



Test system for steering column switches in robot cell

Product description

The core of the system is a six-axis lightweight robot, which executes all test sequences with the aid of a gripper specially developed by ITronic for this application. The steering column switch to be tested is inserted manually, then tested fully automatically and sorted out if the test is not passed. Only parts that have been tested as "OK" leave the machine for the following shipment.

The customized object gripper on the robot ensures damage-free handling, including force and torque measurement. An optical inspection is used to check the position accuracy, completeness, quality and variety of the printed symbols. This is followed by a mechanical position and function check. The test results obtained are stored locally in the test station and automatically transferred to the customer's production flow system. By exchanging the exchange adapter and adapting the test software, the system can also cover new developments or model maintenance.

Field of application

Final assembly, quality control, End-of-Line testing in production/manufacturing



Test system for steering column switches in robot cell

Technical data

Test bench/device

- Robot cell
 - Loading and final removal is done via two drawers, separate n. OK Storage as slide
 - 6-axis lightweight robot including gripper with force and torque monitoring
 - customized and exchangeable test nest including holding down the DUT
- Measurement-, test-, control- and supply technology in the switch cabinet

Software

- TST-WIN test system
 - All settings and processes are menu-guided and freely programmable
 - Extensive possibilities for controlling the process and the measurements
 - Visualization of the test results by a measured value table and additional graphic display
- Remote maintenance" module enables remote access by ITronic service staff
- Module "MES" enables variant-dependent testing by a superordinate system
- Module "ITDB", incl. viTronic, enables the evaluation and statistical processing of measurement data
- Module "Image processing and image documentation" enables the use of cameras
- Module "Robotics" enables the integration of a robot into the testing and handling process

Scope of testing

- Visual inspection:
 - Position, quality and variant of the printed symbolism
- Electronic testing:
 - Short circuit test on pins
- Electromechanical position and function test:
 - Lever position up-down & forward/backward, operation of rotary rings, menu button and Set/Clear button
- Mechanical testing:
 - Force and torque measurement at change of lever position
- Additional mechanical handling of the untested switches within the device and storage of the parts in "OK." or "n. OK" category

Input-/visualisation units

- Keyboard
- Monitor
- Barcode scanner (fixed & automatic)

Dimensions/Transport

- Approx. 1200x2375x1930 mm (WxHxD)
- Weight approx.645 kg

Test time

- Individual, depending on test scope

Exemplary device type

- 006 5794