

 **DEKRA**
Test Report

2155856.01-INC

Applicant : Tekpan Teknik Elk. Kumanda Pano San.
Ve Turizm Ticaret Ltd. Sti.
Istiklal Mh. 17.Sk. No:8
Ulucak-Kemalpasa
Izmir
Turkey

Application date : 30 October 2013

Order number : 215585600-INC

Product : Empty enclosure

Trademark : Tekpan

Type(s) : Teos Series (plus+ / standard)

Arnhem, 30 October 2013


Manufacturer/ Production site: Tekpan Teknik Elk. Kumanda Pano San.
Ve Turizm Ticaret Ltd. Sti.
Istiklal Mh. 17.Sk. No:8
Ulucak-Kemalpasa
Izmir, Turkey

Subject : Degree of protection provided by enclosure, IP65

Test requirements : IEC 60529:1989 + A1:1999
EN 60529:1991 + A1:2000

Conclusion : The tested sample complies with the specified requirements

Tested by : A.A.P.M. van Vught 

Checked by : C.C. Burger 

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1 Subject

Degree of protection provided by enclosure.

Product information

Trademark : Tekpan
Type : Teos Series (plus+ / standard)
Dimensions : Height: 2100 mm
Width: 800 mm
Depth: 600 mm
Material : Sheet steel
Number of samples tested : 1

2 Tested Ratings

Degree of protection : IP65

3 Object identification



4 Summary of type tests

- Verification of the degree of protection IP6X
- Verification of the degree of protection IPX5

5 General Items

Location of the tests

All tests were carried out at the DEKRA Certification laboratory in Arnhem, The Netherlands.

Tests were carried out by

A.A.P.M. van Vught DEKRA Certification B.V., Arnhem, The Netherlands.

Manufacturer's representative(s) during tests

G. Tigilisel Tekpan Teknik Elk. Kumanda Pano San. Ve Turizm Ticaret Ltd. Sti., Izmir, Turkey

The tests were supervised by

C.C. Burger DEKRA Certification B.V., Arnhem, The Netherlands

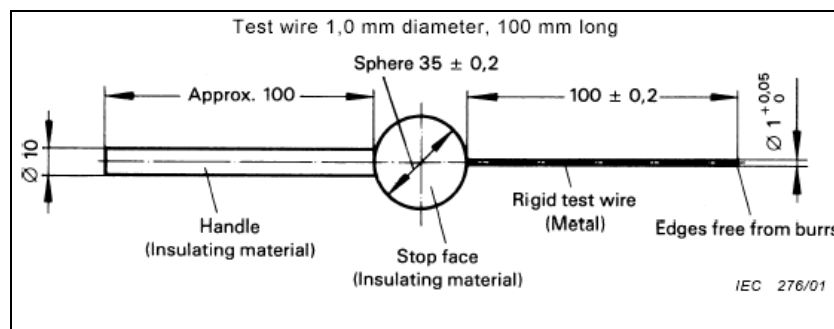
6 Description of the tests

6.1 Test for IP6X (the first numeral 6)

Protection against access to hazardous parts

Performance of the test:

The access probe as shown in figure on this page was pushed against any openings of the enclosure with a force of $1\text{N} \pm 10\%$



Pass criteria:

The protection is satisfactory if the access probe specified does not penetrate and adequate clearance is kept between the access probe and hazardous parts.

Test results:

The full diameter of the access probe did not penetrate through an opening of the enclosure and adequate clearance was kept.

The tested sample passed the test and complies with the specified requirements.

6.2 Test for IP6X (the first numeral 6)

Protection against solid foreign objects:

Performance of the test:

The test was made using a dust chamber incorporating the basic principles shown in figure 2 of the standard EN/IEC 60529 in which talcum powder was maintained in suspension.

The talcum powder used is able to pass through a square-meshed sieve with a nominal wire diameter of 50 μm and a nominal width of a gap between wires of 75 μm .

The amount of talcum powder used is 2 kg per cubic meter of the test chamber.

The enclosure shall be deemed category 1, whether reductions in pressure below the atmospheric pressure are present or not.

The enclosure under test was supported inside the test chamber and the pressure inside the enclosure was maintained below the surrounding atmospheric pressure by a vacuum pump.

The suction connection was made to a hole specially provided for this test. This hole was in the vicinity of the vulnerable parts.

The object of the test was to draw into the enclosure, by means of depression, a volume of air 80 times the volume of the sample enclosure tested without exceeding the extraction rate of 60 volumes per hour. The depression did not exceed 2 kPa (20 mbar) on the manometer.

The duration of the test was 8 hours.

Pass criteria:

The protection is satisfactory if no deposit of dust is observable inside the enclosure at the end of the test.

Test results:

After the test there was no dust found inside the tested sample.

The tested sample passed the test and complies with the specified requirements.

6.3 Test for IPX5 (the second numeral 5)

Protection against water jets

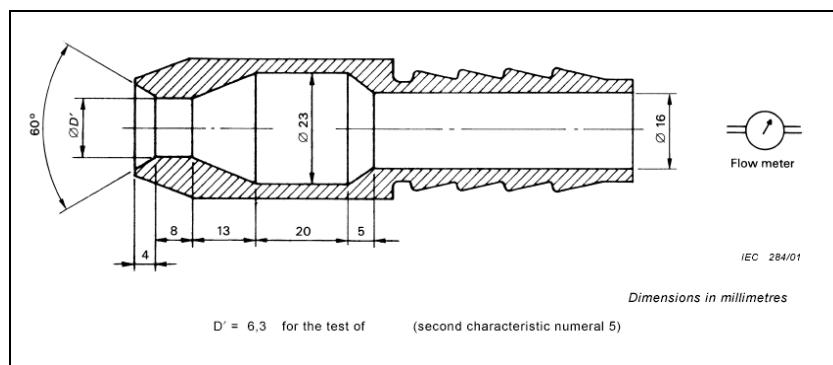
Performance of the test:

The test was made by spraying the enclosure from all practicable directions with a stream of water from a standard test nozzle as shown in figure on this page

The conditions to be observed are as follows:

- internal diameter of the nozzle: 6,3 mm;
- delivery rate: 12,5 l/min \pm 5 %;
- water pressure: to be adjusted to achieve the specified delivery rate;
- core of the substantial stream: circle of approximately 40 mm diameter at 2,5 m distance from nozzle;
- test duration per square meter of enclosure surface area likely to be sprayed: 1 min;
- minimum test duration: 3 min;
- distance from nozzle to enclosure surface: between 2,5 m and 3 m.

The duration of the test was 6,5 minutes.



Pass criteria:

After testing the enclosure shall be inspected for ingress of water.

In general, if any water has entered, it shall not:

- be sufficient to interfere with the correct operation of the equipment or impair safety
- deposit on insulation parts where it could lead to tracking along the creepage distances
- reach live parts or windings not designed to operate when wet
- accumulate near the cable end or enter the cable if any

Test results:

After the test there was no ingress of water.

The tested sample passed the test and complies with the specified requirements.

Appendix A – Photos



Photo 1: Inside dust chamber before IP6X test



Photo 2: Inside dust chamber after IP6X test



Photo 3: During IPX5 test



Photo 4: During IPX5 test



Photo 5: After IP65 test

Appendix B – Drawings

TEOS
800x2000x600
W x H x D

