

Connection solutions for the semiconductor industry

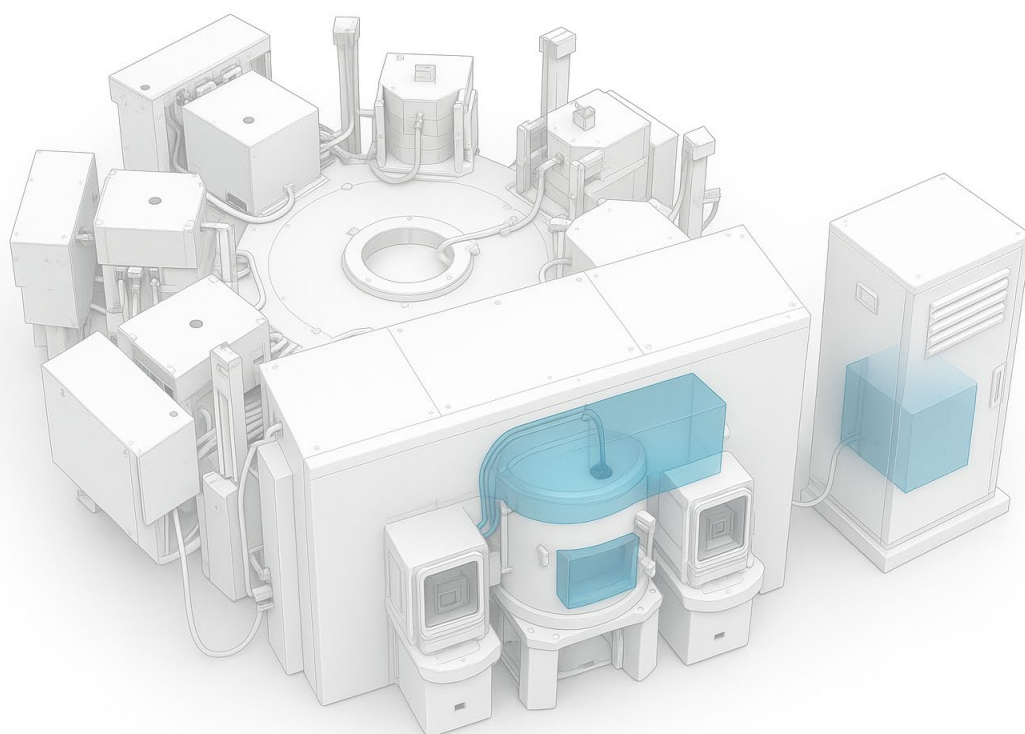
Semiconductor connection solutions | Industrial Connectors

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SEMICONDUCTOR CONNECTION SOLUTIONS

Reliable connections for mission-critical semiconductor equipment



Semiconductor machinery applications

From power distribution and RF stability to thermal management, Stäubli Electrical Connectors delivers robust, customizable solutions for mission-critical semiconductor equipment. As a long-standing partner to

leading OEMs, we understand the industry's rigorous requirements – and engineer connector technologies that consistently exceed them.



Stäubli Group
Swiss origins with
over 130 years' experience



Global Expertise
6000 employees in 28 countries



MULTILAM
Extremely durable and
reliable electrical contact

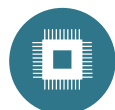
Solutions engineered for state-of-the-art semiconductor connections

Autonomous systems in semiconductor fabs require compact, high-performance, and ultra-reliable connectors. From plasma

chambers to wafer testing, Stäubli solutions ensure performance and reliability for the world's most advanced technologies.

Equipment type	Stäubli application highlights
Plasma etchers	High-frequency power delivery, RF integrity, thermal resistance
CVD/PVD systems	High-current modules with excellent shielding and cleanroom compatibility
Photolithography	Precision connections for thermal control, vacuum integrity and signal stability
Wafer probes and testers	Quick-release modules for liquid-cooled system boards and thermal regulation
Ion implanters	Robust high-voltage connections resistant to harsh plasma environments
Handling robots and load ports	Compact, modular signal and power connections for high-cycle durability

Tailored for semiconductor industry standards



Cleanroom compliant materials
(low outgassing)



High-reliability/consistency
1...1 Mio.



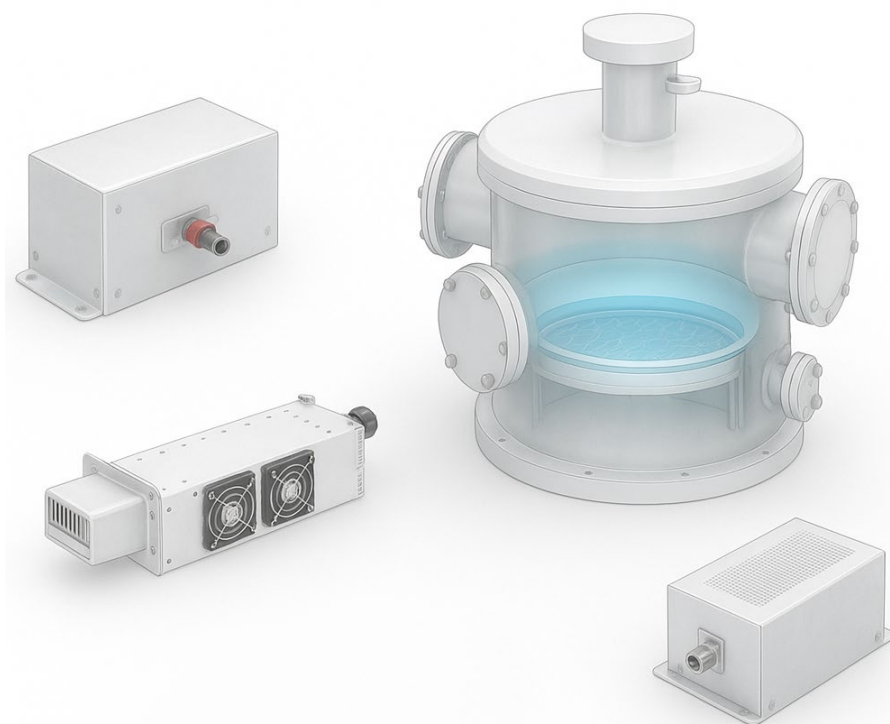
High-current (<300 A) and high-frequency signals
(up to GHz range)



EMI/RFI protection for sensitive signals



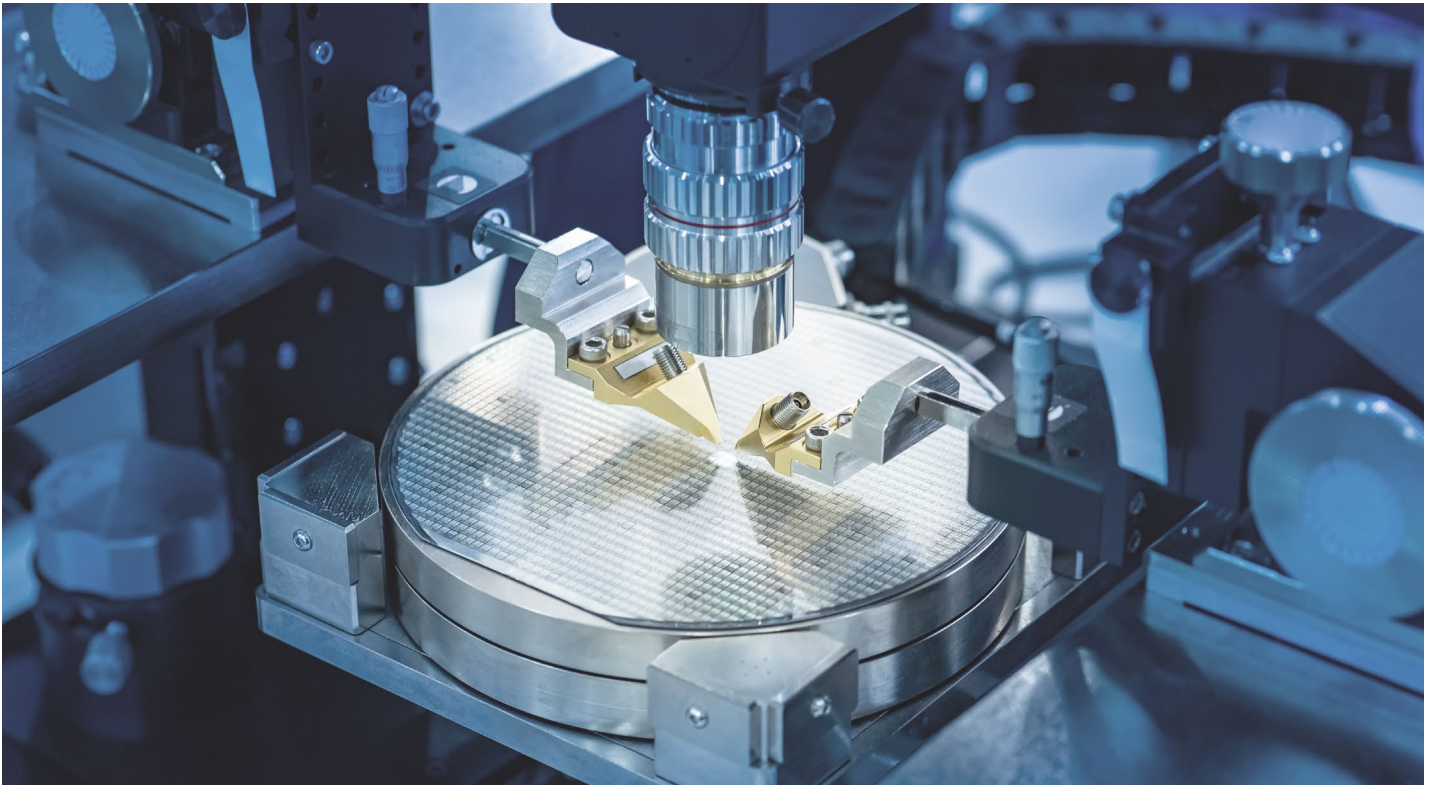
Multi-technology integration: power, signal, RF, data and fluid



SEMICONDUCTOR CONNECTION SOLUTIONS

Proven reliability for testing, when precision can't fail

In semiconductor manufacturing, testing is critical – every signal, pulse, and thermal profile must perform with absolute precision. Leading equipment makers trust Stäubli connectors to ensure consistent electrical, fluid, and pneumatic contact in IC test and burn-in systems.



In wafer probing, burn-in systems, and reliability chambers, our modular and durable CombiTac solutions deliver high mating cycles, minimal downtime, and uncompromised signal integrity – ensuring reliable performance where failure is not an option.

Trusted in demanding applications

- IC burn-in testers
- Wafer testers
- Reliability testing chambers
- Automated test equipment

Why customers choose Stäubli

- Integrated interfaces: signal, power, fluid, and air in one modular system
- High-mating cycle performance with ultra-low contact resistance
- Panel-mount and blind-mating options to reduce operator handling
- Compact, thermally stable designs optimized for limited space

MULTILAM CONTACT TECHNOLOGY

A portfolio designed for semiconductor excellence

Modular, robust, and cleanroom-ready – Stäubli offers a comprehensive connector portfolio engineered for the most demanding semiconductor environments, from RF generators to wafer handlers.

MULTILAM technology – stable power, maximum efficiency

The patented **MULTILAM contact technology** delivers ultra-low contact resistance, minimal self-heating, and stable RF signal integrity.

- **Applications:** RF match boxes, power distribution, ESC heating
- Proven performance in demanding environments
- **Material options:** NiBe/CuCrZr for extreme thermal and mechanical resistance

- **Key benefits:**
 - Extended connector lifespan
 - Stable performance over thousands of cycle
 - Compact footprint optimized for cleanroom layouts



SEMICONDUCTOR CONNECTORS PORTFOLIO

Connections that perform. Reliability where it matters most.

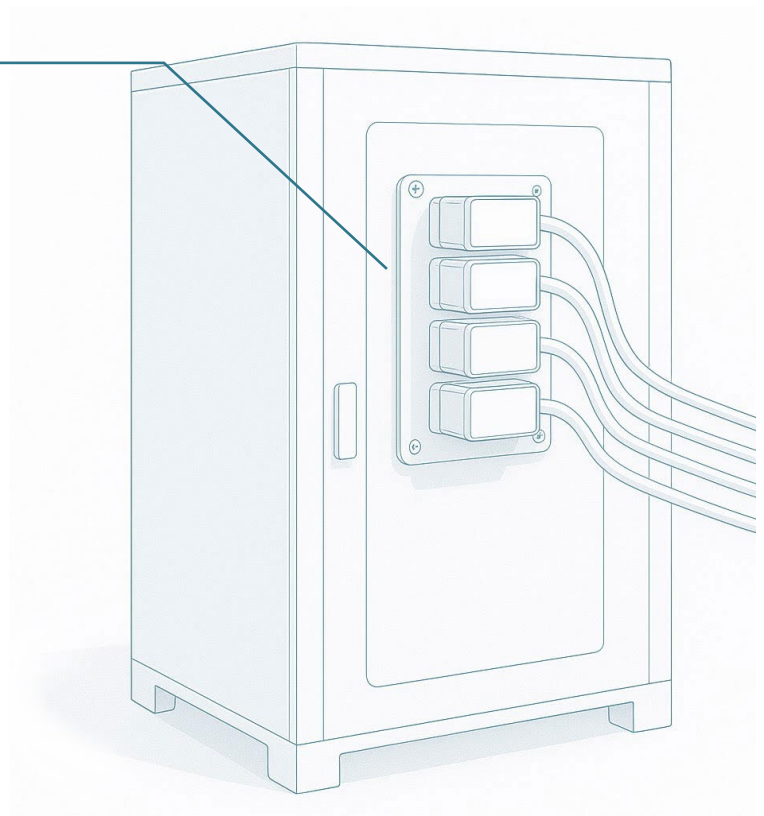
Stäubli connectors are engineered to ensure flawless power transfer, RF stability, and thermal regulation – delivering proven performance in cleanroom, atmospheric, and vacuum environments.

Enabling high-power connections

CombiTac modular connectors

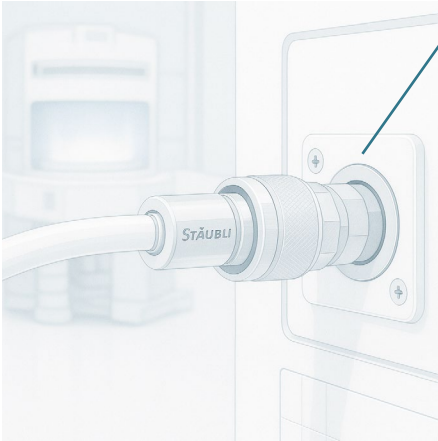
Semiconductor tools operate 24/7 with minimal downtime. Stäubli connectors are built to match that demand:

- Safe, uninterrupted current delivery up to 720 A/1000 V
- Ultra-low contact resistance with minimal heat generation
- Long-term reliability with more than 100,000 mating cycles
- Compact designs optimized for space-constrained systems
- Cleanroom-ready materials with low outgassing



Enabling system cooling

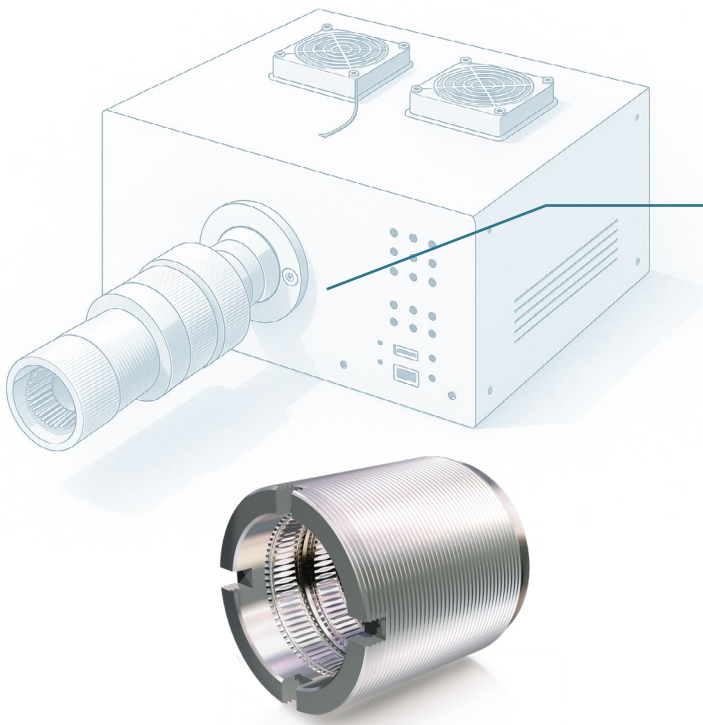
Fluid quick couplings



Advanced semiconductor equipment such as etchers, testers, and lithography tools require precise cooling. Stäubli solutions ensure safe, reliable thermal management:

- Mixed modules integrating electrical and fluid connections
- Quick-release couplings for fast maintenance and tool changes with leakage-free cleanroom compliant

- Full compatibility with DI water and EG-based coolants
- Operating range from 25 °C to 90 °C, with thermal insulation options



Enabling RF transfer

Round uninsulated connectors

RF Signal Integrity

Powering plasma and RF sources without compromising signal quality:

- High-frequency performance for reliable signal transport
- Shielded modules to prevent EMI/RFI interference
- Compatibility with crimp terminations RG316, RG58 and screwed termination SMA
- Proven reliability under high temperature and vibration conditions

Cleanroom-proven connectors: durable, versatile, field-tested!

Single pole industrial connectors – the backbone of front-end equipment



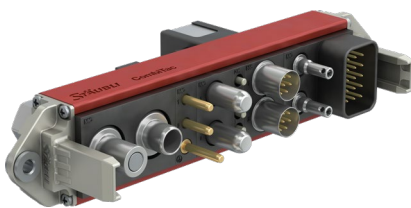
Flagship use cases: plasma etching, ion implantation, deposition chambers

Target applications: High-current connections in RF modules.

Product highlights

- MULTILAM contact technology for high-frequency (up to 13.56 MHz) and high-voltage (up to 10,000 V)
- Excellent thermal resilience: up to 350 °C

Modular system CombiTac – adaptable for complex integration



Customization available for all electrical, pneumatic, and control signal combinations

Target applications: Back-end test stations, packaging machines, and chip handlers

Product highlights

- Modular designs combining signal, power, fluid and pneumatic contacts
- Panel-to-panel and housing format
- Ideal for high-density machine interfaces

GLOBAL EXPERTISE, LOCAL IMPACT

A trusted partner, not just a supplier

Engineered for excellence. Built to scale. Proven in the field.

That's exactly where Stäubli Electrical Connectors makes the difference.

Why leading OEMs standardize on Stäubli: your performance envelope.
We don't just fit your design. We advance

What industry leading OEMs are looking for	What we deliver
Stable RF performance in compact areas.	MULTILAM-powered round connectors, field-proven up to 13.56 MHz
"Tool uptime is everything."	>99.9% connector reliability across thousands of mating cycles
"This needs to fit in a tight envelope."	High-density modular builds and space-optimized
"We need cleanroom-grade components."	Low outgassing, IP2X, particle-controlled interfaces
"Speed matters."	Short lead times. Clean project handovers. Fast iteration.



Trusted by the best in the industry

We are a proven partner to:

- Equipment manufacturers – offering custom solutions for RF, thermal, and compact constraints
- Fabs – providing cleanroom-grade, high-reliability connectors
- System integrators – with our modular, scalable connectors.

Global reach, local expertise

Stäubli combines global engineering strength with local presence across Asia, Europe, and North America, ensuring:

- Rapid customization
- Reliable lead times
- Ongoing technical support

Engineered partnerships for high-performance connector solutions

Expert engineering solutions for project excellence

- Dedicated semiconductor application team
- Full design ownership, from spec to validation
- Digital modeling and electrical tests
- Every connector is backed by process understanding, not just a datasheet.

SIMPLY CONFIGURE IT YOURSELF

CombiTac Configurator

Configure your CombiTac now easily and conveniently with our online configurator.

Our convenient online configurator gives you all the choices you need.



Discover more



Easy and fast

with dimensions and transparency view



Extra services

including spare parts and more



Simple

add features, modify configurations



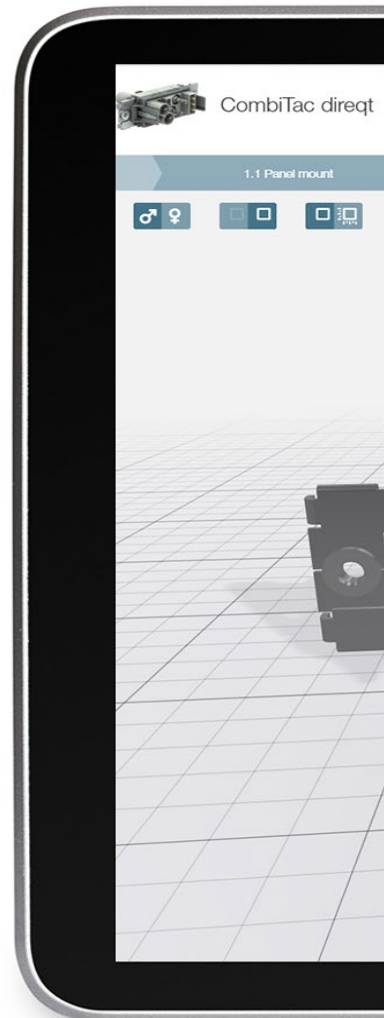
Integration in your models

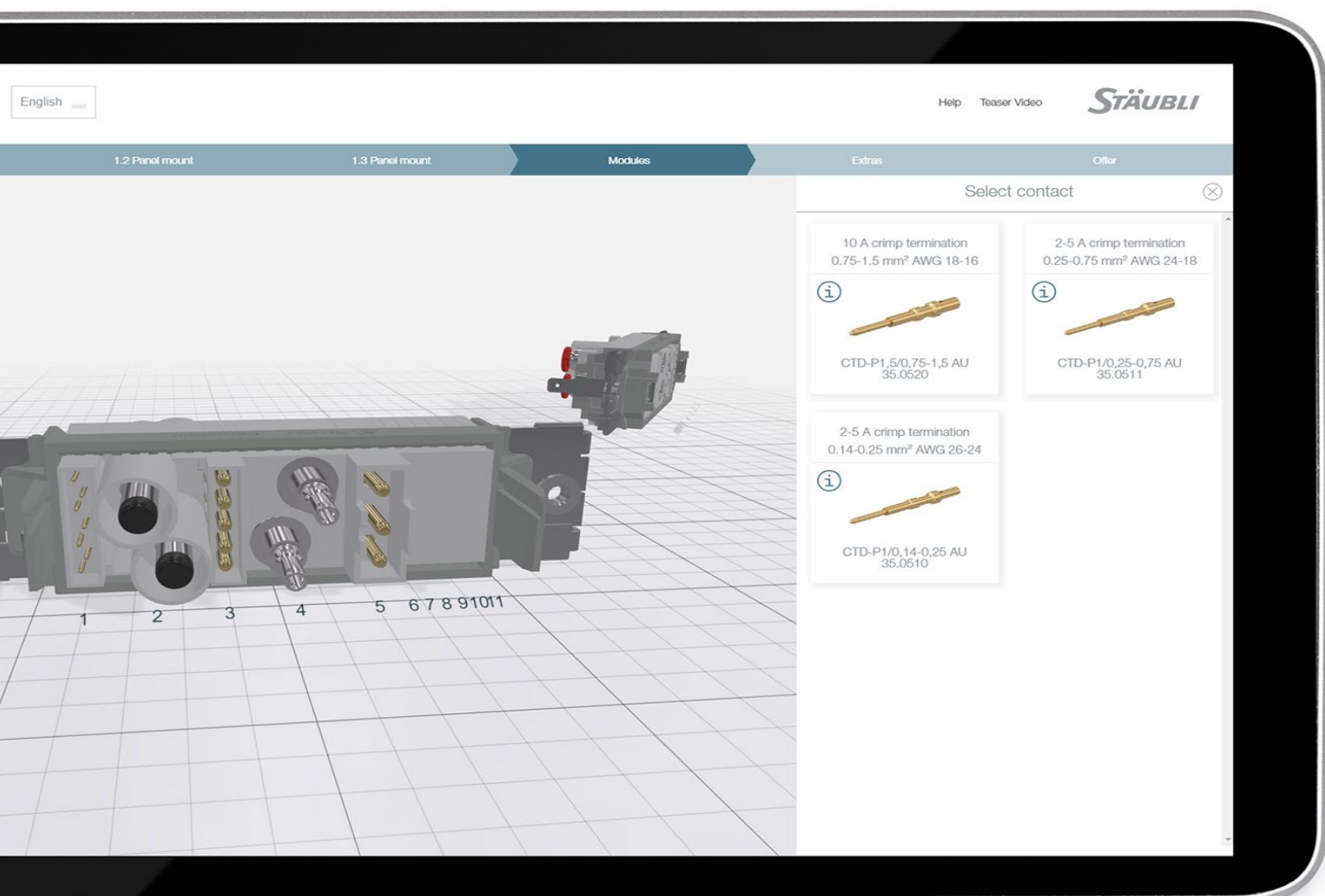
STEP-files available



3D

animated rotation







● Stäubli Units ○ Representatives/Agents

Global presence of the Stäubli Group

www.staubli.com