ROHDE & SCHWARZ

Make ideas real

R&S®OSP-B182E RF MODULE FOR R&S®OSP
0 Hz to 26.5 GHz, SP6T, electromechanical relay

Simplified for terminated high power condition testing

Transmit/receive module (TRM) testing can be complex and error-prone because the measurements needed for each TRM require different equipment, test setups and calibration routines and generate a large amount of test results. A switch matrix becomes a critical component to ensure all T&M devices are connected up to the device under test (DUT) without the need for reconnection. This saves time and makes automation possible and measurements repeatable.

In TRM testing, DUTs require much higher power during testing, and relays with terminations are needed to ensure a defined RF condition is met. Most standard off-the-shelf terminated relays on the market come with a 1 W termination. Hence, multiple relays in different arrangements and additional terminations have to be combined to meet this test requirement. The R&S®OSP-B182E RF module for the R&S®OSP features a wide frequency range up to 26.5 GHz. It is also multi-position in arrangement and offers additional connectors for high power terminations. This greatly reduces the number of relays required to achieve the same design outcome and simplifies complex configurations. Apart from TRM module testing, the R&S®OSP-B182E is also suitable for any other DUT such as base station (BS) components requiring high power during tests.

The perfect choice for

Aerospace and defense	Wireless communications
RF and microwave components	Mobile network testing

Key specifications

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Frequency range	0 Hz to 26.5 GHz
Relay type, connector	electromechanical (EMR), SMA
Relay arrangement and type	SP6T with six connectors for test ports and six connectors for external terminations (external terminations not included)
Relay impedance	50 Ω
Number of slots on R&S®OSP base unit	1, single-width module
Maximum power	power capability is equal for switch and termination path: 100 W (avg.) at 18 GHz

Your benefit	Features of the R&S®OSP-B182E
Switching units are based on a standard product (R&S®OSP)	▶ Worldwide service network for standard components ▶ R&S®OSP-B182E can be used in combination with standard and special system modules ▶ R&S®OSP web GUI works with all R&S®OSP modules; simple to operate with flat menu and reduced training time ▶ Highly scalable; from simple to complex multiplexing
Same hardware concept for all RF modules	▶ Reduces service costs and development resources ▶ Easy module installation and upgrade ▶ Module can be added to an R&S®OSP base unit on-site; no need to send the R&S®OSP to the factory or a service center for an upgrade, greatly simplifying logistics and cutting costs ▶ RF modules can be installed on the front side or rear side of the R&S®OSP base unit to suit the setup
Same software concept for all RF switch solutions	▶ Same software interface to control different units (SCPI); lower costs for system integration ▶ One primary unit can be defined to control multiple secondary units ▶ Automatic detection and recognition of modules by base unit (plug & play concept)

For options, prices and more information, visit
www.rohde-schwarz.com

Easy to configure and operate

The R&S®OSP web GUI allows intuitive and interactive graphical display of the switch for visualization of the switching contact position and/or path definition.
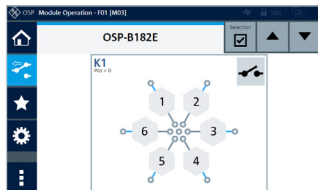
The single-width module can be installed in the vertical slot on the R&S®OSP320 and horizontal slot on the R&S®OSP220 or R&S®OSP230. The R&S®OSP-B182E supports on-site installation, which simplifies logistics and handling and lowers maintenance costs.
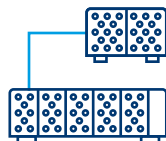
Highly flexible in design and operation
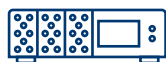
Due to their flexible system wiring, the R&S®OSP-B182E RF modules can be installed on the front, rear or both sides of R&S®OSP base units.
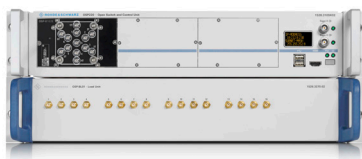The R&S®OSP-B182E
RF modules can also be installed on the R&S®OSP-B200S2 satellite unit via a fiber-optic link or serial electrical bus cable.

Convenient load unit

When used with the R&S®OSP-BL01 load unit, terminations with a much higher power rating, e.g. > 10 W, can be supported. The R&S®OSP-BL01 comes with a supporting plate, multiple RF cables, SMA (f to f) adapters and a 19" rackmount kit. Thus, it is ready to fit and organize all terminations inside the load unit and can be installed in a 19" system rack.

Feature highlights of the R&S®OSP-B182E
► Wide frequency range from 0 Hz to 26.5 GHz
► Automatic detection of R&S®OSP-B182E; plug & play
► Easy control via R&S®OSP web GUI
► Modular, simple to configure and operate
► Tailors to exact requirements of power rating without limitations of off-the-shelf components
► Supported on all R&S®OSP base units, including R&S®OSP-B200S2 satellite unit

R&S®OSP220 (top, left), R&S®OSP230 (bottom, left), R&S®OSP320 (right)
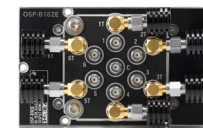
Supports higher load power

The figure on the right shows an example of wiring of a terminated circuit using a combination of non-terminated SP6T and SPDT for systems with external loads.
Only one R&S®OSP-B182E RF module is required for this combination.
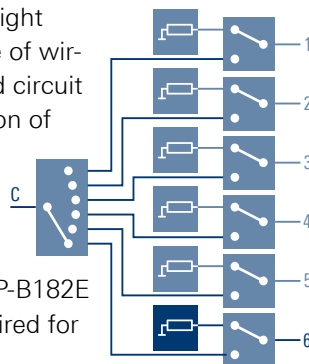
The figure on the right shows an R&S®OSP-B182E with six additional connectors (open ports) for connection to terminations (without terminations connected).

R&S®OSP-B182E connected with e.g. a WA1443 5 W termination from Weinschel Associates. All six connectors are connected with terminations (external loads/terminations sold separately).

Ordering information

Designation	Type	Order No.
RF module for R&S®OSP, 1 × SP6T, non-terminated, DC to 26.5 GHz, SMA (f), external termination	R&S®OSP-B182E	1528.3263.21
Supported R&S®OSP base unit		
R&S®OSP base unit (2 RU)	R&S®OSP220	1528.3105K02
R&S®OSP base unit (2 RU) with touchscreen	R&S®OSP230	1528.3105K03
R&S®OSP base unit (3 RU)	R&S®OSP320	1528.3111K02
Recommended extras		
Load unit [1], 2 HU	R&S®OSP-BL01	1528.3270.02
SMA wrench	R&S®SMA-Wrench	1528.1590.02
Torque wrench for 3.5/2.92/2.4/1.85 mm connection, 0.9 Nm coupling	R&S®ZN-ZTW	1328.8534.35
19" rack adapter, 2 RU	R&S®ZZA-KNA21	1177.8026.00
19" rack adapter, 3 RU	R&S®ZZA-KNA31	1177.8032.00