



EC Type Examination Certificate Number: **0120/ SGS0123**

Kohler Elektrik Sayaclari San ve Tic. A.S

Bankalar Cad. Tenha Sok. No:8 Uçarlar Han Karaköy
Beyoğlu
İSTANBUL
TURKEY

Instrument Identification:

AEL.TF.27

Poly Phase, Multi-rate, Active Import, Outdoor, Electricity Meter

Instrument Traceable Number

0120/ SGS0123

has been assessed and certified as meeting the requirements of

EC Directive 2004/22/EC

on Measuring Instruments Annex B

It is certified that the manufacturer's technical design and specimen for the above instrument has been examined and, based on the evidence submitted, it is considered that the instrument conforms to the requirements of MI-003 of EC Directive 2004/22/EC

This certificate must be used in conjunction with a certificate covering the product verification as required in Annex D or Annex F.

This certificate is valid for 10 years from 28th June 2013 until 27th June 2023
Issue 1

Certification is based on report number(s)


ELDAS EL-2602 issued 26th April 2013

Authorised Signature

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1. Technical Data


Manufacturer	Kohler Elektrik Sayaclari San ve Tic. A.S
Meter Type	AEL.TF.27
Voltage Rating (U_n)	3 x 230-240/ 400-415V
Current Rating (I_{min} – I_{ref} (I_{max}))	0,25-5(80)A
Frequency (F_n)	50Hz
Active Accuracy Class (kWh)	A or B (kWh)
Type of circuit	3p4w
Temperature Range	-40°C to +70°C
Software/ Firmware Version No Identification Location	PR0G:0008 LCD
Bill Of Materials Number	TFRFI301ML - REV: 001
IP Rating	IP54
Insulation Protective Class	Class II
LED Pulse Constant	1000 imp/ kWh
Impulse Voltage Rating	6kV
AC Voltage Rating	4kV
Main Cover Sealing Type	Main Meter Cover – Lead Inserts Terminal Cover - Plastic Crimp
Integrity of meter	Inaccessible without breaking seals
Intended Location of the Meter	Outdoor
Type of Register	LCD
Terminal Arrangement(s)	BS/ DIN

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2. Photograph of Meter and Sealing Plan

SEAL POINTS FOR AEL.TF.27 MODEL



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3. Calculation of the composite error/ MPE

In addition to the accuracy requirements the composite error e_c of the meter is shown below

The composite error at a certain load is calculated from the following formula:

$$e_c = \sqrt{e^2(l.\cos\theta) + e^2(T.I.\cos\theta) + e^2(U.I.\cos\theta) + e^2(f.I.\cos\theta)}$$

where

$e^2(l.\cos\theta)$	=	Intrinsic error of meter at a certain load
$e^2(T.I.\cos\theta)$	=	Additional error due to variation of the temperature at the same load
$e^2(U.I.\cos\theta)$	=	Additional error due to variation of the voltage at the same load
$e^2(f.I.\cos\theta)$	=	Additional error due to variation of the frequency at the same load




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		Maximum Permissible Error (MPE)							
Current	PF Cos	-40	-25	-10	5	30	40	55	70
I _{min}	1.0	0.59	0.55	0.51	0.50	0.50	0.52	0.55	0.62
I _{tr}	1.0	0.60	0.53	0.48	0.48	0.47	0.50	0.53	0.64
10I _{tr}	1.0	0.44	0.30	0.22	0.20	0.18	0.22	0.33	0.40
I _{max}	1.0	0.39	0.28	0.22	0.18	0.18	0.24	0.30	0.35
I _{tr}	0.5ind	0.46	0.40	0.31	0.29	0.28	0.31	0.43	0.56
10I _{tr}	0.5ind	0.46	0.38	0.34	0.31	0.30	0.32	0.40	0.52
I _{max}	0.5ind	0.40	0.30	0.16	0.12	0.12	0.18	0.28	0.46
I _{tr}	0.8cap	0.51	0.34	0.30	0.28	0.27	0.31	0.38	0.46
10I _{tr}	0.8cap	0.34	0.31	0.22	0.17	0.16	0.16	0.25	0.43
I _{max}	0.8cap	0.41	0.33	0.23	0.19	0.18	0.24	0.33	0.47
L1									
I _{tr}	1.0	0.62	0.51	0.48	0.47	0.46	0.50	0.54	0.59
10I _{tr}	1.0	0.52	0.33	0.27	0.24	0.25	0.30	0.34	0.41
I _{max}	1.0	0.40	0.29	0.21	0.15	0.14	0.25	0.32	0.34
I _{tr}	0.5ind	0.47	0.45	0.39	0.36	0.36	0.39	0.43	0.49
10I _{tr}	0.5ind	0.42	0.39	0.26	0.23	0.21	0.29	0.39	0.42
I _{max}	0.5ind	0.37	0.25	0.22	0.19	0.15	0.23	0.30	0.43
L2									
I _{tr}	1.0	0.53	0.45	0.43	0.43	0.42	0.45	0.49	0.59
10I _{tr}	1.0	0.43	0.30	0.25	0.22	0.21	0.25	0.30	0.43
I _{max}	1.0	0.37	0.25	0.17	0.12	0.10	0.17	0.25	0.39
I _{tr}	0.5ind	0.48	0.36	0.32	0.31	0.30	0.31	0.39	0.46
10I _{tr}	0.5ind	0.39	0.33	0.26	0.24	0.23	0.29	0.33	0.36
I _{max}	0.5ind	0.37	0.28	0.19	0.16	0.14	0.19	0.30	0.36
L3									
I _{tr}	1.0	0.61	0.54	0.50	0.48	0.48	0.49	0.54	0.61
10I _{tr}	1.0	0.37	0.32	0.26	0.21	0.20	0.24	0.31	0.38
I _{max}	1.0	0.38	0.31	0.23	0.17	0.13	0.20	0.31	0.36
I _{tr}	0.5ind	0.47	0.37	0.32	0.29	0.29	0.34	0.35	0.47
10I _{tr}	0.5ind	0.37	0.31	0.25	0.21	0.20	0.23	0.30	0.39
I _{max}	0.5ind	0.39	0.32	0.21	0.20	0.18	0.21	0.32	0.35

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4. Annex of Variants

Product Variant Identification Details:

Type Designation	Description of meter
AEL.TF.27	Poly Phase, Multi-rate, Active Import, Outdoor, Electricity Meter

Modifications to the meter(s) described according to approval No.**0120/SGS0123** must be notified to the issuing body to confirm the meter(s) continuing compliance to the relevant pattern approval standard(s).

5. Document Revision History

Issue	Date	Comments
1	28/06/2013	Initial Issue