

www.imq.it

CERTIFICATO N. CERTIFICATE N.

9105.AE2S

SI CERTIFICA CHE IL SISTEMA QUALITA' DI WE HEREBY CERTIFY THAT THE QUALITY SYSTEM OPERATED BY

### **AE2 SRL**

VIA GUIDO ROSSA 14 - 20845 SOVICO (MB)

UNITA' OPERATIVE
OPERATIVE UNITS
VIA GUIDO ROSSA 14 - 20845 SOVICO (MB)

E' CONFORME ALLA NORMA
IS IN COMPLIANCE WITH THE STANDARD

ISO 9001:2008

PER LE SEGUENTI ATTIVITA'
FOR THE FOLLOWING ACTIVITIES

Progettazione, produzione di trasformatori per bassa tensione e commercializzazione di strumenti analogici di misura elettrica Design and production of low voltage current transformers (CT) and voltage transformers (VT) for industrial sector. Trading of electrical measurement instruments

Riferirsi al manuale della qualità per l'applicabilità dei requisiti della norma ISO 9001:2008 Refer to quality manual for detalls of applications to ISO 9001:2008 requirements

IL PRESENTE CERTIFICATO E' SOGGETTO AL RISPETTO DEL REGOLAMENTO PER LA CERTIFICAZIONE DEI SISTEMI DI GESTIONE

THE USE AND THE VALIDITY OF THE CERTIFICATE SHALL SATISFY THE REQUIREMENTS OF THE RULES FOR CERTIFICATION OF MANAGEMENT SYSTEMS

DATE:

PRIMA CERTIFICAZIONE FIRST CERTIFICATION

E

EMISSIONE CORRENTE

CURRENT ISSUE

SCADENZA EXPIRY

2014-11-04

2014-11-04

2017-11-03

IMQ S.p.A.- VIA QUINTILIANO, 43 - 20138 MILANO ITALY

CISQ è la Federazione Italiana di Organismi di Certificazione del sistemi di gestione aziendale.

CISQ is a member of

www.iqnet-certification.com

IQNet, the association of the world's first

class certification bodies, is the largest provider of management System

IQNet is composed of more than 30

bodies and counts over 150 subsidiaries

Certification in the world.

all over the globe.

CISQ is the Italian Federation of management system Certification Bodies.



www.cisq.com

ACCREDIA 🌂

SGQ N1005A, SGA N1005D, SCR N1005F SSI N1003D, FSM N1007I, SGE N1005M EMAS N1003P, GHG N1011D, PRD N1005B PRS N1000C, ISP N1003E, LAB N10121 LAT N1021 LAT N1021 Instry of EAL MF and ILAC Multiple Recognition Agreements

IAF: 19

La validità del certificato è subordinata a sorveglianza annuale e riesame completo del Sistema di Gestione con periodicità triennale The validity of the certificate is submitted to annual audit and a reassessment of the entire Management System within three years



THE INTERNATIONAL CERTIFICATION NETWORK

# CERTIFICATE

IQNet and its partner
CISQ/IMQ-CSQ
hereby certify that the organization

## AE2 SRL

VIA GUIDO ROSSA 14 - 20845 SOVICO (MB)

for the following field of activities

Design and production of low voltage current transformers (CT) and voltage transformers (VT) for industrial sector. Trading of electrical measurement instruments

Refer to quality manual for details of applications to ISO 9001:2008 requirements

has implemented and maintains a

# Quality Management System

which fulfills the requirements of the following standard

ISO 9001:2008

Issued on: 2014 - 11 - 04 Expiry date: 2017 - 11 - 03

Registration Number:

IT - 96956

The status of validity of the certificate can be verified at http://www.cisq.com or by e-mail to fedcisq@cisq.com

- Net

Michael Drechsel

Capecularel

President of IONET

CISQ

Ing. Claudio Provetti

President of CISQ

IQNet Partners\*:

AENOR Spain AFNOR Certification France AIB-Vinçotte International Belgium ANCE-SIGE Mexico APCER Portugal CCC Cyprus CISQ Italy CQC China CQM China CQS Czech Republic Cro Cert Croatia DQS Holding GmbH Germany FCAV Brazil FONDONORMA Venezuela ICONTEC Colombia IMNC Mexico Inspecta Certification Finland IRAM Argentina JQA Japan KFQ Korea MIRTEC Greece MSZT Hungary Nemko AS Norway NSAI Ireland PCBC Poland Quality Austria Austria RR Russia SII Israel SIQ Slovenia SIRIM QAS International Malaysia SQS Switzerland SRAC Romania TEST St Petersburg Russia TSE Turkey YUQS Serbia IQNct is represented in the USA by: AFNOR Certification, CISQ, DQS Holding GmbH and NSAI Inc.

\* The list of IQNet partners is valid at the time of issue of this certificate. Updated information is available under www.ignet-certification.com



#### **DECLARATION OF CONFORMITY**

AE2 srl

Via Guido Rossa, 14 - 20845 Sovico (MB) - ITALY

declares under own responsibility that the products:

**Current Transformer** 

(name, type of model, lot, bach or serial number, possibly sources and

to which this declaration relates complies with the following standards

CEI EN 61869-1 2009-09
CEI EN 61869-2 2012-11
For which the Ith is: 40lpn for 1 second and Idyn is: 2,5 Ith for 1 second.
Maximum service voltage for insulation is: 0,72 kV.
Maximum testing voltage is: 3kV at 50 Hz for 1 minute.

following the provisions of CEE Directives

E.M.C.2014/30/UE L.V.D. 2014/35/UE

Verification of terminals markings (see 7.3.6)
 Power-frequency tests on primary windings (see 7.3.1)
 Power-frequency tests on secondary windings (see 7.3.4)
 Over voltage inter - turn tests (see 7.3.204 procedure A)
 Tests of accurancy (see 7.3.5)
 In conformity with IEC 61869-1 - 61869-2

- Are manufactured in Italy

Sovico (MB) 23 rd, August 2016

(place and date of issue)

AE2 s.r.l. Stefano Merlo

AE2 srl - Via Guido Rossa, 14 - 20845 SOVICO (MB) - ITALY Tel. + 39 039 2012676 - Fax +39 039 8900061 E-mail: info@ae2.it - www.ae2.it



#### **DECLARATION OF CONFORMITY**

AE2 srl

Via Guido Rossa, 14 - 20845 Sovico (MB) - ITALY

declares under own responsibility that the products:

Voltage Transformer

(name, type of model, lot, bach or serial number, possibly sources an

to which this declaration relates complies with the following standards

CEI EN 61869-1 2009-09 CEI EN 61869-3 2011-07

Maximum service voltage for insulation is: 0,72 kV.
Maximum testing voltage is: 3kV at 50 Hz for 1 minute.
Umax=1,2 Un

following the provisions of CEE Directives

E.M.C.2014/30/UE L.V.D. 2014/35/UE

Verification of terminals markings (see 7.3.6)
 Power-frequency tests on primary windings (see 7.3.1)
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## **Esempi di Test Report**



Page 1 of 2 Summary: Freq.: 50 Hz Test Voltage: 0.72/3 kV CosPhi: 0.8 Coil S1-S2 Core

Test equipments:

Description	Type	Serial N.	Manufacturer	Certificate N.		
Sample CT	TAKT	240705	AE2	IEN n° 09-0648-01		
Burden	CFTA400	241620	AE2			
Digital multimeter	8846A	9721006	Fluke	LAT 046 N°343032		
Digital multimeter	34401A	MY41028165	Agilent Tech.	SIT n° 329593		
Burden	CFTV400	36512	AE2			
Dielectric test	M.R.E.	241727	AE2			
Transformer test	GRD3	1012	ΔE2	PTP nº 255140		

Notes:

The simmetrical measurement uncertainties, related to the measurement values are:

ratio errors: +/- 0,02% phase errors: +/- 0,05% secondary current: 1% 0.5% frequency:

The measurement uncertainties related to the digital multimeters are:

0,2% 0,2% 0,2% resistance: voltage: current:

ROUTINE TESTS:

INE TESTS:
Verification of terminal markings (see 7.3.6)
Power-frequency tests on secondary windings (see 7.3.4)
Over - voltage inter - turn tests (see 7.3.204 procedure A)
Tests of accuracy (see 7.3.5)
In conformity with IEC 61869-1 / 61869-2

Signatures:

Laboratory responsible Stefous Operator Molteri yabiele

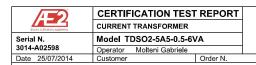
> AE2 s.r.l. via Guido Rossa, 14 - 20845 Sovico (MB) Italy tel.+39 039 2012676 - Fax +39 039 8900061 E-mail: info@ae2.it

	CERTIFICATION TEST			
Electric & Electronic equipments	CURRENT TRANSFORMER			
Serial N.	Model TM3-400A5-0.5-3V			
3014-A02586	Operator Molteni Gabriele			
Date 25/07/2014	Customer	Order N.		
	· ·			
			Page 2	of 2

Core: 1 S1-S2 Ratio: 400/5 Burden: 3 VA Class: 0.5 | Measured at 100% of Nom Burden | Nom % | Real % | Ratio Err % | Limit | Ph.Err.crad | Limit | Ph.Err. min | VA Burden | 120 | 119.90 | 0.019 | 0.500 | 0.379 | 0.900 | 12.99 | 3.11 120 119.90 100 101.20 20 20.78 0.379 0.900 0.283 0.900 0.542 1.350 0.058 0.500 -0.001 0.750 -0,071 1,500 3.11 3.11 3,11 9,70 18,59 5,29 1,001 2,700 Nom % Real % Ratio Err % Limit Ph.Err.cad Limit Ph.Err.min VA Burden 119.70 99.40 0,198 0.500 0.196 0.500 0,248 0,900 0,259 0,900 8,50 8,88 1.56 1.56

Signatures:	
Operator Molteri Gabrile	Laboratory responsible Stefano

AE2 s.r.l. via Guido Rossa, 14 - 20845 Sovico (MB) Italy tel.+39 039 2012676 - Fax +39 039 8900061 E-mail: info@ae2.it



 Summary:
 Page
 1 of 2

 Freq.: 50 Hz
 CosPhi:
 0.8
 Test Voltage:
 0,72/3 kV

 Coil
 Core
 Ratio
 Burden
 Class

 P1-P2 S1-S2
 1
 5 ±5/5
 6 VA
 0.5

Test equipments:								
Description	Type	Serial N.	Manufacturer	Certificate N.				
Sample CT	TAKT	240705	AE2	IEN n° 09-0648-01				
Burden	CFTA400	241620	AE2					
Digital multimeter	8846A	9721006	Fluke	LAT 046 N°343032				
Digital multimeter	34401A	MY41028165	Agilent Tech.	SIT n° 329593				
Burden	CFTV400	36512	AE2					
Dielectric test	M.R.E.	241727	AE2					
Transformer test	G803	1012	ΔE2	PTP nº 255140				

**Notes:**The simmetrical measurement uncertainties, related to the measurement values are:

ratio errors: +/- 0,02% phase errors: +/- 0,05% secondary current: 1% frequency: 0,5% burden: 3%

The measurement uncertainties related to the digital multimeters are:

resistance: 0,2% voltage: 0,2% current: 0,2%

ROUTINE TESTS:

INE TESTS:
Verification of terminal markings (see 7.3.6)
Power-frequency tests on secondary windings (see 7.3.4)
Over - voltage inter - turn tests (see 7.3.204 procedure A)
Tests of accuracy (see 7.3.5)
In conformity with IEC 61869-1 / 61869-2

Signatures:			
Operator Molterui	Galuele	Laboratory responsible Stefan	ص

AE2 s.r.l. via Guido Rossa, 14 - 20845 Sovico (MB) Italy tel.+39 039 2012676 - Fax +39 039 8900061 E-mail: info@ae2.it

CURRENT TRANSFORMER		CERTIFICATION TEST REPORT		
3014-A02598 Operator Molteni Gabriele	Electric & Electronic equipments	CURRENT TRANSFORMER		
Operator Molteril Gabriele		Model TDSO2-5A5-0.5-6VA		
Date 25/07/2014 Customer Order N	3014-A02598	Operator Molteni Gabriele		
	Date 25/07/2014	Customer O	rder N.	

l C	Page 2 of 2 ccuracy test:										
	Core: 1										
[	С	oil: P1-P2	2 S1-S2	Ratio: 5+	5/5	Burden: 6	VA	Class: 0	,5		
ſ	1	Measured	at 100%	of Nom Burd	en						
-		Nom %	Real %	Ratio Err %	Limit	Ph.Err.crad	Limit	Ph.Err. min	VA Burden		
-	[	120	120,70	0,117	0,500	0,013	0,900	0,44	6,15		
-		100	100,20		0,500	-0,020	0,900	-0,68			
-		20	20,11		0,750		1,350	5,65			
-	Į	5	5,30	-0,131	1,500	0,222	2,700	7,61	6,15		
-	Measured at 25% of Nom Burden										
-		Nom %	Real %	Ratio Err %	Limit	Ph.Err.crad	Limit	Ph.Err. min	VA Burden		
-	[	120	119,70	0,349	0,500	0,057	0,900	1,95	1,39		
-1	ı	100	99,70	0,343	0,500	0,076	0,900	2,60	1,39		
-1	ļ	20	19,30		0,750	0,179	1,350	6,13			
-	l	5	5,79	0,267	1,500	0,248	2,700	8,50	1,39		
	_										

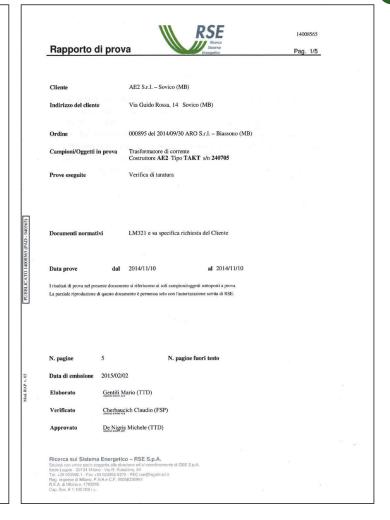


AE2 s.r.l. via Guido Rossa, 14 - 20845 Sovico (MB) Italy tel.+39 039 2012676 - Fax +39 039 8900061 E-mail: info@ae2.it

# Certificati di Taratura/Rapporti di prova/Prove di tipo

I documenti completi sono presenti negli archivi di AE2 srl, che possono essere messi a disposizione su richiesta







## LABORATORIO DI TARATURA

Rapporto di Taratura Riferibile N° 278742
Report of Traceable Calibration

Revisione Nº Prima Emissione / First Issue

Date of issue

Data delle misure
Date of measurements
Destinatario
Addressee
Richiesta
Application 24-Nov-2015 AF2 Srl

141128

Application
Oggetto/Strumento
Item/Instrument
Costruttore
Manufacturer Comparatore per trasformatori AE2

Modello G803 2137

Modello
Model
Numero di serie
Serial Number
Matricola/Cespite
Asset Number
Come trovato
Operazioni eseguite
Performed operazions
Come lasciato
As left
Operatore
Operatore
Operatore
Operatore
Operatore Non indicate Funzionante Functioning Verifica della taratura

Valutabile attraverso i risultati e le incertezze di misura Directly evaluable by results and measurement uncertainties

Operator
Procedura di taratura
Calibration Procedura AE2 G803 RPT/5520.. Rev. 1.6

Annotazioni

Strumentazione utilizzata – Riferibilita`

References Used – Traceability

ed – Traceability

Certificato di taratura

Certificate of Calibration

INRIM 14-0710-01 Descrizione Description Phase Meter Oggetto/Strumento Scaderza
Due Date
23-Oct-2016 Clarke Hess 6000 Multimeter Fluke 8508A LAT 347856 27-Jan-2016 Calibrator Calibrator Fluke 55204 LAT 347911 31-Jan-2016 LAT 348530

MA

1/7

Responsable del laboratorio Chief of Laboratory





# **CONFIRMATION AS REGISTERED LABORATORY**

according to ISO/IEC 17025

The LOVAG Management Committee has approved

The Laboratory of I.N.RI.M. In 10125 Torino - ITALY as

**LOVAG Registered Laboratory** Under the registration code: II 01

This certifies that all the requirements for testing in compliance with ISO/IEC 17025 and the LOVAG Agreement and LOVAG Rules have been fulfilled.

LOVAG Test Reports produced by this Laboratory must be used for the issue of LOVAG Certificates and Licences for the LOVAG Mark in compliance to the LOVAG rules.

The reference certification body is:

ACAE in 24123 Bergamo, ITALY being a member of LOVAG

Issue date: 21st October 2015

Marie-Elisabeth d'Ornano Chairman of LOVAG ASEFA, France

Fuller.

Dr. Horst Huthmann Secretary to LOVAG

Dr. Horst Huthmann, Germany

I.N.RI.M.

ISTITUTO NAZIONALE DI RICERCA METROLOGICA Strada delle Cacce, 91 - 10135 Torino (Italia)



page 1/15

**TEST REPORT** 

No. 16-0429-01 issued on 2016-06-27

Description Model/Type Current transformer

TRP2, TR4, TR43, TR5, TM4, TR12, TS20

See par. 1 (pages 2÷4)

Manufacturer

AE2 S.r.I

Date of the tests

from 2016-06-13 to 2016-06-15

Applied procedure

Standards: IEC 61869-2 (2013-07)

7.2 Type tests;
 7.2.201 Short-time current tests;
 7.3 Routine tests
 7.3.1 Power-frequency voltage withstand tests on primary terminals
 7.3.4 Power-frequency voltage withstand tests on secondary terminals

Laboratory reference

LATFC02 AE2 S.r.I.

Address

20845 ITALY

Measured by

Authorized signatory

This report states that the measurements have been carried out using devices traceable to the Italian National Standards (Ministerial Decree no. 591/1993) and to the measurement units realized or maintained by INRIM, according to the Italian law

(Ministerial Decree Inc. 921/1959, which was the control of the property of the specified measurement conditions. The 272/1951 control of the control of th

I.N.RI.M. ISTITUTO NAZIONALE DI RICERCA METROLOGICA Strada delle Cacce, 91 - 10135 TORINO (Italia)



Page 1 of 27

**REPORT** 

16-0429-02 No.

issued on

2016-06-27

Witness tests on MEASURING CURRENT TRANFORMERS according to § 7.2.6.201of IEC 61869-2 (Test for ratio error and phase displacement of measuring current transformers).

Customer

AE2 S.r.I.