EPT-A3 SEMI-AUTOMATIC FLEXFOIL IDC MACHINE

Product Brochure

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TE Connectivity's (TE) new EPT-A3 semi-automatic Flexfoil IDC machine delivers high-efficiency wire termination to connectors. This precision-engineered solution is designed specifically for processing ERNI MicroBridge 180° Connectors, including configurations up to 90°, with full compatibility across various pole numbers in the MicroBridge connector series. It is configurable to support a wide range of connectors and customer-specific design requirements, which are suitable for large, medium, and small production volumes across various applications. The system automates key steps in the assembly process: it rotates the MicroBridge connector to the required orientation, loads it automatically, and enables manual insertion of the Flexfoil cable (FFC). Once the cable is inserted, the vision system checks (180°) and adjusts (90°) the alignment. Once aligned, the machine automatically presses the MicroBridge connector, while continuously monitoring force and displacement to confirm optimal press-fit quality. After successful assembly, the product is cleaned to provide stable product quality and the unit autonomously unloads the finished product, enhancing both efficiency and consistency in high-mix, low-volume production environments.

Efficient & Cost Effective

Operational Quality

Flexibility

Key Features	Benefits
Efficient & Cost Effective	• Short machine cycle time of approximately 7 seconds helps increase productivity and reduces overall processing time • Only 30 minutes required for changeover between 90° and 180° connectors, helping to minimize downtime • Quick 30-minute changeover also helps to support different pole number connectors, contributing to improved operational agility • Connector rotation mechanism allows seamless transition between 90° and 180° connectors, helping to reduce manual handling and setup effort • Optimized for high-mix, low-volume production with minimal changeover impact on throughput • Designed for high efficiency with low operational overhead, helping reduce total cost of ownership
Operational Quality	• Integrated force and displacement sensors monitor termination quality in real-time, helping prevent defective (NG) products from continuing in the process • Vision inspection system checks centering of 180° cables and adjusts 90° cable position to confirm proper alignment and help avoid quality defects • Multiple quality assurance devices verify IDC force and cable insertion length to confirm compliance with standards • Built-in cleaning system maintains cleanliness and helps ensure stable product quality
Flexibility	• Machine supports automatic conversion between 90° and 180° connectors, enhancing adaptability for various production needs • Flexible machine configurations available to meet specific customer requirements • Customizable system supports different connector types and cable layouts for broader application compatibility

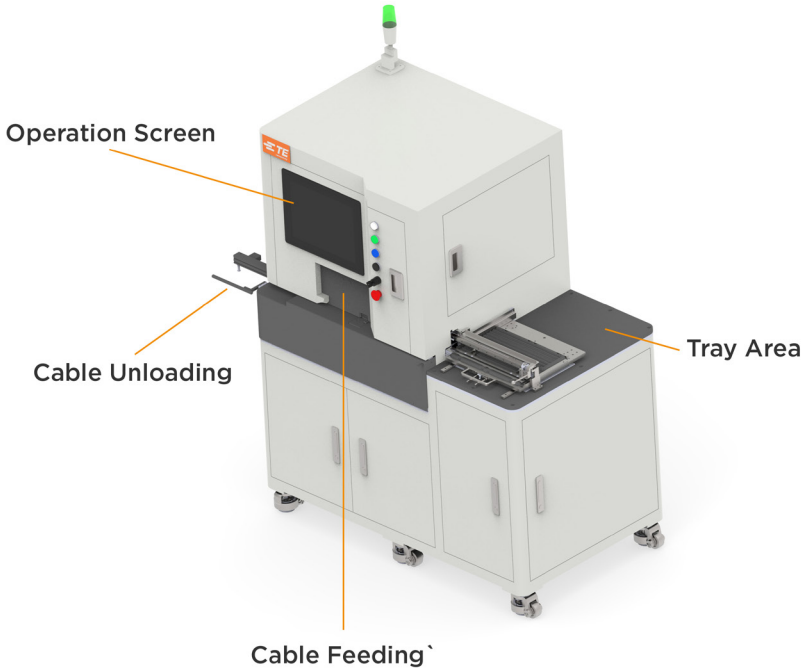
Applications

- Automotive headlamps
- Front and rear-view cameras
- EV Battery
- LiDAR, Radar
- Precision molded electronics
- Warehouse automation
- Hydraulic business

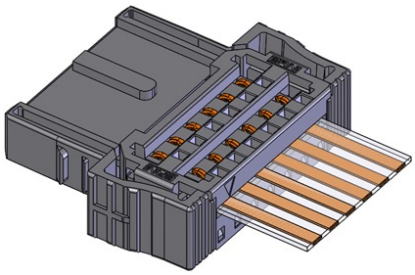
Industries

- Automotive
- Industrial

Machine Overview



ERNI MicroBridge Connector



Technical Details

Specification	
Dimension	1250 mm X 731 mm X 1510 mm (W x L x H)
Weight	550 Kg
Power	AC 220V, Single Phases, 50 Hz
Air	Min 0.4Mpa Airflow ≥ 450L/min
Cycle time (Manual operation not included)	180°: 7 Seconds 90°: 7 Seconds (May vary with adjustments)
Working condition relative humidity	10-90%
Storage environment relative humidity	30 – 60%

Ordering Information

Part Number	Configurations	Description
2499003-1	Support Microbridge 90°and 180°, with CCD, w/o NG Punching function	Combo for both 90 and 180 degree with CCD
2499003-2	Support Microbridge 180°, with CCD, w/o NG Punching function	180 degree, with CCD
2499003-3	Support Microbridge 90°and 180°, with CCD, w NG Punching function	Combo for both 90 and 180 degree with CCD, Cutting
2499003-4	Support Microbridge 180°, with CCD, w NG Punching function	180 degree with CCD,Cutting
2506863-1	N/A	Changeover Kit for 180, 8P
2506863-2	N/A	Changeover Kit for 180, 20P
2506863-3	N/A	Changeover Kit for 90, 8P
2506863-4	N/A	Changeover Kit for 90, 20P

Note: During the process of closing the connector housing, fine flakes, typically below 500 µm may be generated from ablated conductor or insulation material. Only metallic particles are considered relevant to product quality; non-metallic particles and fibers are not considered. If stricter particle-residue requirements apply, the customer must use a separate additional cleaning station.

Connect With Us

Our tooling is supported by an established, experienced, and responsive field service organization. TE Connectivity field engineers are located worldwide and are available to assist with on-site and remote service; selection and installation of new equipment; training; and technical support. Service agreements are available to provide protection and support for all your application tooling equipment.

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