Compact Redundancy Switch 8:1
RSCC-8
with Switch Matrix ISM-8

The WORK Microwave Redundancy Switch RSCC-8 is a compact solution for an 8:1 redundancy system. It can be used for Upconverters and Downconverters. The system consists of the controller and an indoor switch matrix integrated in separate 19" 1 RU housing.

The system can be configured from the front panel or remotely via RS232, RS422/485, or TCP/IP over Ethernet.

The switching system can be set in automatic mode, whereby an automatic switchover to the spare unit is performed upon detection of an alarm generated by the main unit. In addition, a manual switchover to the spare unit and back can be initiated.

Two power supplies and two AC input connectors within the unit guarantee high availability.

The Redundancy Switch RSCC-8 is also available with integrated uplink power control (Option UPC). For functional details see separate datasheet for Remote Control Unit / Satellite Uplink Power Control Unit.
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Controller RSCC-ISM (VFD) for Indoor Switch Matrix

Monitor and Control Interface:
- Protocol: SNMP
- Connection: UDP over Ethernet (10 or 100 Mbps, auto sensing), connector RJ-45
- Protocol: HTTP (web browser interface)
- Connection: TCP/IP over Ethernet (10 or 100 Mbps, auto sensing), connector RJ-45
- Protocol: Modbus
- Connection: RS232 or RS422/RS485 (configurable), connector DSUB09 female or TCP/IP over Ethernet (10 or 100 Mbps, auto sensing), connector RJ-45

Converter Communication Interface:
- 9x RS485 (connector DSUB09 male) on provided special cable

Alarm Output Interface:
- Two potential free contacts (DPDT, connector DSUB09 female) on provided special cable

User Interface:
- LCD (VFD as option), 2x 40 characters, 4 cursor keys, 2 function keys, Status LED's

Interface to Indoor Switch Matrix:
- Connector DSUB15 female

Insertion loss compensation
- For each channel attenuation and equalization offsets can be set to compensate for influences of cable and relay differences in case of a replacement.

Delay from unit alarm occurrence until IF/RF relay switching
- Typical 270 ms, max. 400 ms (depending on connected spare unit)

UpLink Power Control Algorithm (only with Option UPC):
- Configurable parameters
  - Uplink power control on/off
  - Maximum gain increase in reference to clear sky gain
  - Sampling and update period in 0.1 seconds
  - Ratio between decrease of beacon signal and increase of transmission signal
  - Clear sky value of DC beacon receiver signal
  - Sustain period in seconds (up 3600 s) for which the uplink power control keeps the last gain increase value (in case of deep fade conditions where the beacon receiver can lose lock for some period of time)
  - DC signal from beacon receiver
  - Calculated attenuation of beacon signal
  - Current gain increase of transmission signal

Monitors for
- DC signal from beacon receiver
- Calculated attenuation of beacon signal

Beacon Receiver Interface (only with Option UPC):
- Connector DSUB9 male (on Y-cable connected to spare unit interface),
  - Inputs for Beacon receiver voltage 0 … 12 V and Beacon receiver alarm relay

Temperature Range:
- -30°C … 60°C operating
- -30°C … 80°C storage

Relative Humidity:
- < 95 % non condensing

Mains Power Input:
- 100 … 240 V AC nominal, 90…264 V AC max, 50…60 Hz, Redundant Power Supply

Mains Power Consumption:
- Max: 14 VA / 7 W

Mains Power Input Connector:
- 2x IEC C14

Mains Fuse:
- 2 x 2 x 2 A time-lag fuse

Dimension and Weight:
- 483 x 44 x 470 mm³ (WxHxD), 1 RU (19”)
  - approx. 5.5 kg

Specifications are subject to change

Interface to Indoor Controller:
- Connector DSUB15 male

IF Connectors
- Impedance: 75 Ω
- Connector: BNC female

RF Connectors
- Impedance: 50 Ω
- Connector: SMA female

Monitor Connectors IF and RF
- Impedance: 50 Ω
- Connector: BNC female

IF Switches 40 … 240 MHz
- Power handling max.: 15 dBm
  - Path: normal
  - Insertion loss (dB typ.): 2.0
  - Isolation (dB typ.): 80
  - Return Loss on Inputs (dB typ.): 19.1
  - Return Loss on Outputs (dB typ.): 17.8

RF Switches 1.8 … 2.2 GHz
- Power handling max.: 15 dBm
  - Path: normal
  - Insertion loss (dB typ.): 2.7
  - Isolation (dB typ.): 88
  - Return Loss on Inputs (dB typ.): 11.0
  - Return Loss on Outputs (dB typ.): 14.9

Insertion Loss Compensation
- For each channel attenuation and equalization offsets can be set on the controller to compensate for influences of cable and relay differences in case of a replacement.

Temperature Range:
- -30°C … 60°C operating
- -30°C … 80°C storage

Relative Humidity:
- < 95 % non condensing

Dimension and Weight:
- 483 x 44 x 470 mm³ (WxHxD), 1 RU (19”)
  - approx. 5 kg

Specifications are subject to change
Compact Redundancy Switch 8:1 RSCC-8 with Switch Matrix ISM-8

Order Information:

RSCC-[Number of signal channels]-[Input Switch Type]-[Output Switch Type]-[Options]
Compact Redundancy Switch consisting of controller and Indoor Switch Matrix

RSC8-ISM-[VFD]
Compact Redundancy Controller for Indoor Switch Matrix

ISM-[Number of signal channels]-[Input Switch Type]-[Output Switch Type]
Indoor Switch Matrix

Possible Options are:

- UPC  Uplink Power control included
- VFD  VF Display

Examples:

RSCC-8-75VHF-50L-VFD  Compact 8:1 Switch with VF Display and 75 Ω input switch matrix for VHF band and 50 Ω output switch matrix for L band

RSCC-4-75VHF75VHF-50L  Compact 4:1 Switch with two 75 Ω input switch matrices for VHF band and 50 Ω output switch matrix for L band for converters with 2 inputs