

CONNECTIVITY EDITION 2009

WELCOME TO
NO COMPROMISE.



FIBER-OPTIC AND HYBRID CONNECTIVITY SYSTEMS
MAXIMUM PERFORMANCE FOR HEAVY DUTY APPLICATIONS
FOR BROADCASTING, INDUSTRY AND TELECOMMUNICATIONS

ROSENBERGER-OSI

THE FIBER OPTIC SYSTEMS PROVIDER!

Developer and manufacturer of fiber optic connector systems and cabling infrastructures.

Rosenberger-OSI sees its role as a provider of fiber optic system solutions, namely - connectivity systems conceived and produced for all cabling infrastructures. Our range of products is also supplemented with copper cabling systems, comprehensive network documentation and customer services.

In terms of quality and innovation we aim for a role as market leader. The consistent and extensive quality of our consultancy services, our back-up customer service, together with product and logistic systems are well proven through "objective assessment".

In co-operation with our customers we set the trends by means of targeted implementation of market demands, investments in our own product concepts and cooperation agreements for scientific developments in accordance with market requirements.

Our customers are happy with our flexibility and our supply performance. Products can be customized to meet the specific needs of the customer: we don't waste time, we answer your inquiries immediately and we can provide immediate and uncomplicated support on site, exactly where it is needed.

This is what our company understands as "flexibility".

We supply the right product at the right time at the right place.

We are an independent, medium-sized company which offers all its employees a long term perspective for the future in a pleasant and attractive working environment.

HEAVY DUTY LINE

SAFE AND RELIABLE

Specially developed for rugged use in broadcasting, telecommunications and industry. Outdoor use, repeated installation and connection are the special performance features. A connector range which allows hybrid applications with electrical and optical contacts in one configuration.

COMMON PROPERTIES

- four basic types cover applications with 2 - 12 fibers
- butt joint technology guarantees low insertion loss and high return loss
- removable sleeve bodies enable easy maintenance
- sealed according to IEC 60529 IP67
- strain relief for all common cable types
- accessories complete the cable assemblies to a connectivity system
- cost effective by use of standard components where possible

APPLICATIONS

- **Industry:** connection of industrial robots
cabling of manufacturing cells, sensor systems
- **Mobile Phone Systems:** cabling of towers
- **Broadcast:** HDTV-camera systems, cabling of sports stadiums, connection of broadcast trucks
- **Offshore:** antenna cabling, data cabling, sensor systems, control engineering
- **Mining and Construction Machinery:** machine control and sensor systems



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HEAVY DUTY 1000
HEAVY DUTY 600

Hybrid connector technology for use in industrial
or outdoor applications

HEAVY DUTY 1000
HEAVY DUTY 600

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HEAVY DUTY 200/400
HEAVY DUTY SC-RJ
ROSENBERGER DUPLEX CONNECTOR RDC

for use in telecommunications or industrial
outdoor applications

HEAVY DUTY 200/400
ROSENBERGER DUPLEX
CONNECTOR · RDC

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EXPANDED BEAM CONTACTS
MIL-T-29504 TYPE OPTICAL CONTACTS

Optical contacts for use in circular shells
and ARINC connectors.

EXPANDED BEAM CONTACTS
MIL-T-29504 TYPE OPTICAL
CONTACTS

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DIN AND MINI OPTICAL CONTACTS
MOBILE LINE

DIN · MINI OPTICAL CONTACTS
MOBILE LINE



HEAVY DUTY 1000

ROBUST CONNECTOR SYSTEM

For use in industrial or outdoor applications with 12 fibers and optional electrical contacts.



With the hermaphrodite threaded coupling mechanism, two connectors or a connector and a receptacle can be coupled.

Mated or with the attached protection cap, the connector is sealed according to EN 60529 IP67.

A front removable element with integrated alignment sleeves allows easy cleaning.



TECHNICAL DATA		Heavy Duty 1000	Heavy Duty 600
Ferrules		12 x Ø 2.5 mm, multimode, singlemode PC or APC	2 or 6 x Ø 2.5 mm, multimode, singlemode PC or APC
Electrical Contacts		2 x 1.5 mm ² touch-protected with additional ground contact (further contact layouts on request)	2 x 680 V / 10A* (service) 2 x 60 V / 1A *dielectric strength: >1.5 kV
Materials	ferrules/alignment sleeves connector body insulation elements sealing elements	ceramic POM and nickel plated brass PEEK silicone rubber	ceramic nickel plated brass PEEK silicone rubber
Cable	fiber types hybrid, breakout or loose tube receptacle connecting cable	9/125 - 50/125 - 62.5/125 Ø 6 – 16 mm (specifications on request) simplex cable Ø 1.7 – 2.2 mm	9/125 - 50/125 - 62.5/125 Ø 4 – 10 mm (for example cables acc. to SMPTE 311 M) 2 x simplex cable Ø 1.7 or 2.2 mm
Insertion Loss	typical maximum	0.30 dB 0.60 dB	0.20 dB 0.40 dB
Return Loss		> 40 dB (singlemode) (> 55 dB with APC ferrules)	> 40 dB (singlemode) (> 55 dB with APC ferrules)
Temperature *depending on cable type	operation/storage installation	-40°C ... +85° C* -40°C ... +60° C*	-40°C ... +85° C* -40°C ... +60° C*

HEAVY DUTY 600

BEST PERFORMANCE

Low optical reflectance, a hermaphrodite threaded coupling mechanism with 2, 4 or 6 fibers and up to 4 electrical contacts.



Two connectors or a connector and a receptacle can be mated. The alignment sleeve body can be removed for easy cleaning. The retained protection caps can be coupled together.

With the use of angled polished (8°) ferrules, the latest requirements for high data rates can be fulfilled.



HEAVY DUTY 200/400

ROBUST AND COMPACT

The connection solution with an excellent cost/performance ratio.



For many applications only 2 or 4 fibers are necessary. With a design in the classic pin-socket principle, the connectors of the Heavy Duty 200 and 400 series enable a very robust connection solution with an excellent cost/performance ratio.

The connector series differ mainly in size and number of fibers. Outstanding features are robust materials and a compact design.

HEAVY DUTY SC-RJ

A connector system for industrial and outdoor applications. It is based on the SC-RJ concept acc. to IEC 61754-6-1. In combination with an industry-proven protection system, this connector is sealed according to IEC 60529 IP67.

The self-explanatory outer locking mechanism is independent from the SC latching. Field installation is possible when used in combination with UNICAM™ components.



TECHNICAL DATA		Heavy Duty 200/400	Heavy Duty SC-RJ
Ferrules		2 or 4 x Ø 2.5 mm	2 x Ø 2.5 mm, multimode, singlemode PC or APC
Materials	ferrules/alignment sleeves	ceramic	zirconia monoblock ceramic metal for POF
	connector body sealing elements	nickel plated brass silicone rubber	plastic rubber
Cable	cable types	Ø 6 – 10 mm	Ø 5 – 8 mm
	fiber types	9/125 - 50/125 - 62.5/125 (other types on request)	9/125 - 50/125 - 62.5/125 200/230 - 1 mm
Insertion Loss	typical	0.25 dB	0.25 dB
	maximum	0.60 dB	0.50 dB
Return Loss		> 45 dB (singlemode)	> 45 dB (singlemode PC) (> 65 dB with APC ferrules)
Temperature	operation/storage	-40°C ... +125° C* *depending on cable type	-40°C ... +70° C* *depending on cable type

ROSENBERGER DUPLEX CONNECTOR (RDC)

The robust connector for outdoor applications.



ECONOMICAL SOLUTION

Robust connector system with threaded coupling mechanism for 2 fibers. It is designed for robust applications and outdoor use, e.g. mobile networking, broadcast or base stations.

With the use of components of the N-coax connector according to MIL-PRF-39012, the receptacle can easily replace a coax type. Mated or with attached protection cap, plug and receptacle are sealed according to EN60529 IP67.

Captive protection caps are available.

TECHNICAL DATA		Rosenberger Duplex Connector
Ferrules		2 x Ø 1.25 mm
Materials	ferrules/alignment sleeves connector body sealing elements	zirconia ceramic nickel plated brass silicone rubber
Cable	(mini)-breakout connecting cables fiber types	Ø 4 – 7 mm Ø 1.7 or 2.1 mm 9/125 - 50/125 - 62.5/125
Insertion Loss	typical	0.25 dB
Return Loss		> 0.50 dB (singlemode)
Temperature	operation/storage	-40°C ... +125° C* *depending on cable type

EXPANDED BEAM CONTACTS

ROBUST FIBER OPTICS

Optical contacts for use in circular shells and ARINC connectors.



#5 EXPANDED BEAM

Optical contacts in expanded beam technology highly improve the robustness of fiber optic interconnections. With an optical lens placed in front of the fiber, the area of light transmission is enlarged.

The interconnection is not susceptible to contamination and can easily be cleaned.

TECHNICAL DATA		Lens Contact #5	Lens Contact #12
Ferrules		Ø 6 mm	Ø 2.3 mm
Materials	ferrules/alignment sleeves connector body optical lens	zirconia ceramic ARCAP glass	zirconia ceramic ARCAP glass
Cable	fiber types simplex cable	50/125 - 62.5/125 Ø 0.9 – 3.0 mm	50/125 - 62.5/125 Ø 0.9 – 2.0 mm
Insertion Loss	typical	1.00 dB	1.50 dB
Temperature	operation/storage	-40°C ... +85° C* *depending on cable type	-40°C ... +85° C* *depending on cable type



#12 EXPANDED BEAM

Based on the #5 design, which is proven in aerospace applications for more than 10 years now, Rosenberger-OSI developed a Size 12 contact.

The new design allows for a higher packing density and fits in standard cavities of circular connectors according to MIL-DTL-38999.

MIL-T-29504 TYPE OPTICAL CONTACTS

Optical contacts for use in circular shells and ARINC connectors.

Our optical contacts #16 are specified for use in circular connectors according to MIL-DTL-38999 or in ARINC shells. These types are the most common multipin connectors in aerospace applications. Termini from Rosenberger-OSI are available for many fiber and cable types. Customized designs are possible. Our D38999 cable assemblies offer a cable attachment with full strain relief through a unique design of the connector backshell.



FLEXIBLE INTERCONNECTION

TECHNICAL DATA		#16 butt joint
Ferrules		Ø 1.58 mm
Materials	ferrules/alignment sleeves connector body optical lens	zirconia ceramic ARCAP glass
Cable	fiber types simplex cable	9/125 - 50/125 - 62.5/125 Ø 0.9 – 2.0 mm
Insertion Loss	typical	0.70 dB
Temperature	operation/storage	-40°C ... +85° C* *depending on cable type

For installation and removal, the required tools are supplied. Further accessories for contact cleaning and an adapter for inspection microscopes complete this series.



DIN AND MINI OPTICAL CONTACTS

FLEXIBLE INTERCONNECTION

Optical contacts for customized and hybrid connectors.



Optical contacts, designed for mixed card edge connections with cavities according to DIN 41612.

These contacts are characterized by high optical and mechanical stability. In combination with high current, high voltage and coaxial contacts from Rosenberger, highly specialized hybrid connectors are possible. In addition, contact versions with metal ferrule and customized fiber bore diameters are possible.

TECHNICAL DATA		DIN	MINI
Ferrules		Ø 2.5 mm	Ø 1.25 mm
Materials	ferrules/alignment sleeves connector body	zirconia ceramic or metal nickel plated brass	zirconia ceramic or metal nickel plated brass
Cable	fiber types simplex cable	9/125 - 50/125 - 62.5/125 or customized with metal ferrule Ø 4 – 7 mm Ø 1.7 or 2.1 mm	50/125 - 62.5/125 or customized with metal ferrule Ø 1 mm buffered fiber
Insertion Loss	typical	0.40 dB	0.40 dB
Return Loss			> 45 dB
Temperature	operation/storage	-40°C ... +85° C* *depending on cable type	-40°C ... +85° C* *depending on cable type



MINI optical contacts allow customized interconnections with very high packaging density. In combination with the mini coax inserts of the Rosenberger product range, a modular and highly flexible connector system is available. Versions with metal ferrule and fiber bore diameter according to customer specification are possible.

The contacts snap and lock into the cavity by simple insertion. A front-release removal tool makes cleaning easy.

MOBILE LINE FLEXIBLE CABLING

Temporary structures for indoor and outdoor applications



SPECIFICATIONS

- Heavy Duty connectors
- Standard connectors with protection tubing
- Cable drums made in aluminium, steel or plastic material
- IP sealing
- Robust cable types for multiple installation
- Hybrid cabling

For use in temporary structures, Rosenberger-OSI offers a range of mobile cable assemblies. Applications like network cabling for exhibitions or installation of mobile broadcast equipment require flexible and reliable components. Product service at any time and everywhere is also essential for our customers.

Mobile line products cover all our connector interfaces and all common cable types.



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