

Huawei Digital Power Technologies Co., Ltd.

Office 01, 39th Floor, Block A, Antuoshan Headquarters Towers, 33 Antuoshan 6th Road,
Futian District, Shenzhen, Guangdong, 518043,
People's Republic of China

Application Note – Inverter RCD Application Advice

Revision History:

Version 1.0 June 2021 – Initial release

Version 1.2 August 2023 – adding M5 and MB0 data

Description:	According to IEC 62109-2: 2011, a residual current monitoring unit (RCMU) is required for inverter without simple separation between the grid and the photovoltaic generator. And the internal RCMU protection limits according to the standard are 300 mA RMS for inverters with rated continuous output power ≤ 30 kVA, or 10 mA RMS per kVA of rated continuous output power for inverters with rated continuous output power rating > 30 kVA. Therefore, when the IEC 62109-2: 2011 standard is enforced for the commission of a PV system or the grid company requests an external RCD (Residual Current Device), a Type A RCD can be used for Huawei inverters. To find a proper Type A RCD, the upper limit of Type A RCD rating (considering 10% overload capacity of inverter) and recommended Type A RCD rating for each inverter model are listed as below for your reference.		
Content:	Model	Type A RCD Limit as per IEC 62109-2: 2011	Recommended Type A RCD Rating
	SUN2000-2KTL-L1	300 mA	100 mA
	SUN2000-3KTL-L1		
	SUN2000-3.68KTL-L1		
	SUN2000-4KTL-L1		
	SUN2000-4.6KTL-L1		
	SUN2000-5KTL-L1		
	SUN2000-6KTL-L1		
	SUN2000-3KTL-M0	300 mA	100 mA
	SUN2000-4KTL-M0		
	SUN2000-5KTL-M0		
	SUN2000-6KTL-M0		
	SUN2000-8KTL-M0		
	SUN2000-10KTL-M0		

Content:	Model	Type A RCD Limit as per IEC 62109-2: 2011	Recommended Type A RCD Rating
	SUN2000-3KTL-M1	300 mA	100 mA
	SUN2000-4KTL-M1		
	SUN2000-5KTL-M1		
	SUN2000-6KTL-M1		
	SUN2000-8KTL-M1		
	SUN2000-10KTL-M1		
	SUN2000-12KTL-M1		
	SUN2000-8KTL-M0 ¹	300 mA	300 mA
	SUN2000-10KTL-M0 ¹		
	SUN2000-12KTL-M0		
	SUN2000-15KTL-M0		
	SUN2000-17KTL-M0		
	SUN2000-20KTL-M0		
	SUN2000-8KTL-M2 ¹	300 mA	300 mA
	SUN2000-10KTL-M2 ¹		
	SUN2000-12KTL-M2		
	SUN2000-15KTL-M2		
	SUN2000-17KTL-M2		
	SUN2000-20KTL-M2		
	SUN2000-12KTL-M5	300 mA	300 mA
	SUN2000-15KTL-M5		
	SUN2000-17KTL-M5		
	SUN2000-20KTL-M5		
	SUN2000-25KTL-M5		
	SUN2000-12K-MB0	300 mA	300 mA
	SUN2000-15K-MB0		
	SUN2000-17K-MB0		
	SUN2000-20K-MB0		
	SUN2000-25K-MB0		
	SUN2000-29.9KTL-M3 ¹	300 mA	300 mA
	SUN2000-30KTL-M3		

Content:	Model	Type A RCD Limit as per IEC 62109-2: 2011	Recommended Type A RCD Rating
	SUN2000-36KTL-M3	440 mA	300 mA
	SUN2000-40KTL-M3		
	SUN2000-50KTL-M3	550 mA	500 mA
	SUN2000-50KTL-M0		
	SUN2000-60KTL-M0	500 mA	500 mA
	SUN2000-70KTL-C1	770 mA	750 mA
	SUN2000-75KTL-C1	825 mA	750 mA
	SUN2000-100KTL-M1	1,100 mA	900 mA
	SUN2000-100KTL-M2		
	SUN2000-110KTL-M0	1,210 mA	1,100 mA
	SUN2000-115KTL-M2		
	SUN2000-100KTL-INM0	1,100 mA	1,000 mA
	SUN2000-125KTL-M0	1,375 mA	1,200 mA
Notes:	- Only available in Australia - There is an integrated RCMU inside of Huawei inverters. Due to Huawei inverter circuit design being special, it cannot feed direct residual current into the grid.		