



HR Series

HR 1221W Datasheet

12V Top Terminal VRLA-AGM



Valve Regulated Lead Acid (VRLA) Battery

Maintenance-Free, Absorbent Glass Mat (AGM) Technology for Efficient Gas Recombination of up to 99%

Pure Lead Construction and Proprietary Elements

Designed for High-Rate UPS, Float Service Standby Power Applications

Built in Accordance with IEC 61056-1/2:2012 and UL1989 Recognized (MH14533)



Specifications

Voltage (Vdc)	12
Nominal Capacity (1.67 VPC @25°C)	21W @15min-rate
Watts Per Cell (30-Sec 1.67 VPC @ 25°C)	--
Watts Per Cell (5-Min 1.67 VPC @ 25°)	52.5
Watts Per Cell (15-Min 1.67 VPC @ 25°)	25.0
Max Charge Current (A)	2.10
Max Discharge Current (A)	90 *
Short Circuit Current (A)	249
Internal Resistance (mΩ)	Approx. 23.0
Terminal Type	F2-Faston Tab250 *
Terminal Torque	--
Container Material	ABS (UL 94-HB) & Flame Retardant (94-V0) available upon request
Weight (kg. / lb., Approx.)	1.80 / 3.97
Length (L) (mm / in)	90.0±1.0 / 3.54±0.04
Width (W) (mm / in)	70.0±1.0 / 2.76±0.04
Height (H) (mm / in)	106.1±1.5 / 4.18±0.06
Design Life	Up to 5 Years in Standby Service at 25°C Eurobat (20°C): 3-5 Years Standard Commercial
Operating Temperature	Nominal: 25°C (77°F) Discharge: -15°C - 50°C (5°F-122°F) Charge/Storage: -15°C - 40°C (5°F - 104°F)
Float Charging Voltage	13.5 - 13.8 Vdc/battery 25°C (77°F)
Eq. Charging Voltage	14.4 - 15.0 Vdc/battery 25°C (77°F)
Self-Discharge	Less than 10% after 90 days, can be stored up to 6 months at 25°C (77°F); Fully recharging is required before usage, and charged sooner if stored at higher temperature than 25°C (77°F).



HR Series

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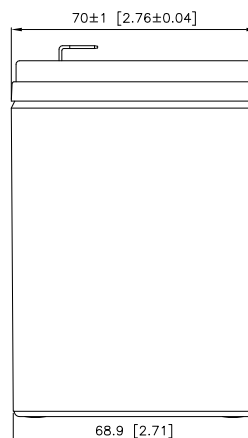
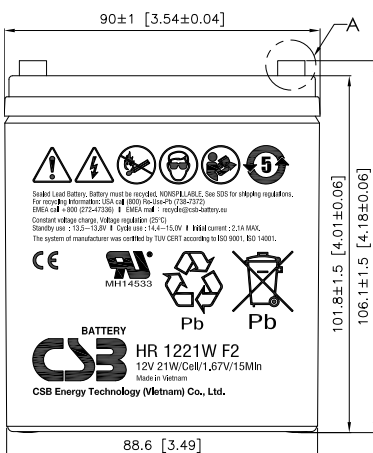
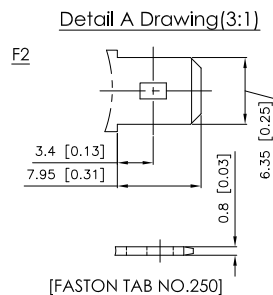
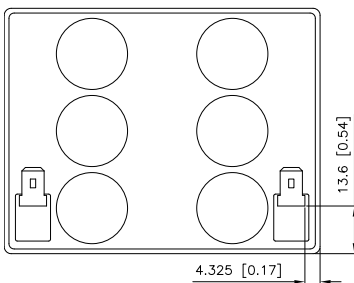
12V Top Terminal VRLA-AGM

Constant Current Discharge Characteristics Unit: A (25°C, 77°F)

F.V/Time	2MIN	4MIN	5MIN	6MIN	8MIN	10MIN	15MIN	20MIN	30MIN	45MIN	60MIN	90MIN
10.02V (1.67 VPC)	43.1	29.7	26.2	23.6	19.9	17.1	12.5	10.1	7.18	5.10	4.00	2.71
10.50V (1.75 VPC)	37.4	27.4	24.4	22.2	19.0	16.3	12.1	9.70	7.07	5.05	3.98	2.56
10.80V (1.80 VPC)	33.1	25.2	22.8	21.0	18.2	15.7	11.8	9.51	7.00	5.02	3.96	2.46

Constant Power Discharge Characteristics Unit: W (25°C, 77°F)

F.V/Time	2MIN	4MIN	5MIN	6MIN	8MIN	10MIN	15MIN	20MIN	30MIN	45MIN	60MIN	90MIN
10.02V (1.67 VPC)	515	357	315	284	238	203	150	120	86.6	61.4	48.1	32.5
10.50V (1.75 VPC)	451	329	293	266	226	194	145	116	85.8	61.0	47.9	30.7
10.80V (1.80 VPC)	397	302	272	250	216	188	141	113	85.4	60.8	47.8	29.5



* F1 terminal is available, Max Discharge Current = 60 A



HR Series

HR 1224W Datasheet

12V Top Terminal VRLA-AGM



Valve Regulated Lead Acid (VRLA) Battery

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Pure Lead Construction and Proprietary Elements

Designed for High-Rate UPS, Float Service Standby Power Applications

Built in Accordance with IEC 61056-1/2:2012 and UL1989 Recognized (MH14533)



Specifications

Voltage (Vdc)	12
Nominal Capacity (1.67 VPC @25°C)	24W @15min-rate
Watts Per Cell (30-Sec 1.67 VPC @ 25°C)	--
Watts Per Cell (5-Min 1.67 VPC @ 25°)	54.8
Watts Per Cell (15-Min 1.67 VPC @ 25°)	27.0
Max Charge Current (A)	2.40
Max Discharge Current (A)	130 *
Short Circuit Current (A)	260
Internal Resistance (mΩ)	Approx. 20.6
Terminal Type	F2-Faston Tab250 *
Terminal Torque	--
Container Material	ABS (UL 94-HB) & Flame Retardant (94-V0) available upon request
Weight (kg. / lb., Approx.)	1.95 / 4.30
Length (L) (mm / in)	150.9±2.0 / 5.94±0.08
Width (W) (mm / in)	51.0±1.0 / 2.01±0.04
Height (H) (mm / in)	98.6±1.0 / 3.89±0.04
Design Life	Up to 5 Years in Standby Service at 25°C Eurobat (20°C): 3-5 Years Standard Commercial
Operating Temperature	Nominal: 25°C (77°F) Discharge: -15°C - 50°C (5°F-122°F) Charge/Storage: -15°C - 40°C (5°F - 104°F)
Float Charging Voltage	13.5 - 13.8 Vdc/battery 25°C (77°F)
Eq. Charging Voltage	14.4 - 15.0 Vdc/battery 25°C (77°F)
Self-Discharge	Less than 10% after 90 days, can be stored up to 6 months at 25°C (77°F); Fully recharging is required before usage, and charged sooner if stored at higher temperature than 25°C (77°F).



HR Series

HR 1224W Datasheet

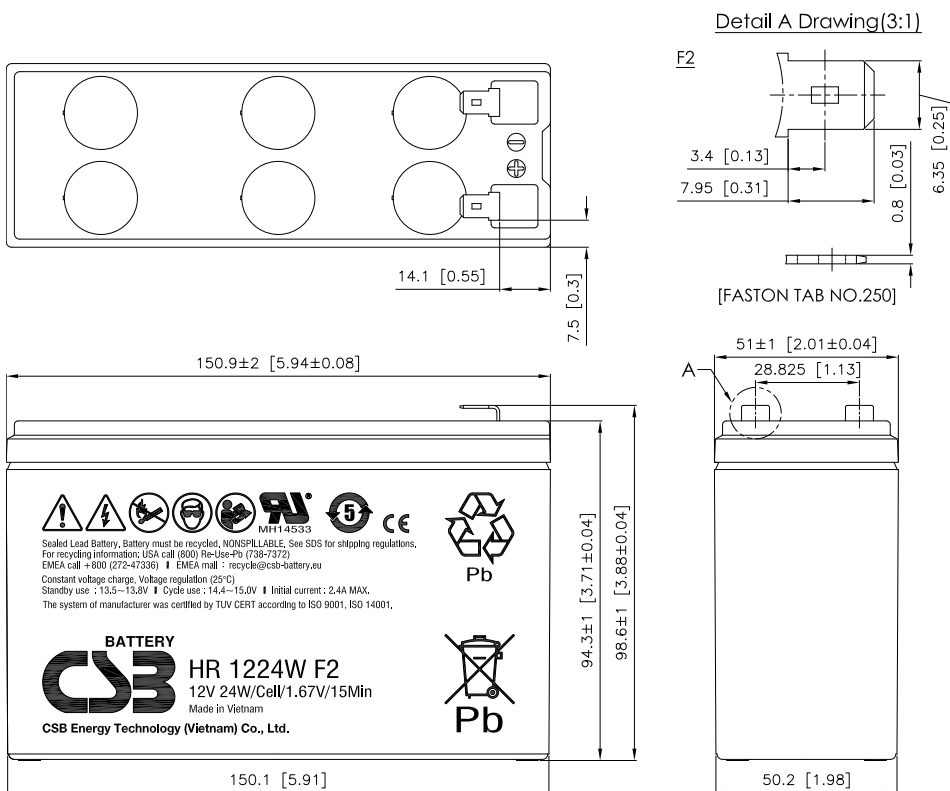
12V Top Terminal VRLA-AGM

Constant Current Discharge Characteristics Unit: A (25°C, 77°F)

F.V/Time	2MIN	4MIN	5MIN	6MIN	8MIN	10MIN	15MIN	20MIN	30MIN	45MIN	60MIN	90MIN
10.02V (1.67 VPC)	44.1	31.1	27.4	24.7	21.0	18.0	13.5	10.6	7.76	5.42	4.20	3.34
10.50V (1.75 VPC)	40.5	28.8	25.4	23.0	19.8	17.0	12.8	10.2	7.56	5.29	4.10	3.26
10.80V (1.80 VPC)	38.4	27.4	24.4	22.2	19.1	16.4	12.5	10.0	7.49	5.23	4.06	3.22

Constant Power Discharge Characteristics Unit: W (25°C, 77°F)

F.V/Time	2MIN	4MIN	5MIN	6MIN	8MIN	10MIN	15MIN	20MIN	30MIN	45MIN	60MIN	90MIN
10.02V (1.67 VPC)	529	373	329	297	251	217	162	128	92.9	64.9	50.3	40.2
10.50V (1.75 VPC)	486	346	306	277	238	204	154	123	90.8	63.5	49.3	39.2
10.80V (1.80 VPC)	461	329	293	266	229	197	149	121	89.9	62.9	48.8	38.8



* F1 terminal is available, Max Discharge Current = 100 A



HR Series

HR 1227W Datasheet

12V Top Terminal VRLA-AGM



Valve Regulated Lead Acid (VRLA) Battery

Maintenance-Free, Absorbent Glass Mat (AGM) Technology for Efficient Gas Recombination of up to 99%

Pure Lead Construction and Proprietary Elements

Designed for High-Rate UPS, Float Service Standby Power Applications

Built in Accordance with IEC 61056-1/2:2012 and UL1989 Recognized (MH14533)



Specifications

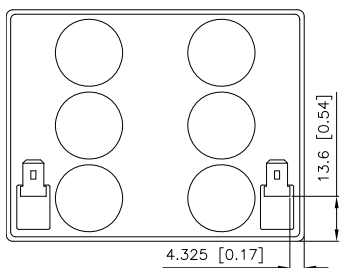
Voltage (Vdc)	12
Nominal Capacity (1.67 VPC @25°C)	27W @15min-rate
Watts Per Cell (30-Sec 1.67 VPC @ 25°C)	--
Watts Per Cell (5-Min 1.67 VPC @ 25°)	53.0
Watts Per Cell (15-Min 1.67 VPC @ 25°)	27.0
Max Charge Current (A)	2.70
Max Discharge Current (A)	130 *
Short Circuit Current (A)	424
Internal Resistance (mΩ)	Approx. 19.9
Terminal Type	F2-Faston Tab250 *
Terminal Torque	--
Container Material	ABS (UL 94-HB) & Flame Retardant (94-V0) available upon request
Weight (kg. / lb., Approx.)	1.97 / 4.34
Length (L) (mm / in)	90.0±1.0 / 3.54±0.04
Width (W) (mm / in)	70.0±1.0 / 2.76±0.04
Height (H) (mm / in)	106.1±1.5 / 4.18±0.06
Design Life	Up to 5 Years in Standby Service at 25°C Eurobat (20°C): 3-5 Years Standard Commercial
Operating Temperature	Nominal: 25°C (77°F) Discharge: -15°C - 50°C (5°F-122°F) Charge/Storage: -15°C - 40°C (5°F - 104°F)
Float Charging Voltage	13.5 - 13.8 Vdc/battery 25°C (77°F)
Eq. Charging Voltage	14.4 - 15.0 Vdc/battery 25°C (77°F)
Self-Discharge	Less than 10% after 90 days, can be stored up to 6 months at 25°C (77°F); Fully recharging is required before usage, and charged sooner if stored at higher temperature than 25°C (77°F).

Constant Current Discharge Characteristics Unit: A (25°C, 77°F)

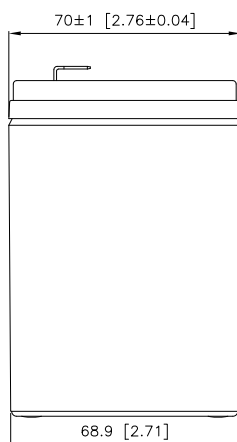
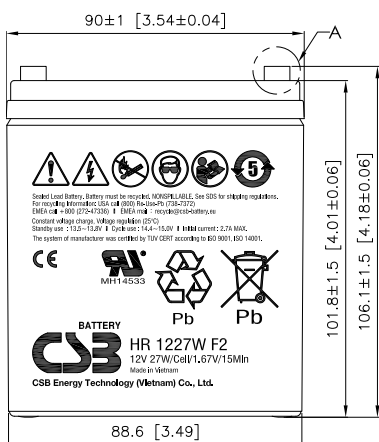
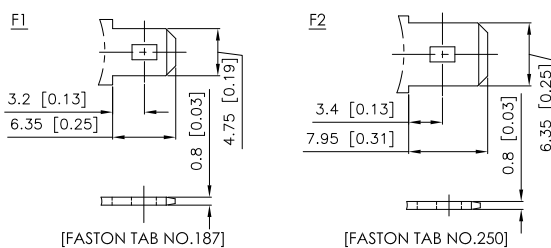
F.V/Time	2MIN	4MIN	5MIN	6MIN	8MIN	10MIN	15MIN	20MIN	30MIN	45MIN	60MIN	90MIN
10.02V (1.67 VPC)	50.4	34.3	29.8	26.5	21.4	18.3	13.5	10.8	7.83	5.66	4.49	3.18
10.50V (1.75 VPC)	41.0	29.9	26.6	24.2	20.0	17.2	12.8	10.6	7.68	5.57	4.43	3.13
10.80V (1.80 VPC)	36.4	27.5	24.7	22.7	18.9	16.3	12.4	10.3	7.49	5.45	4.35	3.08

Constant Power Discharge Characteristics Unit: W (25°C, 77°F)

F.V/Time	2MIN	4MIN	5MIN	6MIN	8MIN	10MIN	15MIN	20MIN	30MIN	45MIN	60MIN	90MIN
10.02V (1.67 VPC)	541	358	318	288	242	211	162	126	91.6	66.0	52.3	37.3
10.50V (1.75 VPC)	454	327	293	268	229	200	158	124	90.3	65.2	51.8	36.8
10.80V (1.80 VPC)	403	309	278	255	218	192	153	120	88.2	64.2	51.3	36.7



Detail A Drawing(3:1)



* F1 terminal is available, Max Discharge Current = 100 A



HR Series

HR 1234W Datasheet

12V Top Terminal VRLA-AGM

Specifications

Voltage (Vdc)	12
Nominal Capacity (1.67 VPC @25°C)	34W @15min-rate
Watts Per Cell (30-Sec 1.67 VPC @ 25°C)	--
Watts Per Cell (5-Min 1.67 VPC @ 25°)	73.0
Watts Per Cell (15-Min 1.67 VPC @ 25°)	34.3
Max Charge Current (A)	3.40
Max Discharge Current (A)	130
Short Circuit Current (A)	349
Internal Resistance (mΩ)	Approx. 19.0
Terminal Type	F2-Faston Tab250
Terminal Torque	--
Container Material	ABS (UL 94-HB) & Flame Retardant (94-V0) available upon request
Weight (kg. / lb., Approx.)	2.50 / 5.51
Length (L) (mm / in)	150.9±2.0 / 5.94±0.08
Width (W) (mm / in)	64.8±1.0 / 2.55±0.04
Height (H) (mm / in)	98.6±1.0 / 3.88±0.04
Design Life	Up to 5 Years in Standby Service at 25°C Eurobat (20°C): 3-5 Years Standard Commercial Nominal: 25°C (77°F) Discharge: -15°C - 50°C (5°F-122°F) Charge/Storage: -15°C - 40°C (5°F - 104°F)
Operating Temperature	
Float Charging Voltage	13.5 - 13.8 Vdc/battery 25°C (77°F)
Eq. Charging Voltage	14.4 - 15.0 Vdc/battery 25°C (77°F)
Self-Discharge	Less than 10% after 90 days, can be stored up to 6 months at 25°C (77°F); Fully recharging is required before usage, and charged sooner if stored at higher temperature than 25°C (77°F).



Valve Regulated Lead Acid
(VRLA) Battery

Maintenance-Free, Absorbent
Glass Mat (AGM) Technology for
Efficient Gas Recombination of
up to 99%

Pure Lead Construction and
Proprietary Elements

Designed for High-Rate UPS,
Float Service Standby Power
Applications

Built in Accordance with IEC
61056-1/2:2012 and UL1989
Recognized (MH14533)



Constant Current Discharge Characteristics Unit: A (25°C, 77°F)

F.V/Time	2MIN	4MIN	5MIN	6MIN	8MIN	10MIN	15MIN	20MIN	30MIN	45MIN	60MIN	90MIN
10.02V (1.67 VPC)	67.3	47.5	40.7	35.8	29.0	24.5	17.8	14.1	10.2	7.34	5.82	4.20
10.50V (1.75 VPC)	58.3	42.8	37.5	33.6	27.6	23.5	17.4	13.9	10.0	7.27	5.77	4.17
10.80V (1.80 VPC)	52.6	39.1	34.7	31.2	26.0	22.4	16.8	13.5	9.83	7.12	5.67	4.11

Constant Power Discharge Characteristics Unit: W (25°C, 77°F)

F.V/Time	2MIN	4MIN	5MIN	6MIN	8MIN	10MIN	15MIN	20MIN	30MIN	45MIN	60MIN	90MIN
10.02V (1.67 VPC)	688	502	438	391	324	277	206	164	119	86.5	68.9	50.0
10.50V (1.75 VPC)	633	466	413	372	312	268	202	161	117	85.7	68.4	49.8
10.80V (1.80 VPC)	584	434	388	351	298	257	196	157	116	84.3	67.4	49.2

