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# Verklaring van geen bezwaar

**Aanvrager:** ZIEHL industrie-elektronik GmbH+Co KG  
Daimlerstrasse 13  
74523 Schäbisch Hall  
Duitsland

**Product:** Netwerk- en systeembeschermingsapparaat

**Model:** UFR1001E

Netwerk- en systeembeschermingsapparaat voor driefasige parallelle aansluiting op het openbare net. Het netbewakings maakt integraal deel uit van bovengenoemd model.

## Toepasselijke documenten:

Besluit van de Autoriteit Consument en Markt van 21 april 2016, kenmerk ACM/DE/2016/202151, houdende de vaststelling van de voorwaarden als bedoeld in artikel 31 van de Elektriciteitswet 1998 (Netcode elektriciteit)

## Controlebasis:

### EN 50549-1:2019, NEN-EN 50549-1:2019

Vereisten voor het parallel schakelen van installaties met distributienetwerken - Deel 1: Aansluiting op een LV-distributienetwerk - Productie van installaties tot en met Type B

4.4 Normaal werkbereik

4.9 Interfacebescherming

4.13 Vereisten met betrekking tot tolerantie voor één fout van interfacebeveiligingssysteem en interfaceschakelaar

### EN 50438:2013, NEN-EN 50438:2013

Eisen voor het aansluiten van microgeneratoren op het openbare laagspanningsnet

### DIN V VDE V 0126-1-1:2006-02 (4.1 Functionele Veiligheid)

Automatisch schakelstation tussen een netparallele zelfopwekinstallatie en het openbare laagspanningsnet

### Verordening (EU) 2016/631 Van De Commissie van 14 april 2016

Tot vaststelling van een netcode betreffende eisen voor de aansluiting van elektriciteitsproducenten op het net.

Typegoedkeuring voor productie-eenheden voor gebruik in installaties van type A en type B.

Een representatief testpatroon van het hoger vermelde product voldoet aan de op het moment van de uitreiking van dit attest geldende veiligheid technische eisen van de vermelde controlegrondbeginselen voor een reglementair voorgeschreven gebruik.

**Rapportnummer:** 11TH0501-EN50549-1\_0

**Certificatie-programma:** NSOP-0032-DEU-ZE-V01

**Certificaatnummer:** U21-0266

**Datum:**

2021-03-22

**Certificatie-instelling**



Thomas Lammel



Deutsche  
Akkreditierungsstelle  
D-ZE-12024-01-00

Certificatie-instelling Bureau Veritas Consumer Products Services Germany GmbH geaccrediteerd volgens DIN EN ISO/IEC 17065

Een gedeeltelijke weergave van het certificaat vereist de schriftelijke goedkeuring van Bureau Veritas Consumer Products Services Germany GmbH



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## Annex to the EN 50549-1 certificate of compliance No. U21-0266

### Appendix

Extract from test report according to EN 50549-1

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**Type Approval and declaration of compliance with the requirements of EN 50549-1 and Commission Regulation (EU) 2016/631 of 14 April 2016**

<b>Manufacturer / applicant:</b>	ZIEHL industrie-elektronik GmbH+Co KG Daimlerstrasse 13 74523 Schäbisch Hall Germany
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<b>Type</b>	Network and System Protection device
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	UFR1001E
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<b>Rated supply voltage</b>	AC/DC 24 - 270V, DC / 45 - 65Hz (<5VA)
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<b>Measurement range of voltage</b>	
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<b>Measurement range phase-phase</b>	15 - 520VAC
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<b>Setting range phase-phase</b>	10 - 310VAC
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<b>Measurement range phase-neutral</b>	15 - 300VAC
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<b>Setting range phase-neutral</b>	15 - 530VAC
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<b>Measurement range of frequency</b>	
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<b>Measurement range</b>	40 - 70Hz
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<b>Setting range</b>	45 - 65Hz
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<b>Firmware version</b>	Beginning with 0-12
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<b>Measurement period</b>	2012-01-26 – 2012-02-02 2018-02-13 – 2018-02-14 2018-11-08 2020-05-12 – 2020-07-11
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#### Description of the Network and System Protection device:

The grid- and plant protection device UFR1001E monitors voltage and frequency in plants for own generation of electricity. The UFR1001E is a dual-channel device and thus one-fault-proof. The function of the output-relays and of the connected switches can be monitored with feed-back contacts. When a connected switch does not switch off, the UFR does not switch on again. When a switch does not switch on it makes 2 restarts and thus improves availability of monitored plant. The limits are pre-set according to VDE-AR-N 4105-2018-11 and other standards. They can be changed if required and be protected with a code and/or a seal. With a 2-step test both channels can be tested individually, and the triggering time of connected switches is measured. The standby input allows a remote shutoff e.g. with a RCR.



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Parameter Table:

Clause EN 50549-1	Ref	Parameter	Micro generator setting range
4.3.2 Interface switch	n.a.	Single fault tolerance for interface switch	yes
4.4.2 Operating frequency range	A,B	47,0 – 47,5 Hz Duration	unlimited
	A,B	47,5 – 48,5 Hz Duration	Unlimited
	A,B	48,5 – 49,0 Hz Duration	Unlimited
	A,B	49,0 – 51,0 Hz Duration	Unlimited
	A,B	51,0 – 51,5 Hz Duration	Unlimited
	A,B	51, 5 – 52 Hz Duration	Unlimited
4.4.3 Minimal requirement for active power delivery at under frequency	A,B	Reduction threshold	n.a.
	A,B	Maximum reduction rate	n.a.
4.4.4 Continuous operating voltage range	n.a.	Upper limit	AC/DC 20,4-297 V, 0/40...70 Hz
	n.a.	Lower limit	AC/DC 20,4-297 V, 0/40...70 Hz
4.5.2 Rate of change of frequency (ROCOF) immunity	A,B	ROCOF withstand capability (defined with a sliding measurement window of 500 ms) non-synchronous generating technology: synchronous generating technology:	n.a.
4.5.3.2 Generating plant with non- synchronous generating technology (FRT)	B	Maximum power resumption time	n.a.
	B	Voltage-Time-Diagram	n.a.
4.5.3.3 Generating plant with synchronous generating technology (FRT)	B	Maximum power resumption time	n.a.
	B	Voltage-Time-Diagram	n.a.



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4.5.4 Over-voltage ride through (OVRT)	n.a.	Voltage-Time-Diagram	n.a.
4.6.1 Power response to over frequency (LFSM-O)	A,B	Threshold frequency $f_1$	n.a.
	A,B	Droop	n.a.
	A,B	Power reference	n.a.
	n.a.	Intentional delay	n.a.
	n.a.	Deactivation threshold $f_{stop}$	n.a.
	n.a.	Deactivation time $t_{stop}$	n.a.
	A	Acceptance of staged disconnection	n.a.
4.6.2 Power response to under frequency	n.a.	Threshold frequency $f_1$	n.a.
	n.a.	Droop	n.a.
	n.a.	Power reference	n.a.
	n.a.	Intentional delay	n.a.
4.7.2.2 Capabilities	B	Active factor range overexcited	n.a.
	B	Active factor range underexcited	n.a.
4.7.2.3 Control modes	n.a.	Enabled control mode	n.a.
4.7.2.3.2 Set point control modes	n.a.	Q setpoint and excitation	n.a.
	n.a.	cos $\varphi$ setpoint and excitation	n.a.
4.7.2.3.3 Voltage related control modes	n.a.	Characteristic curve	n.a.
	n.a.	Time constant	n.a.
	n.a.	Min cos $\varphi$	n.a.
	n.a.	Lock in power	n.a.
	n.a.	Lock out power	n.a.
4.7.2.3.4 Power related control mode	n.a.	Characteristic curve	n.a.
4.7.4.2.2 Zero current mode for converter connected generating technology	n.a.	Enabling	n.a.
	n.a.	Static voltage range overvoltage	n.a.
	n.a.	Static voltage range undervoltage	n.a.



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4.9.2 Requirements on voltage and frequency protection	n.a	Threshold for protection as dedicated device [in A or kW, kVA]	n.a.
	B	Undervoltage threshold stage 1	0,065 V <sub>n</sub> – 1,3 V <sub>n</sub>
	B	Undervoltage operate time stage 1	0,05 s – 300,0 s
	B	Undervoltage threshold stage 2	0,065 V <sub>n</sub> – 1,3 V <sub>n</sub>
	B	Undervoltage operate time stage 2	0,05 s – 300,0 s
	B	Overvoltage threshold stage 1	0,065 V <sub>n</sub> – 1,3 V <sub>n</sub>
	B	Overvoltage operate time stage 1	0,05 s – 300,0 s
	B	Overvoltage threshold stage 2	0,065 V <sub>n</sub> – 1,3 V <sub>n</sub>
	B	Overvoltage operate time stage 2	0,05 s – 300,0 s
	B	Overvoltage threshold 10 min mean protection <sup>a</sup>	0,065 V <sub>n</sub> – 1,3 V <sub>n</sub>
	B	Overvoltage operate time 10 min mean protection <sup>a</sup>	0,05 s – 300,0 s
	B	Underfrequency threshold stage 1	45,00 Hz – 65,00 Hz
	B	Underfrequency operate time stage 1	0,05 s – 300,0 s
	B	Underfrequency threshold stage 2	0,05 s – 300,0 s
	B	Underfrequency operate time stage 2	0,05 s – 300,0 s
	B	Overfrequency threshold stage 1	0,05 s – 300,0 s
	B	Overfrequency operate time stage 1	0,05 s – 300,0 s
	B	Overfrequency threshold stage 2	0,05 s – 300,0 s
	B	Overfrequency operate time stage 2	0,05 s – 300,0 s
B	Loss of mains according EN 62116 (LoM)	Passive	
4.10.2 Automatic reconnection after tripping	B	Lower frequency	45,00 Hz – 65,00 Hz
	B	Upper frequency	45,00 Hz – 65,00 Hz
	B	Lower voltage	0,065 V <sub>n</sub> – 1,3 V <sub>n</sub>
	B	Upper voltage	0,065 V <sub>n</sub> – 1,3 V <sub>n</sub>
	B	Observation time	0 s – 6000 s
	B	Active power increase gradient	n.a.
4.10.3 Starting to generate electrical power	A,B	Lower frequency	n.a.
	A,B	Upper frequency	n.a.
	A,B	Lower voltage	n.a.
	A,B	Upper voltage	n.a.
	A,B	Observation time	n.a.
	A,B	Active power increase gradient	n.a.
4.11.1 Ceasing active power	A,B	Remote operation of the logic interface	n.a.
4.11.2 Reduction of active power on set point	B	Remote operation NOTE: If yes further definition is provided by the DSO	n.a.
4.12 Remote information exchange	B	Remote information exchange required NOTE: If yes further definition is provided by the DSO	n.a.



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#### Note:

<sup>a</sup> Over voltage – stage1: 10 min-mean-value corresponding to EN 50160.

The settings of the interface protection are password protected adjustable in the stated range above.

The above stated unit is tested according to the requirements in the EN 50549-1:2019 Commission Regulation (EU) 2016/631 of 14 April 2016. Any modification that affects the stated tests must be named by the manufacturer/supplier of the product to ensure that the product meets all requirements.