GSPS45kW - 90kW Series

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

https://product.tdk.com/en/power/gsps https://www.emea.lambda.tdk.com/uk/products/gsps-high-power-systems



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



Specification		
Model		GSPS45kW - 90kW Series
Input		
Input Voltage Range (Operating) (*4)	Vac	3-phase 342 - 528 (Covers 380, 400, 415, 440, 460 and 480V nominal inputs)
Nominal Input Voltage Range	Vac	380 - 480 (Note: Safety certified for 342 - 528Vac)
Input Frequency	Hz	47 - 63 (Note: Safety certified for 50/60Hz only)
Input Current (380Vac)	А	162 (max)
Inrush Current at 200Vac (typ) (Cold Start)	А	GSPS45kW: <390, GSPS67.5kW: 585, GSPS 90kW: 780
Leakage Current (380Vac)	mA	Contact Technical Support
Power Factor (380ac)	-	0.94
Hold Up Time (typical at 100% load)	ms	5
Efficiency	-	See Model Selector Table

Specification													
Model	GSPS45kW - 90kW Series												
Constant Voltage Mode	Vout	20	30	40	60	80	100	150	200	300	600	1000	1500
Maximum Line Regulation (*6)	%			1		0.01 of ra	ated outpu	ut voltage	1	I		1	1
Max. Load regulation (*7)	%				0.0	1 of rated	l output vo	oltage +5	mV				
Temperature coefficient	ppm/°C			50 fron	n rated ou	utput volta	age, follov	ving 30 m	ninutes wa	arm-up			
Temperature stability	-	0.01	% of rated	d Vout ove	er an 8 ho	ur interval	following	30 minute	es warm-u	ıp. Consta	int line, lo	ad & temp	perature
Warm-up drift	-		Less thar	n 0.05% o	of rated ou	utput volta	age +2m∖	/ over 30	minutes f	following	power on	J	
Remote sense compensation/wire (*8)	V	2					5	5					
Up-prog. response time (*9)	ms	30	30	30	50	50	50	50	50	50	100	150	200
Down-prog. Response time full load (*10)	ms	50	80	80	80	100	100	100	100	100	100	100	100
Down-prog. Response time no load (*10)	ms	600	600	1000	1000	1000	1500	2500	2500	3000	3000	3000	3000
Transient response time (local sense)		Time fo	r output v	oltage to	recover v	vithin 1%	of its rate	d output f	or 20 to 3	0V mode	ls, 0.5%	of it's rate	d output
(load change 10-90% of rated output current).	-	for 40) to 1500	V. For a o	utput set	point of 1	0-100%.	Less thar	n 1ms for	models u	p to and	including	100V,
Output set point: 10-100%.		2ms for models above 100V. Less than 1ms for models up to and including 100V, 2ms for models above 100V						ve 100V.					
Constant Current Mode	Vout	20	30	40	60	80	100	150	200	300	600	1000	1500
Maximum Line Regulation (*6)	-		0.05% of rated output current										
Max. Load regulation (*11)	-	0.08% of rated output current											
Temperature coefficient	ppm/°C	20-10	0V mode	ls: 100, 1	50-1500\	/ models:	70. From	rated ou	tput curre	ent, follow	ing 30 mi	nutes wa	rm-up
Temperature stability	-	0.01% (of rated lo	out over an	n 8 hour i	nterval fo	llowing 30) minutes	warm-up	. Constar	nt line, loa	ad & temp	oerature
Warm-up drift	-	20	0-100V m	odels: Le	ss than ±	0.25% of	rated out	tput curre	nt over 30	0 minutes	following) power o	n,
					1	50-1500	/ models:	Less that	ın ±0.15%	6			
Analog programming/monitoring. (Isolated from the output)													
Vout voltage programming	-		0-100	%, 0-5V c	or 0-10V,	user sele	ctable. Ac	curacy a	nd linearit	y: ±0.15%	% of rated	l Vout.	
lout voltage programming (*13)	-	0-100%, 0-5V or 0-10V, user selectable. Accuracy and linearity: ±0.4% of rated lout.											
Vout resistor programming	-	0-100%, 0-5/10k Ω full scale, user selectable. Accuracy and linearity: ±0.5% of rated Vout.											
lout resistor programming (*13)	-	0-100%, 0-5/10k Ω full scale, user selectable. Accuracy and linearity: ±0.5% of rated Vout.											
Output voltage monitor (*12)	-	0-5V or 0-10V, user selectable. Accuracy: ±0.5% of rated Vout.											

Notes

See website for detailed specifications, test methods and installation manual *1:Minimum voltage is guaranteed to maximum 0.15% of rated output voltage for 20V and 30V models; 0.1% of rated output voltage for 40~1500V models. *2:Minimum current is guaranteed to maximum 0.2% of rated output current. *3:Typ. at Ta=25°C, rated output power.

Output current monitor (*12) (*13)

Ar-For cases where conformance to various safety standards (UL, IEC, etc...) is required, to be described as 380~480Vac (50/60Hz) for 3-Phase 480V models.
*5:3-Phase 480V: At 380Vac input voltage. With rated output power.
*6:3-Phase 480V models: 342~528Vac. Constant load.

*7: From No-Load to Full-Load, constant input voltage. Measured at the sensing point in Remote Sense.

*8:The maximum voltage on the power supply terminals must not exceed the rated voltage. *9:From 10% to 90% of Rated Output Voltage at rated resistive load.

*10:From 90% to 10% of Rated Output Voltage.

*11. For load voltage change, equal to the unit voltage rating, constant input voltage.

*12:For steady state only.

*13:The Constant Current programming, readback and monitoring accuracy do not include the warm-up and Load regulation thermal drift. *14:Measured at the sensing point.

*15:Max. ambient temperature for IEEE is 40°C.

*16:Signal and control ports interface cables length: Less than 3m, DC output power port cables length: Less than 30m. *17:EMC specs based on GSPL22.5kW series.

0-5V or 0-10V, user selectable. Accuracy: $\pm 0.5\%$ of rated lout.

Specification

Model		GSPS45kW - 90kW Series				
Signals and Controls. (Isola	ted from the	e output)				
Dower owneh: OK #1 signal		Power supply output monitor. Open collector. Output On: On. Output Off: Off. Maximum Voltage: 30V.				
Power supply OK #1 signal	-	Maximum Sink Current: 10mA.				
		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.				
		Analog programming control monitor signal. Open collector. Remote: On. Local: Off.				
LOCAL/REMOTE Analog Signal	-	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)				
TRICCER IN / TRICCER OI IT signals		Max. low level input voltage = 0.8V. Min. high level input voltage = 2.5V. Max. high level input = 5V positive edge trigger:				
TRIGGER IN / TRIGGER OUT signals	-	tw = 10 μ s min. Tr,Tf = 1 μ s 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	-	$4-5V = OK$, $0V (500\Omega \text{ impedance}) = Fail$				
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				
		Programmable Output rise and Output fall slew rate				
Slew rate control	-	Programming range: 0.0001-999.99 V/ms or A/ms				
		Programming via communication ports or front panel				
Arbitran, waveforms		Profiles of up to 100 steps can be stored in 4 memory cells.				
Albitary wavelonns		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				
lout programming accuracy (*13)	-	0.3% of rated output current				
Vout programming resolution	-	0.002% of rated output voltage				
lout programming resolution	-	0.002% of rated output current				
Vout readback accuracy	-	0.1% of rated output voltage				
lout 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% 0.011% 0.080% 0.006% 0.004% 0.003% 0.011% 0.008%				
lout readback resolution	% of rated lout	0.002% 0.002% 0.002% 0.002% 0.002% 0.002% 0.002% 0.003% 0.002% 0.002% 0.002% 0.002%				
Protective Functions						
Vout		20 30 40 60 80 100 150 200 300 600 1000 1500				
		Output shut-down when power supply changes mode from CV or Power Limit to CC mode or from CC				
Foldback protection	-	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 5-882 5-11025 5-165.37 5-220.5 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.				
		Preset by front panel or communication port.				
Over temperature protection	-	Shuts down the output. Auto recovery by autostart mode.				
Output under voltage protection (LIVP)	_	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				



Model GSPS45kW - 90kW Series Front Panel - Multiple options with 2 Encoders. Canton functions - WoutfoutPower Limit manual adjust Canton functions - OverUNLUVP manual adjust Canton functions - OverUNLUVP Fore Paneual adjust Canton functions - Output OVPULUVP, Fore Paneual adjust Canton functions - Output OVPULUVP, Fore Paneu adjust Canton functions - Output OVPULUVP, Fore Paneu adjust Canton functions - Output OVPULUVP, Fore Paneu adjust Paneig Stations Indications - OutPUT ON, ALARM, PREVIEW, FINE, COMMUNICATION, PROTECTION, OUTP	Specification		
Front Panel Image: Control function of the second of the sec	Model		GSPS45kW - 90kW Series
	Front Panel		
Image: Standard		-	Multiple options with 2 Encoders.
Image: Provide and the		-	Vout/Iout/Power Limit manual adjust
Image: Control functions Image: Control functions Image: Control functions Image: Control functions Selection of LAN, RS223, RS485, USB or Optional communication interface Image: Control functions Selection of Baud Rate, Address, IP and communication interface Output ONOFF. Front Panel Lock Image: Control functions Selection of Voltage/resistive programming SV10V, SR0110KD programming Display Image: Control functions Selection of Voltage/resistive programming SV10V, SR0110KD programming Display Image: Control functions Selection of Voltage/resistive programming SV10V, SR0110KD programming Display Image: Control functions Selection of Voltage Image: Control functions Front Panel Buttons Indications Image: Control functions OUTPUT ON, ALARM, PREVIEW, FINE, COMMUNICATION, PROTECTION, CONFIGURATION, SYSTEM, SEQUECCR Front Panel Buttons Indications Image: Control functions Selection of Voltage External Current, Address, IPP Audostat, Safe-stat, Fedeback VI, Remote (communication), RSUSBLANOptional communication interface, Trigger, LoadStat, Safe-stat, Fedeback VI, Remote (communication), RSUSBLANOptional communication interface, Trigger, LoadStat, Safe-stat, Fedeback VI, Remote (communication), RSUSBLANOptional communication interface, Trigger, LoadStat, Safe-stat, Fedeback VI, Remote (communication), RSUSBLANOptional Communication interface, Trigger, LoadStat, Safe-stat, Fedeback VI, Remote (communication potins), Safe-stat, Remote (communication potins), Safe-s		-	OVP/UVL/UVP manual adjust
Control functions 		-	Protection Functions - OVP, UVL, UVP, Foldback, OCL, ENA, ILC.
Output ON/DFF. Front Panel Lock - Communication Functions - Selection of Bau Rate, Address, IP and communication language - Analog Control Functions - Selection of NotageTestine programming SV/10V, KR2/10KD; programming Display Analog Monthor Functions - Selection of VotageCartism Rowing SV/10V, KR2/10KD; programming Display Votat 4 digits, accuracy: 0.05% of rated output current 1 at count. 0.Ther Panel Buttons Indications OUTPUT ON, ALARM, PREVIEW, FINE, COMMUNICATION, PROTECTION, CONFIGURATION, SYSTEM, SEQUENCER Front Panel Display Indications Votage, Current, Power, CV, CC, CF, External Votage, External Current, Address, LFP Autostart, Safe-start, Fotback VI, Remote (communication), RSUSBLANVOptical communication interface, Tingger, Load/Store Call Circuit breakers Circuit breakers 0-60, 100% load. Display Indications -CC -25-65 Humidity (Non condensing) 5%RH 20-90 operating: 12,000m. Mechanical Cooling m Operating: 53,1028, 902 (without castors height 947) Vibration (Package transportation) ISTA 1H: 2014, Method: ASTIM D4728 Random vibration test. Storage temperature	Control functions	-	Communication Functions - Selection of LAN, RS232, RS485, USB or Optional communication interface
		-	Output ON/OFF. Front Panel Lock
Image: Control Functions - Selection Voltage/resistive programming 5//10V, SkQ/10kQ programming Display - Analog Monitor Functions - Selection 10 Voltage(unrent Monitoring SV/10V) Display - Volt: 4 digits, accuracy: 0.05% of rated output voltage ± 1 cont. NOLTAGIND, ROTECTION, COVFICURATION, SYSTEM, SEQUENCER. Front Panel Buttons Indications - OUTPUT ON, ALARM, PRE-VEW, FINE, COMMUNCATION, PROTECTION, COVFICURATION, SYSTEM, SEQUENCER. Front Panel Display Indications - Voltage, Current, Power, CV, CC, CP, External Voltage, External Current, Address, LFP Autostart, Safe-start, Fotback VII, Panobe (communication), RSUBSLANOptional communication interface, Trager, LoadStore Cell Circuit breakers Condit breakers - 0 - 50, 100% load. Disrage temperature *C - Operating temperature *C - Coling 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 - IsTAH: 2014, Dop test Mehod: ASTM De726 free fait, Rotation edge (or test ASTM De179 Rotational drop. Storka Brop (Package transportation) - ISTAH: 2014, Method: ASTM De726 free fait, Rotation edge (or test ASTM De179 Rotational drop. Stafety Certifications and Markings - ISTAH: 2014, Method: ASTM DE726 free fa		-	Communication Functions - Selection of Baud Rate, Address, IP and communication language
Image: Constraint of the second sec		-	Analog Control Functions - Selection Voltage/resistive programming 5V/10V, 5kΩ/10kΩ programming
Display		-	Analog Monitor Functions - Selection of Voltage/Current Monitoring 5V/10V
Number 0.2% of rated output current ±1 count. Front Panel Buttons Indications - OUTPUT ON, ALARM, PREVIEW, FINE, COMUNICATION, PROTECTION, CONFIGURATION, SYSTEM, SEQUENCER. Front Panel Display Indications - Voltage, Current, Power, CV, CC, OP, External Voltage, External Current, Address, LFP Autostart, Safe-start, Foldback VII, Remote (communication), RSUSBLANVOptional communication interface, Tigger, LoadStore Cell Circuit breakers Operating temperature °C 0 - 50, 100% load. Storage temperature °C -25 - 65 Humidity (Non condensing) %RH 0 - 90 operating, 10 - 95 storage Operating temperature °C -25 - 65 Coding 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 - - - Coding mm Storage transportation) - Vibration (Package transportation) - ISTA 1H: 2014, Method: ASTM D4728 Random vibration test. Storks & Drop (Package transportation) - ISTA 1H: 2014, Method: ASTM D4728 Random vibration test. Storks & Drop (Package transportation) - ISTA 1H: 2014, Drop test Method: ASTM D5276 free fail; Rotation edge drop test: ASTM D6179 Rotat	Display	-	Vout: 4 digits, accuracy: 0.05% of rated output voltage ±1 count. lout: 4 digits, accuracy:
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 VI, Remote (communication), RSUSBLAN/Optional communication interface. The AC supply is protected by 4 x 80A circuit breakers, accessible on the front panel of the cabinet. Environmental Conditions - The AC supply is protected by 4 x 80A circuit breakers, accessible on the front panel of the cabinet. Environmental Conditions - 0 - 50, 100% load. Storage temperature °C 0 - 50, 100% load. Operating transperature °C 0 - 50, 100% load. Attude ⁽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 - Forced air cooling by power supply internal fans. Airflow direction from cabinet front panel to rear. Veright kg < 200			0.2% of rated output current ±1 count.
Front Panel Buttons Indications - CONFIGURATION, SYSTEM, SEQUENCER. Front Panel Display Indications - Voltage, Current, Power, CV, CC, CP, External Voltage, External Current, Address, LFP Autostart, Safe-start, Foldback VI, Remote (communication), RSUSBLAN/Optional communication interface, Trigger, LoadStore Cell Circuit breakers - The AC supply is protected by 4 x 80 A circuit breakers, accessible on the front panel of the cabinet. Environmental Conditions - 0 - 50, 100% load. Operating temperature °C -25 - 65 Humidity (Non condensing) %RH 20 - 90 operating, 10 - 95 storage 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 Kg Socolar Stratege Stratege Oracida in cooling by power supply internal fans. Airflow direction from cabinet front panel to rear. Vibration (Package transportation) - ISTA 1H: 2014, Drop test Method: ASTM D4728 Random vibration test. Starky Certifications and Markings - IEC/EN61010-1, CE Mark and UKCA Mark Volut=SOV Models: Louput J, J, Z, J,			OUTPUT ON, ALARM, PREVIEW, FINE, COMMUNICATION, PROTECTION,
Front Panel Display Indications - Voltage, Current, Power, CV, CC, CP, External Voltage, External Current, Address, LFP Autostart, Safe-start, Foldback VI, Remole (communication), RSUSBLAN/Optional communication interface. Trigger, Load/Store Cell Circuit breakers - The AC supply is protected by 4 x 80 A circuit breakers, accessible on the front panel of the cabinet. Environmental Conditions *C 0-50, 100% load. Storage temperature *C 0-50, 100% load. Storage temperature *C 0-90 operating, 10-95 storage Operating '100 mor derate ambient temperature by 1*C/100m above 2,000 Non-operating: 12,000m. Method (ring) Mitude '1*9 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 - Forced air cooling by power supply internal fans. Airflow direction from cabinet front panel to rear. Vibration (Package transportation) - ISTA 1H: 2014, Method: ASTM D4728 Random vibration test. Stafety Add EMC - ISTA 1H: 2014, Method: ASTM D4728 Random vibration test. Safety Add EMC - ISTA 1H: 2014, Method: ASTM D4720 Random vibration options): are Non Hazardous 605/Voluti5FOV Models: Cutput 4.8 (sense) 4.9 (communication options): 4242Vdc 1min, Input - Ground: 2835/Vdc 1min. Interface class	Front Panel Buttons Indications	-	CONFIGURATION, SYSTEM, SEQUENCER.
Front Panel Display Indications - Foldback VII, Remote (communication), RS/USBI.AN/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 - 0 - 50, 100% load. Operating temperature °C 0 - 50, 100% load. Storage temperature °C 20 - 90 operating, 10 - 95 storage Attitude [*19] m Coperating 3,000. Derate output current by 2%/100m or derate anthein temperature by 1*C/100m above 2,000. Nor-operating: 12,000m. Mechanical - Forced air cooling by power supply internal fans. Airflow direction from cabinet front panel to rear. Nor-operating: 12,000m. Weight kg <200			Voltage, Current, Power, CV, CC, CP, External Voltage, External Current, Address, LFP Autostart, Safe-start,
Circuit breakers - The AC supply is protected by 4 x 80A circuit breakers, accessible on the front panel of the cabinet. Environmental Conditions °C 0-50, 100% load. Operating temperature °C -25 - 65 Humidity (Non condensing) %RH 20 - 90 operating, 10 - 95 storage Attitude (***) m Cperating: 3,000. Derate output current by 2%(100m or derate ambient temperature by 1*C/100m above 2,000. Non-operating: 12,000m. Mechanical C -2000 Storage temperature Cooling Forced air cooling by power supply internal fans. Airflow direction from cabinet front panel to rear. Weight kg <200	Front Panel Display Indications	-	Foldback V/I. Remote (communication). RS/USB/LAN/Optional communication interface. Trioger. Load/Store Cell
Environmental Conditions ************************************	Circuit breakers	-	The AC supply is protected by 4 x 80A circuit breakers, accessible on the front panel of the cabinet.
Operating temperature °C 0 - 50, 100% load. Storage temperature °C -25 - 65 Humidity (Non condensing) %RH 20 - 90 operating; 10 - 95 storage Attitude (**) 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	Environmental Conditions		
Storage temperature °C -25-65 Humidity (Non condensing) %RH 20-90 operating, 10-95 storage Attude (**) 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 Forced air cooling by power supply internal fans. Airflow direction from cabinet front panel to rear. Weight kg <200	Operating temperature	°C	0 - 50, 100% load.
Humidity (Non condensing) %RH 20 - 90 operating, 10 - 95 storage Attitude (*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, Drop test Method: ASTM D4728 Reandom vibration test. Shock & Drop (Package transportation) - ISTA 1H: 2014, Drop test Method: ASTM D4728 free fail, Rotation edge drop test: ASTM D6179 Rotational drop. Safety and EMC Safety and EMC Vout<50V Models: Output, J1, J2, J3, J4, J5, J6, J7, J8 (sense) & J9 (communication options) Interface classification - are Non Hazardous 605-VoutF1500V Models: Output & J8 (sense), J1, J2, J3, J4, J5, J6, J7 & J9 (communication options): Vout<50V Models: Input – Output & J8 (sense), J1, J2, J3, J4, J5, J6, J7 & J9 (communication options): 4242Vdc 1min, Input - Ground: 2835Vdc 1min. Withstand voltage Vdc 100V <vout=600v &="" (communication="" (sense),="" and="" input="" j1,="" j2,="" j3,="" j4,="" j5,="" j6,="" j7="" j8="" j9="" models:="" options):<="" output="" th="" –=""> 4242Vdc 1min, Output & J8 (sense) - J1, J2, J3, J4, J5, J6, J7 and J</vout=600v>	Storage temperature	°C	-25 - 65
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 (WKHxD) 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, Method: ASTM D5276 free fail, Rotation edge drop test: ASTM D6179 Rotational drop. Safety and EMC - IEC/EN61010-1, CE Mark and UKCA Mark Safety Certifications and Markings - IEC/EN61010-1, CE Mark and UKCA Mark Interface classification - IEC/EN61010-1, CE Mark and UKCA Mark Vout=SOV Models: Cutput, J1, J2, J3, J4, J5, J6, J7, J8 (sense) as J9 (communication options): are Non Hazardous. Vout=SOV 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): 4242Vdc 1min, Output & J8 (sense) - Ground: 1500V Vdc 1min, Input - Ground: 2835Vdc 1min. Withstand voltage Vdc 100V<-Vout=S60V Models: Input - Output & J8 (sense), J1, J2, J3, J4, J5, J6, J7 & J9 (communication option	Humidity (Non condensing)	%RH	20 - 90 operating, 10 - 95 storage
Attitude (*15) m Proving of proceeding of procemany proceeding of proco		, or a 1	Operating: 3 000 Derate output current by 2%/100m or derate ambient temperature by 1°C/100m above 2 000
Mechanical Forced air cooling by power supply internal fans. Airflow direction from cabinet front panel to rear. Weight kg < 200	Altitude ^(*15)	m	Non-operating: 12 000m
CoolingForced air cooling by power supply internal fans. Airflow direction from cabinet front panel to rear.Weightkg< 200	Mechanical		·····
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 fail; Rotation edge drop test: ASTM D6179 Rotational drop. Safety and EMC - IEC/EN61010-1, CE Mark and UKCA Mark Safety Certifications and Markings - IEC/EN61010-1, CE Mark and UKCA Mark Interface classification - Vout≤50V Models: Output, J1, J2, J3, J4, J5, J6, J7, J8 (sense) & J9 (communication options) Interface classification - - are Non Hazardous 60≤Vout≤1500V Models: Output & J8 (sense) are Hazardous, J1, J2, J3, J4, J5, J6, J7 & J9 (communication options): 4242Vdc 1min, Input - Ground: 2835Vdc 1min 60V≤Vout≤100V Models: Input - Output & J8 (sense), J1, J2, J3, J4, J5, J6, J7 & J9 (communication options): 4242Vdc 1min, Output & J8 (sense) - Ground: 1500Vdc 1min, Input - Ground: 2835Vdc 1min. 100V< <vout≤600v &="" (communication="" (sense),="" -="" input="" j1,="" j2,="" j3,="" j4,="" j5,="" j6,="" j7="" j8="" j9="" models:="" options):<="" output="" td=""> Withstand voltage Vdc 100V<<vout≤600v &="" (communication="" (sense),="" -="" and="" input="" j1,="" j2,="" j3,="" j4,="" j5,="" j6,="" j7="" j8="" j9="" models:="" options):<="" output="" td=""> 4242Vdc 1min, Output & J8 (sense) - Ground: 1500</vout≤600v></vout≤600v>	Cooling		Forced air cooling by power supply internal fans. Airflow direction from cabinet front panel to rear.
Uniquestions (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, Method: ASTM D5276 free fail; Rotation edge drop test: ASTM D6179 Rotational drop. Safety and EMC - IEC/EN61010-1, CE Mark and UKCA Mark Safety Certifications and Markings - IEC/EN61010-1, CE Mark and UKCA Mark Interface classification - Volt≤50V Models: Output, J1, J2, J3, J4, J5, J6, J7, J8 (sense) & J9 (communication options) Interface classification - - are Non Hazardous 60≤Vout≤1500V Models: Output & J8 (sense) and Hazardous. Volt≤50V Models: Input – Output & J8 (sense), J1, J2, J3, J4, J5, J6, J7 & J9 (communication options): - 4242Vdc 1min, Input – Ground: 2835Vdc 1min. 60V≤Vout≤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): Withstand voltage Vdc 100V <vout≤600v &="" (communication="" (sense),="" input="" j1,="" j2,="" j3,="" j4,="" j5,="" j6,="" j7="" j8="" j9="" models:="" options):<="" output="" td="" –=""> 4242Vdc 1min, Output & J8 (sense) - J1, J2, J3, J4, J5, J6, J7 and J9 (communication options): Withstand voltage Vdc 100V<vout≤600v mo<="" td=""><td>Weight</td><td>ka</td><td>< 200</td></vout≤600v></vout≤600v>	Weight	ka	< 200
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 ISTA 1H: 2014, Drop test Method: ASTM D5276 free fall; Rotation edge drop test: ASTM D6179 Rotational drop. Safety Certifications and Markings - IEC/EN61010-1, CE Mark and UKCA Mark Interface classification - Vout≤50V Models: Output, J1, J2, J3, J4, J5, J6, J7, J8 (sense) & J9 (communication options) Interface classification - are Non Hazardous 60≤Vout≤1500V Models: Output & J8 (sense) are Hazardous. Vout≤50V Models: Input – Output & J8 (sense), J1, J2, J3, J4, J5, J6, J7 & J9 (communication options): are Non Hazardous. Vout≤50V Models: Input – Output & J8 (sense), J1, J2, J3, J4, J5, J6, J7 & J9 (communication options): 4242Vdc 1min, Input - Ground: 2835Vdc 1min 60V≤Vout≤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): 4242Vdc 1min, 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 and J9 (communication options): 4000V Withstand voltage Vdc 100V <vout≤600v &="" (com<="" (communication="" (sense)="" (sense),="" -="" 1min,="" 4242vdc="" and="" input="" j1,="" j2,="" j3,="" j4,="" j5,="" j6,="" j7="" j8="" j9="" models:="" options):="" output="" td="" –=""><td>Dimensions (WxHxD)</td><td>mm</td><td>553 x 1028 x 902 (without castors height is 947)</td></vout≤600v>	Dimensions (WxHxD)	mm	553 x 1028 x 902 (without castors height is 947)
Shock & Drop (Package transportation) - ISTA 1H: 2014, Drop test Method: ASTM D5276 free fail; Rotation edge drop test: ASTM D6179 Rotational drop. Safety and EMC - IEC/EN61010-1, CE Mark and UKCA Mark Safety Certifications and Markings - IEC/EN61010-1, CE Mark and UKCA Mark Interface classification - are Non Hazardous 60≤Vout≤1500V Models: Output, J1, J2, J3, J4, J5, J6, J7, J8 (sense) & J9 (communication options) Interface classification - are Non Hazardous 60≤Vout≤1500V Models: Output, J, J2, J3, J4, J5, J6, J7 & J9 (communication options): are Non Hazardous. Vout≤50V Models: Input – Output & J8 (sense), J1, J2, J3, J4, J5, J6, J7 & J9 (communication options): 4242Vdc 1min, Input - Ground: 2835Vdc 1min 60V≤Vout≤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): 4242Vdc 1min, Output & J8 (sense) - Ground: 1500Vdc 1min, Input - Ground: 2835Vdc 1min. Withstand voltage Vdc 100V <vout≤600v &="" (communication="" (sense)="" (sense),="" -="" 1275vdc="" 1min,="" 1min.="" 1min.<="" 2500vdc="" 2835vdc="" ground:="" input="" j1,="" j2,="" j3,="" j4,="" j5,="" j6,="" j7="" j8="" j9="" models:="" options):="" output="" td="" –=""> 1000V<vout≤1500v &="" (communication="" (sense)="" (sense),="" -="" 1275vdc="" 1min,="" 1min.="" 1min.<="" 2500vdc="" 2835vdc="" and="" ground:="" input="" j1,="" j2,="" j3,="" j4,="" j5,="" j6,="" j7="" j8="" j9="" models:="" options):="" output="" td="" –=""> 1000V<vout≤1500v &="" (communication="" (sense),="" 1mi<="" 4000vdc="" and="" input="" j1,="" j2,="" j3,="" j4,="" j5,="" j6,="" j7="" j8="" j9="" models:="" options):="" output="" td="" –=""><td>Vibration (Package transportation)</td><td>-</td><td>ISTA 1H: 2014. Method: ASTM D4728 Random vibration test.</td></vout≤1500v></vout≤1500v></vout≤600v>	Vibration (Package transportation)	-	ISTA 1H: 2014. Method: ASTM D4728 Random vibration test.
Safety and EMC IEC/EN61010-1, CE Mark and UKCA Mark Safety Certifications and Markings - IEC/EN61010-1, CE Mark and UKCA Mark Interface classification - Vout≤50V Models: Output, J1, J2, J3, J4, J5, G, J7, J8 (sense) & J9 (communication options) are Non Hazardous 60≤Vout≤1500V Models: Output & J8 (sense) are Hazardous, J1, J2, J3, J4, J5, J6, J7 & J9 (communication options) are Non Hazardous. Vout≤50V Models: Input – Output & J8 (sense), J1, J2, J3, J4, J5, J6, J7 & J9 (communication options): 4242Vdc 1min, Input - Ground: 2835Vdc 1min 60V≤Vout≤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): 4242Vdc 1min, Output & J8 (sense) - J1, J2, J3, J4, J5, J6, J7 & J9 (communication options): 4242Vdc 1min, Output & J8 (sense) - Ground: 1500Vdc 1min, Input - Ground: 2835Vdc 1min. 0utput & J8 (sense) - Ground: 1500Vdc 1min, Input - Ground: 2835Vdc 1min. 0utput & 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≤1500v &="" (communication="" (sense),="" input="" j1,="" j2,="" j3,="" j4,="" j5,="" j6,="" j7="" j8="" j9="" models:="" options):<br="" output="" –="">4242Vdc 1min, Output & J8 (sense) - J1, J2, J3, J4, J5, J6, J7 & J9 (communication options): 1275Vdc 1min, 0utput & J8 (sense) - Ground: 2500Vdc 1min. Input - Ground: 2835Vdc 1min. 1000V<vout≤1500v &="" (communication="" (sense),="" input="" j1,="" j2,="" j3,="" j4,="" j5,="" j6,="" j7="" j8="" j9="" models:="" options):<br="" output="" –="">4000Vdc 1min, Output & J8 (sense) - J1, J2, J3, J4, J5, J6, J7 & J9 (communication options): 4000Vdc 1min, Output & J8 (sense) - J1, J2, J3, J4, J5, J6, J7 & J9 (communication options): 4000Vdc 1min, Output & J8 (sense) - Ground: 3280Vdc</vout≤1500v></vout≤1500v>	Shock & Drop (Package transportation)	-	ISTA 1H: 2014. Drop test Method: ASTM D5276 free fall: Rotation edge drop test: ASTM D6179 Rotational drop
Safety Certifications and Markings - IEC/EN61010-1, CE Mark and UKCA Mark Interface classification - Vout≤50V Models: Output, J1, J2, J3, J4, J5, J6, J7, J8 (sense) & J9 (communication options) are Non Hazardous 60≤Vout≤1500V Models: Output & J8 (sense) are Hazardous, J1, J2, J3, J4, J5, J6, J7 & J9 (communication options) are Non Hazardous. Vout≤50V Models: Input – Output & J8 (sense), J1, J2, J3, J4, J5, J6, J7 & J9 (communication options): 4242Vdc 1min, Input - Ground: 2835Vdc 1min 60V≤Vout≤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): 4242Vdc 1min, 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 and J9 (communication options): 4242Vdc 1min, 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 and J9 (communication options): 4242Vdc 1min, 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 and J9 (communication options): 4242Vdc 1min, 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 and J9 (communication options): 4000V <cl> 100V<vout≤1500v &="" (communication="" (sense),="" and="" input="" j1,="" j2,="" j3,="" j4,="" j5,="" j6,="" j7="" j8="" j9="" models:="" options):<br="" output="" –="">4000V<cl> Vout≤1500V Models: Input – Output & J8 (sense), J1, J2, J3, J4, J5, J6, J7 and J9 (communication options): 4000V<cl> Vout≤1500V Models: Input – Output & J8 (sense), J1, J2, J3, J4, J5, J6, J7 and J9 (communica</cl></cl></vout≤1500v></cl>	Safety and EMC		
Interface classification - Vout≤50V Models: Output, J1, J2, J3, J4, J5, J6, J7, J8 (sense) & J9 (communication options) are Non Hazardous 60≤Vout≤1500V Models: Output & J8 (sense) are Hazardous, J1, J2, J3, J4, J5, J6, J7 & J9 (communication options) are Non Hazardous. Vout≤50V Models: Input – Output & J8 (sense), J1, J2, J3, J4, J5, J6, J7 & J9 (communication options): 4242Vdc 1min, Input - Ground: 2835Vdc 1min 60V≤Vout≤100V Models: Input – Output & J8 (sense), J1, J2, J3, J4, J5, J6, J7 & J9 (communication options): 4242Vdc 1min, Input - Ground: 2835Vdc 1min 00V≤Vout≤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. Withstand voltage Vdc 100V <vout≤600v &="" (communication="" (sense),="" input="" j1,="" j2,="" j3,="" j4,="" j5,="" j6,="" j7="" j8="" j9="" models:="" options):<br="" output="" –="">4242Vdc 1min, 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 and J9 (communication options): 1000V<vout≤1500v &="" (communication="" (sense),="" and="" input="" j1,="" j2,="" j3,="" j4,="" j5,="" j6,="" j7="" j8="" j9="" models:="" options):<br="" output="" –="">4000V<tont≤1500v &="" (communication="" (sense),="" and="" input="" j1,="" j2,="" j3,="" j4,="" j5,="" j6,="" j7="" j8="" j9="" models:="" options):<br="" output="" –="">4000V<tont≤1500v &="" (communication="" (sense),="" and="" input="" j1,="" j2,="" j3,="" j4,="" j5,="" j6,="" j7="" j8="" j9="" models:="" options):<br="" output="" –="">2000V<tonts>1500V Models: Input – Output & J8 (sense), J1, J2, J3, J4, J5, J6, J7 and J9 (communication options): 2000V<tonts>1500V Models: Input – Output & J8 (sense), J1, J2, J3, J4, J5, J6, J7 and J9 (communication options): 2000V<tonts>1500V Models: Input – Output & J8 (sense), J1, J2, J3, J4, J5, J</tonts></tonts></tonts></tont≤1500v></tont≤1500v></vout≤1500v></vout≤600v>	Safety Certifications and Markings	-	IEC/EN61010-1. CE Mark and UKCA Mark
Interface classification - are Non Hazardous 60≤Vout≤1500V Models: Output & J8 (sense) are Hazardous, J1, J2, J3, J4, J5, J6, J7 & J9 (communication options) are Non Hazardous. Vout≤50V Models: Input – Output & J8 (sense), J1, J2, J3, J4, J5, J6, J7 & J9 (communication options): 4242Vdc 1min, Input - Ground: 2835Vdc 1min 60V≤Vout≤100V Models: Input – Output & J8 (sense), J1, J2, J3, J4, J5, J6, J7 & J9 (communication options): 4242Vdc 1min, Input - Ground: 2835Vdc 1min Withstand voltage Vdc 100V <vout≤600v &="" (communication="" (sense),="" input="" j1,="" j2,="" j3,="" j4,="" j5,="" j6,="" j7="" j8="" j9="" models:="" options):<="" output="" td="" –=""> Vdc 100V<vout≤600v &="" (communication="" (sense),="" and="" input="" j1,="" j2,="" j3,="" j4,="" j5,="" j6,="" j7="" j8="" j9="" models:="" options):<="" output="" td="" –=""> Vdc 100V<vout≤600v &="" (communication="" (sense),="" and="" input="" j1,="" j2,="" j3,="" j4,="" j5,="" j6,="" j7="" j8="" j9="" models:="" options):<="" output="" td="" –=""> Vdc 100V<vout≤600v &="" (communication="" (sense),="" and="" input="" j1,="" j2,="" j3,="" j4,="" j5,="" j6,="" j7="" j8="" j9="" models:="" options):<="" output="" td="" –=""> Vdc 100V<vout≤1500v &="" (communication="" (sense),="" and="" input="" j1,="" j2,="" j3,="" j4,="" j5,="" j6,="" j7="" j8="" j9="" models:="" options):<="" output="" td="" –=""> Vdc 1000V<vout≤1500v &="" (communication="" (sense),="" and="" input="" j1,="" j2,="" j3,="" j4,="" j5,="" j6,="" j7="" j8="" j9="" models:="" options):<="" output="" td="" –=""> Vdc 1000V<vout≤1500v &="" (communication="" (sense),="" and="" input="" j1,="" j2,="" j3,="" j4,="" j5,="" j6,="" j7="" j8="" j9="" models:="" options):<="" output="" td="" –=""> Vdc 1000V<vout≤1500v &="" (communication="" (sense),="" and="" input="" j1,="" j2,="" j3,="" j4,="" j5,="" j6,="" j7="" j8="" j9="" models:="" options):<="" output="" td="" –=""> Vdc 1000V<vout< td=""><td></td><td></td><td>Vout≤50V Models: Output .11 .12 .13 .14 .15 .16 .17 .18 (sense) & .19 (communication options)</td></vout<></vout≤1500v></vout≤1500v></vout≤1500v></vout≤1500v></vout≤600v></vout≤600v></vout≤600v></vout≤600v>			Vout≤50V Models: Output .11 .12 .13 .14 .15 .16 .17 .18 (sense) & .19 (communication options)
Withstand voltage Vdc J1, J2, J3, J4, J5, J6, J7 & J9 (communication options) are Non Hazardous. Withstand voltage Vdc Vout≤50V Models: Input – Output & J8 (sense), J1, J2, J3, J4, J5, J6, J7 & J9 (communication options): 4242Vdc 1min, Input - Ground: 2835Vdc 1min 60V≤Vout≤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): 4242Vdc 1min, Output & J8 (sense), J1, J2, J3, J4, J5, J6, J7 & J9 (communication options): Withstand voltage Vdc 100V <vout≤600v &="" (communication="" (sense),="" and="" input="" j1,="" j2,="" j3,="" j4,="" j5,="" j6,="" j7="" j8="" j9="" models:="" options):<="" output="" td="" –=""> 4242Vdc 1min, Output & J8 (sense) - J1, J2, J3, J4, J5, J6, J7 and J9 (communication options): 100V<<vout≤100v &="" (communication="" (sense),="" and="" input="" j1,="" j2,="" j3,="" j4,="" j5,="" j6,="" j7="" j8="" j9="" models:="" options):<="" output="" td="" –=""> 100V<vout≤1500v &="" (communication="" (sense),="" and="" input="" j1,="" j2,="" j3,="" j4,="" j5,="" j6,="" j7="" j8="" j9="" models:="" options):<="" output="" td="" –=""> 100V<vout≤1500v &="" (communication="" (sense),="" and="" input="" j1,="" j2,="" j3,="" j4,="" j5,="" j6,="" j7="" j8="" j9="" models:="" options):<="" output="" td="" –=""> 1000V<vout≤1500v &="" (communication="" (sense),="" and="" input="" j1,="" j2,="" j3,="" j4,="" j5,="" j6,="" j7="" j8="" j9="" models:="" options):<="" output="" td="" –=""> 1000V<vout≤1500v &="" (communication="" (sense),="" and="" input="" j1,="" j2,="" j3,="" j4,="" j5,="" j6,="" j7="" j8="" j9="" models:="" options):<="" output="" td="" –=""> EMC standards ('16)('17) - IEC/EN61204-3 Industrial environment</vout≤1500v></vout≤1500v></vout≤1500v></vout≤1500v></vout≤100v></vout≤600v>	Interface classification	-	are Non Hazardous 60≤Vout≤1500V Models: Output & J8 (sense) are Hazardous
Withstand voltage Vdc Vdc 100V Vout≤50V Models: Input – Output & J8 (sense), J1, J2, J3, J4, J5, J6, J7 & J9 (communication options): 4242Vdc 1min, Input - Ground: 2835Vdc 1min Withstand voltage Vdc 100V Vout≤600V 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): 4242Vdc 1min, Output & J8 (sense) - Ground: 1500Vdc 1min, Input - Ground: 2835Vdc 1min. Withstand voltage Vdc 100V <vout≤600v &="" (communication="" (sense),="" and="" input="" j1,="" j2,="" j3,="" j4,="" j5,="" j6,="" j7="" j8="" j9="" models:="" options):<br="" output="" –="">4242Vdc 1min, 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 and J9 (communication options): 4242Vdc 1min, Output & J8 (sense) - Ground: 2500Vdc 1min. Input - Ground: 2835Vdc 1min. 1000V<vout≤1500v &="" (communication="" (sense),="" and="" input="" j1,="" j2,="" j3,="" j4,="" j5,="" j6,="" j7="" j8="" j9="" models:="" options):<br="" output="" –="">4242Vdc 1min, Output & J8 (sense) - Ground: 2500Vdc 1min. Input - Ground: 2835Vdc 1min. 1000V<<vout≤1500v &="" (communication="" (sense),="" and="" input="" j1,="" j2,="" j3,="" j4,="" j5,="" j6,="" j7="" j8="" j9="" models:="" options):<br="" output="" –="">4000Vdc 1min, 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 and J9 (communication options): 4000Vdc 1min, Output & J8 (sense) - Ground: 3280Vdc 1min. Input - Ground: 2835Vdc 1min. Output & J8 (sense) - Ground: 3280Vdc 1min. Input - Ground: 2835Vdc 1min. EMC standards ('16)('17) - IEC/EN61204-3 Industrial environment</vout≤1500v></vout≤1500v></vout≤600v>			.11.12.13.14.15.16.17 & 19 (communication ontions) are Non Hazardous
Withstand voltage Vdc GOV≤Vout≤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): 4242Vdc 1min, Output & J8 (sense) - Ground: 1500Vdc 1min, Input - Ground: 2835Vdc 1min. Withstand voltage Vdc 100V <vout≤600v &="" (communication="" (sense)="" (sense),="" -="" 1500vdc="" 1min,="" 1min.<="" 2835vdc="" 4242vdc="" ground:="" input="" j1,="" j2,="" j3,="" j4,="" j5,="" j6,="" j7="" j8="" j9="" models:="" options):="" output="" td="" –=""> Withstand voltage Vdc 100V<vout≤600v &="" (communication="" (sense)="" (sense),="" -="" 1275vdc="" 1min,="" 1min.="" 1min.<="" 2500vdc="" 2835vdc="" ground:="" input="" j1,="" j2,="" j3,="" j4,="" j5,="" j6,="" j7="" j8="" j9="" models:="" options):="" output="" td="" –=""> 1000V<vout≤1500v &="" (communication="" (sense)="" (sense),="" -="" 1275vdc="" 1min,="" 1min.="" 1min.<="" 280vdc="" 2835vdc="" and="" ground:="" input="" j1,="" j2,="" j3,="" j4,="" j5,="" j6,="" j7="" j8="" j9="" models:="" options):="" output="" td="" –=""> 1000V<vout≤1500v &="" (communication="" (sense)="" (sense),="" -="" 1min,="" 1min.="" 1min.<="" 2000vdc="" 2835vdc="" 3280vdc="" and="" ground:="" input="" j1,="" j2,="" j3,="" j4,="" j5,="" j6,="" j7="" j8="" j9="" models:="" options):="" output="" td="" –=""> EMC standards (*16)(*17) - IEC/EN61204-3 Industrial environment</vout≤1500v></vout≤1500v></vout≤600v></vout≤600v>			Vout<50/V Models: Input – Output & I8 (sense), 11 , 12 , 13 , 14 , 15 , 16 , 17 & 19 (communication ontions):
Withstand voltage Vdc 60V≤Vout≤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): 4242Vdc 1min, Output & J8 (sense) - Ground: 1500Vdc 1min, Input - Ground: 2835Vdc 1min. 0utput & J8 (sense) - Ground: 1500Vdc 1min, Input - Ground: 2835Vdc 1min. 100V <vout≤600v &="" (communication="" (sense),="" and="" input="" j1,="" j2,="" j3,="" j4,="" j5,="" j6,="" j7="" j8="" j9="" models:="" options):<br="" output="" –="">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≤1500v &="" (communication="" (sense),="" and="" input="" j1,="" j2,="" j3,="" j4,="" j5,="" j6,="" j7="" j8="" j9="" models:="" options):<br="" output="" –="">4000Vdc 1min, Output & J8 (sense) - J1, J2, J3, J4, J5, J6, J7 & J9 (communication options): 4000Vdc 1min, Output & J8 (sense) - J1, J2, J3, J4, J5, J6, J7 & J9 (communication options): 2000Vdc 1min, Output & J8 (sense) - Ground: 2835Vdc 1min. 1000V<vout≤1500v &="" (communication="" (sense),="" input="" j1,="" j2,="" j3,="" j4,="" j5,="" j6,="" j7="" j8="" j9="" models:="" options):<br="" output="" –="">2000Vdc 1min, Output & J8 (sense) - Ground: 3280Vdc 1min. Input - Ground: 2835Vdc 1min. 0utput & J8 (sense) - Ground: 3280Vdc 1min. Input - Ground: 2835Vdc 1min. EEMC standards (*16)(*17)</vout≤1500v></vout≤1500v></vout≤600v>			4242//dc 1min Input - Ground: 2835//dc 1min
Withstand voltage Vdc Vdc 100V Volt≤100V Models: Input – 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. Withstand voltage Vdc 100V 100V Volt≤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 1000V 1000V Vdt 18 (sense) - J1, J2, J3, J4, J5, J6, J7 & J9 (communication options): 1275Vdc 1min, Output & J8 (sense) - Ground: 2500Vdc 1min. Input - Ground: 2835Vdc 1min. 1000V 1000V Vdt 18 (sense) - J1, J2, J3, J4, J5, J6, J7 & J9 (communication options): 1275Vdc 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			60 // /out<100/ Models: Input _ Output & 18 (sense) 11 12 13 14 15 16 17 & 19 (communication ontions):</td
Withstand voltage Vdc 100V Withstand voltage Vdc 100V 100V 100V 1000V 1000V Vdc 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 1000V Vdc 1000V EMC standards (*16)(*17) - IEC/EN61204-3 Industrial environment			4242//dc 1min Output & 18 (sense) - 11 12 13 14 15 16 17 & 19 (communication ontions): 850//dc 1min
Withstand voltage Vdc 100V <vout≤600v &="" (communication="" (sense)="" (sense),="" -="" 1275∨dc="" 1min,="" 1min.="" 1min.<="" 2500∨dc="" 2835∨dc="" 4242∨dc="" and="" ground:="" input="" j1,="" j2,="" j3,="" j4,="" j5,="" j6,="" j7="" j8="" j9="" models:="" options):="" output="" td="" –=""> 1000V<vout≤1500v &="" (communication="" (sense)="" (sense),="" -="" 1275∨dc="" 1min,="" 1min.="" 1min.<="" 2500∨dc="" 2835∨dc="" and="" ground:="" input="" j1,="" j2,="" j3,="" j4,="" j5,="" j6,="" j7="" j8="" j9="" models:="" options):="" output="" td="" –=""> 1000V<vout≤1500v &="" (communication="" (sense)="" (sense),="" -="" 1min,="" 1min.="" 1min.<="" 2000∨dc="" 2835∨dc="" 3280∨dc="" 4000∨dc="" and="" ground:="" input="" j1,="" j2,="" j3,="" j4,="" j5,="" j6,="" j7="" j8="" j9="" models:="" options):="" output="" td="" –=""> EMC standards (*16)(*17) - IEC/EN61204-3 Industrial environment</vout≤1500v></vout≤1500v></vout≤600v>			Outout & I8 (sense) - Ground: 1500\/dc 1min Input - Ground: 2835\/dc 1min
With Stand Voltage Vide Hot V Volta⊆ooV Models. Input = Output & 30 (cense), 51, 52, 55, 55, 55, 55, 55, 55, 55, 55, 55	Withstand voltage	Vdc	100V/c//out<600V/c min.
H242vdd Hilli, Output & 38 (sense) - 01, 52, 35, 54, 55, 56, 57, 50, 50, 57, 64, 55 (communication options): 1275vdd Hillin, Output & J8 (sense) - Ground: 2835Vdc 1min. 1000V <vout≤1500v &="" (communication="" (sense)="" (sense),="" -="" 1min,="" 1min.="" 1min.<="" 2000vdc="" 2835vdc="" 3280vdc="" 4000vdc="" and="" ground:="" input="" j1,="" j2,="" j3,="" j4,="" j5,="" j6,="" j7="" j8="" j9="" models:="" options):="" output="" td="" –=""> EMC standards (*16)(*17) - IEC/EN61204-3 Industrial environment</vout≤1500v>	with Island Voltage	Vuc	1275 //dc 1min Outruit & 18 (sense) - 11 12 13 1/ 15 16 17 & 19 (communication options): 1275 //dc 1min
EMC standards (*16) (*17) - IOOV <vout≤1500v &="" (communication="" (sense)="" (sense),="" -="" 1min,="" 1min.="" 1min.<="" 2000vdc="" 2835vdc="" 3280vdc="" 4000vdc="" and="" ground:="" input="" j1,="" j2,="" j3,="" j4,="" j5,="" j6,="" j7="" j8="" j9="" models:="" options):="" output="" td="" –=""> EMC standards (*16) (*17) - IEC/EN61204-3 Industrial environment</vout≤1500v>			Outout & J8 (sense) - Ground: 2500V/dc 1min Input - Ground: 2835V/dc 1min
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			1000//c//out/c1500// Models: InputOutput & 18 (sense) 11 12 13 14 15 16 17 and 19 (communication ontions):
EMC standards (*16) (*17) - IEC/EN61204-3 Industrial environment			4000 / 4000 / 1
EMC standards (*16) (*17) - IEC/EN61204-3 Industrial environment			Outout &
	EMC standards (*16) (*17)		IEC/EN61204-3 Industrial anvironment
Conducted emission (1/) IEC/EN61201-3 Industrial environment Appendix Highle H 1 ECC Part 15.4 V/CCLA		-	IEC/EN61204-3 Industrial environment Anney H table H 1 ECC Part 15.0 V/CCLA
Radiated emission (17) IEC/EN61204-3 Industrial environment Anney H table H 3 and H 4 ECC Part 15-A V/CCLA	Radiated emission (*17)	-	IFC/FN61204-3 Industrial environment Anney H table H 3 and H 4 FCC Part 15-0 V/CCL0

Outline Drawing



Front Panel Display MENU/CONTROL Buttons





GUI Waveform Profile Generator



GUI Waveform Profile Generator



GUI Waveform Profile Generator 働⊜©⊗©€€€€⊘∞⊴⊜⊜ Settings Voc M Vmp (V) Imp (A) ISC (A) 10 60 State Power (W) 160 100 140 100 Voltage N -V-I V-I Operati V-W Opera 1.5 25 3 35 4 45 65 7.5 9.5 2 6 2 8 8.5 S S.S Current (A) 10.5

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