



BUREAU
VERITAS

Certificate of compliance

Applicant: Hoymiles Power Electronics Inc.
No. 18 Kangjing Road, HangZhou, Zhejiang Province P.R. China

Product: Hybrid inverter

Model: HIT-5L-G3, HIT-6L-G3, HIT-8L-G3, HIT-10L-G3,
HIT-12L-G3, HIT-15L-G3, HIT-17L-G3, HIT-20L-G3,
HIT-5L-G3S, HIT-6L-G3S, HIT-8L-G3S, HIT-10L-G3S,
HIT-12L-G3S, HIT-15L-G3S, HIT-17L-G3S, HIT-20L-G3S

Use in accordance with regulations:

Automatic disconnection device with three-phase mains surveillance in accordance with Engineering Recommendation G99/N1 for systems with a three-phase parallel coupling via an inverter in the public mains supply. The automatic disconnection device is an integral part of the aforementioned inverter. This serves as a replacement for the disconnection device with isolating function, which can be accessed the distribution network provider at any time.

Applied rules and standards:

Engineering Recommendation G99/N1-1 – Amendment 1:2023

Requirements for the connection of generation equipment in parallel with public distribution networks in Northern Ireland

At the time of issue of this certificate, the safety concept of an aforementioned representative product corresponds to the valid safety specifications for the specified use in accordance with regulations.

Report number: BMH-ESH-P25121275

Certification Program: NSOP-0032-DEU-ZE-ES-V10

Certificate number: U26-0057

Date of issue: 2026-01-29

Certification body

Accreditation



Domenik Koll
Head of Energy Systems Germany



Accredited certification body by Deutsche Akkreditierungsstelle GmbH (DAkkS) according to ISO/IEC 17065. The accreditation is valid only for the scope listed in the annex of the accreditation certificate D-ZE-12024-01-00. The Deutsche Akkreditierungsstelle GmbH (DAkkS) is signatory of the multilateral arrangements of EA, ILAC and IAF for mutual recognition.

Without the written consent of Bureau Veritas Consumer Products Services Germany GmbH excerpts of this certificate of conformity shall not be reproduced.

Appendix A2-3 Compliance Verification Report for Inverter Connected Power Generating Modules

Extract from test report according to the Engineering Recommendation G99/NI

Type Approval and declaration of compliance with the requirements of Engineering Recommendation G99/NI.

PGM Technology	Hybrid inverter			
Manufacturer	Hoymiles Power Electronics Inc.			
Address	No. 18 Kangjing Road, HangZhou, Zhejiang Province P.R. China			
Tel	15088682210	Fax	--	
Email	zhangxingyao@hzconverter.com	Website	--	
PGM Model	HIT-5L-G3	HIT-6L-G3	HIT-8L-G3	HIT-10L-G3
	HIT-5L-G3S	HIT-6L-G3S	HIT-8L-G3S	HIT-10L-G3S
Input (DC photovoltaic)				
MPP voltage range [V]	150-900	150-900	150-900	150-900
Max. input voltage [V]	1000	1000	1000	1000
Max. input current per MPPT [A]	20/20	20/20	20/20/20	20/20/20
Input (DC battery)				
DC voltage range [V]	40-60	40-60	40-60	40-60
Max. DC voltage [V]	60	60	60	60
Max. DC current per DC input [A]	120/120	150/150	190/190	210/210
Output (AC)				
Rated AC voltage [V]	3L/N/PE, 380/400, 50/60 Hz	3L/N/PE, 380/400, 50/60 Hz	3L/N/PE, 380/400, 50/60 Hz	3L/N/PE, 380/400, 50/60 Hz
Rated output current [A]	7,2	8,7	11,5	14,4
Max. output current [A]	8,3	10,0	13,3	16,7
Nom. converter output (P _{NINV}) [kW]	5	6	8	10
Rated apparent power [kVA]	5,5	6,6	8,8	11
On-grid mode AC (battery operation only)				
P _{sn} (nom. discharge power) [kW]	5	6	8	10
P _{cn} (nom. charging power) [kW]	5	6	8	10
P _{smax} (max. discharge power) [kW]	5,5	6,6	8,8	11
P _{cmax} (max. charging power) [kW]	5,5	6,6	8,8	11
Type	Bidirectional	Bidirectional	Bidirectional	Bidirectional
Off-grid mode AC (backup mode / island mode)				
P _{sn} (nom. discharge power) [kW]	5	6	8	10
P _{smax} (max. discharge power) [kW]	5	6	8	10

PGM Model	HIT-12L-G3	HIT-15L-G3	HIT-17L-G3	HIT-20L-G3
	HIT-12L-G3S	HIT-15L-G3S	HIT-17L-G3S	HIT-20L-G3S
Input (DC photovoltaic)				
MPP voltage range [V]	150-900	150-900	150-900	150-900
Max. input voltage [V]	1000	1000	1000	1000
Max. input current per MPPT [A]	20/20/20/20	20/20/20/20	20/20/20/20	20/20/20/20
Input (DC battery)				
DC voltage range [V]	40-60	40-60	40-60	40-60
Max. DC voltage [V]	60	60	60	60
Max. DC current per DC input [A]	250/250	300/300	350/350	350/350
Output (AC)				
Rated AC voltage [V]	3L/N/PE, 380/400, 50/60 Hz	3L/N/PE, 380/400, 50/60 Hz	3L/N/PE, 380/400, 50/60 Hz	3L/N/PE, 380/400, 50/60 Hz
Rated output current [A]	17,3	21,7	24,5	28,9
Max. output current [A]	20,0	25,0	28,3	33,3
Nom. converter output (P_{NINV}) [kW]	12	15	17	20
Rated apparent power [kVA]	13,2	16,5	18,7	22
On-grid mode AC (battery operation only)				
P_{Sn} (nom. discharge power) [kW]	12	15	17	20
P_{Cn} (nom. charging power) [kW]	12	15	17	20
P_{Smax} (max. discharge power) [kW]	13,2	16,5	18,7	22
P_{Cmax} (max. charging power) [kW]	13,2	16,5	18,7	22
Type	Bidirectional	Bidirectional	Bidirectional	Bidirectional
Off-grid mode AC (backup mode / island mode)				
P_{Sn} (nom. discharge power) [kW]	12	15	17	20
P_{Smax} (max. discharge power) [kW]	12	15	17	20

Interface protection system and interface switch (Network and system protection "NS-protection")	
Type of protection	integrated NS-protection
Assigned to generation unit type	HIT-5L-G3, HIT-6L-G3, HIT-8L-G3, HIT-10L-G3, HIT-12L-G3, HIT-15L-G3, HIT-17L-G3, HIT-20L-G3, HIT-5L-G3S, HIT-6L-G3S, HIT-8L-G3S, HIT-10L-G3S, HIT-12L-G3S, HIT-15L-G3S, HIT-17L-G3S, HIT-20L-G3S
Integrated interface switch	Type of switching equipment 1: Relay (Model HF161F-40W) Type of switching equipment 2: Relay (Model HF161F-40W)
	Note: The output is switched off by the inverter bridge and two relay in series in each line and neutral.
Firmware version: Main DSP: V1.00.00; Slave DSP: V1.00.00	

Differences between Generating Units

The PGUs use the same hardware platform.

The series of HIT-20L-G3 and the series of HIT-20L-G3S different is display screen, see photo pages.

The series of HIT-20L-G3 use buttons and the series of HIT-20L-G3S use a display screen.

The PGUs use the same control unit, control system and software. The different powers are realized by software derating. The HIT-20L-G3S series models are additional variants introduced solely to meet diverse market requirements. The output and input power are controlled by software. Please refer to parameters table, labels and external photos for specific differences.

Therefore, testing of the PGU HIT-20L-G3 is applicable for the PGUs HIT-5L-G3, HIT-6L-G3, HIT-8L-G3, HIT-10L-G3, HIT-12L-G3, HIT-15L-G3, HIT-17L-G3, HIT-20L-G3, HIT-5L-G3S, HIT-6L-G3S, HIT-8L-G3S, HIT-10L-G3S, HIT-12L-G3S, HIT-15L-G3S, HIT-17L-G3S and HIT-20L-G3S.

This report is a change report, and some data based on report No. BMH-ESH-P25081214. Just clause A.7.1.4.1 retest on all model, clause A.7.1.4.4 are retest on model HIT-5L-G3 and HIT-20L-G3. The list of changes is as follows:

1. Add model of HIT-20L-G3S series, including HIT-5L-G3S, HIT-6L-G3S, HIT-8L-G3S, HIT-10L-G3S, HIT-12L-G3S, HIT-15L-G3S, HIT-17L-G3S and HIT-20L-G3S.
2. Updated the MPPT input amount of the model HIT-10L-G3, from 4 MPPT reduce to 3 MPPT
3. Add the common mode inductance in EMI broad

The above stated Generating Units are tested according the requirements in the Engineering Recommendation G99/N1. 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 of the Engineering Recommendation G99/N1.

Operating Range.	
Test 1	Voltage = 85% of nominal (196,2 V) Frequency = 47,0 Hz Power Factor = 1 Period of test 20 seconds
Connection	Always connected
Limit	Always connected
Test 2	Voltage = 85% of nominal (196,1 V) Frequency = 47,5 Hz Power Factor = 1 Period of test 90 minutes
Connection:	Always connected
Limit	Always connected
Test 3	Voltage = 110% of nominal (253,5 V) Frequency = 51,5 Hz Power Factor = 1 Period of test 90 minutes
Connection:	Always connected
Limit	Always connected

Protection. Voltage tests.						
Phase 1						
Function	Setting		Trip test		No trip test	
	Voltage [V]	Time delay [s]	Voltage [V]	Time delay [s]	Voltage / time	Confirm no trip
U/V	184,0	2,5	182,3	2,583	188 V / 5,00 s	No trip
					180 V / 2,45 s	No trip
O/V stage 1	262,2	1,0	262,5	1,078	258,2 V / 5,00 s	No trip
O/V stage 2	273,7	0,5	273,9	0,579	269,7 V / 0,95 s	No trip
					277,7 V / 0,45 s	No trip
Note. For Voltage tests the Voltage required to trip is the setting $\pm 3,45V$. The time delay can be measured at a larger deviation than the minimum required to operate the protection. The No trip tests need to be carried out at the setting $\pm 4V$ and for the relevant times as shown in the table above to ensure that the protection will not trip in error.						

Protection. Voltage tests.						
Phase 2						
Function	Setting		Trip test		No trip test	
	Voltage [V]	Time delay [s]	Voltage [V]	Time delay [s]	Voltage / time	Confirm no trip
U/V	184,0	2,5	182,5	2,584	188 V / 5,00 s	No trip
					134V / 1,98s	No trip
O/V stage 1	262,2	1,0	261,6	1,079	258,2 V / 5,00 s	No trip
O/V stage 2	273,7	0,5	273,1	0,580	269,7 V / 0,95 s	No trip
					257V 0,45s	No trip

Protection. Voltage tests.						
Phase 3						
Function	Setting		Trip test		No trip test	
	Voltage [V]	Time delay [s]	Voltage [V]	Time delay [s]	Voltage / time	Confirm no trip
U/V stage 1	184,0	2,5	182,3	2,581	188 V / 5,00 s	No trip
					180 V / 2,45 s	No trip
O/V stage 1	262,2	1,0	262,5	1,077	258,2 V / 5,00 s	No trip
O/V stage 2	273,7	0,5	274,0	0,581	269,7 V / 0,95 s	No trip
					277,7 V / 0,45 s	No trip
Note. For Voltage tests the Voltage required to trip is the setting $\pm 3,45V$. The time delay can be measured at a larger deviation than the minimum required to operate the protection. The No trip tests need to be carried out at the setting $\pm 4V$ and for the relevant times as shown in the table above to ensure that the protection will not trip in error.						

Protection. Frequency tests.						
Function	Setting		Trip test		No trip test	
	Frequency [Hz]	Time delay [s]	Frequency [Hz]	Time delay [s]	Frequency / time	Confirm no trip
U/F stage 1	47,5	20,0	47,43	20,080	47,7 Hz / 30,00 s	No trip
U/F stage 2	47,0	0,5	46,96	0,580	47,2 Hz / 19,50 s	No trip
					46,8 Hz / 0,45 s	No trip
O/F	52,0	0,5	52,01	0,585	51,8 Hz / 120,00 s	No trip
					52,2 Hz / 0,45 s	No trip
Note. For Frequency Trip tests the Frequency required to trip is the setting $\pm 0,1Hz$. In order to measure the time delay a larger deviation than the minimum required to operate the projection can be used. The "No-trip tests" need to be carried out at the setting $\pm 0,2Hz$ and for the relevant times as shown in the table above to ensure that the protection will not trip in error.						

Protection. Loss of Mains.

Inverters tested according to BS EN 62116.

Balancing load on islanded network	33% of -5% Q Test 22	66% of -5% Q Test 12	100% of -5% P Test 5	33% of +5% Q Test 31	66% of +5% Q Test 21	100% of +5% P Test 10
Trip time. Ph1 fuse removed [s]	0,139	0,131	0,280	0,144	0,137	0,301
Trip time. Ph2 fuse removed [s]	0,139	0,131	0,280	0,144	0,137	0,301
Trip time. Ph3 fuse removed [s]	0,139	0,131	0,280	0,144	0,137	0,301

Note. Trip time limit is 0,5s.

Protection. Re-connection timer.

Test should prove that the reconnection sequence starts in no less than 20 seconds for restoration of voltage and frequency to within the stage 1 settings of table 10.1.

Over Voltage				
Time delay setting		Measured delay		
20s		45,0		
Under Voltage				
Time delay setting		Measured delay		
20s		44,4		
Over Frequency				
Time delay setting		Measured delay		
20s		45,0		
Under Frequency				
Time delay setting		Measured delay		
20s		44,8		
	Checks on no reconnection when voltage or frequency is brought to just outside stage 1 limits of table 1.			
	At 266,2 V	At 180,0 V	At 47,9 Hz	At 52,1 Hz
Confirmation that the Generating Unit does not re-connect.	No reconnection	No reconnection	No reconnection	No reconnection

Protection. Frequency change, Stability test.

	Start Frequency [Hz]	Change	Test Duration	Confirm no trip
Positive Vector Shift	49,5	+50 degrees		No trip
Negative Vector Shift	50,5	-50 degrees		No trip
Positive Frequency drift	49,0 to 51,0	+0,95Hz/sec	2,1s	No trip
Negative Frequency drift	51,0 to 49,0	-0,95Hz/sec	2,1s	No trip

Limited Frequency Sensitive Mode – Over Frequency							
1-min mean value [Hz]:	a) 50,00	b) 50,45	c) 50,70	d) 51,15	e) 50,70	f) 50,45	g) 50,00
1. Measurement a) to g): Active power output > 80% P_n							
Frequency [Hz]	50,00	50,45	50,70	51,15	50,70	50,45	50,00
P _{expected} [kW]	20	19,8	18,8	17	18,8	19,8	20
P _{measured} [kW]	20,0055	19,8154	18,8116	17,009	18,7942	19,8070	20,0066
2. Measurement a) to g): Active power output 40% and 60% P_n							
Frequency [Hz]	50,00	50,45	50,70	51,15	50,70	50,45	50,00
P _{expected} [kW]	10	9,8	8,8	7	8,8	9,8	20
P _{measured} [kW]	10,009	9,8341	8,8364	7,0378	8,8179	9,8251	20,0181

Output Power with falling Frequency						
Frequency setpoint [Hz]	50,00	49,50	49,00	48,00	47,60	47,10
Frequency [Hz]	50,00	49,50	49,00	48,00	47,60	47,10
Active power [kW]	20,07	20,06	20,07	20,07	20,07	20,07
ΔP/P _{max} [%]		0,32	0,33	0,34	0,36	0,36
Note. For a CHP the test point a) at 50,00Hz is taken as Registered capacity (P_{max}) due to limited discrete operating points of the CHP's thermal process. No Power reduction take place for electronic inverter						

Power Quality. Harmonics.

Phase 1						
SSEG rating per phase (rpp)			HIT-20L-G3			
	At 45-55% of rated ouput 10,01 kW		100% of rated output 20,08 kW			
Harmonic	Measured Value (MV) in [A]	Measured Value (MV) in [%]	Measured Value (MV) in [A]	Measured Value (MV) in [%]	Limit in BS EN61000-3-12 in %	
					1 phase	3 phase
2nd	0,091	0,313	0,088	0,305	8%	8%
3rd	0,150	0,519	0,220	0,758	21,6%	N/A
4th	0,016	0,055	0,016	0,055	4%	4%
5th	0,080	0,275	0,114	0,392	10,7%	10,7%
6th	0,010	0,034	0,008	0,029	2,67%	2,67%
7th	0,086	0,297	0,082	0,284	7,2%	7,2%
8th	0,006	0,022	0,005	0,019	2%	2%
9th	0,133	0,458	0,167	0,576	3,8%	N/A
10th	0,006	0,021	0,006	0,020	1,6%	1,6%
11th	0,036	0,125	0,038	0,130	3,1%	3,1%
12th	0,007	0,023	0,005	0,018	1,33%	1,33%
13th	0,051	0,174	0,065	0,226	2%	2%
14th	0,005	0,019	0,005	0,017	N/A	N/A
15th	0,044	0,150	0,049	0,168	N/A	N/A
16th	0,005	0,017	0,005	0,017	N/A	N/A
17th	0,025	0,085	0,036	0,123	N/A	N/A
18th	0,006	0,020	0,007	0,023	N/A	N/A
19th	0,031	0,108	0,044	0,153	N/A	N/A
20th	0,004	0,015	0,004	0,014	N/A	N/A
21th	0,024	0,084	0,034	0,117	N/A	N/A
22th	0,004	0,014	0,004	0,015	N/A	N/A
23th	0,013	0,045	0,024	0,084	N/A	N/A
24th	0,004	0,015	0,004	0,014	N/A	N/A
25th	0,025	0,086	0,035	0,120	N/A	N/A
26th	0,004	0,012	0,004	0,013	N/A	N/A
27th	0,022	0,076	0,035	0,119	N/A	N/A
28th	0,004	0,013	0,004	0,013	N/A	N/A
29th	0,024	0,081	0,013	0,047	N/A	N/A
30th	0,004	0,012	0,005	0,016	N/A	N/A
31th	0,024	0,084	0,030	0,103	N/A	N/A
32th	0,003	0,011	0,004	0,012	N/A	N/A
33th	0,019	0,065	0,011	0,039	N/A	N/A
34th	0,003	0,010	0,003	0,011	N/A	N/A
35th	0,017	0,060	0,012	0,042	N/A	N/A
36th	0,003	0,011	0,004	0,012	N/A	N/A
37th	0,027	0,093	0,023	0,081	N/A	N/A
38th	0,003	0,010	0,003	0,011	N/A	N/A
39th	0,020	0,069	0,011	0,037	N/A	N/A
40th	0,003	0,011	0,003	0,009	N/A	N/A
THD ₄₀ [%]	--	0,968	--	1,220	23%	13%
PWHD [%]	--	1,569	--	1,786	23%	22%

Power Quality. Harmonics.						
Phase 2						
SSEG rating per phase (rpp)			HIT-20L-G3			
	At 45-55% of rated ouput 10,01 kW		100% of rated output 20,08kW			
Harmonic	Measured Value (MV) in [A]	Measured Value (MV) in [%]	Measured Value (MV) in [A]	Measured Value (MV) in [%]	Limit in BS EN61000-3-12 in %	
					1 phase	3 phase
2nd	0,101	0,348	0,101	0,348	8%	8%
3rd	0,137	0,472	0,237	0,818	21,6%	N/A
4th	0,017	0,059	0,014	0,050	4%	4%
5th	0,085	0,294	0,089	0,308	10,7%	10,7%
6th	0,010	0,036	0,007	0,024	2,67%	2,67%
7th	0,076	0,262	0,074	0,254	7,2%	7,2%
8th	0,006	0,022	0,005	0,018	2%	2%
9th	0,096	0,332	0,123	0,424	3,8%	N/A
10th	0,006	0,022	0,005	0,019	1,6%	1,6%
11th	0,052	0,181	0,055	0,191	3,1%	3,1%
12th	0,006	0,021	0,005	0,018	1,33%	1,33%
13th	0,048	0,166	0,054	0,187	2%	2%
14th	0,006	0,019	0,005	0,017	N/A	N/A
15th	0,045	0,157	0,047	0,164	N/A	N/A
16th	0,005	0,017	0,005	0,018	N/A	N/A
17th	0,027	0,094	0,038	0,132	N/A	N/A
18th	0,005	0,017	0,007	0,024	N/A	N/A
19th	0,031	0,108	0,038	0,131	N/A	N/A
20th	0,004	0,015	0,004	0,015	N/A	N/A
21th	0,027	0,094	0,028	0,096	N/A	N/A
22th	0,004	0,014	0,004	0,015	N/A	N/A
23th	0,018	0,061	0,025	0,085	N/A	N/A
24th	0,004	0,014	0,005	0,016	N/A	N/A
25th	0,024	0,083	0,031	0,107	N/A	N/A
26th	0,004	0,012	0,004	0,015	N/A	N/A
27th	0,020	0,071	0,018	0,063	N/A	N/A
28th	0,004	0,012	0,004	0,015	N/A	N/A
29th	0,016	0,056	0,013	0,044	N/A	N/A
30th	0,004	0,012	0,005	0,017	N/A	N/A
31th	0,024	0,082	0,026	0,089	N/A	N/A
32th	0,003	0,011	0,004	0,014	N/A	N/A
33th	0,020	0,070	0,014	0,049	N/A	N/A
34th	0,003	0,010	0,004	0,013	N/A	N/A
35th	0,018	0,061	0,009	0,031	N/A	N/A
36th	0,003	0,011	0,004	0,014	N/A	N/A
37th	0,026	0,089	0,021	0,073	N/A	N/A
38th	0,003	0,010	0,004	0,013	N/A	N/A
39th	0,021	0,073	0,010	0,036	N/A	N/A
40th	0,003	0,010	0,003	0,011	N/A	N/A
THD ₄₀ [%]	--	0,899	--	1,153	23%	13%
PWHD [%]	--	1,571	--	1,590	23%	22%

Power Quality. Harmonics.

Phase 3						
SSEG rating per phase (rpp)			HIT-20L-G3			
	At 45-55% of rated ouput 10,01 kW		100% of rated output 20,08kW			
Harmonic	Measured Value (MV) in [A]	Measured Value (MV) in [%]	Measured Value (MV) in [A]	Measured Value (MV) in [%]	Limit in BS EN61000-3-12 in %	
					1 phase	3 phase
2nd	0,106	0,366	0,111	0,385	8%	8%
3rd	0,144	0,497	0,246	0,850	21,6%	N/A
4th	0,012	0,043	0,014	0,049	4%	4%
5th	0,076	0,262	0,116	0,400	10,7%	10,7%
6th	0,008	0,027	0,005	0,019	2,67%	2,67%
7th	0,081	0,281	0,074	0,256	7,2%	7,2%
8th	0,004	0,015	0,004	0,013	2%	2%
9th	0,087	0,299	0,121	0,416	3,8%	N/A
10th	0,004	0,014	0,004	0,013	1,6%	1,6%
11th	0,043	0,149	0,046	0,160	3,1%	3,1%
12th	0,005	0,017	0,004	0,014	1,33%	1,33%
13th	0,051	0,176	0,054	0,188	2%	2%
14th	0,004	0,013	0,004	0,014	N/A	N/A
15th	0,040	0,137	0,056	0,194	N/A	N/A
16th	0,003	0,012	0,004	0,012	N/A	N/A
17th	0,023	0,078	0,023	0,081	N/A	N/A
18th	0,003	0,012	0,003	0,011	N/A	N/A
19th	0,035	0,122	0,040	0,137	N/A	N/A
20th	0,003	0,012	0,004	0,013	N/A	N/A
21th	0,016	0,055	0,028	0,096	N/A	N/A
22th	0,003	0,012	0,003	0,012	N/A	N/A
23th	0,015	0,050	0,015	0,052	N/A	N/A
24th	0,004	0,012	0,003	0,011	N/A	N/A
25th	0,027	0,093	0,034	0,118	N/A	N/A
26th	0,003	0,011	0,003	0,010	N/A	N/A
27th	0,007	0,023	0,010	0,036	N/A	N/A
28th	0,003	0,011	0,003	0,012	N/A	N/A
29th	0,012	0,040	0,013	0,046	N/A	N/A
30th	0,003	0,012	0,004	0,013	N/A	N/A
31th	0,020	0,068	0,028	0,097	N/A	N/A
32th	0,003	0,011	0,003	0,010	N/A	N/A
33th	0,009	0,032	0,010	0,034	N/A	N/A
34th	0,003	0,009	0,003	0,011	N/A	N/A
35th	0,010	0,034	0,012	0,043	N/A	N/A
36th	0,003	0,010	0,003	0,011	N/A	N/A
37th	0,021	0,071	0,024	0,084	N/A	N/A
38th	0,002	0,008	0,003	0,009	N/A	N/A
39th	0,010	0,035	0,007	0,025	N/A	N/A
40th	0,002	0,008	0,003	0,011	N/A	N/A
THD ₄₀ [%]	--	0,872	--	1,208	23%	13%
PWHD [%]	--	1,248	--	1,569	23%	22%

Power Quality. Harmonics.

Phase 1						
Generating Unit rating per phase (rpp)			HIT-17L-G3			
	At 45-55% of rated output 8,51 kW		100% of rated output 17,04 kW			
Harmonic	Measured Value (MV) in [A]	Measured Value (MV) in [%]	Measured Value (MV) in [A]	Measured Value (MV) in [%]	Limit in BS EN61000-3-12 in %	
					1 phase	3 phase
2nd	0,086	0,349	0,083	0,339	8%	8%
3rd	0,123	0,501	0,169	0,688	21,6%	N/A
4th	0,013	0,053	0,015	0,061	4%	4%
5th	0,066	0,268	0,092	0,372	10,7%	10,7%
6th	0,013	0,051	0,011	0,044	2,67%	2,67%
7th	0,076	0,310	0,076	0,308	7,2%	7,2%
8th	0,008	0,031	0,005	0,019	2%	2%
9th	0,107	0,435	0,148	0,600	3,8%	N/A
10th	0,006	0,025	0,005	0,019	1,6%	1,6%
11th	0,034	0,139	0,036	0,146	3,1%	3,1%
12th	0,007	0,030	0,005	0,019	1,33%	1,33%
13th	0,038	0,155	0,059	0,241	2%	2%
14th	0,006	0,023	0,005	0,019	N/A	N/A
15th	0,048	0,196	0,051	0,209	N/A	N/A
16th	0,005	0,022	0,004	0,017	N/A	N/A
17th	0,016	0,065	0,033	0,134	N/A	N/A
18th	0,006	0,023	0,005	0,018	N/A	N/A
19th	0,021	0,086	0,040	0,163	N/A	N/A
20th	0,005	0,020	0,004	0,016	N/A	N/A
21th	0,021	0,086	0,028	0,113	N/A	N/A
22th	0,005	0,021	0,004	0,016	N/A	N/A
23th	0,007	0,029	0,023	0,095	N/A	N/A
24th	0,005	0,020	0,004	0,016	N/A	N/A
25th	0,020	0,081	0,034	0,138	N/A	N/A
26th	0,005	0,019	0,004	0,015	N/A	N/A
27th	0,021	0,087	0,030	0,120	N/A	N/A
28th	0,004	0,018	0,003	0,013	N/A	N/A
29th	0,028	0,114	0,016	0,065	N/A	N/A
30th	0,004	0,018	0,004	0,017	N/A	N/A
31th	0,035	0,142	0,027	0,109	N/A	N/A
32th	0,004	0,016	0,003	0,014	N/A	N/A
33th	0,026	0,107	0,009	0,038	N/A	N/A
34th	0,004	0,016	0,003	0,013	N/A	N/A
35th	0,024	0,099	0,012	0,047	N/A	N/A
36th	0,004	0,016	0,003	0,012	N/A	N/A
37th	0,037	0,149	0,023	0,093	N/A	N/A
38th	0,004	0,015	0,003	0,012	N/A	N/A
39th	0,026	0,104	0,010	0,042	N/A	N/A
40th	0,004	0,017	0,003	0,011	N/A	N/A
THD ₄₀ [%]	--	1,011	--	1,229	23%	13%
PWHD [%]	--	2,106	--	1,974	23%	22%

Power Quality. Harmonics.

Phase 2						
Generating Unit rating per phase (rpp)			HIT-17L-G3			
	At 45-55% of rated ouput 8,51 kW		100% of rated output 17,04 kW			
Harmonic	Measured Value (MV) in [A]	Measured Value (MV) in [%]	Measured Value (MV) in [A]	Measured Value (MV) in [%]	Limit in BS EN61000-3-12 in %	
					1 phase	3 phase
2nd	0,093	0,376	0,096	0,390	8%	8%
3rd	0,119	0,483	0,186	0,754	21,6%	N/A
4th	0,017	0,068	0,017	0,071	4%	4%
5th	0,077	0,312	0,068	0,276	10,7%	10,7%
6th	0,013	0,054	0,013	0,052	2,67%	2,67%
7th	0,067	0,270	0,068	0,275	7,2%	7,2%
8th	0,008	0,031	0,005	0,021	2%	2%
9th	0,079	0,319	0,111	0,452	3,8%	N/A
10th	0,006	0,026	0,004	0,018	1,6%	1,6%
11th	0,045	0,183	0,052	0,212	3,1%	3,1%
12th	0,006	0,026	0,004	0,016	1,33%	1,33%
13th	0,040	0,161	0,052	0,211	2%	2%
14th	0,006	0,025	0,004	0,016	N/A	N/A
15th	0,044	0,179	0,050	0,203	N/A	N/A
16th	0,005	0,020	0,004	0,016	N/A	N/A
17th	0,020	0,082	0,036	0,146	N/A	N/A
18th	0,005	0,022	0,004	0,014	N/A	N/A
19th	0,022	0,090	0,035	0,144	N/A	N/A
20th	0,005	0,018	0,004	0,014	N/A	N/A
21th	0,019	0,076	0,028	0,113	N/A	N/A
22th	0,005	0,021	0,004	0,014	N/A	N/A
23th	0,014	0,055	0,023	0,094	N/A	N/A
24th	0,005	0,021	0,004	0,015	N/A	N/A
25th	0,020	0,079	0,030	0,122	N/A	N/A
26th	0,004	0,015	0,003	0,014	N/A	N/A
27th	0,017	0,068	0,018	0,073	N/A	N/A
28th	0,004	0,016	0,003	0,014	N/A	N/A
29th	0,019	0,076	0,012	0,050	N/A	N/A
30th	0,004	0,015	0,004	0,015	N/A	N/A
31th	0,029	0,118	0,026	0,104	N/A	N/A
32th	0,004	0,015	0,003	0,013	N/A	N/A
33th	0,022	0,088	0,013	0,054	N/A	N/A
34th	0,003	0,014	0,003	0,014	N/A	N/A
35th	0,022	0,090	0,009	0,037	N/A	N/A
36th	0,004	0,015	0,003	0,013	N/A	N/A
37th	0,033	0,132	0,021	0,086	N/A	N/A
38th	0,004	0,016	0,003	0,013	N/A	N/A
39th	0,024	0,099	0,011	0,045	N/A	N/A
40th	0,004	0,017	0,003	0,013	N/A	N/A
THD ₄₀ [%]	--	0,951	--	1,158	23%	13%
PWHD [%]	--	1,873	--	1,830	23%	22%

Power Quality. Harmonics.

Phase 3						
Generating Unit rating per phase (rpp)			HIT-17L-G3			
	At 45-55% of rated ouput 8,51 kW		100% of rated output 17,04 kW			
Harmonic	Measured Value (MV) in [A]	Measured Value (MV) in [%]	Measured Value (MV) in [A]	Measured Value (MV) in [%]	Limit in BS EN61000-3-12 in %	
					1 phase	3 phase
2nd	0,093	0,378	0,095	0,384	8%	8%
3rd	0,114	0,463	0,190	0,771	21,6%	N/A
4th	0,014	0,056	0,015	0,060	4%	4%
5th	0,063	0,257	0,093	0,376	10,7%	10,7%
6th	0,010	0,042	0,010	0,039	2,67%	2,67%
7th	0,072	0,294	0,074	0,300	7,2%	7,2%
8th	0,004	0,017	0,003	0,014	2%	2%
9th	0,072	0,294	0,113	0,457	3,8%	N/A
10th	0,005	0,018	0,003	0,014	1,6%	1,6%
11th	0,037	0,151	0,047	0,192	3,1%	3,1%
12th	0,005	0,019	0,004	0,016	1,33%	1,33%
13th	0,041	0,165	0,053	0,214	2%	2%
14th	0,004	0,017	0,003	0,012	N/A	N/A
15th	0,033	0,134	0,058	0,236	N/A	N/A
16th	0,005	0,019	0,003	0,012	N/A	N/A
17th	0,019	0,078	0,026	0,104	N/A	N/A
18th	0,004	0,017	0,004	0,016	N/A	N/A
19th	0,025	0,102	0,037	0,152	N/A	N/A
20th	0,005	0,019	0,003	0,011	N/A	N/A
21th	0,007	0,028	0,028	0,113	N/A	N/A
22th	0,006	0,025	0,003	0,012	N/A	N/A
23th	0,009	0,036	0,015	0,061	N/A	N/A
24th	0,005	0,019	0,004	0,016	N/A	N/A
25th	0,020	0,079	0,034	0,137	N/A	N/A
26th	0,005	0,020	0,003	0,011	N/A	N/A
27th	0,010	0,039	0,016	0,065	N/A	N/A
28th	0,005	0,022	0,002	0,010	N/A	N/A
29th	0,009	0,035	0,013	0,052	N/A	N/A
30th	0,004	0,018	0,003	0,012	N/A	N/A
31th	0,025	0,100	0,028	0,114	N/A	N/A
32th	0,005	0,018	0,002	0,010	N/A	N/A
33th	0,015	0,059	0,013	0,055	N/A	N/A
34th	0,004	0,016	0,002	0,009	N/A	N/A
35th	0,013	0,054	0,011	0,045	N/A	N/A
36th	0,004	0,016	0,003	0,012	N/A	N/A
37th	0,029	0,118	0,024	0,097	N/A	N/A
38th	0,004	0,015	0,002	0,009	N/A	N/A
39th	0,017	0,068	0,009	0,039	N/A	N/A
40th	0,004	0,015	0,002	0,008	N/A	N/A
THD ₄₀ [%]	--	0,880	--	1,203	23%	13%
PWHD [%]	--	1,481	--	1,872	23%	22%

Power Quality. Harmonics.

Phase 1						
SSEG rating per phase (rpp)			HIT-15L-G3			
	At 45-55% of rated ouput 7,51 kW		100% of rated output 15,03kW			
Harmonic	Measured Value (MV) in [A]	Measured Value (MV) in [%]	Measured Value (MV) in [A]	Measured Value (MV) in [%]	Limit in BS EN61000-3-12 in %	
					1 phase	3 phase
2nd	0,076	0,349	0,066	0,305	8%	8%
3rd	0,119	0,546	0,141	0,649	21,6%	N/A
4th	0,011	0,053	0,011	0,051	4%	4%
5th	0,056	0,259	0,069	0,317	10,7%	10,7%
6th	0,012	0,057	0,007	0,030	2,67%	2,67%
7th	0,071	0,325	0,071	0,329	7,2%	7,2%
8th	0,007	0,032	0,006	0,026	2%	2%
9th	0,087	0,399	0,126	0,578	3,8%	N/A
10th	0,006	0,026	0,006	0,027	1,6%	1,6%
11th	0,034	0,154	0,035	0,162	3,1%	3,1%
12th	0,007	0,033	0,006	0,025	1,33%	1,33%
13th	0,028	0,128	0,052	0,239	2%	2%
14th	0,005	0,023	0,006	0,026	N/A	N/A
15th	0,045	0,206	0,051	0,235	N/A	N/A
16th	0,005	0,023	0,005	0,025	N/A	N/A
17th	0,009	0,042	0,028	0,130	N/A	N/A
18th	0,005	0,023	0,006	0,029	N/A	N/A
19th	0,013	0,058	0,039	0,179	N/A	N/A
20th	0,005	0,021	0,005	0,023	N/A	N/A
21th	0,026	0,120	0,030	0,136	N/A	N/A
22th	0,005	0,022	0,005	0,022	N/A	N/A
23th	0,007	0,031	0,022	0,102	N/A	N/A
24th	0,004	0,020	0,005	0,023	N/A	N/A
25th	0,030	0,138	0,034	0,157	N/A	N/A
26th	0,004	0,020	0,005	0,021	N/A	N/A
27th	0,030	0,136	0,031	0,141	N/A	N/A
28th	0,004	0,018	0,004	0,021	N/A	N/A
29th	0,036	0,165	0,018	0,081	N/A	N/A
30th	0,004	0,019	0,005	0,025	N/A	N/A
31th	0,049	0,225	0,026	0,120	N/A	N/A
32th	0,004	0,017	0,004	0,020	N/A	N/A
33th	0,033	0,152	0,013	0,061	N/A	N/A
34th	0,004	0,019	0,004	0,019	N/A	N/A
35th	0,030	0,136	0,012	0,057	N/A	N/A
36th	0,004	0,018	0,005	0,021	N/A	N/A
37th	0,044	0,204	0,025	0,115	N/A	N/A
38th	0,003	0,016	0,004	0,018	N/A	N/A
39th	0,030	0,138	0,013	0,058	N/A	N/A
40th	0,004	0,017	0,004	0,018	N/A	N/A
THD ₄₀ [%]	--	1,098	--	1,217	23%	13%
PWHD [%]	--	2,868	--	2,275	23%	22%

Power Quality. Harmonics.

Phase 2						
SSEG rating per phase (rpp)			HIT-15L-G3			
	At 45-55% of rated ouput 7,51 kW		100% of rated output 15,03kW			
Harmonic	Measured Value (MV) in [A]	Measured Value (MV) in [%]	Measured Value (MV) in [A]	Measured Value (MV) in [%]	Limit in BS EN61000-3-12 in %	
					1 phase	3 phase
2nd	0,081	0,375	0,080	0,368	8%	8%
3rd	0,107	0,494	0,135	0,622	21,6%	N/A
4th	0,014	0,065	0,013	0,061	4%	4%
5th	0,076	0,351	0,062	0,285	10,7%	10,7%
6th	0,013	0,059	0,008	0,035	2,67%	2,67%
7th	0,061	0,281	0,062	0,287	7,2%	7,2%
8th	0,008	0,035	0,005	0,022	2%	2%
9th	0,066	0,304	0,100	0,460	3,8%	N/A
10th	0,006	0,029	0,005	0,021	1,6%	1,6%
11th	0,042	0,193	0,053	0,243	3,1%	3,1%
12th	0,007	0,032	0,005	0,021	1,33%	1,33%
13th	0,034	0,156	0,049	0,224	2%	2%
14th	0,006	0,028	0,005	0,021	N/A	N/A
15th	0,040	0,184	0,052	0,240	N/A	N/A
16th	0,005	0,024	0,004	0,019	N/A	N/A
17th	0,015	0,068	0,034	0,157	N/A	N/A
18th	0,006	0,025	0,004	0,021	N/A	N/A
19th	0,015	0,069	0,034	0,158	N/A	N/A
20th	0,004	0,019	0,004	0,020	N/A	N/A
21th	0,014	0,064	0,031	0,145	N/A	N/A
22th	0,005	0,024	0,004	0,018	N/A	N/A
23th	0,017	0,076	0,023	0,107	N/A	N/A
24th	0,005	0,022	0,004	0,018	N/A	N/A
25th	0,026	0,118	0,030	0,140	N/A	N/A
26th	0,004	0,017	0,004	0,019	N/A	N/A
27th	0,021	0,097	0,021	0,096	N/A	N/A
28th	0,004	0,017	0,004	0,018	N/A	N/A
29th	0,026	0,120	0,013	0,061	N/A	N/A
30th	0,004	0,018	0,004	0,019	N/A	N/A
31th	0,040	0,186	0,027	0,125	N/A	N/A
32th	0,004	0,019	0,004	0,018	N/A	N/A
33th	0,027	0,126	0,017	0,078	N/A	N/A
34th	0,004	0,018	0,004	0,018	N/A	N/A
35th	0,027	0,123	0,009	0,044	N/A	N/A
36th	0,004	0,019	0,004	0,019	N/A	N/A
37th	0,040	0,183	0,024	0,110	N/A	N/A
38th	0,004	0,019	0,004	0,017	N/A	N/A
39th	0,028	0,130	0,016	0,072	N/A	N/A
40th	0,004	0,020	0,004	0,016	N/A	N/A
THD ₄₀ [%]	--	1,026	--	1,120	23%	13%
PWHD [%]	--	2,470	--	2,199	23%	22%

Power Quality. Harmonics.

Phase 3						
SSEG rating per phase (rpp)			HIT-15L-G3			
	At 45-55% of rated ouput 7,51 kW		100% of rated output 15,03kW			
Harmonic	Measured Value (MV) in [A]	Measured Value (MV) in [%]	Measured Value (MV) in [A]	Measured Value (MV) in [%]	Limit in BS EN61000-3-12 in %	
					1 phase	3 phase
2nd	0,083	0,380	0,086	0,396	8%	8%
3rd	0,096	0,444	0,142	0,655	21,6%	N/A
4th	0,013	0,060	0,012	0,055	4%	4%
5th	0,054	0,250	0,071	0,325	10,7%	10,7%
6th	0,010	0,046	0,007	0,033	2,67%	2,67%
7th	0,063	0,288	0,066	0,304	7,2%	7,2%
8th	0,004	0,018	0,004	0,019	2%	2%
9th	0,060	0,274	0,105	0,483	3,8%	N/A
10th	0,004	0,020	0,003	0,016	1,6%	1,6%
11th	0,033	0,150	0,043	0,197	3,1%	3,1%
12th	0,004	0,021	0,005	0,021	1,33%	1,33%
13th	0,033	0,152	0,048	0,223	2%	2%
14th	0,004	0,018	0,004	0,017	N/A	N/A
15th	0,024	0,111	0,055	0,255	N/A	N/A
16th	0,006	0,025	0,003	0,015	N/A	N/A
17th	0,016	0,074	0,025	0,116	N/A	N/A
18th	0,004	0,019	0,004	0,019	N/A	N/A
19th	0,016	0,075	0,037	0,169	N/A	N/A
20th	0,005	0,024	0,004	0,016	N/A	N/A
21th	0,009	0,040	0,029	0,135	N/A	N/A
22th	0,007	0,030	0,003	0,015	N/A	N/A
23th	0,004	0,018	0,016	0,073	N/A	N/A
24th	0,005	0,025	0,003	0,016	N/A	N/A
25th	0,024	0,111	0,036	0,166	N/A	N/A
26th	0,005	0,022	0,003	0,016	N/A	N/A
27th	0,019	0,087	0,014	0,066	N/A	N/A
28th	0,005	0,021	0,003	0,016	N/A	N/A
29th	0,011	0,050	0,014	0,066	N/A	N/A
30th	0,004	0,020	0,004	0,017	N/A	N/A
31th	0,037	0,170	0,032	0,145	N/A	N/A
32th	0,004	0,019	0,003	0,015	N/A	N/A
33th	0,021	0,095	0,013	0,062	N/A	N/A
34th	0,003	0,015	0,003	0,015	N/A	N/A
35th	0,017	0,077	0,012	0,056	N/A	N/A
36th	0,004	0,018	0,003	0,015	N/A	N/A
37th	0,037	0,169	0,028	0,127	N/A	N/A
38th	0,003	0,016	0,003	0,014	N/A	N/A
39th	0,020	0,092	0,009	0,042	N/A	N/A
40th	0,003	0,015	0,003	0,013	N/A	N/A
THD ₄₀ [%]	--	0,903	--	1,161	23%	13%
PWHD [%]	--	1,989	--	2,197	23%	22%

Power Quality. Harmonics.

Phase 1						
SSEG rating per phase (rpp)			HIT-12L-G3			
	At 45-55% of rated ouput 6,01 kW		100% of rated output 12,02 kW			
Harmonic	Measured Value (MV) in [A]	Measured Value (MV) in [%]	Measured Value (MV) in [A]	Measured Value (MV) in [%]	Limit in BS EN61000-3-12 in %	
					1 phase	3 phase
2nd	0,061	0,352	0,056	0,322	8%	8%
3rd	0,115	0,662	0,124	0,712	21,6%	N/A
4th	0,009	0,054	0,009	0,051	4%	4%
5th	0,048	0,273	0,051	0,292	10,7%	10,7%
6th	0,011	0,064	0,005	0,028	2,67%	2,67%
7th	0,062	0,357	0,064	0,369	7,2%	7,2%
8th	0,006	0,035	0,005	0,026	2%	2%
9th	0,055	0,317	0,103	0,592	3,8%	N/A
10th	0,005	0,029	0,005	0,026	1,6%	1,6%
11th	0,030	0,173	0,033	0,188	3,1%	3,1%
12th	0,006	0,033	0,005	0,030	1,33%	1,33%
13th	0,010	0,059	0,042	0,242	2%	2%
14th	0,005	0,027	0,005	0,031	N/A	N/A
15th	0,029	0,168	0,051	0,293	N/A	N/A
16th	0,006	0,032	0,005	0,027	N/A	N/A
17th	0,014	0,078	0,023	0,131	N/A	N/A
18th	0,005	0,029	0,006	0,032	N/A	N/A
19th	0,028	0,161	0,033	0,192	N/A	N/A
20th	0,005	0,028	0,005	0,027	N/A	N/A
21th	0,045	0,260	0,030	0,173	N/A	N/A
22th	0,005	0,030	0,004	0,025	N/A	N/A
23th	0,019	0,110	0,019	0,109	N/A	N/A
24th	0,005	0,027	0,005	0,027	N/A	N/A
25th	0,056	0,321	0,031	0,179	N/A	N/A
26th	0,005	0,028	0,004	0,025	N/A	N/A
27th	0,045	0,259	0,032	0,185	N/A	N/A
28th	0,005	0,028	0,004	0,025	N/A	N/A
29th	0,045	0,259	0,022	0,129	N/A	N/A
30th	0,005	0,027	0,005	0,028	N/A	N/A
31th	0,065	0,375	0,023	0,132	N/A	N/A
32th	0,005	0,026	0,004	0,026	N/A	N/A
33th	0,041	0,237	0,020	0,117	N/A	N/A
34th	0,005	0,026	0,004	0,025	N/A	N/A
35th	0,035	0,198	0,015	0,086	N/A	N/A
36th	0,004	0,024	0,004	0,025	N/A	N/A
37th	0,058	0,334	0,031	0,178	N/A	N/A
38th	0,004	0,022	0,004	0,024	N/A	N/A
39th	0,037	0,210	0,020	0,114	N/A	N/A
40th	0,004	0,023	0,004	0,024	N/A	N/A
THD ₄₀ [%]	--	1,389	--	1,362	23%	13%
PWHD [%]	--	4,770	--	2,928	23%	22%

Power Quality. Harmonics.						
Phase 2						
SSEG rating per phase (rpp)			HIT-12L-G3			
	At 45-55% of rated ouput 6,01 kW		100% of rated output 12,02 kW			
Harmonic	Measured Value (MV) in [A]	Measured Value (MV) in [%]	Measured Value (MV) in [A]	Measured Value (MV) in [%]	Limit in BS EN61000-3-12 in %	
					1 phase	3 phase
2nd	0,066	0,377	0,066	0,379	8%	8%
3rd	0,099	0,572	0,101	0,579	21,6%	N/A
4th	0,012	0,067	0,010	0,060	4%	4%
5th	0,077	0,444	0,058	0,331	10,7%	10,7%
6th	0,011	0,066	0,006	0,035	2,67%	2,67%
7th	0,055	0,314	0,053	0,305	7,2%	7,2%
8th	0,006	0,037	0,004	0,024	2%	2%
9th	0,047	0,271	0,085	0,489	3,8%	N/A
10th	0,005	0,031	0,004	0,023	1,6%	1,6%
11th	0,035	0,202	0,049	0,279	3,1%	3,1%
12th	0,006	0,035	0,004	0,025	1,33%	1,33%
13th	0,022	0,126	0,040	0,232	2%	2%
14th	0,005	0,029	0,004	0,024	N/A	N/A
15th	0,023	0,134	0,053	0,303	N/A	N/A
16th	0,006	0,034	0,004	0,023	N/A	N/A
17th	0,014	0,082	0,030	0,172	N/A	N/A
18th	0,006	0,034	0,004	0,024	N/A	N/A
19th	0,019	0,108	0,029	0,169	N/A	N/A
20th	0,004	0,026	0,004	0,022	N/A	N/A
21th	0,027	0,153	0,034	0,195	N/A	N/A
22th	0,005	0,031	0,004	0,022	N/A	N/A
23th	0,032	0,182	0,021	0,120	N/A	N/A
24th	0,004	0,026	0,004	0,022	N/A	N/A
25th	0,047	0,271	0,027	0,155	N/A	N/A
26th	0,005	0,026	0,004	0,022	N/A	N/A
27th	0,035	0,200	0,024	0,137	N/A	N/A
28th	0,005	0,027	0,004	0,023	N/A	N/A
29th	0,037	0,211	0,017	0,099	N/A	N/A
30th	0,005	0,029	0,004	0,023	N/A	N/A
31th	0,056	0,322	0,028	0,159	N/A	N/A
32th	0,005	0,026	0,004	0,023	N/A	N/A
33th	0,036	0,205	0,023	0,131	N/A	N/A
34th	0,005	0,027	0,004	0,023	N/A	N/A
35th	0,033	0,191	0,016	0,094	N/A	N/A
36th	0,005	0,029	0,004	0,023	N/A	N/A
37th	0,054	0,311	0,031	0,178	N/A	N/A
38th	0,005	0,026	0,004	0,022	N/A	N/A
39th	0,035	0,202	0,022	0,129	N/A	N/A
40th	0,005	0,028	0,004	0,021	N/A	N/A
THD ₄₀ [%]	--	1,303	--	1,230	23%	13%
PWHD [%]	--	4,172	--	2,936	23%	22%

Power Quality. Harmonics.						
Phase 3						
SSEG rating per phase (rpp)			HIT-12L-G3			
	At 45-55% of rated ouput 6,01 kW		100% of rated output 12,02 kW			
Harmonic	Measured Value (MV) in [A]	Measured Value (MV) in [%]	Measured Value (MV) in [A]	Measured Value (MV) in [%]	Limit in BS EN61000-3-12 in %	
					1 phase	3 phase
2nd	0,067	0,386	0,071	0,407	8%	8%
3rd	0,077	0,444	0,099	0,569	21,6%	N/A
4th	0,011	0,064	0,010	0,057	4%	4%
5th	0,044	0,251	0,054	0,311	10,7%	10,7%
6th	0,009	0,053	0,005	0,031	2,67%	2,67%
7th	0,049	0,279	0,057	0,325	7,2%	7,2%
8th	0,004	0,023	0,004	0,020	2%	2%
9th	0,035	0,200	0,091	0,521	3,8%	N/A
10th	0,004	0,024	0,003	0,019	1,6%	1,6%
11th	0,026	0,148	0,037	0,211	3,1%	3,1%
12th	0,005	0,028	0,004	0,024	1,33%	1,33%
13th	0,019	0,107	0,040	0,232	2%	2%
14th	0,005	0,027	0,003	0,020	N/A	N/A
15th	0,005	0,031	0,053	0,302	N/A	N/A
16th	0,006	0,034	0,003	0,019	N/A	N/A
17th	0,009	0,054	0,023	0,130	N/A	N/A
18th	0,006	0,033	0,004	0,020	N/A	N/A
19th	0,017	0,095	0,034	0,194	N/A	N/A
20th	0,006	0,032	0,004	0,021	N/A	N/A
21th	0,031	0,178	0,029	0,165	N/A	N/A
22th	0,006	0,033	0,003	0,020	N/A	N/A
23th	0,015	0,084	0,016	0,092	N/A	N/A
24th	0,006	0,033	0,004	0,021	N/A	N/A
25th	0,046	0,265	0,035	0,204	N/A	N/A
26th	0,005	0,027	0,004	0,021	N/A	N/A
27th	0,035	0,200	0,016	0,090	N/A	N/A
28th	0,004	0,025	0,004	0,022	N/A	N/A
29th	0,016	0,094	0,015	0,086	N/A	N/A
30th	0,004	0,025	0,004	0,022	N/A	N/A
31th	0,052	0,301	0,033	0,188	N/A	N/A
32th	0,004	0,025	0,004	0,022	N/A	N/A
33th	0,031	0,175	0,014	0,081	N/A	N/A
34th	0,004	0,024	0,004	0,023	N/A	N/A
35th	0,022	0,124	0,011	0,064	N/A	N/A
36th	0,004	0,022	0,004	0,021	N/A	N/A
37th	0,052	0,302	0,033	0,189	N/A	N/A
38th	0,004	0,023	0,003	0,020	N/A	N/A
39th	0,029	0,165	0,010	0,056	N/A	N/A
40th	0,004	0,022	0,003	0,019	N/A	N/A
THD ₄₀ [%]	--	1,101	--	1,208	23%	13%
PWHD [%]	--	3,634	--	2,771	23%	22%

Power Quality. Harmonics.

Phase 1						
SSEG rating per phase (rpp)			HIT-10L-G3			
	At 45-55% of rated ouput 5,00 kW		100% of rated output 10,02 kW			
Harmonic	Measured Value (MV) in [A]	Measured Value (MV) in [%]	Measured Value (MV) in [A]	Measured Value (MV) in [%]	Limit in BS EN61000-3-12 in %	
					1 phase	3 phase
2nd	0,080	0,555	0,079	0,544	8%	8%
3rd	0,125	0,859	0,120	0,825	21,6%	N/A
4th	0,016	0,107	0,012	0,082	4%	4%
5th	0,047	0,324	0,062	0,427	10,7%	10,7%
6th	0,018	0,122	0,010	0,069	2,67%	2,67%
7th	0,063	0,432	0,072	0,499	7,2%	7,2%
8th	0,007	0,045	0,006	0,044	2%	2%
9th	0,026	0,182	0,114	0,786	3,8%	N/A
10th	0,007	0,051	0,006	0,042	1,6%	1,6%
11th	0,030	0,208	0,033	0,231	3,1%	3,1%
12th	0,008	0,053	0,007	0,049	1,33%	1,33%
13th	0,022	0,152	0,044	0,300	2%	2%
14th	0,006	0,042	0,006	0,039	N/A	N/A
15th	0,010	0,071	0,051	0,354	N/A	N/A
16th	0,006	0,045	0,005	0,036	N/A	N/A
17th	0,032	0,218	0,021	0,144	N/A	N/A
18th	0,005	0,032	0,006	0,040	N/A	N/A
19th	0,055	0,378	0,030	0,205	N/A	N/A
20th	0,004	0,030	0,005	0,033	N/A	N/A
21th	0,056	0,384	0,024	0,162	N/A	N/A
22th	0,005	0,033	0,005	0,031	N/A	N/A
23th	0,029	0,198	0,014	0,095	N/A	N/A
24th	0,005	0,031	0,005	0,035	N/A	N/A
25th	0,061	0,418	0,024	0,165	N/A	N/A
26th	0,004	0,028	0,004	0,031	N/A	N/A
27th	0,044	0,304	0,023	0,156	N/A	N/A
28th	0,005	0,034	0,004	0,031	N/A	N/A
29th	0,049	0,337	0,025	0,169	N/A	N/A
30th	0,005	0,032	0,004	0,028	N/A	N/A
31th	0,069	0,475	0,025	0,174	N/A	N/A
32th	0,004	0,029	0,004	0,030	N/A	N/A
33th	0,042	0,288	0,021	0,146	N/A	N/A
34th	0,006	0,041	0,004	0,026	N/A	N/A
35th	0,040	0,279	0,019	0,128	N/A	N/A
36th	0,005	0,031	0,004	0,026	N/A	N/A
37th	0,054	0,375	0,031	0,213	N/A	N/A
38th	0,004	0,028	0,004	0,025	N/A	N/A
39th	0,034	0,232	0,021	0,144	N/A	N/A
40th	0,005	0,035	0,004	0,025	N/A	N/A
THD ₄₀ [%]	--	1,746	--	1,683	23%	13%
PWHD [%]	--	6,159	--	3,319	23%	22%

Power Quality. Harmonics.

Phase 2						
SSEG rating per phase (rpp)			HIT-10L-G3			
	At 45-55% of rated ouput 5,00 kW		100% of rated output 10,02 kW			
Harmonic	Measured Value (MV) in [A]	Measured Value (MV) in [%]	Measured Value (MV) in [A]	Measured Value (MV) in [%]	Limit in BS EN61000-3-12 in %	
					1 phase	3 phase
2nd	0,083	0,574	0,083	0,574	8%	8%
3rd	0,111	0,767	0,115	0,793	21,6%	N/A
4th	0,018	0,123	0,014	0,099	4%	4%
5th	0,090	0,622	0,068	0,469	10,7%	10,7%
6th	0,020	0,136	0,010	0,072	2,67%	2,67%
7th	0,059	0,405	0,062	0,429	7,2%	7,2%
8th	0,010	0,072	0,006	0,038	2%	2%
9th	0,023	0,161	0,086	0,595	3,8%	N/A
10th	0,008	0,056	0,005	0,033	1,6%	1,6%
11th	0,019	0,130	0,047	0,324	3,1%	3,1%
12th	0,010	0,070	0,005	0,035	1,33%	1,33%
13th	0,010	0,067	0,041	0,284	2%	2%
14th	0,006	0,042	0,005	0,035	N/A	N/A
15th	0,009	0,061	0,049	0,335	N/A	N/A
16th	0,007	0,048	0,004	0,028	N/A	N/A
17th	0,031	0,212	0,026	0,181	N/A	N/A
18th	0,006	0,040	0,004	0,028	N/A	N/A
19th	0,040	0,277	0,028	0,190	N/A	N/A
20th	0,005	0,034	0,004	0,029	N/A	N/A
21th	0,036	0,249	0,025	0,171	N/A	N/A
22th	0,004	0,031	0,004	0,028	N/A	N/A
23th	0,037	0,252	0,017	0,115	N/A	N/A
24th	0,004	0,029	0,004	0,030	N/A	N/A
25th	0,051	0,352	0,023	0,157	N/A	N/A
26th	0,005	0,035	0,004	0,026	N/A	N/A
27th	0,036	0,251	0,019	0,133	N/A	N/A
28th	0,005	0,035	0,004	0,026	N/A	N/A
29th	0,039	0,267	0,016	0,111	N/A	N/A
30th	0,005	0,036	0,003	0,024	N/A	N/A
31th	0,058	0,400	0,025	0,174	N/A	N/A
32th	0,006	0,043	0,003	0,023	N/A	N/A
33th	0,040	0,276	0,020	0,137	N/A	N/A
34th	0,007	0,047	0,003	0,022	N/A	N/A
35th	0,038	0,261	0,018	0,125	N/A	N/A
36th	0,006	0,043	0,003	0,022	N/A	N/A
37th	0,052	0,359	0,029	0,202	N/A	N/A
38th	0,006	0,043	0,003	0,022	N/A	N/A
39th	0,035	0,243	0,021	0,147	N/A	N/A
40th	0,007	0,045	0,003	0,021	N/A	N/A
THD ₄₀ [%]	--	1,678	--	1,573	23%	13%
PWHD [%]	--	5,425	--	3,162	23%	22%

Power Quality. Harmonics.						
Phase 3						
SSEG rating per phase (rpp)			HIT-10L-G3			
	At 45-55% of rated ouput 5,00 kW		100% of rated output 10,02 kW			
Harmonic	Measured Value (MV) in [A]	Measured Value (MV) in [%]	Measured Value (MV) in [A]	Measured Value (MV) in [%]	Limit in BS EN61000-3-12 in %	
					1 phase	3 phase
2nd	0,083	0,575	0,085	0,586	8%	8%
3rd	0,086	0,595	0,110	0,759	21,6%	N/A
4th	0,015	0,104	0,014	0,095	4%	4%
5th	0,050	0,348	0,062	0,428	10,7%	10,7%
6th	0,015	0,106	0,008	0,058	2,67%	2,67%
7th	0,050	0,347	0,068	0,468	7,2%	7,2%
8th	0,007	0,047	0,004	0,028	2%	2%
9th	0,017	0,118	0,085	0,586	3,8%	N/A
10th	0,008	0,056	0,004	0,027	1,6%	1,6%
11th	0,026	0,181	0,038	0,262	3,1%	3,1%
12th	0,009	0,061	0,004	0,030	1,33%	1,33%
13th	0,009	0,065	0,042	0,293	2%	2%
14th	0,009	0,060	0,004	0,024	N/A	N/A
15th	0,028	0,193	0,043	0,295	N/A	N/A
16th	0,010	0,070	0,004	0,025	N/A	N/A
17th	0,011	0,076	0,020	0,141	N/A	N/A
18th	0,009	0,063	0,004	0,029	N/A	N/A
19th	0,039	0,270	0,031	0,215	N/A	N/A
20th	0,008	0,053	0,004	0,028	N/A	N/A
21th	0,033	0,231	0,015	0,106	N/A	N/A
22th	0,006	0,044	0,005	0,032	N/A	N/A
23th	0,017	0,120	0,012	0,084	N/A	N/A
24th	0,007	0,050	0,004	0,029	N/A	N/A
25th	0,047	0,326	0,027	0,184	N/A	N/A
26th	0,006	0,041	0,004	0,029	N/A	N/A
27th	0,034	0,237	0,009	0,062	N/A	N/A
28th	0,005	0,037	0,005	0,032	N/A	N/A
29th	0,023	0,155	0,011	0,076	N/A	N/A
30th	0,006	0,044	0,003	0,024	N/A	N/A
31th	0,054	0,374	0,022	0,153	N/A	N/A
32th	0,006	0,040	0,004	0,029	N/A	N/A
33th	0,035	0,239	0,011	0,075	N/A	N/A
34th	0,006	0,038	0,004	0,027	N/A	N/A
35th	0,031	0,211	0,010	0,069	N/A	N/A
36th	0,006	0,039	0,003	0,023	N/A	N/A
37th	0,051	0,350	0,025	0,176	N/A	N/A
38th	0,005	0,034	0,004	0,025	N/A	N/A
39th	0,031	0,214	0,013	0,087	N/A	N/A
40th	0,005	0,034	0,003	0,023	N/A	N/A
THD ₄₀ [%]	--	1,441	--	1,491	23%	13%
PWHD [%]	--	4,817	--	2,613	23%	22%

Power Quality. Harmonics.

Phase 1						
SSEG rating per phase (rpp)			HIT-8L-G3			
	At 45-55% of rated ouput 4,01 kW		100% of rated output 8,01 kW			
Harmonic	Measured Value (MV) in [A]	Measured Value (MV) in [%]	Measured Value (MV) in [A]	Measured Value (MV) in [%]	Limit in BS EN61000-3-12 in %	
					1 phase	3 phase
2nd	0,038	0,326	0,036	0,310	8%	8%
3rd	0,146	1,259	0,159	1,371	21,6%	N/A
4th	0,010	0,083	0,009	0,079	4%	4%
5th	0,077	0,664	0,177	1,530	10,7%	10,7%
6th	0,008	0,073	0,006	0,048	2,67%	2,67%
7th	0,063	0,542	0,123	1,059	7,2%	7,2%
8th	0,005	0,045	0,004	0,032	2%	2%
9th	0,167	1,441	0,124	1,071	3,8%	N/A
10th	0,005	0,043	0,004	0,032	1,6%	1,6%
11th	0,065	0,562	0,027	0,229	3,1%	3,1%
12th	0,005	0,041	0,004	0,037	1,33%	1,33%
13th	0,079	0,677	0,034	0,290	2%	2%
14th	0,005	0,042	0,003	0,026	N/A	N/A
15th	0,073	0,628	0,023	0,202	N/A	N/A
16th	0,007	0,059	0,003	0,029	N/A	N/A
17th	0,020	0,176	0,030	0,255	N/A	N/A
18th	0,004	0,032	0,003	0,023	N/A	N/A
19th	0,020	0,173	0,044	0,378	N/A	N/A
20th	0,003	0,030	0,003	0,025	N/A	N/A
21th	0,028	0,243	0,038	0,328	N/A	N/A
22th	0,004	0,034	0,005	0,041	N/A	N/A
23th	0,030	0,255	0,020	0,175	N/A	N/A
24th	0,003	0,026	0,003	0,029	N/A	N/A
25th	0,054	0,467	0,039	0,341	N/A	N/A
26th	0,003	0,026	0,004	0,034	N/A	N/A
27th	0,042	0,358	0,024	0,207	N/A	N/A
28th	0,003	0,023	0,005	0,040	N/A	N/A
29th	0,053	0,456	0,018	0,159	N/A	N/A
30th	0,003	0,024	0,003	0,024	N/A	N/A
31th	0,060	0,515	0,005	0,043	N/A	N/A
32th	0,002	0,021	0,002	0,020	N/A	N/A
33th	0,025	0,215	0,006	0,055	N/A	N/A
34th	0,002	0,020	0,003	0,022	N/A	N/A
35th	0,023	0,198	0,008	0,069	N/A	N/A
36th	0,002	0,021	0,003	0,022	N/A	N/A
37th	0,017	0,145	0,016	0,134	N/A	N/A
38th	0,002	0,020	0,002	0,018	N/A	N/A
39th	0,004	0,035	0,016	0,136	N/A	N/A
40th	0,003	0,023	0,002	0,019	N/A	N/A
THD ₄₀ [%]	--	2,611	--	2,714	23%	13%
PWHD [%]	--	6,076	--	3,764	23%	22%

Power Quality. Harmonics.

Phase 2						
SSEG rating per phase (rpp)			HIT-8L-G3			
	At 45-55% of rated ouput 4,01 kW		100% of rated output 8,01 kW			
Harmonic	Measured Value (MV) in [A]	Measured Value (MV) in [%]	Measured Value (MV) in [A]	Measured Value (MV) in [%]	Limit in BS EN61000-3-12 in %	
					1 phase	3 phase
2nd	0,038	0,326	0,040	0,344	8%	8%
3rd	0,147	1,267	0,169	1,454	21,6%	N/A
4th	0,008	0,073	0,007	0,064	4%	4%
5th	0,083	0,715	0,170	1,465	10,7%	10,7%
6th	0,008	0,068	0,007	0,059	2,67%	2,67%
7th	0,060	0,515	0,121	1,047	7,2%	7,2%
8th	0,004	0,036	0,004	0,037	2%	2%
9th	0,136	1,174	0,098	0,845	3,8%	N/A
10th	0,003	0,029	0,003	0,029	1,6%	1,6%
11th	0,081	0,702	0,041	0,354	3,1%	3,1%
12th	0,004	0,034	0,004	0,032	1,33%	1,33%
13th	0,085	0,731	0,032	0,272	2%	2%
14th	0,004	0,035	0,003	0,025	N/A	N/A
15th	0,069	0,596	0,027	0,235	N/A	N/A
16th	0,006	0,053	0,003	0,029	N/A	N/A
17th	0,023	0,197	0,033	0,282	N/A	N/A
18th	0,004	0,032	0,003	0,024	N/A	N/A
19th	0,018	0,153	0,042	0,362	N/A	N/A
20th	0,004	0,036	0,003	0,028	N/A	N/A
21th	0,018	0,154	0,040	0,344	N/A	N/A
22th	0,005	0,047	0,004	0,034	N/A	N/A
23th	0,024	0,203	0,031	0,268	N/A	N/A
24th	0,004	0,034	0,004	0,032	N/A	N/A
25th	0,050	0,429	0,036	0,308	N/A	N/A
26th	0,003	0,022	0,004	0,033	N/A	N/A
27th	0,044	0,380	0,021	0,181	N/A	N/A
28th	0,003	0,023	0,005	0,040	N/A	N/A
29th	0,046	0,394	0,010	0,088	N/A	N/A
30th	0,003	0,025	0,003	0,029	N/A	N/A
31th	0,056	0,481	0,010	0,083	N/A	N/A
32th	0,003	0,023	0,004	0,031	N/A	N/A
33th	0,035	0,299	0,004	0,035	N/A	N/A
34th	0,003	0,026	0,003	0,028	N/A	N/A
35th	0,024	0,210	0,008	0,067	N/A	N/A
36th	0,003	0,024	0,003	0,023	N/A	N/A
37th	0,023	0,199	0,011	0,098	N/A	N/A
38th	0,003	0,024	0,002	0,019	N/A	N/A
39th	0,011	0,096	0,010	0,090	N/A	N/A
40th	0,003	0,029	0,002	0,020	N/A	N/A
THD ₄₀ [%]	--	2,511	--	2,652	23%	13%
PWHD [%]	--	5,896	--	3,695	23%	22%

Power Quality. Harmonics.

Phase 3						
SSEG rating per phase (rpp)			HIT-8L-G3			
	At 45-55% of rated ouput 4,01 kW		100% of rated output 8,01 kW			
Harmonic	Measured Value (MV) in [A]	Measured Value (MV) in [%]	Measured Value (MV) in [A]	Measured Value (MV) in [%]	Limit in BS EN61000-3-12 in %	
					1 phase	3 phase
2nd	0,056	0,482	0,058	0,503	8%	8%
3rd	0,138	1,195	0,184	1,587	21,6%	N/A
4th	0,009	0,077	0,008	0,068	4%	4%
5th	0,066	0,567	0,166	1,430	10,7%	10,7%
6th	0,006	0,053	0,006	0,055	2,67%	2,67%
7th	0,068	0,585	0,118	1,019	7,2%	7,2%
8th	0,003	0,027	0,003	0,029	2%	2%
9th	0,138	1,193	0,098	0,843	3,8%	N/A
10th	0,003	0,028	0,003	0,029	1,6%	1,6%
11th	0,071	0,608	0,029	0,252	3,1%	3,1%
12th	0,004	0,037	0,004	0,038	1,33%	1,33%
13th	0,074	0,634	0,028	0,243	2%	2%
14th	0,003	0,029	0,003	0,026	N/A	N/A
15th	0,044	0,377	0,041	0,353	N/A	N/A
16th	0,006	0,048	0,003	0,029	N/A	N/A
17th	0,023	0,194	0,027	0,236	N/A	N/A
18th	0,007	0,056	0,003	0,025	N/A	N/A
19th	0,024	0,206	0,039	0,339	N/A	N/A
20th	0,006	0,052	0,003	0,024	N/A	N/A
21th	0,028	0,239	0,037	0,322	N/A	N/A
22th	0,006	0,053	0,004	0,033	N/A	N/A
23th	0,029	0,252	0,023	0,198	N/A	N/A
24th	0,005	0,045	0,003	0,027	N/A	N/A
25th	0,055	0,472	0,033	0,287	N/A	N/A
26th	0,005	0,042	0,003	0,024	N/A	N/A
27th	0,051	0,442	0,016	0,134	N/A	N/A
28th	0,004	0,031	0,004	0,034	N/A	N/A
29th	0,040	0,343	0,009	0,074	N/A	N/A
30th	0,004	0,031	0,003	0,026	N/A	N/A
31th	0,054	0,463	0,008	0,066	N/A	N/A
32th	0,004	0,034	0,003	0,029	N/A	N/A
33th	0,029	0,247	0,006	0,055	N/A	N/A
34th	0,004	0,036	0,003	0,027	N/A	N/A
35th	0,022	0,193	0,007	0,061	N/A	N/A
36th	0,004	0,037	0,003	0,025	N/A	N/A
37th	0,020	0,168	0,012	0,101	N/A	N/A
38th	0,004	0,038	0,003	0,023	N/A	N/A
39th	0,004	0,037	0,012	0,106	N/A	N/A
40th	0,005	0,039	0,003	0,029	N/A	N/A
THD ₄₀ [%]	--	2,404	--	2,699	23%	13%
PWHD [%]	--	5,674	--	3,501	23%	22%

Power Quality. Harmonics.						
Phase 1						
SSEG rating per phase (rpp)			HIT-6L-G3			
	At 45-55% of rated ouput 3,01 kW		100% of rated output 6,01 kW			
Harmonic	Measured Value (MV) in [A]	Measured Value (MV) in [%]	Measured Value (MV) in [A]	Measured Value (MV) in [%]	Limit in BS EN61000-3-12 in %	
					1 phase	3 phase
2nd	0,022	0,250	0,023	0,267	8%	8%
3rd	0,109	1,257	0,127	1,455	21,6%	N/A
4th	0,008	0,093	0,007	0,084	4%	4%
5th	0,030	0,346	0,115	1,325	10,7%	10,7%
6th	0,006	0,072	0,004	0,050	2,67%	2,67%
7th	0,028	0,322	0,070	0,806	7,2%	7,2%
8th	0,005	0,056	0,003	0,036	2%	2%
9th	0,084	0,961	0,082	0,943	3,8%	N/A
10th	0,005	0,059	0,003	0,039	1,6%	1,6%
11th	0,023	0,266	0,020	0,225	3,1%	3,1%
12th	0,006	0,066	0,004	0,042	1,33%	1,33%
13th	0,053	0,610	0,049	0,564	2%	2%
14th	0,005	0,058	0,003	0,037	N/A	N/A
15th	0,057	0,658	0,058	0,672	N/A	N/A
16th	0,005	0,056	0,004	0,042	N/A	N/A
17th	0,042	0,485	0,036	0,409	N/A	N/A
18th	0,005	0,060	0,003	0,038	N/A	N/A
19th	0,078	0,900	0,050	0,574	N/A	N/A
20th	0,005	0,058	0,003	0,038	N/A	N/A
21th	0,074	0,853	0,023	0,269	N/A	N/A
22th	0,005	0,059	0,006	0,067	N/A	N/A
23th	0,040	0,461	0,026	0,293	N/A	N/A
24th	0,005	0,055	0,004	0,040	N/A	N/A
25th	0,078	0,896	0,021	0,245	N/A	N/A
26th	0,005	0,056	0,005	0,053	N/A	N/A
27th	0,046	0,527	0,005	0,055	N/A	N/A
28th	0,006	0,072	0,005	0,060	N/A	N/A
29th	0,042	0,486	0,015	0,177	N/A	N/A
30th	0,005	0,054	0,004	0,042	N/A	N/A
31th	0,054	0,622	0,033	0,383	N/A	N/A
32th	0,005	0,063	0,003	0,038	N/A	N/A
33th	0,020	0,235	0,023	0,268	N/A	N/A
34th	0,006	0,074	0,003	0,037	N/A	N/A
35th	0,017	0,190	0,025	0,282	N/A	N/A
36th	0,005	0,060	0,003	0,039	N/A	N/A
37th	0,028	0,322	0,039	0,451	N/A	N/A
38th	0,005	0,056	0,003	0,036	N/A	N/A
39th	0,026	0,299	0,031	0,355	N/A	N/A
40th	0,006	0,069	0,003	0,038	N/A	N/A
THD ₄₀ [%]	--	2,778	--	2,779	23%	13%
PWHD [%]	--	10,213	--	6,688	23%	22%

Power Quality. Harmonics.						
Phase 2						
SSEG rating per phase (rpp)			HIT-6L-G3			
	At 45-55% of rated ouput 3,01 kW		100% of rated output 6,01 kW			
Harmonic	Measured Value (MV) in [A]	Measured Value (MV) in [%]	Measured Value (MV) in [A]	Measured Value (MV) in [%]	Limit in BS EN61000-3-12 in %	
					1 phase	3 phase
2nd	0,027	0,315	0,031	0,356	8%	8%
3rd	0,104	1,200	0,125	1,441	21,6%	N/A
4th	0,006	0,067	0,006	0,064	4%	4%
5th	0,068	0,782	0,117	1,341	10,7%	10,7%
6th	0,006	0,074	0,005	0,059	2,67%	2,67%
7th	0,034	0,393	0,070	0,810	7,2%	7,2%
8th	0,004	0,050	0,003	0,038	2%	2%
9th	0,067	0,770	0,056	0,645	3,8%	N/A
10th	0,005	0,055	0,003	0,036	1,6%	1,6%
11th	0,021	0,240	0,032	0,363	3,1%	3,1%
12th	0,006	0,074	0,004	0,040	1,33%	1,33%
13th	0,039	0,445	0,048	0,549	2%	2%
14th	0,004	0,048	0,003	0,033	N/A	N/A
15th	0,056	0,645	0,064	0,736	N/A	N/A
16th	0,005	0,055	0,004	0,045	N/A	N/A
17th	0,042	0,484	0,045	0,519	N/A	N/A
18th	0,006	0,071	0,003	0,035	N/A	N/A
19th	0,059	0,681	0,046	0,532	N/A	N/A
20th	0,005	0,052	0,004	0,041	N/A	N/A
21th	0,077	0,888	0,036	0,411	N/A	N/A
22th	0,005	0,052	0,005	0,062	N/A	N/A
23th	0,054	0,621	0,019	0,219	N/A	N/A
24th	0,005	0,062	0,003	0,040	N/A	N/A
25th	0,073	0,835	0,014	0,162	N/A	N/A
26th	0,005	0,054	0,004	0,042	N/A	N/A
27th	0,057	0,656	0,005	0,060	N/A	N/A
28th	0,005	0,057	0,004	0,050	N/A	N/A
29th	0,039	0,449	0,013	0,149	N/A	N/A
30th	0,005	0,062	0,003	0,038	N/A	N/A
31th	0,059	0,676	0,021	0,238	N/A	N/A
32th	0,005	0,056	0,003	0,035	N/A	N/A
33th	0,035	0,402	0,015	0,178	N/A	N/A
34th	0,005	0,059	0,003	0,033	N/A	N/A
35th	0,016	0,189	0,023	0,268	N/A	N/A
36th	0,005	0,061	0,003	0,039	N/A	N/A
37th	0,032	0,363	0,038	0,443	N/A	N/A
38th	0,005	0,056	0,003	0,031	N/A	N/A
39th	0,019	0,217	0,028	0,323	N/A	N/A
40th	0,005	0,060	0,003	0,034	N/A	N/A
THD ₄₀ [%]	--	2,770	--	2,714	23%	13%
PWHD [%]	--	10,398	--	6,432	23%	22%

Power Quality. Harmonics.

Phase 3						
SSEG rating per phase (rpp)			HIT-6L-G3			
	At 45-55% of rated ouput 3,01 kW		100% of rated output 6,01 kW			
Harmonic	Measured Value (MV) in [A]	Measured Value (MV) in [%]	Measured Value (MV) in [A]	Measured Value (MV) in [%]	Limit in BS EN61000-3-12 in %	
					1 phase	3 phase
2nd	0,037	0,421	0,043	0,490	8%	8%
3rd	0,060	0,688	0,128	1,475	21,6%	N/A
4th	0,007	0,083	0,005	0,057	4%	4%
5th	0,044	0,501	0,102	1,174	10,7%	10,7%
6th	0,007	0,080	0,004	0,049	2,67%	2,67%
7th	0,023	0,262	0,064	0,741	7,2%	7,2%
8th	0,005	0,059	0,003	0,038	2%	2%
9th	0,084	0,963	0,064	0,737	3,8%	N/A
10th	0,006	0,071	0,003	0,035	1,6%	1,6%
11th	0,025	0,288	0,025	0,291	3,1%	3,1%
12th	0,009	0,101	0,005	0,055	1,33%	1,33%
13th	0,038	0,440	0,043	0,492	2%	2%
14th	0,007	0,076	0,003	0,032	N/A	N/A
15th	0,068	0,777	0,070	0,802	N/A	N/A
16th	0,007	0,075	0,003	0,038	N/A	N/A
17th	0,027	0,310	0,032	0,370	N/A	N/A
18th	0,007	0,079	0,003	0,036	N/A	N/A
19th	0,056	0,646	0,038	0,435	N/A	N/A
20th	0,006	0,063	0,003	0,035	N/A	N/A
21th	0,074	0,846	0,025	0,285	N/A	N/A
22th	0,004	0,048	0,005	0,056	N/A	N/A
23th	0,047	0,541	0,009	0,101	N/A	N/A
24th	0,005	0,061	0,004	0,050	N/A	N/A
25th	0,068	0,787	0,014	0,159	N/A	N/A
26th	0,004	0,048	0,003	0,039	N/A	N/A
27th	0,052	0,602	0,012	0,141	N/A	N/A
28th	0,005	0,052	0,005	0,054	N/A	N/A
29th	0,036	0,415	0,010	0,117	N/A	N/A
30th	0,006	0,072	0,003	0,040	N/A	N/A
31th	0,055	0,627	0,024	0,272	N/A	N/A
32th	0,005	0,055	0,003	0,038	N/A	N/A
33th	0,028	0,325	0,025	0,284	N/A	N/A
34th	0,006	0,064	0,003	0,039	N/A	N/A
35th	0,024	0,282	0,019	0,215	N/A	N/A
36th	0,007	0,083	0,004	0,041	N/A	N/A
37th	0,033	0,377	0,038	0,441	N/A	N/A
38th	0,005	0,058	0,003	0,029	N/A	N/A
39th	0,010	0,117	0,031	0,353	N/A	N/A
40th	0,007	0,080	0,004	0,045	N/A	N/A
THD ₄₀ [%]	--	2,506	--	2,625	23%	13%
PWHD [%]	--	9,824	--	6,192	23%	22%

Power Quality. Harmonics.

Phase 1						
SSEG rating per phase (rpp)			HIT-5L-G3			
	At 45-55% of rated ouput 2,51 kW		100% of rated output 5,01 kW			
Harmonic	Measured Value (MV) in [A]	Measured Value (MV) in [%]	Measured Value (MV) in [A]	Measured Value (MV) in [%]	Limit in BS EN61000-3-12 in %	
					1 phase	3 phase
2nd	0,030	0,410	0,027	0,378	8%	8%
3rd	0,018	0,253	0,020	0,278	21,6%	N/A
4th	0,034	0,471	0,036	0,500	4%	4%
5th	0,046	0,630	0,038	0,522	10,7%	10,7%
6th	0,003	0,036	0,003	0,040	2,67%	2,67%
7th	0,039	0,539	0,028	0,392	7,2%	7,2%
8th	0,005	0,070	0,008	0,113	2%	2%
9th	0,004	0,051	0,008	0,108	3,8%	N/A
10th	0,007	0,099	0,013	0,182	1,6%	1,6%
11th	0,013	0,178	0,022	0,308	3,1%	3,1%
12th	0,002	0,026	0,002	0,030	1,33%	1,33%
13th	0,003	0,047	0,020	0,274	2%	2%
14th	0,006	0,089	0,008	0,104	N/A	N/A
15th	0,003	0,041	0,003	0,048	N/A	N/A
16th	0,005	0,066	0,005	0,075	N/A	N/A
17th	0,030	0,408	0,062	0,862	N/A	N/A
18th	0,001	0,020	0,002	0,024	N/A	N/A
19th	0,024	0,325	0,026	0,353	N/A	N/A
20th	0,004	0,055	0,006	0,078	N/A	N/A
21th	0,003	0,041	0,003	0,042	N/A	N/A
22th	0,002	0,034	0,002	0,029	N/A	N/A
23th	0,033	0,456	0,015	0,211	N/A	N/A
24th	0,001	0,014	0,001	0,019	N/A	N/A
25th	0,019	0,260	0,009	0,119	N/A	N/A
26th	0,005	0,068	0,005	0,066	N/A	N/A
27th	0,002	0,031	0,004	0,052	N/A	N/A
28th	0,002	0,027	0,002	0,031	N/A	N/A
29th	0,018	0,247	0,015	0,208	N/A	N/A
30th	0,001	0,012	0,001	0,016	N/A	N/A
31th	0,009	0,122	0,014	0,191	N/A	N/A
32th	0,003	0,048	0,004	0,058	N/A	N/A
33th	0,002	0,032	0,003	0,043	N/A	N/A
34th	0,001	0,020	0,002	0,024	N/A	N/A
35th	0,013	0,178	0,017	0,234	N/A	N/A
36th	0,001	0,011	0,001	0,014	N/A	N/A
37th	0,007	0,103	0,011	0,151	N/A	N/A
38th	0,004	0,050	0,004	0,060	N/A	N/A
39th	0,002	0,027	0,002	0,029	N/A	N/A
40th	0,001	0,019	0,001	0,020	N/A	N/A
THD ₄₀ [%]	--	1,612	--	1,754	23%	13%
PWHD [%]	--	3,974	--	4,753	23%	22%

Power Quality. Harmonics.

Phase 2						
SSEG rating per phase (rpp)			HIT-5L-G3			
	At 45-55% of rated ouput 2,51 kW		100% of rated output 5,01 kW			
Harmonic	Measured Value (MV) in [A]	Measured Value (MV) in [%]	Measured Value (MV) in [A]	Measured Value (MV) in [%]	Limit in BS EN61000-3-12 in %	
					1 phase	3 phase
2nd	0,025	0,345	0,027	0,374	8%	8%
3rd	0,013	0,183	0,013	0,174	21,6%	N/A
4th	0,032	0,448	0,034	0,474	4%	4%
5th	0,045	0,624	0,037	0,505	10,7%	10,7%
6th	0,003	0,036	0,003	0,039	2,67%	2,67%
7th	0,041	0,571	0,027	0,369	7,2%	7,2%
8th	0,004	0,053	0,007	0,094	2%	2%
9th	0,002	0,034	0,005	0,069	3,8%	N/A
10th	0,007	0,103	0,013	0,173	1,6%	1,6%
11th	0,012	0,169	0,022	0,308	3,1%	3,1%
12th	0,002	0,026	0,002	0,032	1,33%	1,33%
13th	0,005	0,075	0,023	0,321	2%	2%
14th	0,006	0,084	0,007	0,091	N/A	N/A
15th	0,002	0,027	0,004	0,050	N/A	N/A
16th	0,005	0,072	0,006	0,079	N/A	N/A
17th	0,029	0,402	0,064	0,883	N/A	N/A
18th	0,001	0,020	0,002	0,025	N/A	N/A
19th	0,023	0,318	0,027	0,368	N/A	N/A
20th	0,004	0,054	0,005	0,074	N/A	N/A
21th	0,001	0,020	0,003	0,043	N/A	N/A
22th	0,002	0,034	0,002	0,032	N/A	N/A
23th	0,034	0,462	0,014	0,196	N/A	N/A
24th	0,001	0,015	0,001	0,019	N/A	N/A
25th	0,019	0,259	0,009	0,118	N/A	N/A
26th	0,005	0,064	0,005	0,065	N/A	N/A
27th	0,001	0,020	0,002	0,032	N/A	N/A
28th	0,002	0,030	0,002	0,029	N/A	N/A
29th	0,018	0,249	0,014	0,198	N/A	N/A
30th	0,001	0,012	0,001	0,016	N/A	N/A
31th	0,009	0,124	0,014	0,196	N/A	N/A
32th	0,003	0,047	0,004	0,055	N/A	N/A
33th	0,001	0,016	0,002	0,026	N/A	N/A
34th	0,002	0,022	0,002	0,022	N/A	N/A
35th	0,013	0,180	0,017	0,233	N/A	N/A
36th	0,001	0,011	0,001	0,014	N/A	N/A
37th	0,008	0,105	0,011	0,158	N/A	N/A
38th	0,003	0,048	0,004	0,058	N/A	N/A
39th	0,001	0,016	0,002	0,025	N/A	N/A
40th	0,001	0,020	0,002	0,021	N/A	N/A
THD ₄₀ [%]	--	1,524	--	1,619	23%	13%
PWHD [%]	--	3,968	--	4,811	23%	22%

Power Quality. Harmonics.

Phase 3

SSEG rating per phase (rpp)

HIT-5L-G3

**At 45-55% of rated output
2,51 kW**

**100% of rated output
5,01 kW**

Harmonic	Measured Value (MV) in [A]	Measured Value (MV) in [%]	Measured Value (MV) in [A]	Measured Value (MV) in [%]	Limit in BS EN61000-3-12 in %	
					1 phase	3 phase
2nd	0,034	0,463	0,033	0,462	8%	8%
3rd	0,015	0,211	0,016	0,220	21,6%	N/A
4th	0,036	0,493	0,038	0,525	4%	4%
5th	0,047	0,650	0,036	0,493	10,7%	10,7%
6th	0,002	0,034	0,003	0,045	2,67%	2,67%
7th	0,042	0,576	0,028	0,386	7,2%	7,2%
8th	0,004	0,055	0,005	0,071	2%	2%
9th	0,002	0,033	0,006	0,077	3,8%	N/A
10th	0,009	0,120	0,013	0,183	1,6%	1,6%
11th	0,016	0,216	0,022	0,306	3,1%	3,1%
12th	0,002	0,024	0,002	0,030	1,33%	1,33%
13th	0,004	0,061	0,019	0,265	2%	2%
14th	0,006	0,085	0,007	0,092	N/A	N/A
15th	0,003	0,036	0,004	0,052	N/A	N/A
16th	0,005	0,074	0,006	0,087	N/A	N/A
17th	0,030	0,408	0,063	0,867	N/A	N/A
18th	0,001	0,020	0,002	0,024	N/A	N/A
19th	0,022	0,310	0,028	0,383	N/A	N/A
20th	0,004	0,052	0,005	0,071	N/A	N/A
21th	0,002	0,021	0,003	0,040	N/A	N/A
22th	0,003	0,036	0,002	0,032	N/A	N/A
23th	0,033	0,458	0,014	0,191	N/A	N/A
24th	0,001	0,013	0,001	0,019	N/A	N/A
25th	0,019	0,268	0,009	0,118	N/A	N/A
26th	0,005	0,066	0,004	0,058	N/A	N/A
27th	0,001	0,017	0,003	0,037	N/A	N/A
28th	0,002	0,032	0,002	0,030	N/A	N/A
29th	0,018	0,246	0,015	0,207	N/A	N/A
30th	0,001	0,011	0,001	0,016	N/A	N/A
31th	0,009	0,127	0,014	0,187	N/A	N/A
32th	0,003	0,046	0,004	0,053	N/A	N/A
33th	0,001	0,017	0,002	0,027	N/A	N/A
34th	0,001	0,021	0,002	0,025	N/A	N/A
35th	0,013	0,182	0,017	0,231	N/A	N/A
36th	0,001	0,010	0,001	0,014	N/A	N/A
37th	0,008	0,109	0,012	0,159	N/A	N/A
38th	0,004	0,050	0,004	0,055	N/A	N/A
39th	0,001	0,014	0,002	0,022	N/A	N/A
40th	0,001	0,020	0,002	0,021	N/A	N/A
THD ₄₀ [%]	--	1,584	--	1,611	23%	13%
PWHD [%]	--	3,977	--	4,773	23%	22%

Power Quality. Power factor.

Output power	216,2V	230V	253V	Measured at three voltage levels and at full output. Voltage to be maintained within $\pm 1,5\%$ of the stated level during the test.
20%	0,9999	0,9999	0,9999	
50%	0,9999	0,9999	0,9999	
75%	0,9999	0,9999	0,9999	
100%	0,9999	0,9999	0,9999	
Limit leading	>0,95	>0,95	>0,95	

Power Quality. Voltage fluctuation and Flicker.

	Starting			Stopping			Running	
	dmax	dc	d(t)	dmax	dc	d(t)	Pst	Plt 2 hours
Measured values at test impedance	0,044	0,000	0,00	0,044	0,014	0,00	0,133	0,131
Measured values at standard impedance	0,044	0,000	0,00	0,044	0,014	0,00	0,133	0,131
Values for maximum impedance	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Limits set under BS EN 61000-3-11	4%	3,3%	3,3% 500ms	4%	3,3%	3,3% 500ms	1,0	0,65
Test impedance	R	0,24	Ω	XI		0,15	Ω	
	Z	0,28	Ω					
Standard impedance	R	0,24	Ω	XI		0,15	Ω	
	Z	0,28	Ω					
Maximum impedance	R	0,24	Ω	XI		0,15*	Ω	
	Zmax	0,28	Ω					

Power Quality. DC injection.			
HIT-20L-G3			
Phase 1			
Test level power [%]	10	55	100
Recorded value [mA]	-35,05	-0,37	28,16
Recorded value [%]	-0,040	0,000	0,032
Limit [%]	0,25	0,25	0,25
Phase 2			
Test level power [%]	10	55	100
Recorded value [mA]	-41,58	-4,61	29,00
Recorded value [%]	-0,048	-0,005	0,033
Limit [%]	0,25	0,25	0,25
Phase 3			
Test level power [%]	10	55	100
Recorded value [mA]	1,75	36,48	48,30
Recorded value [%]	0,002	0,042	0,056
Limit [%]	0,25	0,25	0,25
Note. Informative measurement of DC-injection of each phase of the inverter and a limit of 0,25% per phase of the rated current per phase as pass criteria.			
Sum of all Phases Tests are carried out at three defined power levels $\pm 5\%$. At 230 V a 20,0 kW three phase Inverter has a current output of 86,96 A so DC limit is 217,4 mA. These tests is undertaken in accordance with Annex A.7.1.4.4. The % DC injection ("as % of rated AC current" below) is calculated as follows: $\% \text{ DC injection} = \text{Recorded DC value in Amps} / \text{Base current where the base current is the Registered Capacity (W) / V phase.}$ The % DC injection should not be greater than 0,25%.			
Sum of all Phases			
Test level power [%]	10	55	100
Recorded value [mA]	-74,87	31,50	105,46
Recorded value [%]	-0,086	0,036	0,121
Limit [%]	0,25	0,25	0,25

Power Quality. DC injection.

HIT-5L-G3			
Phase 1			
Test level power [%]	10	55	100
Recorded value [mA]	-11,56	-7,76	-7,49
Recorded value [%]	-0,053	-0,036	-0,034
Limit [%]	0,25	0,25	0,25
Phase 2			
Test level power [%]	10	55	100
Recorded value [mA]	-13,14	-9,94	-11,86
Recorded value [%]	-0,060	-0,046	-0,055
Limit [%]	0,25	0,25	0,25
Phase 3			
Test level power [%]	10	55	100
Recorded value [mA]	-4,00	1,73	10,82
Recorded value [%]	-0,018	0,008	0,050
Limit [%]	0,25	0,25	0,25
Note. Informative measurement of DC-injection of each phase of the inverter and a limit of 0,25% per phase of the rated current per phase as pass criteria.			
Sum of all Phases Tests are carried out at three defined power levels $\pm 5\%$. At 230 V a 5,0 kW three phase Inverter has a current output of 21,74 A so DC limit is 54,35 mA. These tests is undertaken in accordance with Annex A.7.1.4.4. The % DC injection (“as % of rated AC current” below) is calculated as follows: $\% \text{ DC injection} = \text{Recorded DC value in Amps} / \text{Base current where the base current is the Registered Capacity (W) / V phase.}$ The % DC injection should not be greater than 0,25%.			
Sum of all Phases			
Test level power [%]	10	55	100
Recorded value [mA]	-28,70	-15,96	-8,53
Recorded value [%]	-0,132	-0,073	-0,039
Limit [%]	0,25	0,25	0,25

Fault level Contribution.

Phase 1

For a directly coupled SSEG			For a Inverter SSEG		
Parameter	Symbol	Value	Time after fault	Volts [V]	Amps [A]
Peak Short Circuit current	I_p	N/A	20ms	11,8 V	29,5 A
Initial Value of aperiodic current	A	N/A	100ms	N/A	N/A
Initial symmetrical short-circuit current*	I_k	N/A	250ms	N/A	N/A
Decaying (aperiodic) component of short circuit current*	i_{DC}	N/A	500ms	N/A	N/A
Reactance/Resistance Ratio of source*	X/R	N/A	Time to Trip [s]	0,007 s	In seconds

Phase 2

For a directly coupled SSEG			For a Inverter SSEG		
Parameter	Symbol	Value	Time after fault	Volts [V]	Amps [A]
Peak Short Circuit current	I_p	N/A	20ms	30,1 V	29,5 A
Initial Value of aperiodic current	A	N/A	100ms	N/A	N/A
Initial symmetrical short-circuit current*	I_k	N/A	250ms	N/A	N/A
Decaying (aperiodic) component of short circuit current*	i_{DC}	N/A	500ms	N/A	N/A
Reactance/Resistance Ratio of source*	X/R	N/A	Time to Trip [s]	0,003 s	In seconds

Phase 3

For a directly coupled SSEG			For a Inverter SSEG		
Parameter	Symbol	Value	Time after fault	Volts [V]	Amps [A]
Peak Short Circuit current	I_p	N/A	20ms	124,9 V	36,6 A
Initial Value of aperiodic current	A	N/A	100ms	N/A	N/A
Initial symmetrical short-circuit current*	I_k	N/A	250ms	N/A	N/A
Decaying (aperiodic) component of short circuit current*	i_{DC}	N/A	500ms	N/A	N/A
Reactance/Resistance Ratio of source*	X/R	N/A	Time to Trip [s]	0,003 s	In seconds

Note:

For rotating machines and linear piston machines the test should produce a 0s – 2s plot of the short circuit current as seen at the Generating Unit terminals.

* Values for these parameters should be provided where the short circuit duration is sufficiently long to enable interpolation of the plot.

Self-Monitoring – Solid state switching.	N/A
It has been verified that in the event of the solid-state switching device failing to disconnect the Power Park Module, the voltage on the output side of the switching device is reduced to a value below 50 volts within 0,5 seconds.	N/A
Note. Unit do not provide solid state switching relays. In case the semiconductor bridge is switched off, then the voltage on the output drops to 0. In this case the relays on the output will also open (Functional safety of the internal automatic disconnection device according to VDE 0126-1-1 / VDE 0124-100).	

Wiring functional tests if required by para. 15.2.1	N/A
Confirm that the relevant test schedule is attached (tests to be undertaken at time of commissioning).	N/A
Note. The inverter was tested in a test laboratory. The correct wiring functional test in the field has to be done by the responsible person for the installation of the plant.	

Logic Interface (input port) Required by paragraph 11.1.3.1	P
Confirm that an input port is provided and can be used to reduce the Active Power output to zero	Yes
Note. Manufacturer information provided.	
Provide high level description of logic interface, e.g. details in 11.1.3.1 such as AC or DC signal	Yes
The inverter is equipped with logic control interfaces (COM1/COM2) that support remote shutdown via dry contact signals. When an external controller closes the contact to issue a shutdown command, the inverter will immediately stop operation and disconnect its output. Once the shutdown signal is released, the inverter will automatically return to normal operation. This feature enables integration with external control systems, allowing grid dispatch, emergency stop, and remote safety management.	