RosenbergerHSD® Technical Data

Technical Data RosenbergerHSD® (Code D4)

Applicable Standards

Interface according to	RosenbergerHSD®: RN_059-01 RosenbergerHSD®waterproof: RN-063_01 RosenbergerHSD®double 8 mm: RN_059-02 RosenbergerHSD®double 12.7 mm: RN_059-03 RosenbergerHSD®+2: RN_066-01 RosenbergerHSD®+4: RN_066-03 RosenbergerHSD®+8: RN_066-02
Quality tested according to	Rosenberger Norm: RN_061-01

Electrical Data

Impedance	100 Ω
Frequency range depending on cable type	DC to 6 GHz
Return loss	≥ 20 dB, DC to 1 GHz ≥ 17 dB, 1 GHz to 2 GHz
Insertion loss	≤ 0.1 dB, DC to 2 GHz
Skew (between signal contacts) Straight connectors Right angle connectors	 ≤ 5 ps ≤ 25 ps
Near end crosstalk	≤ - 30 dB, DC to 1 GHz
Far end crosstalk	≤ - 35 dB, DC to 1 GHz
Insulation resistance	≥ 1 x 10^3 MΩ
Signal contact resistance	≤ 10 mΩ
Outer contact resistance	≤ 7.5 mΩ
Test voltage	250 V rms
Working voltage	60 V rms
Contact current depending on cable type	≤ 3 A DC @ 85 °C ambient temperature
Coupling attenuation	≥ 75 dB, DC to 1 GHz ≥ 65 dB, 1 GHz to 2 GHz

Mechanical Data

Mating cycles (standard, non waterproof)	≥ 25
Mating cycles (waterproof)	≥ 5
Engagement force	≤ 30 N
Engagement force waterproof	≤ 40 N
Disengagement force	≥ 5 N
Retention force latch	≥ 110 N
Retention force primary lock	≥ 80 N
Retention force secondary lock	≥ 60 N
Polarization feature effectiveness	≥ 80 N

Environmental Data

Temperature range	-40 °C to +105 °C
Thermal shock	IEC 60068-2-14
Vibration	IEC 60068-2-64
Mechanical shock	IEC 60068-2-27
Temperature and humidity	USCAR 2-4 5.6.2
Dry heat	IEC 60068-2-2
Max. soldering temperature	IEC 60068-2-58, group 3 & 4

Materials

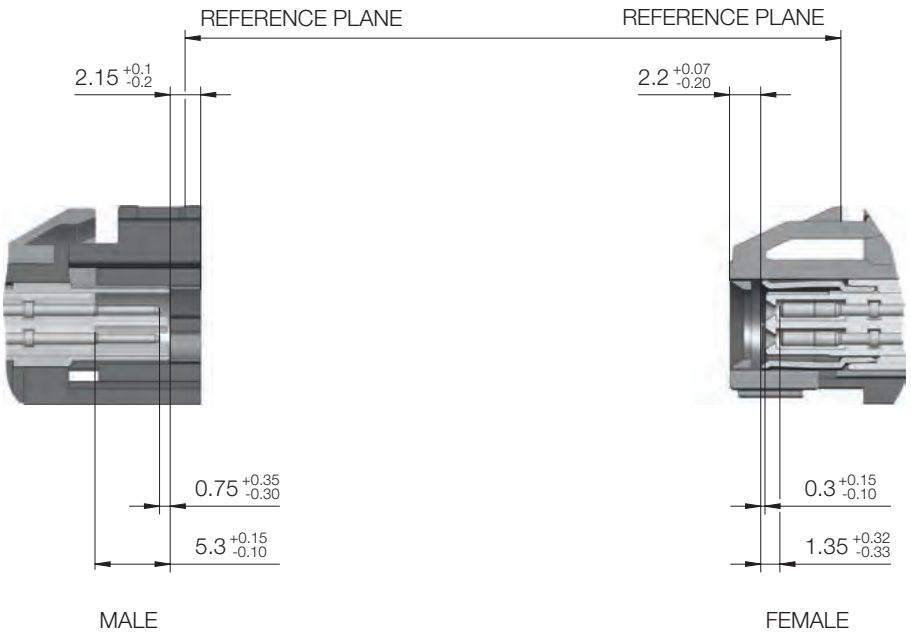
Outer contact	CuZn, CuSn (Brass, Bronze), or equivalent
Signal contacts	CuZn, CuSn (Brass, Bronze), or equivalent
Dielectric	PA, LCP, or equivalent
Gasket	Silicone, Rubber, or equivalent
Crimping ferrule	CuSn (Bronze), or equivalent
Plastic housings and secondary lock	PA, PBT, or equivalent

Platings

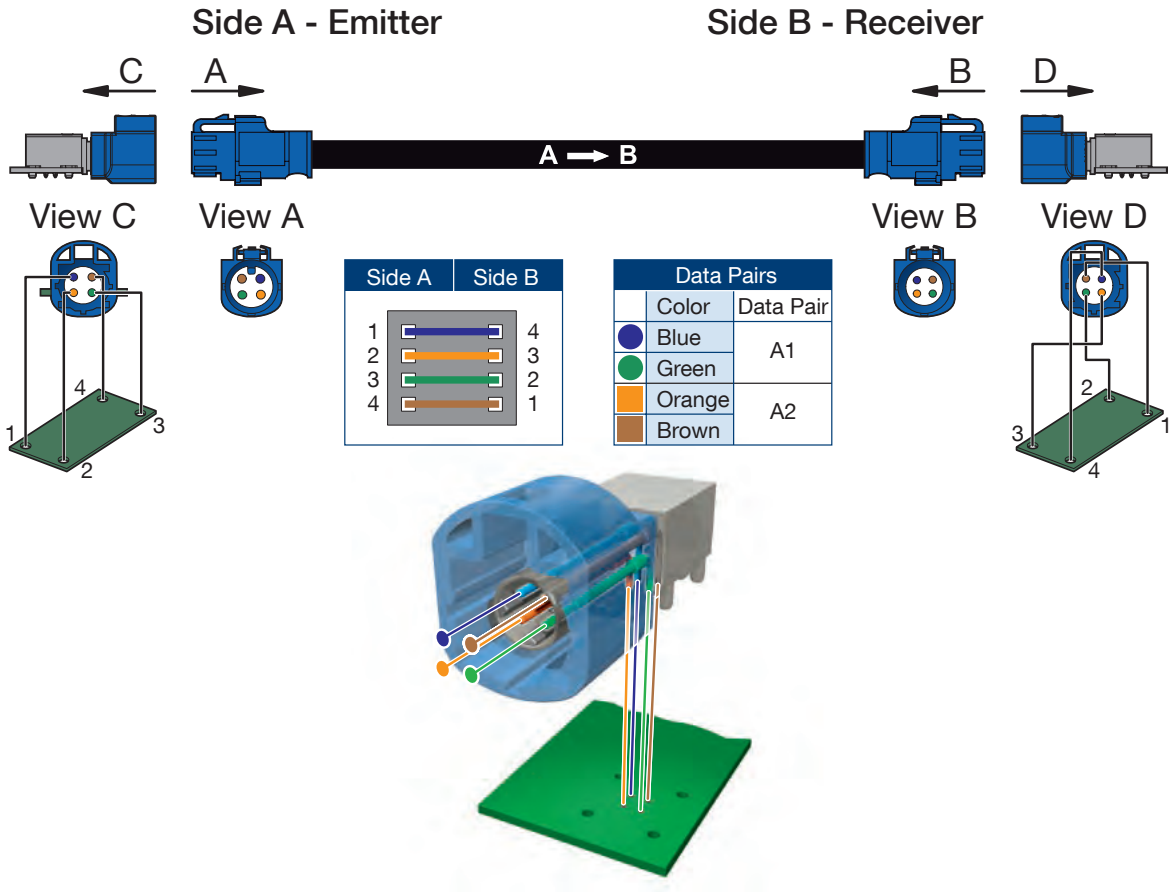
Outer contact	AuroDur®, Nickel, Tin
Signal contacts	AuroDur®

Rosenberger connectors fulfill in principle the indicated data of the Technical Data. Individual values of connectors may deviate depending upon application, design, type of cable, assembly method and execution. Specific data sheets for particular products can be provided on request from your Rosenberger sales partner.

Interface Dimensions RosenbergerHSD®



Pinning RosenbergerHSD®

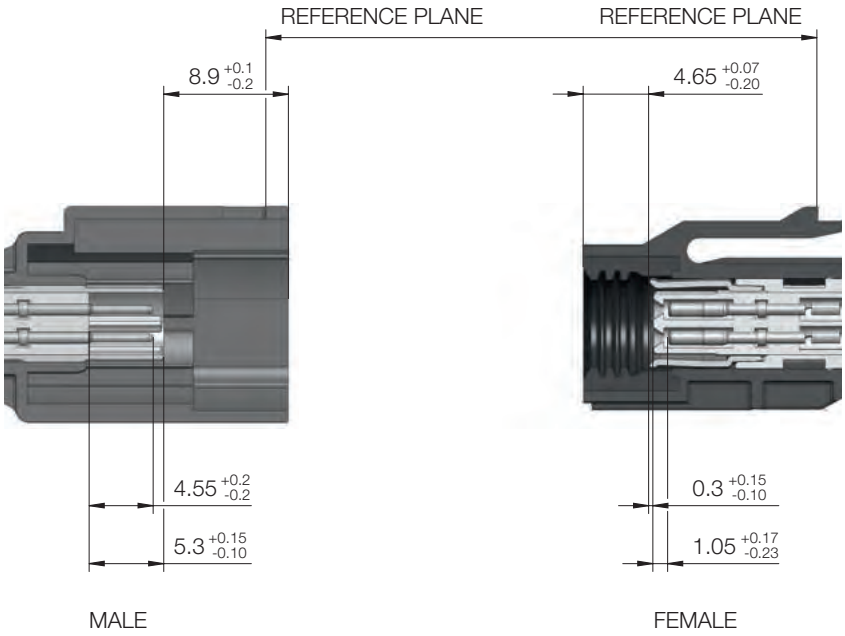


Pinning according Rosenberger norm RN_053-01

RosenbergerHSD® Connectors Waterproof

Mated waterproof RosenbergerHSD® connectors are suitable for outdoor use in the most demanding environments. The connectors are classified and tested according to DIN40050 IPX9K. Limited mating cycles up to 5.

Interface Dimensions RosenbergerHSD® Waterproof



RosenbergerHSD®t Technical Data

Technical Data RosenbergerHSD®t (Code D2)

Applicable Standards

Interface according to	RosenbergerHSD®t: RN_119-01 RosenbergerHSD®t waterproof: RN_119-04
Quality tested according to	Rosenberger Norm: RN_061-01

Electrical Data

Impedance	100 Ω
Frequency range depending on cable type	DC to 1 GHz
Return loss	$\geq \begin{pmatrix} 38 & 1 \leq f < 75 \\ 20 - 20\log\left(f/600\right) & 75 \leq f \leq 600 \end{pmatrix} dB^{*}$
Insertion loss	$\leq \left(0.01\sqrt{f}\right) dB^{*}$
Mode conversion loss	$\geq \begin{pmatrix} 55 & 10 \leq f \leq 80 \\ 77 - 11.51\log(f) & 80 < f \leq 600 \end{pmatrix} dB^{*}$
Skrew (between signal contacts) Straight connectors Right angle connectors	 ≤ 5 ps ≤ 25 ps
Near end crosstalk	≤ -30 dB, DC to 100 MHz
Far end crosstalk	≤ -35 dB, DC to 100 MHz
Insulation resistance	≥ 1 x 10^3 MΩ
Signal contact resistance	≤ 10 mΩ
Test voltage	250 V rms
Working voltage	60 V rms
Contact current depending on cable type	≤ 3 A DC @ 85 °C ambient temperature

* f in MHz

Mechanical Data

Mating cycles (standard, non waterproof)	≥ 25
Mating cycles (waterproof)	≥ 5
Engagement force	≤ 30 N
Engagement force waterproof	≤ 40 N
Disengagement force	≥ 5 N
Retention force latch	≥ 110 N
Retention force primary lock	≥ 80 N
Retention force secondary lock	≥ 60 N
Polarization feature effectiveness	≥ 80 N
Cable torsion depending on cable type	≥ 20 Ncm

Environmental Data

Temperature range	-40 °C to +105 °C
Thermal shock	IEC 60068-2-14
Vibration	IEC 60068-2-64
Mechanical shock	IEC 60068-2-27
Temperature and humidity	USCAR 2-4 5.6.2
Dry heat	IEC 60068-2-2
Max. soldering temperature	IEC 60068-2-58, group 3 & 4

Materials

Signal contacts	CuZn, CuSn (Brass, Bronze), or equivalen
Dielectric	PA, LCP, or equivalent
Gasket	Silicone, Rubber, or equivalent
Crimping ferrule	CuSn (Bronze), or equivalent
Plastic housings and secondary lock	PA, PBT, or equivalent

Platings

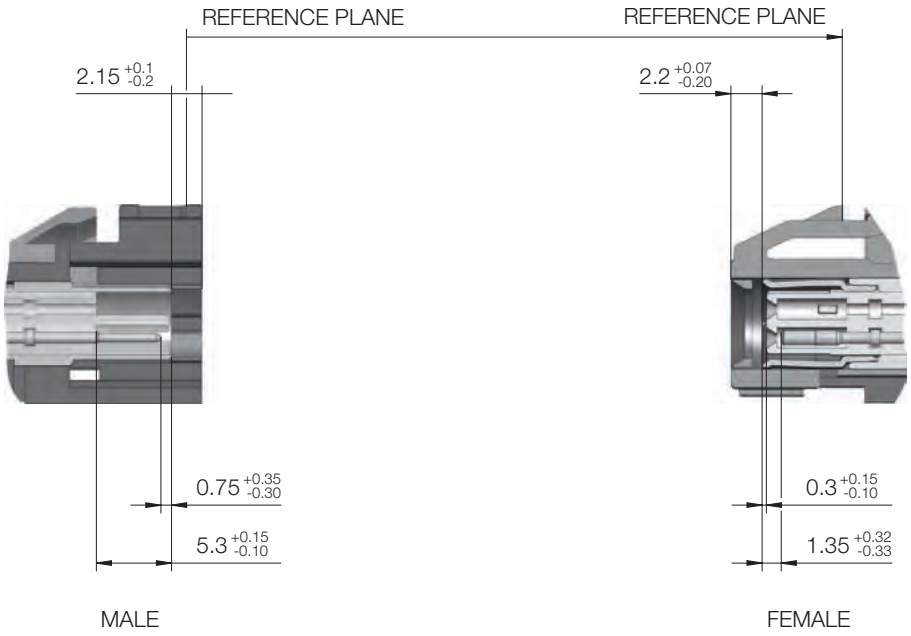
Signal contacts	AuroDur®

Rosenberger connectors fulfill in principle the indicated data of the Technical Data. Individual values of connectors may deviate depending upon application, design, type of cable, assembly method and execution. Specific data sheets for particular products can be provided on request from your Rosenberger sales partner.

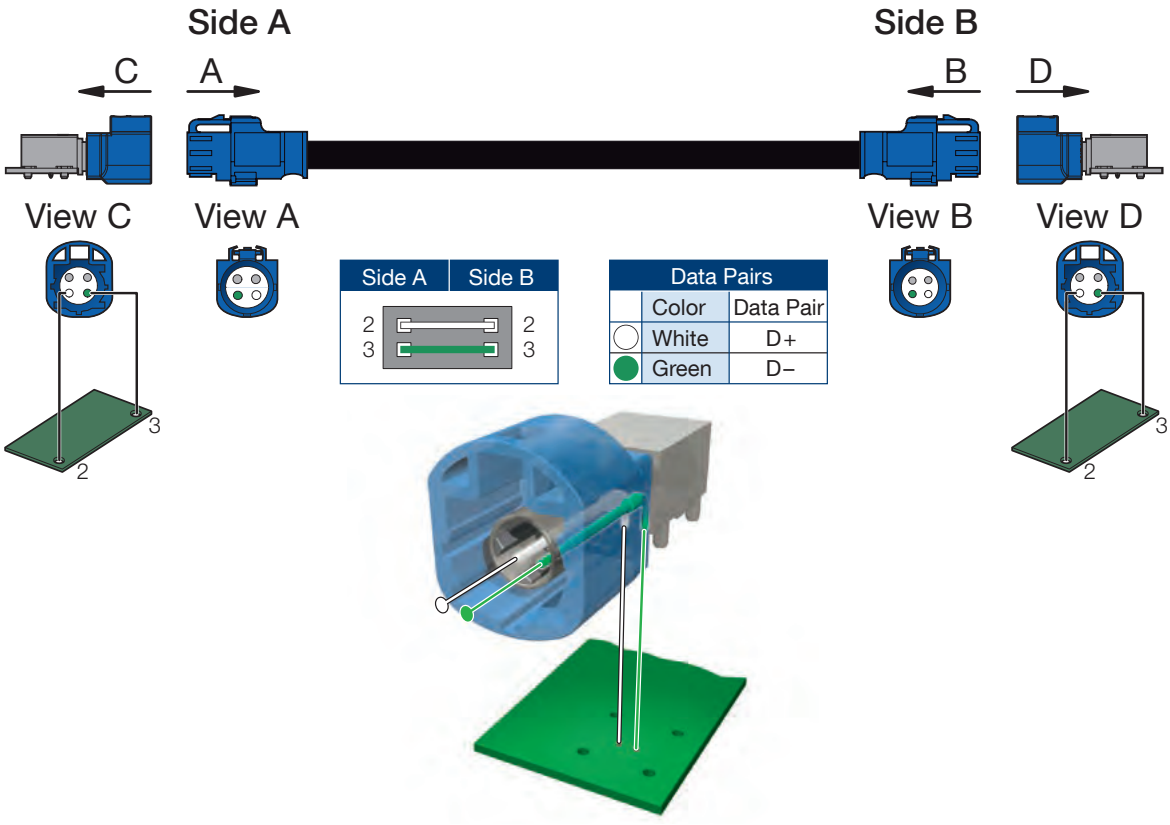
RosenbergerHSD®t Connectors

RosenbergerHSD®t connectors are mechanically based on standard Rosenberger®HSD design, but they are using just one data pair. Featuring the well-known piece parts of the standard RosenbergerHSD® system they are very cost-efficient high-speed data connectors. The RosenbergerHSD®t are used in Ethernet applications.

Interface Dimensions RosenbergerHSD®t



Pinning RosenbergerHSD®t



Pinning according Rosenberger norm RN_119-11

RosenbergerHSD®t Connectors Waterproof

Mated waterproof RosenbergerHSD®t connectors are suitable for outdoor use in the most demanding environments. The connectors are classified and tested according to DIN40050 IPX9K. Limited mating cycles up to 5.

Interface Dimensions RosenbergerHSD®t Waterproof