GE RX3i PacSystem Series Service Manual

IC694PSK001

1. Description

The IC694PSK001 is a Power Sync and Measurement System kit that is part of the PACSystem RX3i series, formerly manufactured by GE Intelligent Platforms (GE IP), now under Emerson Automation. This kit is comprised of a PSM module, a Terminal Assembly and two interface cables. This kit is used for the complete implementation of power measurement and analysis, capable of measuring RMS voltages, RMS currents, RMS power, frequency, and phase relationship between the phase voltages of both electrical

2. Specifications

Specification	Value
Brand	**GE Fanuc**
Series	**PACSystem RX3i**
Manufacturer	**GE Intelligent Platforms (Former); Emerson Automation (Current)**
Part	**Number IC694PSK001**
Part	**Number IC694PSK001**
Product	**Description Power Sync and Measurement kit**
Product	**Family PACSystem RX3i**
Description	**Power Sync and Measurement System**
No.	**of PSM Module One (1) module**
Part	**Number: IC694PSK001**
Application	**RX3i PacSystems PLCs**
No.	**of Terminal base One (1) Terminal Base**
Included	**components PSM module; Terminal Assembly; Two (2) interface cables**
Backplane	**Power Consumption 400 milliamps**
No.	**of GRID connector One (1) per grid**
Replacement	**PSM module IC694PSM001**
Relay	**Output Two 125 Volts AC /DC General-purpose Relay**
Measured	**parameters RMS voltages, RMS currents, RMS power, frequency, phase relationship between the phase voltages of both grids**
Replacement	**Terminal Assembly IC694ACC200**
Compatible	**applications Electrical power consumption monitoring and reporting; Fault and error monitoring; Generator control features for generator to power**

3. Product Information

The IC694PSK001 is a Power Sync and Measurement System kit that is part of the PACSystem RX3i series, formerly manufactured by GE Intelligent Platforms (GE IP), now under Emerson Automation. This kit is comprised of a PSM module, a Terminal Assembly and two interface cables. This kit is used for the complete implementation of power measurement and analysis, capable of measuring RMS voltages, RMS currents, RMS power, frequency, and phase relationship between the phase voltages of both electrical grids.Technical specifications for IC694PSK001

Brand GE Fanuc

Series PACSystem RX3i

Manufacturer GE Intelligent Platforms (Former); Emerson Automation (Current)

Part Number IC694PSK001

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Product Description Power Sync and Measurement kit

Product Family PACSystem RX3i

Description Power Sync and Measurement System

No. of PSM Module One (1) module

Part Number: IC694PSK001

Application RX3i PacSystems PLCs

No. of Terminal base One (1) Terminal Base

Included components PSM module; Terminal Assembly; Two (2) interface cables

Backplane Power Consumption 400 milliamps

No. of GRID connector One (1) per grid

Replacement PSM module IC694PSM001

Relay Output Two 125 Volts AC /DC General-purpose Relay

Measured parameters RMS voltages, RMS currents, RMS power, frequency, phase relationship between the phase voltages of both grids

Replacement Terminal Assembly IC694ACC200

Compatible applications Electrical power consumption monitoring and reporting; Fault and error monitoring; Generator control features for generator to power grid synchronization; Demand penalty cost reduction/load shedding

Replacement interface cable IC694CBL200

Voltage Measurement Accuracy 0.2%

Cable monitoring function Supported

PSM Replacement parts IC694ACC201

Current Rating 15 Amps

Digital Signal Processing (DSP) Technology Supported by the PSM module

Mounting RX3i backplane

Voltage Rating 690 Volts AC RMS

Compatible Rack RX3i Rack

Measured electrical parameters RMS voltages; RMS currents; RMS power; Frequency; Phase relationship between phase voltages

Cable Length 6.5 Feet

PSM Module LEDs RUN; FLT; GRID 1; GRID 2

Module features Electrical power consumption monitoring and reporting; Fault monitoring; Generator control features for generator to power grid synchronization; Demand penalty cost reduction/load shedding

Input devices Current Transformers (CT); Potential Transformers (PT); Phase voltages

No. of measurement grids Two (2) per PSM Module

Compatible Power system Wye or Delta, 3-Phase or 1-phase power system

Discrete Outputs Two (2) isolated relays

The IC694PSK001 is a Power Sync and Measurement Kit from the PACSystem RX3i automation platform of Emerson Automation, formerly by GE Intelligent Platforms (GE IP). This kit is comprised of a variety of components such as a PSM module, a terminal Assembly and two interface cables. It is mainly to implement power measurement and analysis, capable of measuring RMS voltages, RMS currents, RMS power, frequency, and phase relationship between the phase voltages of both electrical grids. The IC694PSK001 PSM component is the primary module that contains the electronic circuitry and the processor for digital processing of the received signals. With the IC694PSK001 module, Electrical power consumption monitoring and reporting, Fault monitoring, Generator control features for generator to power grid synchronization, Demand penalty cost reduction/load shedding can be derived and implemented. This module mounts to a PACSystem RX3i rack, enabling fast and seamless integration of data to the user logic and for implementing visualization using Human Machine Interfaces (HMI) or Supervisory Control and Data Acquisition (SCADA) systems. The terminal assembly that is included to the IC694PSK001 kit is a remote mounted hardware that is panel mounted. It provides hardwired interface to the measuring devices such as transformers and transducers. To establish connection to these input devices wired to the terminal assembly, a pair of interface cables connects the PSM to the terminals. These cables are 2 meters or 6.56 ft in length which can be replaced with catalog number IC694CBL200. Aside from the interface cables, the PSM module may also be replaced with catalog number IC694PSM001 and terminal assembly with catalog number IC694ACC200.

The GE Fanuc IC694PSK001 Power Sync and Measurement Kit is a power-sync and measurement system (PSM) for the RX3i PACSystems series. The PSM system is designed to monitor up to two 3-phase power grids independently. The IC694PSK001 PSM system utilizes a digital signal processor (DSP), an advanced signal processing technology that can simultaneously process up to 3 voltage inputs and 4 current inputs per grid. The measured inputs on the IC694PSK001 PSM system include the RMS voltages, the RMS currents, the RMS power, the frequency inputs, and the phase interaction of 2 grids. The standard industrial applications for the IC694PSK001 PSM system include the utility grid, generators, and reduction/load shedding applications. The IC694PSK001 PSM system has 4 LED indicators labeled RUN, FLT, GRID 1, and GRID 2, which show the kit’s statuses and the grid’s statuses. A standard IC694PSK001 PSM system comprises of a PSM module (the IC694PSM001-AB or the IC694ACC200-A), a terminal assembly, and an interface cable. The RX3i I/O

slot-mounted PSM kit provides a digital signal processor (DSP) capability to the system and it draws a maximum backplane current of 400 milliamps at 5 Volts DC. The IC694PSK001 PSM kit’s terminal assembly provides an interface between the standard transformer input and the PSM module. The IC694PSK001 kit’s 2-meter (6.56-foot) interface cable provides a grid connection between the PSM module and the terminal assembly. The IC694PSK001 PSM system has 2 isolated, general-purpose relay outputs with 1.0-Amp current ratings at 125 Volts DC/125 Volts AC. The IC694PSK001 terminal assembly and PSM module can be configured with the Proficy Machine Edition programming software, and the system has a built-in cable monitoring capability that indicates when the interface cable is installed properly.