

Models	Kromatix™ Framed		Kromatix™ GG		Kromatix™ Thin film		Kromatix™ High Efficiency		Traditional Modules - 60 cells			
	Mono Crystalline		Mono Crystalline		CIGS		Mono Crystalline		Mono Crystalline		Poly Crystalline	
Article no.	0802.3021 (Grey)		0802.3021 (Grey)		0802.3021 (Grey)		0802.3021 (Grey)					
	0802.3022 (Light grey)		0802.3022 (Light grey)		0802.3022 (Light grey)		0802.3022 (Light grey)					
	0802.3024 (blue)		0802.3024 (blue)		0802.3024 (blue)		0802.3024 (blue)					
	0802.3025 (yellow green)		0802.3025 (yellow green)		0802.3025 (yellow green)		0802.3025 (yellow green)					
	0802.3026 (green)		0802.3026 (green)		0802.3026 (green)		0802.3026 (green)					
	0802.3027 (bronze)		0802.3027 (bronze)		0802.3027 (bronze)		0802.3027 (bronze)					
	0802.3028 (gold)		0802.3028 (gold)		0802.3028 (gold)		0802.3028 (gold)					
	0802.3029 (Terracota)		0802.3029 (Terracota)		0802.3029 (Terracota)		0802.3029 (Terracota)					
Backsheet colour	Black sheet		Black glass		Black glass		Black sheet		Black or White		Black or White	
Cell color	Dark Blue		Dark Blue		Black		Black		Black		Dark Blue	
Electrical STC *												
Nominal power Pmpp	230 - 250 Wp (Depending on color)		230 - 250 Wp (Depending on color)		120 - 133 Wp (Depending on color)		255 - 285 Wp (Depending on color)		260-275 Wp		250 - 265 Wp	
Nominal voltage Umpp	31.9 V		30.0 V		42.4 V		53.1 V		30.59 V		30.3 V	
Nominal current Imp	7.56 A		8.10 A		2.95 A		5.38 A		8.5 A		8.20 A	
Open circuit voltage Uoc	38.9 V		37.6 V		58.0 V		62.5 V		38.3 V		38 V	
Short circuit current Isc	8.11 A		8.51 A		3.35 A		5.73 A		9.3 A		8.8 A	
General data	* Standard Test Conditions: irradiance 1000 W/m ² , cell temperature 25 °C, AM 1.5		* Standard Test Conditions: irradiance 1000 W/m ² , cell temperature 25 °C, AM 1.5		* Standard Test Conditions: irradiance 1000 W/m ² , cell temperature 25 °C, AM 1.5		* Standard Test Conditions: irradiance 1000 W/m ² , cell temperature 25 °C, AM 1.5		* Standard Test Conditions: irradiance 1000 W/m ² , cell temperature 25 °C, AM 1.5		* Standard Test Conditions: irradiance 1000 W/m ² , cell temperature 25 °C, AM 1.5	
	STC measurement tolerances: ± 3% (Pmpp); ± 10% (Isc, Voc, Imp, Umpp)		STC measurement tolerances: ± 3% (Pmpp); ± 10% (Isc, Voc, Imp, Umpp)		STC measurement tolerances: ± 3% (Pmpp); ± 10% (Isc, Voc, Imp, Umpp)		STC measurement tolerances: ± 3% (Pmpp); ± 10% (Isc, Voc, Imp, Umpp)		STC measurement tolerances: ± 3% (Pmpp); ± 10% (Isc, Voc, Imp, Umpp)		STC measurement tolerances: ± 3% (Pmpp); ± 10% (Isc, Voc, Imp, Umpp)	
Power tolerance	0/+5 W		0/+5 W		-		0/+5 W		0/+5 W		0/+5 W	
Cell type	156 x 156 mm		156 x 156 mm		CIGS		-		156*156 mm		156*156 mm	
Cell matrix	6 strings with 10 cells (60 cells)		6 strings with 10 cells (60 cells)		-		96 cells		6 strings with 10 cells (60 cells)		6 strings with 10 cells (60 cells)	
Bypass diodes	3 pcs. (less power loss in case of partial shading)		3 pcs. (less power loss in case of partial shading)		-		3 pcs		3 pcs		3 pcs	
Cell efficiency level	18.80%		18.20%		17.90%		23.4 %~24.8 %		18~20.3 %		18.2%~18.3%	
Module efficiency level	14.6% -16%		14.1% - 16%		11.9% - 12.6%		16.5% - 17.5%		16 - 17 %		15-18 %	
Temperature coefficient	Uoc - 0.30 %/ °C, Isc + 0.004 %/ °C, Pmpp - 0.45 %/ °C		Uoc - 0.32 %/ °C, Isc + 0.05 %/ °C, Pmpp - 0.43 %/ °C		Uoc -170 mV/ °C, Isc 0 mA/ °C, Pmpp - 0.39 %/ °C		Uoc - 0.35 %/ °C, Isc + 0.05 %/ °C, Pmpp - 0.43 %/ °C		Uoc -0.41 % / °C , Isc 0.053 % / °C, Pmpp -0.41 % / °C		Uoc - 0.35 %/ °C, Isc + 0.05 %/ °C, Pmpp - 0.43 %/ °C	
Nominal operating cell temp. (NOCT)	45 °C (± 2 °C)		46 °C (± 2 °C)		40 °C (± 2 °C)		80 °C (± 2 °C)		45 °C (± 2 °C)		46 °C (± 2 °C)	
Operating temperature range	- 40 ... + 85 °C		- 40 ... + 85 °C		- 40 ... + 85 °C		- 40 ... + 85 °C		- 40 ... + 85 °C		- 40 ... + 85 °C	
Max. system voltage	1000 V		1000 V		1000 V		1000 V		1000 V		1000 V	
Max. reverse current	20 A		-		5.0 A		-		-		-	
String fuse	16 A		15 A		-		15 A		15 A		15 A	
Dimensions	1000 x 1640 mm		986 x 1652 mm		664 x 1587 mm		1046 x 1559 mm		1652 x 986 mm		1652 x 986 mm	
Weight	18kg		19 kg		17 Kg		18.6 Kg		18-20 Kg		20 kg	
Mechanical data												
Laminate structure	Glass-foil		Glass-Glass		Glass-Glass		Glass-Foil		Glass-Glass		Glass-Glass	
Frame	Black anodized aluminium		frameless		frameless		Class 1 black anodized (highest AAMA rating)		frameless		frameless	
Front glass	3.2 mm Kromatix™ colored solar glass, tempered / mat surface		3.2 mm Kromatix™ colored solar glass, tempered / mat surface		3.2 mm Kromatix™ colored solar glass, tempered / mat surface		3.2mm,High-transmission tempered anti-reflective		2mm + 2mm		2mm + 2mm	
Encapsulation material	EVA with lowest yellowness index		EVA with lowest yellowness index		PVB		POE		POE		POE	
Back foil	Three-layer build-up (Polyester / PET / Tedlar) with lowest water vapour permeability		2 mm glass		3.2 mm glass		Anodized Aluminium Alloy		2 mm glass		2 mm glass	
Junction box	MC: PV-JB/WL-V, MC4 connector type		LSB00070, LSC-01 or MC4 connector type		IP65, LC4 connector type		IP67 Rated, MC4 connector		LSB00070, LSC-01 or MC4 connector type		LSB00070, LSC-01 or MC4 connector type	
Certificates												
Wind suction / Snow pressure	Up to 8000 N/m ² , IEC/EN 61215 2nd Ed.		2400 N/m ² / 5400 N/m ²		Up to 8000 N/m ² , IEC/EN 61215 2nd Ed		Wind: 62 psf, 3000 Pa front & back Snow: 125 psf, 6000 Pa front		2400 N/m ² / 5400 N/m ²		2400 N/m ² / 5400 N/m ²	
Information on fire protection	Top layer is made of heat-resistant glass, component is considered to be non-combustible material		Top layer is made of heat-resistant glass, component is considered to be non-combustible material		Top layer is made of heat-resistant glass, component is considered to be non-combustible material		A Class with POE		Top layer is made of heat-resistant glass, component is considered to be non-combustible material		Top layer is made of heat-resistant glass, component is considered to be non-combustible material	
Warranty	10 years product warranty, 25 years linear performance warranty		10 years product warranty, 30 years linear performance warranty		10 years product warranty, 25 years linear performance warranty		10 years product warranty, 25 years linear performance warranty. Guaranteed power: 95% for first 5 years, -0.4%/yr. to year 25		10 years product warranty, 25 years linear performance warranty		10 years product warranty, 30 years linear performance warranty	
Premium quality	Ion implanters and selective emitter cells, No PID (potential induced degradation), Unmet low-light performance, Full traceability of all raw materials		Ion implanters and selective emitter cells, No PID (potential induced degradation), Unmet low-light performance, Full traceability of all raw materials		Top layer is made of heat-resistant glass, component is considered to be non-combustible material		Ion implanters and selective emitter cells, No PID (potential induced degradation), Unmet low-light performance, Full traceability of all raw materials		Ion implanters and selective emitter cells, No PID (potential induced degradation),		Ion implanters and selective emitter cells, No PID (potential induced degradation),	

Note: The installation instructions must be followed. For more information installation and operating manuals can be requested. All the values mentioned are as per STC (Standard Testing Conditions) and can vary with project conditions .

KDS-Ver2016-Rev003