5/32" hex key) and slide to the open (up) position. Then extract the unit from the RA 19-4C Rack Adapter. **CAUTION: The ON/OFF switch must be set to OFF before removing the unit from the rack adapter.** Leave the latches in the open position when not installed.



TEST POINT (±) Connect to external voltmeter to monitor d-c output voltage.

Voltage/Current Meter (M, MZ Suffix only) Monitors output voltage or current per Meter Mode switch. Remote sensing required for voltmeter to display voltage at the load.

V (Voltage) indicator (M, MZ Suffix only) Lights green when meter shows Volts.

Meter Mode slide switch (M, MZ Suffix only) Set to V to show output voltage on meter, set to A to show output current.

A (Amperes) indicator (M, MZ Suffix only) Lights amber when meter shows Amperes.

VDC ON/ALARM Indicator Lights green when unit is operating. Can be configured by DIP switch to light red to indicate loss of output voltage in parallel configurations. MZ and W models allow selection of whether indicator is powered by output or will function down to 0V.

V. ADJ Output Voltage Adjustment Trimmer: Adjusts output voltage. Not functional if remote voltage control is enabled.

OUTPUT RESET switch Used to recycle power in the event of an alarm condition. Not functional when remote on/off control is enabled.

POWER ON/OFF switch Applies power to the unit. ***CAUTION: Power must be OFF before unit is removed from the rack adapter.***

Retaining Latches (2) Prevents inadvertent removal of unit from rack adapter.

FIGURE 2. COMPONENT LOCATIONS

III — OPERATION

Turn the unit on using the front panel POWER switch (see Figure 2). **CAUTION: DO NOT repeatedly toggle the POWER on/off switch as this may cause unit to fault.**

When output voltage is within range specified in applicable Operator Manual, the VDC ON LED is on (green). The VDC ON indicator can be configured to light red to indicate a loss of output voltage (see applicable Operator manual). **NOTE: Except for MZ models, a minimum output voltage is required to keep the internal relay and optional meter functioning** (see applicable Operator manual). VDC ON LED functions to 0V for MZ models.

While monitoring output voltage at the front panel test points, the V ADJ Output Voltage Adjust trimmer allows adjustment of the output voltage. The unit can also be configured to control output voltage using a remote resistance or voltage (see applicable Operators manual).

The OUTPUT RESET switch can be used to recycle power in the event of an alarm condition. This switch does not function if the remote on/off feature has been enabled (see applicable Operator manual).

The following features of the HSF 600W power supplies are covered in the applicable Operator manual:

- Parallel Operation, including current balancing requirements. Parallel operation with current balancing (forced current sharing) is recommended to increase reliability and results in minimal output voltage bus variation upon shutdown of one unit in a fault-tolerant configuration.

NOTE: To avoid false alarm triggers or unit shutdown when operating units in parallel, 600W standard (no meter) models with M, C or no option require a minimum load; 600W models with MZ option require voltage set restrictions. Minimum load and voltage restrictions are specified in the applicable Operator Manual.

- Remote On/Off and Voltage adjustment
- Protection Circuits
- Alarms
- Keying
- Local/Remote Sensing (Remote error sensing is recommended for correct setting of output voltage, especially for parallel configurations.)
- Options