

1:1 Redundant System Controller

Introduction

Redundant systems increase system availability by including spares for critical units (e.g., LNAs, LNBs, BUCs or SSPAs) in the signal path. In the case of a detected unit failure, the redundant system automatically switches to the spare. A 1:1 redundant system supports one active unit and one spare unit.

The RSC-1100 Redundant System Controller can directly power most LNA or LNB units and monitor the output voltages and currents to detect faults. The controller can also monitor external alarm input signals, such as from a SSPA or BUC, or monitor a combination of output currents and external alarm inputs. Upon detecting a unit failure, the controller can automatically drive a waveguide switch to activate the spare unit.

Control Panel Features



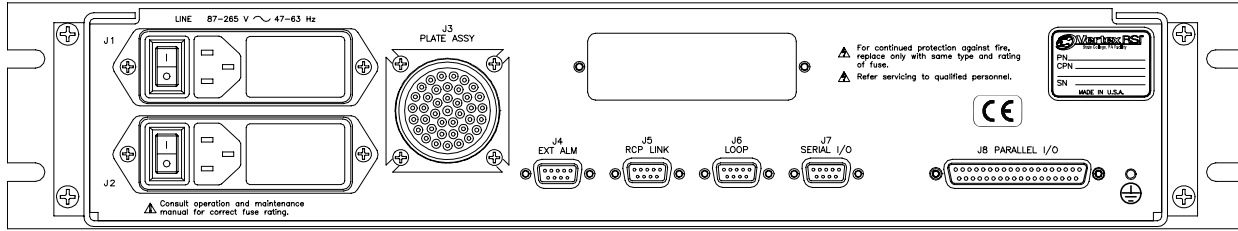
- Standard 19" rack panel, 3½" high
- Dual, redundant power supplies
- Worldwide universal AC input capability
- Manual or automatic operation
- Mimic front panel graphically depicts switch positions and unit status
- Monitors unit currents, external alarms, or a combination of both to detect unit failure
- Automatically switches RF path to standby unit when unit failure occurs
- Jumperless RS-232/-422/-485 and parallel I/O M&C interfaces
- Audible alarm
- Jumperless software configuration of all options
- Remote Control Panel option duplicates front panel at remote site

Part Number/Ordering Information

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| 1:1 Redundant System Controller: | Order control cable separately. |
| RSC-1100 | Consult factory for DC power option, longer control cables, and custom configurations. |

| Front Panel Controls and Indicators | |
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| | <p>Unit Status Alarms PS1, PS2 Indicators Panel Test Pushbutton Unit Pushbuttons and Indicators Auto/Manual Switch and Indicators Remote/Local Switch and Indicators</p> |
| | <p>LED Indicators glow green when OK, red when a fault is detected. Glow red to show fault with dual redundant power supplies. Lights all indicators & tests audible alarm. Pushbuttons are used to manually switch units. Arrow indicators show which unit is on-line. Unit indicators light red to show faulted units. Unit 1 is normally the primary unit, and Unit 2 is the standby. In Auto mode, a unit failure initiates automatic switchover to the standby unit. In manual mode, the on-line unit can be selected from the front panel or by serial I/O or parallel I/O command. Selects local (front panel) control or remote control from serial I/O, parallel I/O, or optional remote panel.</p> |

Rear Panel I/O Interface



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| LINE 1 - J1, LINE 2 - J2 | Dual power entry modules contain the AC line input connectors, fuses, and power switches. System can be powered from separate AC lines if desired. Either or both power supplies are capable of operating the system. |
| PLATE ASSY - J3 | Cable to antenna plate assembly carries unit power (e.g., for line drivers, LNAs or LNBs) and switch drive signals. Order cable separately. Standard lengths are from 100' (30 m) to 250' (75 m) in 50' (15 m) increments; other lengths are special order. |
| EXT ALARM - J4 | External Alarm inputs. Substitute for or combine with unit current monitor alarms. Allows an external signal to indicate unit failure. Unused inputs can be used as status inputs to M&C system. |
| RCP LINK - J5 | For optional Remote Control Panel, which duplicates all front panel functions. Lengths to 4000 feet (1200 m). |
| LOOP & SERIAL I/O - J6, J7 | RS-232/RS-422/RS-485 connectors for user M&C System. Commands provide monitoring, controlling, and configuration. Lengths to 4000 feet (1200 m) with RS-422 or RS-485. |
| PARALLEL I/O - J8 | Parallel I/O connection for customer control or monitoring. Capable of controlling all features of the system except remote/local switch. Form 'C' relay contact outputs: <ul style="list-style-type: none"> • Unit 1 status • Unit 2 status • Unit 1 or Unit 2 select • PS1 status • PS2 status • Local/Remote mode • Auto/Manual mode Control inputs—contact closure to ground: <ul style="list-style-type: none"> • Unit 1 select • Unit 2 select • Auto/Manual select |

Controller Specifications

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| Unit Status Monitor Method | Controller monitors unit current. Alarm is generated if current goes outside of allowed tolerance window. Controller can also monitor external alarm inputs or combinations of both unit current and external alarms. |
| Current Window Width | ±5% to ±25% of nominal; software selectable in 5% steps |
| Switchover Time | 100 ms |
| Unit Power Outputs: | 15 Vdc; 50 to 600 mA |
| External Alarm Inputs: | One per unit, require sinking 5 mA at 5 Vdc to negate alarm |
| Serial I/O: | |
| Interface | RS-232/RS-422/RS-485 2- or 4-wire; jumperless selection |
| Connector | 9-Pin D, female |
| Parallel I/O: | |
| Status outputs | Form 'C' dry contacts; 100 Vdc, 0.5 A, 3 W max (resistive load) |
| Control inputs | Contact closures to ground; require sinking 20 mA at 15 Vdc |
| Connector | 37-pin D, male |
| Controller Dimensions | 19" (483 mm) W x 3.47" (88.1 mm) H x 17.5" (445 mm) D; 25 lb (11.4 kg) |
| Chassis Slides | Standard |
| Cable Length to Switch Assy | Order cable separately. 100 ft (30 m) to 250 ft (75 m) lengths in 50 ft (15 m) increments are standard; other lengths are available by special order. |
| AC Input | 87-265 Vac, 47-63 Hz, 100 W. Dual AC inputs and dual redundant power supplies. |
| DC Input (Option) | Consult factory |
| Operating Temperature | 0 to +50 °C |



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Specifications are subject to change at VertexRSI's discretion.