Assembly system for final assembly of terminal insulators

This robust and flexible system features a modular design structure and allows dual-sided access.

Contact terminals destined for use in manufacturing radar sensors are punched out in a high-speed blanking press prior to being wound onto the coils that serve as transport mounts. Within the assembly machine, in a press that is mechanically connected to the RTS® rotary transfer system’s central drive unit, the flat contact terminals are bent, separated from the transport strip, and installed in the base section.

USS4 terminal insulator
Comprising the following individual components
– Base section (injection molded)
– 2 contact terminals

+ 60 cycles / minute
+ 1 version
+ 20 stations
+ Punch and bend contact terminals
+ Camera-based inspection with traceability for nest designations
Station 1
**Nest-based inspection of plastic sections**
Before the plastic sections are inserted, the system reads the individual nest numbers for storage in a database. The results of the press-out force test are correlated with each plastic section in the database. This ensures that the nests are tested and ensures a consistently stable process.

Station 5
**Deliver contact terminals from coil**
The flat contact terminals are unwound from a coil before being bent and subsequently separated from their transport strips in a press that is mechanically linked to the central drive unit of the RTS®. A gripper reaches into the tool and simultaneously grips two contact terminals. It then relays these to a second gripper, which then inserts the terminals in the plastic base.

Station 8-10
**Inspect contact terminals**
A camera-based visual inspection system evaluates both the angle achieved in the bending process and the mutual clearance between the contacts. In this process, the contact terminals are tested for short circuits as well as press-out force. Test-station calibration relies on master parts that the system automatically employs to calibrate the test stations in a single test run.
With its own e-fleet, photovoltaic system, storage battery and charging station, sustainable e-mobility is in daily use at teamtechnik since 2013 and is part of the business model. Today, teamtechnik is leading in test benches for e-drive systems used in e-vehicles. Additionally, teamtechnik supplies assembly and test systems for batteries as well as PV stringers.