

Manufacturer Declaration for EN50438:2013

Omnik New Energy Co., Ltd. hereby confirms that the product lines:

Omniksol-4k-TL2-TH

Omniksol-5k-TL2-TH

Omniksol-6k-TL2-TH

Are in conformity with the EN50438:2013 requirement and contain "Irish Settings" option for the connection of micro-generators in parallel with public low-voltage distribution networks.

The test results are summarized in the **Enclosure 1** of this declaration.

Omnik New Energy Co., Ltd.

26th June 2018

裴晨阳

Chenyang.Pei

(Product Manager)

苏州欧姆尼克新能源科技有限公司 | 邮箱: sales@omnik-solar.com

网址: www.omniksolar.com | 地址: 苏州市工业园区唯新路63号 | 电话: +86 512 6956 8216

Omnik New Energy Co., Ltd. | E-mail: sales@omnik-solar.com

Website: www.omnik-solar.com | Address: Weixin Rd. 63, SIP, Suzhou, P.R. China | Phone: +86 512 6956 8216



Enclosure 1

Test results sheet

Power quality

| Harmonic current emission | | | | | | | | |
|--|-----------------|-----------------|-----------------|-----------------|-----------------|------------------|------------------|--------------------------------------|
| Maximum permissible harmonic current as per EN61000-3-2 ClassA | | | | | | | | |
| Harmonic | 2 nd | 3 rd | 5 th | 7 th | 9 th | 11 th | 13 th | 15 th ≤n≤39 th |
| Limit | 1.08 | 2.3 | 1.14 | 0.77 | 0.4 | 0.33 | 0.21 | 0.15 ^{a)} (15/n) |
| Test value | 0.099 | 0.027 | 0.097 | 0.079 | 0.035 | 0.13 | 0.11 | < 0.1 |

^{a)}50% or some other declared value close to the midpoint between minimum and maximum.

| Voltage fluctuations and flicker | | | | |
|---|----------|----------|----------------------|-----------------------|
| Maximum permissible voltage fluctuation(express as a percentage of nominal voltage at 100% power) and flicker as per EN 61000-3-3 | | | | |
| | Starting | Stopping | Running | |
| Limit | 3.3% | 3.3% | P _{st} =1.0 | P _{lt} =0.65 |
| Test value | 0.00% | 0.00% | 0.183 | 0.152 |

| Power factor | | | |
|------------------|------------------------------------|-------|-------|
| Protection limit | +0.95-0.95 at three voltage levels | | |
| | 210V | 230V | 250V |
| Test value | 0.992 | 0.999 | 0.993 |

Grid monitoring

Under/ Over frequency

| Parameter | Under frequency | | Over frequency | |
|--|-----------------|--------|----------------|--------|
| | Frequency | Time | Frequency | Time |
| Protection limit (EN 50438 Annex A) | 48Hz | 0.5s | 50.5Hz | 0.5s |
| Actual setting | 48Hz | 0.5s | 50.5Hz | 0.5s |
| Trip value (test result) | 47.99Hz | 0.461s | 50.51Hz | 0.453s |

Under / Over voltage

| Parameter | Under voltage | | Over voltage | |
|--|---------------|--------|--------------|--------|
| | Voltage(L-N) | Time | Voltage(L-N) | Time |
| Protection limit (EN 50438 Annex A) | 230V-10% | 0.5s | 230V+10% | 0.5s |
| Actual setting | 207.0V | 0.5s | 253.0V | 0.5s |
| Trip value(test result) | 206.8V | 0.425s | 253.3V | 0.433s |

LoM

| Output power level ^{a)} | Min. | Medium | Max. |
|----------------------------------|--------|--------|--------|
| Trip setting clearance time | 0.5s | 0.5s | 0.5s |
| Trip value clearance time | 0.372s | 0.336s | 0.428s |

^{a)} Indicative values are shown for minimum, medium and maximum power levels.

Fault level contribution

| Short-circuit current at micro-generator terminals | | | | | |
|--|-------|------------|--------------------|-------|------------|
| Omniksol-6k-TL2-TH | | | Omniksol-5k-TL2-TH | | |
| Time after fault | Volts | Amps | Time after fault | Volts | Amps |
| 20ms | 121 | 0.147 | 20ms | 121 | 0.183 |
| 100ms | N/A | N/A | 100ms | N/A | N/A |
| 250ms | N/A | N/A | 250ms | N/A | N/A |
| 500ms | N/A | N/A | 500ms | N/A | N/A |
| Time to trip | 12ms | In seconds | Time to trip | 18ms | In seconds |
| Omniksol-4k-TL2-TH | | | | | |
| Time after fault | Volts | Amps | | | |
| 20ms | 121 | 0.172 | | | |
| 100ms | N/A | N/A | | | |
| 250ms | N/A | N/A | | | |
| 500ms | N/A | N/A | | | |
| Time to trip | 15ms | In seconds | | | |

----End of Document ----