

TEST REPORT

NO.1313

Project code: TI/0372-I60044-1

Test report for Current Transformer
Manufactured by Pars Shar Co.
According to IEC 60044-1

Karaj, 25-11-2007

By order of Pars Shar Co., Yazd, Iran

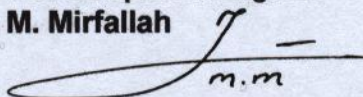
No. of pages

7

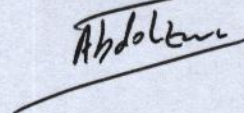
Issue date

25-11-2007

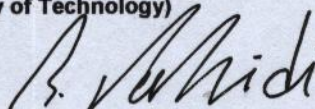
Prepared : Test & Inspection Engineer
M. Mirfallah



Verified: Test & Inspection Manager
Sh. Abdolzadeh



Approved: Engineering Deputy of Test and Inspection
(Representative of Amirkabir University of Technology)
Dr. B. Vahidi



This test report does not include an assessment of the manufacturer's production. Conformity of his production with the specimen tested by E.P.I.L is not the responsibility of E.P.I.L

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The test results relate only the sample tested.*

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E.P.I.L.
سازمان آزمایشگاه‌های صنایع برق
(سازمان تخصصی)

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1. GENERAL INFORMATION

1.1 Product Information

Equipment under test	: Current transformer
Ratio	: 800/1 , 400/1
Rated Frequency	: 50 Hz
Un	: 36/70/170kV
Ith	: 25 kA/3s
Idyn	: 2.5 Ith
	: 1s ₁ -1s ₂ : CL5P20,10 VA
	: 1s ₁ -1s ₃ : CL5P20,20 VA
Rated power	: 2s ₁ -2s ₂ : CL0.5FS≤5, 5 VA
	: 2s ₁ -2s ₃ : CL0.5FS≤5,10 VA
Insulation class	: E
Normative document	: IEC 60044-1

1.2 Client Information (Manufacturer)

Applicant	: Pars Shar Co.
Contact person	: Mr. Rahpeyma
Telephone	: +98-21-88772334
Fax	: +98-21-88888141
Address (Office)	: No. 6, Baghsara Alley, Shad St., Molla Sadra Ave., Tehran

1.3 Tests Performed

Temperature -rise	: 19-11-2007
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1.4 Results Of Tests

Passed	: See page 4 -6
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2. PERFORMANCE AND RESULTS OF TESTS

2.1 Temperature Rise

2.1.1 Test data

Location	: EPIL
Date	: 19-11-2007
Engineer of Epil	: Mrs. M. Mirfallah
Normative document	: IEC 60044-1 Clause 7.2

2.1.2 Ambient conditions

Ambient temperature	: 16 °C
Relative humidity	: 20 %
Air pressure	: 86.5 kPa

2.1.3 Instruments of test

Recorder	Jumo
Current Transformer	
Sensing means	RTD, PT100 3-wire

2.1.4 Procedure Of Test

During the tests, the ambient air temperature shall be between +10°C and +30°C .
A test shall be made to prove compliance with the requirements of 4.6 of IEC 60044-1. For the purpose of this test, current transformers shall be deemed to have attained a steady temperature when the rate of temperature rise dose not exceed 1K per hour.
For the test , the transformers shall be mounted in a manner representative of the mounting in service.

The temperature rise of windings shall. when practicable, be measured by the increase in resistance method, but for windings of very low resistance, thermocouples may be employed.

The temperature rise of parts other than winding may be measured by thermometers or thermocouples.

The measurement of the resistance shall be made before the temperature-rise test with sample at the ambient air temperature and after the temperature-rise test measured according to Annex A of IEC 60076-1

Final temperature –rise test calculated by the follow formula.

$$T_2 = R_2/R_1 (T_1 + 234.5) - 234.5$$

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2.1.5 Acceptance conditions of test

The temperature-rise should be in the limit of the values that specified IEC 60044-1

2.1.6 Result of test

Table 1:

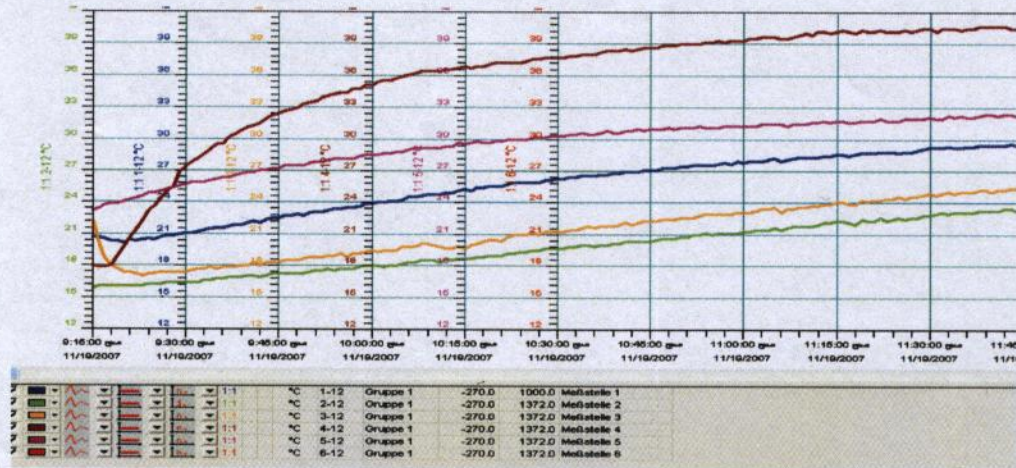
No. of sensor		T_1 Ambient temperature	T_2 Finally temperature	ΔT Temperature rise	ΔT_v Temperature rise limits according to IEC	Result
1	body	20.3	32.1	12	75	✓
2	body	16	27.9	12	75	✓
3	body	17.7	29.6	12	75	✓
4	Primary conection	19	42.2	24	---	✓
5	Primary conection	23.9	33.7	10	---	✓
6	ambient	14.9	18.7	4	30	✓
7	ambient	17.7	23	6	30	✓
8	ambient	16.5	21.3	5	30	✓
Final ambient temperature: 21 °C						

Table 2:

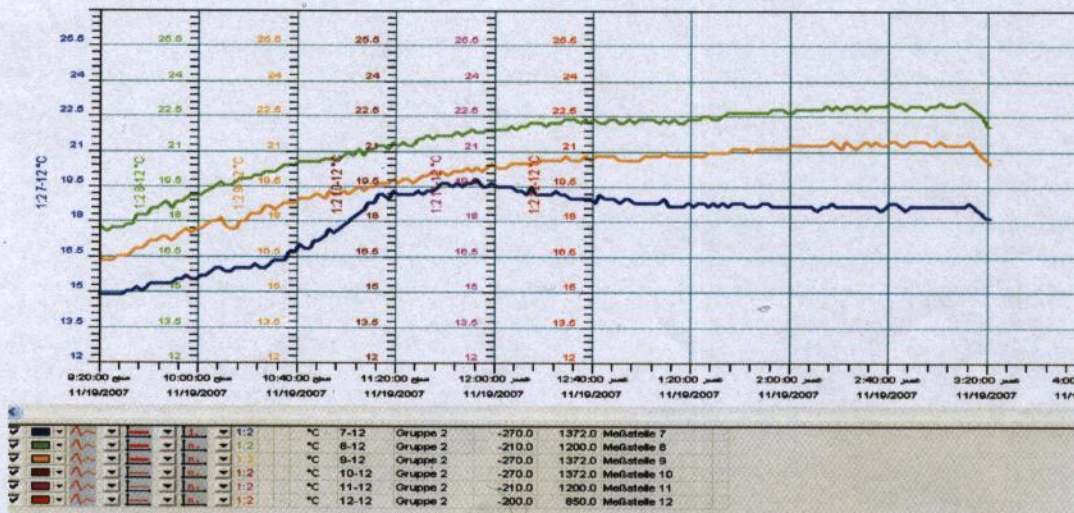
Mesurment of the resistance of the circuits	(P1-P2)	(1S ₁ -1S ₂)	(1S ₁ -1S ₃)	(21S ₁ -2S ₂)	(2S ₁ -2S ₃)
Resistance before the temperature-rise test	34 $\mu\Omega$	4.3 Ω	8.9 Ω	1.31 Ω	2.78 Ω
Resistance after the temperature-rise test	34.7 $\mu\Omega$	4.7 Ω	9.5 Ω	1.4 Ω	2.95 Ω
Final temperature(T_2)	21.55 °C	39.12 °C	31.59 °C	31.59 °C	31.59 °C
Temperature-rise (ΔT)	5.02 K	22.59 K	15.06 K	15.06 K	15.06 K
Result	ok	ok	ok	ok	ok

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Color	No of sensor
Blue	: 1
Green	: 2
Brown	: 3
Violet	: 4
Orange	: 5



Color	No of sensor
Blue	: 6
Green	: 7
Yellow	: 8

✓ PASS

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Figures:

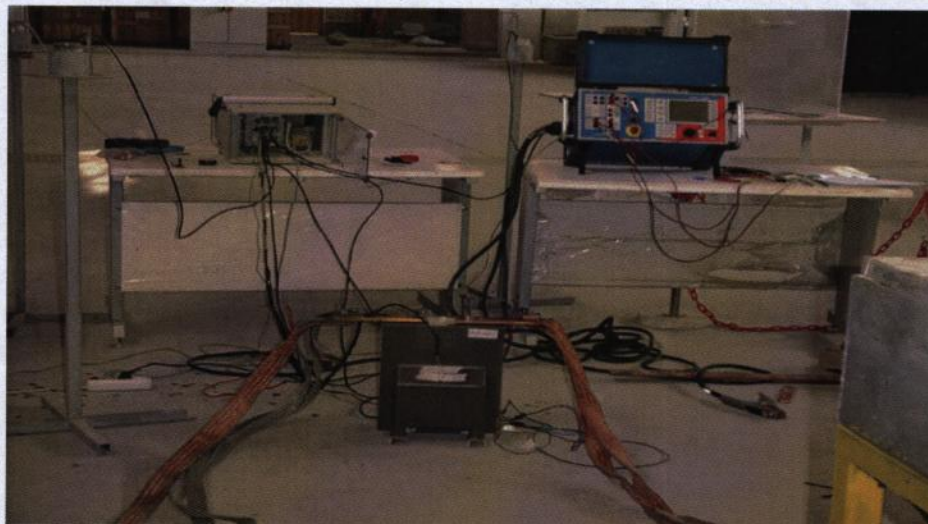


Figure 1: EUT under temperature rise test



Figure 2: EUT under measurement of resistance

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