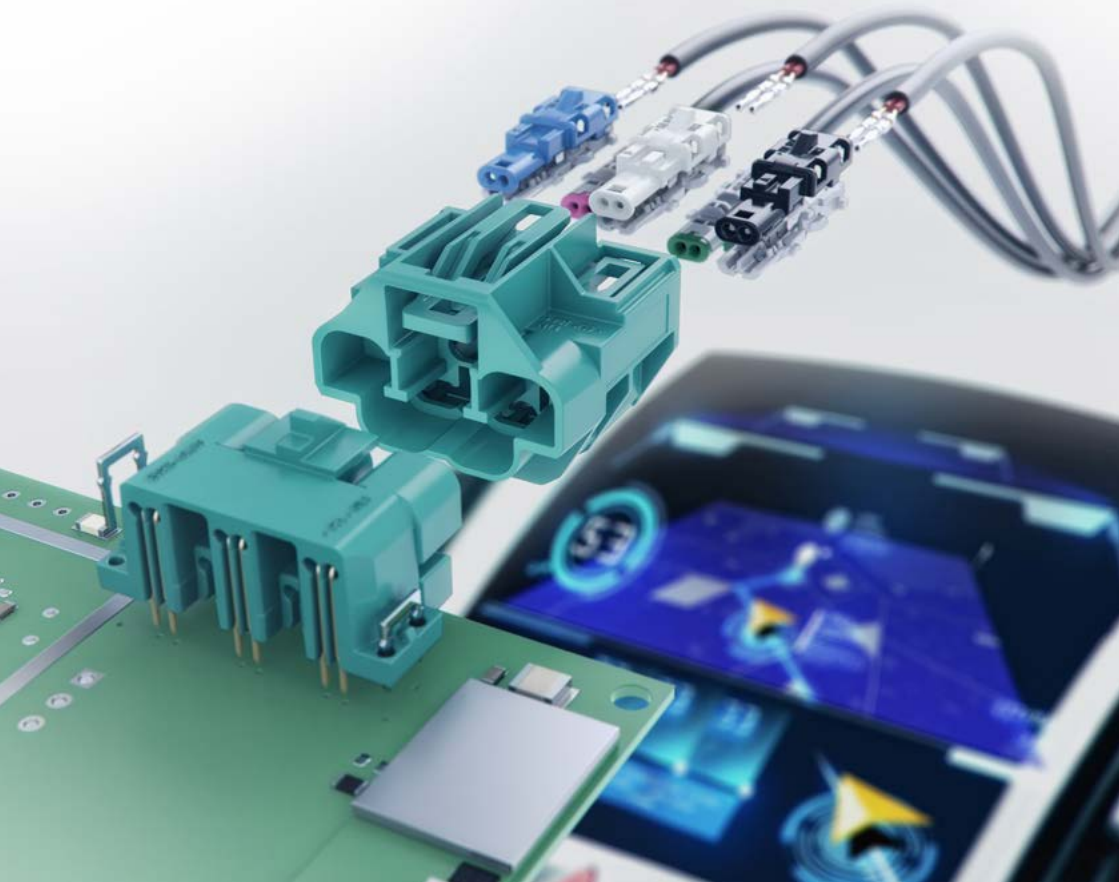


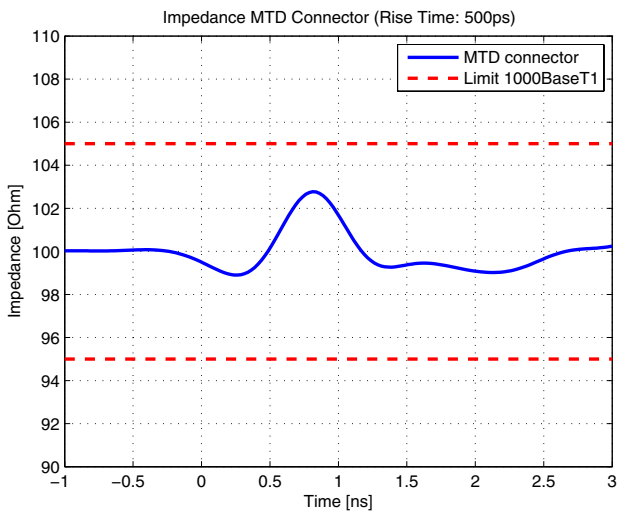
# Rosenberger

Modular Twisted-Pair Data Connectors  
for Ethernet Applications

## MTD<sup>®</sup> Connector Systems

AUTOMOTIVE

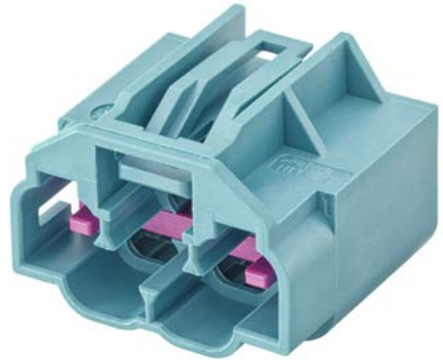




## OVERVIEW

The Rosenberger MTD<sup>®</sup> Connection System is an Ethernet transmission system for jacketed Twisted-Pair cables. During development special focus was set on characteristics cost, weight and construction size and the aim for consequent reduction of these. New standards are set for the implementation of Ethernet 100 Mbit/s and 1 Gbit/s (for 1-way connection) into cars due to the excellent system performance. The MTD<sup>®</sup> (Modular Twisted-Pair Data) connector interface is a free standard. The significant advantage of the Rosenberger MTD<sup>®</sup> connection system is the impedance controlled transition area from cable to connector interface compared to existing solutions on the market.

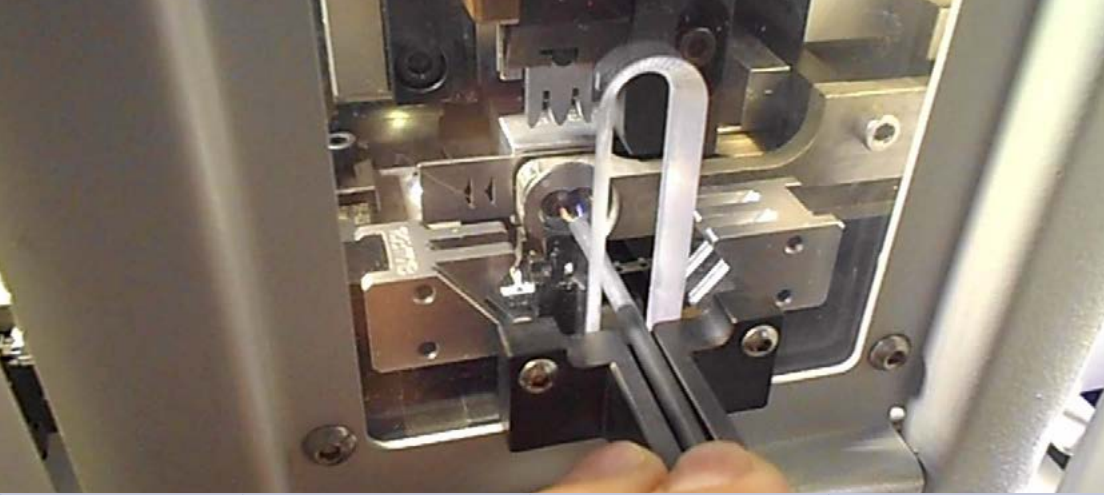
Small construction size in combination with several coding features allows placing of multiple wire pairs right next to each other still maintaining smallest installation space. The honeycomb structure provides low crosstalk, good symmetry and can be extended modularly. Furthermore during design phase key points as ergonomics, workability and repair facilities were taken into account ensuring best electrical system performance. Jacketing a Twisted-Pair cable enables a reduction in wire size from 0.35 mm<sup>2</sup> to 0.14 mm<sup>2</sup> with same costs and optimized performance characteristics.



## PRODUCT FEATURES

- The MTD® system for modern automotive applications (100 Mbit/s & 1 Gbit/s for 1-way connection)
- Newly developed connection system for optimized jacketed cable
- Cost optimized products
- Optimized in weight and installation space
- Elaborate and well designed for chip to chip applications
- For highest automotive requirements – US Car 2
- Mechanically robust design
- Best conditions: manual, semi-automated and fully automated assembly process
- Standard round contacts applicable
- Radial free positionable contacts
- Stressless and torsion free contact assembling

MTD® fulfills channel requirements in terms of adaptation, symmetry and cross talk according to 100BASE-T1, 1000BASE-T1 (for 1-way connection), OPEN Alliance TC2 and BroadR-Reach® Spec 3.2.



## TECHNICAL DATA

### Code E7

#### Electrical Data

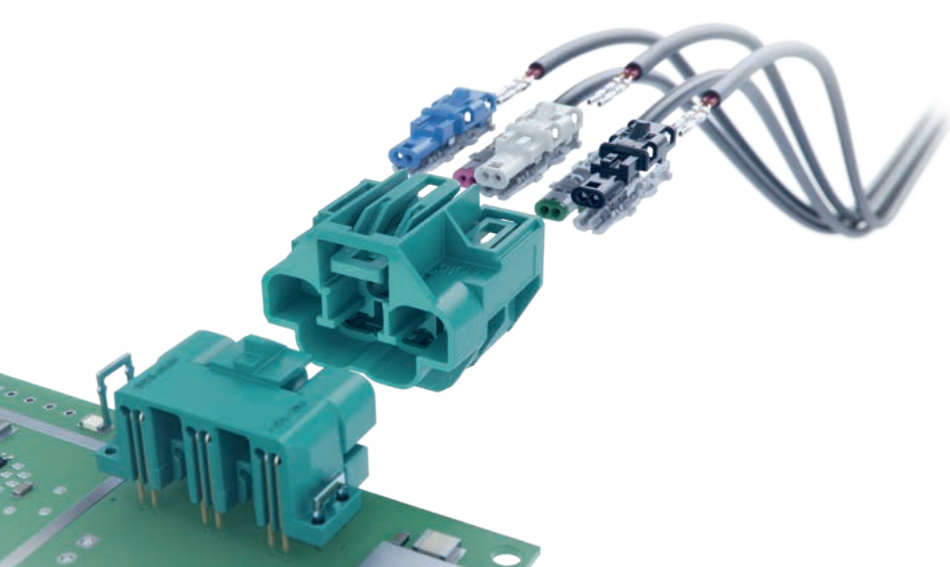
Impedance of connector inclusively transition area to cable	100 $\Omega$ $\pm$ 10 $\Omega$ at 700 ps rise time
Frequency range	DC to 1.0 GHz
Ampacity	$\leq$ 1.5 A DC
Contact resistance	$\leq$ 10 m $\Omega$

#### Mechanical data

Retention force latch	> 110 N
Retention force secondary lock to fix carrier	> 80 N
Number of codings (1-way)	8 (A, B, C, D, E, F, G, H, Z)
Coding efficiency	> 80 N






#### Environmental data

Temperature range	-40 $^{\circ}$ C to +105 $^{\circ}$ C
Thermal shock	acc. to DIN EN 60068-2-14
Temperature and humidity	acc. to US Car 2 – 4.5.6.2
Vibration (random)	acc. to DIN EN 60068-2-64
Mechanical shock	acc. to DIN EN 60068-2-27
High temperature exposure	acc. to DIN EN 60068-2-2



## PRODUCT PORTFOLIO

### MTD® Connectors

Rosenberger No.	Description	Product
E7S10A-40MX5-y*	PCB plug straight 1-way	
E7S20A-40MX5-y*	PCB plug right angle 1-way	
E7S20E-40MX5-y*	PCB plug right angle 5-way	
E7Z004-000-y*	Housing jack 5-way	
E7K10A-1AQX5-y*	Cable jack straight Insert for housing E7Z004-000-y	
E7K11A-1AQX5-y*	Cable jack straight	
E7S11C-1AQX5-y*	Cable plug straight	

\* -y: please fill-in requested coding



## Website

For more information refer to our website:  
[www.rosenberger.com/mtd](http://www.rosenberger.com/mtd)

## **Rosenberger**

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Certified by IATF 16949 · DIN EN 9100 · ISO 9001 · ISO 14001

Order No.

pA 286975 · Info221MTDFly

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