ROHDE&SCHWARZ
Make ideas real

R&S®OSP RF MODULES: R&S®OSP-B112V & R&S®OSP-B122VL

0 GHz to 67 GHz, SP6T, electromechanical relays

R&S®OSP RF modules:
R&S®OSP-B112V (left), R&S®OSP-B122VL (right)

The perfect choice for

- Aerospace and defense
- Electronic design
- Automotive
- RF and microwave components

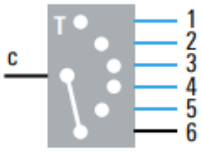
Key specifications	
Frequency range	0 GHz to 67 GHz
Relay type	coaxial relay, 1.85 mm
Relay arrangement and type of relay	SP6T, terminated with latching or non-terminated; depends on module
Number of switching cycles	2 million/position
Relay impedance	50 Ω
Number of slots on R&S®OSP base unit	1, single-width module

Increasing port counts without increasing in size

- The latest technology trends in wireless communications, automotive and aerospace & defense call for higher frequencies in system integration. Digging deeper, electronics components and devices used for these technologies have also become highly integrated and have an increasing number of ports.
- Rohde & Schwarz presents the latest addition to its RF module range, featuring 0 GHz to 67 GHz multiposition relays. These RF modules expand the application range of the R&S®OSP open switch and control platform and are well-suited for applications demanding higher frequencies and port counts. When high port counts are required, the multiposition relays simplify complex configurations.

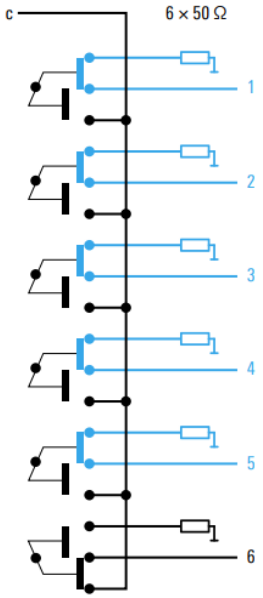
Your benefit	Features
Easy module installation and upgrade	► The R&S®OSP-B122VL and R&S®OSP-B112V are single-width modules (single slot space) and can be used on any of the base or satellite units, i.e. the R&S®OSP220, R&S®OSP230, R&S®OSP320 and R&S®OSP-B200S2. ► Adding the module to an R&S®OSP base unit can be done on site. There is no need to send the unit to a factory or service center for an upgrade, which greatly simplifies logistics.
Reliable transfer and high performance	► Termination ensures defined RF operating conditions. Relays used on R&S®OSP-B122VL are equipped with internal resistors that can terminate open paths into 50 Ω to reduce frequency-dependent reflections in a measurement. ► RF modules are based on relay designs that ensures operation up to 2 million cycles with excellent repeatability. ► RF modules are low in insertion loss with high isolation.
Maximum flexibility	► RF modules offered in the 0 GHz to 67 GHz range comprise of SPDT and SP6T with terminated, non-terminated, failsafe and latching options. The RF modules can be combined and configured to suit to your application needs. ► Each RF module includes a switch counting feature that helps users to monitor the relay lifespan. ► Additional components such as amplifiers and power dividers can be included in the system design to optimize system performance. ► In a setup where the test equipment and device under test (DUT) are not located in the same place, the RF module(s) can be installed on the R&S®OSP-B200S2 satellite unit. The RF module(s) are then placed closer to the DUT and/or RF equipment. A shorter cable can be used, which improves performance and reduces costs. ► Depending on the setup, the RF modules can be installed on the front or rear panel of the R&S®OSP base unit.

Basic wiring of terminated multiposition relay, SP6T

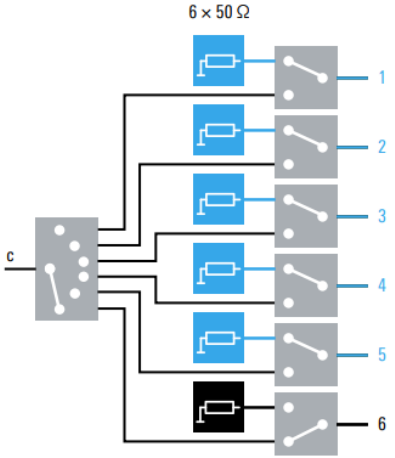


R&S®OSP-B122VL RF module
SP6T relay, terminated, latching*

*Latching relay refers to when the switch contact remains at its last position when power is removed. In contrast, a failsafe relay requires continuous voltage to maintain an RF connection to any other position and resets to a default position when no voltage is applied.

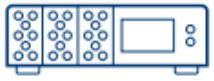


Basic architecture of a terminated multiposition relay



Alternative wiring of a terminated circuit using a combination of non-terminated SP6T (R&S®OSP-B112V RF module) and terminated SPDT (R&S®OSP-B121VL RF module)

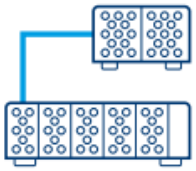
Highly flexible in design and operation



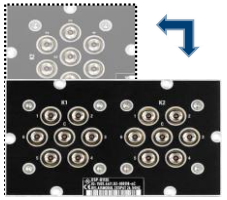
Flexible system wiring

RF modules can be installed on the front, rear or both panels of the R&S®OSP base units

or

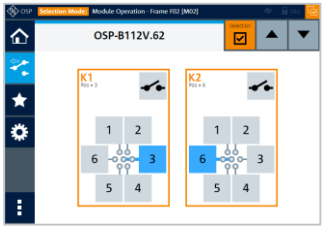


RF modules can also be installed on the R&S®OSP-B200S2 satellite box via a fiber-optic link or serial electrical bus cable



Easy to install

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



Simple to operate

WebGUI: intuitive and interactive graphical display of switch for visualization during path definition

RF modules: 0 GHz to 67 GHz		
Description	**Item**	**Order No.**
n × SPDT (1.85 mm), non-terminated, n = 1 to 6	R&S®OSP-B111V	1505.4605.6n
n × SPDT (1.85 mm), non-terminated, latching, n = 3 or 6	R&S®OSP-B111VL	1515.5991.1n
n × SPDT (1.85 mm), terminated, latching, n = 1 to 3	R&S®OSP-B121VL	1528.1654.6n
n × SP6T (1.85 mm), non-terminated, n = 1 or 2	R&S®OSP-B112V	1528.1560.6n
1 × SP6T (1.85 mm), terminated, latching	R&S®OSP-B122VL	1528.1760.61

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

Feature highlights

- ► 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 and trigger functions

R&S®OSP open switch and control platform:
R&S®OSP220 (top left), R&S®OSP230 (bottom left), R&S®OSP320 (right)

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