

# CYBERWAVE EXPRESS

Data Sheet



Rugged Industrial UPS. Fast delivery. Those two features have never gone together – until now. Introducing the CyberWave EXPRESS from Cyberex, a standard UPS built for the Industrial Market that is delivered in very short lead times!

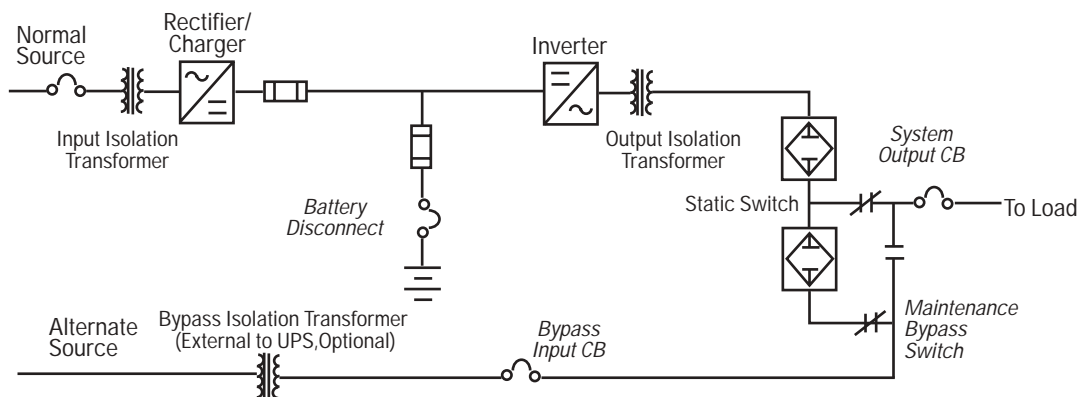
CyberWave EXPRESS has standard features no other UPS manufacturer can match, including modular independence and the world's first VGA, full-color touch-screen 8"x11" control panel (PowerPad). In addition, every CyberWave EXPRESS incorporates Cyberex's patented Digital Static Transfer Switch design for increased system redundancy and reliability.

CyberWave EXPRESS has been configured to include the most popular UPS hardware & software features. Even though CyberWave EXPRESS is a standard unit to allow for fast delivery, popular options are still available as well.



## Hardware Configuration

INPUT	RECTIFIER	BATTERY
System Input Breaker (Auto)	6-pulse Rectifier/Charger	Battery Disconnect Switch
Input Isolation Transformer	Charger Output Fuse	120V DC Bus Voltage
		Battery Fuse
INVERTER	BYPASS	SYSTEM
IGBT PWM Inverter	Bypass CB	Maintenance Bypass Switch
Internal IGBT Fuses		Fully Rated, Bi-Directional Static Switch
Output Isolation Transformer		System Output CB (non-auto)



# CyberWave EXPRESS Selection Guide

UPS Model	CW-10	CW-15	CW-20	CW-25	CW-30
kVA	10	15	20	25	30

## Input

Input Voltage	480 Volts				
Number of Phases	3 Phases				
Number of Wires	Standard: 3 wire + Ground				
Input Frequency	Standard: 60 Hz				
Input Power Factor	0.75 pf at rated output and load				
Maximum Input Current					
@ 480V, 100% Load, 120VDC	21A	32A	43A	53A	64A
Input Breaker @ 480V	35A	50A	60A	80A	90A

## Bypass

Input Voltage	120V				
Nominal Bypass Current @ 120V	83A	125A	167A	208A	250A
Maintenance Bypass Switch	Rotary 3 Position Switch				
Bypass Line Input Disconnect Switch	Standard				

## DC Bus

Voltage	120 VDC				
Battery Disconnect Switch	Standard				
Maximum Battery Current					
@ 120VDC, 100% Load	89A	134A	179A	224A	268A

## Output

Output Voltage	120VAC				
Output Frequency	60 Hz				
Number of Phases	Single Phase				
Number of Wires	2 Wire				
Output Isolation Switch/Breaker	Standard				
UPS Output Current					
@ 120VAC, 100% Load	83A	125A	167A	208A	250A
15 Minute Overload Current					
@ 120VAC Unity PF, 150% KW Rating	100A	150A	200A	250A	300A
Overload: Static Bypass (One Loop)	700%	700%	700%	700%	600%
<i>Inverter Efficiency</i>					
100% Load	88%				
75% Load	88%				
50% Load	88%				
25% Load	88%				
Full Load Heat Rejection (BTU/Hr)	4200	5600	7460	12050	14460

## General

<i>Module Dimensions W"xD"xH"</i>					
Base Unit	77.25x37x34.5	77.25x37x34.5	77.25x37x34.5	77.25x60.25x34.5	77.25x60.25x34.5
<i>Module Weights (lbs)</i>					
Base Unit	1600	1600	1600	2560	2850

# Standard Events, Alarms & Meters

## Events/Alarms Parameter

<b>Rectifier</b>	Rectifier Input Available Rectifier Input Failure On Rectifier Rectifier OK Rectifier Fail RCB Communications Failure Rectifier Equalize Mode Rectifier Output Voltage High Rectifier Output Voltage Low Rectifier Output Current High Rectifier Input Voltage High Rectifier Input Voltage Low Rectifier Input CB Open Rectifier Output Fuse Blown
<b>DC Bus</b>	DC Bus OK DC Ground Fault Positive DC Ground Fault Negative DC Caps Due for Maintenance DC Bus Fuse Blown
<b>Battery</b>	On Battery Low Battery Battery Equalize Initiated Battery Equalize Aborted Battery Equalize Complete Battery Available (Disk Closed) Battery Not Available (Disk Open) Battery End Voltage Battery Due for Maintenance Battery Blown Fuse Battery CB Open
<b>Inverter</b>	Inverter OK Inverter Failure Inverter Overload Inverter Current Limit Inverter Sat Trip Inverter Temperature OK Inverter Overtemp Inverter Output Voltage High Inverter Output Voltage Low Inverter Output Frequency High Inverter Output Frequency Low Inverter Input Fuse Blown Inverter Control Failure
<b>Bypass</b>	Alt Line Available Alt Line Fail Sync Loss STS on Alternate Manual Transfer Enable Alt Line CB Open
<b>Output</b>	Load on Inverter Load on Alternate UPS Overload MBS in Normal Position MBS in Bypass MBS in Bypass Isolate STS Active Short

## Events/Alarms Parameter

<b>Output</b> <i>(continued)</i>	STS Inactive Short STS Open SCR STS Receive Error STS Timeout Error STS Control Failure STS on Alternate Output Failure STS Output CB Open
<b>General</b>	System Reset Overload Timer Started Overload Timer Ended EPROM Write Error Control DSP Failure Summary Alarm Summary Overtemp Cabinet Overtemperature Fan Failure STS Power Supply Failure System Logic Power Supply Failure Login/Logout Login Failure Air Filter Needs Cleaning Fans Due for Maintenance
<b>Other</b>	Event Log Service Notebook Mimic Panel Modbus Communications
<b>Metering</b>	<b>Metering Value (1% Accuracy)</b>
<b>Rectifier</b>	Input Voltage (A, B, C) Input Current (A, B, C) Output Voltage DC Output Current DC
<b>Battery</b>	Voltage DC Current DC Runtime Power Cycles Total Cycles
<b>Inverter</b>	Voltage RMS Current RMS Frequency
<b>Output</b>	Output Voltage RMS Output Current RMS Output Frequency Output Real Power (Watts) Output Apparent Power (VA) % Loading Crest Factor UPS Peak Current Power Factor
<b>Alt Line</b>	Input Voltage Input Frequency

## Standard Specifications

IGBT-Based PWM Inverter  
Modular Independence  
Full Digital Controls with DSP's  
Full Isolation Input/Output Transformers  
Full Color Touch Screen Monitor Panel  
RS 232 Communications Port  
Bidirectional Fully Rated Static Switch  
Maintenance Bypass Switch  
Fiber Optic Datapaths  
Screw Mounted Nameplates  
Wire Markers  
14 Pre-Defined Remote Alarm Contacts  
Breaker Position Indicator Package  
Blown Fuse Indicator Package  
Standard Documentation  
-Manual -Outline  
-Online -Wiring Diagram

## AC Input Rating

Input Voltage 480V, +10% and -20%  
Frequency 60 Hz,  $\pm$  5%  
Input Power Factor 0.75@ Full Load and Nominal Input  
Input Inrush Current 400% Max of Nominal Input Current  
Current Walk-In Ramp Up To Full Load in 15 Seconds  
Surge Withstand Meets IEEE 587/ANSI C62.41  
Transient Energy 160 Joules (Max Ratings at 85° C,  
10/10,000msec & Combination Wave Tests)  
Current Limit 125% of Rated 0.8pf Current  
Input Current THD 30% Typical

## DC Bus Rating

DC Voltage 120V<sub>DC</sub>  
DC Regulation  $\pm$  .25% from No Load to Full Load,  $\pm$  300mV  
DC Voltage Ripple <2% RMS Ripple @ Full Load, without Battery Connected

## AC Output Rating

Inverter Power 10-30kVA, Rated at 0.8 Power Factor  
Voltage 120V  
Voltage Adjustability  $\pm$  5% of Nominal, 114-126V  
Voltage Regulation  $<\pm$  2% Steady State for 0-100% Load Change  
Transient Response  $<\pm$  5% for a 100% Load Step  
 $<\pm$  1% for Loss or Return of AC Input Power  
 $<\pm$  5% for Manual Transfer to Bypass and Back @100% Load  
Voltage Recovery Return to Within  $\pm$  2.5% of Nominal Value Within  
16 Milliseconds (One Cycle)  
Voltage Distortion Linear Loads: <5% Typical at Full Load  
Non Linear Loads (Crest Factor = 3.1): Max 5% at Full Load  
Overload: Inverter Up to 150% of Rated output power for 15 Minutes  
at Min DC Bus and Input Voltage at 40° C  
Up to 150% of Rated output power for 5 Minutes at 50° C  
Overload: Static Bypass 10 to 25kVA – 700%  
30kVA – 600%  
Frequency 60Hz  
Frequency Stability  $\pm$  .1% Free Running  
Frequency Slew Rate 1.0Hz/Sec Maximum

## Environmental Specifications

Accoustical Noise Level 60dBA Typical at 3 Feet  
Operating Temperature 0-40°C, 0-50° C Optional  
Relative Humidity 0-95% Non-Condensing  
Access No Rear or Side Access Required  
for Operations or Maintenance  
Cooling Forced Air; Optional Redundant  
Fan Assemblies for Cabinet  
Operating Altitude Up to 1500 m at 40°C; Derate by 9%  
for Every 1000m Altitude Increase  
Paint Light Gray ANSI 61

## UPS EXPRESS OPTIONS

### Option 1- Cooling Package

Redundant Cabinet Fans

### Option 2- Mechanical Package

Lexan Barrier  
Drip Shield  
Vermin Screen

### Option 3- Complete Package

Cooling Package  
Mechanical Package



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