CUSTOS 9X+ SERIES

High-Level Online UPS

1KVA-10KVA

Data Center | Telecom | Computer | Networking

Professional On-Line UPS Solutions

Ideal for medium-density power protection demand, Power guardian, FSP Custos 9X+ series provides Rack/ Tower to fit diverse environment. Despite its compact footprint, Custos 9X+ incorporates internal battery packs which can be accessed via the front panel for maintenance checks and replacement without removing the UPS from its rack mounting. The LCD display panel can be easily shifted by pressing buttons to suit theinstallation format, vertical stand or horizontal rack mount.

Besides, IT personnel can manage equipment well from learning Intuitive information via LCD display.

GENERAL FEATURES

True double-conversion online UPS
Output power factor 0.9
User-friendly and easy-shift LCD display
Rack/Tower design
Programmable power management outlets
50/60 Hz frequency converter mode
ECO and advanced ECO mode for energy saving
Emergency Power Off Function (EPO)
Hot-swappable battery design
Parallel option for 6K-10K models

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POWER NEVER ENDS
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CUSTOS 9X+ SERIES

FSP Europe / Fortron Source (Europa) GmbH

True double-conversion online UPS

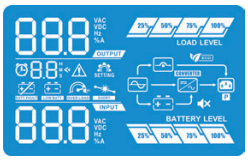
A true double conversion UPS will rectify input power to offer clean, pure, high level quality power with ±1% voltage output regulation to fully protect mission-critical devices such as sensitive networks, small computer centers servers, telecom applications, as well as for industrial applications.

Output power factor 0.9

Custos 9X+ series is a high-density UPS with output power factor 0.9 to provide higher performance and efficiency to critical applications.

User-friendly and easy-shift LCD display

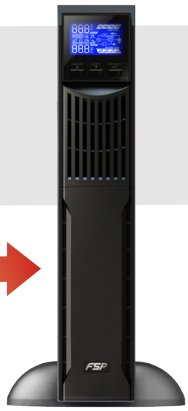
The front panel digital display can be easily shifted through LCD setting to suit the installation format, vertically stand or flat wall mount.



Rack / Tower design

Custos 9X+ series is designed in true universal-mount case. It can be easily installed as floor-standing tower or in 19-inch rackmount bracket.

19" rack-mounting



Floor-standing Tower

Programmable power management

With programmable power management outlets, users can easily and independently control load segments. During power failure, this feature will extend battery time to mission critical devices by shutting down the non-critical devices.

Programmable Outlets (P1)
- connect to non-critical devices

50/60 Hz frequency converter mode

Lock output frequency at 50Hz or 60Hz to suit power sensitive equipments.

ECO and advanced ECO mode for energy saving

Thanks FSP Custos9X+ smart design, operation efficiency up to 97% ECO mode implemented. Furthermore, Custos 9X+ 1-3K even offers advanced ECO mode to allow UPS to operate at higher efficiency up to 98% for more energy saving.

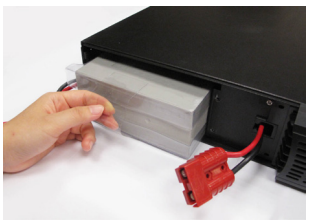
In these operation modes, load is supplied by the utility. When utility failure, UPS inverter will assume control the load and provide clean power continuity to the connected devices.

Emergency Power Off function (EPO)

The safety function can guarantee & secure the emergency responders, fire fighters not exposed to dangerous voltage, electrical hazard from the device. This is important if equipment is emitting smoke, fire, or flood, or if person is being electrocuted.

Hot-swappable battery design

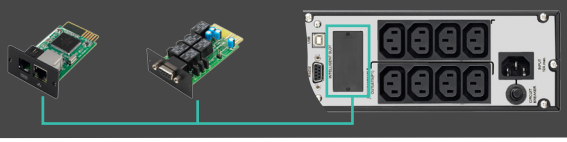
This design ensures clean and uninterruptible power to protected equipment during battery replacement.



RJ-45 Surge protector

Custos 1-3kVA implements RJ-45 Surge Protection ports to prevent Ethernet network damage caused by lightning or ground surges.

Intelligent slot for SNMP or Relay Card



Parallel Option N+X for 6K-10K models

Custos 9X+ 6K/10K can be parallel operated with up to 3 units toaccommodate increses in power demand as well as to attain power redundancy with high system integrity.

TECHNICAL SPECIFICATIONS

MODEL		Custos 9X+ 1K	Custos 9X+ 2K	Custos 9X+ 3K	Custos 9X+ 1KL	Custos 9X+ 2KL	Custos 9X+ 3KL
PHASE		Single phase with ground					
CAPACITY		1000 VA / 900 W		2000 VA / 1800 W		3000 VA / 2700 W	
INPUT							
Nominal Voltage		200/208/220/230/240 VAC					
Voltage Range		110-300 VAC ± 5% @ 50% load ; 160-300 VAC ± 5% @ 100% load					
Frequency Range		40Hz ~ 70Hz					
Power Factor		≧ 0.99 @ Nominal Voltage (100% load)					
OUTPUT							
Output Voltage		200/208/220/230/240 VAC					
AC Voltage Regulation (Batt. Mode)		± 1%					
Frequency Range (Synchronized Range)		57 ~ 63 Hz or 47 ~ 53 Hz					
Frequency Range (Batt. Mode)		60Hz ± 0.1Hz or 50 Hz ± 0.1Hz					
Current Crest Ratio		5:1 (max.)					
Harmonic Distortion		≦ 2 % THD (Linear Load) ; ≦ 4 % THD (Non-linear Load)					
Transfer Time	Line mode to Battery mode	Zero					
	Inverter to Bypass	4 ms (Typical)					
Waveform (Batt. Mode)		Pure Sinewave					
EFFICIENCY							
AC Mode		90%		91%		91%	
ECO Mode		97%		97%		97%	
Battery Mode		88%	89%	88%	89%	90%	
BATTERY							
Battery Type		12 V / 9 AH	Depending on the capacity of external batteries	12 V / 9 AH	Depending on the capacity of external batteries	12 V / 9 AH	Depending on the capacity of external batteries
Numbers		2	2	4	4	6	6
Typical Recharge Time		4 hours recover to 90% capacity		4 hours recover to 90% capacity		4 hours recover to 90% capacity	
Charging Current (max.)		1.5 A**	1A/2A/4A/8A (Selectable via LCD setting)	1.5 A**	1A/2A/4A/8A (Selectable via LCD setting)	1.5 A**	1A/2A/4A/8A (Selectable via LCD setting)
Charging Voltage		27.4 VDC ± 1%	27.4 VDC ± 1%	54.8 VDC ±1%	54.8 VDC ±1%	82.1 VDC ±1%	82.1 VDC ±1%
INDICATORS							
LCD Display		Load level, Battery level, AC mode, Battery mode, Bypass mode, and Fault indicator					
ALARM							
Battery Mode		Sounding every 4 seconds					
Low Battery		Sounding every second					
Overload		Sounding twice every second					
Fault		Continuously sounding					
AC INPUT & OUTPUT CONNECTORS							
AC Input Connector		1 x IEC 320 C20		1 x IEC 320 C20		1 x IEC 320 C20	
AC Output Connector		8 x IEC 320 C13		8 x IEC 320 C13		1 x IEC 320 C19 / 6 x IEC 320 C13	
PHYSICAL							
Dimension, D x W x H (mm)		410 x 438 x 88 [2U]		510 x 438 x 88 [2U]		630 x 438 x 88 [2U]	
Net Weight (kgs)		Standard:11.6/ LongRun Model: 6.4		Standard:19.5/ LongRun Model:6.5		Standard:27.4 / LongRun Model: 10.5	
ENVIRONMENT							
Humidity		20-90 % RH @ 0- 40°C (non-condensing)					
Noise Level		Less than 50dBA @ 1 Meter					
MANAGEMENT							
Smart RS-232 / USB		Supports Windows 2000/2003/XP/Vista/2008, Windows7/8/10, Linux and MAC					
Optional SNMP		Power management from SNMP manager and web browser					

*Derate capacity to 95% when the output voltage is adjusted to 115VAC, derate capacity to 90% when the output voltage is adjusted to 110VAC and derate capacity to 80% when the output voltage is adjusted to 100VAC/200VAC/208VAC.
**If standard UPS is equipped with additional charger, the available setting options become 2A, 3A and 4A.
Product specifications are subject to change without further notice.

CE

Backup Time Table for Custos Series

	Battery Bank	Backup Time with Load (Min) 25%	50%	75%	100 %
Custos 9X+ 1K	UPS with internal batteries(2 x 9Ah batteries)	24.0	10.5	6.0	3.8
	+ 1x(4 x 24V/9Ah Batteries)	168.0	78.0	52.0	37.0
Custos9X+ 2K	UPS with internal batteries(4 x 9Ah batteries)	26.0	11.0	6.1	4.0
	+ 1x (8 x 48V/9Ah Batteries)	98.0	47.0	29.0	20.0
	+ 2x (8 x 48V/9Ah Batteries)	181.0	88.0	54.0	38.0
Custos 9X+ 3K	UPS with internal batteries(6 x 9Ah batteries)	28.0	11.5	6.3	4.0
	+ 1x (12 x 72V/9Ah Batteries)	107.0	48.0	30.0	20.5
	+ 2x (12 x 72V/9Ah Batteries)	197.0	91.0	55.0	39.0
Custos 9X+ 1KL	+1 x (4x9AH batteries)	129.0	65.0	40.0	28.0
	+2 x (8x9AH batteries)	290.0	145.0	93.0	65.0
Custos 9X+ 2KL	+1 x(8x9AH batteries)	60.0	29.0	17.5	11.5
	+2 x(16x9AH batteries)	139.0	67.0	41.0	29.0
	+3 x(24x9AH batteries)	224.0	110.0	68.0	48.0
Custos 9X+ 3KL	+1 x (12x9AH batteries)	65.0	29.0	17.5	11.5
	+2 x (24x9AH batteries)	151.0	68.0	42.0	29.0
	+3 x (36x9AH batteries)	244.0	112.0	69.0	48.0

TECHNICAL SPECIFICATIONS

MODEL	Custos 9X+ 6K	Custos 9X+ 6KL	Custos 9X+ 10K	Custos 9X+ 10KL
PHASE	Single phase with ground			
CAPACITY	6000 VA / 5400 W	6000 VA / 5400 W	10000 VA / 9000 W	10000 VA / 9000 W
INPUT				
Nominal Voltage	200/208/220/230/240 VAC			
Voltage Range	110-300 VAC ± 3% at 50% load ; 176-300 VAC ± 3% at 100% load			
Frequency Range	46~54 Hz or 56~64 Hz			
Power Factor	≧ 0.99 @ Nominal Voltage (100% load)			
OUTPUT				
Nominal Voltage	200/208/220/230/240 VAC			
AC Voltage Regulation	± 1%			
Frequency Range(Synchronized Range)	46~54 Hz or 56~64 Hz			
Frequency Range(Batt. Mode)	50 Hz ± 0.1 Hz or 60 Hz ± 0.1 Hz			
Current Crest Ratio	3:1 (max.)			
Harmonic Distortion	≦ 2 % THD (Linear Load), ≦4 % THD (Non-linear Load)			
Transfer Time – AC mode to Battery mode	Zero			
Transfer Time – Battery mode to AC mode	Zero			
Transfer Time – Inverter to Bypass	Zero			
Transfer Time – Bypass to Inverter	Zero			
Waveform (Batt. Mode)	Pure Sinewave			
EFFICIENCY				
Line Mode	>90%		>86%	
ECO Mode	>96%		>92%	
Battery Mode	>88%		>84%	
BATTERY				
Battery Type	12 V / 7 AH	Depending on applications	12 V / 9 AH	Depending on applications
Numbers	20 (18-20 pcs adjustable)*		20 (18-20 pcs adjustable)*	
Typical Recharge Time	7 hours recover to 90% capacity		9 hours recover to 90% capacity	
Charging Current (max.)	1.0 A	4.0 A	1.0 A	4.0 A
Float Charging Voltage	273 VDC (based on battery numbers at 20 pcs)			
INDICATORS				
LCD Display	UPS status, Load level, Battery level, Input/Output voltage, Discharge timer, and Fault conditions			
ALARM				
Battery Mode	Sounding every 4 seconds			
Low Battery	Sounding every second			
Overload	Sounding twice every second			
Fault	Continuously sounding			
AC INPUT & OUTPUT CONNECTORS				
AC Input Connector	Terminal			
AC Output Connector	Terminal			
PHYSICAL				
Dimension, D x W x H(mm)	UPS unit: 606 x 438 x 133 [3U] Battery pack: 606 x 438 x133[3U]	606 x 438 x 133 [3U]	UPS unit: 686 x 438 x 133[3U] Battery pack: 606 x 438 x133[3U]	686 x 438 x 133 [3U]
Net Weight (kgs)	UPS unit: 20 Battery pack: 58	20	UPS unit: 23.5 Battery pack: 65	23.5
ENVIRONMENT				
Operation Humidity	0-95 % RH @ 0- 40°C (non-condensing)			
Noise Level	Less than 58 dBA @ 1 Meter		Less than 60 dBA @ 1 Meter	
MANAGEMENT				
Smart RS-232 / USB	Supports Windows 2000/2003/XP/Vista/2008, Windows7/8/10, Linux and MAC			
Optional SNMP	Power management from SNMP manager and web browser			

*When using internal batteries from 18-19, the unit will de-rate according to below formula: P=PRating x N/20
** If the UPS is installed or used in a place where the altitude is above than 1000m, the output power must be derated one percent per 100m.
* L means long-run model
Product specifications are subject to change without further notice

CE

Backup Time Table for Custos Series

	Battery Bank	Backup Time with Load (Min) 25%	50%	75%	100 %
Custos9X+ 6KL	+1 x (20 x 9AH Batteries)	43.0	20.0	12.9	8.0
	+2 x(40 x 9AH Batteries)	99.0	46.0	31.7	22.7
	+3 x(60 x 9AH Batteries)	150.0	71.0	43.5	30.4
Custos9X+ 10KL	+1 x(20 x 9AH Batteries)	22.0	9.0	6.0	3.0
	+2 x(40 x 9AH Batteries)	54.0	23.0	16.9	12.0
	+3 x(60 x 9AH Batteries)	88.0	38.0	23.0	16.0