

Outdoor Redundancy Switch 2:1 RSCM-2-OD



The WORK Microwave Redundancy Switch RSCM-2-OD is a solution for a 2:1 redundancy system with indoor controller and Outdoor Switch Box, which includes the coaxial transfer switches. It can be used for Upconverters and Downconverters.

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.

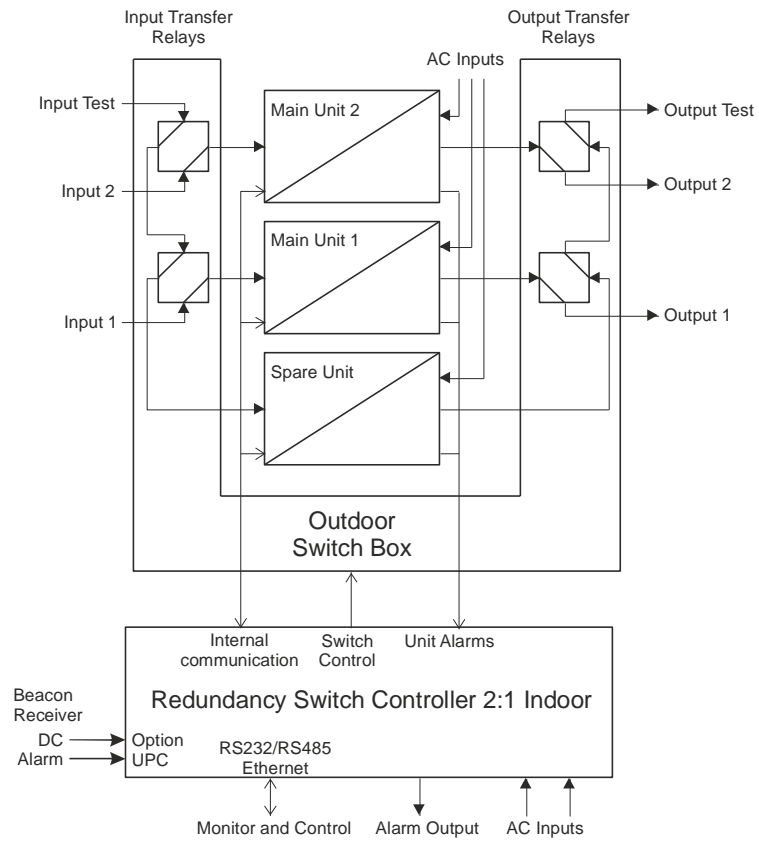
Two power supplies and two AC input connectors within the unit guarantee high availability.

The Redundancy Switch RSCM-2-OD 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.

This picture shows an Outdoor Switch Box of a 2:1 redundant switching system. The Switch Box is connected to the control unit, which is installed indoors. The Outdoor Switch Box includes alarm and status indication via LEDs, manual switchover and easy access to the serial control interfaces of the converter units. The picture below shows a typical 2:1 configuration with converters, built as an outdoor solution.



Outdoor Redundancy Switch 2:1



2:1 Redundancy Switch System with Outdoor Switch Box

Outdoor Redundancy Switch 2:1

Indoor Controller RSC2-OD/ID, RSC2-OD/ID-UPC	
Remote M&C 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: Multipoint Connection: RS232 or RS422/RS485 (configurable), connector DSUB09 female or TCP/IP over Ethernet (10 or 100 Mbps, auto sensing), connector RJ-45
User Interface:	LCD (VFD as option), 2 x 40 characters, 4 cursor keys, 2 function keys, Status LED's
Alarm Interface:	Two potential free contacts (DPDT, connector DSUB09 female)
Interfaces to Indoor Redundancy Sets:	1) 2 connectors DSUB15 female, main unit alarm and IF/RF-relay-control
Interface to Indoor Spare Unit Alarm:	1) Connector DSUB15 female
Communication Interface to Indoor Units:	1) RS485 (connector DSUB09 male)
Interface to Outdoor Switch Box:	1) Connector MIL-C-26482: MS 3120 E 16-26 P, unit alarms, RS485 communication interface to units, IF/RF-relay-control, 24V supply
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 <ul style="list-style-type: none"> • 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) Monitors for <ul style="list-style-type: none"> • DC signal from beacon receiver • Calculated attenuation of beacon signal • Current gain increase of transmission 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 (the LCD display is operational: -20 °C ... 60 °C) -30 °C ... 80 °C storage
Relative Humidity:	<95% non condensing
Mains Power Input:	2 x 100 ... 240 V AC nominal, 90...264 V AC max, 50...60 Hz, Redundant Power Supply, Hot swap
Mains Power Consumption:	Max: 16 VA / 8 W Typ: 10 VA / 5 W
Mains Power Input Connector:	2 x IEC C14
Mains Fuse:	2 x 2 x 2.0 A time-lag fuse
Dimension and Weight:	483 x 44 x 270 mm ³ or with option L 483 x 44 x 470 mm ³ (WxHxD), 1 RU (19") approx. 4 kg (with option L approx. 4 kg)

Specifications are subject to change

Outdoor Switch Box RSP-2-50K-50K-OD, RSP-2-50K-50Ka-OD, RSP-2-50Ka-50K-OD							
Interface to Indoor Controller:	Connector MIL-C-26482: MS 3120 E 16-26 S, unit alarms, RS485 communication interface to units, IF/RF-relay-control, 24V supply						
Interface to Outdoor Converters:	3 connectors MIL-C-26482: MS 3120 E 14-19 P, unit alarm, RS485 communication interface, 24V supply						
IF Connectors	Impedance: 50 Ω Connectors: N female						
RF Connectors	Impedance: 50 Ω Connectors: SMA female (standard) K female (2.92 mm) (-Ka40)						
IF/RF Relays 0 ... 18 GHz (K), RF Relays 0 ... 26.5 GHz (Ka26)	Power handling max.: 1 W (switching)						
	Frequency (GHz):	0 ... 1	1 ... 4	4 ... 8	8 ... 12.4	12.4 ... 18	18 ... 26.5
	V.S.W.R. (max.):	1.1	1.15	1.25	1.35	1.5	1.7
	Insertion loss (dB max.):	0.2	0.2	0.3	0.4	0.5	0.8
RF Relays 0 ... 40 GHz (Ka40)	Power handling max.: 1 W (switching)						
	Frequency (GHz):	0 ... 6	6 ... 12.4	12.4 ... 18	18 ... 26.5	26.5 ... 40	
	V.S.W.R. (max.):	1.3	1.4	1.5	1.7	1.9	
	Insertion loss (dB max.):	0.3	0.4	0.5	0.7	0.8	
Isolation (dB min.):	70	60	60	55	50		
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.						
Local Control Possibilities:	Only with disconnected indoor controller: - RS232 M&C interface to converter units with RS232 to RS485 converter - IF- and RF-relay switching to replace main unit 1, main unit 2 or none						
Temperature Range:	-30°C ... 60°C operating						
Relative Humidity:	< 100 %						
Dimension and Weight:	300 x 150 x 400 mm ³ (WxHxD) approx. 7 kg						

Specifications are subject to change

Outdoor Redundancy Switch 2:1

Order Information:

RSCM-2-[Input Switch Type]-[Output Switch Type]-[Options]-OD

Possible Options are:

- UPC** Uplink Power control included
- VFD** VF Display
- L** Controller housing depth 470 mm

Examples:

RSCM-2-50K50K-50K-OD Two 50 Ω 18 GHz Input Transfer Switches and one 50 Ω 18 GHz Output Transfer Switch per channel for converters with two inputs

RSCM-2-50Ka26-50K-OD 50 Ω 26.5 GHz Input and 50 Ω 18 GHz Output Transfer Switches