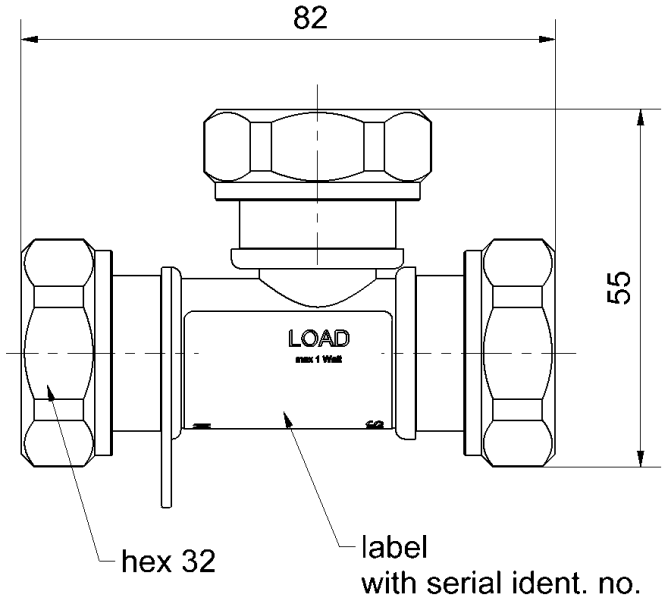
Technical Data Sheet		Rosenberger
7-16	Calibration Kit Plug	**60S34R-MSON3**





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

Interface

According to IEC 61169-4, EN 122190, DIN 47223

Documents

This kit is delivered with

- **Standard Definitions Card**
  Printed Standard Definitions that can be used on nearly all Vector Network Analyzers
- **Lanyard**
- **Hard Shell Case**

Material and plating

Connector parts	**Material**	**Plating**
Center conductor	Brass	Gold, min. 1.27 µm, over nickel
Outer conductor	Brass	Flash white bronze over silver(e.g. Optargen®)
Body	Brass	powder coated
Coupling nut	Brass	Flash white bronze over silver(e.g. Optargen®)
Dielectric	PP	
Substrate	Al_2O_3	

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Electrical data

Frequency range	DC to 4 GHz

Open

Return loss	≤ 0.15 dB, DC to 4 GHz
Error from nominal phase[1]	≤ 3.0°, DC to 4 GHz

Short

Return loss	≤ 0.15 dB, DC to 4 GHz
Error from nominal phase[1]	≤ 3.0°, DC to 4 GHz

Load

Return loss	≥ 40 dB, DC to 2.5 GHz ≥ 38 dB, 2.5 GHz to 4 GHz
DC Resistance	50 Ω ± 0.5 Ω
Power handling	≤ 1.0 W

[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	30 Nm
Recommended torque	2.26 Nm
Gauge	1.47 mm to 1.77 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	56.372 ps		
Length (electrical) / Offset Length	16.90 mm		
Offset Loss	0.50 GΩ/s		
Loss	0.0049 dB/$\sqrt{GHz}$		
Fringing Capacitances	C_0 =	168.000 x 10^{-15} F	/ 168.000 fF
	C_1 =	2600.00 x 10^{-27} F/Hz	/ 2.60000 fF /GHz
	C_2 =	50.0000 x 10^{-36} F/Hz^2	/ 0.05000 fF /GHz^2
	C_3 =	0.80000 x 10^{-45} F/Hz^3	/ 0.00080 fF /GHz^3

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Short

Offset Z_o / Impedance / Z_o	50 Ω		
Offset Delay	65.712 ps		
Length (electrical) / Offset Length	19.70 mm		
Offset Loss	0.50 GΩ/s		
Loss	0.0057 dB/$\sqrt{GHz}$		
Short Inductance	L_0 = 0.0000 x 10^{-12} H	/	0.0000 pH
	L_1 = 0.0000 x 10^{-24} H/Hz	/	0.0000 pH/GHz
	L_2 = 0.0000 x 10^{-33} H/Hz^2	/	0.0000 pH/GHz^2
	L_3 = 0.0000 x 10^{-42} H/Hz^3	/	0.0000 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/$\sqrt{GHz}$

Environmental data

Operating temperature range[3]	0 °C to +50 °C
Storage temperature range	- 55 °C to +90 °C
RoHS	compliant

[3] *Temperature range over which these specifications are valid.*

Packing

Standard	1 pce in bag
Weight	332 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.

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