

45kW - 90kW, 20 to 1500V Programmable Power Systems



Medical



Industrial



Test



COMM



Renewable



The 19" rack mount 20U high configurable GSPS programmable power systems offers power levels from 45kW to 90kW, output voltages from 0-20 to 0-1,500V and currents of up to 4,500A. The units can operate in constant current, constant voltage or constant power modes with multiple remote programming methods including built-in LAN, USB, RS232 & RS485 and optional Optional EtherCAT, Modbus-TCP, IEEE (488.2) and IS420 interfaces.. Like other models in the GENESYS+ series, they feature a multi-functional front panel display, last setting memory, user selectable Auto-Start, Safe Start, and an arbitrary waveform generator with auto-trigger capability. Up to to 100 steps can be stored into four internal memory cells. The GUI software provides a "virtual front panel" for programing or monitoring units and the Realtime Graph and Waveform creator can store or load sequences. The product is backed with a five year warranty.

Model Selector

Model Note see "how to order" section for part number configuration	Voltage Adjustment Range (V)(*1)	Current Adjustment Range (A)(*2)	Maximum Power (W)	Efficiency (%) At 380Vac 3-Phase (*3)(*5)
GSPS20-4500	0 - 20	0 - 4500	90,000	89
GSPS30-3000	0 - 30	0 - 3000	90,000	89
GSPS40-2256	0 - 40	0 - 2256	90,240	89
GSPS60-1500	0 - 60	0 - 1500	90,000	90
GSPS80-1128	0 - 80	0 - 1128	90,240	90
GSPS100-900	0 - 100	0 - 900	90,000	90
GSPS150-600	0 - 150	0 - 600	90,000	90
GSPS200-450	0 - 200	0 - 450	90,000	90
GSPS300-300	0 - 300	0 - 300	90,000	90
GSPS600-150	0 - 600	0 - 150	90,000	90
GSPS1000-45	0 - 1000	0 - 45	45,000	90
GSPS1000-67.5	0 - 1000	0 - 67.5	67,500	90
GSPS1000-90	0 - 1000	0 - 90	90,000	90
GSPS1500-30	0 - 1500	0 - 30	45,000	90
GSPS1500-45	0 - 1500	0 - 45	67,500	90
GSPS1500-60	0 - 1500	0 - 60	90,000	90

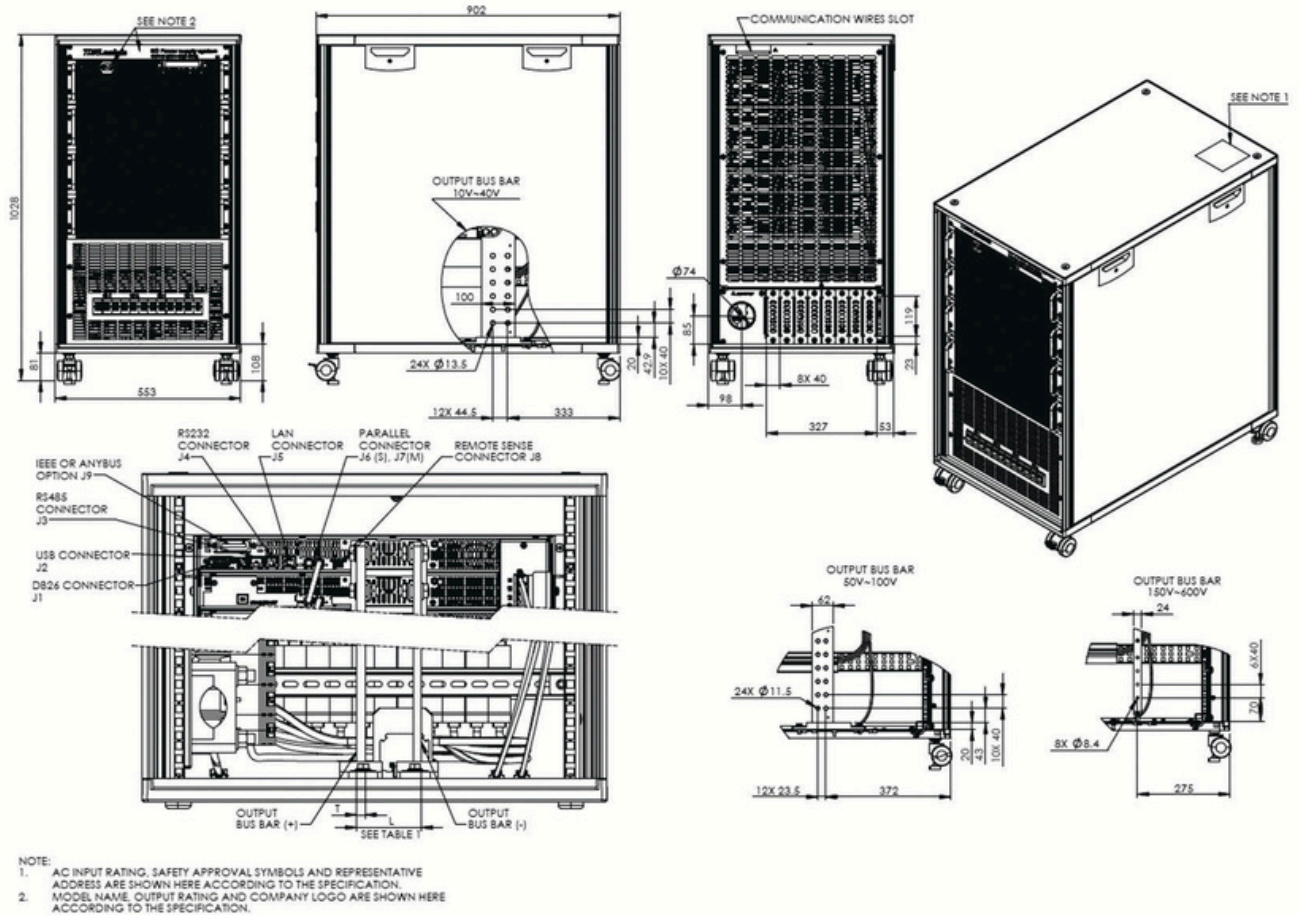
How to order

G	SPS	-1500	- 60	- IEEE	- 3P480	- M
G = Front panel display fitted GB = No front panel display		Max. Output Voltage	Max. Current		AC Input option - 3P480 (Three Phase 342-528Vac)	Printed User Manual
Interface Options						
Standard: LAN, USB, RS-232/485, Isolated Analog Program/Monitor IEEE (488.2 & SCPI compliant with Multi-Drop capability installed)				- IEEE		
Modbus-TCP				- MDBS		
EtherCAT				- ECAT		
Isolated Analog Programming (4-20mA)				- IS420		

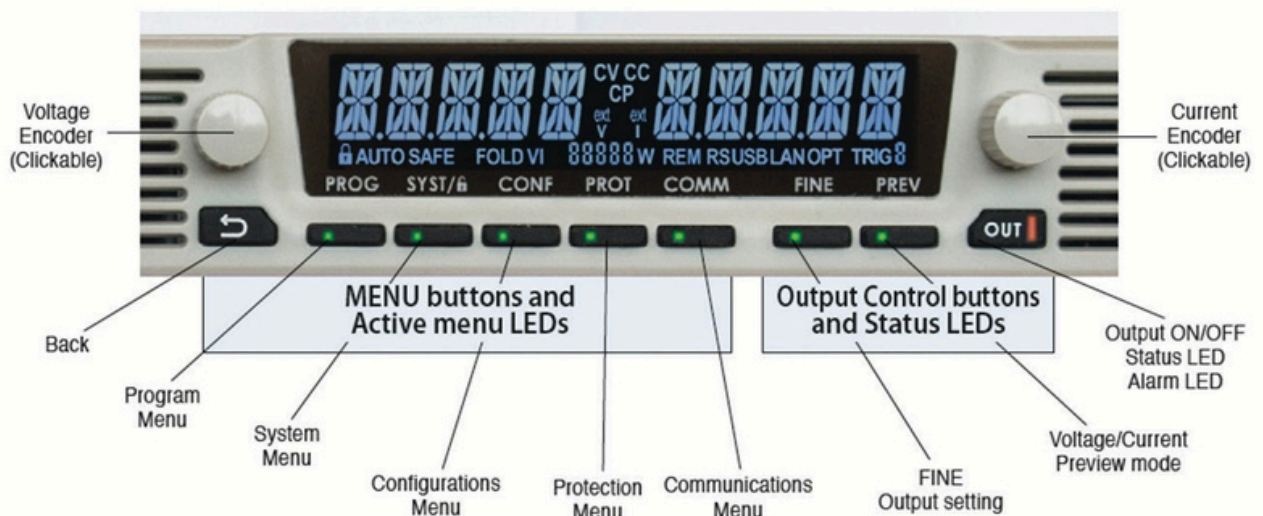
Specification														
Model		GSPS45kW - 90kW Series												
Signals and Controls. (Isolated from the output)														
Power supply OK #1 signal	-	Power supply output monitor. Open collector. Output On: On. Output Off: Off. Maximum Voltage: 30V.												
CV/CC signal	-	CV/CC Monitor. Open collector. CC mode: On. CV mode: Off. Maximum Voltage: 30V. Maximum Sink Current: 10mA. Enable/Disable analog programming control by electrical signal or dry contact.												
LOCAL/REMOTE Analog control	-	Remote: 0-0.6V or short. Local: 2-30V or open.												
LOCAL/REMOTE Analog signal	-	Analog programming control monitor signal. Open collector. Remote: On. Local: Off. Maximum Voltage: 30V. Maximum Sink Current: 10mA.												
ENABLE/DISABLE signal	-	Enable/Disable PS output by electrical signal or dry contact. 0-0.6V or short, 2-30V or open. User selectable logic.												
INTERLOCK (ILC) control	-	Enable/Disable PS output by electrical signal or dry contact. Output ON: 0-0.6V or short. Output OFF: 2-30V or open.												
Programmed signals	-	Two open drain programmable signals. Maximum voltage 25V. Maximum sink current 100mA (shunted by a 27V Zener diode).												
TRIGGER IN / TRIGGER OUT signals	-	Max. low level input voltage = 0.8V. Min. high level input voltage = 2.5V. Max. high level input = 5V positive edge triggered. tw = 10µs min. Tr,Tf = 1µs max. Min delay between 2 pulses 1ms.												
DAISY_IN/SO control signal	-	By electrical voltage: 0-0.6V/2-30V or dry contact												
DAISY_OUT/PS_OK #2 signal	-	4-5V = OK, 0V (500Ω impedance) = Fail												
Functions and Features														
Parallel operation	-	Consult with manufacturer												
Constant power control	-	Limits the output power to a programmed value. Programming via the communication ports or the front panel												
Output resistance control	-	Emulates series resistance. Resistance range: 1-1000mΩ. Programming via communication ports or front panel												
Slew rate control	-	Programmable Output rise and Output fall slew rate Programming range: 0.0001-999.99 V/ms or A/ms Programming via communication ports or front panel												
Arbitrary waveforms	-	Profiles of up to 100 steps can be stored in 4 memory cells. Activation by command via communication ports or front panel.												
Programming & Readback (USB, RS232/485, Optional (*15) Interfaces)														
Vout		20	30	40	60	80	100	150	200	300	600	1000	1500	
Vout programming accuracy (*14)	-	0.05% of rated output voltage												
Iout programming accuracy (*13)	-	0.3% of rated output current												
Vout programming resolution	-	0.002% of rated output voltage												
Iout programming resolution	-	0.002% of rated output current												
Vout readback accuracy	-	0.1% of rated output voltage												
Iout readback accuracy (*13)	-	0.2% of rated output current												
Vout readback resolution	% of rated Vout	0.006%	0.004%	0.004%	0.003%	0.002%	0.001%	0.001%	0.001%	0.001%	0.001%	0.001%	0.001%	
Iout readback resolution	% of rated Iout	0.002%	0.002%	0.002%	0.002%	0.002%	0.002%	0.002%	0.002%	0.002%	0.002%	0.002%	0.002%	
Protective Functions														
Vout		20	30	40	60	80	100	150	200	300	600	1000	1500	
Foldback protection	-	Output shut-down when power supply changes mode from CV or Power Limit to CC mode or from CC or Power Limit to CV mode. Preset by user. Reset by AC input recycle in autostart mode, by Power Switch, by OUTPUT button, by rear panel or by communication												
Over-voltage protection (OVP)	-	Output shut-down. Reset by AC input recycle in autostart mode, by Power Switch, by OUTPUT button, by rear panel or by communication												
Over-voltage programming range	V	1-24	2-36	2-44.1	5-66.15	5-88.2	5-110.25	5-165.37	5-220.4	5-330.75	5-661.5	5-1102.5	5-1653.75	
Over-voltage programming accuracy	%	±1% of rated output voltage												
Output under voltage limit (UVL)	-	Prevents from adjusting Vout below limit. Does not apply in analog programming.												
Over temperature protection	-	Preset by front panel or communication port.												
Output under voltage protection (UVP)	-	Shuts down the output. Auto recovery by autostart mode.												
	-	Prevents adjustment of Vout below limit. P.S output turns Off during under voltage condition. Reset by AC input recycle in autostart mode, by Power Switch, by OUTPUT button, by rear panel or by communication												

Specification		
Model		GSPS45kW - 90kW Series
Front Panel		
Control functions	-	Multiple options with 2 Encoders.
	-	Vout/Iout/Power Limit manual adjust
	-	OVP/UVL/UVF manual adjust
	-	Protection Functions - OVP, UVL, UVP, Foldback, OCL, ENA, ILC.
	-	Communication Functions - Selection of LAN, RS232, RS485, USB or Optional communication interface
	-	Output ON/OFF. Front Panel Lock
	-	Communication Functions - Selection of Baud Rate, Address, IP and communication language
	-	Analog Control Functions - Selection Voltage/resistive programming 5V/10V, 5kΩ/10kΩ programming
	-	Analog Monitor Functions - Selection of Voltage/Current Monitoring 5V/10V
Display	-	Vout: 4 digits, accuracy: 0.05% of rated output voltage ± 1 count. Iout: 4 digits, accuracy: 0.2% of rated output current ± 1 count.
Front Panel Buttons Indications	-	OUTPUT ON, ALARM, PREVIEW, FINE, COMMUNICATION, PROTECTION, CONFIGURATION, SYSTEM, SEQUENCER.
Front Panel Display Indications	-	Voltage, Current, Power, CV, CC, CP, External Voltage, External Current, Address, LFP Autostart, Safe-start, Foldback V/I, Remote (communication), RS/USB/LAN/Optional communication interface, Trigger, Load/Store Cell
Circuit breakers	-	The AC supply is protected by 4 x 80A circuit breakers, accessible on the front panel of the cabinet.
Environmental Conditions		
Operating temperature	°C	0 - 50, 100% load.
Storage temperature	°C	-25 - 65
Humidity (Non condensing)	%RH	20 - 90 operating, 10 - 95 storage
Altitude (*15)	m	Operating: 3,000. Derate output current by 2%/100m or derate ambient temperature by 1°C/100m above 2,000. Non-operating: 12,000m.
Mechanical		
Cooling		Forced air cooling by power supply internal fans. Airflow direction from cabinet front panel to rear.
Weight	kg	< 200
Dimensions (WxHxD)	mm	553 x 1028 x 902 (without castors height is 947)
Vibration (Package transportation)	-	ISTA 1H: 2014, Method: ASTM D4728 Random vibration test.
Shock & Drop (Package transportation)	-	ISTA 1H: 2014, Drop test Method: ASTM D5276 free fall; Rotation edge drop test: ASTM D6179 Rotational drop.
Safety and EMC		
Safety Certifications and Markings	-	IEC/EN61010-1, CE Mark and UKCA Mark
Interface classification	-	Vout \leq 50V Models: Output, J1, J2, J3, J4, J5, J6, J7, J8 (sense) & J9 (communication options) are Non Hazardous 60 \leq Vout \leq 1500V Models: Output & J8 (sense) are Hazardous, J1, J2, J3, J4, J5, J6, J7 & J9 (communication options) are Non Hazardous.
Withstand voltage	Vdc	Vout \leq 50V Models: Input - Output & J8 (sense), J1, J2, J3, J4, J5, J6, J7 & J9 (communication options): 4242Vdc 1min, Input - Ground: 2835Vdc 1min 60V \leq Vout \leq 100V Models: Input - Output & J8 (sense), J1, J2, J3, J4, J5, J6, J7 & J9 (communication options): 4242Vdc 1min, Output & J8 (sense) - J1, J2, J3, J4, J5, J6, J7 & J9 (communication options): 850Vdc 1min, Output & J8 (sense) - Ground: 1500Vdc 1min, Input - Ground: 2835Vdc 1min. 100V<Vout \leq 600V Models: Input - Output & J8 (sense), J1, J2, J3, J4, J5, J6, J7 and J9 (communication options): 4242Vdc 1min, Output & J8 (sense) - J1, J2, J3, J4, J5, J6, J7 & J9 (communication options): 1275Vdc 1min, Output & J8 (sense) - Ground: 2500Vdc 1min. Input - Ground: 2835Vdc 1min. 1000V<Vout \leq 1500V Models: Input - Output & J8 (sense), J1, J2, J3, J4, J5, J6, J7 and J9 (communication options): 4000Vdc 1min, Output & J8 (sense) - J1, J2, J3, J4, J5, J6, J7 & J9 (communication options): 2000Vdc 1min, Output & J8 (sense) - Ground: 3280Vdc 1min. Input - Ground: 2835Vdc 1min.
EMC standards (*16) (*17)	-	IEC/EN61204-3 Industrial environment
Conducted emission (*17)	-	IEC/EN61204-3 Industrial environment, Annex H table H.1, FCC Part 15-A, VCCI-A.
Radiated emission (*17)	-	IEC/EN61204-3 Industrial environment, Annex H table H.3 and H.4, FCC Part 15-A, VCCI-A.

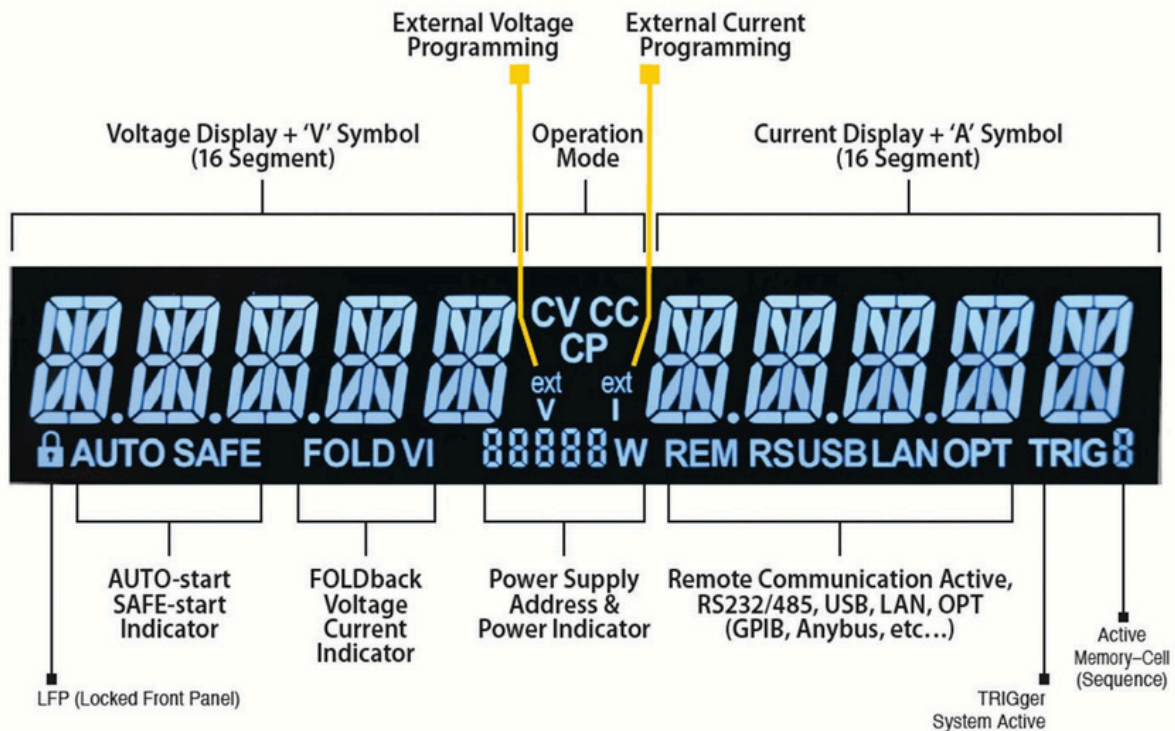
Outline Drawing



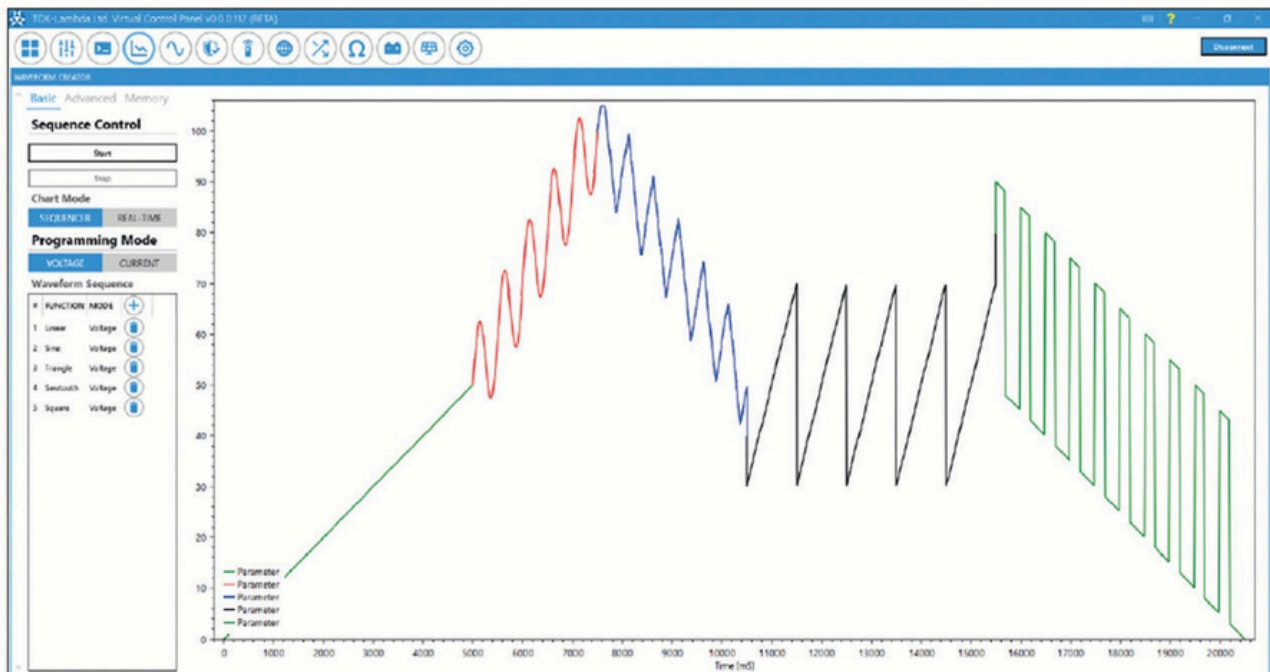
Front Panel Display MENU/CONTROL Buttons



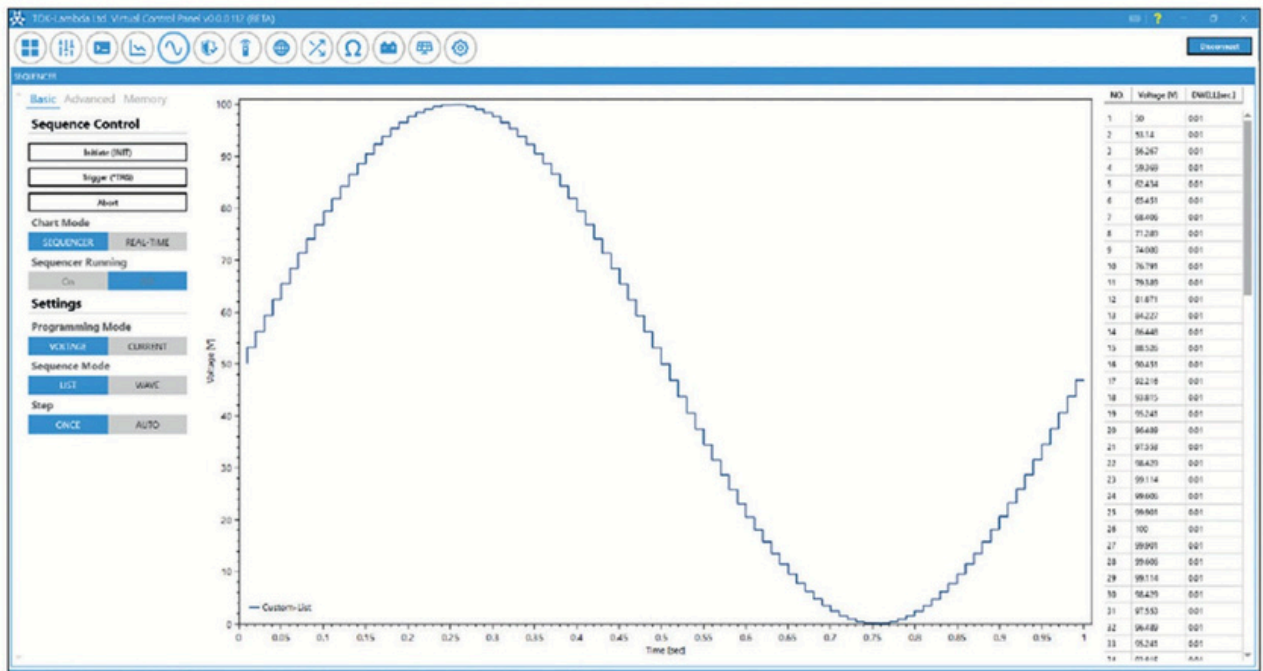
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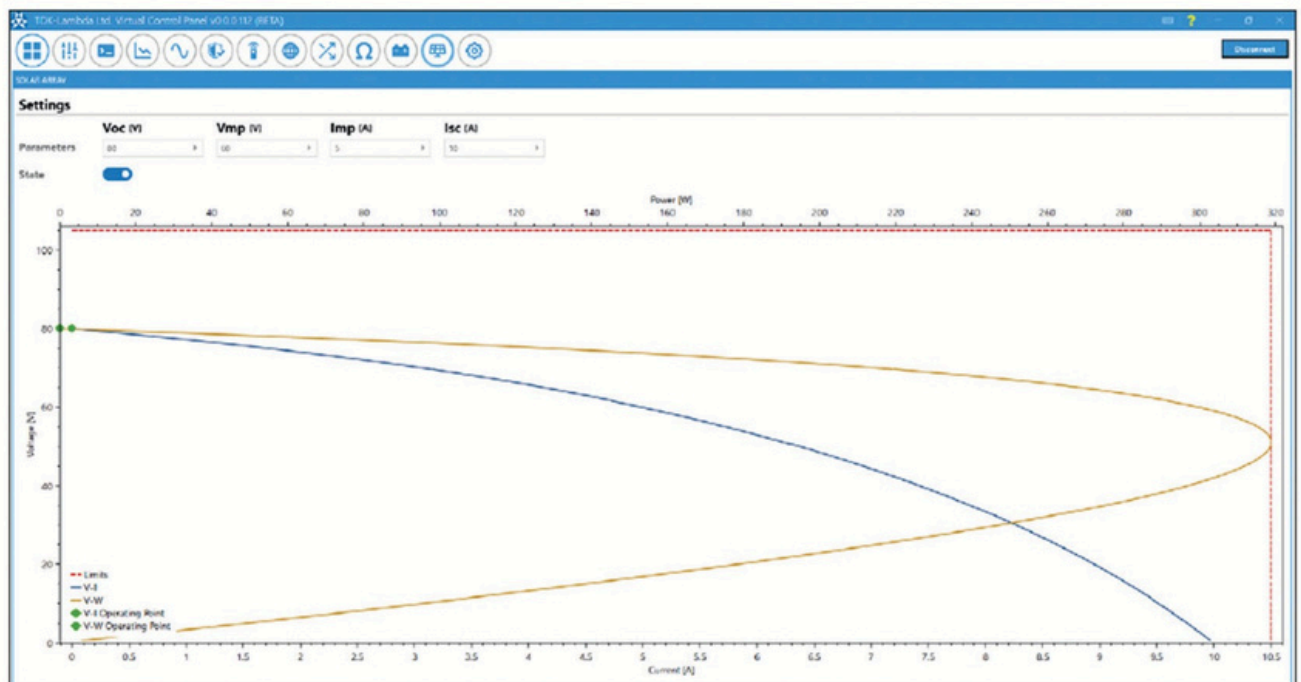
GUI Waveform Profile Generator



GUI Waveform Profile Generator



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