

EU TYPE EXAMINATION CERTIFICATE

Directive 2014/32/EU, Module B

0598/MID/B/25/083 Issue 2

Product Active Electrical Energy Meters (Annex V MI-003)

Model Meter type VDT45 Series
Description Three Phase Import /Export (kWh) Transformer Operated, Electricity Meter
Instrument Traceable No 0598/MID/B/25/083

Trademark Voltaris Metering

Certificate holder / Manufacturer Voltaris Metering Ltd
McLaren Building, 46 The Priory Queensway, Birmingham, B4 7LR, United Kingdom

Directive information For the instruments mentioned in this Certificate, the following essential requirements of Directive 2014/32/EU apply:
- Annex I Essential requirements
- Annex V Active electrical meters (MI-003)

Standards EN IEC 62052-11:2021/A11:2022, EN 50470-3:2022, IEC 62052-31:2015

Validity This certificate is valid until 2034-11-28.
The manufacturer must inform SGS Fimko in case of any intended change to the design.
Unauthorised changes will invalidate this certificate.

The Manufacturer is permitted to affix the CE-marking onto the instrument(s) after complying with the conformity assessment procedures referred to in Article 17 of the Directive and to draw up a written declaration of conformity.

Date of issue 2025-09-24

SGS Fimko OY
Notified Body 0598

Signature


Mikko Välimäki
Certification Manager



Test report(s)

Report Number	Date
SHES240701486001	2024-11-05
SHES240701486002	2024-11-05

Technical information

Meter type(s)	VDT45M, VDT45MT, VDT45M2, VDT45S, VDT45ST, VDT45S2, VDT45MW, VDT45MTW, VDT45M2W, VDT45ML, VDT45MTL, VDT45M2L, VDT45MZ, VDT45MTZ, VDT45M2Z, VDT45MC, VDT45MTC, VDT45M2C, VDT45, VDT45T, VDT452
Voltage rating (U ⁿ)	3*230/400V
Current rating (I _{min} – I _{ref} (I _{max}))	0.05-5(6)A
Frequency (F _n)	50/60 Hz
Active Accuracy Class (kWh)	A or B or C (kWh)
Type of circuit	1p2w, 3p3w, 3p4w
Temperature range	-25°C to +70°C
Software/Firmware version no.:	V1.3
CRC Checksum	0xC14EA265
Identification location	LCD
Bill of Materials No.(s)	VDT45M: XH-04-210-D36 V1.0 VDT45: XH-04-210-D111 V1.0 VDT45MT: XH-04-210-D20 V1.0 VDT45T: XH-04-210-D112 V1.0 VDT45M2: XH-04-210-D99 V1.0 VDT452: XH-04-210-D113 V1.0 VDT45S: XH-04-210-D101 V1.0 VDT45ST: XH-04-210-D102 V1.0 VDT45S2: XH-04-210-D103 V1.0 VDT45MW: XH-04-210-D104 V1.0 VDT45MTW: XH-04-210-D105 V1.0 VDT45M2W: XH-04-210-D56 V1.0 VDT45ML: XH-04-210-D106 V1.0 VDT45MTL: XH-04-210-D68 V1.0 VDT45M2L: XH-04-210-D107 V1.0

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VDT45MZ: XH-04-210-D108 V1.0	
VDT45MTZ: XH-04-210-D109 V1.0	
VDT45M2Z: XH-04-210-D110 V1.0	
VDT45MC: XH-04-210-D81 V1.0	
VDT45MTC: XH-04-210-D82 V1.0	
VDT45M2C: XH-04-210-D83 V1.0	
IP rating	IP 51 (To be installed in a suitable IP rated enclosure)
Insulation protective class	Class II
LED Pulse Constant	5000 imp/kWh
Impulse Voltage Rating	6kV
AC Voltage Rating	4 kV
Main Cover Sealing Type	Main cover clipped in place and sealed with tamper proof sealing tape
Integrity of Meter	Inaccessible without breaking seals
Intended location of the Meter	Indoor
Type of Register	LCD
Terminal Arrangement(s)	DIN

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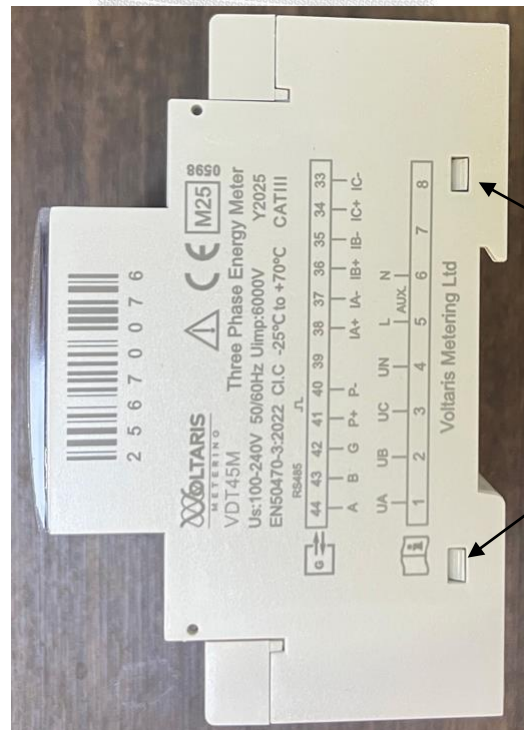
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Photograph of Meter and Sealing Plan



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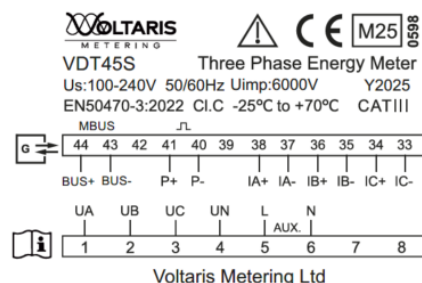
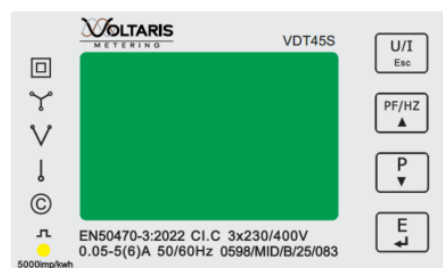
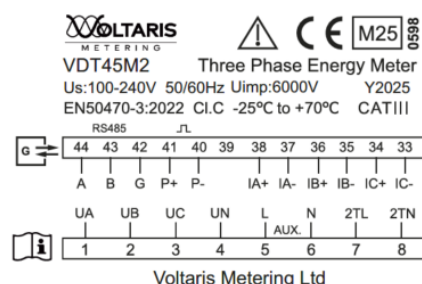
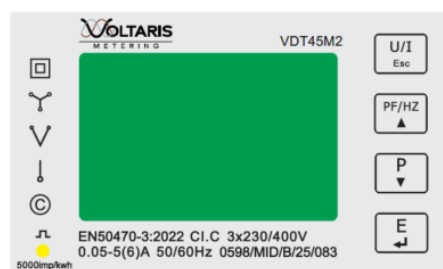
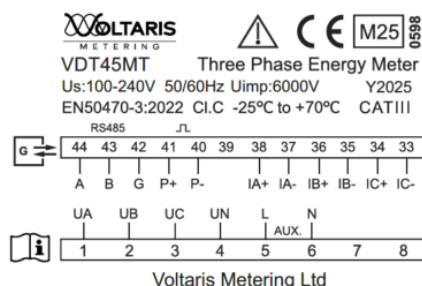
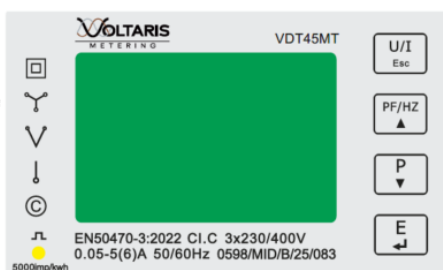
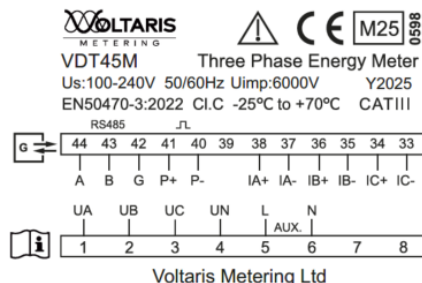
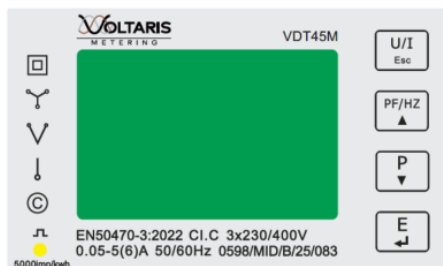
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Example of Nameplates



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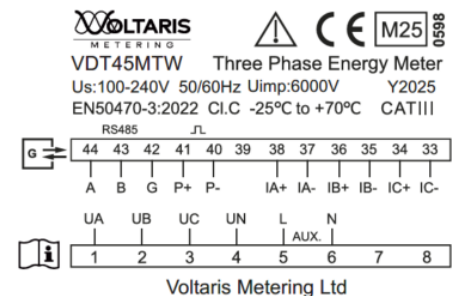
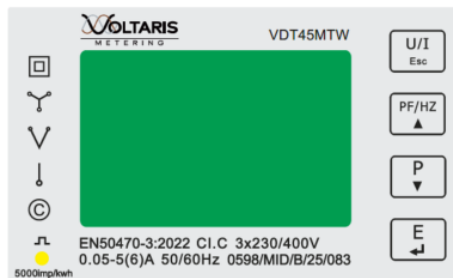
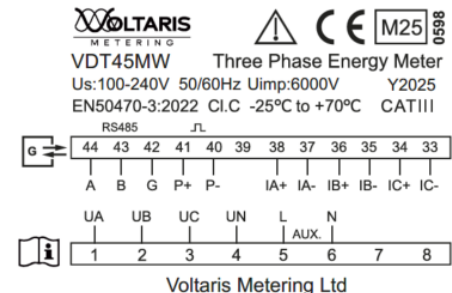
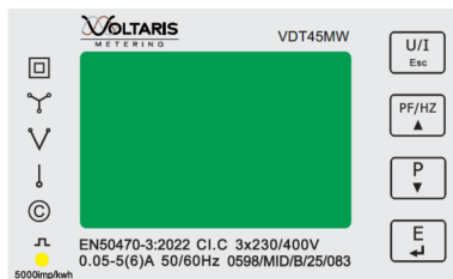
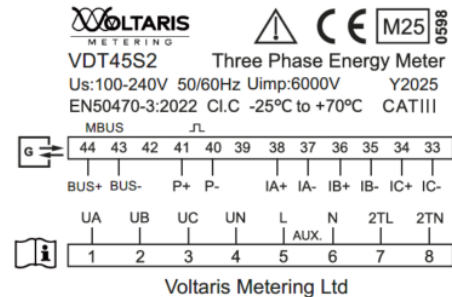
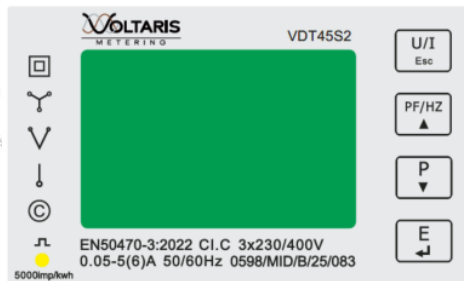
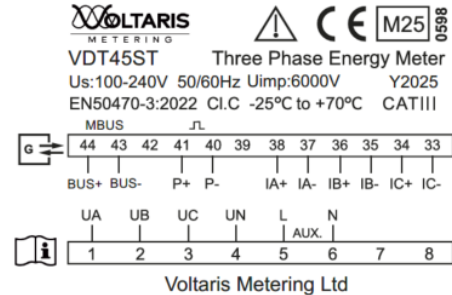
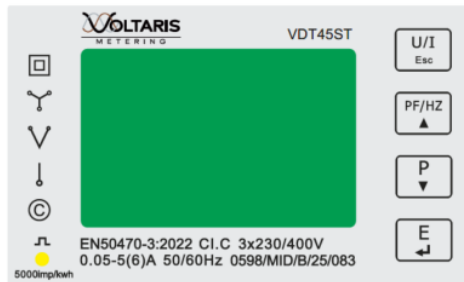
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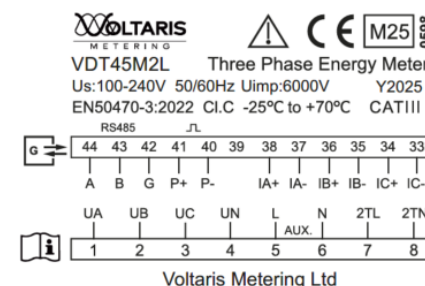
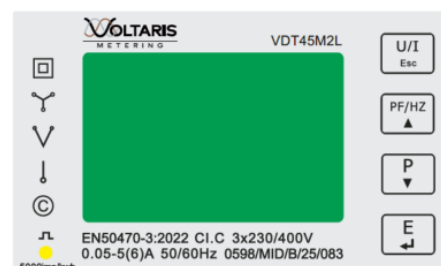
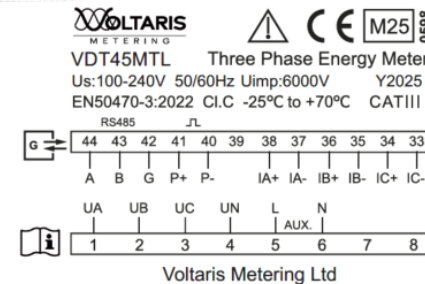
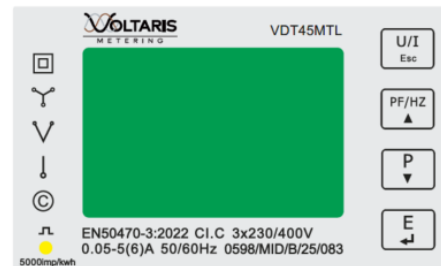
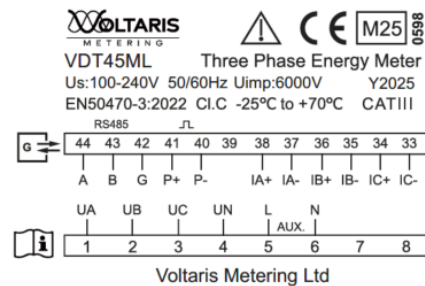
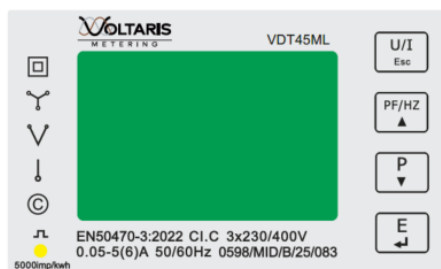
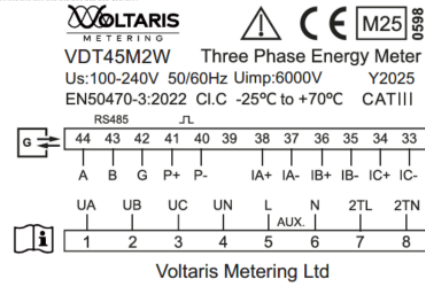
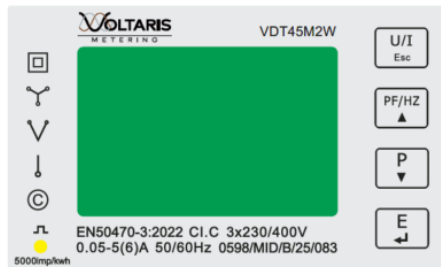
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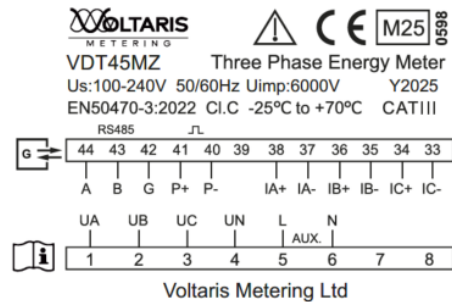
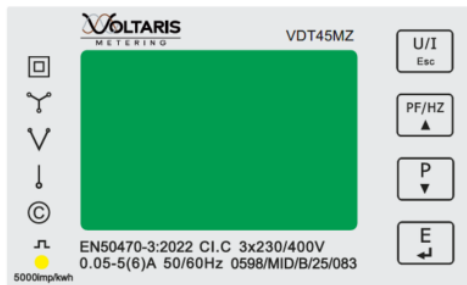
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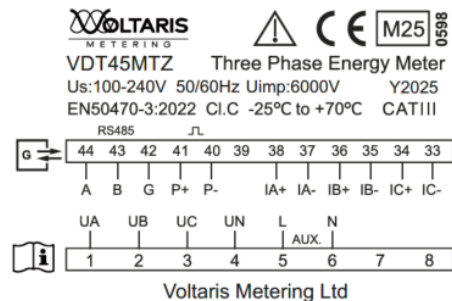
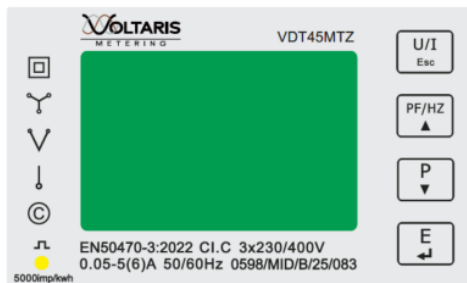
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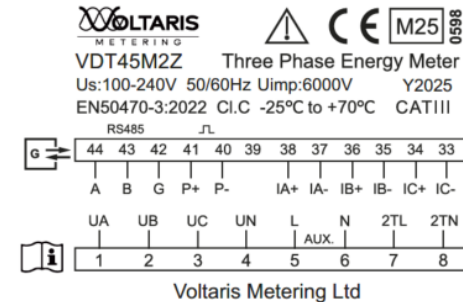
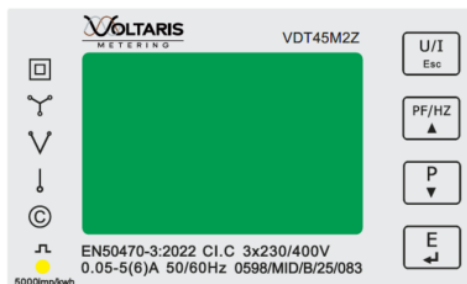
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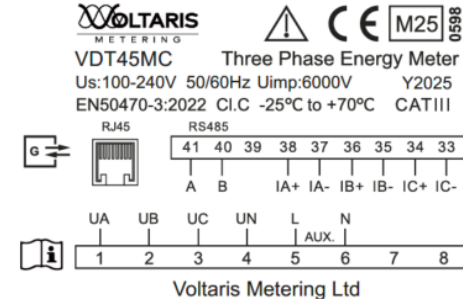
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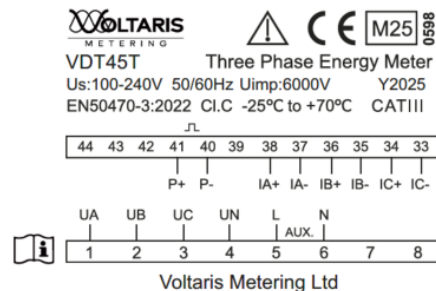
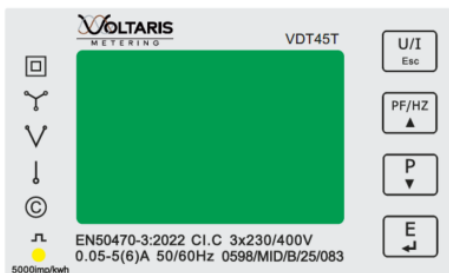
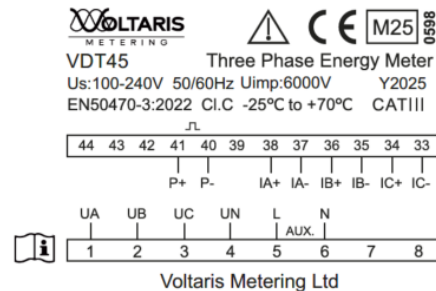
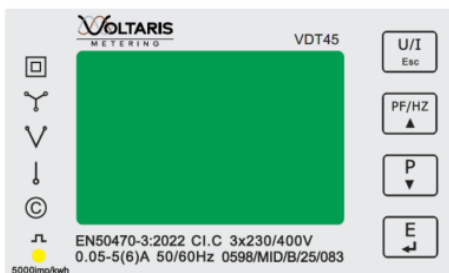
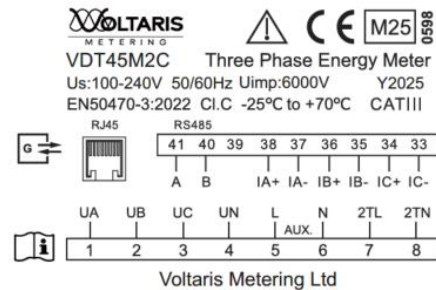
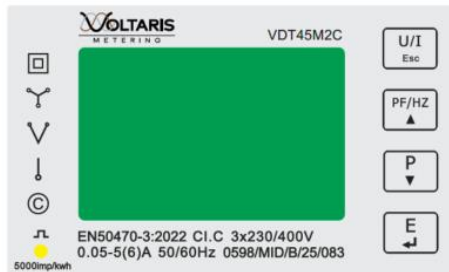
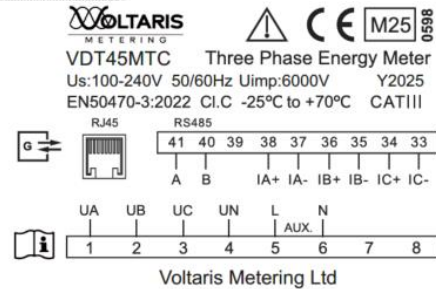
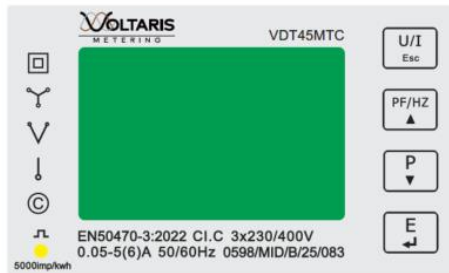
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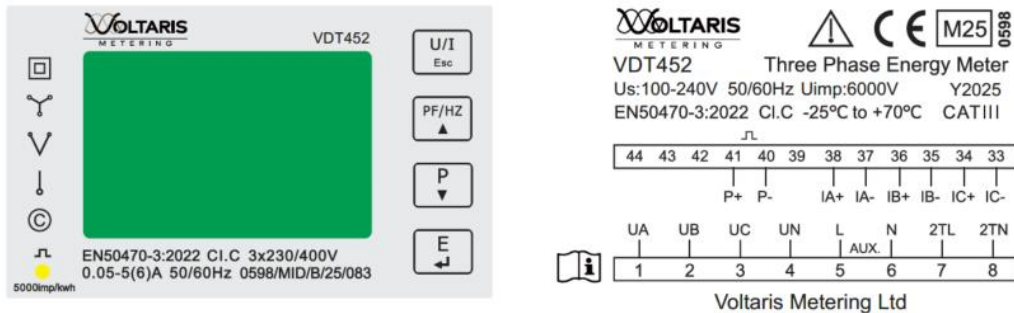
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Calculation of the composite error / MPE

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:

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

where

$e^2(I, \cos\phi)$ = Intrinsic error of the meter at a certain load

$\delta e(T, I, \cos\phi)$ = Additional error due to variation of the temperature at the same load

$\delta e(U, I, \cos\phi)$ = Additional error due to variation of the voltage at the same load

$\delta e(f, I, \cos\phi)$ = Additional error due to variation of the frequency at the same load

		Influence Factors for temperature, frequency and voltage						
Current	PF Cos	-25°C	-10°C	5°C	30°C	40°C	55°C	70°C
Imin	1.0	0.73%	0.41%	0.06%	0.02%	0.02%	0.06%	0.06%
Itr	1.0	0.70%	0.38%	0.16%	0.04%	0.07%	0.07%	0.07%
10Itr	1.0	0.75%	0.42%	0.25%	0.07%	0.06%	0.06%	0.06%
Imax	1.0	0.77%	0.42%	0.22%	0.02%	0.04%	0.04%	0.04%
Itr	0.5ind	0.64%	0.32%	0.18%	0.21%	0.21%	0.17%	0.17%
10Itr	0.5ind	0.65%	0.34%	0.17%	0.18%	0.19%	0.17%	0.17%
Imax	0.5ind	0.81%	0.45%	0.22%	0.02%	0.04%	0.02%	0.02%
Itr	0.8cap	0.75%	0.45%	0.25%	0.08%	0.07%	0.08%	0.08%
10Itr	0.8cap	0.74%	0.44%	0.26%	0.10%	0.09%	0.09%	0.09%
Imax	0.8cap	0.65%	0.34%	0.16%	0.12%	0.15%	0.16%	0.16%
L1								
Itr	1.0	0.70%	0.37%	0.16%	0.06%	0.09%	0.09%	0.09%
10Itr	1.0	0.75%	0.42%	0.22%	0.02%	0.04%	0.04%	0.04%
Imax	1.0	0.76%	0.41%	0.21%	0.02%	0.05%	0.05%	0.05%
Itr	0.5ind	0.54%	0.26%	0.21%	0.24%	0.23%	0.21%	0.21%
10Itr	0.5ind	0.69%	0.36%	0.22%	0.26%	0.28%	0.26%	0.26%
Imax	0.5ind	0.69%	0.39%	0.27%	0.33%	0.34%	0.33%	0.33%
L2								
Itr	1.0	0.66%	0.37%	0.17%	0.09%	0.11%	0.14%	0.14%
10Itr	1.0	0.69%	0.39%	0.17%	0.02%	0.07%	0.08%	0.08%
Imax	1.0	0.70%	0.39%	0.19%	0.03%	0.07%	0.09%	0.09%
Itr	0.5ind	0.61%	0.28%	0.13%	0.15%	0.14%	0.11%	0.11%
10Itr	0.5ind	0.89%	0.35%	0.18%	0.12%	0.16%	0.13%	0.13%
Imax	0.5ind	0.85%	0.42%	0.16%	0.05%	0.09%	0.07%	0.07%
L3								
Itr	1.0	0.71%	0.42%	0.19%	0.04%	0.04%	0.04%	0.04%
10Itr	1.0	0.64%	0.35%	0.13%	0.06%	0.07%	0.06%	0.06%
Imax	1.0	0.66%	0.38%	0.16%	0.01%	0.02%	0.01%	0.01%
Itr	0.5ind	0.94%	0.56%	0.29%	0.09%	0.09%	0.10%	0.10%
10Itr	0.5ind	0.80%	0.36%	0.14%	0.06%	0.07%	0.05%	0.05%
Imax	0.5ind	0.81%	0.37%	0.15%	0.03%	0.06%	0.05%	0.05%

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Certificate issued by

SGS Fimko Oy

Takomotie 8

FI-00380 Helsinki, Finland

t. +358 9 696 361 www.sgs.com

Business ID 0634247-4

Member of the SGS Group (SGS SA)

Product Variant Identification Details

Model	Features					
	Battery	Tariff and RTC Function	2T Function	Communication	Wireless Function	Pulse Output
VDT45M	X	X	X	RS485	X	√
VDT45MT	√	√	X	RS485	X	√
VDT45M2	X	X	√	RS485	X	√
VDT45S	X	X	X	MBUS	X	√
VDT45ST	√	√	X	MBUS	X	√
VDT45S2	X	X	√	MBUS	X	√
VDT45MW	X	X	X	RS485	WIFI	√
VDT45MTW	√	√	X	RS485	WIFI	√
VDT45M2W	X	X	√	RS485	WIFI	√
VDT45ML	X	X	X	RS485	LORAWAN	√
VDT45MTL	√	√	X	RS485	LORAWAN	√
VDT45M2L	X	X	√	RS485	LORAWAN	√
VDT45MZ	X	X	X	RS485	ZIGBEE	√
VDT45MTZ	√	√	X	RS485	ZIGBEE	√
VDT45M2Z	X	X	√	RS485	ZIGBEE	√
VDT45MC	X	X	X	TCP+ RS485	X	X
VDT45MTC	√	√	X	TCP+ RS485	X	X
VDT45M2C	X	X	√	TCP+ RS485	X	X
VDT45	X	X	X	X	X	√
VDT45T	√	√	X	X	X	√
VDT452	X	X	√	X	X	√

Modifications to the meter(s) described according to approval No. **0598/MID/B/25/083** must be notified to the issuing body to confirm the meter(s) continuing compliance to the relevant pattern approval standard(s).

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Certificate Revision History

Issue	Date	Comments
1	2025-07-24	Initial Issue
2	2025-09-24	Model name change from VDT41M, VDT41MT, VDT41M2, VDT41S, VDT41ST, VDT41S2, VDT41MW, VDT41MTW, VDT41M2W, VDT41ML, VDT41MTL, VDT41M2L, VDT41MZ, VDT41MTZ, VDT41M2Z, VDT41MC, VDT41MTC, VDT41M2C, VDT41, VDT41T, VDT412 to VDT45M, VDT45MT, VDT45M2, VDT45S, VDT45ST, VDT45S2, VDT45MW, VDT45MTW, VDT45M2W, VDT45ML, VDT45MTL, VDT45M2L, VDT45MZ, VDT45MTZ, VDT45M2Z, VDT45MC, VDT45MTC, VDT45M2C, VDT45, VDT45T, VDT452

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