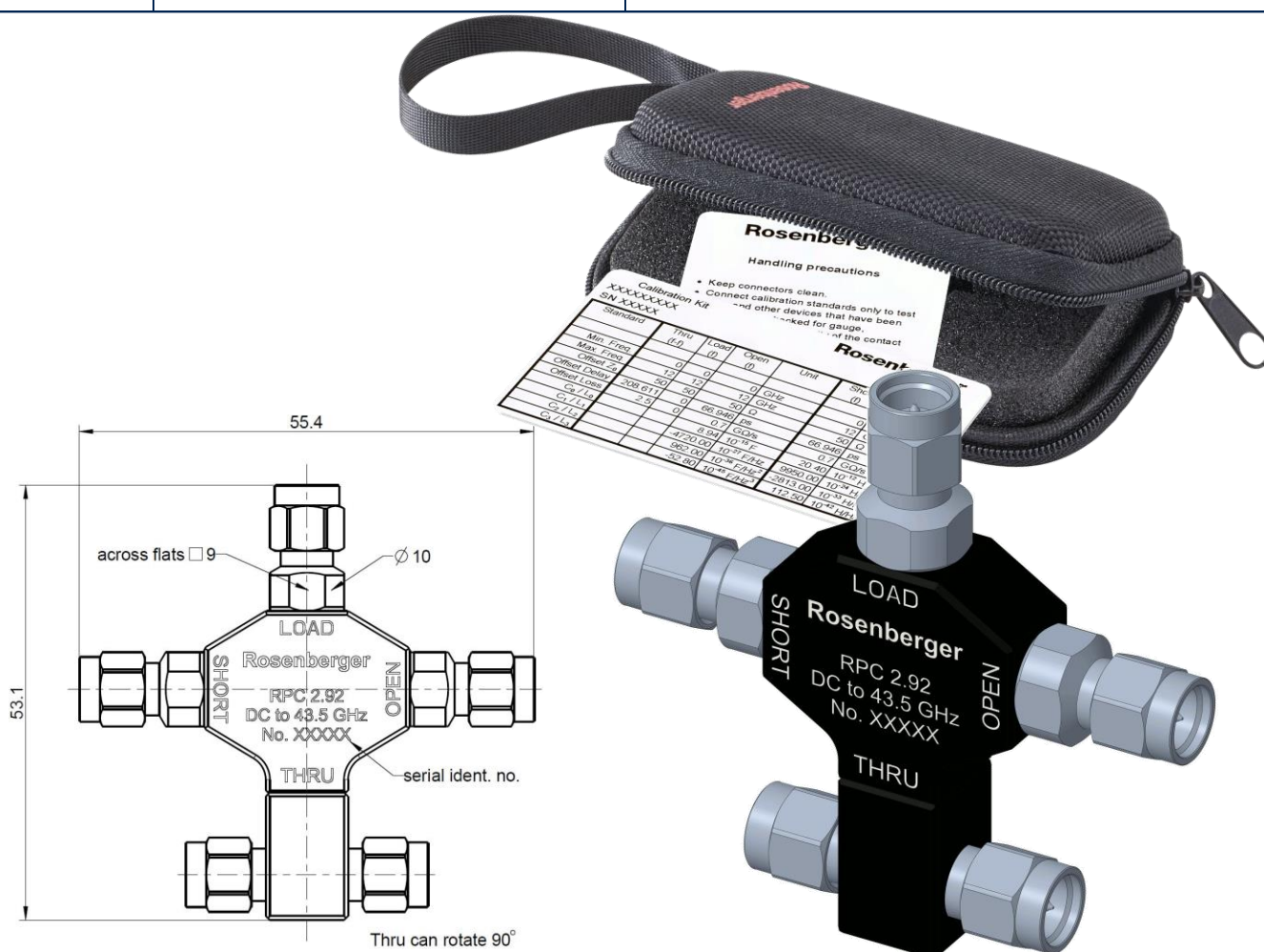




All dimensions are in mm; tolerances according to ISO 2768 m-H

Interface

According to
Mechanically compatible with

IEC 61169-35
RPC-3.50 and SMA

Documents

This kit is delivered with

- **Standard Definitions Card**
Printed Standard Definitions that can be used on nearly all Vector Network Analyzers
- **Certificate of Testing**
- **Hard Shell Case**
- **Protection Caps**
- **User Manual**

Material and plating

Connector parts

Center conductor
Outer conductor
Coupling nut
Body
Dielectric
Substrate

Material

CuBe
Stainless steel
Stainless steel
Aluminum
PS
Al₂O₃

Plating

Gold, min. 1.27 μm , over nickel
Passivated
Passivated
black anodized

Electrical data

Frequency range

DC to 43.5 GHz

Thru

Return loss

≥ 32 dB, DC to 4 GHz
≥ 30 dB, 4 GHz to 26.5 GHz
≥ 28 dB, 26.5 GHz to 43.5 GHz

Open

Error from nominal phase¹

≤ 1.5°, DC to 4 GHz
≤ 4.0°, 4 GHz to 26.5 GHz
≤ 5.0°, 26.5 GHz to 43.5 GHz

Short

Error from nominal phase²

≤ 1.5°, DC to 4 GHz
≤ 4.0°, 4 GHz to 26.5 GHz
≤ 5.0°, 26.5 GHz to 43.5 GHz

Load

Return loss

≥ 40.0 dB, DC to 4 GHz
≥ 28.0 dB, 4 GHz to 26.5 GHz
≥ 25.0 dB, 26.5 GHz to 43.5 GHz

DC Resistance

50 Ω ± 0.5 Ω

Power handling (at 25 °C, sea level)

≤ 0.5 W, derate by 0.005 W/K

¹ The nominal phase is defined by the Offset Delay, the Offset Loss and the Fringing Capacitances

² The nominal phase is defined by the Offset Delay, the Offset Loss and the Short Inductance

Mechanical data

Mating cycles

≥ 500

Maximum torque

1.70 Nm

Recommended torque

0.90 Nm

Gauge

0.00 mm to 0.08 mm

General standard definitions

For proper operation the vector network analyzer (VNA) needs a model describing the electrical behaviour of this calibration standard. The different models, units, and terms used will depend on the VNA type and they will have to be entered into the VNA. All values are based on typical geometry and plating.

Thru

Offset Z₀ / Impedance / Z₀

50 Ω

Offset Delay

82.157 ps

Length (electrical) / Offset Length

24.63 mm

Offset Loss

2.70 GΩ/s

Loss

0.0193 dB/√GHz

Line Loss @ 1GHz

0.0008 dB/mm

Open

Offset Z₀ / Impedance / Z₀

50 Ω

Offset Delay

28.353 ps

Length (electrical) / Offset Length

8.50 mm

Offset Loss

2.40 GΩ/s

Loss

0.0118 dB/√GHz

Fringing Capacitances

C₀ = -10.6000 x 10⁻¹⁵ F / -10.6000 fF

C₁ = -1130.00 x 10⁻²⁷ F/Hz / -1.13000 fF /GHz

C₂ = 52.0000 x 10⁻³⁶ F/Hz² / 0.05200 fF /GHz²

C₃ = -0.60000 x 10⁻⁴⁵ F/Hz³ / -0.00060 fF /GHz³

Technical Data Sheet				Rosenberger			
RPC-2.92		Calibration Kit Plug		02S34R-MSOTS3			
Short Offset Z_0 / Impedance / Z_0 Offset Delay Length (electrical) / Offset Length Offset Loss Loss Short Inductance 50 Ω 28.353 ps 8.50 mm 2.40 GΩ/s 0.0118 dB/ $\sqrt{\text{GHz}}$ $L_0 = 0.0000 \times 10^{-12} \text{ H}$ / 0.0000 pH $L_1 = 0.0000 \times 10^{-24} \text{ H/Hz}$ / 0.0000 pH/GHz $L_2 = 0.0000 \times 10^{-33} \text{ H/Hz}^2$ / 0.0000 pH/GHz² $L_3 = 0.0000 \times 10^{-42} \text{ H/Hz}^3$ / 0.0000 pH/GHz³							
Load Offset Z_0 / Impedance / Z_0 Offset Delay Length (electrical) / Offset Length Offset Loss Loss 50 Ω 0.0000 ps 0.000 mm 0.00 GΩ/s 0.0000 dB/ $\sqrt{\text{GHz}}$							
Environmental data Operating temperature range³ Rated temperature range of use⁴ Storage temperature range RoHS +20 °C to +26 °C 0 °C to +50 °C - 40 °C to +85 °C compliant							
³ Temperature range over which these specifications are valid. ⁴ This range is underneath and above the operating temperature range, within the calibration kit is fully functional and could be used without damage							
Declaration of documentation Standard delivery for this kit includes Test Results. The documentation issued reports which quantities were tested individually, traceable to national / international standards. Model based standard definitions of the calibration standards are reported in Agilent / Keysight, Rohde & Schwarz and Anritsu compatible VNA format.							
Inspection interval Recommendation 12 months							
Packing Weight 42 g/pce							
While the information has been carefully compiled to the best of our knowledge, nothing is intended as representation or warranty on our part and no statement herein shall be construed as recommendation to infringe existing patents. In the effort to improve our products, we reserve the right to make changes judged to be necessary. For the installation of the electrotechnical equipment, particular electrotechnical expertise is required. 							
Draft		Date		Rev.		Engineering change number	
M. Hantschel		07.01.22		b00		23-0004	
Approved		Date		Name		Date	
Lars Ramtke		30.05.23		Marion Striegler		22.05.23	
Rosenberger Hochfrequenztechnik GmbH & Co. KG P.O.Box 1260 D-84526 Tittmoning Germany www.rosenberger.com				Tel. : +49 8684 18-0 Email : info@rosenberger.com		Page 3 / 3	