

Global market coverage

All LEONI Dacar Ethernet cables can be produced at any of our worldwide facilities in Germany, Slovakia, Mexico, Hungary as well as China and be tested with up-to-date RF measurement technology.

LEONI's work on standardisation committees

As participants in committees as IEEE, OPEN Alliance SIG and SAE, we keep pace with the times and consider technology trends at an early stage in developing our data cables. Our work on the automotive Ethernet standardisation committees gives us the opportunity for an in-depth exchange of ideas with others in the automotive and electronics industries.



Automotive & Commercial Vehicles

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Business Group

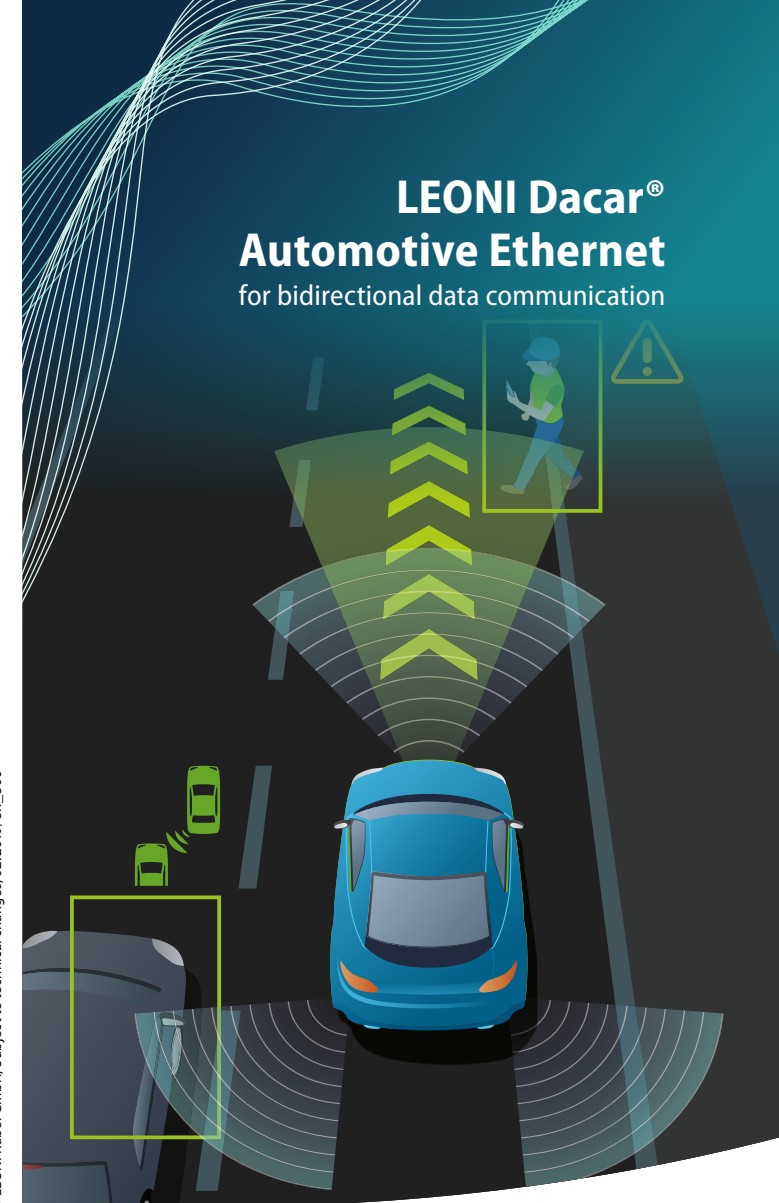
Automotive Cable Solutions

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LEONI Dacar® Automotive Ethernet

for bidirectional data communication

The Quality Connection

LEONI

The introduction of Ethernet for automotive applications forms the basis for ongoing bandwidth growth. The 100Base-T1 resp. 1000Base-T1 standard applies for common data communication. This facilitates bidirectional data transfer at 100 Mbps and 1 Gbps ethernet standard across a single, unshielded twisted-pair cable.

For single-pair, unshielded data cables, OPEN Alliance SIG has specified the following HF parameters for 100 Mbps cables:

- **Impedance:**
Z [Ω] 100 ± 10
- **Insertion loss:**
IL [dB/m] 0.06 at 1 MHz, 0.16 at 10 MHz, 0.31 at 33 MHz, 0.45 at 66 MHz
- **Return loss:**
RL [dB] 20 at 1 MHz, 20 at 20 MHz, 14.8 at 66 MHz
- **Longitudinal conversion transfer loss:**
LCTL [dB]: 46 at 1 MHz, 46 at 50 MHz, 34 at 200 MHz
- **Longitudinal conversion loss:**
LCL [dB]: 46 at 1 MHz, 46 at 50 MHz, 34 at 200 MHz

LEONI Dacar Ethernet cables are fulfilling these specifications with the twisted-pair structure – also under adverse environmental conditions.

LEONI Dacar Ethernet cables portfolio

LEONI is not satisfied with and aims to exceed this standard. LEONI's Dacar Ethernet cables have such defined transmission properties as the high mode conversion loss required for the use of unshielded cables. The sheathed cable's design enables minimising of such adverse effects as ageing, dirt and humidity when the cable harness is fitted.

We offer shielded LEONI Dacar Ethernet cables for use in EMC-sensitive installation spaces. These are already being deployed in series production for surround-view camera systems.

Future cable generations will play an important role; for instance, in linking components for Car-to-X communication. We are currently finalising solutions for 1 Gbit data transmission and are working on solutions for Multi-Gigabit.

Portfolio of standard cables for application 100 Mbps Ethernet (unshielded)

Main type	Cross-section	Conductor material	Temperature range	Use
LEONI Dacar® 546 (546-V)	2 x 0,35 mm ²	tinned copper strand	-40 to +125 °C	low insertion loss – long extensions
LEONI Dacar® 626	2 x 0,14 mm ²	tinned copper strand	-40 to +125 °C	optimised in diameter
LEONI Dacar® 547	2 x 0,13 mm ²	bare copper alloy strand	-40 to +125 °C	high tensile strength

Derivates: Solutions with other cross sections – also shielded – are feasible on request

