

## Online 1Ph

# OPTIMA-T10 (UL) 1K/1.5K/2K/3K

True Online Double Conversion UPS with IGBT in Rectifier and Inverter stages. Output Power Factor 1.0 & 0.97 (according to the model) and high power efficiency. With a robust design, offers state-of-the-art features. UPS and AC Line parameters can be supervised either from a modern LCD or remotely by any of our communication options.



### True ON-LINE Double Conversion and IGBT Technology

Our True ON-LINE Double Conversion Technology and IGBT (both in rectifier and Inverter stages) allows our UPS to generate full time, noiseless, impeccable, and pure sine wave power for your equipment.

### Output Power Factor 1.0 & 0.97

Output power factor has been improved up to 1.0 for 1K model and 0.97 for the rest.

### Shortcircuit protected

This system avoids internal electronic damages triggering automatically when a shortcircuit is detected on its output. Outlets are turned off and an error message is shown on LCD.

### Communication Ports & Control Software

This UPS is equipped with several communications options:

- USB Port
- RS232 Port
- Smart port to install Network Communication Card (SNMP), Dry Contact Card (AS400), RS-485 Communication Card, etc.

### Automatic Bypass:

Includes a smart and automatic bypass which activates when the UPS fails to keep your valuable electronic equipment working. Smart bypass also activates when the UPS is overloaded.

### Emergency Power Off (EPO)

Our EPO port can be connected to an Emergency Stop Switch to turn off the output when activated, for safety reasons.

### Frequency Converter Function

Output frequency of the UPS can be configured to 50Hz or 60Hz, regardless the input frequency, as long as it stays in the acceptable range.

### Programmable Outputs:

This UPS family offers 2 kind of power outlets: Standard and Programmable. During Battery Mode Programmable outputs can be configured to power off at a given time (previously configured), without causing severe battery discharge.

### Cold Start

This UPS series can be turned on even during power outage.

### Auto-Recovery

Auto-Recovery function restarts the UPS automatically when AC Line comes back.

### Smart Battery Charger

With a smart battery charger this UPS family can charge batteries in an outstanding time (4 hours up to 90%), offering a better availability than similar products.

### Power Generators Compatible

Only True On-Line Double conversion UPS can filter voltage fluctuation and other particularities generated by Power Generators to generate a clean, perfect, and pure sine wave power to feed your installation.

### External Batteries Compatible

This UPS series includes connection for External Battery Packs to extend regular back up for as long as your equipment requires.

### Eco-Mode Operation, for power saving

ECO-Mode is a power saving function which reduces electrical consumption over 5%. In this mode the load is powered directly by AC Line as long as it keeps between pre-configured limits. Otherwise, the UPS goes to regular ONLINE mode. During power outage, the UPS goes into Battery Mode to keep your equipment working perfectly safe.

## Applications: Medium-Sized Businesses Critical Servers, Workstations, Multiple PCs.



## Technical Features

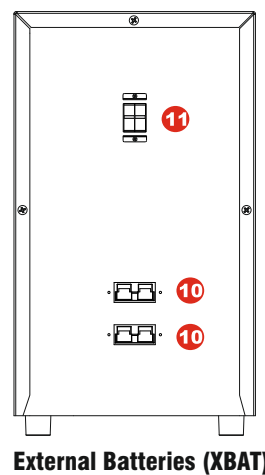
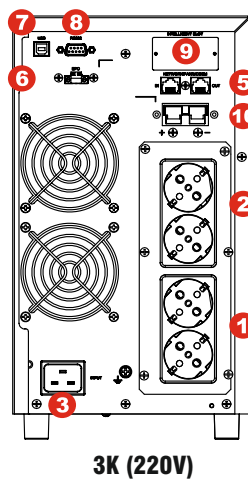
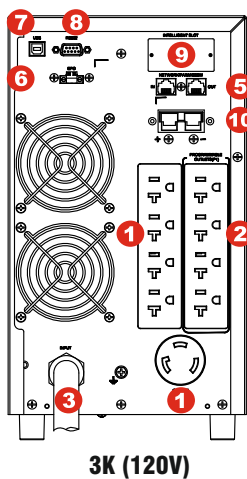
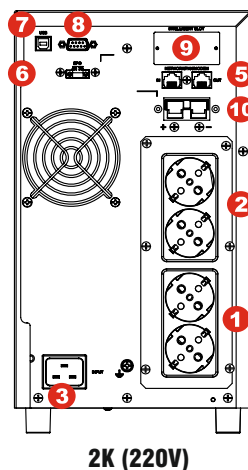
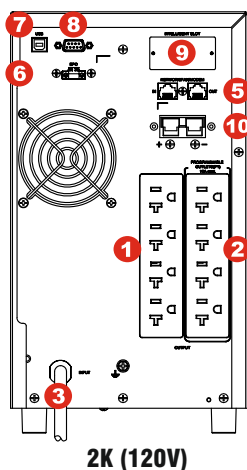
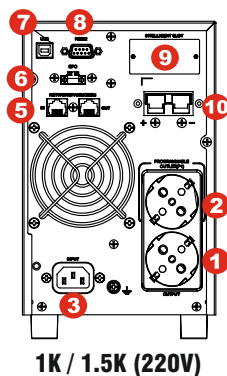
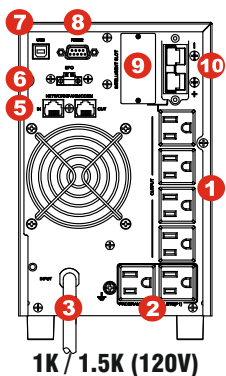
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|-------------------------------|--------------------------------|
| 1. Standard Power Outlets     | 6. Emergency Power Off (EPO)   |
| 2. Programmable Power Outlets | 7. USB Port                    |
| 3. AC Input                   | 8. RS-232 Port                 |
| 4. Circuit Breaker            | 9. SNMP Smart Port             |
| 5. Protected RJ45 Connector   | 10. External Battery Connector |
|                               | 11. DC Circuit Breaker         |

## Available Accessories:

- LAN Card: ✓  
 AS-400: ✓  
 RS-485: ✓  
 DC Connector: ⓘ  
 Environmental Sensors: ✓

- |   |                    |
|---|--------------------|
| ⓘ | : Included         |
| ✓ | : Available Option |
| ○ | : Non-Available    |

## Rear Panel



## Technical Features / Características Técnicas

ONLINE T10 1K - 3K		1K	1.5K	2K	3K
Capacity / Capacidad	120V (UL)	1000VA / 1000W	1500VA / 1450W	2000VA / 1930W	3000VA / 2880W
Output PF / FP de Salida		1,00	0,97	0,97	0,96
Capacity / Capacidad	220V/230V	1000VA / 1000W	1500VA / 1500W	2000VA / 2000W	3000VA / 3000W
Output PF / FP de Salida		1,00	1,00	1,00	1,00
<b>INPUT / ENTRADA</b>					
Range / Rango - Vac	120V (UL)	(80Vac-150Vac) @ 100% load / (70Vac-150Vac) @ 80% load / (55Vac-150Vac) @ 60% load			
Range / Rango - Vac	220V/230V	(160Vac-300Vac) @ 100% load / (140Vac-300Vac) @ 80% load / (110Vac-300Vac) @ 60% load			
Frequency Input / Frecuencia de Entrada		50Hz / 60Hz autosensing / detección automática			
Frequency Range / Rango de Frecuencia		40 Hz - 70Hz			
Max. Amps / Corriente Max. (normal mode) (120V UL)		13.2A (RMS)	13.2A (RMS)	17.6A (RMS)	26.4A (RMS)
Max. Amps / Corriente Max. (normal mode) (230V)		7.6A (RMS)	11.0A (RMS)	15.3A (RMS)	17.6A (RMS)
Phase / Fases		Single phase with ground / (1 fase + Tierra)			
Power Factor / Factor de Potencia		> 0.99 @ 100% load			
Input Current THDi / THDi de Corriente de Entrada		< 5% @ 100% load			
Slew Rate / Seguimiento Frecuencia		1 Hz / s			
<b>OUTPUT / SALIDA</b>					
Voltage / Voltaje AC	(120V UL)	(*N1) Model 120V: 100/110/115/120/127Vac			
Voltage / Voltaje AC	(220V/230V)	(*N1) Model 120V: 200/208/220/230/240Vac			
Output Regulation / Rango de Salida:		+/-1% (all modes / en todos los modos de operación)			
Frequency / Frecuencia (Batt. Mode)		(*N3) 50 Hz +/- 0.1 Hz - 60Hz +/- 0.1 Hz			
Slew Rate / Seguimiento de Frecuencia		1 Hz / s			
Current Crest Ratio / Factor de Cresta		3:1 max. @ 100% load			
Harmonic Distortion / Dist. Armónica (THDv)		< 2% @ Linear Load / Carga Lineal (100% load) <4% @ No Linear Load / Carga no Lineal (100% load)			
Dynamic Accuracy / Regulación Carga Variable		< +/- 5% in Online (variation 0%-100% & 100%-0% R Load) (online mode)			
Transient response / Respuesta ante Carga Variable		30ms (up to 90% of regulation) / 60ms (up to 100% regulation) (variation 0%-100% or 100%-0%)			
AC to Inverter / Modo Online a modo Battery		0 ms			
Waveform / Forma de Onda		Pure Sinewave / Sinusoidal Pura			
DC component / Componente DC		100mV max. (no load / full load) (EN50091-3)			
<b>BYPASS</b>					
Internal Auto bypass / Modo Bypass Automático:		Default Input Range in BYPASS: (120V): 85-132Vac // (230V): 170-264Vac (Configurable)			
<b>PROTECTION SYSTEMS / SISTEMAS DE PROTECCION</b>					
Surge & Spikes Suppression / Supresión de Picos		(L-N, L-G, N-G) : > 1370 Joules (EN61000-4-5)			
RJ45 Surge Suppression / Supresión picos RJ45		IN/OUT RJ45 socket surge protected / Tomas RJ45 protegidas contra picos			
Output Short-Circuits / Cortocircuitos a la Salida (Online & Battery Mode)		Electronic inverter shortcircuit protection / Protección contra cortocircuitos en la salida Triggered by output current over 400% of nominal current during 5 cycles / Activación a 400% de la corriente nominal durante 5 ciclos			
AC Input Current / Sobre-Corriente de Entrada AC		Input breaker or fuse / Disyuntor o fusible de entrada			
Battery overcurrent / Sobrecorriente de baterías		Fuse protection for battery line / Protección por fusible en línea interna de baterías (80A)			
Starting Time / Tiempo de Arranque (@ 100% load)		7s - 10s			
<b>EFFICIENCY / EFICIENCIA</b>					
Eco Mode		(100% LOAD: 97%) - (75% LOAD: 96%) - (50% LOAD: 96%) - (25% LOAD: 94%)			
AC Mode / Modo AC (Online)		(100% LOAD: 91%) - (75% LOAD: 91%) - (50% LOAD: 90%) - (25% LOAD: 89%)			
Battery Mode / Modo Batería		(100% LOAD: 90%) - (75% LOAD: 90%) - (50% LOAD: 89%) - (25% LOAD: 88%)			
Inverter Efficiency / Eficiencia Inversor (100%)		(100% LOAD: 97%)			
Max. Internal Loss / Pérdidas internas máx. (BTU)		307	460	546	818
<b>OVERLOAD/ SOBRECARGA</b>					
AC Mode / Modo Normal (to Bypass)		100%~110%: (warning) / 110%~130%: 5min / 130%~140%: 30s / >140%: 2s			
Battery Mode / Modo Batería (to OFF)		100%~110%: (warning) / 110%~130%: 5min / 130%~140%: 30s			
Bypass Mode / Modo Bypass (to OFF)		100%~110%: (warning) / 110%~120%: 30min / 120%~130%: 10min / LOAD >130%: 1min			
<b>BATTERIES / BATERIAS</b>					
Technology / Tecnología		YUASA or CSB: Sealed Lead Acid VRLA-AGM / Sellada Sin Mantenimiento VRLA-AGM			
Qty & Type / Cantidad&Tipo		3 x 12V-7AH	3 x 12V-9AH	6 x 12V-7AH	6 x 12V-9AH
Charging VDC / Voltaje del cargador (Floating)		41.1 VDC +/- 1%	41.1 VDC +/- 1%	82.1 VDC +/-1%	82.1 VDC +/-1%
Typical Recharge Time / T. de Recarga		4 Hours for 90% capacity / 4 Horas para recuperar el 90% de carga			
Shutdown battery Voltage / Voltaje DC Apagado		10.0 Vdc per battery typical (*N4)			
Charging Amps / Corriente de Carga		Configurable 2A to 8A. // (0.1C min / 0.2C recommended / 0.3C max.)			
Batteries charger / Cargador de baterías		3 steps technology / Tecnología de 3 etapas (Constant Current / Equalizing / Floating)			
Charging Compensation /Compensación Recarga		>30°C : -5mV/°C per cell (Equalization) / -3mV per cell (Floating)			
Recharging Time / Tiempo de recarga (90%)		2h - 3h (*N5)			

# Technical Features / Características Técnicas

ONLINE RT10 UPS (UL)	1K	1.5K	2K	3K
<b>INDICATORS / INDICADORES</b>				
LCD / Pantalla de Cristal Liquido (LCD)	UPS status, Load level, Battery, Input/Output voltage, Discharge timer, and Fault Estado del UPS, Consumo, Baterías, Voltaje Entrada/Salida, Autonomía, Diagnóstico			
<b>ALARM / ALARMAS</b>				
Beep Alarms / Alarma Sonora:	(Batt. Mode: 1 beep/5s)-(Low batt.: 1 beep/s)-(Overload: 2 beep/s)-(Failure: Continuous)			
<b>OUTLETS: QTY &amp; TYPE / SALIDAS: CANTIDAD Y TIPO</b>				
<b>UPS Model 120Vac (UL) - Total Outlets</b>	6	8	8	9
Std. Outlets / Salidas Estándar (120Vac)	NEMA5-15R*4	NEMA5-15R*4	NEMA5-20R*4	NEMA5-20R*4 + L5-30R*1
Prog. Outlets / Salidas Prog. (120Vac) *N2	NEMA5-15R*2	NEMA5-15R*2	NEMA5-20R*4	NEMA5-20R*4
Input / Entrada (120Vac)	NEMA5-15P	NEMA5-15P	NEMA5-20P	L5-30P
<b>UPS Model 230Vac / Schuko - Total Outlets</b>	2	2	4	4
Std. Outlets / Salidas Estándar (230Vac)	CEE*(Schuko)*1	CEE*(Schuko)*1	CEE*(Schuko)*2	CEE*(Schuko)*2
Prog. Outlets / Salidas Prog. (230Vac) *N2	CEE*(Schuko)*1	CEE*(Schuko)*1	CEE*(Schuko)*2	CEE*(Schuko)*2
Input / Entrada (230Vac)	IEC C14 + Schuko plug	IEC C14 + Schuko plug	IEC C20 + Schuko plug	IEC C20 + Schuko plug
<b>PHYSICAL / FISICAS: UPS</b>				
W*H*D / Ancho * Altura * Profundidad (mm)	397x145x220	397x145x220	421x190x318	421x190x318
Net Weight / Peso Neto (kgs)	14	15	23	28
<b>PHYSICAL / FISICAS: External Battery Pack / Paquete de Baterías Externas</b>				
W*H*D / Ancho*Altura*Profundidad (mm)	397x145x220	397x145x220	421x190x318	421x190x318
Net Weight / Peso Neto (kgs)	20	21,2	38	40,4
<b>UPS PACKING / EMPAQUE UPS</b>				
Unit Carton W*H*D (mm)	472x230x325	472x230x325	560x320x460	560x320x460
Unit Gross Weight / Peso Bruto (kgs)	15	16	24	29
Half Pallet / Medio Pallet (cm : pcs)	(120*100*101): 30pcs	(120*100*101): 30pcs	(115*72*104): 12pcs	(115*72*104): 12pcs
Full Pallet / Pallet Completo (cm : pcs)	(112*100*195): 50pcs	(112*100*195): 50pcs	(115*72*216): 24pcs	(115*72*216): 24pcs
Container (FCL20' / FCL40')	500pcs / 1050pcs	500pcs / 1050pcs	240pcs / 504pcs	240pcs / 504pcs
<b>EXT BATT PACKING / EMPAQUE BATERIAS EXTERNAS</b>				
Unit Carton W*H*D (mm)	472x230x325	472x230x325	560x320x460	560x320x460
Gross Weight / Peso Bruto (kgs)	21	22,2	40	42,4
<b>OPERATIONAL CONDITIONS / CONDICIONES DE OPERACIÓN</b>				
Temperature / Temperaturas (IEC-62040-3)	Operation / En Operación: (-0 to +40°C)			
Storage Temperature / Temperatura Almacenaje	UPS (w/o batteries): -25 to +55 °C / UPS (with batteries): (-20 to +50°C)			
Humidity / Humedad Relativa (IEC-62040-3)	< 95 % RH (non-condensing / no condensante)			
Audible Noise / Ruido Acústico (ISO 7779)	< 50dBA @ 1m			
Max. Altitude / Altura de Operación Max.	Max. 4.500 meters over sea level / sobre nivel del mar. * Power output de-rate of 1% every 100m (over 1.000m) * Disminución de potencia de 1% cada 100m (sobre los 1.000m)			
<b>SAFETY &amp; STANDARDS / NORMATIVAS Y ESTANDARES</b>				
CE Directives (for 220V & 230V models)	73 / 23 & 93 / 68 (LV Safety) and 89 / 336 ( EMC )			
UL & CSA (for 120V models)	UL1778 & CSA C22.2 (certified by TÜVus)			
UPS General Safety / Seguridad General	IEC 62040 - 1			
UPS EMC / Compatibilidad. Electromag.	IEC 62040 - 2			
UPS Tests / Procedimiento Pruebas UPS	IEC 62040 - 3			
ESD / RS / EFT / Surge / CS / F. Mag. Field	EN 61000-4-2 & 4-3 & 4-4 & 4-5 & 4-6 & 4-8 & 4-11			
Low Frequency Signals	IEC / EN 61000 - 2 - 2			
Degree of protection / Grado de Protección	IP21			
Conduction & Radiation	FCC Part 15 Class A ; IEC / EN 62040-2 (Cat 2)			
Safety / Seguridad	CE - IEC/EN 62040-1			
Quality and Environment	ISO9001 & ISO14001			
Transportation / Transporte	IEC 60068-2-32 (Drop test) / IEC 60068-2-64 (Vibration) / IEC 60068-2-27 (Shock test)			
<b>COMMUNICATION / COMUNICACION</b>				
Serial comm. / Comunicación serial	RS232 & USB (HID compatible)			
Software	Windows family; Linux; Mac OS; VMWare			
SNMP Intelligent Port:	LAN Card SNMP type - optional / Comunicación con LAN mediante SNMP opcional AS400 Interface (optional comm. Card) / Interfaz con AS400 (tarjeta opcional)			

Technical specifications can be modified to comply to special requirements / Las especificaciones pueden bajo requerimiento adaptarse a proyectos especiales

Technical specifications may change without further notice / Por motivos comerciales o técnicos las especificaciones pueden cambiar sin previo aviso.

(\*N1): Output voltage is selectable by LCD / El Voltaje de salida es configurable entre 4 alternativas seleccionables en el LCD

(\*N2): Backup time for programmable outlets can be configurable (in minutes) / Las salidas programables pueden configurarse en minutos

(\*N3): Allows to set output frequency at constant value: 50Hz or 60Hz / El modo de Conversión de Frecuencia permite fijar la salida a 50 o 60Hz

(\*N4): Shutdown battery voltage depends of operating conditions (load & runtime) / Voltaje de corte de baterías depende de condiciones operativas (carga y runtime)

(\*N5): Recharging time based on previous 10min to 20min full discharging cycles. Tiempo de recarga basado en ciclos previos de descarga profunda de 10 a 20min.