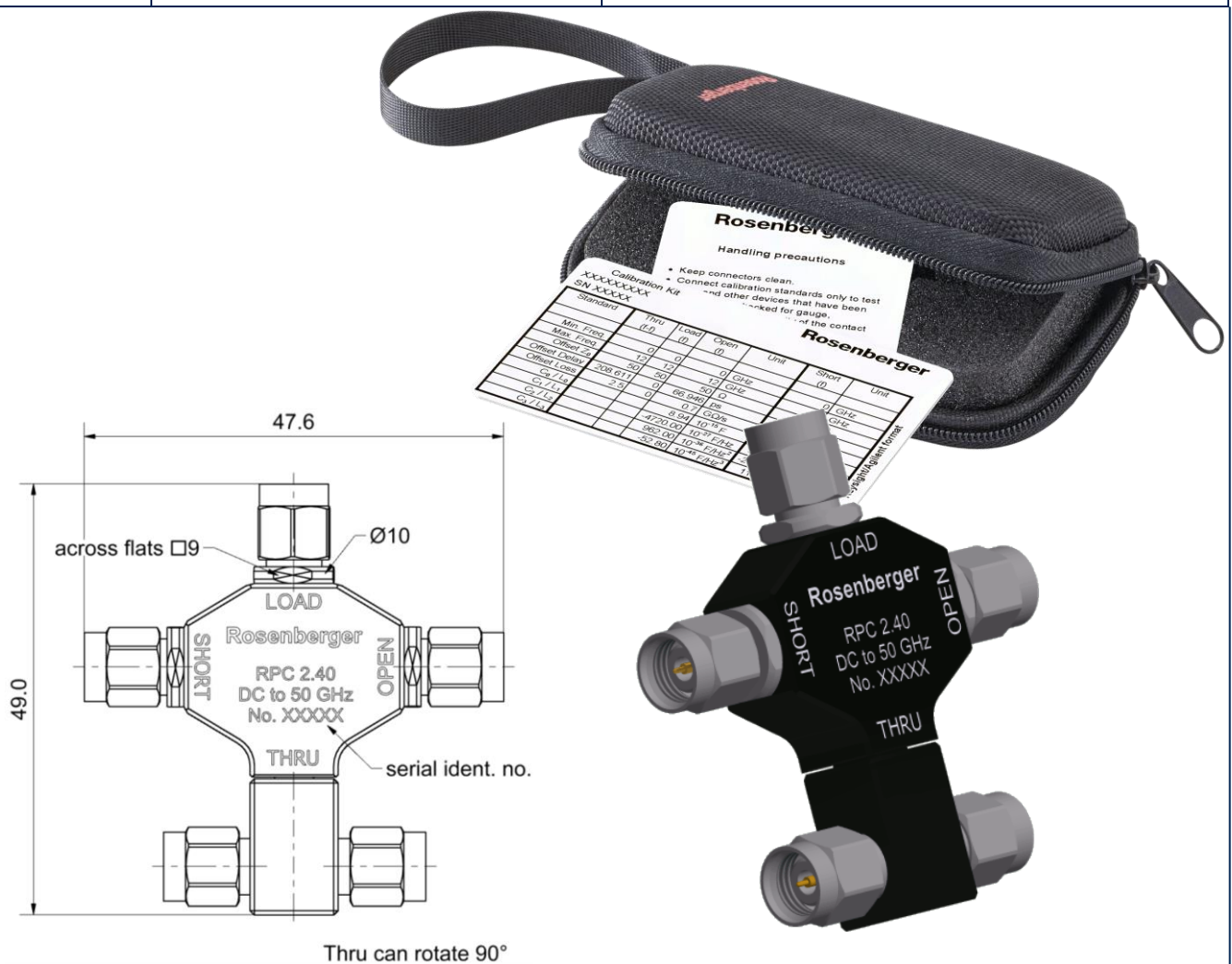




All dimensions are in mm; tolerances according to ISO 2768 m-H

Interface

According to
Mechanically compatible with

IEC 61169-40
RPC-1.85

Contents and Documentation

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 50.0 GHz

Thru

Return loss

≥ 30 dB, DC to 4 GHz

≥ 24 dB, 4 GHz to 26.5 GHz

≥ 17 dB, 26.5 GHz to 50 GHz

Open

Error from nominal phase¹

≤ 2.0°, DC to 4 GHz

≤ 4.0°, 4 GHz to 26.5 GHz

≤ 6.0°, 26.5 GHz to 50.0 GHz

Short

Error from nominal phase²

≤ 1.5°, DC to 4 GHz

≤ 3.0°, 4 GHz to 26.5 GHz

≤ 4.5°, 26.5 GHz to 50.0 GHz

Load

Return loss

≥ 36.0 dB, DC to 4 GHz

≥ 30.0 dB, 4 GHz to 26.5 GHz

≥ 22.0 dB, 26.5 GHz to 50.0 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

1.65 Nm

Recommended torque

0.90 Nm

Gauge

0.00 mm to 0.05 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

87.394 ps

Length (electrical) / Offset Length

26.20 mm

Offset Loss

4.00 GΩ/s

Loss

0.0304 dB/√GHz

Line Loss @ 1GHz

0.0012 dB/mm

Open

Offset Z₀ / Impedance / Z₀

50 Ω

Offset Delay

23.350 ps

Length (electrical) / Offset Length

7.00 mm

Offset Loss

3.20 GΩ/s

Loss

0.0130 dB/√GHz

Fringing Capacitances

C₀ = 2.30000 x 10⁻¹⁵ F / 2.30000 fF

C₁ = -810.000 x 10⁻²⁷ F/Hz / -0.81000 fF /GHz

C₂ = 35.0000 x 10⁻³⁶ F/Hz² / 0.03500 fF /GHz²

C₃ = -0.40000 x 10⁻⁴⁵ F/Hz³ / -0.00040 fF /GHz³

Technical Data Sheet				Rosenberger			
RPC-2.40		Calibration Kit Plug		09S30R-MSOTS3			
Short Offset Z₀ / Impedance / Z₀50 Ω Offset Delay23.350 ps Length (electrical) / Offset Length7.00 mm Offset Loss3.50 GΩ/s Loss0.0142 dB/ √GHz Short Inductance L₀ = 6.00000 x 10⁻¹² H / 6.00000 pH L₁ = 0.00000 x 10⁻²⁴ H/Hz / 0.00000 pH/GHz L₂ = 0.00000 x 10⁻³³ H/Hz² / 0.00000 pH/GHz² L₃ = 0.00000 x 10⁻⁴² H/Hz³ / 0.00000 pH/GHz³ Load Offset Z₀ / Impedance / Z₀50 Ω Offset Delay0.0000 ps Length (electrical) / Offset Length0.000 mm Offset Loss0.00 GΩ/s Loss0.0000 dB/ √GHz Environmental data Operating temperature range³+20 °C to +26 °C Rated temperature range of use⁴0 °C to +50 °C Storage temperature range-40 °C to +85 °C RoHScompliant 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 Recommendation12 months Packing Weight33 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	Approved	Date	Rev.	Engineering change number	Name	Date
Marcel Panicke	09.08.18	Lars Ramtke	13.06.23	d00	23-0004	Marion Striegler	24.05.23
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