



UPS Applications

Battery Range Summary

The DataSafe® HX top terminal battery range of Valve Regulated Lead Acid (VRLA) batteries has been designed to offer superior solutions for the Information Technology (IT) and Uninterruptible Power Supply (UPS) markets.

DataSafe HX top terminal batteries are the ideal source of power to protect vital systems. DataSafe HX top terminal batteries incorporate select design features that maximize reliability while ensuring superior performance and an excellent service life.

Gas recombination technology for VRLA batteries has totally changed the concept of standby power.

The minimal level of gas evolution allows battery installation in cabinets or on stands, in offices or near main equipment, maximizing space utilization and reducing storage and maintenance costs.

DataSafe HX top terminal batteries deliver superior performance.



Features and Benefits

- Positive and negative plate grids made of lead-calcium-tin alloy for long life and efficient recharge
- Flame retardant case (UL94) and cover to meet UL1778
- Self-resealing, flame-arresting caps
- Battery containers and covers are hermetically sealed to provide leak resistance over the life of the product
- Absorbed Glass Mat (AGM) separators - the electrolyte is completely absorbed into the separator
- High performance brass threaded receptacle, bolt terminal and faston terminals
- Increased energy density
- Computer optimized electrochemistry for increased power up to the 15 minute rate to 1.67 Volts Per Cell (VPC)
- 100% initial battery capacity

Construction

High conductivity terminals

- Brass insert with threaded receptacle (HX80 HX800), bolt terminal (HX80-HX150) or faston tab (HX25-HX50) for maximum conductivity and ease of installation.

High integrity terminal seal

- Compression grommet (HX205-HX800) or dual welded/epoxy seal (HX25-HX150) designed for long life.

Self-sealing, flame-arresting caps

- Low pressure non-return valve prevents ingress of atmospheric oxygen.

Rugged high performance positive plates

- Grids designed to resist corrosion and prolong active life.

Balanced negative plates

- Ensure optimum recombination efficiency.

Tough cell containers

- Thick-wall plastic, highly resistant to shock and vibration. Flame retardant material is the standard offering.

Balanced negative plates

- Low resistance microporous AGM. The electrolyte is absorbed within this material.

Installation and Operation

Normal operating temperature range

- HX25-HX150: -4°F (-20°C) to 122°F (50°C)
- HX205-HX800: -22°F (-30°C) to 122°F (50°C)

Float charging voltage

- 2.25-2.28 Volts per cell at 77°F (25°C)

Charging current

- DataSafe® HX top terminal batteries can be safely recharged at high current rates.

Storage time

- DataSafe HX top terminal batteries can be stored for up to six months at 77°F (25°C) before a freshening charge is required. At higher temperatures this time interval will be reduced.

Torque specifications

- (Fig. C) M5 Receptacle - 31 in-lbs (3.5 Nm) ± 5%
- (Fig. D) M6 Receptacle - (HX80-HX150) 44 in-lbs (5 Nm) ± 5%
- M6 Receptacle - (HX205-HX800) 60 in-lbs (6.8 Nm) ± 5%
- (Fig. E) M5 Bolt - 40 in-lbs (4.5 Nm) ± 5%
- (Fig. F) M6 Bolt - 58 in-lbs (6.5 Nm) ± 5%
- DataSafe® HX top terminal batteries are designed to be installed on their base. Consult your local EnerSys® dealer before installing in any other orientation.

Standards

- UL listing - File No MH16464 (HX25-HX150) or MH12544 (HX205-HX800)
- The management systems governing the manufacture of this product are ISO 9001:2008 and ISO 14001:2004 certified.
- Approved for shipping as non-hazardous, non-spillable - per IATA Special Provision A67 and 49 CFR.

General Specifications

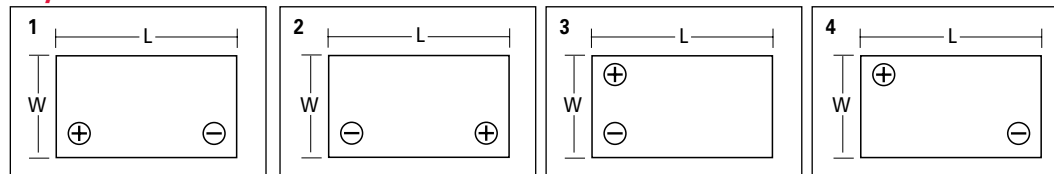
DataSafe® HX Battery Model	Nominal Voltage (V)	Nominal Ah		Watts/Cell		Nominal Dimensions										
		8 hr rate to 1.75 volts/cell end voltage at 77°F (25°C)	@ 15 min rate to 1.67 volts/cell end voltage at 77°F (25°C)	Overall* Height	Width		Length		Typical Weight		Short Circuit Current (A)	Max Discharge Current (Amps-2 min rate)	Internal Resistance (m Ω)**	Layout	Terminals	
in	mm	in	mm	in	mm	lbs	kg									
12HX25	12	4.5	23	4.2	107	2.8	70	3.5	90	4.4	2.0	300	41	16.5	1	A/B
12HX35	12	7	36	3.9	100	2.6	65	5.9	151	6.1	2.8	500	62	13.2	3	A/B
6HX50	6	11	53	3.9	99	2.0	50	5.9	151	4.7	2.1	720	93	6.1	1	A/B
12HX50	12	11	53	3.9	99	3.9	99	6.0	152	9.1	4.1	720	93	12.2	3	A/B
12HX80	12	16	80	6.6	167	3.0	76	7.1	181	14.0	6.4	1000	140	8.5	2	C/E
12HX100	12	21	100	6.9	175	4.9	125	6.5	166	22.0	10.0	1500	171	7.1	2	C/E
12HX135B	12	28	135	7.1	180	5.1	130	7.8	198	26.0	11.8	1800	238	5.6	1	F
12HX135R	12	28	135	6.7	169	5.1	130	7.7	196	26.0	11.8	1800	238	5.6	1	C
12HX150	12	32	150	6.7	170	6.5	165	7.8	197	32.0	14.5	2400	277	5.0	2	D/F
12HX205	12	44	205	8.1	206	5.5	140	8.9	226	43.0	19.5	2775	439	4.5	1	D
12HX300	12	70	284	8.2	208	6.9	175	10.2	259	60.0	27.2	3175	503	3.9	1	D
12HX330	12	82	336	8.4	213	6.8	173	11.8	300	71.0	32.2	3700	586	3.4	1	D
12HX400	12	94	381	8.3	211	6.8	173	13.3	338	80.0	36.3	4225	670	3.0	1	D
12HX505	12	119	506	10.7	272	6.8	173	13.3	338	103.0	46.7	4510	913	2.8	1	D
12HX540	12	123	540	10.7	272	6.8	173	13.3	338	106.0	48.1	4775	961	2.6	1	D
6HX800	6	200	780	8.3	211	6.8	173	13.4	340	80.0	36.3	6200	1272	1.0	4	D

* Including Terminal

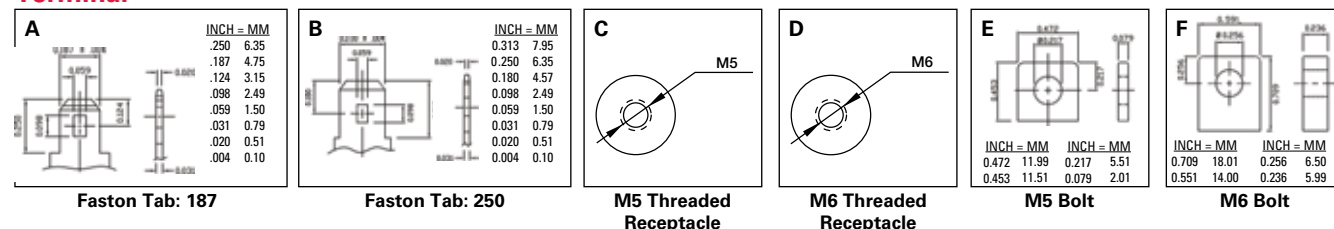
** Resistance values are for reference only and not intended to represent an Ohmic Value or Baseline measurement.

All dimensions given are +/-0.08 in (2mm)

Layout



Terminal



Battery Range Summary

Constant Power Discharge (Watts per Cell) to 1.75Vpc at 77°F (25°C)

DataSafe® HX Battery Model	Standby Time (Minutes)						
	5	10	15	20	30	45	60
12HX25	41	27	21	17	13	9	7
12HX35	65	43	33	27	20	14	11
6HX50	101	67	51	41	31	22	18
12HX50	101	67	51	41	31	22	18
12HX80	144	95	73	59	44	32	25
12HX100	180	119	91	74	55	40	32
12HX135	244	161	123	100	74	54	43
12HX150	271	179	136	111	82	60	47
12HX205	373	258	197	160	118	85	67
12HX300	513	357	277	227	173	128	102
12HX330	590	418	328	272	204	150	119
12HX400	671	478	371	308	230	170	136
12HX505	783	600	479	398	298	218	173
12HX540	835	638	511	425	318	233	186
6HX800	1141	877	713	603	463	346	277

Constant Power Discharge (Watts per Cell) to 1.70Vpc at 77°F (25°C)

DataSafe® HX Battery Model	Standby Time (Minutes)						
	5	10	15	20	30	45	60
12HX25	44	29	22	18	13	9	7
12HX35	69	45	34	28	20	15	12
6HX50	107	70	53	43	31	23	18
12HX50	107	70	53	43	31	23	18
12HX80	153	100	76	61	45	33	26
12HX100	191	125	94	77	56	41	32
12HX135	258	168	127	103	76	55	44
12HX150	287	187	142	115	84	62	48
12HX205	399	269	203	164	119	85	67
12HX300	545	369	283	231	174	128	102
12HX330	624	431	335	276	206	150	119
12HX400	708	493	380	313	232	170	136
12HX505	845	637	499	410	301	218	173
12HX540	897	675	532	439	326	236	186
6HX800	1259	944	758	636	484	359	287

Constant Power Discharge (Watts per Cell) to 1.67Vpc at 77°F (25°C)

DataSafe® HX Battery Model	Standby Time (Minutes)						
	5	10	15	20	30	45	60
12HX25	45	29	23	18	13	10	8
12HX35	71	46	36	28	20	15	12
6HX50	110	71	53	44	32	23	18
12HX50	110	71	53	44	32	23	18
12HX80	157	102	80	62	46	33	26
12HX100	197	127	100	78	57	41	33
12HX135	265	172	135	105	77	56	44
12HX150	295	191	150	117	85	62	49
12HX205	412	274	205	164	119	85	67
12HX300	558	373	284	231	174	128	102
12HX330	637	435	336	276	206	150	119
12HX400	722	498	381	313	232	170	136
12HX505	877	653	506	412	301	218	173
12HX540	931	691	540	444	326	236	186
6HX800	1320	977	780	652	494	365	291

Constant Power Discharge (Watts per Cell) to 1.65Vpc at 77°F (25°C)

DataSafe® HX Battery Model	Standby Time (Minutes)						
	5	10	15	20	30	45	60
12HX25	46	30	23	18	13	10	8
12HX35	72	46	36	28	21	15	12
6HX50	112	72	53	44	32	23	18
12HX50	112	72	53	44	32	23	18
12HX80	160	103	80	63	46	33	26
12HX100	200	129	100	78	57	42	33
12HX135	270	174	135	106	77	56	44
12HX150	300	193	150	117	86	63	49
12HX205	420	276	205	164	119	85	67
12HX300	563	375	284	231	174	128	102
12HX330	643	437	336	276	206	150	119
12HX400	729	500	381	313	232	170	136
12HX505	897	661	510	412	301	218	173
12HX540	951	699	545	445	326	236	186
6HX800	1356	995	780	660	499	368	293

Constant Power Discharge (Watts per Cell) to 1.63Vpc at 77°F (25°C)

DataSafe® HX Battery Model	Standby Time (Minutes)						
	5	10	15	20	30	45	60
12HX25	47	30	23	18	13	10	8
12HX35	74	47	36	29	21	15	12
6HX50	115	73	55	44	32	24	19
12HX50	115	73	55	44	32	24	19
12HX80	165	105	80	66	46	34	26
12HX100	206	131	100	81	58	42	33
12HX135	278	177	137	109	78	57	45
12HX150	309	196	150	120	86	63	49
12HX205	426	278	205	164	119	85	67
12HX300	567	375	284	231	174	128	102
12HX330	648	437	336	276	206	150	119
12HX400	734	500	381	313	232	170	136
12HX505	916	667	511	412	301	218	173
12HX540	970	706	549	445	326	236	186
6HX800	1388	1011	780	667	503	370	294

Constant Power Discharge (Watts per Cell) to 1.60Vpc at 77°F (25°C)

DataSafe® HX Battery Model	Standby Time (Minutes)						
	5	10	15	20	30	45	60
12HX25	47	30	23	18	13	10	8
12HX35	74	47	36	28	21	15	12
6HX50	115	73	53	44	32	23	18
12HX50	115	73	53	44	32	23	18
12HX80	165	105	80	63	46	34	26
12HX100	206	131	100	79	58	42	33
12HX135	278	177	135	107	78	57	45
12HX150	309	196	150	119	86	63	49
12HX205	433	279	205	164	119	85	67
12HX300	571	375	284	231	174	128	102
12HX330	652	437	336	276	206	150	119
12HX400	739	500	381	313	232	170	136
12HX505	941	675	511	412	301	218	173
12HX540	995	714	550	445	326	236	186
6HX800	1428	1029	780	674	507	372	296

DataSafe® HX Top Terminal Battery Cabinets

DataSafe® HX Top Terminal 12V Series Battery Cabinets* (See Figure 1) are certified to UBC Zone 4, at or below grade. Visit www.enersys.com for more information.

DataSafe® HX Battery Model	Zone 0 Data Sheet	Zone 4 Data Sheet
HX Top Terminal Series	N/A	US-HXCAB-RS

* Battery Cabinet Accessories, inter-unit and inter-tier connections etc., for 120 VDC to 480 VDC Cabinets are included in the cabinet price as they are all sized at the 15 minute discharge rate to 1.67 VPC end voltage.

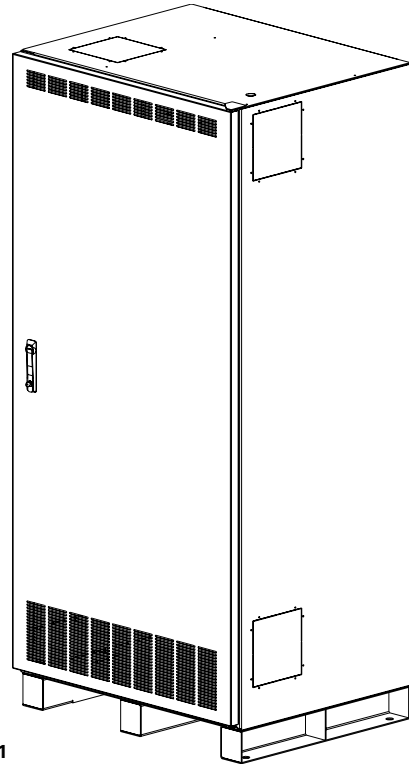


Figure 1
Example of a 12 Volt HX Series Battery Cabinet

DataSafe® HX Top Terminal Battery Racks

DataSafe® HX Top Terminal 12V Series Battery Racks** (See Figure 2) are available in non-Seismic as well as UBC Zone 4, at or below grade. Visit www.enersys.com for more information.

DataSafe® HX Battery Model	Zone 0 Data Sheet	Zone 4 Data Sheet
12HX205	US-UAAx-RK	US-UJAx-RK
12HX300	US-UABx-RK	US-UJBx-RK
12HX330	US-UACx-RK	US-UJCx-RK
12HX400	US-UADx-RK	US-UJDx-RK
12HX505 12HX540	US-UAEEx-RK	US-UJEx-RK
6HX800	US-UAFx-RK	US-UJFx-RK

** Battery Rack Accessories, inter-unit and inter-tier connectors etc., are not included in Rack or Battery prices as their size varies based on the specific site application or rates. Once properly sized and quoted by EnerSys®, Battery Rack Accessories are available and sold as separate line items.

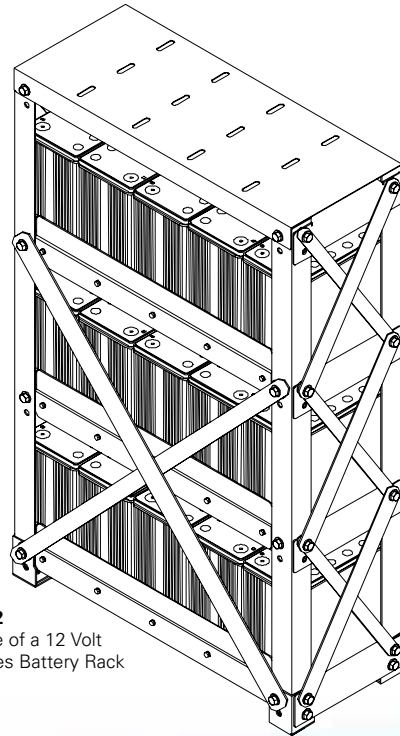


Figure 2
Example of a 12 Volt HX Series Battery Rack