

Certificate No :	0001448-01	شماره گواهی :
Customer Name :	شرکت مشهد تدبیر	نام مشتری :
Equipment / Tools :	POWER ANALIZER	نام دستگاه :
Model :	W28	مدل :
SerialNo:	W28000001	سریال :
Code :		کد :
Manufacture :	مشهد تدبیر	سازنده :
Receipt Date :	1400/08/05	تاریخ پذیرش :
Calibration Date :	1400/08/05	تاریخ کالیبراسیون :
Issue Date :	1400/08/15	تاریخ صدور :
Due Date :		تاریخ انقضاء :

Traceability : The reference standards are traceably calibrated at an accredited calibration laboratory or a national metrology institute.

Ambient Condition : Temperature : (23±2)°C Humidity : (40±15)%

Method(s) : IDS-324

Reference(s) : Multifunction Calibrator Model M-142 (C/N:9901569-07)

Uncertainty : The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor (k=2), providing a level of confidence of approximately 95%

Remarks :

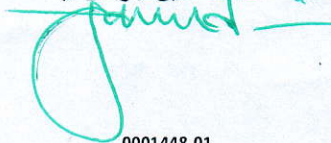
- 1- The test report or calibration certificate shall not be reproduced except in full, without written approval of the SKE laboratory.
- 2- This certificate without the SKE laboratory stamp is not valid.

Accomplished by :



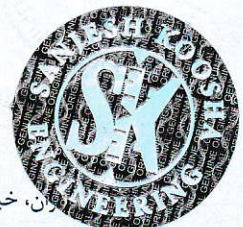
Approved by :

محمد حسین جوادی نیا



0001448-01

LAB.Stamp:



PARAMETER	REF. SETTING	UUT. READING			ERROR			EXP.UNC. (±)
		CH 1	CH 2	CH 3	CH 1	CH 2	CH 3	
AC VOLTAGE	50.00 V	49.99 V	49.99 V	49.99 V	- 0.01 V	- 0.01 V	- 0.01 V	0.016 V
TEST:	100.00	99.97	99.97	99.97	- 0.03	- 0.03	- 0.03	0.023 V
@ 50 Hz	200.00	200.1	200.1	200.1	+0.1	+0.1	+0.1	0.068 V
	220.00	220.1	220.1	220.1	+0.1	+0.1	+0.1	0.070 V
	300.00	300.1	300.1	300.1	+0.1	+0.1	+0.1	0.25 V

PARAMETER	REF. SETTING	UUT. READING	ERROR	EXP.UNC. (±)
AC CURRENT TEST: @ 50 Hz 500/5 CH1	10.000 A (0.10 A)	10.01 A	+0.01 A	0.0120 A
	100.00 (1.00)	100.0	0.00	0.340 A
	200.00 (2.00)	199.9	- 0.1	0.680 A
	300.00 (3.00)	299.8	- 0.2	1.005 A
	400.00 (4.00)	400.0	0.0	1.340 A
	500.00 (5.00)	499.9	- 0.1	1.670 A
AC CURRENT TEST: @ 50 Hz 500/5 CH2	10.000 A (0.10 A)	10.03 A	+0.03 A	0.0120 A
	100.00 (1.00)	99.99	- 0.01	0.340 A
	200.00 (2.00)	199.8	- 0.2	0.680 A
	300.00 (3.00)	299.7	- 0.3	1.005 A
	400.00 (4.00)	400.0	0.0	1.340 A
	500.00 (5.00)	499.8	- 0.2	1.670 A
AC CURRENT TEST: @ 50 Hz 500/5 CH3	10.000 A (0.10 A)	10.01 A	+0.01 A	0.0120 A
	100.00 (1.00)	100.0	0.0	0.340 A
	200.00 (2.00)	200.0	0.0	0.680 A
	300.00 (3.00)	299.9	- 0.1	1.005 A
	400.00 (4.00)	400.0	0.0	1.340 A
	500.00 (5.00)	499.8	- 0.2	1.670 A
AC CURRENT TEST: @ 50 Hz CH IN	10.000 A (0.10 A)	10.01 A	+0.01 A	0.120 A
	100.00 (1.00)	99.98	- 0.02	0.340 A
	200.00 (2.00)	199.8	- 0.2	0.680 A
	300.00 (3.00)	299.9	- 0.1	1.005 A
	400.00 (4.00)	399.8	- 0.2	0.340 A
	500.00 (5.00)	499.9	+0.1	1.670 A
FREQUENCY TEST	50.00 Hz	50.00 Hz	0.00 Hz	0.0060 Hz

PARAMETER	REF. SETTING	UUT. READING	ERROR	EXP.UNC. (±)
POWER TEST: @220 V, 50 Hz CH 1	2.200 kW	2.208 kW	+0.008 kW	0.001 kW
	22.00	21.96	- 0.04	0.014 kW
	44.00	43.89	- 0.01	0.026 kW
	66.00	66.08	+0.08	0.040 kW
	88.00	88.03	+0.03	0.051 kW
	110.00	110.3	+0.3	0.064 kW
POWER TEST: @220 V, 50 Hz CH 2	2.200 kW	2.212 kW	+ 0.012 kW	0.001 kW
	22.00	21.95	- 0.05	0.014 kW
	44.00	43.87	- 0.13	0.026 kW
	66.00	66.06	+0.06	0.040 kW
	88.00	88.05	+0.05	0.051 kW
	110.00	110.3	+0.3	0.064 kW
POWER TEST: @220 V, 50 Hz CH 3	2.200 kW	2.208 kW	+0.008 kW	0.001 kW
	22.00	21.97	- 0.03	0.014 kW
	44.00	43.89	- 0.11	0.026 kW
	66.00	66.05	+0.05	0.040 kW
	88.00	89.05	+0.05	0.051 kW
	110.00	110.2	+0.2	0.064 kW
POWER FACTOR TEST: @220 V, 50 Hz CH1	1.0000	1.000	0.000	0.5773
	0.8000	0.799	- 0.001	0.4613
	0.7000	0.699	- 0.001	0.4036
	0.5000	0.499	- 0.001	0.2881
POWER FACTOR TEST: @220 V, 50 Hz CH2	1.0000	1.000	0.000	0.5773
	0.8000	0.798	- 0.002	0.4613
	0.7000	0.697	- 0.003	0.4036
	0.5000	0.497	- 0.003	0.2881
POWER FACTOR TEST: @220 V, 50 Hz CH3	1.0000	1.000	0.000	0.5773
	0.8000	0.799	- 0.001	0.4613
	0.7000	0.698	- 0.002	0.4036
	0.5000	0.498	- 0.002	0.2881

PARAMETER	REF. SETTING	UUT. READING	ERROR	EXP.UNC. (±)
POWER REACTIVE: CH 1 @220 V, 50 Hz, $\Phi = 45^\circ$	1.55 kVAr	1.545 kVAr	- 0.005 kVAr	0.001 kVAr
	15.55	15.51	- 0.04	0.011 kVAr
	31.11	30.90	- 0.21	0.014 kVAr
	46.67	47.05	+0.38	0.028 kVAr
	62.22	62.10	- 0.12	0.036 kVAr
POWER REACTIVE: CH 2 @220 V, 50 Hz, $\Phi = 45^\circ$	1.55 kVAr	1.538 kVAr	- 0.012 kVAr	0.001 kVAr
	15.55	15.45	- 0.05	0.011 kVAr
	31.11	30.84	- 0.27	0.019 kVAr
	46.67	46.95	+0.28	0.028 kVAr
	62.22	62.34	+0.12	0.036 kVAr
POWER REACTIVE: CH 3 @220 V, 50 Hz, $\Phi = 45^\circ$	1.55 kVAr	1.544 kVAr	- 0.006 kVAr	0.001 kVAr
	15.55	15.50	- 0.05	0.011 kVAr
	31.11	30.89	- 0.22	0.019 kVAr
	46.67	46.98	+0.31	0.028 kVAr
	62.22	62.33	+0.11	0.036 kVAr
POWER (kVA) TEST: CH 1 @220 V, 50 Hz, $\Phi = 45^\circ$	2.200 kVA	2.207 kVA	+0.007 kVA	0.001 kVA
	22.00	21.97	- 0.03	0.014 kVA
	44.00	43.14	- 0.86	0.026 kVA
	66.00	66.45	+0.45	0.040 kVA
	88.00	88.24	+0.24	0.051 kVA
	110.00	110.1	+0.1	0.064 kVA
POWER (kVA) TEST: CH 2 @220 V, 50 Hz, $\Phi = 45^\circ$	2.200 kVA	2.204 kVA	+0.004 kVA	0.001 kVA
	22.00	21.97	- 0.03	0.014 kVA
	44.00	43.62	- 0.38	0.026 kVA
	66.00	66.42	+0.42	0.040 kVA
	88.00	88.21	+0.21	0.051 kVA
	110.00	110.1	+0.1	0.064 kVA
POWER (kVA) TEST: CH 3 @220 V, 50 Hz, $\Phi = 45^\circ$	2.200 kVA	2.201 kVA	+0.001 kVA	0.001 kVA
	22.00	21.97	- 0.03	0.014 kVA
	44.00	43.65	- 0.35	0.026 kVA
	66.00	66.45	+0.45	0.040 kVA
	88.00	88.28	+0.28	0.051 kVA
	110.00	110.1	+0.1	0.064 kVA

Abbreviations:

UUT. : Unit Under Test REF. : Reference TOL. : Tolerance EXP. UNC. : Expanded Uncertainty