

## 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.

### Conformal Coating

This equipment features a Conformal Coating treatment on internal boards and components. Conformal coating is a technique that protects against moisture and corrosive contaminants to ensure stable performance and extend its lifespan in various environments, as long as the requirements of technical specifications of the equipment are met.

### 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

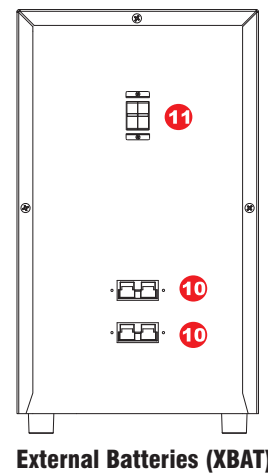
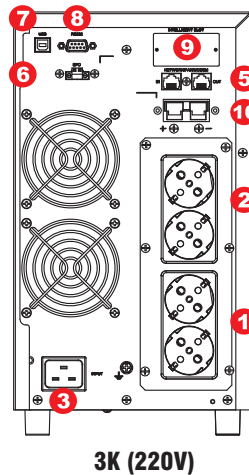
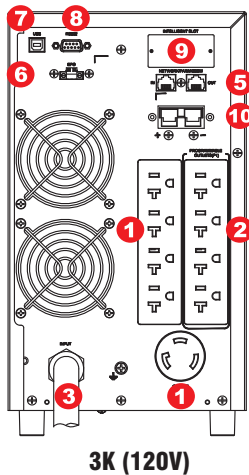
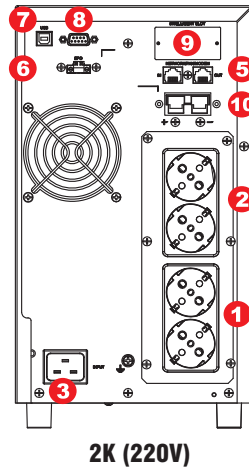
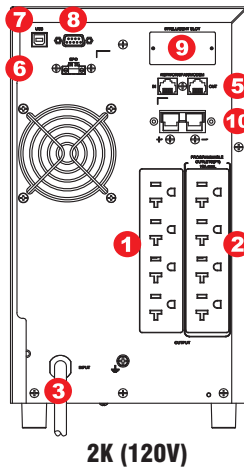
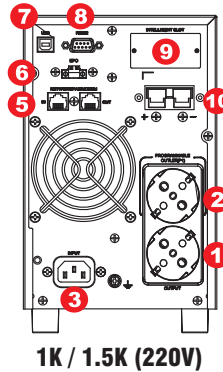
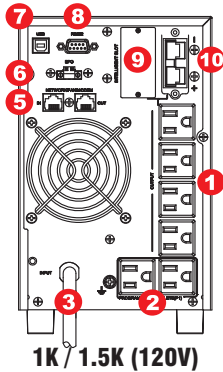
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|-------------------------------|--------------------------------|
| 1. Standard Power Outlets     | 6. Emergency Power Off (EPO)   |
| 2. Programmable Power Outlets | 7. USB Port                    |
| 3. AC Input                   | 8. RS-232 Port                 |
| 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 - OPTIMA T10 (UL/CSA/CE)		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)	@100% load:[80-150Vac] - @80% load:[70-150Vac] - @60% load:[55-150Vac]			
Range / Rango - Vac	220V/230V	@100% load:[160-300Vac] - @80% load:[140-300Vac] - @60% load:[110-300Vac]			
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			
Input Powercord / Cable de entrada		6 feet (1.83m) NEMA Plug			
<b>OUTPUT / SALIDA</b>					
Voltage / Voltaje AC	(120V UL)	(*N1) Model 120V: 100/110/115/120/127Vac			
Voltage / Voltaje AC	(220V/230V)	(*N1) Model 220V/230V: 200/208/220/230/240Vac			
Output Regulation / Rango de Salida:		+/-1% (all modes / en todos los modos de operación)			
Frequency / Frecuencia (Batt. Mode)		(*N2) 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		Variation 0%-100% or 100%-0%: 30ms, up to 90% of regulation - 60ms, up to 100% regulation.			
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 (Configurable): 120V: [85-132Vac] - 230V: [170-264Vac]			
<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: Output current >280% of nominal current during 100 ms. UPS goes to Fault Mode / Corriente de Salida >280% de corriente nominal por 100 ms. UPS pasa a Modo Falla			
Noise Protection / Protección contra ruido eléctrico		Input filter / Filtro de entrada (TVSS EMI/RFI)			
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] to Bypass
Battery Mode / Modo Batería (to OFF)		[100%-110%: Warning]	[110%-130%: 2min]	[130%-140%: 10s]	[>140%: 2s] to Cut-Off
Bypass Mode / Modo Bypass (to OFF)		[100%-110%: Warning]	[110%-120%: 30min]	[120%-130%: 10min]	[>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 (*N3)			
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 according to DIN41773 / Tecnología de 3 etapas según DIN41773 (Constant Current / Equalizing / Floating)			
Charging Compensation /Compensación Recarga		>30°C : -5mV/°C per cell (Equalization) / -3mV per cell (Floating)			

ONLINE - OPTIMA T10 (UL/CSA/CE)	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 + 1 L5-30R
Prog. Outlets / Salidas Prog. (120Vac) (*N5)	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) (*N5)	CEE*(Schuko)*1	CEE*(Schuko)*1	CEE*(Schuko)*2	CEE*(Schuko)*2
Input / Entrada (230Vac)	IEC C14 + 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			
Protecting Coating / Tropicalizado de Tarjetas	Yes / Si			
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 cTÜVus)			
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	RoHS / 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): Frequency Conversion mode 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

(\*N3): 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.

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

(\*N5): Backup time for programmable outlets can be configurable (in minutes) / Las salidas programables pueden configurarse en minutos

\*\* Derate Watts capacity to 70% in frequency converter mode. Derate to 70% when output voltage is set to 200Vac or 100Vac

\*\* La capacidad en Watts se degrada y baja hasta el 70% en modo "Convertidor de Frecuencia". También baja al 70% si se ajusta la salida a 200Vac ó 100Vac