

ROHDE & SCHWARZ

Make ideas real



FEEDTHROUGHS

For Rohde & Schwarz
RF shielded boxes and OTA chambers

Product Flyer | Version 01.00



AT A GLANCE

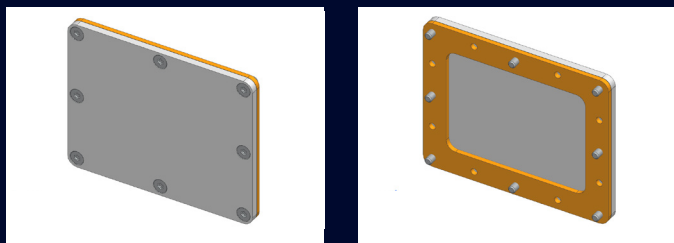
Feedthroughs are used to run cables from the outside into a shielded environment such as an RF shielded box or an OTA chamber. This is done to maintain the shielding effectiveness of a given environment and prevent leakage of RF radiation into or out of the chamber.

Below is a list of all currently available Rohde&Schwarz feedthroughs for upgrading products in the Rohde&Schwarz OTA and RF shielded box portfolio. The number of feedthroughs that can be added varies depending on the specific product from the portfolio.

The following list shows the number of additional feedthroughs possible with each Rohde&Schwarz product:

Type	Number of maximum possible additional feedthroughs
R&S®WPTC wireless performance test chambers R&S®TC-WAPAN wall access panel	8
R&S®ATS1000 antenna test system	7
R&S®CMQ200 shielding cube	7
R&S®CMQ500 shielding cube	7
R&S®ATS800R CATR based compact 5G NR mmWave test chamber, model .03	14
R&S®ATS1800C 3GPP compliant OTA chamber for 5G NR mmWave signals, model .02	7
R&S®ATS1800C 3GPP compliant OTA chamber for 5G NR mmWave signals, model .03	11
R&S®ATS1800M multiple angle of arrival extension to R&S®ATS1800C, model .03	11
R&S®ATS1500C antenna test chamber for automotive radar sensors	5
R&S®TS7124 RF shielded box, model .12	5
R&S®TS7124 RF shielded box, model .02	3

All these feedthroughs have an identical 80 mm x 64 mm rectangular mounting flange. The feedthroughs are mounted with eight M3x8 mm Torx screws into an opening in the Rohde&Schwarz product which is by default covered with a blank metal plate of the same size as the flange.



The 10-character type designator of any feedthrough uses the following naming convention (exception for the last digits on some power and D-Sub feedthroughs):

1-4	5	6	7	8	9	10
R&S®TS-F	Generation of this type of feedthrough	Technology i.e. USB, RF etc.	Technology	Connector type outside	Connector type inside	Number of connectors

Examples

R&S®TS-F1U3CC1: USB 3.2 with one type C connector outside and inside

R&S®TS-F1RFKK4: RF with four K connectors (2.92 mm) outside and inside

R&S®TS-F2ETRR1: second revision of Ethernet feedthrough with one RJ-45 connector outside and inside

OVERVIEW OF AVAILABLE FEEDTHROUGHS

Please note that the feedthrough portfolio is constantly growing. If a specific feedthrough is not listed in this overview, please contact your local Rohde & Schwarz representative.

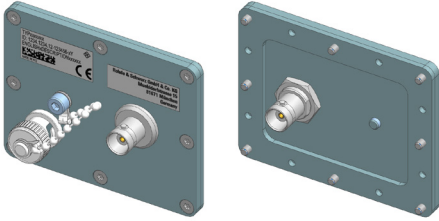
Order number	Type	Description
Coaxial RF feedthroughs		
1533.4070.02	R&S°TS-F1BCBB1	RF feedthrough with 1 × BNC, female
1533.4070.03	R&S°TS-F1BCBB2	RF feedthrough with 2 × BNC, female
1530.1058.02	R&S°TS-F1RFMM4	RF feedthrough RF with 4 × SMA to SMA, female
1525.8870.02	R&S°TS-F1RFNM2	RF feedthrough RF with 2 × N to SMA, female
1530.6372.02	R&S°TS-F1RFKK2	RF feedthrough RF with 2 × 2.92 mm, female
1530.6372.04	R&S°TS-F1RFKK4	RF feedthrough RF with 4 × 2.92 mm, female
1540.6417.02	R&S°TS-F1RFQQ1	RF feedthrough RF with 1 × 2.4 mm, female
1540.6217.02	R&S°TS-F1RFQQ2	RF feedthrough RF with 2 × 2.4 mm, female
1540.6298.02	R&S°TS-F1RFV1	RF feedthrough RF with 1 × 1.85 mm, female
1532.0836.02	R&S°TS-F1RFV2	RF feedthrough RF with 2 × 1.85 mm, female
1540.6281.02	R&S°TS-F1RFEE2	RF feedthrough RF with 2 × 1.35 mm, female
Communications feedthroughs		
1525.8735.02	R&S°TS-F1U2BA1	feedthrough with 1 × USB 2.0, outside type B, inside type A
1537.6632.02	R&S°TS-F1U3BA1	feedthrough with 1 × USB 3.2, outside type B, inside type A
1537.6649.02	R&S°TS-F1U3CC1	feedthrough with 1 × USB 3.2, outside and inside type C
1525.8729.02	R&S°TS-F1ETRR1	feedthrough with 1 × Ethernet, outside and inside RJ-45
1536.4094.02	R&S°TS-F2ETRR1	feedthrough with 1 × power over Ethernet (PoE), outside and inside RJ-45
Power feedthroughs		
1526.4840.02	R&S°TS-F1POAC1 ¹⁾	feedthrough filter for AC power (100 V to 240 V, max. 2 A)
1537.6684.02	R&S°TS-F1PODC1	feedthrough filter for DC power (max. 16 V, 3 A)
1540.6398.02	R&S°TS-F2PODC1	feedthrough filter for DC power (max. 30 V, 5 A)
1536.0353.02	R&S°TS-F1POBB2 ¹⁾	feedthrough filter for DC power with 2 × banana plugs (max. 48 V, 5 A)
1540.4043.02	R&S°TS-F2POBB2	feedthrough filter for DC power with 2 × banana plugs (max. 48 V, 5 A)
Other feedthroughs		
1537.0070.02	R&S°TS-F1SD152	feedthrough filter with 2 × 15 pin D-Sub
1540.4537.02	R&S°TS-F1SD252	feedthrough filter with 2 × 25 pin D-Sub
1525.8835.02	R&S°TS-F1SD259	feedthrough filter with 1 × 25 pin and 1 × 9 pin D-Sub
1525.8864.02	R&S°TS-F1OPFF4	feedthrough fiber-optic with 4 × FSMA

None of the feedthroughs contain internal or external cables.

¹⁾ Please note that when mounting this feedthrough, the adjacent feedthrough opening underneath the mounting position cannot be used by another feedthrough.

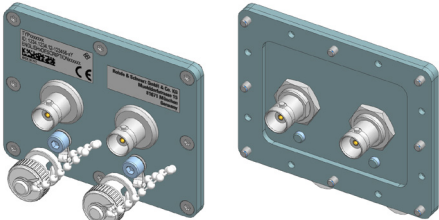
COAXIAL RF FEEDTHROUGHS

R&S®TS-F1BCBB1: RF feedthrough with 1 × BNC connector, female



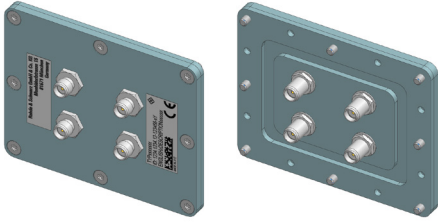
Product data		
Number of connectors		1
Connector type	outside	BNC connector, female
	inside	BNC connector, female
Frequency range		DC to 10 GHz
Shielding		90 dB (meas.)
Maximum power		80 W at 2 GHz
Maximum voltage		400 V
Dimensions (L × W × H)	outside	80 mm × 64 mm × 22 mm (3.15 in × 2.52 in × 0.87 in)
	inside	(60 mm × 44 mm) × 15 mm ((2.36 in × 1.73 in) × 0.60 in)
Weight		70 g (0.15 lb)

R&S®TS-F1BCBB2: RF feedthrough with 2 × BNC connectors, female



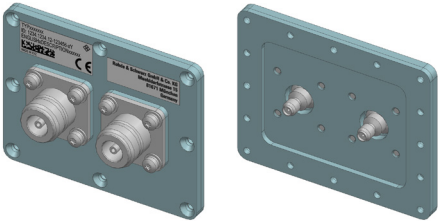
Product data		
Number of connectors		2
Connector type	outside	BNC connector, female
	inside	BNC connector, female
Frequency range		DC to 10 GHz
Shielding		90 dB (meas.)
Maximum power		80 W at 2 GHz
Maximum voltage		400 V
Dimensions (L × W × H)	outside	80 mm × 64 mm × 22 mm (3.15 in × 2.52 in × 0.87 in)
	inside	(60 mm × 44 mm) × 15 mm ((2.36 in × 1.73 in) × 0.60 in)
Weight		100 g (0.22 lb)

R&S®TS-F1RFMM4: RF feedthrough with 4 × SMA connectors, female



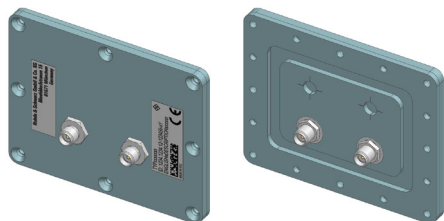
Product data		
Number of connectors		4
Connector type	outside	SMA connector, female
	inside	SMA connector, female
Frequency range		DC to 18 GHz
Shielding		80 dB (meas.)
Dimensions (L × W × H)	outside	80 mm × 64 mm × 12 mm (3.15 in × 2.52 in × 0.47 in)
	inside	(60 mm × 44 mm) × 10 mm ((2.36 in × 1.73 in) × 0.40 in)
Weight		60 g (0.13 lb)

R&S®TS-F1RFNM2: RF feedthrough with 2 × N connectors outside, female and 2 × SMA connectors inside, female



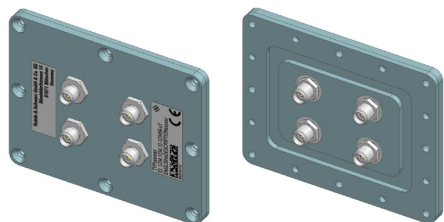
Product data		
Number of connectors		2
Connector type	outside	N connector, female
	inside	SMA connector, female
Frequency range		DC to 18 GHz
Shielding		80 dB (meas.)
Dimensions (L × W × H)	outside	80 mm × 64 mm × 22 mm (3.15 in × 2.52 in × 0.87 in)
	inside	(60 mm × 44 mm) × 7 mm ((2.36 in × 1.73 in) × 0.28 in)
Weight		100 g (0.22 lb)

R&S®TS-F1RFKK2: RF feedthrough with 2 × 2.92 mm connectors, female



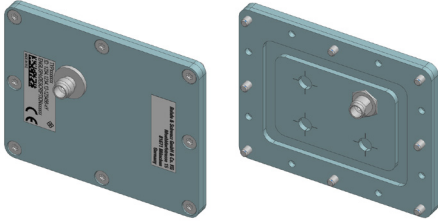
Product data		
Number of connectors		2
Connector type	outside	2.92 mm coaxial K connector, female
	inside	2.92 mm coaxial K connector, female
Frequency range		DC to 40 GHz
Shielding		90 dB (meas.)
Dimensions (L × W × H)	outside	80 mm × 64 mm × 12 mm (3.15 in × 2.52 in × 0.47 in)
	inside	(60 mm × 44 mm) × 8 mm ((2.36 in × 1.73 in) × 0.31 in)
Weight		40 g (0.09 lb)

R&S®TS-F1RFKK4: RF feedthrough with 4 × 2.92 mm connectors, female



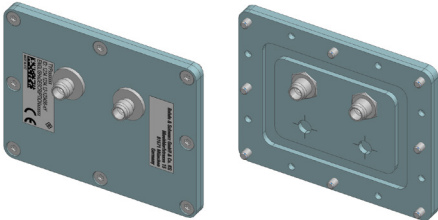
Product data		
Number of connectors		4
Connector type	outside	2.92 mm coaxial K connector, female
	inside	2.92 mm coaxial K connector, female
Frequency range		DC to 40 GHz
Shielding		90 dB (meas.)
Dimensions (L × W × H)	outside	80 mm × 64 mm × 12 mm (3.15 in × 2.52 in × 0.47 in)
	inside	(60 mm × 44 mm) × 8 mm ((2.36 in × 1.73 in) × 0.31 in)
Weight		60 g (0.13 lb)

R&S®TS-F1RFQQ1: RF feedthrough with 1 × 2.4 mm connector, female



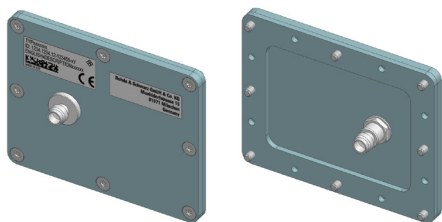
Product data		
Number of connectors		1
Connector type	outside	2.4 mm coaxial Q connector, female
	inside	2.4 mm coaxial Q connector, female
Frequency range		DC to 50 GHz
Shielding		80 dB (meas.)
Dimensions (L × W × H)	outside	80 mm × 64 mm × 13 mm (3.15 in × 2.52 in × 0.51 in)
	inside	(60 mm × 44 mm) × 7 mm ((2.36 in × 1.73 in) × 0.28 in)
Weight		40 g (0.09 lb)

R&S®TS-F1RFQQ2: RF feedthrough with 2 × 2.4 mm connectors, female



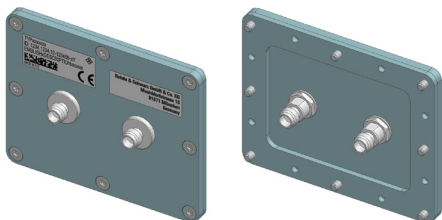
Product data		
Number of connectors		2
Connector type	outside	2.4 mm coaxial Q connector, female
	inside	2.4 mm coaxial Q connector, female
Frequency range		DC to 50 GHz
Shielding		80 dB (meas.)
Dimensions (L × W × H)	outside	80 mm × 64 mm × 13 mm (3.15 in × 2.52 in × 0.51 in)
	inside	(60 mm × 44 mm) × 7 mm ((2.36 in × 1.73 in) × 0.28 in)
Weight		60 g (0.13 lb)

R&S®TS-F1RFV1: RF feedthrough with 1 × 1.85 mm connector, female



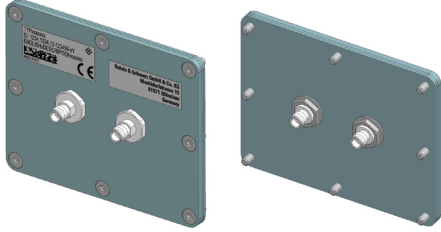
Product data		
Number of connectors		1
Connector type	outside	1.85 mm coaxial V connector, female
	inside	1.85 mm coaxial V connector, female
Frequency range		DC to 70 GHz
Shielding		70 dB (meas.)
Dimensions (L × W × H)	outside	80 mm × 64 mm × 13 mm (3.15 in × 2.52 in × 0.51 in)
	inside	(60 mm × 44 mm) × 11 mm ((2.36 in × 1.73 in) × 0.43 in)
Weight		40 g (0.09 lb)

R&S®TS-F1RFV2: RF feedthrough with 2 × 1.85 mm connectors, female



Product data		
Number of connectors		2
Connector type	outside	1.85 mm coaxial V connector, female
	inside	1.85 mm coaxial V connector, female
Frequency range		DC to 70 GHz
Shielding		70 dB (meas.)
Dimensions (L × W × H)	outside	80 mm × 64 mm × 13 mm (3.15 in × 2.52 in × 0.51 in)
	inside	(60 mm × 44 mm) × 11 mm ((2.36 in × 1.73 in) × 0.43 in)
Weight		60 g (0.13 lb)

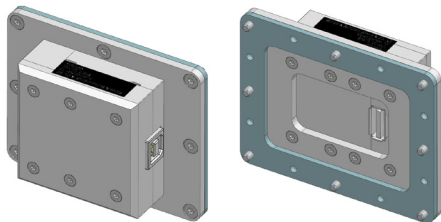
R&S®TS-F1RFEE2: RF feedthrough with 2 × 1.35 mm connectors, female



Product data		
Number of connectors		2
Connector type	outside	1.35 mm coaxial E connector, female
	inside	1.35 mm coaxial E connector, female
Frequency range		DC to 90 GHz
Shielding		80 dB (meas.)
Dimensions (L × W × H)	outside	80 mm × 64 mm × 14 mm (3.15 in × 2.52 in × 0.55 in)
	inside	(60 mm × 44 mm) × 9 mm ((2.36 in × 1.73 in) × 0.35 in)
Weight		60 g (0.13 lb)

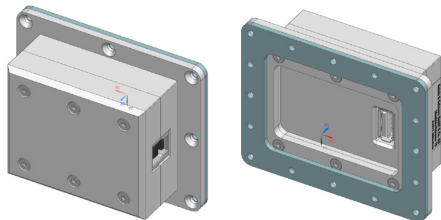
COMMUNICATIONS FEEDTHROUGHS

R&S®TS-F1U2BA1: feedthrough filter USB 2.0, plug types: type B outside, type A inside



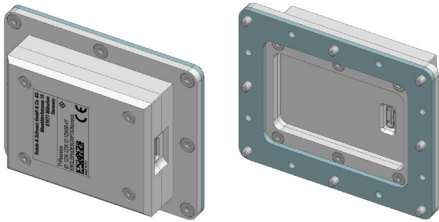
Product data		
Number of connectors		1
Connector type	outside	USB 2.0 type B, female
	inside	USB 2.0 type A, female
Data rate		480 Mbit/s
Shielding		70 dB (meas.)
Maximum voltage		5 V DC
Maximum current		0.5 A
Dimensions (L × W × H)	outside	80 mm × 64 mm × 29 mm (3.15 in × 2.52 in × 1.14 in)
	inside	(60 mm × 44 mm) × 0 mm ((2.36 in × 1.73 in) × 0 in)
Weight		140 g (0.31 lb)

R&S®TS-F1U3BA1: feedthrough filter USB 3.2 Gen.1, plug types: type B outside, type A inside



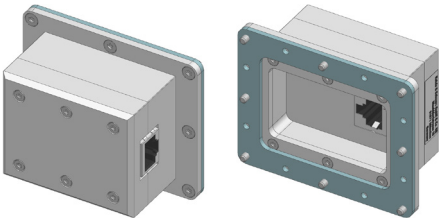
Product data		
Number of connectors		1
Connector type	outside	USB 3.2 type B, female
	inside	USB 3.2 type A, female
Data rate		5 Gbit/s
Shielding		80 dB (meas.)
Maximum voltage		5 V DC
Maximum current		900 mA
Dimensions (L × W × H)	outside	80 mm × 64 mm × 30 mm (3.15 in × 2.52 in × 1.18 in)
	inside	(60 mm × 44 mm) × 0 mm ((2.36 in × 1.73 in) × 0 in)
Weight		160 g (0.35 lb)

R&S®TS-F1U3CC1: feedthrough filter USB 3.2 Gen.1, plug types: type C outside, type C inside



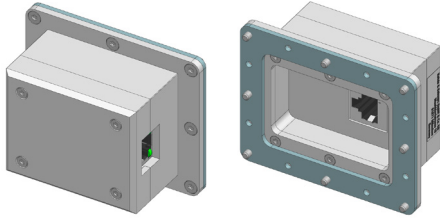
Product data		
Number of connectors		1
Connector type	outside	USB 3.2 type C, female
	inside	USB 3.2 type C, female
Data rate		5 Gbit/s
Shielding		80 dB (meas.)
Maximum voltage		5 V DC
Maximum current		3 A
Dimensions (L x W x H)	outside	80 mm x 64 mm x 22 mm (3.15 in x 2.52 in x 0.87 in)
	inside	(60 mm x 44 mm) x 0 mm (2.36 in x 1.73 in) x 0 in)
Weight		100 g (0.22 lb)

R&S®TS-F1ETRR1: feedthrough filter Ethernet, plug types: RJ-45



Product data		
Number of connectors		1
Connector type	outside	RJ-45, female
	inside	RJ-45, female
Speed class		1000BASE-T
Shielding		60 dB (meas.)
Maximum voltage		15 V
Maximum current		500 mA
Dimensions (L x W x H)	outside	80 mm x 64 mm x 39 mm (3.15 in x 2.52 in x 1.54 in)
	inside	(60 mm x 44 mm) x 0 mm (2.36 in x 1.73 in) x 0 in)
Weight		180 g (0.40 lb)

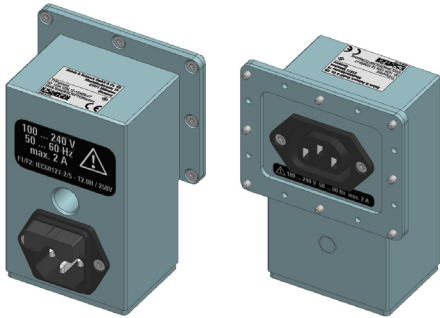
R&S®TS-F2ETRR1: feedthrough filter power over Ethernet (PoE), plug types: RJ-45



Product data		
Number of connectors		1
Connector type	outside	RJ-45, female
	inside	RJ-45, female
Speed class		1000BASE-T
Shielding		60 dB (meas.)
Maximum voltage		60 V DC
Maximum current		960 mA
Dimensions (L × W × H)	outside	80 mm × 64 mm × 39 mm (3.15 in × 2.52 in × 1.54 in)
	inside	(60 mm × 44 mm) × 0 mm (2.36 in × 1.73 in) × 0 in)
Weight		180 g (0.40 lb)

POWER FEEDTHROUGHS

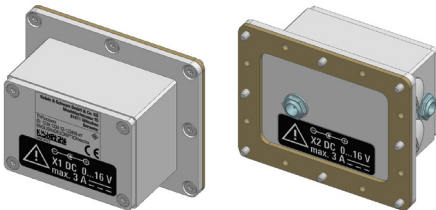
R&S®TS-F1POAC1: feedthrough filter for AC power (100 V to 240 V, 50 Hz to 60 Hz)



Product data		
Number of connectors		1
Connector type	outside	C14, male
	inside	C13, female
Shielding		90 dB (meas.)
Maximum voltage		110 V to 240 V AC
Maximum current		2 A
Dimensions (L × W × H)	outside	80 mm × 109 mm × 62 mm (3.15 in × 2.52 in × 2.44 in)
	inside	(60 mm × 44 mm) × 3 mm ((2.36 in × 1.73 in) × 0.12 in)
Weight		440 g (0.97 lb)

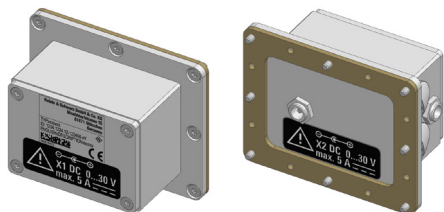
Please note that when mounting this feedthrough, the adjacent feedthrough opening underneath the mounting position cannot be used by another feedthrough.

R&S®TS-F1PODC1: feedthrough filter for DC power (DC jack 5.5 mm/2.1 mm) (max. 16 V, 3 A)



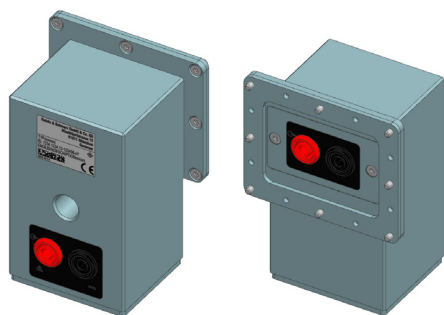
Product data		
Number of connectors		1
Connector type	outside	outer diameter = 5.5 mm, inner diameter = 2.1 mm, l = 9.5 mm barrel connector
	inside	outer diameter = 5.5 mm, inner diameter = 2.1 mm, l = 9.5 mm barrel connector
Shielding		70 dB (meas.)
Maximum voltage		16 V DC
Maximum current		3 A
Dimensions (L × W × H)	outside	80 mm × 64 mm × 38 mm (3.15 in × 2.52 in × 1.50 in)
	inside	(60 mm × 44 mm) × 4 mm ((2.36 in × 1.73 in) × 0.16 in)
Weight		200 g (0.44 lb)

R&S®TS-F2PODC1: feedthrough filter for DC power (DC jack 5.5 mm/2.5 mm) (max. 30 V, 5 A)



Product data		
Number of connectors		1
Connector type	outside	outer diameter = 5.5 mm, inner diameter = 2.5 mm, l = 9.5 mm barrel connector
	inside	outer diameter = 5.5 mm, inner diameter = 2.5 mm, l = 9.5 mm barrel connector
Shielding		90 dB (meas.)
Maximum voltage		30 V DC
Maximum current		5 A
Dimensions (L × W × H)	outside	80 mm × 64 mm × 38 mm (3.15 in × 2.52 in × 1.50 in)
	inside	(60 mm × 44 mm) × 4 mm ((2.36 in × 1.73 in) × 0.16 in)
Weight		200 g (0.44 lb)

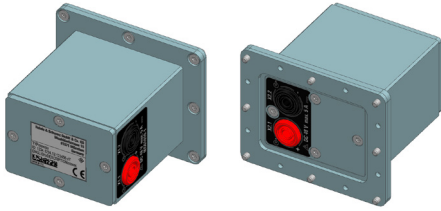
R&S®TS-F1POBB2: feedthrough filter for DC power with 2 × banana plugs (max. 48 V, 5 A)



Product data		
Number of connectors		2
Connector type	outside	banana plug, female
	inside	banana plug, female
Shielding		70 dB (meas.)
Maximum voltage		48 V DC
Maximum current		5 A
Dimensions (L × W × H)	outside	80 mm × 109 mm × 57 mm (3.15 in × 4.29 in × 2.24 in)
	inside	(60 mm × 44 mm) × 2 mm ((2.36 in × 1.73 in) × 0.08 in)
Weight		440 g (0.97 lb)

Please note that when mounting this feedthrough, the adjacent feedthrough opening underneath the mounting position cannot be used by another feedthrough.

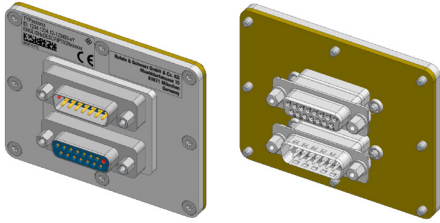
R&S®TS-F2POBB2: feedthrough filter for DC power with 2 × banana plugs (max. 48 V, 5 A)



Product data		
Number of connectors		2
Connector type	outside	banana plug, female
	inside	banana plug, female
Shielding		70 dB (meas.)
Maximum voltage		48 V DC
Maximum current		5 A
Dimensions (L × W × H)	outside	80 mm × 64 mm × 67 mm (3.15 in × 2.52 in × 2.64 in)
	inside	(60 mm × 44 mm) × 2 mm ((2.36 in × 1.73 in) × 0.08 in)
Weight		400 g (0.88 lb)

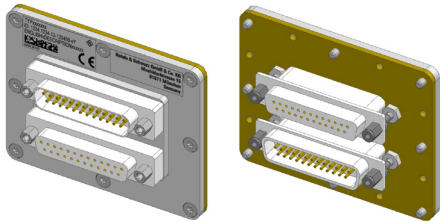
OTHER FEEDTHROUGHS

R&S®TS-F1SD152: feedthrough filter with 2 × 15 pin D-Sub



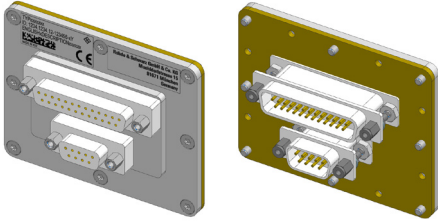
Product data		
Number of connectors		2
Connector type	outside	1 × D-Sub 15, female; 1 × D-Sub 15, male
	inside	1 × D-Sub 15, male; 1 × D-Sub 15, female
Filter type		Pi
Capacitance		1000 pF
Shielding		80 dB (meas.)
Maximum voltage		100 V DC
Maximum current		5 A
Dimensions (L × W × H)	outside	80 mm × 64 mm × 18 mm (3.15 in × 2.52 in × 0.71 in)
	inside	(60 mm × 44 mm) × 21 mm ((2.36 in × 1.73 in) × 0.83 in)
Weight		120 g (0.26 lb)

R&S®TS-F1SD252: feedthrough filter with 2 × 25 pin D-Sub



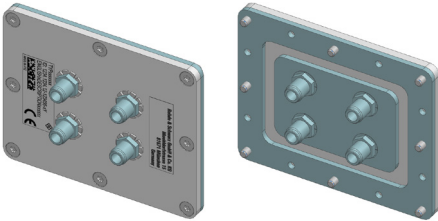
Product data		
Number of connectors		2
Connector type	outside	1 × D-Sub 25, female; 1 × D-Sub 25, male
	inside	1 × D-Sub 25, male; 1 × D-Sub 25, female
Filter type		Pi
Capacitance		1000 pF
Shielding		80 dB (meas.)
Maximum voltage		100 V DC
Maximum current		5 A
Dimensions (L × W × H)	outside	80 mm × 64 mm × 18 mm (3.15 in × 2.52 in × 0.71 in)
	inside	(60 mm × 44 mm) × 21 mm ((2.36 in × 1.73 in) × 0.83 in)
Weight		120 g (0.26 lb)

R&S®TS-F1SD259: feedthrough filter with 1 × 25 pin and 1 × 9 pin D-Sub



Product data		
Number of connectors		2
Connector type	outside	1 × D-Sub 25, female; 1 × D-Sub 9, female
	inside	1 × D-Sub 25, male; 1 × D-Sub 9, male
Filter type		Pi
Capacitance		1000 pF
Shielding		80 dB (meas.)
Maximum voltage		100 V DC
Maximum current		5 A
Dimensions (L × W × H)	outside	80 mm × 64 mm × 18 mm (3.15 in × 2.52 in × 0.71 in)
	inside	(60 mm × 44 mm) × 21 mm ((2.36 in × 1.73 in) × 0.83 in)
Weight		120 g (0.26 lb)

R&S®TS-F1OPFF4: feedthrough fiber-optic with 4 × FSMA



Product data		
Number of connectors		4
Connector type	outside	FSMA, female
	inside	FSMA, female
Shielding		70 dB (meas.)
Dimensions (L × W × H)	outside	80 mm × 64 mm × 13 mm (3.15 in × 2.52 in × 0.51 in)
	inside	(60 mm × 44 mm) × 11 mm ((2.36 in × 1.73 in) × 0.43 in)
Weight		60 g (0.13 lb)



R&S®TS7124



R&S®CMQ500



R&S®ATS800R



R&S®ATS1000

R&S®ATS1800M



R&S®ATS1800C

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