

Department
I&S IS OLM RC TCS E

City
91058 Erlangen

Page
1/1

Date
24.02.2005

Processor
Weise

Phone
09131-7-32878

File No.
I&S IS OLM RC TCS E / 042996-1

Release
Leitner

Test date
21.12.04 - 15.01.05

Enclosure (test description)
3

Customer:
Phoenix Contact Mr Alessandro Alberani

Test of the screw connection modular terminal block UT

Universal terminal block UT 2,5 and UT 2,5-PE

Manufacturer: Phoenix Contact Blomberg

Summary

The universal terminal blocks UT 2,5 and UT 2,5-PE provided by Phoenix Contact were to be tested resp. examined for capability.

The evaluation includes the results of the previously conducted tests by Phoenix Contact documented in the Test Report 0497 of January 21, 2004.

In addition to the tests carried out by Phoenix Contact, the below tests relevant for practice use were also carried out in the laboratory for testing and environmental simulation at Siemens AG – Department I&S IS OLM RC TCS E:

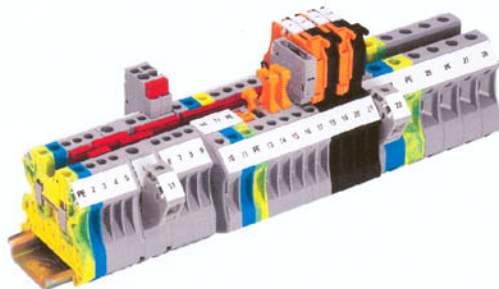
Handling, ageing, contact resistance test, tightening torque and pull-out forces.

The tests were related to the modular terminal block UT 2,5 and the PE terminal. The PE terminal block was tested for fixing resp. contact stability on the carrier (DIN rail).

Résumé

The described screw terminal blocks of the company Phoenix Contact are suitable for the use in industrial applications.

Product range for the screw connection modular terminal blocks UT 2,5 - UT 35



- Feed-through terminal blocks
- TWIN terminal blocks with single-sided double connection
- QUATTRO terminal blocks with double connection on both sides
- Double-level terminal blocks
- Fuse and disconnect terminal blocks
- Ground terminal blocks (PE)

Hinweise: Die Prüfergebnisse beziehen sich ausschließlich auf den im Bericht genannten Prüfling.
Der Prüfbericht darf ohne die schriftliche Genehmigung des Prüflabors nicht auszugsweise vervielfältigt werden.
Der Prüfbericht bescheinigt die Ergebnisse der durchgeführten Prüfungen, ist jedoch keine Zusicherung von Eigenschaften im Sinne des Produkthaftungsgesetzes.

Description

The screw terminal block UT 2,5 covers a conductor cross section of 0,14 mm² to 4 mm². It is possible to use flexible conductors with and without ferrule as well as rigid conductors for this terminal block. Multi-conductor connection (two conductors of the same cross section) is possible as well. The ground terminal blocks effect contacting by just snapping onto the carrier. The terminals may be connected by using 2-50 pos. bridges.

The following tests were carried out at I&S IS OLM RC TCS E :

- ⇒ Connection of the terminal blocks with a dynamometric screwdriver
Tightening torque 0,5 Nm
 - Measurement of contact resistance before ageing

- ⇒ Ageing of the terminal blocks at +125°C, 13 days
 - Measurement of contact resistance after testing
 - Retightening of the screws using a dynamometric screwdriver
 - Measurement of contact resistance
 - Pull-out force after ageing

During temperature test, the terminals were assembled with the below conductor cross sections:

- | | | |
|---------------------------------|--------------------------------|--------------------------------|
| • 0,14 mm ² rigid | • 1,5 mm ² rigid | • 4 mm ² rigid |
| • 0,14 mm ² flexible | • 1,5 mm ² flexible | • 2,5 mm ² flexible |

The flexible conductors were mounted without ferrule in the terminal block

Ageing of the terminal blocks was carried out acc. to EN 60352-1: 1997 (s. report A&D GT 24/99-010 as well as report A&D GT 24/00-014). In line with the characteristic curve for the loss in contact force of the wire wrap connection of a soft-annealed copper wire of 50%, the conducted ageing test over the period of 13 days at +125°C corresponds to a period of 40 years at +68°C.

Moreover, 10 PE terminal blocks were included to ageing as well, whereas one half of the test objects were stored unprotected. The connected conductor cross section - 4 mm² massive – was firmly connected with the terminal block (soldered), thus excluding a possible change of the contact resistance at the terminal point.