Rosenberger

Adaptors, Microwave Cable Assemblies and Compact Calibration Kits

RPC-2.92 Connector Series
For Frequencies up to 43.5 GHz

SEMICON & TEST

RPC-2.92 Series – up to 43.5 GHz

A lot of countries are allocating their 5G spectrum in the 37 to 43.5 GHz range. For this applications Rosenberger offers now optimized RPC-2.92 connectors, which provide frequencies up to 43.5 GHz. Applications are precise and efficient measurement technology in development, production, and quality assurance departments. Rosenberger understands the challenges and demands of its customers: addressing a wide range of industrial test and measurement applications with high-quality and high-precision products.

Available are in-series and inter-series adaptors, test port adaptors, assemblies with two different types of cables (RTK 125 and RTK 092-70) as well as compact calibration kits for MSOT (4-in-1). These compact calibration kits combine all necessary calibration standards in one unit – small, easy to handle and light weight.

All compact calibration kits come in a hard shell case with general coefficients on a standard definition card.

Different types of adaptors up to 43.5 GHz:

- In-Series Adaptors: RPC-2.92 to RPC-2.92
- Inter-Series Adaptors: RPC-2.92 to RPC-1.85 and RPC-2.92 to RPC-2.40
- Test Port Adaptors: RPC-2.40 to RPC-2.92

Adaptors

In-Series Adaptors

Rosenberger No.	Version	Type	Return Loss
02K121-K0BS3	Straight	RPC-2.92 female – female	≥ 19 dB, DC to 43.5 GHz
02S121-S0BS3	Straight	RPC-2.92 male – male	
02S121-K0BS3	Straight	RPC-2.92 male – female	

Inter-Series Adaptors – RPC-1.85

Rosenberger No.	Version	Type*	Return Loss
02K108-K0BS3	Straight	RPC-2.92 female – RPC-1.85 female	≥ 17 dB, DC to 43.5 GHz
02K108-S0BS3	Straight	RPC-2.92 female – RPC-1.85 male	
02S108-S0BS3	Straight	RPC-2.92 male – RPC-1.85 male	
02S108-K0BS3	Straight	RPC-2.92 male – RPC-1.85 female	

* RPC-1.85 Interface intermateable with RPC-2.40 and V connectors according to IEC 60169-32

Inter-Series Adaptors – RPC-2.40

Rosenberger No.	Version	Type*	Return Loss
02K109-K0BS3	Straight	RPC-2.92 female – RPC-2.40 female	≥ 18 dB, DC to 43.5 GHz
02K109-S0BS3	Straight	RPC-2.92 female – RPC-2.40 male	
02S109-S0BS3	Straight	RPC-2.92 male – RPC-2.40 male	
02S109-K0BS3	Straight	RPC-2.92 male – RPC-2.40 female	

* RPC-2.40 Interface intermateable with RPC-1.85 and V connectors according to IEC 60169-32

Test Port Adaptors

Rosenberger No.	Version	Type*	Return Loss
09KR102-K0B	Straight	RPC-2.40 female, ruggedized – RPC-2.92 female	≥ 26 dB, DC to 43.5 GHz ≥ 23 dB, 26.5 GHz to 43.5 GHz
09KR102-S0B	Straight	RPC-2.40 female, ruggedized – RPC-2.92 male	

*RPC-2.40 Interface intermateable with RPC-1.85 and V connectors according to IEC 60169-32

Microwave Cable Assemblies

Standard microwave cable assemblies from Rosenberger are characterized by excellent electrical and mechanical performances – for frequencies up to 70 GHz. This range of cables includes ultra low-loss cables for antennas or applications with high-power requirement, miniature cables for test systems or applications with high flexibility, indoor and outdoor cables, special shielded cables and extremely phase-stable cables for test & measurement applications. Years of experience and longterm expertise in manufacturing of cable assemblies result in high-quality products made by Rosenberger.

Cable Specification

Cable Name	**RTK 092-70**	**RTK 125**
Impedance	50 Ω	
Max. frequency	70 GHz	50 GHz
Max. power handling (CW) @ 10 GHz	59 W	105 W
Phase stability @ max. frequency	7°	7°
Insertion loss @ max. frequency	6.39 dB/m	3.97 dB/m
Outer dimension	2.33 mm	3.18 mm
Bending radius minimum	12 mm	16 mm
Bending radius multiple	32	32

Product Features

- High phase stability
- Crush resistance (up to 1000 N) with armour
- High flex life
- Standard lengths: short delivery times

Rosenberger also offers a wide range of test port cables and sets for VNA test applications.

Cable Assemblies with RTK 092-70

Rosenberger No.*	Connector 1	Connector 2	Return Loss	Armouring**
LU5-504-xxx	RPC-2.92 male	RPC-2.92 female	≥ 17 dB, DC to 43.5 GHz	No
LU5-506-xxx	RPC-2.92 male	RPC-2.92 male		No
LU5-508-xxx	RPC-2.92 female	RPC-2.92 female		No
LU5-505-xxx	RPC-2.92 male	RPC-2.92 female		Yes
LU5-507-xxx	RPC-2.92 male	RPC-2.92 male		Yes
LU5-509-xxx	RPC-2.92 female	RPC-2.92 female		Yes

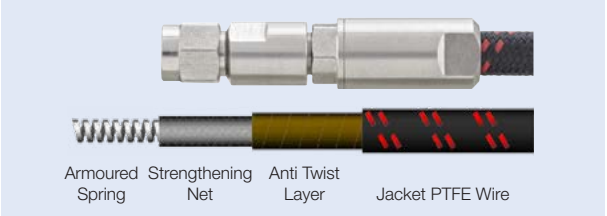
* xxx: Please fill in requested length. Standard = 600 mm
** Armouring: T3 Armour (armoured spring with strengthening net, anti-twist layer and PTFE wire jacket over the raw cable)

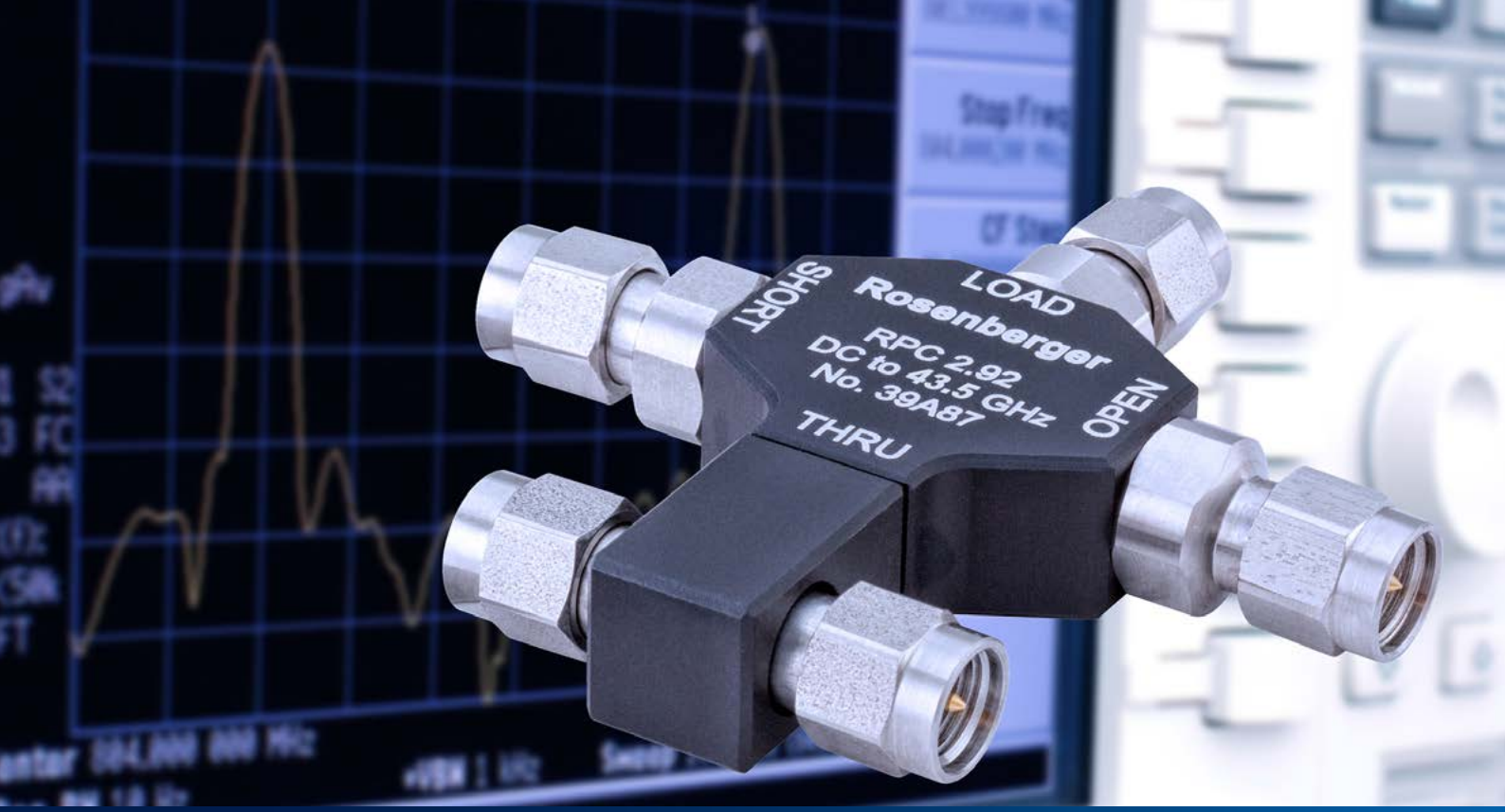
Cable Assemblies with RTK 125

Rosenberger No.*	Connector 1	Connector 2	Return Loss	Armouring**
LU8-504-xxx	RPC-2.92 male	RPC-2.92 female	≥ 17 dB, DC to 43.5 GHz	No
LU8-506-xxx	RPC-2.92 male	RPC-2.92 male		No
LU8-508-xxx	RPC-2.92 female	RPC-2.92 female		No
LU8-505-xxx	RPC-2.92 male	RPC-2.92 female		Yes
LU8-507-xxx	RPC-2.92 male	RPC-2.92 male		Yes
LU8-509-xxx	RPC-2.92 female	RPC-2.92 female		Yes

* xxx: Please fill in requested length. Standard = 600 mm
** Armouring: T3 Armour (armoured spring with strengthening net, anti-twist layer and PTFE wire jacket over the raw cable)

Available on Request:
Cable assemblies with connectors from RPC-2.92 to RPC-2.40
Cable assemblies with connectors from RPC-2.92 to RPC-1.85
Customer-specific cable assembly solutions





Compact Calibration Kits

Rosenberger provides a wide range of compact calibration kits for MSOT (4-in-1) and MSO (3-in-1) calibrations. These compact calibration kits combine all necessary calibration standards in one unit – small, easy to handle and light weight.

All compact calibration kits come in a hard shell case with general coefficients on a standard definition card.

MSOT

The 4-in-1 mechanical calibration kits combine an open, short, load and thru element in a compact unit for a complete MSOT calibration of two or more port vector network analyzers.

MSO

The 3-in-1 mechanical calibration kits combine an open, short and load in a compact unit for a complete MSO calibration of single port vector network analyzers.

The following tables show the complete range of Rosenberger compact calibration kits.
For specific details refer to the technical datasheets in our online catalog:

MSOT (4-in-1) Compact Calibration Kits

50 Ω Impedance

Rosenberger No.	Gender	Interface	Frequency Range	Open Deviation from nominal phase	Short Deviation from nominal phase	Load Return Loss	Thru Return Loss
02K34R-MSOTS3	Female	RPC-2.92	DC to 4 GHz 4 GHz to 26.5 GHz 26.5 GHz to 43.5 GHz	≤ 1.5° ≤ 4.0° ≤ 5.0°	≤ 1.5° ≤ 4.0° ≤ 5.0°	≥ 40 dB ≥ 28 dB ≥ 25 dB	≥ 32 dB ≥ 30 dB ≥ 28 dB
02S34R-MSOTS3	Male						

MSO (3-in-1) Compact Calibration Kits

50 Ω Impedance

Rosenberger No.	Gender	Interface	Frequency Range	Open Deviation from nominal phase	Short Deviation from nominal phase	Load Return Loss
02K34R-MSOS3	Female	RPC-2.92	DC to 4 GHz 4 GHz to 26.5 GHz 26.5 GHz to 43.5 GHz	≤ 1.5° ≤ 4.0° ≤ 5.0°	≤ 1.5° ≤ 4.0° ≤ 5.0°	≥ 40 dB ≥ 28 dB ≥ 25 dB
02S34R-MSOS3	Male					

Website

For more information refer to our website:
www.rosenberger.com/rpc-292

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