

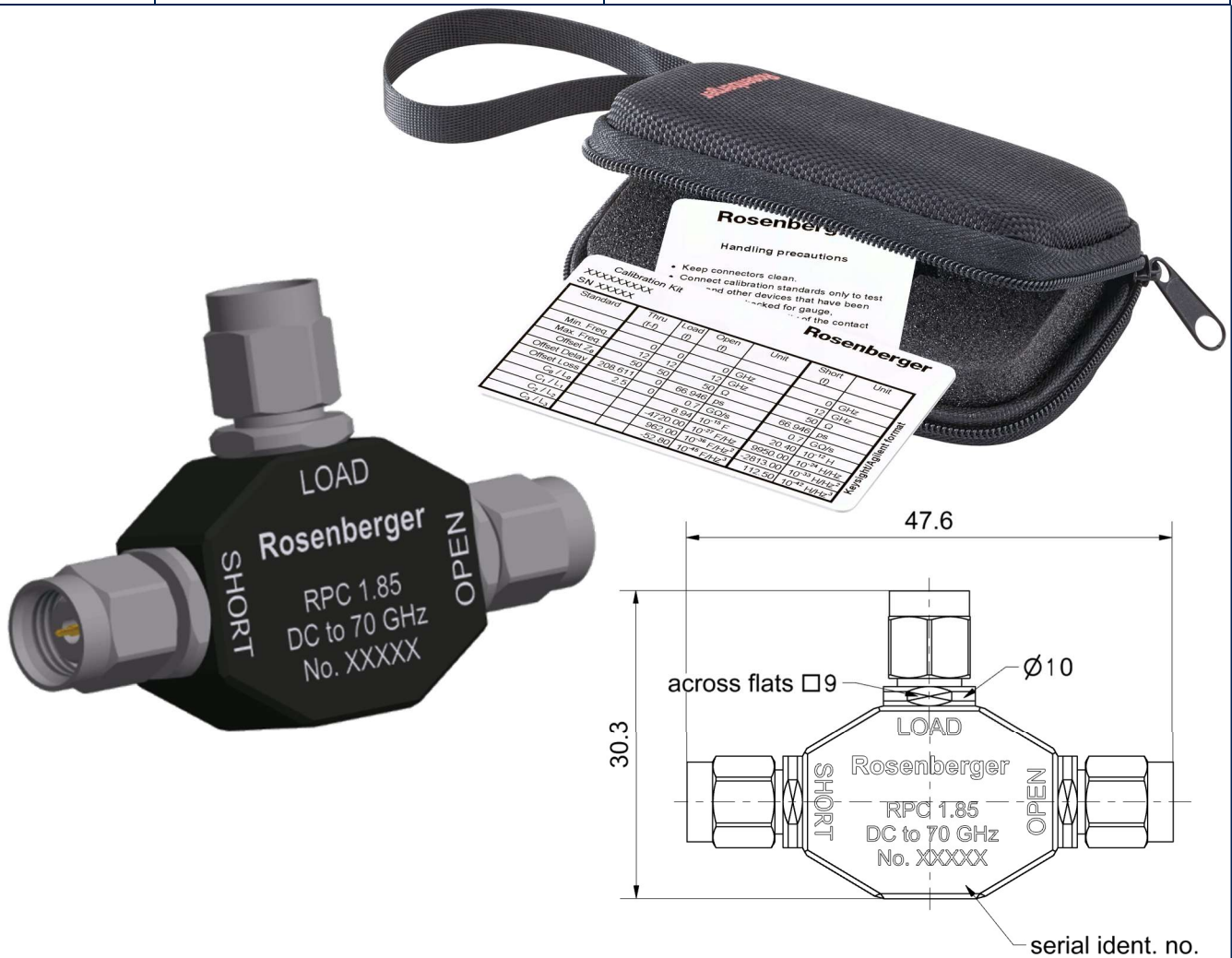
Technical Data Sheet

Rosenberger

RPC-1.85

Calibration Kit
Plug

08S30R-MSOS3



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

Interface

According to IEC 61169-32
Mechanically compatible with RPC-2.40

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
Coupling nut	Stainless steel	Passivated
Body	Aluminum	black anodized
Dielectric	PS	
Substrate	Al ₂ O ₃	

Electrical data

Frequency range DC to 70.0 GHz

Open

Error from nominal phase¹

- ≤ 2.0°, DC to 4 GHz
- ≤ 5.0°, 4 GHz to 26.5 GHz
- ≤ 7.0°, 26.5 GHz to 50 GHz
- ≤ 10.0°, 50 GHz to 70 GHz

Short

Error from nominal phase²

- ≤ 2.0°, DC to 4 GHz
- ≤ 5.0°, 4 GHz to 26.5 GHz
- ≤ 7.0°, 26.5 GHz to 50 GHz
- ≤ 10.0°, 50 GHz to 70 GHz

Load

Return loss

- ≥ 35.0 dB, DC to 4 GHz
- ≥ 25.0 dB, 4 GHz to 26.5 GHz
- ≥ 22.0 dB, 26.5 GHz to 50 GHz
- ≥ 20.0 dB, 50 GHz to 70 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_o / Impedance / Z_o 50 Ω
 Offset Delay 16.678 ps
 Length (electrical) / Offset Length 5.00 mm
 Offset Loss 3.75 GΩ/s
 Loss 0.0109 dB/√GHz
 Fringing Capacitances

- C₀ = 10.0000 x 10⁻¹⁵ F / 10.0000 fF
- C₁ = -500.000 x 10⁻²⁷ F/Hz / -0.50000 fF /GHz
- C₂ = 11.5000 x 10⁻³⁶ F/Hz² / 0.01150 fF /GHz²
- C₃ = -0.10000 x 10⁻⁴⁵ F/Hz³ / -0.00010 fF /GHz³