

## Application Note

# Inverter Compatibility with Solar Panel

Revision History Version 1.0 Jan 2022 – Initial release

## Description

As larger sizes of silicon wafers are used in recent years, the solar panel output current has gradually increased, which requires the inverter to be compatible with higher current. This application note describes the compatibility of Huawei inverters currently available in the market with the 166 mm, 182 mm, and 210 mm cell modules.

This application note provides inverter technical specifications and describes PV module configurations for inverters including SUN2000-2-6KTL-L1 to SUN2000-125KTL-M0. For details about the complete product list, see the Appendix.

The module information is for reference only. Please refer to the specifications provided by the manufacturers in actual applications.

Solar Module List	Huawei Product List
166 mm Cell Module	SUN2000-2-6KTL-L1
182 mm Cell Module	SUN2000-4.95KTL-JPL1/JPL0/NHL2
210 mm Half-Cut Cell Module	SUN2000-3-12KTL-M1
210 mm 1/3 Cut Cell Module	SUN2000-8-20KTL-M2
	SUN2000-20-40KTL-M3
	SUN2000-50-60KTL-M0
	SUN2000-50KTL-JPM0/JPM1
	SUN2000-100KTL-M0/M1/INM0
	SUN2000-110-125KTL-M0

Model	Region	Inverter Model	Code	MPPT Current (A)	Maximum current of single input (A)	Maximum short circuit current (A)	MPPT Power Capability (kW)	Number of MPPTs/Strings	MPPT voltage (V)	166mm Cell Module (Module information is for reference only)			182mm Cell Module (Module information is for reference only)			210mm 1/3 Cut Cell Module (Module information is for reference only)			210mm Half Cut Cell Module (Module information is for reference only)														
										Power Range		380W-470W		Power Range		410W-585W		Power Range		400W-500W		Power Range		550W-670W									
										Open circuit voltage Voc		41.3-52.1V		Open circuit voltage Voc		37V-53V		Open circuit voltage Voc		41V-51V		Open circuit voltage Voc		37.4V-46.5V									
										Short-circuit current Isc		11.6A		Short-circuit current Isc		13.98A		Short-circuit current Isc		12.42A		Short-circuit current Isc		18.42A									
										Maximum power point current Imp		10.95A		Maximum power point current Imp		13.12A		Maximum power point current Imp		11.81A		Maximum power point current Imp		17.49A									
Support or not	Configuration	Notice	Support or not	Configuration	Notice	Support or not	Configuration	Notice	Support or not	Configuration	Notice	Support or not	Configuration	Notice	Support or not	Configuration	Notice																
SUN2000-2-6KTL-L1	EU	SUN2000-2KTL-L1	01075351	12.5	12.5	18	No restriction	2 / 2	560	Support	1 MPPT connect to 1 string.	/	Not recommended	1 MPPT connect to 1 string. The current increase of the L1 is being planned. Please wait notification for available time.	Support	1 MPPT connect to 1 string.	/	No	/	The 210mm half-cut module is mainly used in utility scenarios, not in residential scenarios.													
		SUN2000-3KTL-L1	01075350	12.5	12.5	18	No restriction	2 / 2	560																								
		SUN2000-3.68KTL-L1	01075349	12.5	12.5	18	No restriction	2 / 2	560																								
		SUN2000-4KTL-L1	01075348	12.5	12.5	18	No restriction	2 / 2	560																								
		SUN2000-4.6KTL-L1	01075347	12.5	12.5	18	No restriction	2 / 2	560																								
		SUN2000-5KTL-L1	01075346	12.5	12.5	18	No restriction	2 / 2	560																								
	China	SUN2000-6KTL-L1	01075345	12.5	12.5	18	No restriction	2 / 2	560																								
		SUN2000-3KTL-L1	01075350-003	12.5	12.5	18	No restriction	2 / 2	560																								
		SUN2000-4KTL-L1	01075348-003	12.5	12.5	18	No restriction	2 / 2	560																								
		SUN2000-5KTL-L1	01075346-004	12.5	12.5	18	No restriction	2 / 2	560																								
		SUN2000-6KTL-L1	01075345-003	12.5	12.5	18	No restriction	2 / 2	560																								
		SUN600-5KTL-L0	01075346-014	12.5	12.5	18	No restriction	2 / 2	560																								
AU Mexico	SUN600-6KTL-L0	01075345-014	12.5	12.5	18	No restriction	2 / 2	560																									
Japan	SUN2000-4.95KTL-JPL1	01075352	16	16	25	No restriction	2 / 4	560	Support	1 MPPT connect to 1 string	/	Support	1 MPPT connect to 1 string	/	Support	1 MPPT connect to 1 string	/	No	/	The 210mm half-cut module is mainly used in utility scenarios, not in residential scenarios.													
SUN2000-4.95KTL	Japan	SUN2000-4.95KTL-JPL0	01074313	16	16	25(one string) /40(two string)	No restriction	2 / 2	530	Support	1 MPPT connect to 1 string	/	Support	1 MPPT connect to 1 string	/	Support	1 MPPT connect to 1 string	/	No	/	The 210mm half-cut module is mainly used in utility scenarios, not in residential scenarios.												
		SUN2000-4.95KTL-NHL2	01075973	16	16	30(one string) /45(two string)	No restriction	2 / 2	560	Support	1 MPPT connect to 1 string	/	Support	1 MPPT connect to 1 string	/	Support	1 MPPT connect to 1 string	/	No	/	The 210mm half-cut module is mainly used in utility scenarios, not in residential scenarios.												
SUN2000-3-12KTL-M1 (High Current Version)	EU	SUN2000-3KTL-M1	01074316-002	13.5	13.5	19.5	8.8	2 / 2	980	Support	1 MPPT connect to 1 string	/	Support	1 MPPT connect to 1 string.	Support	1 MPPT connect to 1 string	/	No	/	The 210mm half-cut module is mainly used in utility scenarios, not in residential scenarios.													
		SUN2000-4KTL-M1	01074467-002	13.5	13.5	19.5	8.8	2 / 2	980																								
		SUN2000-5KTL-M1	01074320-002	13.5	13.5	19.5	8.8	2 / 2	980																								
		SUN2000-6KTL-M1	01074315-002	13.5	13.5	19.5	8.8	2 / 2	980																								
		SUN2000-8KTL-M1	01074314-002	13.5	13.5	19.5	8.8	2 / 2	980																								
		SUN2000-10KTL-M1	01074311-002	13.5	13.5	19.5	8.8	2 / 2	980																								
	China	SUN2000-5KTL-M1	01074301-002	13.5	13.5	19.5	8.8	2 / 2	980																								
		SUN2000-6KTL-M1	01074302-002	13.5	13.5	19.5	8.8	2 / 2	980																								
		SUN2000-8KTL-M1	01074300-002	13.5	13.5	19.5	8.8	2 / 2	980																								
		SUN2000-10KTL-M1	01074295-002	13.5	13.5	19.5	8.8	2 / 2	980																								
		SUN2000-12KTL-M1	01074306-002	13.5	13.5	19.5	8.8	2 / 2	980																								
		SUN2000-3KTL-M1	01074316-001	11	11	15	8.8	2/2	980																								
SUN2000-3-12KTL-M1 (Small Current Version)	EU	SUN2000-4KTL-M1	01074467-001	11	11	15	8.8	2/2	980	Support	1 MPPT connect to 1 string	/	Not recommended	1 MPPT connect to 1 strings Apply High current SUN2000-3-12KTL-M1 May cause power loss due to current limitation	Not recommended	1 MPPT connect to 1 strings May cause power loss due to current limitation	Apply High current SUN2000-3-12KTL-M1	No	/	The 210mm half-cut module is mainly used in utility scenarios, not in residential scenarios.													
		SUN2000-5KTL-M1	01074320-001	11	11	15	8.8	2/2	980																								
		SUN2000-6KTL-M1	01074315-001	11	11	15	8.8	2/2	980																								
		SUN2000-8KTL-M1	01074314-001	11	11	15	8.8	2/2	980																								
		SUN2000-10KTL-M1	01074311-001	11	11	15	8.8	2/2	980																								
		SUN2000-5KTL-M1	01074301-001	11	11	15	8.8	2/2	980																								
	China	SUN2000-6KTL-M1	01074302-001	11	11	15	8.8	2/2	980																								
		SUN2000-8KTL-M1	01074300-001	11	11	15	8.8	2/2	980																								
		SUN2000-10KTL-M1	01074295-001	11	11	15	8.8	2/2	980																								
		SUN2000-12KTL-M1	01074306-001	11	11	15	8.8	2/2	980																								
		SUN2000-8KTL-M2	01074317-005	27	18	39	17.6	2 / 4	950																								
		SUN2000-10KTL-M2	01074318-005	27	18	39	17.6	2 / 4	950																								
SUN2000-8-20KTL-M2 (High Current Version)	EU	SUN2000-12KTL-M2	01074319-005	27	18	39	17.6	2 / 4	950	Support	1 MPPT connect to 2 strings	/	Support	1 MPPT connect to 2 strings	Support	1 MPPT connect to 2 strings	/	Support	1 MPPT connect to 1 string	/													
		SUN2000-15KTL-M2	01074303-005	27	18	39	17.6	2 / 4	950																								
		SUN2000-17KTL-M2	01074304-005	27	18	39	17.6	2 / 4	950																								
		SUN2000-20KTL-M2	01074305-007	27	18	39	17.6	2 / 4	950																								
		SUN2000-15KTL-M2	01074303-006	27	18	39	17.6	2 / 4	950																								
		SUN2000-17KTL-M2	01074304-006	27	18	39	17.6	2 / 4	950																								
	China	SUN2000-20KTL-M2	01074305-008	27	18	39	17.6	2 / 4	950																								
		SUN2000-8KTL-M2	01074317-002	22	14.5	30	17.6	2/4	950																								
		SUN2000-10KTL-M2	01074318-002	22	14.5	30	17.6	2/4	950																								
		SUN2000-12KTL-M2	01074319-002	22	14.5	30	17.6	2/4	950																								
		SUN2000-15KTL-M2	01074303-002	22	14.5	30	17.6	2/4	950																								
		SUN2000-17KTL-M2	01074304-002	22	14.5	30	17.6	2/4	950																								
SUN2000-8-20KTL-M2 (Small Current Version)	EU	SUN2000-20KTL-M2	01074305-002	22	14.5	30	17.6	2/4	950	Support	1 MPPT connect to 2 strings	/	Not recommended	SUN2000-20KTL-M2 DC/AC lower than 1.0, Other model support higher ratio	Not recommended	SUN2000-17/20KTL-M2 lower than 1.0, Other model support higher ratio	Apply High Current SUN2000-8-20KTL-M2	No	/	Apply High current SUN2000-8-20KTL-M2													
		SUN2000-15KTL-M2	01074303-004	22	14.5	30	17.6	2/4	950																								
		SUN2000-17KTL-M2	01074304-004	22	14.5	30	17.6	2/4	950																								
		SUN2000-20KTL-M2	01074305-004	22	14.5	30	17.6	2/4	950																								
		SUN2000-15KTL-M2	01074303-004	22	14.5	30	17.6	2/4	950																								
		SUN2000-17KTL-M2	01074304-004	22	14.5	30	17.6	2/4	950																								
	SUN2000-20-40KTL-M3	Japan	SUN2000-20KTL-M3	01075485-042	26	20	40	18.3	4 / 8												750	Support	1 MPPT connect to 2 strings	/	Support	1 MPPT connect to 2 strings DC/AC ratio higher than 1.1 will not affected power output.	Support	1 MPPT connect to 2 strings	/	Support	1 MPPT connect to 1 string	/	
			SUN2000-20KTL-M3	01075485-044	26	20	40	18.3	4 / 8												1000												
		EU	SUN2000-29.9KTL-M3	01075485-003	26	20	40	18.3	4 / 8												1000												
			SUN2000-30KTL-M3	01075485-002	26	20	40	18.3	4 / 8												1000												
			SUN2000-36KTL-M3	01075485-001	26	20	40	18.3	4 / 8												1000												
			SUN2000-40KTL-M3	01075485	26	20	40	18.3	4 / 8												1000												
SUN2000-30KTL-M3			01075485-034	26	20	40	18.3	4 / 8	1000																								
SUN2000-36KTL-M3			01075485-024	26	20	40	18.3	4 / 8	1000																								
China		SUN2000-40KTL-M3	01075485-015	26	20	40	18.3	4 / 8	1000																								
		SUN2000-50KTL-M0	01073876-001	22	18	30	17.6	6 / 12	1000																								
		SUN2000-50-60KTL-M0	South Korea	SUN2000-50KTL-M0	01073873-001	22	18	30	17.6	6 / 12	1000	Support	1 MPPT connect to 2 strings	/	Not recommended	Not recommended, DC/AC ratio is lower than 1.0.	Not recommended	Not recommended, DC/AC ratio is lower than 1.0.	SUN2000-50KTL-M0 Current will upgrade in 2022 Q3	Support	1 MPPT connect to 1 string												/
			EU	SUN2000-50KTL-M0	01074232-001	22	18	30	17.6	6 / 12	1000																						
	India		SUN2000-50KTL-M0	01073877-001	22	18	30	17.6	6 / 12	1000																							
	Japan		SUN2000-50KTL-JPM0	01074491-001	22	18	30	17.6	6 / 12	1000																							
Japan	SUN2000-50KTL-JPM1		01074491-001	22	18	30	17.6	6 / 12	1000																								
China	SUN2000-60KTL-M0		01074770	22	18	30	17.6	6 / 12	1000																								
SUN2000-100-125KTL-M0/M1	China	SUN2000-100KTL-M0	01074695	26	18	40	21	10 / 20	1000	Support	1 MPPT connect to 2 strings	/	Support	1 MPPT connect to 2 strings DC/AC ratio higher than 1.1 will not affected power output	Support	1 MPPT connect to 2 strings	/	Support	1 MPPT connect to 1 string	/													
		SUN2000-100KTL-M1	01074695-016	26	18	40	21	10 / 20	1000																								
		SUN2000-100KTL-M1	01074695-001	26	18	40	21	10 / 20	1000																								
		Australia	SUN2000-100KTL-M1	01074695-008	26	18	40	21	10 / 20												1000												
		Asia Pacific	SUN2000-100KTL-M1	01074695-015	26	18	40	21	10 / 20												1000												
		Asia Pacific (excluding Australia), Latin America, Central and Eastern Africa, and South Korea	SUN2000-100KTL-M1	01074695-013	26	18	40	21	10 / 20												1000												
	Europe, Asia Pacific (except Australia), Latin America, Central and Eastern Africa, and Korea	SUN2000-100KTL-INM0	01074695-002	26	18	40	21	10 / 20	1000																								
		China	SUN2000-110KTL-M0	01074694	26	18	40	21	10 / 20												1000												
		China	SUN2000-125KTL-M0	01074693	26	18	40	21	10 / 20												1000												