GE GE □□□ Series Service Manual

IS2020RKPSG2A

1. Description

SPECIFICATIONS:

2. Specifications

Specification	Value
Part/Model	**Number IS2020RKPSG2A**
Functional	**Description VME Power Supply Module**
Product	**Series SPEEDTRONIC Mark VI Turbine Control**
Manufacturer	**GE General Electric**
Functional	**Acronym RKPS**
Instruction	**Manual GEI-100567**
Input	**Voltage 125VDC**
Output	**Rating 400W**
PCB	**Coating Normal Coating**
PS335	**Output Yes**
Support	**Redundant Operation Yes**
Weight	**7lbs**
Functional	**Revision 1 A**

3. Product Information

SPECIFICATIONS:

Part No: IS2020RKPSG2A

Manufacturer: General Electric

Function: Power Supply Module

Series: Mark VI

Input voltage: 125 V

Total Output Power: 400 W

Output Voltages: +5, ±12, ±15, ±28 V DC

Operating Temperature: 0 to 60°C

Board Size: 6.25 x 4.25 inches

Availability: In Stock

Country of Origin: USA

Manual: GEH-6421I

FUNCTIONAL DESCRIPTION:

IS2020RKPSG2A is a VME Rack Power Supply Module manufactured and designed by General Electric as part of the Mark VI Series used in GE Speedtronic gas turbine control systems. The Mark VI VME rack power supply mounts on the side of the VME control and interface racks. It supplies + 5, ± 12, ± 15, and ± 28 V dc to the VME backplane, and an optional 335 V dc output for powering flame detectors connected to TRPG. Two supply input voltage selections are available. There is a 125 V DC input supply that is powered by a Power Distribution Module (PDM) and a low voltage version for 24 V DC operation. Except for the number of remote 28 V outputs, the RKPSG2 and LVPSG2 are designed to be direct replacements for the RKPSG1 and LVPSG1 respectively.

INSTALLATION:

The power supply is mounted to the right-hand side of the VME rack on a sheet metal bracket. The dc input, 28 V dc output, and 335 V dc output connections are at the bottom. The newer design also has a status connector on the bottom. Two connectors, PSA and PSB, at the top of the assembly mate with a cable harness carrying power to the VME rack. Each of the five 28 V dc power modules supplies a section of the VME rack. These sections are labeled A, B, C, D, E, and F. The P28C output or PS28 at the bottom of the power supply can be used to power an external peripheral device.

OPERATION:

The VME Rack power supply has only one user control, the power switch, and three status LED indicators. The power switch provides front-panel control of the power supply output voltages and when toggled serves as a fault reset. The yellow, red, and green LEDs indicate the status of the input power, fault presence, and normal operation.

The front panel power switch is a locking type that must be pulled out to change position. This switch is a low voltage control to enable or disable the output voltages. If the red LED is ON indicating a fault condition the power switch can be toggled OFF and then back ON again to clear the fault. The fault will only be cleared if the condition that caused it no longer exists.

CONFIGURATION:

An external peripheral device can be powered via the P28C output or PS28 at the base of the power supply. The jumper plug on the bracket to the left of the rack needs to be switched from the Normal position to the Isolated position below to accomplish this.

The 5 V current limit is a special case due to the 5 V under-voltage detector. If the current limit causes the 5 V output voltage to fold back below the UV threshold, all of the other outputs will be disabled until the 5 V output voltage returns to a voltage above the UV threshold.

IS2020RKPSG2A Technical Specifications

Part/Model Number IS2020RKPSG2A

Functional Description VME Power Supply Module

Product Series SPEEDTRONIC Mark VI Turbine Control

Manufacturer GE General Electric

Functional Acronym RKPS

Instruction Manual GEI-100567

Input Voltage 125VDC

Output Rating 400W

PCB Coating Normal Coating

PS335 Output Yes

Support Redundant Operation Yes

Weight 7lbs

Functional Revision 1 A

About the IS2020RKPSG2A

The IS2020RKPSG2A is a VME Power Supply Module that serves as part of the Mark VI Turbine Control System Series. This abbreviation for the VME Rack Power Supply is RKPS. Information regarding this power supply can be found in GE Industrial Systems manual GEH-6421E. The Mark VI Series that this IS2020RKPSG2A printed circuit board product offering belongs to, as indicated through its full extended series name, has a series of specific applications in the management and control systems of esteemed General Electric-compatible wind, gas, and steam turbine-based automated drive assemblies. This IS2020RKPSG2A product's greater Mark VI Turbine Control System Series is additionally seen as an attractive product line on the greater figurative automated industrial marketplace given the fact that it truly exists as one of the final-developed GE Mark product series to make use of the patented Speedtronic control system technology; a technology first released for public consumption with the rollout of the previous Mark I Series in the mid to later 1960s.

Hardware Tips and Specifications

The IS2020RKPSG2A is designed as a stand-alone module. It has a front faceplate that includes three LEDs (yellow, red, green,) and a switch component. The faceplate is labeled “Power supply,” and also has a location to record the revision number, GE catalog number, and serial number for easy reference. The side of the module is designed with many metal

fins. This side of the module functions as a large heat sink component. The top edge of the module has two connectors (PSA and PSB) and the bottom has four additional connectors (PS125 or PS24, PS335, PS28, and PSSTAT.) It is important to note the VME rack power supply has seven major variations. The IS2020RKPSG2A has an input voltage of 125VDC and an output rating of 400 W. Outputs (mentioned above) includes five +28V outputs, one remote +28V output, a PS335 output, and a status ID output. Fault conditions that happen within the IS2020RKPSG2A module will require reset action, will transiently shut down one of the outputs, or will require the replacement of the entire supply. These are the only types of faults that occur.

RKPS functional product abbreviation

Normal PCB coating style

Group 2 Mark VI Series product grouping

A-rated primary functional product revision