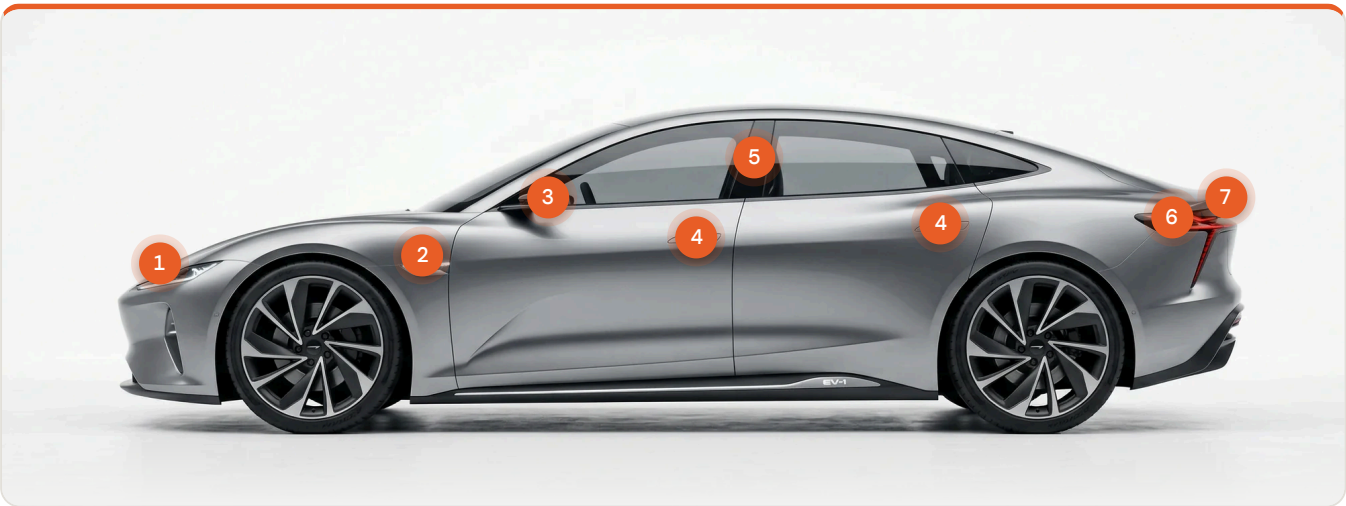
AUTOMOTIVE · EXTERIOR CONTROLS

Solid-State Touch for Automotive Exteriors

Standard exterior parts, such as door handles, tailgate latches, emblems, and trims, become responsive solid-state controls. The technology is integrated invisibly behind solid surfaces, with no moving parts, cutouts, or seals. The surface stays unbroken and simply does more.

- **Series-approved**
  Validated by a major European OEM
- **Any surface**
  Senses through metal, glass, or plastic
- **All-weather**
  Rain, snow, and car-wash proof
- **Fewer parts**
  Lower cost, simpler assembly

Where it integrates



1. **Front emblem / grille**
   Activation behind the front design surface
2. **Charging port**
   Touch-to-open, fully sealed panel
3. **Mirror housing**
   Fold, adjust, or signal functions
4. **Door handles**
   Sealed entry, works with gloves
5. **B-pillar / door trim**
   Hidden touch zones in trim surfaces
6. **Rear light unit**
   Activation through the lens assembly
7. **Tailgate / rear emblem**
   Emblem becomes a trunk release

> **The surface is the control.**
>
> Any exterior part can sense a deliberate touch, with no buttons, no seals, and no visible change to the design surface.

Smart surfaces

- **Seamless integration**
  Sits invisibly behind solid surfaces such as metal, plastic, and glass, with no moving parts, cutouts, or seals, and no visible change to the design surface.
- **Lower cost, simpler assembly**
  Eliminates mechanical buttons, seals, and holes, reducing cost and removing common points of failure and ingress.
- **All-weather reliability**
  Works in rain, snow, dirt, and with gloves. Rain and car washes do not false-trigger it, overcoming the weaknesses of mechanical and capacitive systems.

Value for Tier 1 partners

- **Increase module value**
  Turn standard components into high-value functional modules, expanding your scope and margin per program.
- **Offer innovation**
  Provide OEMs with a durable, lower-cost, and faster-to-assemble solution, backed by proven sensing technology and integration support.
- **Meet OEM trends**
  Directly supports the move toward seamless, hidden-until-lit, integrated exterior design.

Core technology and features

- **Deformation-based sensing**
  A proprietary method converts microscopic surface deflection from a touch or knock directly into an electrical signal.
- **Broad material range**
  Functions through solid metal, for example 3 mm stainless steel, as well as glass and a range of plastics.
- **Knock and tap recognition**
  Recognizes knock and tap sequences, for example a tailgate release with an elbow.
- **Stable under interference**
  Advanced algorithmic filtering ensures high accuracy and eliminates false positives from vibration, interference, and temperature shifts.
- **Built-in diagnostics**
  Optional electronic and mechanical self-diagnostics report the health of every sensing point.

Technical specifications

ELECTRICAL	
Power consumption	5 to 10 µA
Operating voltage	0 to 24 V DC
Communication	CAN, UART, SPI, I2C, RS485, LIN
SENSING	
Touch sensitivity	From 0.25 N, real-time adjustable
Resolution	10 mm pitch, 0.5 mm crosstalk control
ENVIRONMENT & DURABILITY	
Operating temperature	-40 °C to +85 °C
Sealing	IP69K, fully sealed
Durability	Over 50 million activations
ROBUSTNESS	
Impact rating	IK10
EMC / ESD	Full interference & discharge protection

The +85 °C ceiling is a deliberate exterior-touch safety limit: above it, a body surface can become hot enough to burn skin. Final values are tuned to your part geometry, material, and program.

Validation and quality

OEM-VALIDATED

Approved for series production

Completed a leading European OEM's full qualification program: ESD, thermal and humidity cycling, vibration and mechanical shock, and safety.

QUALITY AND PRODUCTION

ISO 9001 certified

Modules are built to integrate into IATF 16949 Tier 1 production lines, with support for DFMEA, PFMEA, and validation.