

RCU108 1:N Frequency Converter Redundancy Control Unit

Converters



Overview

The RCU108 1:N Redundancy Control Unit provides backup protection for any number of converters ranging from 2 through 8. The RCU108 Switch features plug-and-play simplicity of operation. Interconnect the cables, instruct the backup converter to 'Learn' and the protection switching is activated without complicated programming. Monitoring of all the primary converters and the operation of the switch becomes the duty of the backup converter.

As the system controller, the designated backup converter communicates with the primary converters via the equipment RS-485 interface. As a result, the switch contains a minimal amount of circuitry and is therefore very reliable. Control and monitoring of all the primary converters and the switch itself can be performed through the operator RS-232/485 serial interface. The backup converter monitors the frequency, gain and channel settings of the online converter by polling the primary converters on a periodic basis. If any changes are made to the online settings, the backup converter will notify the user via a front panel or through the RS485 port. In the event of a failure of any primary converter, the backup converter will restore the circuit of the primary converter with the same settings that were identified during the last learning process.

Menu programmable features in the backup converter allow various levels of backup priority to be set. A priority of 1 would be the highest level of protection, where a priority of zero or none means the converter would be logically removed from backup protection by the switch.

Manual backup from the front panel push-buttons on the switch allow the operator to fully test the circuitry and operation of the protection switch system exactly as if a fault had been issued by the converter being manually backed-up. Manual mode allows a converter to be removed or reinstalled into the system without the fear of interrupting the circuit which has been routed through the backup converter.

Features

- 1:2 through 1:8 Field Upgradeable Transfer Switching of IF and RF
- Plug-and-Play Simplicity
- Auto/Manual Modes
- User Programmable Priority Levels
- Manual and Remote Operations via Backup Converter



Back Panel

Specifications

Front Panel

Display Indications

Primary Converters:
Online, Backup, Fault, Manual

Backup Converter:
Online, Standby, Fault

Controls

Manual + Set/Reset Push-buttons

Backup Configuration Menu (via backup converter)

Converter ID#: 1 through N (RS-485 Equipment Address)

Converter Priority

1 (highest) through N and 0 (none)

Remote Monitor and Control (via backup converter front panel or serial port)

Frequency, Gain, Status, Fault Isolation

Rear Panel

BU INTFC 1-8

D Sub 15-Pin Socket

RF In/Out

SMA-F

IF In/Out

BNC-F

Summary Fault

D Sub 15-Pin Socket

Summary Fault Status

D Sub 9-Pin (J6)

RS-485

D Sub 9-Pin (J1)

Switch Transfer Online RF Ports

Bandwidth

DC-18 GHZ

Insertion (Online)

0.5 dB (C-Band)
0.7 dB (Ku-Band)

Insertion Loss (Backup)

0.8 dB x N

Impedance

50 Ohms

VSWR

1.4:1 (C-Band)
1.6:1 (Ku-Band)

Isolation

70 dB minimum (C-Band)
60 dB minimum (Ku-Band)

Switch RF Ports

Bandwidth

50-180 MHz

Insertion Loss (Backup)

0.2 dB

Impedance

75 Ohms

VSWR

1.4:1

Isolation

65 dB

Physical

Dimensions (height x width x depth)

3.5" x 19" x 19"

Weight

8 lbs (1:8)



2114 West 7th Street, Tempe, Arizona 85281 USA
Voice: +1.480.333.2200 • Fax: +1.480.333.2540 • Email: sales@comtechefdata.com

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