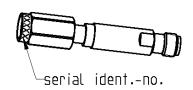
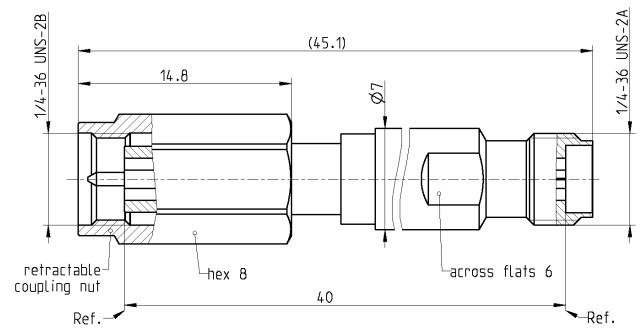
Technical Data Sheet		Rosenberger			
RPC-2.92	Airline Plug / Jack	02S101-K040			





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

## Interface

According to Mechanically compatible with IEC 61169-35 RPC-3.50 and SMA

## **Documents**

Application note

AN001 "Calibration Services"

## Material and plating

Connector parts Center conductor

Outer conductor Coupling nut

## Material

CuBe Gold, min. 1.27 µm, over chemical nickel Brass Gold, min. 1.27 µm, over chemical nickel **Passivated** 

Stainless steel

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## F\_35/09.14/6.2

## **Technical Data Sheet**

## Rosenberger

RPC-2.92

Airline Plug / Jack

02S101-K040

## Electrical data

Insertion loss

≤ 0.25 dB at 40 GHz

## **Mechanical data**

Mating cycles≥ 500Maximum torque1.70 NmRecommended torque0.90 Nm

Airline dimensions at 23 °C:

- Diameter outer conductor

- Diameter inner conductor

- Length outer conductor

- Length inner conductor

- Length difference

2.9235 mm  $\pm$  0.005 mm

1.270 mm  $\pm$  0.005 mm

40.00 mm + 0.02 mm  $\pm$  0.00 mm - 0.02 mm

(outer conductor – inner conductor)

## Calculated data (non warranted)

Lossless characteristic impedance Return loss<sup>2</sup>

50  $\Omega$  ± 0.40  $\Omega$ ≥ 38 dB, 0.3 GHz to 4 GHz ≥ 35 dB, 4 GHz to 18 GHz ≥ 30 dB, 18 GHz to 40 GHz

- 1. The lossless characteristic impedance is calculated from the specified diameters of the inner and outer conductor.
- 2. The return loss is calculated from the characteristic impedance, the skin depth and the connector interface.

## **General standard definitions**

For proper work the vector network analyzer (VNA) used needs a model describing the electrical behaviour of this calibration standard. Depending on the VNA type different models, units and terms are used and have to be entered into the VNA. All values are based on typical geometry and plating.

 $\begin{array}{lll} \text{- Offset $Z_{\circ}$ / Impedance / $Z_{\circ}$} & 50 \ \Omega \\ \text{- Offset Delay} & 133.502 \ ps \\ \text{- Length (electrical) / Offset Length} & 40.023 \ mm \\ \text{- Offset Loss} & 2.40 \ G\Omega/s \end{array}$ 

- Loss  $0.0278 \, dB / \sqrt{GHz}$ 

## **Environmental data**

Operating temperature range  $^3$  +20 °C to +26 °C Storage temperature range  $^3$  0 °C to +50 °C RoHS compliant

3. This range is a recommendation. However, the airline can be used in a wider range. Any temperature change from 23 °C results in dimensional changes.

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## Declaration of calibration options

## **Factory Calibration**

Standard delivery for this calibration standard includes a Factory Calibration. The Calibration Certificate issued reports individual mechanical calibration results, traceable to national / international standards. Model based standard definitions are reported in an Agilent/Keysight, Rohde & Schwarz and Anritsu compatible VNA format.

## **Accredited Calibration**

Not available.

For further, more detailed information see application note AN001 on the Rosenberger homepage.

## Calibration interval

Recommendation

12 months

## **Packing**

Standard Weight Center conductor

1 pce in box 10.5 g/pce loose in an acrylic glass tube

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
Herbert Babinger	04.12.14	Martin Moder	04.12.14		f00	14-1492	Herbert Babinge	er	04.12.14
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