

Eaton EX UPS



Mini-tower



Rack/Tower 2U



Rack/Tower 3U

High availability

- Eaton® EX UPS—online, double-conversion UPS with automatic bypass for fault-tolerance
- Continuous power with hot swappable batteries—the optional HotSwap Maintenance Bypass (MBP) module allows the UPS to be replaced without interrupting the power supply
- Load segments—load shedding capability and backup time maximization, as well as remote reboot and sequential startup
- Long backup times—add up to four EXB battery modules to the EX (1000 VA models and above)



Total flexibility

The EX provides unmatched flexibility.

- Form factor—the EX is available in tower or convertible rack/tower models, optimized for telecom racks with short depth
- Connections—easily add more outlets with the FlexPDU and HotSwap MBP; these optional PDUs can be mounted behind, on the side or on top of the rack/tower UPS models
- Interfaces—USB, serial RS232, remote On/Off and a slot for an optional communications card (Ethernet, ModBus or status)



HotSwap MBP 15A



Adjustable multilingual display



Servers, data storage and network equipment



Telephony - VoIP



Medical equipment - industrial processes



Powering Business Worldwide

Manageability

- Multilingual LCD provides access to a wide range of measurements and setup menus
- Remote supervision—the EX comes with a free five-node version of Enterprise Power Manager for network-based supervision and asset management
- Network-based modules for power management of servers (Windows, Linux, MacOS) or small blade servers (VMware ESX, Microsoft Hyper-V)
- NetWatch 5.0 software enables automatic shutdown of UPS-protected devices



Eaton NetWatch Client 5.0 has tested compatible with Cisco Unified Communications Manager 4.3. Go to www.eaton.com/PQ/cisco for disclaimer.

Eaton customer service and support

- Two-year warranty, including batteries
- Standard exchange of product in case of failure, including batteries

Associated services:

- Warranty+: Three- or five-year extended warranty
- Battery replacement program
- UPSgrade™ program for substitution of an old UPS (vendor neutral)

Communications software and connectivity

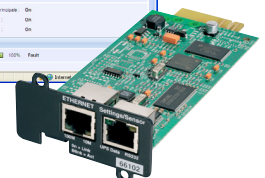
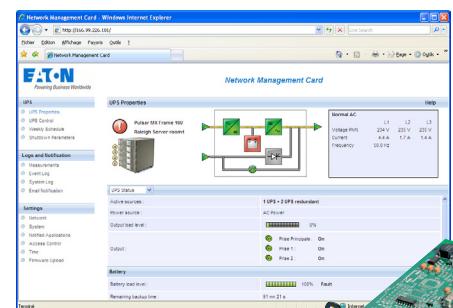
- **Power management suite** (included) comes with network-based shutdown software (Windows, Linux, MacOS, VMware ESX, Microsoft Hyper-V) and local or remote supervision up to five nodes
- **Network Management Card (NMC)** connects the UPS to an Ethernet 10/100 network, raising SNMP or XML alarms and supervising the UPS using a simple browser interface
- **NMC environment sensor** monitors the temperature, humidity and two relay contacts via SNMP or HTML
- **Enterprise Power Manager** supervisor provides comprehensive management of multiple UPSs and PDUs using a Windows PC (vendor neutral)
- **NMS integration kits** include HP OpenView, IBM Tivoli Netview, CA Unicenter, etc.
- **Management card contacts/serial** provide UPS status outputs via relay contacts, emergency stop and a second serial port
- **NMC ModBus/JBus card** combines SNMP, HTML and ModBus/JBus supervision
- **UPS control remote display** monitors UPS status up to 82 feet from the unit



FlexPDU and HotSwap MBP can be mounted in many different positions



- 1 Multilingual LCD
 - Six languages
 - Displays measurements
 - Displays alarms
 - Access to control and set-up menus
- 2 Panel for replacing batteries without interrupting the output
- 3 (1) USB port, (1) serial port, remote On/Off and emergency stop contacts
- 4 EXB battery module connector
- 5 Automatic detection of EXB battery modules
- 6 (6) NEMA 5-20R receptacles, including (2) switched outlets and (1) locking NEMA receptacle
- 7 Communications card slot
- 8 Mountings for HotSwap MBP and FlexPDU



Network Management Card and Enterprise Power Manager Supervision

Technical specifications¹

FORMAT

Form factor	700 VA: Mini-tower 1000–1500 VA: Mini-tower or rack/tower 2U 2200–3000 VA: Rack/tower 2U and rack/tower 3U
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ELECTRICAL CHARACTERISTICS

Topology	Online with automatic bypass and power factor correction
Input voltage/frequency range (without batteries)	700–1500 VA: 100/120/140/1603 to 284V, 40–70 Hz 2200–3000 VA: 504–100V to 142V, 40–70 Hz
Output voltage/frequency	120V (adjustable to 100/110/127V), 50/60 Hz, auto-select or frequency converter mode ⁵

CONNECTIONS

Input	700–1500 VA: 5-15P 2200 VA: NEMA 5-20P 3000 VA: NEMA L5-30P
Outputs	700–1500 VA : (4) 5-15R tower, (6) 5-15R RT2U 2200 VA: (6) NEMA 5-20R + (1) NEMA L5-20R 3000 VA: (6) NEMA 5-20R + (1) NEMA L5-30R
Additional outputs with HotSwap MBP	700–1500 VA: (4) NEMA 5-15R 2200–3000 VA: (5) NEMA 5-15R or (5) NEMA 5-20R
Additional outputs with FlexPDU	NEMA L5-20R 2200–3000 VA: (10) NEMA 5-15R or (10) NEMA 5-20R or (8) NEMA L5-20R

INTERFACES

Indicators and display	(3) LEDs + adjustable multilingual display: display of measurements, access to control and setup menus
Communication ports	(1) USB port, (1) RS232 serial port and relay contacts ⁶ , (1) mini terminal block for remote On/Off and emergency stop
Communications card slots	(1) slot for NMC Mini-Slot 2006 card, NMC ModBus/JBus or MC Contacts/Serial

OPERATING CONDITIONS, STANDARDS AND APPROVALS

Operating temperature	32°F to 104°F (0°C to 40°C) continuous
Noise level	45 dBA
Performance/Safety/EMC	700–1500 VA: IEC 62 040-3 (VFI-SS-113), IEC 62 040-1-1, IEC 60 950-1 (RD), FCC Subpart B, class A 2200–3000 VA: IEC/EN 62 040-3 (VFI-SS-113), IEC/EN 62 040-1-1, IEC/EN 60 950-1 (RD), IEC/EN 62 040-2 C1, FCC Subpart B, Class A
Approvals	700–1500 VA: UL, cUL, CE, CB report 2200–3000 VA: CE, TÜV, CB Report, UL and CUL (CSA)

- Due to continuing product improvement programs, specifications are subject to change without notice
- Maximum rating with EXB battery units: Pulsar 1000 = 800W, Pulsar 1500 = 1200W
- Lower limits for <20%, <33%, <66%, >=66% of nominal power (VA); for active output power greater than 0.7 and 0.8 nominal rating, the lower limit is 180V and 190V respectively
- Lower limits for reduced load
- Derated by 15% when used as a frequency converter
- USB and RS232 serial ports cannot be used simultaneously

EX BATTERY BACKUP TIMES (IN MINUTES)¹

Load (VA/Watts)	Internal Batteries	+1 EBM	+2 EBMs	+3 EBMs	+4 EBMs
EX 700					
70/63	40	–	–	–	–
140/126	34	–	–	–	–
210/189	28	–	–	–	–
280/252	22	–	–	–	–
350/315	16	–	–	–	–
420/378	13	–	–	–	–
490/441	10	–	–	–	–
560/504	8	–	–	–	–
630/567	7	–	–	–	–
700/630	5	–	–	–	–
EX 1000 / 1000 RT 2U					
100/90	41	204	290	462	584
200/180	35	170	254	398	497
300/270	29	136	217	334	411
400/360	23	102	180	269	325
500/450	17	68	144	206	239
600/540	14	59	118	175	216
700/630	11	49	92	145	193
800/720	8	41	75	121	171
900/810	7	37	67	104	149
1000/900	5	32	60	87	128
EX 1500 / 1500 RT 2U					
150/135	33	112	242	290	392
300/270	28	96	202	251	338
450/405	23	80	162	212	284
600/540	18	63	122	173	230
750/675	13	47	82	135	176
900/810	11	40	70	111	145
1050/945	9	33	58	87	115
1200/1080	7	28	50	72	94
1350/1215	6	25	44	64	84
1500/1350	5	22	39	57	74
EX 2200 RT 2U & 3U²					
220/198	90	352	587	831	1216
440/396	55	225	380	532	753
660/594	34	146	248	349	475
800/720	26	115	191	282	380
1100/990	17	84	135	215	286
1320/1188	14	72	117	184	243
1540/1386	11	61	99	153	199
1760/1584	9	51	82	127	169
1980/1782	8	42	67	105	152
2200/1980	7	34	51	83	134
EX 3000 RT 2U & 3U³					
300/270	74	280	460	640	840
600/540	32	150	269	340	470
900/810	20	86	170	220	300
1200/1080	14	62	130	170	230
1500/1350	10	48	100	140	170
1800/1620	8	36	80	110	150
2100/1890	6	32	72	95	120
2400/2160	5	26	60	80	105
2700/2430	4	22	50	70	90
3000/2700	3	18	36	52	70
EX 3000 RT 3U XL⁴					
300/270	–	168	336	502	665
600/540	–	107	214	319	423
900/810	–	70	142	211	280
1200/1080	–	51	109	162	215
1500/1350	–	34	79	117	155
1800/1620	–	29	66	99	131
2100/1890	–	23	54	81	107
2400/2160	–	19	45	67	88
2700/2430	–	16	36	54	72
3000/2700	–	12	28	42	56

- Battery backup times are approximate and may vary with equipment, configuration, battery age, temperature, etc.
- Output power rating = 1650W
- Standard configuration power rating = 2550W, with EBM = 2100W
- Output power rating = 2150W; up to 12 EBMs can be added for extended runtime of 196–1909 minutes

EX, NEMA 50/60 HZ MODELS: 120V

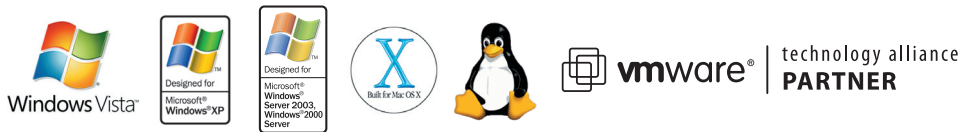
Catalog Number	Style Number	Form Factor	Rating (VA/Watts)	Input Connection	Output Receptacles	Dimensions (H x W x D, inches)
PULSL700T	86700	Tower	700/630	5-15P	(4) 5-15R	9.52 x 6.00 x 15.75
PULSL1000T	86701	Tower	1000/900	5-15P	(4) 5-15R	9.52 x 6.00 x 15.75
PULSL1500T	86703	Tower	1500/1350	5-15P	(4) 5-15R	9.52 x 6.00 x 17.71
PULSL1000R-XL2U	86702	Rack	1000/900	5-15P	(6) 5-15R	3.46 x 17.25 x 19.00
PULSL1500R-XL2U	86704	Rack	1500/1350	5-15P	(6) 5-15R	3.46 x 17.25 x 19.00
PULSML2200-XL2U	86722	Rack/Tower 2U	2200/1650	5-20P	(6) 5-20R, (1) L5-20R	3.40 (2U) x 17.30 x 25.20
PULSML2200-XL3U	86723	Rack/Tower 3U	2200/1650	5-20P	(6) 5-20R, (1) L5-20R	5.14 (3U) x 17.30 x 19.20
PULSML3000-XL2U	86732	Rack/Tower 2U	3000/2550	L5-30P	(6) 5-20R, (1) L5-30R	3.40 (2U) x 17.30 x 25.20
PULSML3000-XL3U	86733	Rack/Tower 3U	3000/2550	L5-30P	(6) 5-20R, (1) L5-30R	5.14 (3U) x 17.30 x 19.20
PULSML3000-XL3UXL	86735	Rack/Tower 3U XL	3000/2150	L5-30P	(6) 5-20R, (1) L5-30R	5.14 (3U) x 17.33 x 19.30

EX, INTERNATIONAL MODELS: 230V

Catalog Number	Style Number	Form Factor	Rating (VA/Watts)	Input Connection	Output Receptacles	Dimensions (H x W x D, inches)
PULSI700T	68180	Tower	700/630	IEC C14 (10A Socket)	(6) IEC C13 (10A)	9.52 x 6.00 x 15.75
PULSI1000T	68181	Tower	1000/900	IEC C14 (10A Socket)	(6) IEC C13 (10A)	9.52 x 6.00 x 15.75
PULSI1500T	68183	Tower	1500/1350	IEC C14 (10A Socket)	(6) IEC C13 (10A)	9.52 x 6.00 x 17.71
PULSI1000R-XL2U	68182	Rack	1000/900	IEC C14 (10A Socket)	(6) IEC C13 (10A)	3.46 x 17.25 x 19.00
PULSI1500R-XL2U	68184	Rack	1500/1350	IEC C14 (10A Socket)	(6) IEC C13 (10A)	3.46 x 17.25 x 19.00
PULSMI2200-XL2U	68401	Rack/Tower 2U	2200/1650	IEC C20 (16A) or terminal block on Hot-swap MBP (HW)	(8) IEC C13 (10A) (1) IEC C19 (16A)	3.39 x 17.32 x 25.20
PULSMI2200-XL3U	68400	Rack/Tower 3U	2200/1650	IEC C20 (16A) or terminal block on Hot-swap MBP (HW)	(8) IEC C13 (10A) (1) IEC C19 (16A)	5.16 x 17.32 x 19.29
PULSMI3000-XL2U	68403	Rack/Tower 2U	3000/2550	IEC C20 (16A) or terminal block on Hot-swap MBP (HW)	(8) IEC C13 (10A) (1) IEC C19 (16A)	3.39 x 17.32 x 25.20
PULSMI3000-XL3U	68402	Rack/Tower 3U	3000/2550	IEC C20 (16A) or terminal block on Hot-swap MBP (HW)	(8) IEC C13 (10A) (1) IEC C19 (16A)	5.16 x 17.32 x 19.29
PULSMI3000-XL3UXL	68404	Rack/Tower 3U XL	3000/2150	IEC C20 (16A) or terminal block on Hot-swap MBP (HW)	(8) IEC C13 (10A) (1) IEC C19 (16A)	5.16 x 17.32 x 19.29

EX OPTIONS

Catalog Number	Style Number	Description	Dimensions (H x W x D, inches)
Extended Battery Modules			
PULSL1500T-EBM	86705	TWR EBM 1-1.5 kVA	9.52 x 6.00 x 17.32
PULSL1500R-EBM	86706	RK EBM 1-1.5 kVA	3.40 x 17.25 x 19.00
PULSI1500T-EBM	68185	TWR EBM 1-1.5 kVA	9.53 x 6.22 x 15.75
PULSI1500R-EBM	68186	RK EBM 1-1.5 kVA	3.41 x 17.32 x 18.9
PULSMI3000-EBM	68405	RT EBM 2-3 kVA	5.16 x 17.32 x 19.29
Optional Mounting Hardware			
PULSM-RAIL	68441	2U/3U RAIL KIT	-



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Germany: 49.0.7841.604.0
Italy: 39.02.66.04.05.40
Norway: 47.23.03.65.50
Portugal: 55.11.3616.8500
Sweden: 46.8.598.940.00
United Kingdom: 44.1753.608.700

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