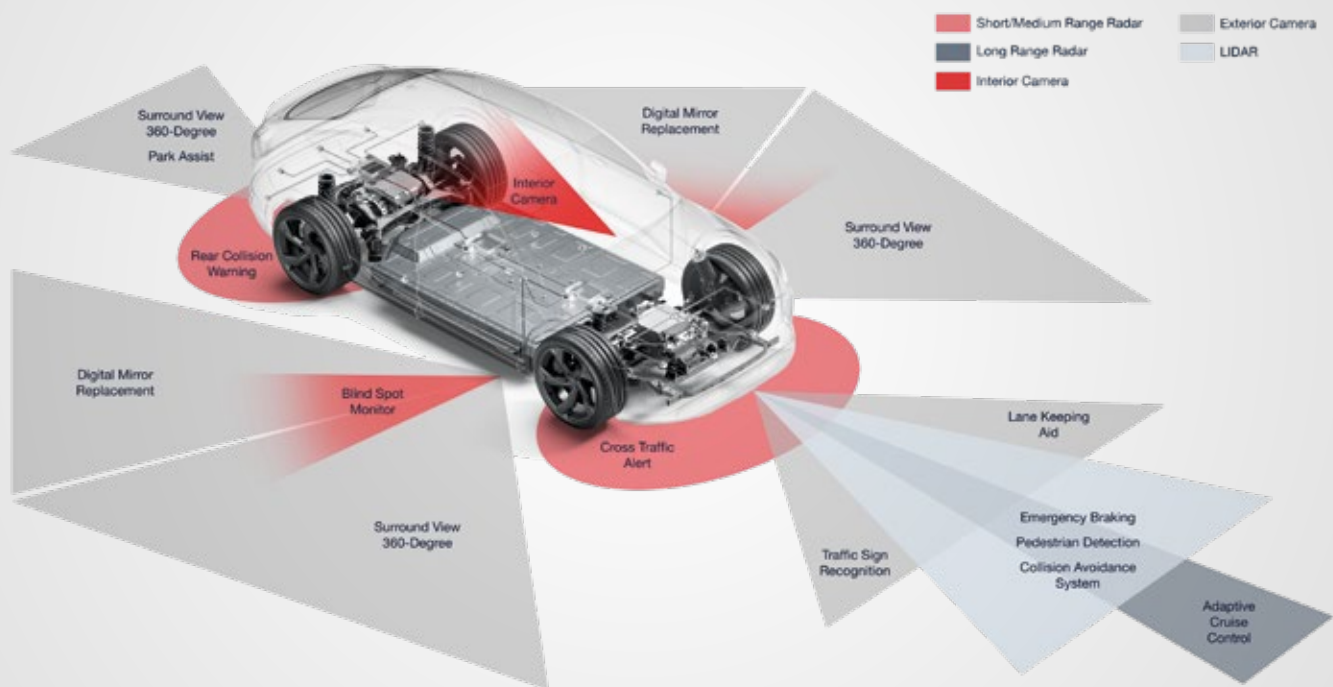


FAKRA | HFM® | RMC® Flexible Interfaces

Modular Camera Solutions

AUTOMOTIVE





Your Connection to all Camera Applications for ADAS and Autonomous Driving Technologies

Flexible coaxial interfaces FAKRA, HFM®, RMC® for all LiDAR, radar and camera applications in vehicles such as surround view, front, rear and mirror cameras.

Benefits

- Tailored housings according to customer specifications, sealed or unsealed in unmated condition
- Connectors with or without tolerance compensation, full backhousing, flange or pigtail options
- Different housing materials available
- Maximum robustness and EMC shielding in versatile designs
- Flexible mounting height of the PCB in the camera housing possible

Camera Applications Examples

Surround



Front



Rear



Mirror



Modular Camera Solutions

Integrating expertise and materials to meet unique requirements



Flexible Coaxial Interfaces FAKRA, HFM®, RMC® for all Camera Applications in Vehicles

- Customized design with special assembly and mounting features
- Coaxial interfaces (FAKRA, HFM®, RMC®)
- Possibility to seal the interface in an unmated condition according to agreed test criteria and EOL parameters
- Various interface angles are available
- The position of the PCB can be varied in Z-direction according to customer specification
- Modular design and combinations

Interfaces to the Wiring Harness

There are various coaxial interfaces available for camera applications:

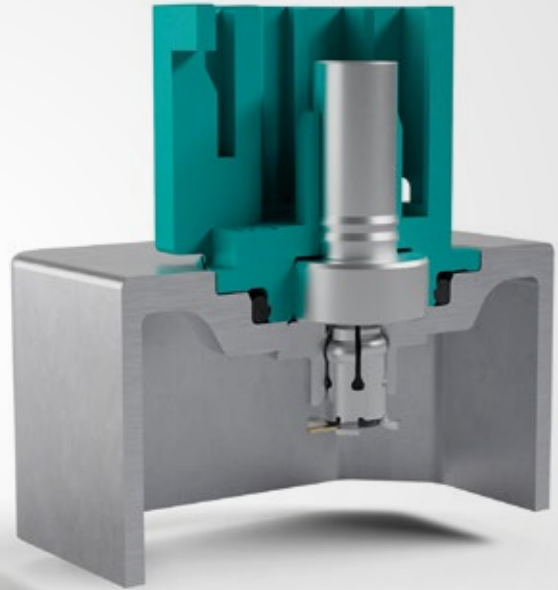
- HFM®-Interface (up to 20 GHz)
- RMC®-Interface (up to 9 GHz)
- FAKRA-Interface (up to 6 GHz)

PCB Header



99K10A-40MT5

Back Housing



Without Tolerance Compensation

Features

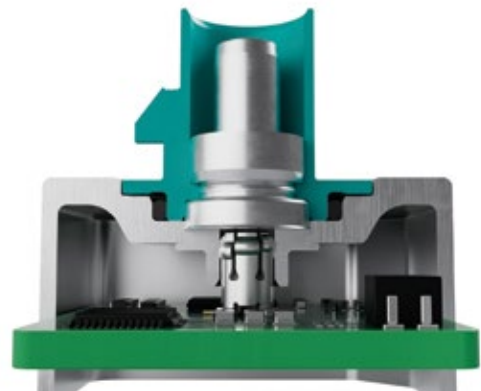
- Combination with customized back housing and adaptor/bullet
- Camera internal interface universally applicable for FAKRA, HFM®, RMC®
- Tolerance compensation in Z direction of ± 0.5 mm
- SMD PCB footprint

Electrical Data (in current application)

- Impedance 50Ω

Mechanical Data

- Mating cycles ≤ 10
- Engagement force ≤ 25 N
- Validation according to customer specification (in combination with application specific back housing)

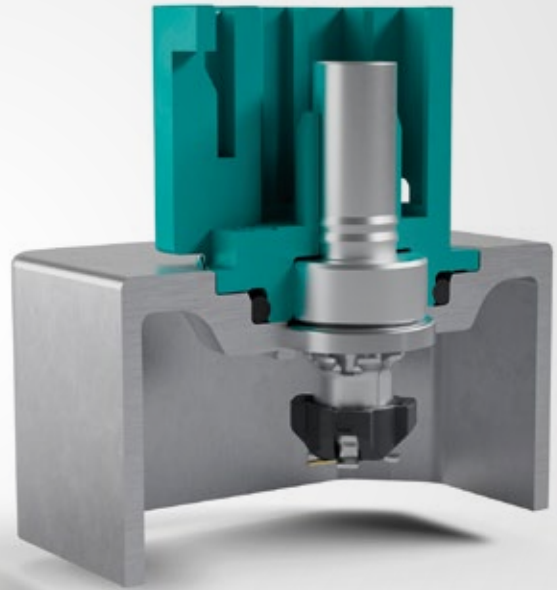


PCB Header



99S10K-40MT5

Back Housing



With Tolerance Compensation

Features

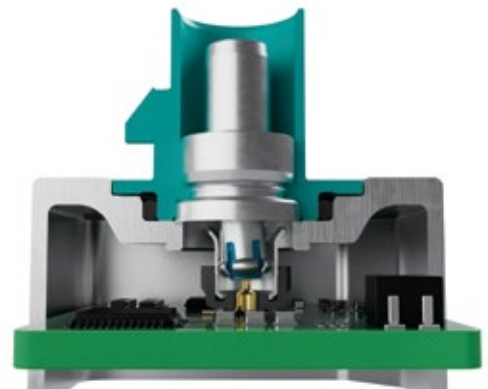
- Combination with customized back housing and adaptor/bullet
- Camera internal interface universally applicable for FAKRA, HFM®, RMC®
- Tolerance compensation in X, Y and Z direction of ± 0.5 mm and max. 1.5° tilting angle
- SMD PCB footprint

Electrical Data (with maximum tolerance compensation)

- Impedance 50Ω

Mechanical Data

- Mating cycles ≤ 10
- Engagement force ≤ 10 N
- Validation according to customer specification
(in combination with application specific back housing)





Various Materials – Modular Combinations

Rosenberger offers various material options for camera and interface housings, such as metal and plastic, as well as modular combinations.

Backhousing/Interface Housing Metal e.g. Aluminum

- Excellent EMC shielding
- Mechanically robust



Metal housing

Backhousing/Interface Housing Plastic

- Optional EMC shielding



Plastic housing

Backhousing Metal & Interface Housing Plastic

- Excellent EMC shielding
- Modular base for various interface solutions
- Cost optimized



Metal/plastic housing



Layout Recommendation – SMD Footprint

Surface-mount devices (SMDs) are compact components that are soldered directly onto the PCB.

Their high-frequency performance and connection quality depend on several factors, including substrate thickness and board design. Rosenberger provides detailed layout recommendations and optimized footprints to ensure reliable performance and manufacturability.

Recommended SMD Footprint

- One document MB_764 for both PCB connectors 99K10A-40MT5 and 99S10K-40MT5
- Application optimized PCB footprint available on request





Space-Optimized Connectivity for Driver Monitoring Systems

Integrating driver monitoring cameras into tight spaces such as the steering column, rearview mirror, or A-pillar requires advanced connector solutions.

Rosenberger addresses this challenge with a newly designed DirectLink pigtail connector in customer-specific requirements, based on the proven HFM® series and standard PCB connector.

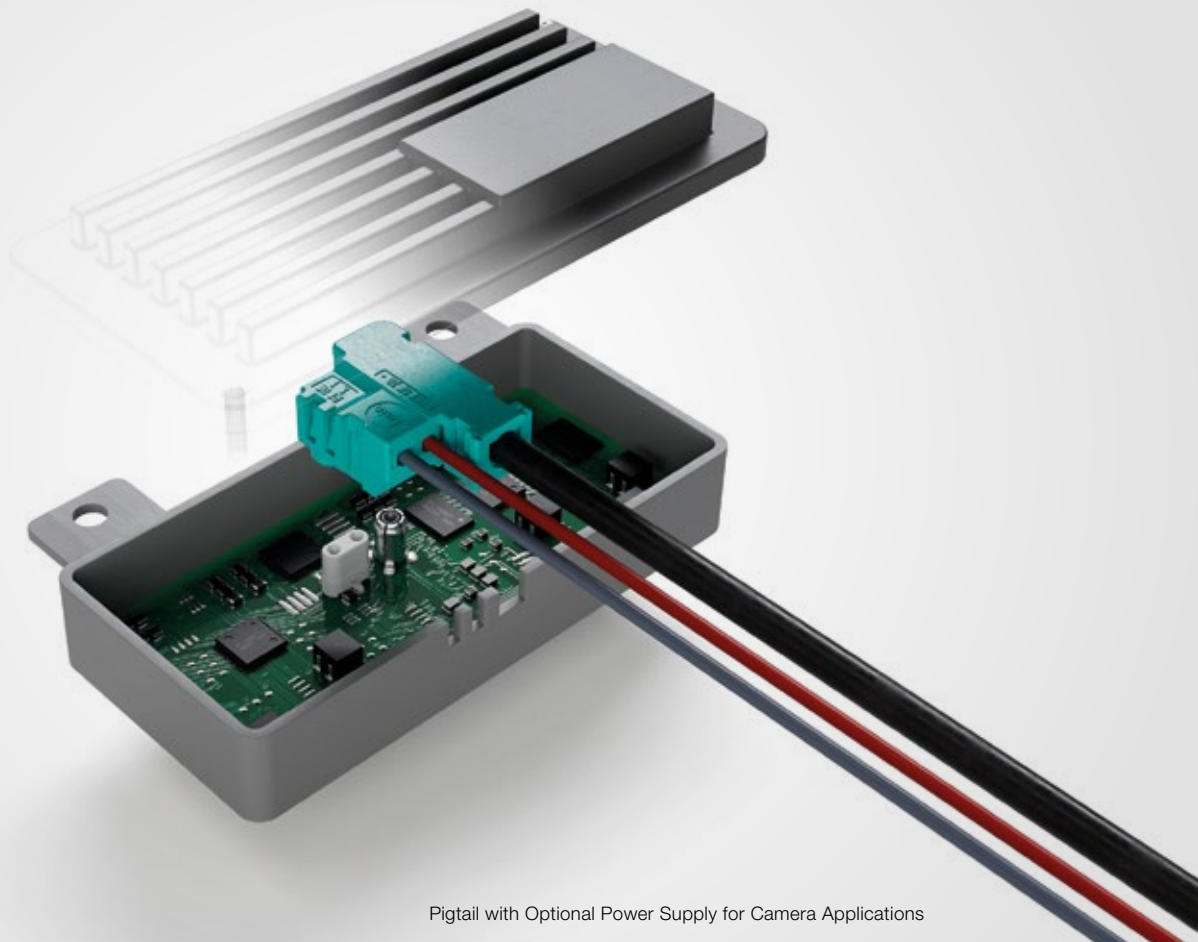
Its compact design – 10 mm shorter than standard solutions – enables flexible installation in highly constrained environments.



DirectLink – Wire-to-Board Solution Optional with Scalable Power Pins

The fully assembled pigtail solution ensures reliable data transmission and scalable power supply (MQS pins) up to the interface within the vehicle wiring harness. It supports all common cable-side interfaces including FAKRA, HFM®, and RMC®.

Thanks to a fully automated assembly process, the solution offers excellent repeatability and cost-efficient manufacturing, making it ideal for large-scale deployment in driver assistance applications.



Pigtail with Optional Power Supply for Camera Applications

Customer Specific Solutions – DirectLink Pigtail Connection to PCB

Features

- Compact size – 10 mm smaller than standard
- Right angle connector with new design
- Data and power transmission
- Delivery option for the complete camera connection system integrated within the cable assembly

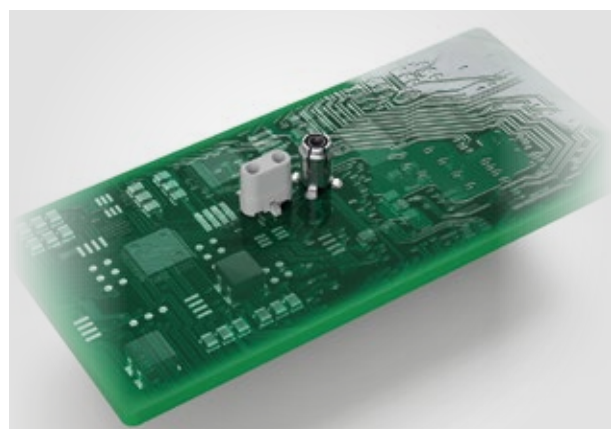
Benefits

- Space optimized solutions for demanding packaging situation
- Tolerance compensation possible
- Internal interface based on HFM®
- Different interfaces on cable side (FAKRA, HFM®, RMC®)
- Fully automated cable assembly process

Interface compatible to PCB header 99K10A-40MT5

Patented clinch crimp:

- High tension force capability with miniaturized crimp area
- 100% stamped and formed metal parts





Rosenberger Global Network

Rosenberger is one of the world's leading manufacturers of impedance controlled and optical connectivity solutions. It provides connectivity 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 or aerospace engineering.

A global network of R&D, manufacturing and assembly locations provides innovation, optimized cost structure and excellent customer services world-wide.

Headquarters

Rosenberger Hochfrequenztechnik GmbH & Co. KG

Hauptstraße 1 | 83413 Fridolfing

P.O. Box 1260 | 84526 Tittmoning | Germany

Phone +49 8684 18-0

info@rosenberger.com

www.rosenberger.com

Rosenberger Automotive – a Synonym for Quality and Innovation

Our team around the globe stands for sales, production and design of high-quality connector systems. Our products fulfill the tough requirements of the automotive industry.

Sales Automotive Europe

Germany

Rosenberger Hochfrequenztechnik GmbH & Co. KG
Hauptstraße 1 | 83413 Fridolfing | Germany
Phone + 49 8684 18 1694
automotive@rosenberger.com

France

Rosenberger Automotive France
43 Rue de Belfort | 25200 Montbéliard | France
Phone + 33 9 87 71 67 67
Mobile + 33 7 87 50 51 59
automotive.france@rosenberger.com

Italy

Rosenberger Italia Srl
Via Torri Bianche 7 - Piano 7
20871 Vimercate (MI) | Italy
Phone + 39 039 96 30306
info-italia@rosenberger.com

Spain

Rosenberger Telecom, S.A.
C/Lozoya n°2, nave 18 - P.I. Ventorro del Cano
28925 Alcorcón - Madrid | Spain
Phone + 34 91 352 8352
Fax + 34 91 352 9813
rosenberger@rosenberger.es

Sweden

Rosenberger Sverige AB
Fågelsångsvägen 7B | 18642 Vallentuna | Sweden
Phone + 46 8 636 2600
info@rosenberger.se

United Kingdom

Rosenberger UK Ltd.
York House, Cottingley Business Park
Bradford, BD16 1PE | England | United Kingdom
Phone + 44 7980 730423
automotive.uk@rosenberger.com

North America

USA

Rosenberger Automotive USA
Fairlane Office Center
6 Parklane Boulevard, Suite 503
Dearborn, MI 48126 | United States of America
Phone + 1 734 673 4131
Phone + 1 248 259 5750
automotive.usa@rosenberger.com

South America

Brazil

Rosenberger Domex Telecom Ltda.
Cabletech Avenue, 601 Guamarim
CEP 12295-230
BR-Cacapava - São Paulo | Brazil
Phone + 55 12 3221 8500
Fax + 55 12 3221 8543
vendas@rosenbergerdomex.com.br

Chile

Rosenberger Sudamérica Ltda.
Aldunate 1961, Santiago 836-1195 | Chile
Phone + 56 2 3 67 11 70
Fax + 56 2 3 67 12 78
rosenberger@rosenberger.cl

Asia

China, Asia, Australia

Rosenberger Asia Pacific Electronic Co., Ltd.
No. 3, Anxiang Road, Block B
Tianzhu Airport Industrial Zone
Beijing 101300 | PR China
Phone + 86 10 80 48 19 95
Fax + 86 10 80 48 24 38
info@rosenberger.com.cn

Japan

Rosenberger Automotive Japan, LLC.
KITOKI 3F, 8-5 Nihonbashikabuto-cho, Chuo-ku
103-0026 Tokyo | Japan
Phone + 81 3 5860 9440
automotive.japan@rosenberger.com

Korea

Rosenberger Automotive Korea
#1104, ACE Gwanggyo Tower 3
77, Changnyong-daero 256beon-gil,
Yeongtong-gu, Suwon-si, Gyeonggi-do, 16229 | Republic of Korea
Phone + 82 70 7779 2236
Mobile + 82 10 4729 6194
automotive.korea@rosenberger.com

India

Rosenberger Interconnect India Private Limited
Plot No. 263, Sector 6
IMT Manesar, Gurugram
Haryana-122050 | India
Phone +91 832 6686600
contact-rin@rosenberger.com



Website

For more information refer to our website:
www.rosenberger.com/aut-camera

Rosenberger

Rosenberger Hochfrequenztechnik GmbH & Co. KG

Hauptstraße 1 | 83413 Fridolfing

P.O. Box 1260 | 84526 Tittmoning

Germany

Phone +49 8684 18-0

info@rosenberger.com

www.rosenberger.com

Certified by IATF 16949 · DIN EN 9100 · ISO 9001 · ISO 14001 · ISO 45001 · ISO 50001

Order No.
10126893 · Info216AUT-CameraEN
2000/2025

Rosenberger® is a registered trademark by Rosenberger Hochfrequenztechnik GmbH & Co. KG.
All rights reserved.

© Rosenberger 2025