

E-MOBILITY SOLUTIONS

AMP+ Charging Inlet Actuators

Widely adopted by global automakers, TE's actuators prevent premature or accidental charger disconnection, protecting vehicle occupants and system integrity

The **AMP+ Charging Inlet Actuator** is an electro-mechanical safety device designed to lock the charging connector securely into the car's inlet during the charging process. By driving a hardened locking pin into position and providing clear electrical feedback, the actuator ensures that the plug cannot be removed accidentally or by force while the car is in charging mode.



TE Connectivity's actuators are built to withstand demanding thermal, mechanical, and environmental conditions. They support all major regional charging interfaces, assuring compatibility across all markets worldwide. With millions of actuators deployed in high-volume serial production across leading global automakers, TE's design is proven, stable, and validated.

BENEFITS

- **Supports every major interface:** available in 16 variants covering Type 1/CCS 1, Type 2/CCS 2, GB/T, and NACS
- **Automaker-validated durability:** built for long service life (tested for up to 100,000 locking cycles) with extensive validation in real-world scenarios
- **Proven in mass production:** deployed extensively across multiple high-volume vehicle platforms
- **High customer satisfaction:** consistently strong OEM feedback for robustness, reliability, and integration ease
- **Unique self-locking feature:** holds the locking pin securely in place without continuous motor power
- **Fast actuation:** locks the charger in 50 to 300 ms for reliable engagement before current ramp-up
- **Harsh environment-ready:** operates from -40° C to + 85° C and meets IP65/IP67 sealing requirements
- **Simplified integration:** supports 3-pin and 4-pin MQS connectors for easy ECU alignment
- **Serviceable:** features a manual service unlock so drivers can disengage the locking pin if power-loss occurs
- **Compatible:** works with TE and non-TE charging inlets across multiple vehicle segments
- **System-level expertise:** designed by the same team that builds TE's charging inlets for seamless integration

WHAT AN ACTUATOR DOES



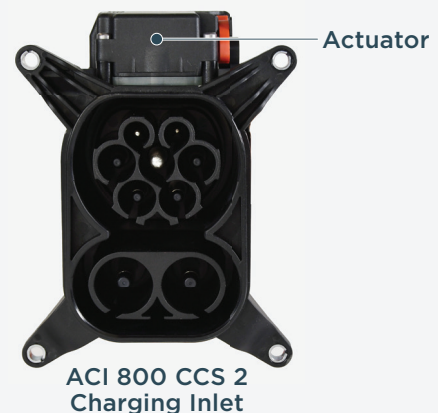
Locks the charging plug to the inlet during charging



Protects the driver and the car's charging system



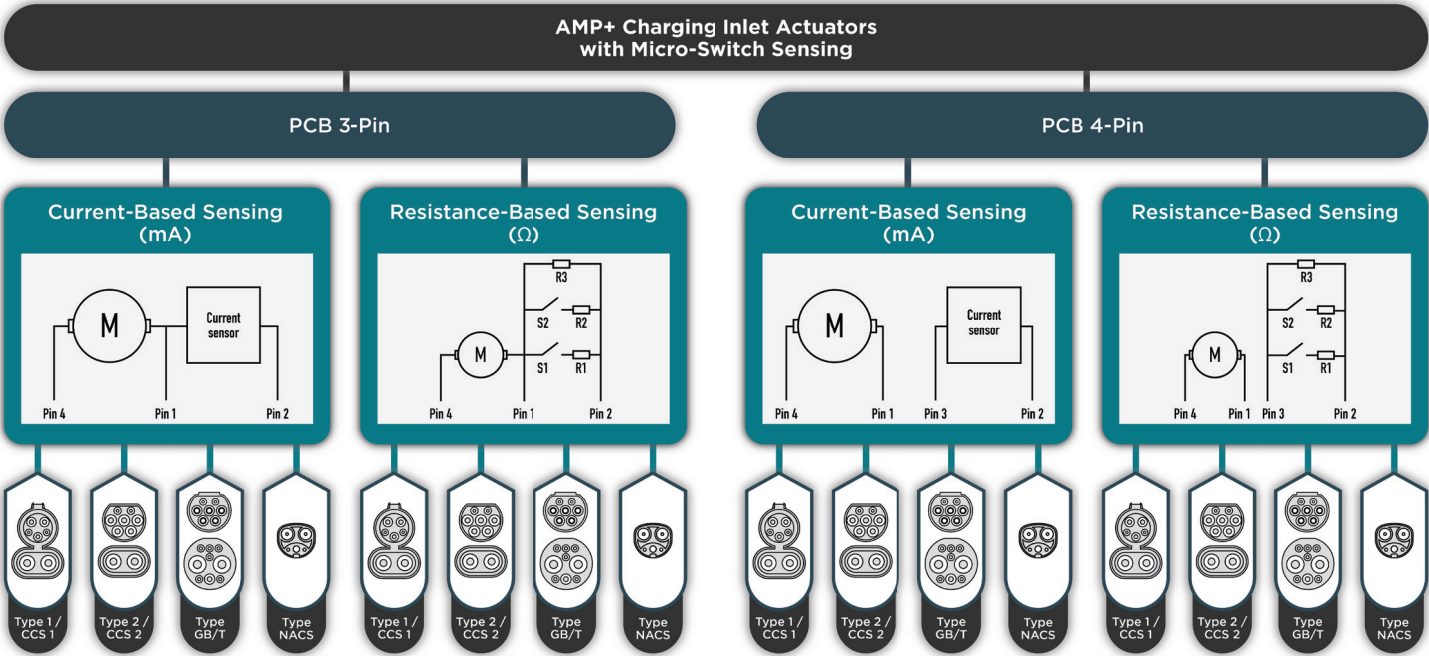
Enables safe IEC 62196-, GB/T 20234- and SAE J3400-compliant charging



AMP+ Charging Inlet Actuators

Secures a charging connector to an xEV’s inlet to prevent premature or accidental disconnection

SUPPORTS MAJOR REGIONAL INTERFACE STANDARDS



UNIQUE SELF-LOCKING MECHANISM

TE’s actuators incorporate a self-locking gear mechanism that holds the locking pin in place once it engages. Unlike systems that require continuous motor torque to maintain retention, the self-locking design prevents the pin from being back-driven.

This passive retention not only improves safety by resisting forced unplugging; it also enhances overall system robustness. Because the motor is not energized, the actuator avoids unnecessary thermal load, reducing power consumption and minimizing wear on internal components. The result is a more durable, efficient, and fail-safe locking function that strengthens the reliability of the vehicle’s high-voltage charging path.

TECHNICAL INFORMATION

Operating voltage	9 - 16 VDC
Current	0.65 - 1.9 A (temp. dependent)
Locking force	≥ 20 N
Blocking force	≥ 150 N
Lifetime	100k cycles
Temperature range	-40° C to +85°C
Sealing	IP65 / IP67 (ISO 20653)
Vibration resistance	LV214 / ISO 16750
Dimensions (mm)	64.0 x 42.75 x 30.0 mm
Standards compliance	IEC 62196, GB/T 20234, & SAE J3400

FOR MORE INFO

- Visit te.com/actuators or scan this QR code.

