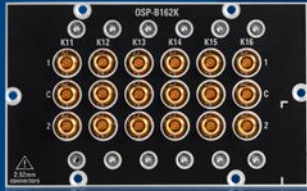# ROHDE&SCHWARZ
Make ideas real

R&S®OSP RF MODULES: R&S®OSP-B162K, R&S®OSP-B164K
9 kHz to 43.5 GHz, SPDT & SP4T solid-state relays

R&S®OSP RF modules:
R&S®OSP-B162K (Variant 46, left), R&S®OSP-B164K (Variant 44, right)

R&S®OSP OSP-B162K and R&S®OSP-B164K RF modules
Key facts and benefits at-a-glance
- ► Frequency range: 9 kHz to 43.5 GHz
- ► Short switching time
- ► Low power consumption
- ► Quiet operation; no clicking sounds
- ► Faster switching cycles; higher throughput
- ► Long life span; no integrated moving parts for switching
- ► Ideal for applications that require repeated operation such as production testing

Operation of RF modules requires R&S®OSP base units. For more information, visit our website.

The perfect choice for

Aerospace & defense	Electronic design
RF & microwave components	Production tests

Key specifications

Frequency range	9 kHz to 43.5 GHz
Relay type, connector	Solid-state relay (SSR), 2.92 mm
Relay arrangement and type of relay	R&S®OSP-B162K: SPDT, absorptive R&S®OSP-B164K: SP4T, absorptive
Relay impedance	50 Ω
Number of slots on R&S®OSP base unit	one, single-width module

Your benefit	Features when operating with R&S®OSP open switch and control platform
Switching units are based on standard product of R&S®OSP	► World wide service network for standard components ► Combination of standard and special system modules ► Combination of standard OSPs and special units based on OSP concept
Same hardware concept for all RF switch solutions	► Reduce service cost and development resources
Same software concept for all RF switch solutions	► Same software interface to control different units (SCPI); lower cost for system integration

Feature highlights of R&S OSP open switch and control platform

R&S®OSP220 (top, left), R&S®OSP230 (bottom, left), R&S®OSP320 (right)

- ► Modular, reliable and cost-efficient
- ► Compact, secure and flexible
- ► Powerful control and RF relay modules up to 67 GHz
- ► Expandable system configurations
- ► Convenient manual and remote control & trigger function

Overview of R&S®OSP modules with solid-state relays

Frequency range	0Hz	9 kHz	to	6 GHz	8 GHz	10 GHz	12.4 GHz	to	43.5 GHz
Type		R&S®OSP-B1xx RF relay modules							
SPDT		B107: reflective, 30 dBm							
		B127: absorptive, 50 Ω, 30 dBm							
		B162K: absorptive, 50 Ω, 23 dBm							
DP3T		B142 [a)]: absorptive, 50 Ω, 40 dBm							
SP4T		B164K: absorptive, 50 Ω, 23 dBm							
SP6T		B128: absorptive, 50 Ω, 30 dBm							

(RF solid-sate relays)

Overview of R&S®OSP modules with solid-state relays

a) Operational up to 6 GHz, functional up to 8 GHz.
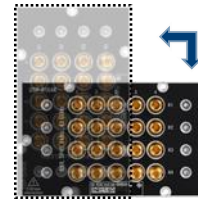
Easy to install

A single-width module can be installed in the vertical slot on the R&S®OSP320 and the horizontal slot of an R&S®OSP220 or R&S®OSP230

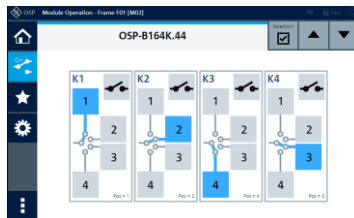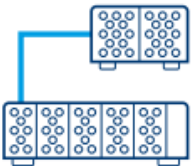## Highly Flexible in design and operation
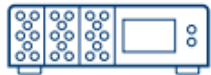
Flexible system wiring

RF modules can be installed on Front, Rear or both sides of the R&S®OSP base units.
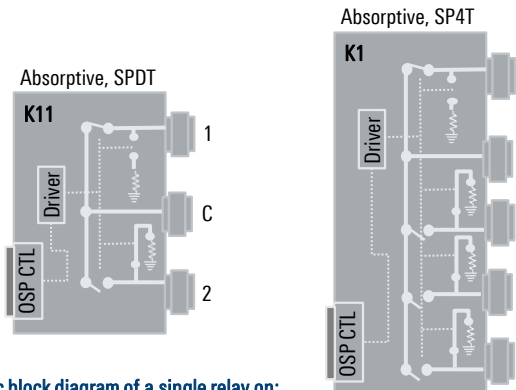
or

RF modules can also be installed on R&S®OSP-B200S2 satellite units via a fiber optic link or serial electrical bus cable

Simple to operate

R&S®OSP WebGUI: intuitive & interactive graphical display of switch for visualization during path definition
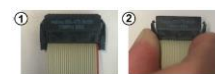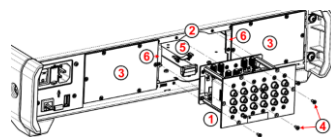
Basic block diagram of absorptive SPDT & multi-position relay, SP4T solid state relays

Basic block diagram of a single relay on:
a) R&S®OSP-B162K SPDT RF switch module (LHS)
b) R&S®OSP-B164K SP4T RF switch module (RHS)

Supports on-site installation

Ease logistics handling and lowers maintenance costs

Ordering Information

RF Modules: 9 kHz to 44 GHz

n × SPDT (2.92 mm), SSR, 9 kHz to 43.5 GHz, absorptive, 2 x SPDT (internal termination: 50 Ω)	R&S®OSP-B162K	1528.1677.42
n × SPDT (2.92 mm), SSR, 9 kHz to 43.5 GHz, absorptive, 4 x SPDT (internal termination: 50 Ω)	R&S®OSP-B162K	1528.1677.44
n × SPDT (2.92 mm), SSR, 9 kHz to 43.5 GHz, absorptive, 6 x SPDT (internal termination: 50 Ω)	R&S®OSP-B162K	1528.1677.46
n × SP4T (2.92 mm), SSR, 9 kHz to 43.5 GHz, absorptive, 2 x SP4T (internal termination: 50 Ω)	R&S®OSP-B164K	1528.1660.42
n × SP4T (2.92 mm), SSR, 9 kHz to 43.5 GHz, absorptive, 3 x SP4T (internal termination: 50 Ω)	R&S®OSP-B164K	1528.1660.43
n × SP4T (2.92 mm), SSR, 9 kHz to 43.5 GHz, absorptive, 4 x SP4T (internal termination: 50 Ω)	R&S®OSP-B164K	1528.1660.44

Examples of possible SP16T combinations
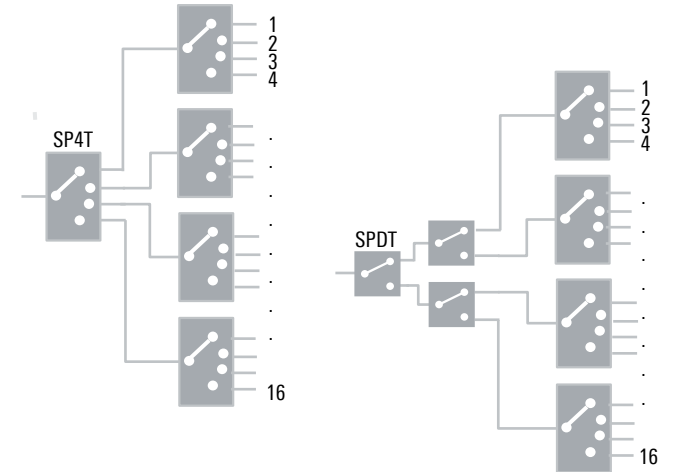
A SP16T (single-pole, 16 throws), possible combination choice of either
▶ 2× R&S®OSP-B164K (diagram on LHS), or
▶ 1 × R&S®OSP-B164K (Var 44) + 1x R&S®OSP-B162K (var44) (diagram on RHS)