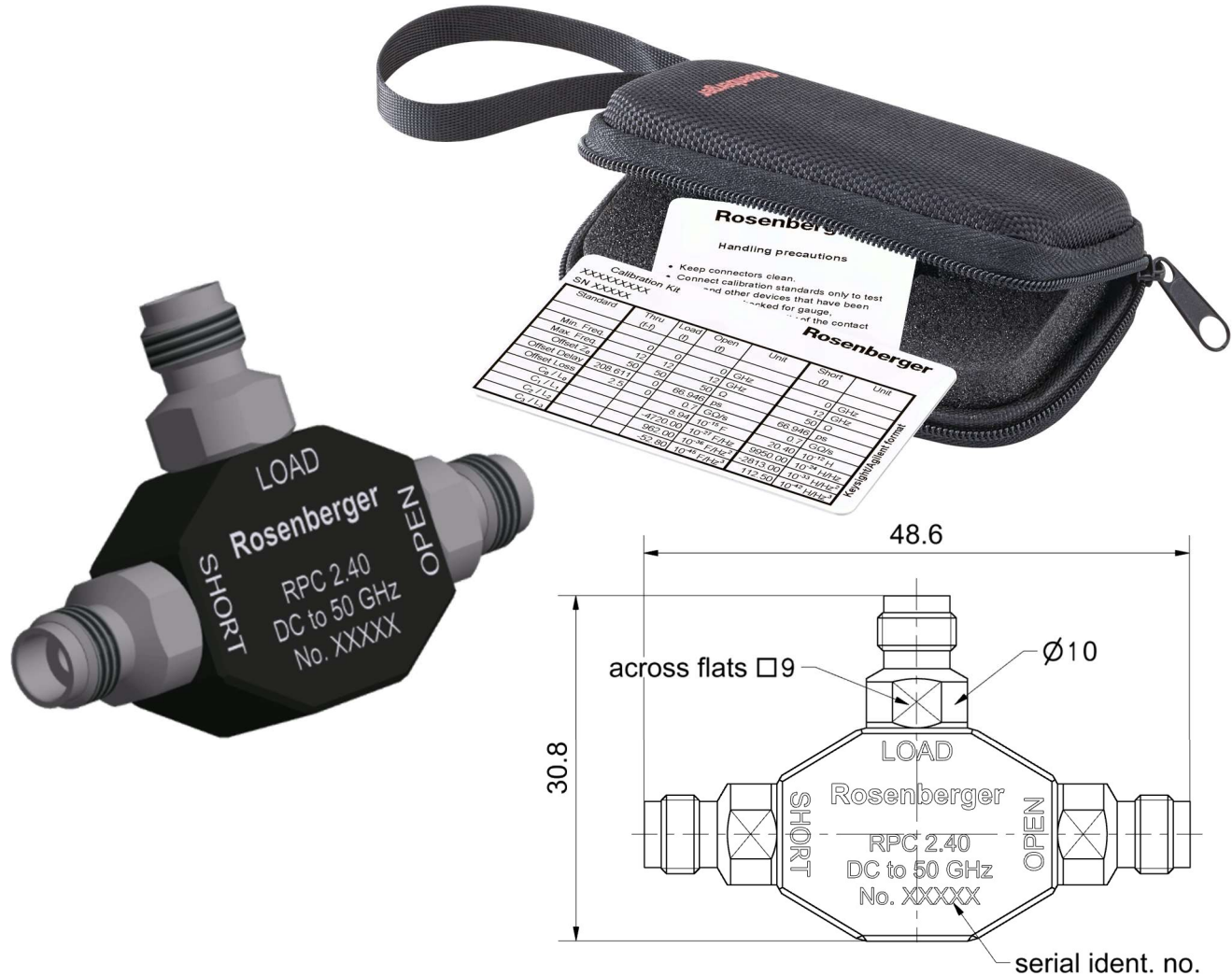


Technical Data Sheet		Rosenberger
RPC-2.40	Calibration Kit Jack	09K30R-MSOS3



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

Interface

According to IEC 61169-40
Mechanically compatible with 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
 - **Test Results Documentation**
 - **Hard Shell Case**
 - **Protection Caps**

Material and plating

Connector parts	Material	Plating
Center conductor	CuBe	Gold, min. 1.27 µm, over nickel
Outer conductor	Stainless steel	Passivated
Body	Aluminum	black anodized
Dielectric	PS	
Substrate	Al ₂ O ₃	

Electrical data

Frequency range DC to 50.0 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 0.03 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.

Open

Offset Z ₀ / Impedance / Z ₀	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	C ₀ = 4.30000 x 10 ⁻¹⁵ F / 4.30000 fF C ₁ = -718.000 x 10 ⁻²⁷ F/Hz / -0.71800 fF /GHz C ₂ = 28.7000 x 10 ⁻³⁶ F/Hz ² / 0.02870 fF /GHz ² C ₃ = -0.30000 x 10 ⁻⁴⁵ F/Hz ³ / -0.00030 fF /GHz ³

Technical Data Sheet				Rosenberger			
RPC-2.40		Calibration Kit Jack		09K30R-MSOS3			
Short							
Offset Z _o / Impedance / Z _o		50 Ω					
Offset Delay		23.350 ps					
Length (electrical) / Offset Length		7.00 mm					
Offset Loss		3.50 GΩ/s					
Loss		0.0142 dB/√GHz					
Short Inductance		L ₀ = 4.00000 x 10 ⁻¹² H / 4.00000 pH					
		L ₁ = 0.00000 x 10 ⁻²⁴ H/Hz / 0.00000 pH/GHz					
		L ₂ = 0.00000 x 10 ⁻³³ H/Hz ² / 0.00000 pH/GHz ²					
		L ₃ = 0.00000 x 10 ⁻⁴² H/Hz ³ / 0.00000 pH/GHz ³					
Load							
Offset Z _o / Impedance / Z _o		50 Ω					
Offset Delay		0.0000 ps					
Length (electrical) / Offset Length		0.000 mm					
Offset Loss		0.00 GΩ/s					
Loss		0.0000 dB/√GHz					
Environmental data							
Operating temperature range ³		+ 20 °C to +26 °C					
Rated temperature range of use ⁴		0 °C to +50 °C					
Storage temperature range		- 40 °C to +85 °C					
RoHS		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							
Standard		1 pce in bag					
Weight		28 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.							
Draft	Date	Approved	Date	Rev.	Engineering change number	Name	Date
Marcel Panicke	11.01.19	Markus Müller	29.04.20	b00	19-2083	Marion Striegler	29.04.20
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