

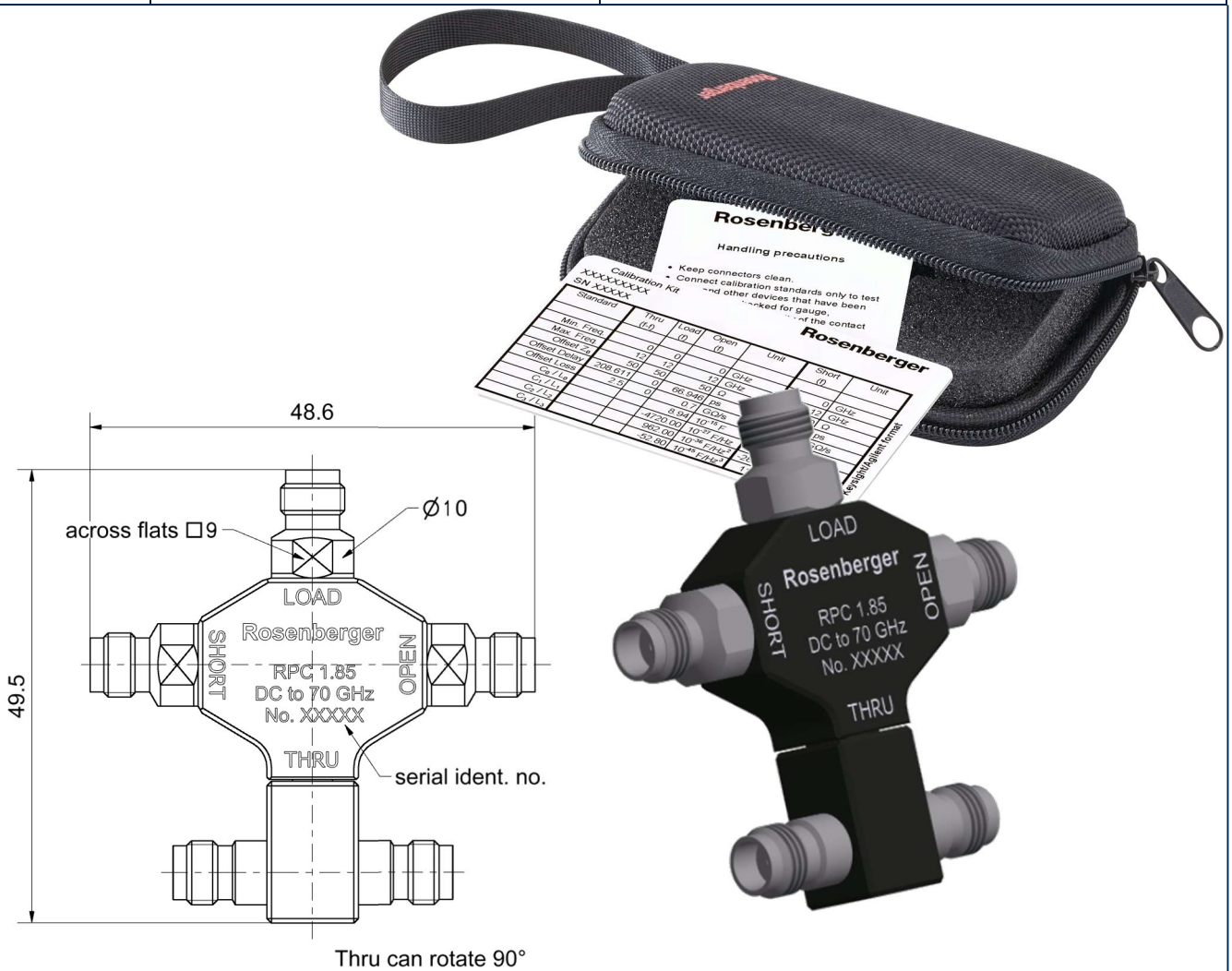
# Technical Data Sheet

# Rosenberger

RPC-1.85

Calibration Kit  
Jack

08K30R-MSOTS3



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
Body	Aluminum	black anodized
Dielectric	PS	
Substrate	Al <sub>2</sub> O <sub>3</sub>	

**Electrical data**

Frequency range DC to 70.0 GHz

**Thru**

Return loss  $\geq 28$  dB, DC to 4 GHz  
 $\geq 21$  dB, 4 GHz to 26.5 GHz  
 $\geq 20$  dB, 26.5 GHz to 50 GHz  
 $\geq 17$  dB, 50 GHz to 70 GHz

**Open**

Error from nominal phase<sup>1</sup>  $\leq 2.0^\circ$ , DC to 4 GHz  
 $\leq 5.0^\circ$ , 4 GHz to 26.5 GHz  
 $\leq 7.0^\circ$ , 26.5 GHz to 50 GHz  
 $\leq 10.0^\circ$ , 50 GHz to 70 GHz

**Short**

Error from nominal phase<sup>2</sup>  $\leq 2.0^\circ$ , DC to 4 GHz  
 $\leq 5.0^\circ$ , 4 GHz to 26.5 GHz  
 $\leq 7.0^\circ$ , 26.5 GHz to 50 GHz  
 $\leq 10.0^\circ$ , 50 GHz to 70 GHz

**Load**

Return loss  $\geq 35.0$  dB, DC to 4 GHz  
 $\geq 25.0$  dB, 4 GHz to 26.5 GHz  
 $\geq 22.0$  dB, 26.5 GHz to 50 GHz  
 $\geq 20.0$  dB, 50 GHz to 70 GHz

DC Resistance  $50 \Omega \pm 0.5 \Omega$

Power handling (at 25 °C, sea level)  $\leq 0.5$  W, derate by 0.005 W/K

<sup>1</sup> The nominal phase is defined by the Offset Delay, the Offset Loss and the Fringing Capacitances

<sup>2</sup> The nominal phase is defined by the Offset Delay, the Offset Loss and the Short Inductance

**Mechanical data**

Mating cycles  $\geq 500$   
 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  $Z_0$  / Impedance /  $Z_0$  50  $\Omega$   
 Offset Delay 84.492 ps  
 Length (electrical) / Offset Length 25.33 mm  
 Offset Loss 4.00 G $\Omega$ /s  
 Loss 0.0294 dB/ $\sqrt{\text{GHz}}$   
 Line Loss @ 1GHz 0.0012 dB/mm

**Load**

Offset  $Z_0$  / Impedance /  $Z_0$  50  $\Omega$   
 Offset Delay 0.0000 ps  
 Length (electrical) / Offset Length 0.000 mm  
 Offset Loss 0.00 G $\Omega$ /s  
 Loss 0.0000 dB/ $\sqrt{\text{GHz}}$