Rosenberger

Coaxial Feeder Cables 50 Ω

High Performance Transmission Line Solutions

SITE SOLUTIONS

Rosenberger Site Solutions – Much More Than Technology

The Rosenberger Site Solutions Group designs, manufactures and provides solutions for the wireless infrastructure market. Our products and systems offer innovative and leading-edge designs with a focus on high performance and quality. Having an efficient network implementation in mind, we focus on total site kitting, logistics and delivery time leading to reduced cost of ownership. Globally present, the Rosenberger Site Solutions Group offers extensive local support making Rosenberger Site Solutions a partner instead of just a supplier.

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www.rosenberger.com/ok

Home of Innovation

A global network of Rosenberger R&D, manufacturing facilities and sales offices provides innovation, optimized cost structure and outstanding local customer service.

The Rosenberger headquarters located in Fridolfing in the southeast part of Bavaria, Germany

Company Profile

Rosenberger is one of the world's leading manufacturers of impedance-controlled and optical-connectivity solutions. We provide these solutions in high-frequency, high-voltage, and fiber-optic technology for mobile communication networks, data centers, test & measurement applications, automotive electronics, as well as high-voltage contact systems, medical electronics and aerospace engineering.

A global network of R&D, manufacturing and assembly locations provides innovation, optimized cost structure and excellent customer services. A total of around 10,000 employees are involved in the development, production, and distribution of our products.

Rosenberger Group

Europe

- Germany: Fridolfing, Augsburg, Laufen, Radeberg
- Austria: Timelkam
- Hungary: Jászárokszállás, Jászberény, Taksony
- Denmark: Birkerød
- Sweden: Kista, Solna, Ytterhogdal
- Spain: Madrid

North America

- USA: RNA Plano, RNA Akron, RNA Pennsauken, RSS Lake Charles

South America

- Brazil: Caçapava – São Paulo
- Chile: Santiago

Asia

- China: Beijing, Kunshan, Dongguan
- India: Manesar, Goa

Quality and the Environment

Ensuring the optimum quality of products and services and taking responsibility for our environment are fundamental elements of Rosenberger's corporate philosophy. Our approach to ensuring quality covers more than just the optimization of parts and products – it also includes the continuous improvement of all company processes: from product development, planning, procurement, production, sales, and logistics right through to environmental policy. To summarize, we want to offer maximum benefits for our customers all over the world.

We aim to act in an environmentally conscious manner, use materials economically, protect natural resources, recycle, and ensure energy efficiency.

As we have continuously improved our processes and consistently applied our quality management systems, we have been awarded many certificates.

Certifications

- IATF 16949
- DIN EN 9100
- ISO 9001
- ISO 14001
- DaKKs accreditation according to DIN EN ISO 17025

Rosenberger has won a number of prestigious quality awards and prizes from several renowned customers and organizations for achieving its quality and environmental objectives.

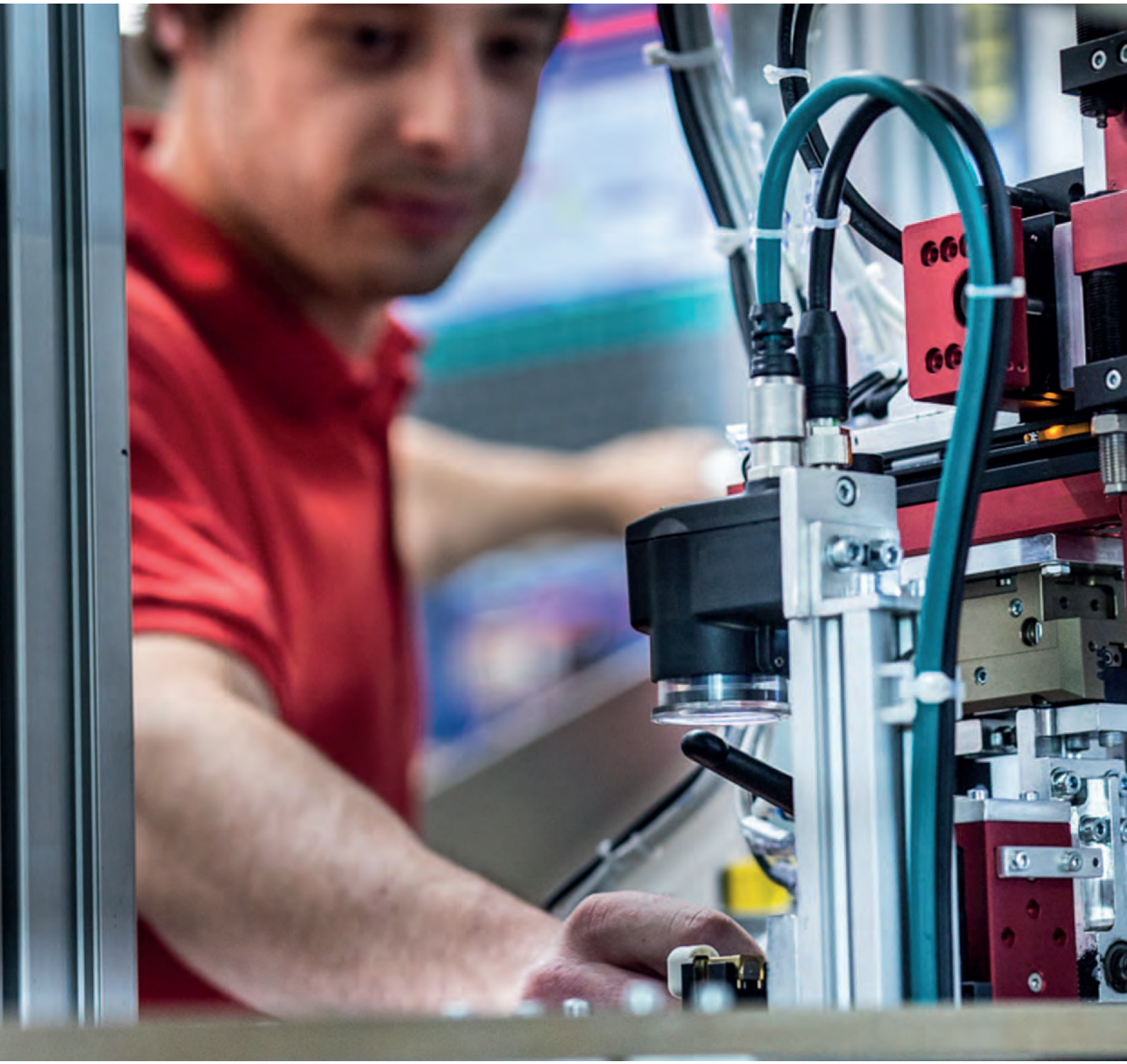
Our Promise to You. And to Quality and the Environment.

The quality of our products, solutions, and services is an essential part of our corporate strategy.

High Added Value

Rosenberger's mission is to be a leader when it comes to innovation and technology within its business segments.

The ongoing focus on cost management and process optimization complements our commitment to the increasingly stringent requirements for delivering products of the highest quality. Effective research & development, the very latest manufacturing technologies, the highest possible levels of efficiency in production processes, and continuous improvement of process automation make up Rosenberger`s core competencies.



Research & Development

Science-based expertise in high-frequency applications combined with in-house RF, and EMC laboratories enable us to continuously improve existing products and to design innovative new products and systems. Numerous patents show Rosenberger's leadership as a reliable and creative development partner.

Production

By manufacturing everything in-house and using state of-the-art manufacturing technologies, Rosenberger can continue to develop and optimize key manufacturing technologies – turned-parts production, stamped & formed technology, injection molding technology. Manufacturing everything in-house ensures a high degree of flexibility, and continuous quality controls, and means that newly designed products can be produced in the required quantities.

Plating Technology

Our components can be electroplated quickly and flexibly in our own in-house electroplating facilities, regardless of whether this is to provide corrosion protection, optimized conductivity, or other technical and physical characteristics. Environmental protection is another key factor which must be taken into account when coating surfaces.

Assembly

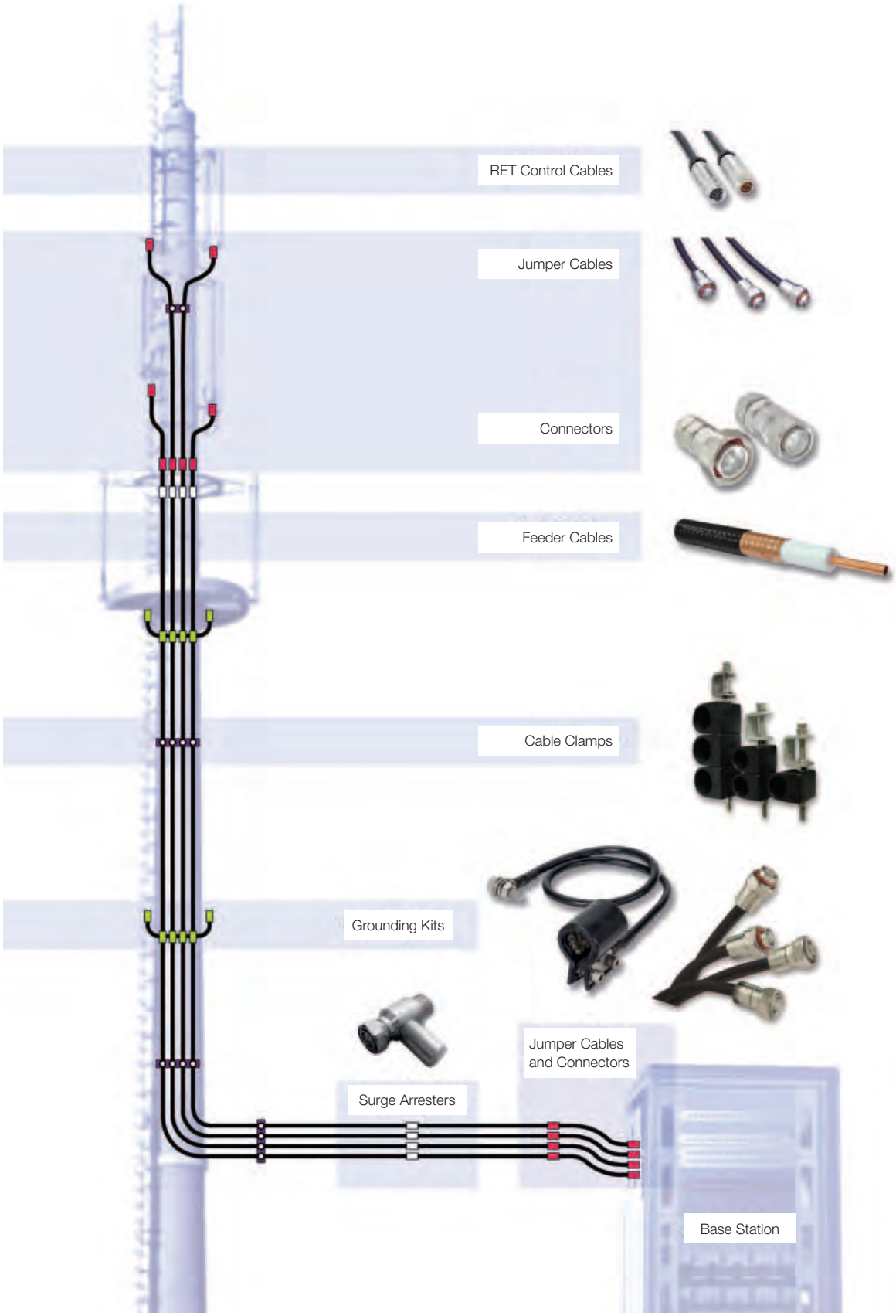
Rosenberger operates manufacturing and assembly locations around the world – fully automated assembly centers and customer-oriented cable assembly locations offer global support and local sourcing.

Injection Molding

We use the very latest machinery and methods, as well as special materials and components to ensure the precision and durability of our tools and products. Rosenberger is able to process all available high-performance plastics.

Coaxial Cables

Outdoor Coaxial Transmission Line Overview



Coaxial Cables 50 Ω

Rosenberger offers a complete range of 50 Ω coaxial cables, from 1/4" to 1 5/8".

The cable range provides best in-class electrical and mechanical performance:

- Low attenuation
- Low VSWR/RL
- Complete EMI shielding to minimize system interference
- Outstanding PIM performance
- High-power rating

The cable construction is similar for all cable sizes: Inner conductor, foam dielectric, outer conductor and outer jacket.

The inner conductor is made of a copper clad aluminum wire and a smooth or corrugated copper tube dependent on cable size. The use of high conductivity copper guarantees excellent low-loss performance.

The foam insulator consists of a mixture of low dielectric polyethylene – melted and extruded utilizing an insert gas injection process. Low density, close and homogenous cell dielectric contributes to further excellent low-loss performance and minimized risk of water penetration.

The outer conductor is made of copper and has a longitudinal weld that provides high quality screening and a tight bending radius.

The cables are available as standard with either a PE jacket for outdoor installations or in a flame retardant and halogen-free version to comply with indoor requirements for health and safety (IEC 60332 and CPR-EN 50575).

Coaxial Cable Overview

Cable Type	Description	Rating*
SL 014R PE	1/4" flexible, halogen-free	Fca s1 d0 a1
RTK 300	Braided coax cable 0.300 inch, halogen-free	
RTK 400	Braided coax cable 0.400 inch, halogen-free	
SL 012S PE	1/2" superflexible, halogen-free	Eca s1 d0 a1
SL 012R PE	1/2" flexible, halogen-free	
SL 078R L PE	7/8" flexible, halogen-free	
SL 114R L PE	1 1/4" flexible, halogen-free	
SL 158R L PE	1 5/8" flexible, halogen-free	
SL 012S FRNC	1/2" superflexible, halogen-free, flame retardant	Dca s1 d0 a1
SL 014R FRNC	1/4" flexible, halogen-free, flame retardant	
SL 158R FRNC	1 5/8" flexible, halogen-free, flame retardant	
RTK 300 FRNC	Braided coax cable 0.300 inch, halogen-free, flame retardant	
RTK 400 FRNC	Braided coax cable 0.400 inch, halogen-free, flame retardant	
SL 012R FRNC	1/2" flexible, halogen-free, flame retardant	B2ca s1 d1
SL 078R FRNC	7/8" flexible, halogen-free, flame retardant	
SL 114R FRNC	1 1/4" flexible, halogen-free, flame retardant	

– R = Ring corrugation
– S = Spiral corrugation
– PE = Polyethylene
– FRNC = Flame retardant & halogen-free (IEC 60332)

* Higher ratings available on request

Flexible Coaxial Cables 1/4" R

Rosenberger No.	Description	Product
SL 014R PE	Standard polyethylene jacket	
SL 014R FRNC	Flame retardant, halogen-free jacket	

Mechanical Characteristics	
Inner conductor	Copper clad aluminum wire, 2.6 mm
Dielectric	Foamed PE, 6.4 mm
Diameter over outer conductor	Corrugated copper, 7.6 mm
Diameter over outer jacket	PE / FRNC, 9.5 mm
Cable with standard UV resistant and halogen-free PE / FRNC	
Cable weight PE (FRNC)	approx. 94 kg/km
Tensile strength	560 N
Min. bending radius, single	50 mm
Min. bending radius, repeated	120 mm
Number of bends, minimum (typical)	15 (50)
Recommended hanger spacing	0.6 m
Installation temperature	-25 °C to +60 °C
Operational temperature	-40 °C to +85 °C

Electrical Characteristics	
Impedance	50 ± 1 Ω
Relative velocity of propagation	85 %
Capacitance	78.5 pF/m
Inductance	0.195 µH/m
Maximum operating frequency	7.5 GHz
Cut-off frequency	19.0 GHz
Peak power rating	7.5 KW
DC breakdown voltage	2200 V
Jacket spark, volts RMS	5000 V
Inner conductor DC-resistance	≤ 6.05 Ω/km
Outer conductor DC-resistance	≤ 4.45 Ω/km
Insulation resistance	≥ 10 GΩ x km
Return loss 800 – 1000 MHz	26 dB
Return loss 1700 – 2500 MHz	24 dB

Attenuation Value and Power Rating

Frequency (MHz)	100	200	300	400	450	800	900	1000	1800	2000	2200	2500	2700	3000
Attenuation (dB/100 m)	5.14	7.50	8.50	9.00	9.14	12.70	13.30	14.10	19.50	20.60	21.80	23.40	28.00	28.30
Average power (kW)	1.92	1.40	1.20	1.09	1.08	0.78	0.74	0.70	0.51	0.49	0.45	0.42	0.36	0.35

– Attenuation, ambient temperature: 20 °C
– Average power, ambient temperature: 40 °C
– Average power, inner conductor temperature: 100 °C
– Maximum attenuation value shall be 105 % of the nominal attenuation value
– Other frequencies on request

Flexible Corrugated Cables 1/2" R

Rosenberger No.	Description	Product
SL 012R PE	Standard polyethylene jacket	
SL 012R FRNC	Flame retardant, halogen-free jacket	

Mechanical Characteristics	
Inner conductor	Copper clad aluminum wire, 4.8 mm
Dielectric	Foamed PE, 12.1 mm
Diameter over outer conductor	Corrugated copper tube, 13.8 mm
Diameter over outer jacket	PE / FRNC, 15.9 mm
Cable with standard UV resistant and halogen free PE / FRNC	
Cable weight PE (FRNC)	210 kg/km (245 kg/km)
Tensile strength	1150 N
Min. bending radius, single	50 mm
Min. bending radius, repeated	125 mm
Number of bends, minimum (typical)	15 (50)
Recommended hanger spacing	0.8 m
Installation temperature	-25 °C to +60 °C
Operational temperature	-40 °C to +85 °C

Electrical Characteristics	
Impedance	50 ± 1 Ω
Relative velocity of propagation	88 %
Capacitance	76 pF/m
Inductance	0.190 µH/m
Maximum operating frequency	8.8 GHz
Cut-off frequency	10.0 GHz
Peak power rating	40 KW
DC breakdown voltage	6000 V
Jacket spark, volts RMS	8000 V
Inner conductor DC-resistance	1.5 Ω/km
Outer conductor DC-resistance	2.3 Ω/km
Insulation resistance	≥ 10 GΩ x km
Return loss 800 – 1000 MHz	26 dB
Return loss 1700 – 2500 MHz	24 dB

Attenuation Value and Power Rating

Frequency (MHz)	100	200	300	400	450	800	900	1000	1800	2000	2200	2500	2700	3000
Attenuation (dB/100 m)	2.15	3.08	3.81	4.46	4.70	6.35	6.75	7.20	9.90	10.50	11.10	11.95	12.47	13.20
Average power (kW)	3.94	2.75	1.99	1.80	1.80	1.33	1.25	1.18	0.86	0.81	0.77	0.73	0.69	0.65

– Attenuation, ambient temperature: 20 °C
– Average power, ambient temperature: 40 °C
– Average power, inner conductor temperature: 100 °C
– Maximum attenuation value shall be 105 % of the nominal attenuation value
– Other frequencies on request

Super Flexible Coaxial Cables

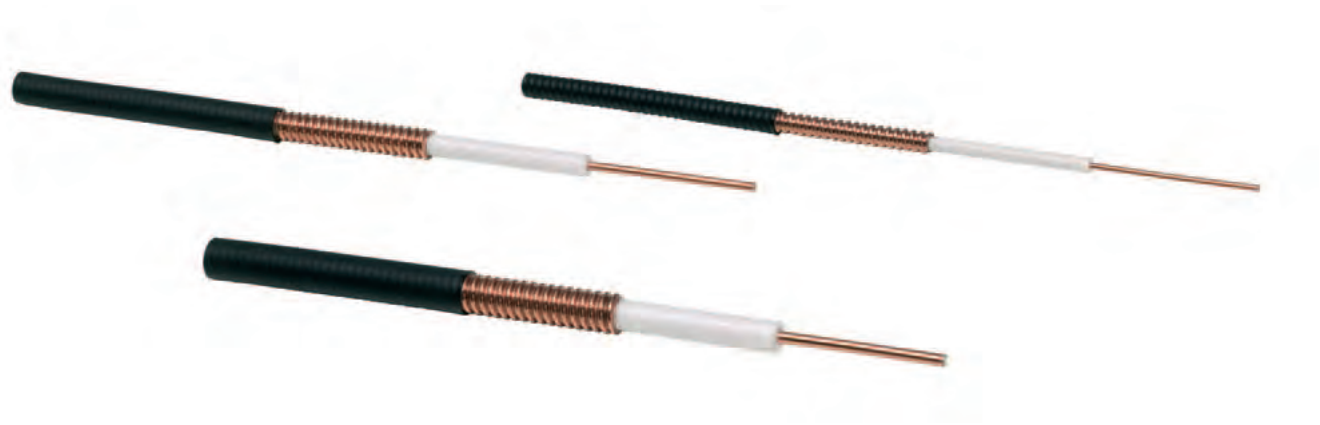
Rosenberger Super Flexible coaxial cables are designed for use in tight routing spaces. Typical applications include connections inside mobile base stations and jumpers for connecting the base stations, transmission lines and antennas.

Super Flexible cables have superior electrical and mechanical performance, and are ideal for applications requiring the tightest bending radii, high flexibility, low attenuation and high shielding.

Rosenberger Super Flexible coaxial cable assemblies achieve the highest standards in the industry including excellent intermodulation (IM3) and return loss performance.

The inner conductor consists of a copper clad aluminum wire. The outer conductor is made of a welded copper tube with spiral corrugations and marked accordingly with the letter ‚S'.

The Rosenberger Super Flexible coaxial cables are available with outer jackets made of either polyethylene or flame-retardant, halogen-free materials.



Super Flexible Coaxial Cables 1/4" S

Rosenberger No.	Description	Product
SL 014S PE	Standard polyethylene jacket	
SL 014S FRNC	Flame retardant, halogen-free jacket	

Mechanical Characteristics	
Inner conductor	Copper clad aluminum wire, 1.9 mm
Dielectric	Foamed PE, 4.4 m
Diameter over outer conductor	Corrugated copper tube, 6.4 mm
Diameter over outer jacket	Jacket PE / FRNC, 7.7 mm
Cable with standard UV resistant and halogen free PE / FRNC	
Cable weight PE (FRNC)	71 kg/km (78 kg/km)
Tensile strength	600 N
Min. bending radius, single	13 mm
Min. bending radius, repeated	25 mm
Number of bends, minimum (typical)	20 (50)
Recommended hanger spacing	0.6 m
Installation temperature	-25 °C to +60 °C
Operational temperature	-40 °C to +85 °C

Electrical Characteristics	
Impedance	50 ± 1 Ω
Relative velocity of propagation	83 %
Capacitance	80 pF/m
Inductance	0.195 µH/m
Maximum operating frequency	20.4 GHz
Cut-off frequency	25.0 GHz
Peak power rating	6.4 KW
DC breakdown voltage	2000 V
Jacket spark, volts RMS	5000 V
Inner conductor DC-resistance	9.8 Ω/km
Outer conductor DC-resistance	6.9 Ω/km
Insulation resistance	≥ 10 GΩ x km
Return loss 800 – 1000 MHz	26 dB
Return loss 1700 – 2500 MHz	24 dB

Attenuation Value and Power Rating

Frequency (MHz)	100	200	300	400	450	800	900	1000	1800	2000	2200	2500	2700	3000
Attenuation (dB/100 m)	5.95	8.36	10.30	12.40	13.10	17.50	18.50	19.60	26.90	28.50	30.20	32.30	33.70	35.70
Average power (kW)	1.15	0.83	0.70	0.55	0.53	0.40	0.37	0.35	0.26	0.24	0.23	0.23	0.23	0.23

– Attenuation, ambient temperature: 20 °C
– Average power, ambient temperature: 40 °C
– Average power, inner conductor temperature: 100 °C
– Maximum attenuation value shall be 105 % of the nominal attenuation value
– Other frequencies on request

Super Flexible Coaxial Cables 3/8" S

Rosenberger No.	Description	Product
SL 038S PE	Standard polyethylene jacket	
SL 038S FRNC	Flame retardant, halogen-free jacket	

Mechanical Characteristics	
Inner conductor	Copper clad aluminum wire, 2.6 mm
Dielectric	Foamed PE, 6.7 mm
Diameter over outer conductor	Corrugated copper tube, 9.1 mm
Diameter over outer jacket	PE, 10.2 mm
Cable with standard UV resistant and halogen free PE / FRNC	
Cable weight PE (FRNC)	115 kg/km (130 kg/km)
Tensile strength	600 N
Min. bending radius, single	13 mm
Min. bending radius, repeated	25 mm
Number of bends, minimum (typical)	20 (50)
Recommended hanger spacing	0.6 m
Installation temperature	-25 °C to +60 °C
Operational temperature	-40 °C to +85 °C

Electrical Characteristics	
Impedance	50 ± 1 Ω
Relative velocity of propagation	83 %
Capacitance	81 pF/m
Inductance	0.195 µH/m
Maximum operating frequency	13.4 GHz
Cut-off frequency	16.1 GHz
Peak power rating	11.9 KW
DC breakdown voltage	2500 V
Jacket spark, volts RMS	5000 V
Inner conductor DC-resistance	< 4.76 Ω/km
Outer conductor DC-resistance	< 4.95 Ω/km
Insulation resistance	≥ 10 GΩ x km
Return loss 800 – 1000 MHz	26 dB
Return loss 1700 – 2500 MHz	24 dB

Attenuation Value and Power Rating

Frequency (MHz)	100	200	300	400	450	800	900	1000	1800	2000	2200	2500	2700	3000
Attenuation (dB/100 m)	4.16	5.96	7.39	8.61	8.73	12.10	12.70	13.40	18.40	19.50	20.50	22.10	24.30	24.40
Average power (kW)	2.00	1.34	1.15	1.14	1.13	0.82	0.78	0.74	0.54	0.51	0.48	0.45	0.41	0.40

– Attenuation, ambient temperature: 20 °C
– Average power, ambient temperature: 40 °C
– Average power, inner conductor temperature: 100 °C
– Maximum attenuation value shall be 105 % of the nominal attenuation value
– Other frequencies on request

Super Flexible Coaxial Cables 1/2" S

Rosenberger No.	Description	Product
SL 012S PE	Standard polyethylene jacket	
SL 012S FRNC	Flame retardant, halogen-free jacket	

Mechanical Characteristics	
Inner conductor	Copper clad aluminum wire, 3.6 mm
Dielectric	Foamed PE, 9.0 mm
Diameter over outer conductor	Corrugated copper tube, 12.2 mm
Diameter over outer jacket	PE / FRNC, 13.4 mm
Cable with standard UV resistant and halogen free PE / FRNC	
Cable weight PE (FRNC)	171 kg/km (184 kg/km)
Tensile strength	750 N
Min. bending radius, single	25 mm
Min. bending radius, repeated	35 mm
Number of bends, minimum (typical)	20 (50)
Recommended hanger spacing	0.8 m
Installation temperature	-25 °C to +60 °C
Operational temperature	-40 °C to +85 °C

Electrical Characteristics	
Impedance	50 ± 1 Ω
Relative velocity of propagation	83 %
Capacitance	80 pF/m
Inductance	0.195 µH/m
Maximum operating frequency	10.2 GHz
Cut-off frequency	13.0 GHz
Peak power rating	16 kW
DC breakdown voltage	2500 V
Jacket spark, volts RMS	5000 V
Inner conductor DC-resistance	2.73 Ω/km
Outer conductor DC-resistance	3.68 Ω/km
Insulation resistance	≥ 10 GΩ x km
Return loss 800 – 1000 MHz	26 dB
Return loss 1700 – 2500 MHz	24 dB

Attenuation Value and Power Rating

Frequency (MHz)	100	200	300	400	450	800	900	1000	1800	2000	2200	2500	2700	3000
Attenuation (dB/100 m)	3.31	4.84	6.07	7.11	7.59	10.40	11.20	11.80	16.00	17.20	18.20	19.50	20.50	21.90
Average power (kW)	3.16	2.17	1.71	1.47	1.38	1.01	0.95	0.89	0.63	0.60	0.56	0.52	0.50	0.48

– Attenuation, ambient temperature: 20 °C
– Average power, ambient temperature: 40 °C
– Average power, inner conductor temperature: 100 °C
– Maximum attenuation value shall be 105 % of the nominal attenuation value
– Other frequencies on request

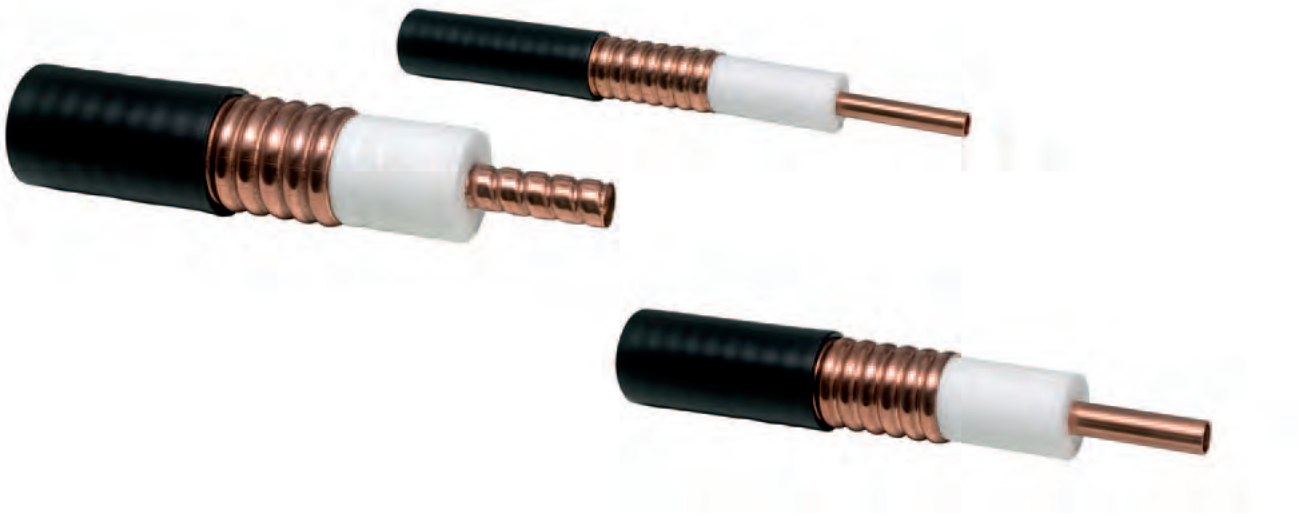
Low Loss Coaxial Cables

Rosenberger 7/8" RL, 1 1/4" RL and 1 5/8" RL Low Loss coaxial cables are specifically designed to correspond to requirements of the mobile, cellular and broadcast networks. They deliver excellent performance for connections between the base station and antennas.

The transmission characteristics of the Rosenberger Low Loss coaxial cables have been improved significantly while still maintaining the outer dimensions to suit all connectors and installation material.

The inner conductor consists of a smooth copper tube for the 7/8" RL and the 1 1/4" RL and a corrugated copper tube for the 1 5/8" RL. The outer conductor of each cable is made of a welded copper tube with annular corrugations and marked accordingly with the letter "R" and "L" for Low Loss.

The Low Loss coaxial cables are offered with outer jackets made of either polyethylene or flame retardant, halogen-free materials.



Low Loss Coaxial Cables 7/8" RL

Rosenberger No.	Description	Product
SL 078R L PE	Standard polyethylene jacket	
SL 078R FRNC	Flame retardant, halogen-free jacket	

Mechanical Characteristics	
Inner conductor	Copper tube, 9.45 mm
Dielectric	Highly foamed polyethylene, 22.4 mm
Diameter over outer conductor	Regular corrugated copper tube, 25.4 mm
Diameter over outer jacket	PE / FRNC, 27.6 mm
Cable with standard UV resistant and halogen free PE / FRNC	
Cable weight PE (FRNC)	410 kg/km (480 kg/km)
Tensile strength	1450 N
Min. bending radius, single	120 mm
Min. bending radius, repeated	250 mm
Number of bends, minimum (typical)	15 (50)
Recommended hanger spacing	1.0 m
Installation temperature	-25 °C to +60 °C
Operational temperature	-40 °C to +85 °C

Electrical Characteristics	
Impedance	50 ± 1 Ω
Relative velocity of propagation	89 %
Capacitance	74 pF/m
Inductance	0.195 µH/m
Maximum operating frequency	5.0 GHz
Cut-off frequency	5.2 GHz
Peak power rating	95 KW
DC breakdown voltage	10000 V
Jacket spark, volts RMS	8000 V
Inner conductor DC-resistance	1.39 Ω/km
Outer conductor DC-resistance	1.22 Ω/km
Insulation resistance	≥ 10 GΩ x km
Return loss 800 – 1000 MHz	≤ -26 dB
Return loss 1700 – 2500 MHz	≤ -24 dB

Attenuation Value and Power Rating

Frequency (MHz)	100	200	300	400	450	800	900	1000	1800	2000	2200	2500	2700	3000
Attenuation (dB/100 m)	1.11	1.60	1.99	2.31	2.49	3.42	3.61	3.84	5.35	5.62	6.01	6.48	6.75	7.20
Average power (kW)	9.30	6.40	4.82	4.16	3.81	2.75	2.62	2.56	1.79	1.70	1.60	1.48	1.23	1.17

– Attenuation, ambient temperature: 20 °C
– Average power, ambient temperature: 40 °C
– Average power, inner conductor temperature: 100 °C
– Maximum attenuation value shall be 105 % of the nominal attenuation value
– Other frequencies on request

Low Loss Coaxial Cables 1 1/4" RL

Rosenberger No.	Description	Product
SL 114R L PE	Standard polyethylene jacket	
SL 114R FRNC	Flame retardant, halogen-free jacket	

Mechanical Characteristics	
Inner conductor	Helically corrugated copper tube, 13.1 mm
Dielectric	Foamed polyethylene, 32.5 mm
Diameter over outer conductor	Annularly corrugated copper tube, 35.8 mm
Diameter over outer jacket	PE / FRNC, 39.5 mm
Cable with standard UV resistant and halogen free PE / FRNC	
Cable weight PE	~ 800 kg/km
Tensile strength	2500 N
Min. bending radius, single	200 mm
Min. bending radius, repeated	380 mm
Number of bends, minimum (typical)	15 (50)
Recommended hanger spacing	1.2 m
Installation temperature	-25 °C to +60 °C
Operational temperature	-40 °C to +85 °C

Electrical Characteristics	
Impedance	50 ± 1 Ω
Relative velocity of propagation	89 %
Capacitance	75 pF/m
Inductance	0.190 µH/m
Maximum operating frequency	3.5 GHz
Cut-off frequency	3.7 GHz
Peak power rating	200 KW
DC breakdown voltage	10,000 V
Jacket spark, volts RMS	10,000 V
Inner conductor DC-resistance	≤ 0.91 Ω/km
Outer conductor DC-resistance	≤ 0.90 Ω/km
Insulation resistance	≥ 10 GΩ x km
Return loss 800 – 1000 MHz	≤ -24 dB
Return loss 1700 – 2500 MHz	≤ -24 dB

Attenuation Value and Power Rating

Frequency (MHz)	100	200	300	400	450	800	900	1000	1800	2000	2200	2500	2700	3000
Attenuation (dB/100 m)	0.80	1.15	1.55	1.72	1.83	2.47	2.64	2.80	3.96	4.23	4.48	4.84	5.19	5.42
Average power (kW)	13.4	9.31	7.71	6.03	5.50	3.90	3.70	3.50	2.40	2.30	2.20	2.03	1.86	1.73

– Attenuation, ambient temperature: 20 °C
– Average power, ambient temperature: 40 °C
– Average power, inner conductor temperature: 100 °C
– Maximum attenuation value shall be 105 % of the nominal attenuation value
– Other frequencies on request

Low Loss Coaxial Cables 1 5/8" RL

Rosenberger No.	Description	Product
SL 158R L PE	Standard polyethylene jacket	
SL 158R FRNC	Flame retardant, halogen-free jacket	

Mechanical Characteristics	
Inner conductor	Spiral corrugated copper tube, 17.6 mm
Dielectric	Highly foamed polyethylene, 41.0 mm
Diameter over outer conductor	Regular corrugated copper, 46.5 mm
Diameter over outer jacket	PE / FRNC, 49.8 mm
Cable with standard UV resistant and halogen free PE / FRNC	
Cable weight PE	1055 kg/km
Tensile strength	3500 N
Min. bending radius, single	300 mm
Min. bending radius, repeated	510 mm
Number of bends, minimum (typical)	15 (50)
Recommended hanger spacing	1.2 m
Installation temperature	-25 °C to +60 °C
Operational temperature	-40 °C to +85 °C

Electrical Characteristics	
Impedance	50 ± 1 Ω
Relative velocity of propagation	90 %
Capacitance	74 pF/m
Inductance	0.190 µH/m
Maximum operating frequency	2.7 GHz
Cut-off frequency	2.9 GHz
Peak power rating	310 KW
DC breakdown voltage	15,000 V
Jacket spark, volts RMS	10,000 V
Inner conductor DC-resistance	1.25 Ω/km
Outer conductor DC-resistance	0.65 Ω/km
Insulation resistance	≥ 10 GΩ x km
Return loss 800 – 1000 MHz	≤ -24 dB
Return loss 1700 – 2500 MHz	≤ -24 dB

Attenuation Value and Power Rating

Frequency (MHz)	100	200	300	400	450	800	900	1000	1800	2000	2200	2500	2700
Attenuation (dB/100 m)	0.66	0.96	1.21	1.41	1.51	2.09	2.24	2.35	3.38	3.57	3.82	4.11	4.38
Average power (kW)	14.5	10.1	7.90	6.88	6.29	4.54	4.24	4.05	2.82	2.68	2.52	2.34	2.07

– Attenuation, ambient temperature: 20 °C
– Average power, ambient temperature: 40 °C
– Average power, inner conductor temperature: 100 °C
– Maximum attenuation value shall be 105 % of the nominal attenuation value
– Other frequencies on request

Connector Solutions

Rosenberger connectors are available in 7-16 DIN, N and 4.3-10 series with both female and male interfaces. All connectors are designed for ease of attachment while providing consistent industry leading performance.

Rosenberger connectors have excellent mechanical and environmental properties that ensure long-term durability and performance in both indoor and outdoor installations.

All Rosenberger connectors are coated with a specially selected flash white bronze over silver plating. This coating is specifically selected to provide protection against oxidation while delivering exceptional intermodulation performance and electrical conductivity.

	4.3-10	**7-16 (DIN)**	**N-Series**
Minimum flange size	25.4 mm	32 mm	32 mm
Return loss	≥ 36 dB @ DC to 4 GHz ≥ 32 dB @ 4 GHz to 6 GHz	≥ 36 dB @ DC to 4 GHz ≥ 32 dB @ 4 GHz to 6 GHz	≥ 35 dB @ DC to 1 GHz ≥ 30 dB @ 1 GHz to 2.7 GHz
RF-leakage	≥ 120 dB @ DC to 3 GHz (screw, HEX) ≥ 90 dB @ DC to 3 GHz (hand-screw) ≥ 70 dB @ 3 to 6 GHz (push-pull)	≥ 110 dB @ DC to 1 GHz (tool types)	≥ 110 dB @ DC to 1 GHz (tool types)
Passive intermodulation	≥ 166 dBc @ 2 x 43 dBm	≥ 160 dBc @ 2 x 43 dBm	≥ 160 dBc @ 2 x 43 dBm
Degree of protection (water tightness)	IP 68 (@ 25 m,1 hour)	IP 68 (@ 25 m,1 hour)	IP 68 (@ 25 m,1 hour)
Mating cycles	≥ 100	≥ 500	≥ 500
Coupling mechanisms	Screw (HEX), hand-screw, push-pull	Screw (HEX)	Screw (HEX)
Coupling torque (screw-on type)	> 5 Nm	> 25 Nm	0.7-1.1 Nm

4.3-10-Series

7-16-Series

N-Series

4.3-10 Connectors

Feeder Cable Type	Male Straight	Male Right Angle	Female Straight
1/4" Standard	64S1C7-C01N1	64S2C7-C01N1	64K1C7-C01B1
1/4" Super Flexible	64S1C7-C09N1	64S2C7-C09N1	64K1C7-C09B1
3/8" Super Flexible	64S1C7-C02N1	64S2C7-C02N1	64K1C7-C02B1
1/2" Standard	64S1C7-C03N1	64S2C7-C03N1	64K1C7-C03B1
1/2" Super Flexible	64S1C7-C08N1	64S2C7-C08N1	64K1C7-C08B1
7/8" Standard	64S1C7-CX5N1		64K1C7-CX5B1
1 1/4" Standard	64S1D7-C06N1		64K1D7-C06B1
1 5/8" Standard	64S1D7-C07N1		64K1D7-C07B1

7-16 Connectors

Feeder Cable Type	Male Straight	Male Right Angle	Female Straight
1/2" Standard	60S1C7-C03N1	60S2C7-C03N1	60K1C7-C03N1
1/2" Super Flexible	60S1C7-C08N1	60S2C7-C08N1	60K1C7-C08N1
7/8" Standard	60S1C7-CX5N1		60K1C7-CX5N1
1 1/4" Standard	60S1D7-C06N1		60K1D7-C06N1
1 5/8" Standard	60S1D7-C07N1		60K1D7-C07N1

N Connectors

Feeder Cable Type	Male Straight	Male Right Angle	Female Straight
1/4" Standard	53S115-C01N1	53S215-C01N1	53K115-C01N1
1/4" Super Flexible	53S115-C09N1	53S215-C09N1	53K115-C09N1
1/2" Standard	53S1C7-C03N1	53S2C7-C03N1	53K1C7-C03N1
1/2" Super Flexible	53S1C7-C08N1	53S2C7-C08N1	53K1C7-C08N1
7/8" Standard	53S1C7-CX5N1		53K1C7-CX5N1
1 1/4" Standard	53S1D7-C06N1		53K1D7-C06N1
1 5/8" Standard	53S1D7-C07N1		53K1D7-C07N1

Tools

Universal Preparation Tool

With exchangeable inserts for 1/2", 7/8", and 1 1/4", the tool is ideal for fast, easy, and reliable cable preparation. The high-precision cutting blades ensure smooth cuts resulting in low-PIM connector installations.

SLT001-C05-I

SLT001-C06-I

SLT001-C03-I

SLT001-C06

Universal Preparation Tool

Rosenberger No.	Description
SLT001-000	UniPrep tool basic without inserts
SLT001-C09	UniPrep tool for 1/4"S – superflex (stripping, cutting, flaring)
SLT001-C01	UniPrep tool for 1/4"R – flex (stripping, cutting, flaring)
SLT001-C02	UniPrep tool for 3/8"S – superflex (stripping, cutting, flaring)
SLT001-C08	UniPrep tool for 1/2"S – superflex (stripping, cutting, flaring)
SLT001-C03	UniPrep tool for 1/2"R (stripping, cutting, flaring)
SLT001-C05	UniPrep tool for 7/8"R (stripping, cutting, flaring)
SLT001-C06	UniPrep tool for 1 1/4"R (stripping, cutting, flaring)
SLT001-C09-I	UniPrep inserts for 1/4"S (stripping, cutting)
SLT001-C01-I	UniPrep inserts for 1/4"R (stripping, cutting)
SLT001-C02-I	UniPrep inserts for 3/8"S (stripping, cutting)
SLT001-C08-I	UniPrep inserts for 1/2"S (stripping, cutting)
SLT001-C03-I	UniPrep inserts for 1/2"R (stripping, cutting)
SLT001-C05-I	UniPrep inserts for 7/8"R (stripping, cutting)
SLT001-C06-I	UniPrep inserts for 1 1/4"R (stripping, cutting)
SLT001-C03-F	UniPrep flaring for 1/2"R and ¼"R
SLT001-C05-F	UniPrep flaring for 7/8"R
SLT001-C06-F	UniPrep flaring for 1 1/4"R
SLT001-000-CB	UniPrep 10 x replacement cutting blade

Low-PIM, On-Site Connector Installation

To achieve the best PIM test results we recommend following the procedures below in addition to the recommendations outlined in the assembly instructions included with each individual connector.

It is very important to keep the prepped cable and connectors absolutely clean of dirt, metal particles, and scratches.

Prepare the cable according to assembly instructions (e.g., with tool SLT001-Cxx).

Use a plastic tool for removing the cut-off bond on the dielectric (e.g., SLT004-000).

On cables with tube inner conductor, remove burrs and sharp edges on the inside of the conductor (e.g., flaring tool integrated in tool SLT001-Cxx).

Before finally attaching the connector to the cable, clean the contact areas of the cables with alcohol by using non-metallic cleaning brushes/tools (e.g., SLZ0009-000).

Accessories for Connector Preparation

Rosenberger No.	Description	Product
60W000-002	Torque wrench 7-16, 25 Nm	
64W022-001	Torque wrench 4.3-10, 5 Nm	
53W010-000	Torque wrench N, 1.1 Nm	
SLZ0002-000	Cable cutter up to 1 1/4"	
SLZ0002-100	Cable cutter up to 1 5/8"	
SLZ0009-000	PIM cleaning kit	
SLT004-000	Inner conductor stripper	
SLT006-060	Box nut 7-16 for narrow situations	
SLT006-064	Box nut 4.3-10 for narrow situations	
99W057-000	Adjustable spanner 0-35 mm	
99W057-001	Adjustable spanner 0-46 mm	
99W057-002	Adjustable spanner 0-60 mm	

RF Jumper Cables

Superior Performance up to 6 GHz

Rosenberger coaxial jumpers have been designed using the many years of experience gained by Rosenberger engineers in this field. Rosenberger's unique knowledge of designing and manufacturing world-leading PIM testing equipment is directly reflected in the jumpers.

Rosenberger jumpers have the industry-best PIM levels:
-117 dBm / -160 dBc @ 2 x 20 W (typ. -120 dBm / -163 dBc @ 2 x 20 W).

These excellent levels are guaranteed for every assembly that leaves the Rosenberger production facility.

- Specially developed connectors using proprietary soldering technique guarantee superior electrical performance
- Injection molded sealing between the cable jacket and connector ensures mechanical stability and weatherproof protection according to IP68
- Excellent return loss due to silver-plated connectors and attenuation-optimized cable
- Low intermodulation, IM3
- Guaranteed -160 dBc @ 2 x 20 W (typ. -163 dBc) – dynamic testing
- 100 % factory tested for PIM and RL
- Available with flame retardant, halogen-free cable jackets (FRNC)
- Available in any cable length with a large variety of connector combinations

Traceability – Online Measurement Reports

Every single coax jumper is tested for its return loss and PIM values after its assembly. By entering the serial number on our web-portal our customers are able to download the measurement reports of their cables.

Online Measurement Reports

Download VSWR and PIM measurements jumper.rosenberger.com

For a more convenient verification of the performance, the measurement report can easily be downloaded to mobile devices by scanning the DataMatrix code on the packaging.

Return Loss	
DC - 1 GHz	≥ 32 dB
1 - 2.2 GHz	≥ 30 dB
2.2 - 2.7 GHz	≥ 28 dB
2.7 - 6 GHz	≥ 23 dB
Insertion Loss typ. (½"R – Flexible)	
DC - 1 GHz	≤ 0.07 dB/m + 0.01 dB
1 - 2.2 GHz	≤ 0.11 dB/m + 0.015 dB
2.2 - 2.7 GHz	≤ 0.125 dB/m + 0.016 dB
2.7 - 6 GHz	≤ 0.22 dB/m + 0.01 dB
Insertion Loss typ. (½"S – Super Flexible)	
DC - 1 GHz	≤ 0.10 dB/m + 0.01 dB
1 - 2.2 GHz	≤ 0.168 dB/m + 0.015 dB
2.2 - 2.7 GHz	≤ 0.19 dB/m + 0.016 dB
2.7 - 6 GHz	≤ 0.31 dB/m + 0.01 dB

Jumper Cable Configurator

Configure your individual jumper cable online: rosenberger.com/siso/#jumperconf

Jumper Boot – RJB

Although jumpers comply with IP68, at times it might be required to add additional protection due to extreme weather conditions. The Rosenberger Jumper Boot, RJB, is an ideal alternative to tape. Whether pre-installed in the factory or installed in the field the RJB provides a fast, easy and durable solution.

Features and Benefits

- 7-16 DIN connectors (pre-installed in factory)
- 4.3-10 connectors (pre-installed in factory or field-installable)

SLWK111-C03

SLWK112-C03

SLWK112-C03/51

Jumper Boot – RJB

Rosenberger No.	Connector Type	Cable Type
SLWK111-C03	4.3-10	1/2" flexible and super flexible
SLWK112-C03	7-16 DIN	1/2" flexible and super flexible
SLWK112-C03/51	7-16 DIN threaded connectors	Threaded 7-16 bulkhead connector adaptor

RJB Assembly Instruction

Download the assembly instruction: www.rosenberger.com/siso/rjbinstruction

Easy and quick weatherproofing with the RJB: just flip over.

Weather-Proofing Kits

Rosenberger Weather-proofing kits are a convenient way of fast and reliable IP-protection of RF connections on antennas and RRHs. The kits are field installable and can easily be removed and reused. The kits add the same additional high level IP-protection to the RF connection as tape while avoiding the hassle of installation.

Weather-proofing kits for 7-16 DIN

Weather-proofing kit for transmission of 7/8" and 1 1/4" cable to 1/2"

Weather-Proofing Kits

Rosenberger No.	Connector Type	Cable Types
SLWK101-C03	4.3-10	1/2" flexible and super flexible
SLWK201-C03	7-16 DIN	1/2" flexible and super flexible
SLWK202-C03-C05		7/8" cable to 1/2" flexible or 1/2" super flexible
SLWK202-C03-C06		1 1/4" cable to 1/2" flexible or 1/2" super flexible

Cold shrink tube for 7/8" to 3/8" super flexible

Cold Shrink Tube

Rosenberger No.	Connector Type	Cable Types
RLCST-40/08-200-BK	diameter 40 mm, shrinks down to 8 mm	7/8" cable to 1/2" and 3/8" super flexible

Weather-Proofing Tape

The tapes and mastics are used for protection of connectors, splices and interfaces that are exposed to corrosive environmental conditions. An additional feature is to prevent the loosening of connectors at jumper cable interfaces caused by vibration.

Weather-Proofing Tape

Rosenberger No.	Description
SLWK009-000	Weather proofing kit, 6 x butyl (63.5 mm), 2 x PVC (19 mm),1 x PVC (50 mm)
SLWK009-001	Weather proofing kit, 4 x butyl (63.5 mm), 1 x PVC (19 mm), 1 x PVC (50 mm)
SLWK013-000	Butyl tape black, 63.5 mm x 3 mm x 0.6 m
SLWK014-000	PVC tape black, 19 mm x 0, 19 mm x 20 m
SLWK014-001	PVC tape black, 38 mm x 0, 19 mm x 10 m
SLWK014-002	PVC tape black, 50 mm x 0, 19 mm x 10 m
SLWK014-003	PVC tape blue, 19 mm x 0, 19 mm x 20 m
SLWK014-004	PVC tape yellow/green, 15 mm x 0, 15 mm x 10 m
SLWK015-000	Self fusing tape 50 mm x 1, 65 mm x 3 m

Surge Arresters

Lightning protection components are essential for protecting radio base stations against overvoltages. Coaxial surge arresters from Rosenberger – integrated directly in the transmission line from the antenna down to the base station – safeguard the system and provide reliable deflection in case of overvoltages, e.g., by lightning strikes.

Effective lightning protection systems deflect overvoltages, caused by surge currents up to 20 kA, resulting in a residual output voltage of only 100 V.

Rosenberger offers coaxial surge arresters for "non-directed" mounting, with and without gas discharge tubes.

Surge protection from DC up to 6 GHz available for interface N, 4.3-10 and 7-16

Grounding Kits

Rosenberger Grounding kits are designed to withstand potential lightning strikes. A solid premium construction ensures elimination of corrosion caused by moisture and a long life time. Several options are available according to customer requirements.

Grounding Kits

Rosenberger No.	Description	Weather-Proofing	Grounding Cable Length
SLGK004-C03-060	For 1/2" cable	Included	0.6 m
SLGK004-C02-060	For 3/8" cable	Included	0.6 m
SLGK004-C05-060	For 7/8" cable	Included	0.6 m
SLGK004-C06-060	For 1 1/4" cable	Included	0.6 m
SLGK004-C07-060	For 1 5/8" cable	Included	0.6 m

Other grounding cable lengths available on request

Cable Clamps

For multiple cable runs on towers where space is limited. Without additional adaptors these clamps provide sturdy, reliable and long-term support.

Cable Clamps

Rosenberger No.	Size	Description
SLCC111-C08	1 x 1/2" super flexible	C-clamp connection, 26 mm opening
SLCC121-C08	2 x 1/2" super flexible	C-clamp connection, 26 mm opening
SLCC131-C08	3 x 1/2" super flexible	C-clamp connection, 26 mm opening
SLCC111-C03	1 x 1/2" flexible	C-clamp connection, 26 mm opening
SLCC121-C03	2 x 1/2" flexible	C-clamp connection, 26 mm opening
SLCC131-C03	3 x 1/2" flexible	C-clamp connection, 26 mm opening
SLCC221-C08	2 x 1/2" super flexible	C-clamp connection, 26 mm opening
SLCC241-C08	4 x 1/2" super flexible	C-clamp connection, 26 mm opening
SLCC261-C08	6 x 1/2" super flexible	C-clamp connection, 26 mm opening
SLCC221-C03	2 x 1/2" flexible	C-clamp connection, 26 mm opening
SLCC241-C03	4 x 1/2" flexible	C-clamp connection, 26 mm opening
SLCC261-C03	6 x 1/2" flexible	C-clamp connection, 26 mm opening
SLCC111-C05	1 x 7/8" flexible	For 7/8" R cable and hybrid cable 3 x 10 mm^2

Cable Clamps

Rosenberger No.	Size	Description
SLCC111-C06	1 x 1 1/4" flexible	C-clamp connection, 26 mm opening
SLCC121-C06	2 x 1 1/4" flexible	C-clamp connection, 26 mm opening
SLCC131-C06	3 x 1 1/4" flexible	C-clamp connection, 26 mm opening
SLCC221-C06	2 x 1 1/4" flexible	C-clamp connection, 26 mm opening
SLCC241-C06	4 x 1 1/4" flexible	C-clamp connection, 26 mm opening
SLCC261-C06	6 x 1 1/4" flexible	C-clamp connection, 26 mm opening
SLCC111-C07	1 x 1-5/8" flexible	C-clamp connection, 26 mm opening
SLCC121-C07	2 x 1-5/8" flexible	C-clamp connection, 26 mm opening
SLCC131-C07	3 x 1-5/8" flexible	C-clamp connection, 26 mm opening
SLCC221-C07	1 x 1-5/8" flexible	C-clamp connection, 26 mm opening
SLCC241-C07	2 x 1-5/8" flexible	C-clamp connection, 26 mm opening
SLCC261-C07	3 x 1-5/8" flexible	C-clamp connection, 26 mm opening
SLCC132-C03	3 x 1/2" flexible	Feeder clamp hook type, C-profile 40 x 22 mm
SLCC132-C05	3 x 7/8" flexible	Feeder clamp hook type, C-profile 40 x 22 mm
SLCC132-C06	3 x 1 1/4" flexible	Feeder clamp hook type, C-profile 40 x 22 mm
SLCC132-C07	3 x 1 5/8" flexible	Feeder clamp hook type, C-profile 40 x 22 mm
SLCC122-C03	2 x 1/2" flexible	Feeder clamp hook type, C-profile 40 x 22 mm
SLCC122-C05	2 x 7/8" flexible	Feeder clamp hook type, C-profile 40 x 22 mm
SLCC122-C06	2 x 1 1/4" flexible	Feeder clamp hook type, C-profile 40 x 22 mm
SLCC122-C07	2 x 1 5/8" flexible	Feeder clamp hook type, C-profile 40 x 22 mm

Hoisting Grips

Rosenberger Hoisting Grips are designed for hoisting feeder, power or hybrid cables up a tower or other site architectures. For long cable runs multiple grips have to be mounted on the cable to support the weight. The spacing depends on the cable. Once the cable is positioned in the cable clamps the grips can be attached to the structure to hold the cable weight.

Hoisting Grips

Rosenberger No.	Max. Cable Diameter	Type
SLHG001-C03	18 mm	Pre-laced
SLHG001-C05	30 mm	Pre-laced
SLHG001-C06	40 mm	Pre-laced
SLHG001-C07	52 mm	Pre-laced
SLHG003-C03	18 mm	Lace-up
SLHG003-C05	30 mm	Lace-up
SLHG003-C06	40 mm	Lace-up
SLHG003-C07	52 mm	Lace-up

RET Control Cable

RET control cable with 8 pin DIN-male and 8 pin DIN-female.

Pin Assignments

1. +12 V DC nominal
2. not connected
3. RS485 B
4. not connected
5. RS485 A
6. +24 V DC nominal
7. DC return
8. not connected

Product Features

- Protocol 3GPP/AISG 2.0/AISG 1.1
- Voltage maximum 300 V
- AISG 2.0 compliant RET control cable
- Feeds data & DC power to RET components
- RoHS compliant
- Halogen-free

RET Control Cable

Rosenberger No.	Description
L99-C197-XXX	RET control cable (AISG 2.0 compliant)

Flexible Coaxial Cables for Microwave Links

Factory Made Assemblies

Rosenberger provides factory made coaxial cable assemblies for microwave links.

Product Features

- High-performance shielding > 90 dB
- Low loss
- UV and weather resistant PE outer jacket
- Tinned copper outer braid that provides for connector retention and ease of grounding
- RoHS compliant
- Halogen-free

Factory Made Assemblies

Rosenberger No.	Description
L08-153-xxx	N (male) – RG 223 – TNC right angle (male)
L08-249-xxx	N (male) – RG 223 – TNC (male)
L08-250-xxx	N (male) – RG 223 – N (male)
L08-251-xxx	N (male) – RG 223 – SMA (male)
SLJ14SP-53M53M-xxx	N (male) – 1/4" super flexible – N (male)

xxx: Length in cm
Other configurations on request

Connectors for Field Installation

Rosenberger provides coaxial connectors for microwavel links with N and TNC interface with straight or right angle cable attachment.

The connectors are designed for ease of attachment while providing consistent industry leading performance.

Rosenberger connectors have excellent mechanical and environmental properties that ensure long-term durability and performance in both indoor and outdoor installations.

Product Features

- High performance shielding > 90 dB
- Low loss
- UV and weather resistant PE outer jacket
- Tinned copper outer braid that provides for connector retention and ease of grounding
- RoHS compliant
- Halogen-free

All Rosenberger connectors are coated with a specially selected flash white bronze outer contact and gold center contact. This coating is specifically selected to provide protection against oxidation while delivering exceptional performance and electrical conductivity.

Connectors for Field Installation

Rosenberger No.	Description
56S10T-049N5	TNC (male) straight for RTK 300
56S20T-049N5	TNC (male) right angle for RTK 300
53S10A-049N5	N (male) straight for RTK 300
53S201-049N5	N (male) right angle for RTK 300
56S105-0N9N5	TNC (male) straight for RTK 400
56S201-0N9N5	TNC (male) right angle for RTK 400
53S10A-0N9N5	N (male) straight for RTK 400
53S20E-0N9N5	N (male) right angle for RTK 400

50 Ω Coax Cables

Rosenberger No.	Description	Product
RTK 300	50 Ω coax cable	
RTK 300 FRNC	Flame retardant, 50 Ω coax cable	

Mechanical Characteristics	
Inner conductor	Copper clad aluminum wire, 1.79 mm
Dielectric	Foamed PE, 4.8 mm
Diameter over outer conductor	Aluminate foil overlapped, applied longitudinally, 5.5 mm
Diameter over outer jacket	Jacket PE/FRNC black, 7.2 ± 0.3 mm
Cable weight PE	58 kg/km
Min. bending radius, single	29 mm
Min. bending radius, repeated	72 mm
Recommended hanger spacing	0.5 m
Installation temperature	-25 °C to +60 °C
Operational temperature	-40 °C to +85 °C

Electrical Characteristics	
Impedance	50 ± 2 Ω
Relative velocity of propagation	85 %
Capacitance	78 pF/m
DC breakdown voltage	1000 V
Conductor DC-resistance	11 Ω/km
Insulation resistance	≥ 10 GΩ x km
Screening efficiency 30 – 2000 MHz	≥ 95 dB
Return loss 800 – 1500 MHz	24 dB

Attenuation Value and Power Rating

Frequency (MHz)	500	1000	1500	2000	2400	3000	5000
Attenuation (dB/100 m)	14.10	20.50	26.00	30.30	33.50	0.39	0.53
Average power (kW)	0.34	0.24	0.18	0.15	0.13	0.10	0.08

– Attenuation, ambient temperature: 20 °C
– Average power, ambient temperature: 40 °C
– Average power, inner conductor temperature: 100 °C
– Maximum attenuation value shall be 105 % of the nominal attenuation value
– Other frequencies on request

50 Ω Coax Cables

Rosenberger No.	Description	Product
RTK 400	50 Ω coax cable	
RTK 400 FRNC	Flame retardant, 50 Ω coax cable	

Mechanical Characteristics	
Inner conductor	Copper clad aluminum wire, 2.75 mm
Dielectric	Foamed PE, 7.2 mm
Diameter over outer conductor	Aluminate foil overlapped, applied longitudinally, 7.9 mm
Diameter over outer jacket	Jacket PE/FRNC black, 10.2 ± 0.3 mm
Cable weight PE	105 kg/km
Min. bending radius, single	51 mm
Min. bending radius, repeated	87 mm
Recommended hanger spacing	0.6 m
Installation temperature	-25 °C to +60 °C
Operational temperature	-40 °C to +85 °C

Electrical Characteristics	
Impedance	50 ± 2 Ω
Relative velocity of propagation	85 %
Capacitance	77 pF/m
DC breakdown voltage	2000 V
Conductor DC-resistance	4.6 Ω/km
Insulation resistance	≥ 10 GΩ x km
Screening efficiency 30 – 2000 MHz	≥ 100 dB
Return loss 800 – 1500 MHz	23 dB

Attenuation Value and Power Rating

Frequency (MHz)	500	1000	1500	2000	2400	3000	5000
Attenuation (dB/100 m)	9.40	13.50	16.80	19.60	21.70	24.50	35.10
Average power (kW)	0.80	0.60	0.45	0.40	0.35	0.30	0.25

– Attenuation, ambient temperature: 20 °C
– Average power, ambient temperature: 40 °C
– Average power, inner conductor temperature: 100 °C
– Maximum attenuation value shall be 105 % of the nominal attenuation value
– Other frequencies on request

Test, Measurement and Calibration

Test Cables

Cable assemblies from Rosenberger are characterized by excellent electrical and mechanical performances up to 18 GHz.

Product Features

- High phase stability
- Crush resistance (80 N/mm) with armour (cable only)

Test Cables DC-18 GHz not armoured

Rosenberger No.	Connector 1	Connector 2
LU7-036-500	RPC-N 50 Ω male	RPC-N 50 Ω male
LU7-036-1000	RPC-N 50 Ω male	RPC-N 50 Ω male
LU7-036-1500	RPC-N 50 Ω male	RPC-N 50 Ω male
LU7-036-2000	RPC-N 50 Ω male	RPC-N 50 Ω male
LU7-238-500	RPC-N 50 Ω male	RPC-N 50 Ω female
LU7-238-1000	RPC-N 50 Ω male	RPC-N 50 Ω female
LU7-238-1500	RPC-N 50 Ω male	RPC-N 50 Ω female
LU7-238-2000	RPC-N 50 Ω male	RPC-N 50 Ω female
LU7-307-500	RPC-N 50 Ω male	RPC-N 50 Ω male right angle
LU7-307-1000	RPC-N 50 Ω male	RPC-N 50 Ω male right angle
LU7-307-1500	RPC-N 50 Ω male	RPC-N 50 Ω male right angle
LU7-307-2000	RPC-N 50 Ω male	RPC-N 50 Ω male right angle

Test Cables DC-18 GHz armoured

Rosenberger No.	Connector 1	Connector 2
LU7-096-500	RPC-N 50 Ω male	RPC-N 50 Ω male
LU7-096-1000	RPC-N 50 Ω male	RPC-N 50 Ω male
LU7-096-1500	RPC-N 50 Ω male	RPC-N 50 Ω male
LU7-096-2000	RPC-N 50 Ω male	RPC-N 50 Ω male
LU7-266-500	RPC-N 50 Ω male	RPC-N 50 Ω female
LU7-266-1000	RPC-N 50 Ω male	RPC-N 50 Ω female
LU7-266-1500	RPC-N 50 Ω male	RPC-N 50 Ω female
LU7-266-2000	RPC-N 50 Ω male	RPC-N 50 Ω female
LU7-275-500	RPC-N 50 Ω male	RPC-N 50 Ω male right angle
LU7-275-1000	RPC-N 50 Ω male	RPC-N 50 Ω male right angle
LU7-275-1500	RPC-N 50 Ω male	RPC-N 50 Ω male right angle
LU7-275-2000	RPC-N 50 Ω male	RPC-N 50 Ω male right angle

T-Adaptor (Open-Short-Load)

Rosenberger‘s T-Adaptor Open-Short-Load (OSL) unique "T" configuration integrates three termination standards into a single unit to simplify precision calibration of 50 Ω analyzers.

The variety of available connector types facilitates calibration at the analyzer‘s test port or its adapted extension to mate directly with the input port of the device under test.

53S34R-MSON3

60S34R-MSON3

64S36R-MSON3

T-Adaptor (Open-Short-Load)

Rosenberger No.	Connector 1	Frequency
53S34R-MSON3	N male	4 GHz
53K34R-MSON3	N female	4 GHz
53S36R-MSON3	N male	6 GHz
53K36R-MSON3	N female	6 GHz
60S34R-MSON3	7-16 male	4 GHz
60K34R-MSON3	7-16 female	4 GHz
60S36R-MSON3	7-16 male	6 GHz
60K36R-MSON3	7-16 female	6 GHz
64S36R-MSON3	4.3-10 male	6 GHz
64K36R-MSON3	4.3-10 female	6 GHz

Loads

For testing and trouble shooting, these high quality precision loads are typically used to terminate system components at the characteristics impedance.

05S150-010S3

60S17R-001N1

Loads

Rosenberger No.	Interface	Frequency
05S150-010S3	N male	18 Ghz, 0.5 Watt
05K150-010S3	N female	18 Ghz, 0.5 Watt
60S17R-001N1	7-16 male	8 GHz, 1 Watt
60K17R-001N1	7-16 female	8 GHz, 1 Watt

Adaptors

These precision adaptors can be used at the test port of the analyzer or its extension cable to provide a compatible interface with the specified system test point before starting the calibration process. The PIM optimized adaptors ensure optimum accuracy and stability for testing.

65S153-KIMN1

60S101-SIMN1

64S101-S00N1

53S101-S00N5

Adaptors

	N Male	N Female	7-16 Male	7-16 Female	4.3-10 Male	4.3-10 Female	4.3-10 Female Bulkhead
N male	53S101-S00N5	53K102-K00N5	53S160-SIMN1	53S160-KIMN1	53S164-S00N1	53S164-K00N1	
N female	53K102-K00N5	53K102-K00N2	60S153-KIMN1	53K160-KIMN1	53K164-S00N1	53K164-K00B1	
7-16 male	53S160-SIMN1	60S153-KIMN1	60S101-SIMN1	60S101-KIMN1	60S164-S00N1	60S164-K00N1	
7-16 female	53S160-KIMN1	53K160-KIMN1	60S101-KIMN1	60K101-KIMN1	60K164-S00N1	60K164-K00N1	
4.3-10 male	53S164-S00N1	53K164-S00N1	60S164-S00N1	60K164-S00N1	64S101-S00N1	64S101-K00B1	
4.3-10 female	53S164-K00N1	53K164-K00B1	60S164-K00N1	60K164-K00N1	64S101-K00B1	64K101-K00B1	64K501-K00B1

Rosenberger Number Code – Jumper Assemblies

SLJ	12	S	P -	60	M	64	R -	10m -	00
									Successive Number
								Length in meters (m) or feet (ft)*	
								*metric lengths shorter than 10 meters with one decimal lace, point as delimiter	
							Connector Type/Gender Side 2		
							M male straight		
							H male straight, hand screw (only series 64)		
							Q male straight, push-pull (only series 64)		
							F female straight		
							R male right angle		
							X male right angle, hand screw (only series 64)		
							Y male right angle, push-pull (only series 64)		
						Connector Series Side 2 (higher number)			
						53 N			
						60 7-16			
						64 4.3-10			
						65 4.1-9.5			
					Connector Type/Gender Side 1				
					M male straight				
					H male straight, hand screw (only series 64)				
					Q male straight, push-pull (only series 64)				
					F female straight				
					R male right angle				
					X male right angle, hand screw (only series 64)				
					Y male right angle, push-pull (only series 64)				
				Connector Series Side 1 (lower number)					
				53 N					
				60 7-16					
				64 4.3-10					
				65 4.1-9.5					
			Cable Jacket						
			P PE						
			F FRNC						
		Cable Type							
		R flexible, ring corrugation							
		S super flexible, spiral corrugation							
	Cable Size								
	14 1/4"								
	38 3/8"								
	12 1/2"								
Rosenberger Jumper									

Jumper Cable Configurator

Configure your individual jumper cable online: rosenberger.com/siso/#jumperconf

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