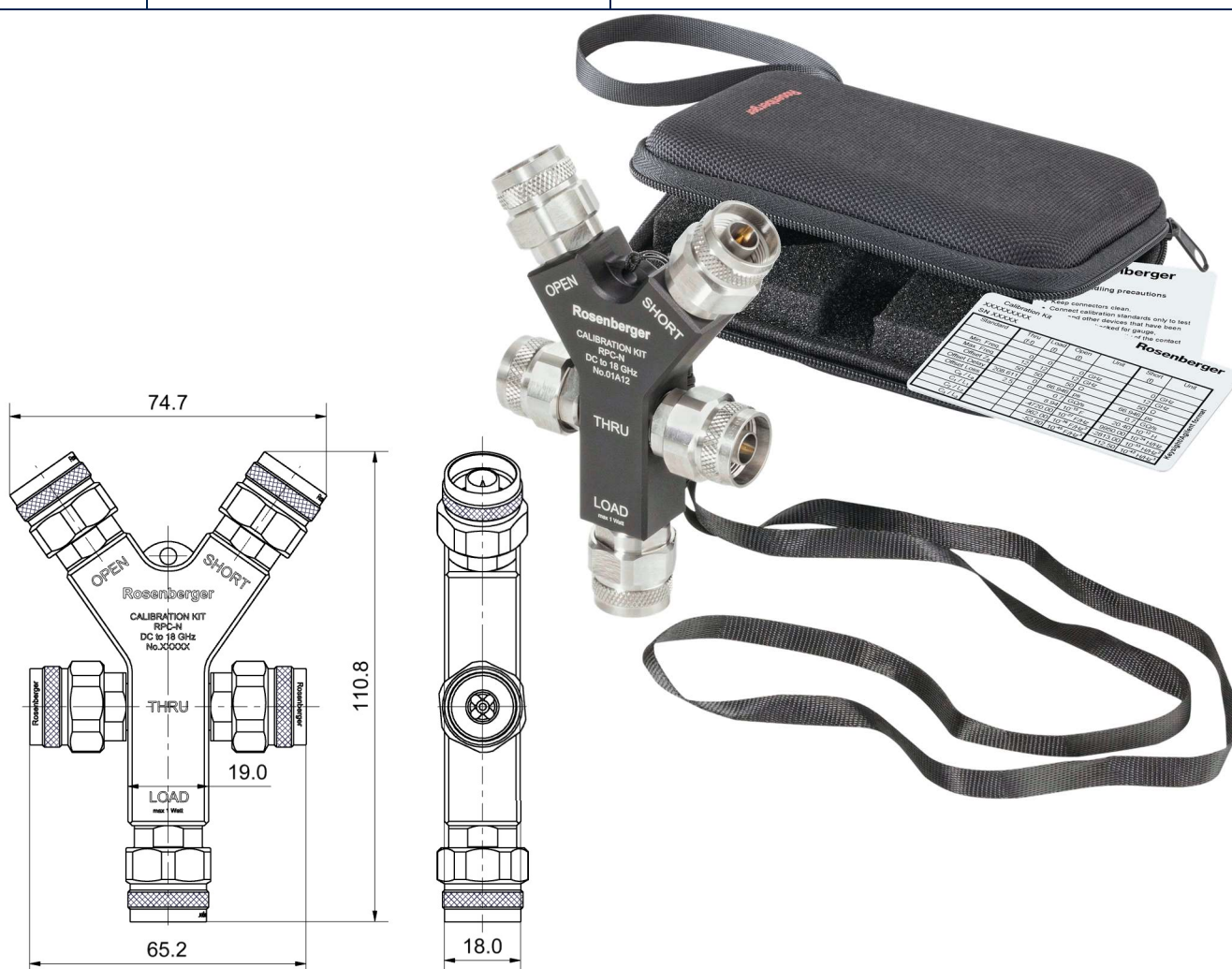




All dimensions are in mm; tolerances according to ISO 2768 m-H

Interface

According to

IEC 61169-16

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**
- **Lanyard**
- **Hard Shell Case**
- **Protection Caps**

Material and plating

Connector parts

Center conductor
Outer conductor
Coupling nut
Body
Dielectric
Substrate

Material

CuBe
Stainless steel
Stainless steel
Aluminum
PPE
 Al_2O_3

Plating

Gold, min. 1.27 μ m, over nickel
Passivated
Passivated
black anodized

Electrical data

Frequency range DC to 18 GHz

Thru

Return loss
 ≥ 40 dB, DC to 6 GHz
 ≥ 36 dB, 6 GHz to 9 GHz
 ≥ 32 dB, 9 GHz to 18 GHz

Open

Error from nominal phase¹
 $\leq 2.0^\circ$, DC to 6 GHz
 $\leq 3.0^\circ$, 6 GHz to 9 GHz
 $\leq 4.0^\circ$, 9 GHz to 18 GHz

Short

Error from nominal phase²
 $\leq 1.5^\circ$, DC to 6 GHz
 $\leq 2.0^\circ$, 6 GHz to 9 GHz
 $\leq 2.5^\circ$, 9 GHz to 18 GHz

Load

Return loss
 ≥ 42 dB, DC to 6 GHz
 ≥ 36 dB, 6 GHz to 9 GHz
 ≥ 30 dB, 9 GHz to 18 GHz

DC-Resistance 50 Ω ± 0.5 Ω

Power handling (at 25 °C, sea level) ≤ 1.0 W, derate by 0.01 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 1.10 Nm
 Gauge 5.28 mm to 5.32 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 212.814 ps
 Length (electrical) / Offset Length 63.80 mm
 Offset Loss 2.20 GΩ/s
 Loss 0.0407 dB/√GHz
 Line Loss @ 1GHz 0.0006 dB/mm

Open

Offset Z₀ / Impedance / Z₀ 50 Ω
 Offset Delay 73.384 ps
 Length (electrical) / Offset Length 22.00 mm
 Offset Loss 0.80 GΩ/s
 Loss 0.0102 dB/√GHz
 Fringing Capacitances
 $C_0 = -14.2000 \times 10^{-15} \text{ F} \quad / \quad -14.2000 \text{ fF}$
 $C_1 = 400.000 \times 10^{-27} \text{ F/Hz} \quad / \quad 0.40000 \text{ fF /GHz}$
 $C_2 = -16.0000 \times 10^{-36} \text{ F/Hz}^2 \quad / \quad -0.01600 \text{ fF /GHz}^2$
 $C_3 = 1.00000 \times 10^{-45} \text{ F/Hz}^3 \quad / \quad 0.00100 \text{ fF /GHz}^3$

Technical Data Sheet				Rosenberger																											
RPC-N 50 Ω		Calibration Kit Jack		05S30R-MSOTS3																											
Short Offset Z₀ / Impedance / Z₀ Offset Delay Length (electrical) / Offset Length Offset Loss Loss Short Inductance 50 Ω 73.384 ps 22.00 mm 0.80 GΩ/s 0.0102 dB/√GHz L₀ = -27.0000 x 10⁻¹² H / -27.0000 pH L₁ = 7200.00 x 10⁻²⁴ H/Hz / 7.20000 pH/GHz L₂ = -800.000 x 10⁻³³ H/Hz² / -0.80000 pH/GHz² L₃ = 26.0000 x 10⁻⁴² H/Hz³ / 0.02600 pH/GHz³ Load Offset Z₀ / Impedance / Z₀ Offset Delay Length (electrical) / Offset Length Offset Loss Loss 50 Ω 0.0000 ps 0.000 mm 0.00 GΩ/s 0.0000 dB/√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 Standard Weight 1 pce in bag 263 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. <tr><td>Draft</td><td>Date</td><td>Approved</td><td>Date</td><td>Rev.</td><td>Engineering change number</td><td>Name</td><td>Date</td></tr> <tr><td>Marcel Panicke</td><td>26.11.14</td><td>Markus Müller</td><td>29.04.20</td><td>f00</td><td>19-2083</td><td>Marion Striegler</td><td>29.04.20</td></tr> <tr><td colspan="4">Rosenberger Hochfrequenztechnik GmbH & Co. KG P.O.Box 1260 D-84526 Tittmoning Germany www.rosenberger.de</td><td colspan="3">Tel. : +49 8684 18-0 Email : info@rosenberger.de</td><td>Page 3 / 3</td></tr>								Draft	Date	Approved	Date	Rev.	Engineering change number	Name	Date	Marcel Panicke	26.11.14	Markus Müller	29.04.20	f00	19-2083	Marion Striegler	29.04.20	Rosenberger Hochfrequenztechnik GmbH & Co. KG P.O.Box 1260 D-84526 Tittmoning Germany www.rosenberger.de				Tel. : +49 8684 18-0 Email : info@rosenberger.de			Page 3 / 3
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