EU Type Examination Certificate Number: **0120/SGS0156**

Itron Metering Solutions Ltd

Design Centre
Langer Road
Felixstowe
IP11 2ER

Manufacturing Centre
Itron-Ganz Meter Company Ltd
Tancsics M. u.11
P.O.B. 396
H-2101 Gödöllő
Hungary

Instrument Identification:
3.HZ-A

Polyphase, Active, Import/ Export, Credit, Electricity Meter
Instrument Traceable Number
0120/ SGS0156

has been assessed and certified as meeting the requirements of

EU Directive 2014/32/EU

on Measuring Instruments Annex II, Module 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 Annex V of EU Directive 2014/32/EU

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

This certificate is valid until 27th November 2024
Issue 8

Certification is based on report number(s) EMA194130/1 issued 28th November 2014

Authorised Signature

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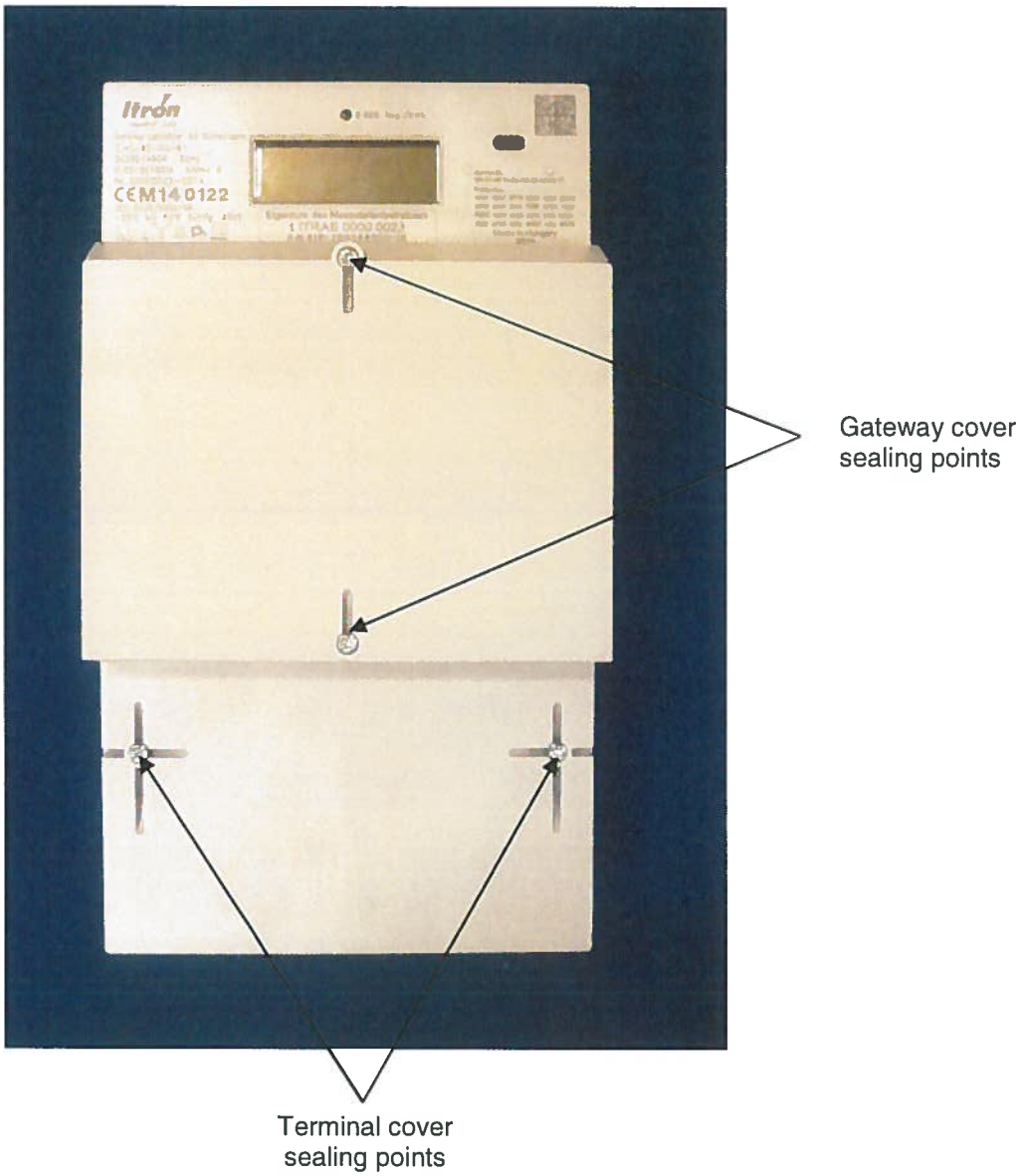
1. Technical Data

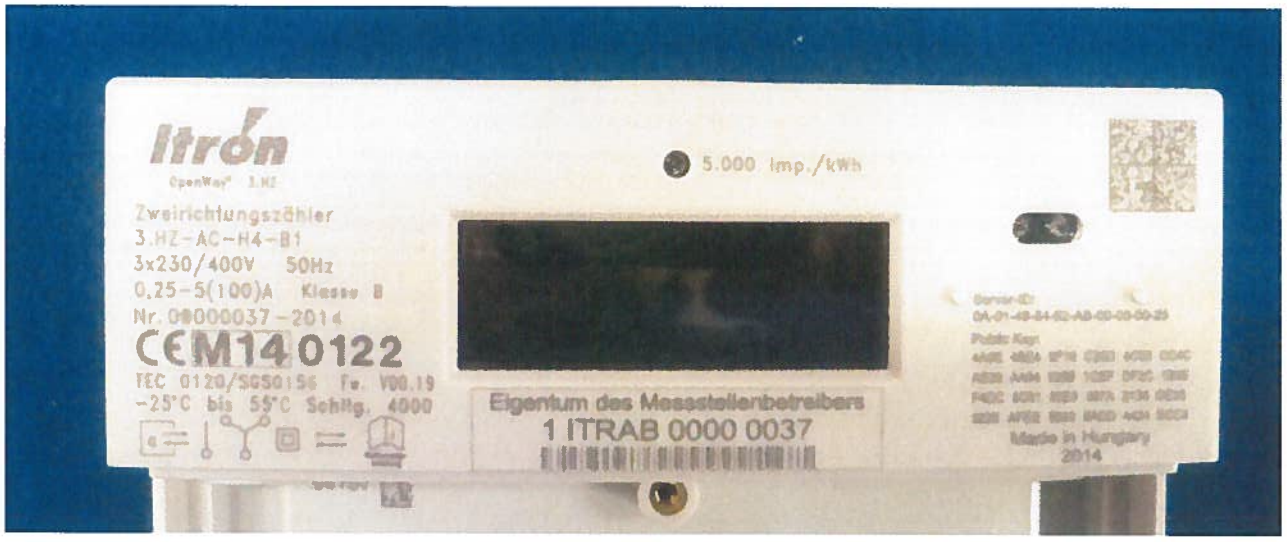
Manufacturer	Itron - Ganz Meter Company Ltd
Meter Type's	3.HZ-A*-D*-*1 3.HZ-A*-H*-*1
Voltage Rating *(Un)*	230V or 3x230/400V
Current Rating *(Imin – Iref (Imax))*	0,25-5(60)A - 3.HZ-A*-D*-B1 0,25-5(100)A - 3.HZ-A*-H*-B1
Frequency *(Fn)*	50Hz
Active Accuracy Class *(kWh)*	A or B (kWh)
Type of circuit	1p2w, 3p4w
Temperature Range	-25°C to +55°C
Software No's. **CRC Checksum No's** **Identification Location**	V01.01, V01.03, V01.04. V01.05 E8E2, 8F3B, B31D, 0AF8 Name Plate
Bill Of Materials No's	Main PCB – A50001201 LCD PCB – A5000623AB
IP Rating	IP51
Insulation Protective Class	Class II
LED Pulse Constant	3.HZ-A*-D*-B1:- 10000 imp/kWh 3.HZ-A*-H*-B1: - 5000 imp/kWh
Impulse Voltage Rating	6kV
AC Voltage Rating	4kV
Main Cover Sealing Type	Ultrasonically welded
Integrity of meter	Inaccessible without breaking seal
Intended Location of the Meter	Indoor
Type of Register	LCD
Terminal Arrangement(s)	DIN

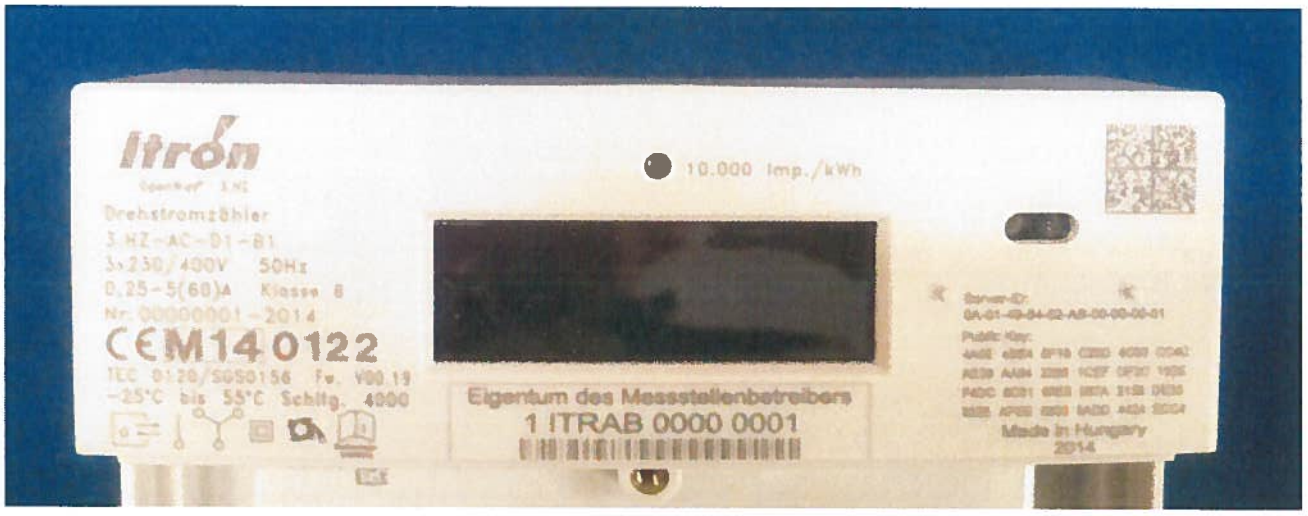
2. Photograph of Meter & Sealing Plan




Main cover
Sealing points
Main cover
Sealing points

3. Photographs of Name Plates





4. Calculation of the composite error/ MPE

During the type approval examination the influence factors for temperature, frequency and voltage are determined per load point. The table below represents the sum of the square values per load, determined via the following formula:-

$$\delta e\,(T, U, f) = \sqrt{(\delta e^2\,(T, I, \cos\varphi)\,,\ \delta e^2\,(U, I, \cos\varphi)\,,\ \delta e^2\,(f, I, \cos\varphi))}$$

where

$\delta e(T, I, \cos\varphi) =$	Additional error due to variation of the temperature at the same load
$\delta e(U, I, \cos\varphi) =$	Additional error due to variation of the voltage at the same load
$\delta e(f, I, \cos\varphi) =$	Additional error due to variation of the frequency at the same load

3.HZ-A*-H*-*1: 0,25-5(100)A

3P4W		Influence Factors for Temperature. Frequency & Voltage					
Current	PF Cos	-25	-10	5	30	40	55
Imin	1.0	0.44	0.31	0.21	0.12	0.12	0.13
Itr	1.0	0.39	0.23	0.12	0.06	0.10	0.13
10Itr	1.0	0.40	0.24	0.11	0.05	0.10	0.15
Imax	1.0	0.35	0.24	0.17	0.14	0.15	0.17
Itr	0.5ind	0.37	0.25	0.17	0.15	0.16	0.16
10Itr	0.5ind	0.34	0.22	0.09	0.03	0.09	0.11
Imax	0.5ind	0.24	0.16	0.07	0.05	0.10	0.05
Itr	0.8cap	0.41	0.11	0.12	0.09	0.13	0.15
10Itr	0.8cap	0.42	0.26	0.11	0.04	0.09	0.15
Imax	0.8cap	0.26	0.16	0.08	0.04	0.07	0.07
L1							
Itr	1.0	0.34	0.17	0.08	0.07	0.11	0.12
10Itr	1.0	0.42	0.26	0.12	0.06	0.10	0.19
Imax	1.0	0.37	0.25	0.13	0.08	0.13	0.15
Itr	0.5ind	0.35	0.24	0.15	0.14	0.15	0.17
10Itr	0.5ind	0.37	0.26	0.12	0.06	0.09	0.13
Imax	0.5ind	0.34	0.26	0.23	0.22	0.22	0.23
L2							
Itr	1.0	0.45	0.29	0.14	0.09	0.14	0.17
10Itr	1.0	0.49	0.32	0.17	0.12	0.15	0.21
Imax	1.0	0.44	0.36	0.30	0.27	0.29	0.29
Itr	0.5ind	0.48	0.34	0.21	0.18	0.18	0.21
10Itr	0.5ind	0.44	0.28	0.16	0.10	0.13	0.16
Imax	0.5ind	0.39	0.32	0.28	0.26	0.27	0.27
L3							
Itr	1.0	0.29	0.16	0.08	0.06	0.07	0.11
10Itr	1.0	0.30	0.19	0.10	0.03	0.06	0.08
Imax	1.0	0.24	0.16	0.10	0.09	0.09	0.09
Itr	0.5ind	0.28	0.19	0.14	0.11	0.11	0.12
10Itr	0.5ind	0.25	0.17	0.08	0.06	0.06	0.09
Imax	0.5ind	0.32	0.30	0.30	0.01	0.30	0.30

3.HZ-A*-H*-*1: 0,25-5(100)A

1P2W (Phase 1)		Influence Factors for Temperature, Frequency & Voltage					
Current	PF Cos	-25°C	-10°C	5°C	30°C	40°C	55°C
Imin	1.0	0.44	0.30	0.21	0.11	0.11	0.11
Itr	1.0	0.39	0.20	0.11	0.06	0.10	0.14
10Itr	1.0	0.43	0.27	0.14	0.06	0.12	0.16
Imax	1.0	0.38	0.24	0.15	0.11	0.13	0.16
Itr	0.5ind	0.39	0.24	0.18	0.14	0.15	0.16
10Itr	0.5ind	0.37	0.24	0.12	0.07	0.13	0.16
Imax	0.5ind	0.32	0.26	0.23	0.22	0.23	0.23
Itr	0.8cap	0.40	0.21	0.09	0.07	0.10	0.13
10Itr	0.8cap	0.48	0.31	0.18	0.13	0.14	0.19
Imax	0.8cap	0.32	0.23	0.15	0.13	0.14	0.16

1P2W (Phase 2)		Influence Factors for Temperature, Frequency & Voltage					
Current	PF Cos	-25°C	-10°C	5°C	30°C	40°C	55°C
Imin	1.0	0.53	0.35	0.10	0.09	0.11	0.20
Itr	1.0	0.45	0.30	0.15	0.09	0.13	0.16
10Itr	1.0	0.47	0.32	0.17	0.14	0.16	0.21
Imax	1.0	0.48	0.36	0.30	0.27	0.28	0.30
Itr	0.5ind	0.47	0.32	0.21	0.18	0.18	0.21
10Itr	0.5ind	0.45	0.29	0.16	0.09	0.12	0.17
Imax	0.5ind	0.38	0.31	0.27	0.26	0.27	0.27
Itr	0.8cap	0.50	0.32	0.17	0.10	0.14	0.18
10Itr	0.8cap	0.49	0.34	0.21	0.12	0.14	0.22
Imax	0.8cap	0.33	0.23	0.13	0.09	0.10	0.11

1P2W (Phase 3)		Influence Factors for Temperature, Frequency & Voltage					
Current	PF Cos	-25°C	-10°C	5°C	30°C	40°C	55°C
Imin	1.0	0.29	0.23	0.22	0.11	0.11	0.11
Itr	1.0	0.28	0.16	0.09	0.07	0.08	0.11
10Itr	1.0	0.30	0.18	0.09	0.04	0.07	0.08
Imax	1.0	0.22	0.16	0.10	0.09	0.10	0.10
Itr	0.5ind	0.25	0.17	0.13	0.11	0.13	0.13
10Itr	0.5ind	0.27	0.18	0.08	0.05	0.08	0.07
Imax	0.5ind	0.32	0.31	0.30	0.30	0.30	0.30
Itr	0.8cap	0.28	0.17	0.10	0.08	0.10	0.12
10Itr	0.8cap	0.33	0.20	0.08	0.04	0.05	0.09
Imax	0.8cap	0.13	0.08	0.03	0.05	0.03	0.03

3.HZ-A*-D*-*1: 0,25-5(60)A

3P4W		Influence Factors for Temperature. Frequency & Voltage					
Current	PF Cos	-25	-10	5	30	40	55
Imin	1.0	0.43	0.28	0.16	0.09	0.10	0.13
Itr	1.0	0.36	0.21	0.11	0.06	0.08	0.13
10Itr	1.0	0.40	0.25	0.11	0.05	0.10	0.16
Imax	1.0	0.33	0.23	0.11	0.06	0.08	0.14
Itr	0.5ind	0.30	0.17	0.10	0.07	0.09	0.12
10Itr	0.5ind	0.31	0.19	0.10	0.04	0.08	0.12
Imax	0.5ind	0.29	0.23	0.19	0.17	0.18	0.30
Itr	0.8cap	0.39	0.64	0.12	0.07	0.10	0.14
10Itr	0.8cap	0.42	0.26	0.13	0.05	0.10	0.17
Imax	0.8cap	0.30	0.19	0.10	0.05	0.09	0.15
L1							
Itr	1.0	0.23	0.14	0.08	0.05	0.05	0.06
10Itr	1.0	0.35	0.21	0.11	0.03	0.05	0.08
Imax	1.0	0.25	0.16	0.11	0.07	0.07	0.08
Itr	0.5ind	0.12	0.08	0.07	0.07	0.07	0.08
10Itr	0.5ind	0.22	0.20	0.13	0.08	0.08	0.10
Imax	0.5ind	0.20	0.13	0.12	0.17	0.10	0.11
L2							
Itr	1.0	0.34	0.19	0.09	0.05	0.07	0.13
10Itr	1.0	0.32	0.19	0.09	0.10	0.12	0.21
Imax	1.0	0.11	0.11	0.11	0.11	0.11	0.11
Itr	0.5ind	0.28	0.19	0.12	0.10	0.12	0.14
10Itr	0.5ind	0.32	0.21	0.12	0.05	0.05	0.10
Imax	0.5ind	0.27	0.21	0.18	0.16	0.16	0.17
L3							
Itr	1.0	0.46	0.28	0.13	0.07	0.12	0.17
10Itr	1.0	0.53	0.29	0.17	0.06	0.13	0.18
Imax	1.0	0.43	0.28	0.18	0.11	0.16	0.24
Itr	0.5ind	0.40	0.23	0.14	0.11	0.13	0.17
10Itr	0.5ind	0.42	0.25	0.17	0.05	0.10	0.17
Imax	0.5ind	0.38	0.24	0.17	0.01	0.14	0.17

3.HZ-A*-D*-*1: 0,25-5(60)A

1P2W (Phase 1)		Influence Factors for Temperature, Frequency & Voltage					
Current	PF Cos	-25°C	-10°C	5°C	30°C	40°C	55°C
Imin	1.0	0.25	0.14	0.11	0.10	0.12	0.14
Itr	1.0	0.28	0.18	0.10	0.05	0.07	0.11
10Itr	1.0	0.36	0.20	0.16	0.04	0.03	0.11
Imax	1.0	0.27	0.21	0.11	0.10	0.10	0.12
		0.00					
Itr	0.5ind	0.23	0.16	0.10	0.07	0.07	0.10
10Itr	0.5ind	0.26	0.19	0.10	0.08	0.08	0.10
Imax	0.5ind	0.22	0.14	0.12	0.11	0.11	0.10
		0.00					
Itr	0.8cap	0.27	0.17	0.08	0.05	0.08	0.15
10Itr	0.8cap	0.35	0.22	0.09	0.06	0.07	0.13
Imax	0.8cap	0.22	0.12	0.08	0.09	0.06	0.12

1P2W (Phase 2)		Influence Factors for Temperature, Frequency & Voltage					
Current	PF Cos	-25°C	-10°C	5°C	30°C	40°C	55°C
Imin	1.0	0.44	0.30	0.16	0.09	0.09	0.11
Itr	1.0	0.34	0.20	0.08	0.05	0.08	0.13
10Itr	1.0	0.37	0.25	0.18	0.06	0.08	0.17
Imax	1.0	0.29	0.19	0.12	0.13	0.15	0.23
Itr	0.5ind	0.29	0.19	0.11	0.10	0.12	0.15
10Itr	0.5ind	0.30	0.19	0.09	0.07	0.09	0.15
Imax	0.5ind	0.27	0.20	0.19	0.16	0.16	0.19
Itr	0.8cap	0.38	0.23	0.10	0.07	0.09	0.14
10Itr	0.8cap	0.39	0.25	0.14	0.05	0.05	0.14
Imax	0.8cap	0.24	0.16	0.11	0.09	0.09	0.14

1P2W (Phase 3)		Influence Factors for Temperature, Frequency & Voltage					
Current	PF Cos	-25°C	-10°C	5°C	30°C	40°C	55°C
Imin	1.0	0.56	0.40	0.18	0.08	0.09	0.11
Itr	1.0	0.46	0.27	0.14	0.05	0.12	0.17
10Itr	1.0	0.48	0.33	0.20	0.06	0.15	0.09
Imax	1.0	0.34	0.22	0.14	0.11	0.14	0.20
Itr	0.5ind	0.40	0.27	0.17	0.10	0.12	0.16
10Itr	0.5ind	0.38	0.29	0.13	0.08	0.14	0.16
Imax	0.5ind	0.34	0.23	0.15	0.13	0.15	0.21
Itr	0.8cap	0.48	0.29	0.14	0.06	0.12	0.17
10Itr	0.8cap	0.55	0.35	0.20	0.06	0.12	0.20
Imax	0.8cap	0.40	0.23	0.11	0.08	0.14	0.21

5. Annex of Variants

Product Variant Identification Details:

Meter code 3.HZ [A] [ ] [ ] [ ] [ ] [1]

No	Property	Value	Description	Selection	
1	Product release	A	Product release according to MS2020 specification	x	A
2	Connection type	C	3 phases / 4 wires *(with connection in 1 phase / 2 wires)*		
		A	1 phase / 2 wires		
3	Maximum current	D	60A		
		H	100A		
4	Metering Mode	1	+A (active import with RRS)		
		2	-A (active export with RRS)		
		3	-A (active export without RRS)		
		4	+A /-A (import/export without RRS)		
5	Class of Accuracy	A	MID A		
		B	MID B		
6	Communication	1	IR port + RS 485	x	1

3.HZ-A*-H*-*1 has 4 configurable modes:

1. +A (active import with RRS)
2. -A (active export with RRS)
3. -A (active import without RRS)
4. +A/-A (active import/export without RRS)

The meters tested were configured in Mode 4 +A/-A (import/export) as this mode covers all modes.

Modifications to the meter(s) described according to approval No.**0120/ SGS0156** must be notified to the issuing body to confirm the meter(s) continuing compliance to the relevant pattern approval standard(s).

6. Document Revision History

Issue	Date	Comments
1	28/11/2014	Initial Issue
2	04/06/2015	Firmware version change
3	07/03/2016	Firmware version change and minor BOM update
4	19/08/2016	Firmware version and CRC Checksum update
5	03/04/2017	Firmware version and CRC Checksum update
6	03/04/2018	Firmware version V01.05 and CRC Checksum No. 0AF8 added
7	23/08/2018	Reference to 1p2w voltage added to technical data
8	7/03/2019	Influence factors for 3.HZ-A*-H*-*1 & 3.HZ-A*-D*-*1 1P2W configuration phase 1, phase 2 & phase 3 included in certificate
9	11/03/2018	Revised codification table. Statement regarding meter configuration used for test added

END OF CERTIFICATE