



ES 0.8-12

12V-0,8Ah



Features

- High purity lead calcium grid plates to prolong service life and enhance corrosion resistance
- Low resistance microporous glass fibre separators, AGM VRLA spill resistant design
- One way, self-regulating pressure relief valve allows gas to escape and prevents the ingress of oxygen
- High conductivity, leak resistant female terminal thread for ease of installation
- Heat sealed lid to box weld for superior integrity
- Flame arrestors for added safety

Electrical Specification

Nominal Voltage	12V
20-hr rate Capacity to 1.8V/cell at 20°C	0,8 Ah
10-hr rate Capacity to 1.8V/cell at 20°C	0,71 Ah
10-min rate Constant Power 1.6V/cell at 20°C	Watts

Dimensions

Lenght	96 mm
Width	25 mm
Height	62 mm
Height over terminals	162 mm
Min height required above terminals	62 mm
Weight (typical)	0,33 kg

Terminal Type

Female threaded terminal	T1/T2 mm
Torque	-

Internal Resistance

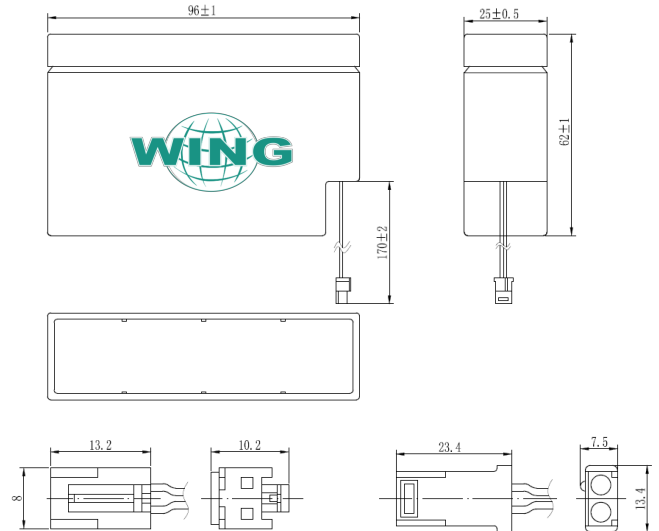
Impedance (fully charged)	200 mΩ
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Charge Voltage

Float charge voltage at 20°C	2.26~2.30 V/cell
Float charge voltage temperature correction factor (for variations from standard 20°C)	±3 mV/Cell/°C
Cyclic (or Boost) charge voltage at 20°C	2.42~2.49 V/cell
Cyclic charge voltage temperature correction factor (for variations from standard 20°C)	±4 mV/Cell/°C
Charge Current	
Maximum charge current limit	0,16 A
Remote Degassing Facility	-
Degassing Tube Diameter	-

Operating Temperature Range

Storage (fully charged condition)	-20 °C to 50 °C
Charge	-10 °C to 50 °C
Discharge	-15 °C to 50 °C



Storage

Capacity loss in storage at 20°C / month	<3 %
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Case Material

Standard option	ABS (UL94:V0 / HB)
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Design Life

EUROBAT Classification (High Performance)	6 - 9 years at 20 °C
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Maximum Discharge Current

1 Second	4 A
1 Minute	2 A
Short Circuit Current	11,5 A

Manufactured in ISO9001, ISO14001, OHSAS 18001 certified facility



Standards

Compliant with:
BS 6290-4: 1997
BS EN 60896-21: 2004
BS EN 60896-22: 2004



ES 0.8-12

12V-0,8Ah

Constant Current Discharge - Amps at 20°C (in MINUTES)

V/cell	5	10	15	20	25	30	35	40	45	50	55	60	90
1,6						0,848	0,754	0,684	0,630	0,586	0,550	0,520	0,368
1,63						0,841	0,748	0,679	0,625	0,581	0,545	0,516	0,367
1,65						0,831	0,739	0,670	0,617	0,574	0,539	0,512	0,366
1,7						0,806	0,717	0,650	0,598	0,556	0,522	0,499	0,362
1,75						0,786	0,699	0,634	0,584	0,543	0,509	0,489	0,357
1,8						0,757	0,674	0,611	0,562	0,523	0,491	0,474	0,348

Constant Current Discharge - Amps at 20°C (in HOURS)

V/cell	2	3	4	5	6	7	8	9	10	12	20
1,6	0,284	0,204	0,164	0,139	0,117	0,101	0,090	0,082	0,075	0,065	0,041
1,63	0,283	0,204	0,163	0,139	0,117	0,101	0,090	0,082	0,075	0,065	0,041
1,65	0,283	0,203	0,163	0,138	0,116	0,101	0,089	0,081	0,075	0,065	0,041
1,7	0,280	0,201	0,161	0,137	0,115	0,100	0,089	0,081	0,074	0,064	0,040
1,75	0,276	0,200	0,160	0,136	0,114	0,099	0,088	0,080	0,074	0,064	0,040
1,8	0,269	0,194	0,155	0,132	0,111	0,096	0,085	0,078	0,071	0,062	0,039

Constant Power Discharge - Watts per Cell at 20°C (in MINUTES)

V/cell	5	10	15	20	25	30	35	40	45	50	55	60	90
1,6						1,62	1,44	1,31	1,21	1,12	1,06	1,00	0,714
1,63						1,61	1,43	1,30	1,20	1,12	1,05	1,00	0,711
1,65						1,59	1,41	1,28	1,18	1,10	1,03	0,989	0,709
1,7						1,54	1,37	1,24	1,15	1,07	1,00	0,963	0,703
1,75						1,50	1,34	1,21	1,12	1,04	0,978	0,944	0,693
1,8						1,45	1,29	1,17	1,08	1,00	0,942	0,915	0,675

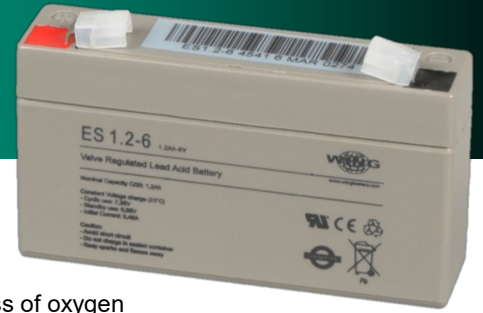
Constant Power Discharge - Watts per Cell at 20°C (in HOURS)

V/cell	2	3	4	5	6	7	8	9	10	12	20
1,6	0,554	0,405	0,325	0,277	0,233	0,202	0,180	0,164	0,150	0,131	0,082
1,63	0,553	0,404	0,324	0,276	0,232	0,201	0,179	0,163	0,150	0,130	0,082
1,65	0,551	0,402	0,323	0,275	0,231	0,201	0,179	0,163	0,150	0,130	0,081
1,7	0,546	0,399	0,320	0,273	0,229	0,199	0,177	0,161	0,148	0,129	0,081
1,75	0,538	0,396	0,318	0,271	0,228	0,197	0,176	0,160	0,147	0,128	0,080
1,8	0,524	0,384	0,308	0,263	0,221	0,191	0,171	0,155	0,143	0,124	0,078



ES 1.2-6

6V-1,2Ah



Features

- High purity lead calcium grid plates to prolong service life and enhance corrosion resistance
- Low resistance microporous glass fibre separators, AGM VRLA spill resistant design
- One way, self-regulating pressure relief valve allows gas to escape and prevents the ingress of oxygen
- High conductivity, leak resistant female terminal thread for ease of installation
- Heat sealed lid to box weld for superior integrity
- Flame arrestors for added safety

Electrical Specification

Nominal Voltage	6V
20-hr rate Capacity to 1.8V/cell at 20°C	1,2 Ah
10-hr rate Capacity to 1.8V/cell at 20°C	1,07 Ah
10-min rate Constant Power 1.6V/cell at 20°C	5,4 Watts

Dimensions

Length	97 mm
Width	24 mm
Height	52 mm
Height over terminals	58 mm
Min height required above terminals	52 mm
Weight (typical)	0,25 kg

Terminal Type

Female threaded terminal	T1 mm
Torque	-

Internal Resistance

Impedance (fully charged)	52 mΩ
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Charge Voltage

Float charge voltage at 20°C	2.26~2.30 V/cell
Float charge voltage temperature correction factor (for variations from standard 20°C)	±3 mV/Cell/°C
Cyclic (or Boost) charge voltage at 20°C	2.42~2.49 V/cell
Cyclic charge voltage temperature correction factor (for variations from standard 20°C)	±4 mV/Cell/°C
Charge Current	
Maximum charge current limit	0,36 A
Remote Degassing Facility	-
Degassing Tube Diameter	-

Operating Temperature Range

Storage (fully charged condition)	-20 °C to 50 °C
Charge	-10 °C to 50 °C
Discharge	-15 °C to 50 °C



Storage

Capacity loss in storage at 20°C / month	<3 %
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Case Material

Standard option	ABS (UL94:V0 / HB)
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Design Life

EUROBAT Classification (High Performance)	6 - 9 years at 20 °C
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Maximum Discharge Current

1 Second	12 A
1 Minute	6 A
Short Circuit Current	18,5 A

Manufactured in ISO9001, ISO14001, OHSAS 18001 certified facility



Standards

Compliant with:
 BS 6290-4: 1997
 BS EN 60896-21: 2004
 BS EN 60896-22: 2004



ES 1.2-6

6V-1,2Ah

Constant Current Discharge - Amps at 20°C (In MINUTES)

V/cell	5	10	15	20	25	30	35	40	45	50	55	60	90
1,6	4,56	2,88	2,28	1,80	1,48	1,27	1,13	1,03	0,944	0,878	0,824	0,780	0,552
1,63	4,49	2,85	2,26	1,79	1,47	1,26	1,12	1,02	0,937	0,871	0,818	0,774	0,550
1,65	4,42	2,79	2,23	1,76	1,46	1,25	1,11	1,01	0,926	0,861	0,808	0,768	0,548
1,7	4,24	2,68	2,14	1,69	1,42	1,21	1,08	0,97	0,897	0,834	0,783	0,749	0,544
1,75	4,06	2,56	2,07	1,63	1,39	1,18	1,05	0,95	0,875	0,814	0,764	0,734	0,535
1,8	3,83	2,42	1,96	1,55	1,35	1,14	1,01	0,92	0,843	0,784	0,736	0,711	0,522

Constant Current Discharge - Amps at 20°C (in HOURS)

V/cell	2	3	4	5	6	7	8	9	10	12	20
1,6	0,426	0,307	0,245	0,209	0,175	0,152	0,135	0,123	0,113	0,098	0,061
1,63	0,425	0,306	0,245	0,208	0,175	0,152	0,135	0,122	0,113	0,098	0,061
1,65	0,424	0,305	0,244	0,207	0,174	0,151	0,134	0,122	0,112	0,098	0,061
1,7	0,420	0,302	0,242	0,205	0,173	0,150	0,133	0,121	0,111	0,097	0,060
1,75	0,414	0,300	0,240	0,204	0,172	0,149	0,132	0,120	0,110	0,096	0,060
1,8	0,403	0,291	0,233	0,198	0,166	0,144	0,128	0,116	0,107	0,093	0,058

Constant Power Discharge - Watts per Cell at 20°C (in MINUTES)

V/cell	5	10	15	20	25	30	35	40	45	50	55	60	90
1,6	8,48	5,41	4,33	3,42	2,81	2,43	2,16	1,96	1,81	1,69	1,58	1,51	1,07
1,63	8,35	5,36	4,29	3,39	2,79	2,41	2,14	1,94	1,80	1,67	1,57	1,49	1,07
1,65	8,23	5,25	4,23	3,34	2,77	2,38	2,12	1,92	1,78	1,65	1,55	1,48	1,06
1,7	7,89	5,04	4,07	3,21	2,70	2,31	2,05	1,86	1,72	1,60	1,50	1,45	1,05
1,75	7,55	4,82	3,93	3,11	2,65	2,25	2,00	1,82	1,68	1,56	1,47	1,42	1,04
1,8	7,12	4,55	3,73	2,94	2,56	2,17	1,93	1,75	1,62	1,51	1,41	1,37	1,01

Constant Power Discharge - Watts per Cell at 20°C (in HOURS)

V/cell	2	3	4	5	6	7	8	9	10	12	20
1,6	0,831	0,607	0,487	0,415	0,349	0,303	0,270	0,245	0,226	0,196	0,123
1,63	0,829	0,605	0,485	0,414	0,348	0,302	0,269	0,245	0,225	0,196	0,122
1,65	0,826	0,604	0,484	0,412	0,347	0,301	0,268	0,244	0,224	0,195	0,122
1,7	0,819	0,598	0,480	0,409	0,344	0,298	0,266	0,242	0,222	0,193	0,121
1,75	0,807	0,594	0,476	0,406	0,341	0,296	0,264	0,240	0,221	0,192	0,120
1,8	0,786	0,576	0,462	0,394	0,331	0,287	0,256	0,233	0,214	0,186	0,116



ES 1.2-12

12V-1,2Ah



Features

- High purity lead calcium grid plates to prolong service life and enhance corrosion resistance
- Low resistance microporous glass fibre separators, AGM VRLA spill resistant design
- One way, self-regulating pressure relief valve allows gas to escape and prevents the ingress of oxygen
- High conductivity, leak resistant female terminal thread for ease of installation
- Heat sealed lid to box weld for superior integrity
- Flame arrestors for added safety

Electrical Specification

Nominal Voltage	12V
20-hr rate Capacity to 1.8V/cell at 20°C	1,2 Ah
10-hr rate Capacity to 1.8V/cell at 20°C	1,07 Ah
10-min rate Constant Power 1.6V/cell at 20°C	5,4 Watts

Dimensions

Lenght	97 mm
Width	48 mm
Height	52 mm
Height over terminals	58 mm
Min height required above terminals	52 mm
Weight (typical)	0,53 kg

Terminal Type

Female threaded terminal	T1 mm
Torque	-

Internal Resistance

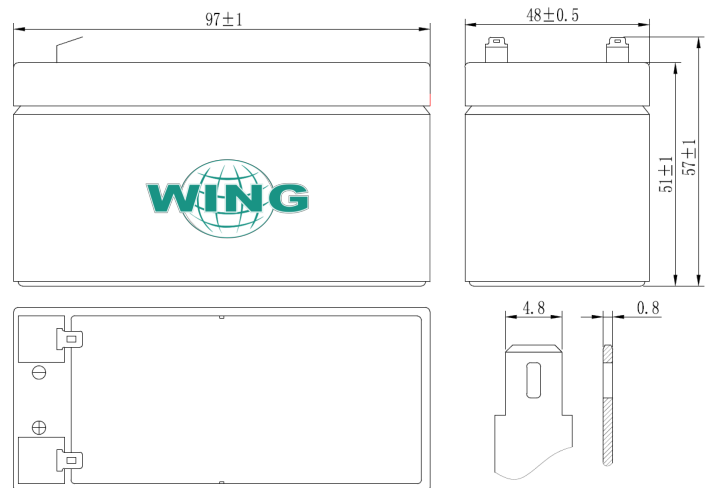
Impedance (fully charged)	110 mΩ
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Charge Voltage

Float charge voltage at 20°C	2.26~2.30 V/cell
Float charge voltage temperature correction factor (for variations from standard 20°C)	±3 mV/Cell/°C
Cyclic (or Boost) charge voltage at 20°C	2.42~2.49 V/cell
Cyclic charge voltage temperature correction factor (for variations from standard 20°C)	±4 mV/Cell/°C
Charge Current	
Maximum charge current limit	0,36 A
Remote Degassing Facility	-
Degassing Tube Diameter	-

Operating Temperature Range

Storage (fully charged condition)	-20 °C to 50 °C
Charge	-10 °C to 50 °C
Discharge	-15 °C to 50 °C



Storage

Capacity loss in storage at 20°C / month	<3 %
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Case Material

Standard option	ABS (UL94:V0 / HB)
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Design Life

EUROBAT Classification (High Performance)	6 - 9 years at 20 °C
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Maximum Discharge Current

1 Second	12 A
1 Minute	6 A
Short Circuit Current	18,5 A

Manufactured in ISO9001, ISO14001, OHSAS 18001 certified facility



Standards

Compliant with:
BS 6290-4: 1997
BS EN 60896-21: 2004
BS EN 60896-22: 2004



ES 1.2-12

12V-1,2Ah

Constant Current Discharge - Amps at 20°C (In MINUTES)

V/cell	5	10	15	20	25	30	35	40	45	50	55	60	90
1,6	4,56	2,88	2,28	1,80	1,48	1,27	1,13	1,03	0,944	0,878	0,824	0,780	0,552
1,63	4,49	2,85	2,26	1,79	1,47	1,26	1,12	1,02	0,937	0,871	0,818	0,774	0,550
1,65	4,42	2,79	2,23	1,76	1,46	1,25	1,11	1,01	0,926	0,861	0,808	0,768	0,548
1,7	4,24	2,68	2,14	1,69	1,42	1,21	1,08	0,97	0,897	0,834	0,783	0,749	0,544
1,75	4,06	2,56	2,07	1,63	1,39	1,18	1,05	0,95	0,875	0,814	0,764	0,734	0,535
1,8	3,83	2,42	1,96	1,55	1,35	1,14	1,01	0,92	0,843	0,784	0,736	0,711	0,522

Constant Current Discharge - Amps at 20°C (in HOURS)

V/cell	2	3	4	5	6	7	8	9	10	12	20
1,6	0,426	0,307	0,245	0,209	0,175	0,152	0,135	0,123	0,113	0,098	0,061
1,63	0,425	0,306	0,245	0,208	0,175	0,152	0,135	0,122	0,113	0,098	0,061
1,65	0,424	0,305	0,244	0,207	0,174	0,151	0,134	0,122	0,112	0,098	0,061
1,7	0,420	0,302	0,242	0,205	0,173	0,150	0,133	0,121	0,111	0,097	0,060
1,75	0,414	0,300	0,240	0,204	0,172	0,149	0,132	0,120	0,110	0,096	0,060
1,8	0,403	0,291	0,233	0,198	0,166	0,144	0,128	0,116	0,107	0,093	0,058

Constant Power Discharge - Watts per Cell at 20°C (in MINUTES)

V/cell	5	10	15	20	25	30	35	40	45	50	55	60	90
1,6	8,48	5,41	4,33	3,42	2,81	2,43	2,16	1,96	1,81	1,69	1,58	1,51	1,07
1,63	8,35	5,36	4,29	3,39	2,79	2,41	2,14	1,94	1,80	1,67	1,57	1,49	1,07
1,65	8,23	5,25	4,23	3,34	2,77	2,38	2,12	1,92	1,78	1,65	1,55	1,48	1,06
1,7	7,89	5,04	4,07	3,21	2,70	2,31	2,05	1,86	1,72	1,60	1,50	1,45	1,05
1,75	7,55	4,82	3,93	3,11	2,65	2,25	2,00	1,82	1,68	1,56	1,47	1,42	1,04
1,8	7,12	4,55	3,73	2,94	2,56	2,17	1,93	1,75	1,62	1,51	1,41	1,37	1,01

Constant Power Discharge - Watts per Cell at 20°C (in HOURS)

V/cell	2	3	4	5	6	7	8	9	10	12	20
1,6	0,831	0,607	0,487	0,415	0,349	0,303	0,270	0,245	0,226	0,196	0,123
1,63	0,829	0,605	0,485	0,414	0,348	0,302	0,269	0,245	0,225	0,196	0,122
1,65	0,826	0,604	0,484	0,412	0,347	0,301	0,268	0,244	0,224	0,195	0,122
1,7	0,819	0,598	0,480	0,409	0,344	0,298	0,266	0,242	0,222	0,193	0,121
1,75	0,807	0,594	0,476	0,406	0,341	0,296	0,264	0,240	0,221	0,192	0,120
1,8	0,786	0,576	0,462	0,394	0,331	0,287	0,256	0,233	0,214	0,186	0,116



ES 1.2-12S

12V-1,2Ah



Features

- High purity lead calcium grid plates to prolong service life and enhance corrosion resistance
- Low resistance microporous glass fibre separators, AGM VRLA spill resistant design
- One way, self-regulating pressure relief valve allows gas to escape and prevents the ingress of oxygen
- High conductivity, leak resistant female terminal thread for ease of installation
- Heat sealed lid to box weld for superior integrity
- Flame arrestors for added safety

Electrical Specification

Nominal Voltage	12V
20-hr rate Capacity to 1.8V/cell at 20°C	1,2 Ah
10-hr rate Capacity to 1.8V/cell at 20°C	1,07 Ah
10-min rate Constant Power 1.6V/cell at 20°C	5,4 Watts

Dimensions

Length	97 mm
Width	43 mm
Height	52 mm
Height over terminals	58 mm
Min height required above terminals	52 mm
Weight (typical)	0,53 kg

Terminal Type

Female threaded terminal	T1 mm
Torque	-

Internal Resistance

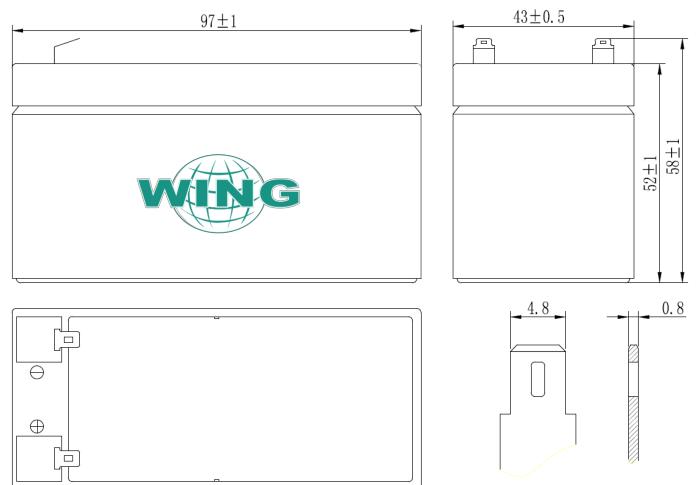
Impedance (fully charged)	105 mΩ
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Charge Voltage

Float charge voltage at 20°C	2.26~2.30 V/cell
Float charge voltage temperature correction factor (for variations from standard 20°C)	±3 mV/Cell/°C
Cyclic (or Boost) charge voltage at 20°C	2.42~2.49 V/cell
Cyclic charge voltage temperature correction factor (for variations from standard 20°C)	±4 mV/Cell/°C
Charge Current	
Maximum charge current limit	0,36 A
Remote Degassing Facility	-
Degassing Tube Diameter	-

Operating Temperature Range

Storage (fully charged condition)	-20 °C to 50 °C
Charge	-10 °C to 50 °C
Discharge	-15 °C to 50 °C



Storage

Capacity loss in storage at 20°C / month	<3 %
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Case Material

Standard option	ABS (UL94:V0 / HB)
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Design Life

EUROBAT Classification (High Performance)	6 - 9 years at 20 °C
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Maximum Discharge Current

1 Second	12 A
1 Minute	6 A
Short Circuit Current	18,5 A

Manufactured in ISO9001, ISO14001, OHSAS 18001 certified facility



Standards

Compliant with:
BS 6290-4: 1997
BS EN 60896-21: 2004
BS EN 60896-22: 2004



ES 1.2-12S

12V-1,2Ah

Constant Current Discharge - Amps at 20°C (In MINUTES)

V/cell	5	10	15	20	25	30	35	40	45	50	55	60	90
1,6	4,56	2,88	2,28	1,80	1,48	1,27	1,13	1,03	0,944	0,878	0,824	0,780	0,552
1,63	4,49	2,85	2,26	1,79	1,47	1,26	1,12	1,02	0,937	0,871	0,818	0,774	0,550
1,65	4,42	2,79	2,23	1,76	1,46	1,25	1,11	1,01	0,926	0,861	0,808	0,768	0,548
1,7	4,24	2,68	2,14	1,69	1,42	1,21	1,08	0,97	0,897	0,834	0,783	0,749	0,544
1,75	4,06	2,56	2,07	1,63	1,39	1,18	1,05	0,95	0,875	0,814	0,764	0,734	0,535
1,8	3,83	2,42	1,96	1,55	1,35	1,14	1,01	0,92	0,843	0,784	0,736	0,711	0,522

Constant Current Discharge - Amps at 20°C (in HOURS)

V/cell	2	3	4	5	6	7	8	9	10	12	20
1,6	0,426	0,307	0,245	0,209	0,175	0,152	0,135	0,123	0,113	0,098	0,061
1,63	0,425	0,306	0,245	0,208	0,175	0,152	0,135	0,122	0,113	0,098	0,061
1,65	0,424	0,305	0,244	0,207	0,174	0,151	0,134	0,122	0,112	0,098	0,061
1,7	0,420	0,302	0,242	0,205	0,173	0,150	0,133	0,121	0,111	0,097	0,060
1,75	0,414	0,300	0,240	0,204	0,172	0,149	0,132	0,120	0,110	0,096	0,060
1,8	0,403	0,291	0,233	0,198	0,166	0,144	0,128	0,116	0,107	0,093	0,058

Constant Power Discharge - Watts per Cell at 20°C (in MINUTES)

V/cell	5	10	15	20	25	30	35	40	45	50	55	60	90
1,6	8,48	5,41	4,33	3,42	2,81	2,43	2,16	1,96	1,81	1,69	1,58	1,51	1,07
1,63	8,35	5,36	4,29	3,39	2,79	2,41	2,14	1,94	1,80	1,67	1,57	1,49	1,07
1,65	8,23	5,25	4,23	3,34	2,77	2,38	2,12	1,92	1,78	1,65	1,55	1,48	1,06
1,7	7,89	5,04	4,07	3,21	2,70	2,31	2,05	1,86	1,72	1,60	1,50	1,45	1,05
1,75	7,55	4,82	3,93	3,11	2,65	2,25	2,00	1,82	1,68	1,56	1,47	1,42	1,04
1,8	7,12	4,55	3,73	2,94	2,56	2,17	1,93	1,75	1,62	1,51	1,41	1,37	1,01

Constant Power Discharge - Watts per Cell at 20°C (in HOURS)

V/cell	2	3	4	5	6	7	8	9	10	12	20
1,6	0,831	0,607	0,487	0,415	0,349	0,303	0,270	0,245	0,226	0,196	0,123
1,63	0,829	0,605	0,485	0,414	0,348	0,302	0,269	0,245	0,225	0,196	0,122
1,65	0,826	0,604	0,484	0,412	0,347	0,301	0,268	0,244	0,224	0,195	0,122
1,7	0,819	0,598	0,480	0,409	0,344	0,298	0,266	0,242	0,222	0,193	0,121
1,75	0,807	0,594	0,476	0,406	0,341	0,296	0,264	0,240	0,221	0,192	0,120
1,8	0,786	0,576	0,462	0,394	0,331	0,287	0,256	0,233	0,214	0,186	0,116



ES 2,3-12

12V - 2,3Ah



Electrical specifications

Nominal Voltage	12 V	
Capacity 25°C to 1,8V/c	20 hour rate	2,25 Ah
	10 hour rate	2,09 Ah
	8 hour rate	1,97 Ah
	3 hour rate	1,67 Ah
	1 hour rate	1,19 Ah
Self discharge @ 25°C	per month	2,5 - 3 %
Internal Resistance	fully charged	approx 60 mΩ
Maximum current @ 25°C	charging	0,69 A
	discharging (5sec)	34 A
Charge Voltage @25°C	Float (-18mV/°C)	2,27 - 2,29 V/Cell
Charge Voltage @25°C	Cyclic (-30mV/°C)	2,41 - 2,48 V/Cell

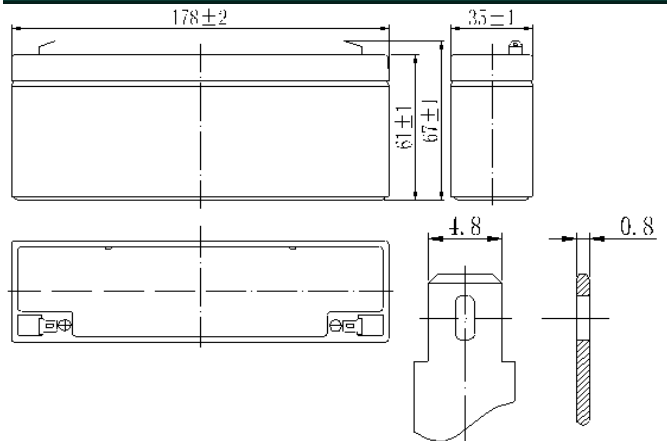
Other specifications

Design Floating Life @ 20°C	3-5 Years	
Dimensions LxWxH (± 1mm)	178x35x61 mm	
Total height	67 mm	
Operating Temperature (storage)	-20 to +50 °C	
Separator	Absorbent Glass Mat	
Grid alloy	Calcium / Tin lead alloy	
Case and cover	ABS / VDS	
Electrolyte	Sulphuric Acid	
Terminal / Length	.187 (F1) faston	
Optional terminal types	none	
Torque setting	none Nm	
Weight	0,88 (±5%) kg	

Innovative Features

- Completely maintenance free, sealed construction eliminates the need for adding water
- Fully tank formed plates
- Analytical grade electrolyte
- Spill proof / leak proof
- Valve regulated Max internal pressure 2,5 psi
- Multi-position usage
- ABS Case and cover (V0 optional)
- Low self discharge
- FAA and IATA approved as non-hazardous
- Built to comply with IEC 8962, DIN 43534, BS 6290 Pt4, Eurobat

Dimensions



Constant Amps Discharge - Amps at 25°C

V/Cell	5m	10m	15m	20m	25m	30m	35m	40m	45m	50m	55m	60m	90m	2h	3h	4h	5h	6h	7h	8h	9h	10h	12h	20h
1,80	7,34	4,37	3,52	2,81	2,23	2,05	1,82	1,64	1,47	1,39	1,29	1,19	0,89	0,77	0,56	0,45	0,38	0,32	0,28	0,25	0,22	0,21	0,18	0,11
1,75	7,87	4,62	3,75	2,97	2,37	2,13	1,89	1,71	1,52	1,44	1,32	1,22	0,92	0,79	0,58	0,46	0,39	0,33	0,28	0,25	0,23	0,21	0,18	0,12
1,70	8,21	4,83	3,86	3,08	2,46	2,19	1,98	1,75	1,57	1,47	1,36	1,25	0,94	0,81	0,58	0,46	0,39	0,33	0,29	0,26	0,23	0,22	0,19	0,12
1,65	8,60	5,04	4,00	3,17	2,58	2,25	2,03	1,83	1,61	1,50	1,40	1,29	0,98	0,81	0,58	0,47	0,40	0,33	0,29	0,26	0,23	0,22	0,19	0,12
1,60	8,79	5,20	4,12	3,27	2,62	2,30	2,04	1,84	1,64	1,52	1,41	1,30	0,98	0,82	0,59	0,47	0,40	0,33	0,29	0,26	0,23	0,22	0,19	0,12

Constant Power Discharge - Watts per Block at 25°C

V/Cell	5m	10m	15m	20m	25m	30m	35m	40m	45m	50m	55m	60m	90m	2h	3h	4h	5h	6h	7h	8h	9h	10h	12h	20h
1,80	77,1	46,2	37,7	30,1	23,9	22,2	19,7	17,8	16,0	15,2	14,2	13,2	9,89	8,65	6,37	5,13	4,39	3,73	3,27	2,90	2,65	2,48	2,16	1,36
1,75	82,3	48,8	40,0	32,0	25,3	23,0	20,4	18,5	16,5	15,7	14,5	13,5	10,2	8,86	6,53	5,27	4,53	3,80	3,31	2,97	2,71	2,51	2,20	1,37
1,70	85,6	50,8	41,2	33,1	26,5	23,5	21,3	18,9	17,0	16,0	14,8	13,8	10,4	8,95	6,58	5,29	4,53	3,82	3,34	2,99	2,74	2,53	2,21	1,37
1,65	89,5	52,9	42,6	34,0	27,4	24,2	21,7	19,7	17,4	16,3	15,2	14,1	10,8	8,99	6,60	5,34	4,55	3,82	3,34	3,01	2,76	2,55	2,21	1,38
1,60	91,1	54,3	43,7	34,7	28,1	24,6	21,8	19,8	17,7	16,4	15,3	14,2	10,8	9,04	6,62	5,34	4,58	3,84	3,38	3,01	2,76	2,55	2,21	1,40

Revision: 201509



ES 2.9-12

12V-2,9Ah



Features

- High purity lead calcium grid plates to prolong service life and enhance corrosion resistance
- Low resistance microporous glass fibre separators, AGM VRLA spill resistant design
- One way, self-regulating pressure relief valve allows gas to escape and prevents the ingress of oxygen
- High conductivity, leak resistant female terminal thread for ease of installation
- Heat sealed lid to box weld for superior integrity
- Flame arrestors for added safety

Electrical Specification

Nominal Voltage	12V
20-hr rate Capacity to 1.8V/cell at 20°C	2,9 Ah
10-hr rate Capacity to 1.8V/cell at 20°C	2,59 Ah
10-min rate Constant Power 1.6V/cell at 20°C	13,1 Watts

Dimensions

Lenght	79 mm
Width	56 mm
Height	99 mm
Height over terminals	105 mm
Min height required above terminals	103 mm
Weight (typical)	1 kg

Terminal Type

Female threaded terminal	T1 mm
Torque	-

Internal Resistance

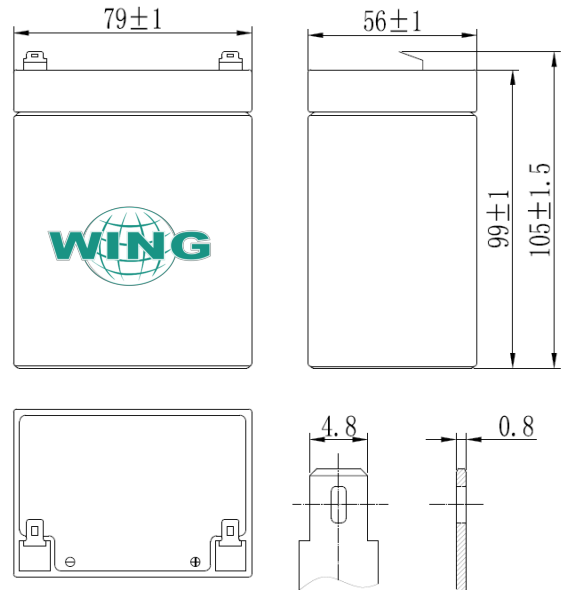
Impedance (fully charged)	45 mΩ
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Charge Voltage

Float charge voltage at 20°C	2.26~2.30 V/cell
Float charge voltage temperature correction factor (for variations from standard 20°C)	±3 mV/Cell/°C
Cyclic (or Boost) charge voltage at 20°C	2.42~2.49 V/cell
Cyclic charge voltage temperature correction factor (for variations from standard 20°C)	±4 mV/Cell/°C
Charge Current	
Maximum charge current limit	0,87 A
Remote Degassing Facility	-
Degassing Tube Diameter	-

Operating Temperature Range

Storage (fully charged condition)	-20 °C to 50 °C
Charge	-10 °C to 50 °C
Discharge	-15 °C to 50 °C



Storage

Capacity loss in storage at 20°C / month	<3 %
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Case Material

Standard option	ABS (UL94:V0 / HB)
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Design Life

EUROBAT Classification (High Performance)	6 - 9 years at 20 °C
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Maximum Discharge Current

1 Second	29 A
1 Minute	14,5 A
Short Circuit Current	46,8 A

Manufactured in ISO9001, ISO14001, OHSAS 18001 certified facility



Standards

Compliant with:
 BS 6290-4: 1997
 BS EN 60896-21: 2004
 BS EN 60896-22: 2004



ES 2.9-12

12V-2,9Ah

Constant Current Discharge - Amps at 20°C (in MINUTES)

V/cell	5	10	15	20	25	30	35	40	45	50	55	60	90
1,6	11,0	6,96	5,51	4,35	3,58	3,07	2,73	2,48	2,28	2,12	1,99	1,89	1,33
1,63	10,9	6,89	5,45	4,32	3,56	3,05	2,71	2,46	2,26	2,11	1,98	1,87	1,33
1,65	10,7	6,75	5,38	4,25	3,53	3,01	2,68	2,43	2,24	2,08	1,95	1,86	1,33
1,7	10,2	6,47	5,18	4,09	3,44	2,92	2,60	2,36	2,17	2,02	1,89	1,81	1,31
1,75	9,81	6,19	5,00	3,95	3,37	2,85	2,54	2,30	2,12	1,97	1,85	1,77	1,29
1,8	9,26	5,85	4,74	3,74	3,27	2,75	2,44	2,21	2,04	1,90	1,78	1,72	1,26

Constant Current Discharge - Amps at 20°C (in HOURS)

V/cell	2	3	4	5	6	7	8	9	10	12	20
1,6	1,03	0,741	0,593	0,504	0,424	0,368	0,326	0,296	0,273	0,237	0,148
1,63	1,03	0,739	0,591	0,502	0,423	0,366	0,325	0,296	0,272	0,236	0,148
1,65	1,02	0,737	0,589	0,501	0,421	0,365	0,324	0,295	0,271	0,236	0,147
1,7	1,02	0,730	0,584	0,496	0,418	0,362	0,321	0,292	0,269	0,234	0,146
1,75	1,00	0,725	0,580	0,493	0,415	0,360	0,319	0,290	0,267	0,232	0,145
1,8	0,974	0,703	0,563	0,478	0,402	0,349	0,309	0,281	0,259	0,225	0,141

Constant Power Discharge - Watts per Cell at 20°C (in MINUTES)

V/cell	5	10	15	20	25	30	35	40	45	50	55	60	90
1,6	20,5	13,1	10,5	8,27	6,81	5,87	5,22	4,74	4,38	4,08	3,83	3,64	2,59
1,63	20,2	13,0	10,4	8,20	6,76	5,82	5,18	4,70	4,35	4,04	3,79	3,61	2,58
1,65	19,9	12,7	10,2	8,07	6,71	5,75	5,12	4,64	4,29	3,99	3,75	3,58	2,57
1,7	19,1	12,2	9,84	7,77	6,54	5,58	4,96	4,50	4,16	3,87	3,63	3,49	2,55
1,75	18,2	11,6	9,51	7,50	6,41	5,44	4,84	4,39	4,06	3,78	3,546	3,42	2,51
1,8	17,2	11,0	9,00	7,11	6,21	5,24	4,66	4,23	3,91	3,64	3,416	3,32	2,45

Constant Power Discharge - Watts per Cell at 20°C (in HOURS)

V/cell	2	3	4	5	6	7	8	9	10	12	20
1,6	2,01	1,47	1,18	1,00	0,843	0,731	0,652	0,593	0,545	0,474	0,296
1,63	2,00	1,46	1,17	1,00	0,841	0,729	0,650	0,591	0,544	0,473	0,296
1,65	2,00	1,46	1,17	0,997	0,839	0,727	0,648	0,589	0,542	0,471	0,295
1,7	1,98	1,45	1,16	0,988	0,831	0,721	0,642	0,584	0,537	0,467	0,292
1,75	1,95	1,44	1,15	0,981	0,825	0,716	0,638	0,580	0,534	0,464	0,290
1,8	1,90	1,39	1,12	0,952	0,800	0,694	0,619	0,563	0,518	0,450	0,281



ES 3.2-12

12V-3,2Ah



Features

- High purity lead calcium grid plates to prolong service life and enhance corrosion resistance
- Low resistance microporous glass fibre separators, AGM VRLA spill resistant design
- One way, self-regulating pressure relief valve allows gas to escape and prevents the ingress of oxygen
- High conductivity, leak resistant female terminal thread for ease of installation
- Heat sealed lid to box weld for superior integrity
- Flame arrestors for added safety

Electrical Specification

Nominal Voltage	12V
20-hr rate Capacity to 1.8V/cell at 20°C	3,2 Ah
10-hr rate Capacity to 1.8V/cell at 20°C	2,86 Ah
10-min rate Constant Power 1.6V/cell at 20°C	14,4 Watts

Dimensions

Length	134 mm
Width	67 mm
Height	61 mm
Height over terminals	67 mm
Min height required above terminals	65 mm
Weight (typical)	1,2 kg

Terminal Type

Female threaded terminal	T1 mm
Torque	-

Internal Resistance

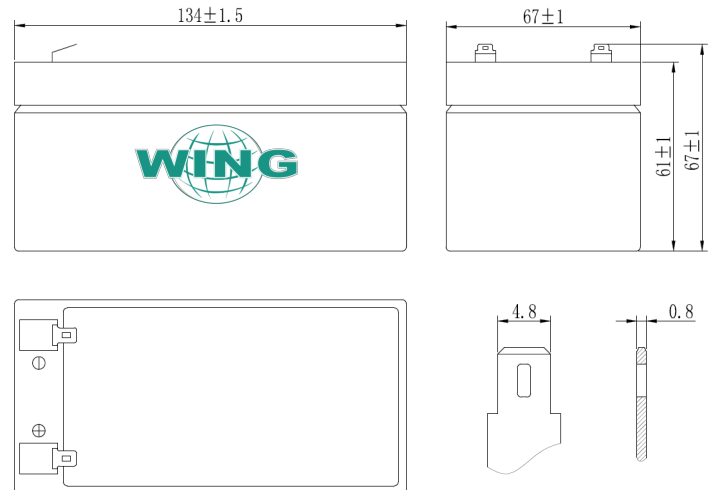
Impedance (fully charged)	54 mΩ
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Charge Voltage

Float charge voltage at 20°C	2.26~2.30 V/cell
Float charge voltage temperature correction factor (for variations from standard 20°C)	±3 mV/Cell/°C
Cyclic (or Boost) charge voltage at 20°C	2.42~2.49 V/cell
Cyclic charge voltage temperature correction factor (for variations from standard 20°C)	±4 mV/Cell/°C
Charge Current	
Maximum charge current limit	0,96 A
Remote Degassing Facility	-
Degassing Tube Diameter	-

Operating Temperature Range

Storage (fully charged condition)	-20 °C to 50 °C
Charge	-10 °C to 50 °C
Discharge	-15 °C to 50 °C



Storage

Capacity loss in storage at 20°C / month	<3 %
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Case Material

Standard option	ABS (UL94:V0 / HB)
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Design Life

EUROBAT Classification (High Performance)	6 - 9 years at 20 °C
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Maximum Discharge Current

1 Second	32 A
1 Minute	16 A
Short Circuit Current	52 A

Manufactured in ISO9001, ISO14001, OHSAS 18001 certified facility



Standards

Compliant with:
BS 6290-4: 1997
BS EN 60896-21: 2004
BS EN 60896-22: 2004



ES 3.2-12

12V-3,2Ah

Constant Current Discharge - Amps at 20°C (in MINUTES)

V/cell	5	10	15	20	25	30	35	40	45	50	55	60	90
1,6	12,2	7,68	6,08	4,80	3,96	3,39	3,02	2,74	2,52	2,34	2,20	2,08	1,47
1,63	12,0	7,60	6,02	4,76	3,92	3,36	2,99	2,71	2,50	2,32	2,18	2,06	1,47
1,65	11,8	7,45	5,93	4,68	3,90	3,32	2,96	2,68	2,47	2,30	2,15	2,05	1,46
1,7	11,3	7,14	5,72	4,51	3,80	3,22	2,87	2,60	2,39	2,23	2,09	2,00	1,45
1,75	10,8	6,84	5,52	4,36	3,72	3,14	2,80	2,54	2,33	2,17	2,04	1,96	1,43
1,8	10,2	6,45	5,23	4,13	3,61	3,03	2,69	2,44	2,25	2,09	1,96	1,90	1,39

Constant Current Discharge - Amps at 20°C (in HOURS)

V/cell	2	3	4	5	6	7	8	9	10	12	20
1,6	1,14	0,818	0,654	0,556	0,468	0,406	0,360	0,327	0,301	0,262	0,164
1,63	1,13	0,815	0,652	0,554	0,466	0,404	0,359	0,326	0,300	0,261	0,163
1,65	1,13	0,813	0,650	0,553	0,465	0,403	0,358	0,325	0,299	0,260	0,163
1,7	1,12	0,806	0,644	0,548	0,461	0,400	0,354	0,322	0,296	0,258	0,161
1,75	1,10	0,800	0,640	0,544	0,458	0,397	0,352	0,320	0,294	0,256	0,160
1,8	1,08	0,776	0,621	0,528	0,444	0,385	0,341	0,310	0,286	0,248	0,155

Constant Power Discharge - Watts per Cell at 20°C (in MINUTES)

V/cell	5	10	15	20	25	30	35	40	45	50	55	60	90
1,6	22,6	14,4	11,55	9,12	7,51	6,48	5,76	5,23	4,84	4,50	4,22	4,01	2,85
1,63	22,3	14,3	11,44	9,05	7,45	6,43	5,72	5,18	4,80	4,46	4,19	3,98	2,85
1,65	21,9	14,0	11,27	8,90	7,40	6,35	5,65	5,12	4,74	4,41	4,14	3,95	2,84
1,7	21,0	13,43	10,86	8,57	7,21	6,15	5,48	4,96	4,59	4,27	4,01	3,85	2,81
1,75	20,1	12,85	10,49	8,28	7,07	6,01	5,34	4,84	4,48	4,17	3,91	3,78	2,77
1,8	19,0	12,13	9,93	7,84	6,85	5,79	5,15	4,67	4,32	4,02	3,77	3,66	2,70

Constant Power Discharge - Watts per Cell at 20°C (in HOURS)

V/cell	2	3	4	5	6	7	8	9	10	12	20
1,6	2,22	1,62	1,30	1,11	0,931	0,807	0,720	0,654	0,602	0,523	0,327
1,63	2,21	1,61	1,29	1,10	0,928	0,805	0,717	0,652	0,600	0,522	0,326
1,65	2,20	1,61	1,29	1,10	0,925	0,802	0,715	0,650	0,598	0,520	0,325
1,7	2,18	1,60	1,28	1,09	0,917	0,795	0,709	0,644	0,593	0,516	0,322
1,75	2,15	1,58	1,27	1,08	0,911	0,790	0,704	0,640	0,589	0,512	0,320
1,8	2,10	1,54	1,23	1,05	0,883	0,766	0,683	0,621	0,571	0,497	0,310



ES 4-6

6V-4Ah

Features

- High purity lead calcium grid plates to prolong service life and enhance corrosion resistance
- Low resistance microporous glass fibre separators, AGM VRLA spill resistant design
- One way, self-regulating pressure relief valve allows gas to escape and prevents the ingress of oxygen
- High conductivity, leak resistant female terminal thread for ease of installation
- Heat sealed lid to box weld for superior integrity
- Flame arrestors for added safety

Electrical Specification

Nominal Voltage	6V
20-hr rate Capacity to 1.8V/cell at 20°C	4 Ah
10-hr rate Capacity to 1.8V/cell at 20°C	3,57 Ah
10-min rate Constant Power 1.6V/cell at 20°C	18 Watts

Dimensions

Length	70 mm
Width	47 mm
Height	101 mm
Height over terminals	107 mm
Min height required above terminals	101 mm
Weight (typical)	0,68 kg

Terminal Type

Female threaded terminal	T1/T2 mm
Torque	Nm

Internal Resistance

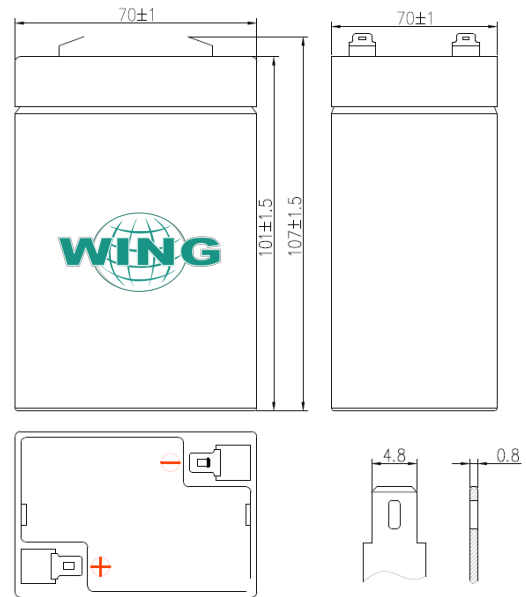
Impedance (fully charged)	30 mΩ
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Charge Voltage

Float charge voltage at 20°C	2.26~2.30 V/cell
Float charge voltage temperature correction factor (for variations from standard 20°C)	±3 mV/Cell/°C
Cyclic (or Boost) charge voltage at 20°C	2.42~2.49 V/cell
Cyclic charge voltage temperature correction factor (for variations from standard 20°C)	±4 mV/Cell/°C
Charge Current	
Maximum charge current limit	1,2 A
Remote Degassing Facility	Y / N
Degassing Tube Diameter	_mm

Operating Temperature Range

Storage (fully charged condition)	-20 °C to 50 °C
Charge	-10 °C to 50 °C
Discharge	-15 °C to 50 °C



Storage

Capacity loss in storage at 20°C / month	<3 %
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Case Material

Standard option	ABS (UL94:V0 / HB)
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Design Life

EUROBAT Classification (High Performance)	6 - 9 years at 20 °C
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Maximum Discharge Current

1 Second	40 A
1 Minute	20 A
Short Circuit Current	63,2 A

Manufactured in ISO9001, ISO14001, OHSAS 18001 certified facility



Standards

Compliant with:
BS 6290-4: 1997
BS EN 60896-21: 2004
BS EN 60896-22: 2004



ES 4-6

6V-4Ah

Constant Current Discharge - Amps at 20°C (in MINUTES)

V/cell	5	10	15	20	25	30	35	40	45	50	55	60	90
1,6	15,2	9,60	7,60	6,00	4,94	4,24	3,77	3,42	3,15	2,93	2,75	2,60	1,84
1,63	15,0	9,50	7,52	5,95	4,90	4,21	3,74	3,39	3,12	2,90	2,73	2,58	1,83
1,65	14,7	9,31	7,42	5,86	4,87	4,16	3,70	3,35	3,09	2,87	2,69	2,56	1,83
1,7	14,1	8,93	7,14	5,64	4,75	4,03	3,58	3,25	2,99	2,78	2,61	2,50	1,81
1,75	13,5	8,54	6,90	5,45	4,65	3,93	3,50	3,17	2,92	2,71	2,55	2,45	1,78
1,8	12,8	8,06	6,54	5,16	4,51	3,79	3,37	3,05	2,81	2,61	2,45	2,37	1,74

Constant Current Discharge - Amps at 20°C (in HOURS)

V/cell	2	3	4	5	6	7	8	9	10	12	20
1,6	1,42	1,02	0,818	0,695	0,585	0,507	0,450	0,409	0,376	0,327	0,204
1,63	1,42	1,02	0,815	0,693	0,583	0,505	0,448	0,408	0,375	0,326	0,204
1,65	1,41	1,02	0,813	0,691	0,581	0,504	0,447	0,406	0,374	0,325	0,203
1,7	1,40	1,01	0,806	0,685	0,576	0,499	0,443	0,403	0,371	0,322	0,201
1,75	1,38	1,00	0,800	0,680	0,572	0,496	0,440	0,400	0,368	0,320	0,200
1,8	1,34	0,97	0,776	0,660	0,555	0,481	0,427	0,388	0,357	0,310	0,194

Constant Power Discharge - Watts per Cell at 20°C (in MINUTES)

V/cell	5	10	15	20	25	30	35	40	45	50	55	60	90
1,6	28,3	18,0	14,4	11,4	9,39	8,10	7,20	6,53	6,04	5,62	5,28	5,02	3,57
1,63	27,8	17,9	14,3	11,3	9,32	8,03	7,15	6,48	6,00	5,58	5,23	4,98	3,56
1,65	27,4	17,5	14,1	11,1	9,25	7,94	7,06	6,40	5,92	5,51	5,17	4,94	3,55
1,7	26,3	16,8	13,6	10,7	9,02	7,69	6,84	6,21	5,74	5,34	5,01	4,82	3,52
1,75	25,2	16,1	13,1	10,4	8,84	7,51	6,68	6,06	5,60	5,21	4,89	4,72	3,46
1,8	23,7	15,2	12,4	9,80	8,57	7,23	6,43	5,83	5,40	5,02	4,71	4,58	3,37

Constant Power Discharge - Watts per Cell at 20°C (in HOURS)

V/cell	2	3	4	5	6	7	8	9	10	12	20
1,6	2,77	2,02	1,62	1,38	1,16	1,01	0,899	0,818	0,752	0,654	0,409
1,63	2,76	2,02	1,62	1,38	1,16	1,01	0,897	0,815	0,750	0,652	0,408
1,65	2,75	2,01	1,61	1,37	1,16	1,00	0,894	0,813	0,748	0,650	0,406
1,7	2,73	1,99	1,60	1,36	1,15	0,994	0,886	0,806	0,741	0,644	0,403
1,75	2,69	1,98	1,59	1,35	1,14	0,987	0,880	0,800	0,736	0,640	0,400
1,8	2,62	1,92	1,54	1,31	1,10	0,957	0,854	0,776	0,714	0,621	0,388



ES 7-6

6V-7Ah



Features

- High purity lead calcium grid plates to prolong service life and enhance corrosion resistance
- Low resistance microporous glass fibre separators, AGM VRLA spill resistant design
- One way, self-regulating pressure relief valve allows gas to escape and prevents the ingress of oxygen
- High conductivity, leak resistant female terminal thread for ease of installation
- Heat sealed lid to box weld for superior integrity
- Flame arrestors for added safety

Electrical Specification

Nominal Voltage	6V
20-hr rate Capacity to 1.8V/cell at 20°C	7 Ah
10-hr rate Capacity to 1.8V/cell at 20°C	6,25 Ah
10-min rate Constant Power 1.6V/cell at 20°C	31,6 Watts

Dimensions

Lenght	151 mm
Width	34 mm
Height	94 mm
Height over terminals	100 mm
Min height required above terminals	100 mm
Weight (typical)	1,05 kg

Terminal Type

Female threaded terminal	T1/T2 mm
Torque	-

Internal Resistance

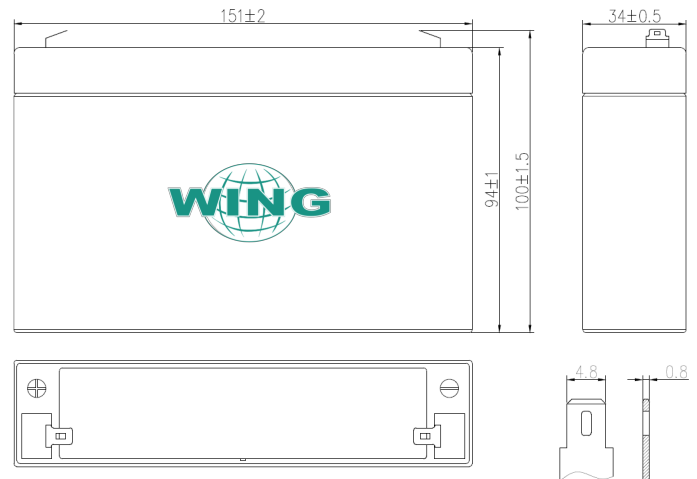
Impedance (fully charged)	16 mΩ
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Charge Voltage

Float charge voltage at 20°C	2.26~2.30 V/cell
Float charge voltage temperature correction factor (for variations from standard 20°C)	±3 mV/Cell/°C
Cyclic (or Boost) charge voltage at 20°C	2.42~2.49 V/cell
Cyclic charge voltage temperature correction factor (for variations from standard 20°C)	±4 mV/Cell/°C
Charge Current	
Maximum charge current limit	2,1 A
Remote Degassing Facility	-
Degassing Tube Diameter	-

Operating Temperature Range

Storage (fully charged condition)	-20 °C to 50 °C
Charge	-10 °C to 50 °C
Discharge	-15 °C to 50 °C



Storage

Capacity loss in storage at 20°C / month	<3 %
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Case Material

Standard option	ABS (UL94:V0 / HB)
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Design Life

EUROBAT Classification (High Performance)	6 - 9 years at 20 °C
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Maximum Discharge Current

1 Second	70 A
1 Minute	35 A
Short Circuit Current	115 A

Manufactured in ISO9001, ISO14001, OHSAS 18001 certified facility



Standards

Compliant with:
 BS 6290-4: 1997
 BS EN 60896-21: 2004
 BS EN 60896-22: 2004



ES 7-6

6V-7Ah

Constant Current Discharge - Amps at 20°C (In MINUTES)

V/cell	5	10	15	20	25	30	35	40	45	50	55	60	90
1,6	26,6	16,8	13,3	10,5	8,65	7,42	6,60	5,99	5,51	5,12	4,81	4,55	3,22
1,63	26,2	16,6	13,2	10,4	8,58	7,36	6,55	5,94	5,46	5,08	4,77	4,51	3,21
1,65	25,8	16,3	13,0	10,2	8,52	7,27	6,47	5,87	5,40	5,02	4,71	4,48	3,20
1,7	24,7	15,6	12,5	9,87	8,31	7,05	6,27	5,69	5,23	4,87	4,57	4,37	3,17
1,75	23,7	15,0	12,1	9,53	8,14	6,88	6,12	5,55	5,11	4,75	4,46	4,28	3,12
1,8	22,3	14,1	11,4	9,03	7,89	6,63	5,89	5,34	4,92	4,58	4,29	4,15	3,04

Constant Current Discharge - Amps at 20°C (in HOURS)

V/cell	2	3	4	5	6	7	8	9	10	12	20
1,6	2,49	1,79	1,43	1,22	1,02	0,887	0,787	0,715	0,658	0,572	0,358
1,63	2,48	1,78	1,43	1,21	1,02	0,885	0,785	0,713	0,656	0,571	0,357
1,65	2,47	1,78	1,42	1,21	1,02	0,882	0,782	0,711	0,654	0,569	0,356
1,7	2,45	1,76	1,41	1,20	1,01	0,874	0,775	0,705	0,649	0,564	0,352
1,75	2,41	1,75	1,40	1,19	1,00	0,868	0,770	0,700	0,644	0,560	0,350
1,8	2,35	1,70	1,36	1,15	0,971	0,842	0,747	0,679	0,625	0,543	0,340

Constant Power Discharge - Watts per Cell at 20°C (in MINUTES)

V/cell	5	10	15	20	25	30	35	40	45	50	55	60	90
1,6	49,5	31,6	25,3	20,0	16,4	14,2	12,6	11,4	10,58	9,84	9,23	8,78	6,24
1,63	48,7	31,3	25,0	19,8	16,3	14,1	12,5	11,3	10,49	9,76	9,16	8,71	6,23
1,65	48,0	30,6	24,7	19,5	16,2	13,9	12,4	11,2	10,37	9,64	9,05	8,65	6,21
1,7	46,0	29,4	23,8	18,8	15,8	13,5	12,0	10,9	10,05	9,35	8,77	8,43	6,15
1,75	44,0	28,1	22,9	18,1	15,5	13,1	11,7	10,6	9,81	9,12	8,56	8,26	6,06
1,8	41,6	26,5	21,7	17,16	15,0	12,7	11,3	10,2	9,45	8,79	8,25	8,01	5,91

Constant Power Discharge - Watts per Cell at 20°C (in HOURS)

V/cell	2	3	4	5	6	7	8	9	10	12	20
1,6	4,85	3,54	2,84	2,42	2,04	1,77	1,57	1,43	1,32	1,14	0,715
1,63	4,83	3,53	2,83	2,41	2,03	1,76	1,57	1,43	1,31	1,14	0,713
1,65	4,82	3,52	2,82	2,41	2,02	1,76	1,56	1,42	1,31	1,14	0,711
1,7	4,78	3,49	2,80	2,38	2,01	1,74	1,55	1,41	1,30	1,13	0,705
1,75	4,71	3,47	2,78	2,37	1,99	1,73	1,54	1,40	1,29	1,12	0,700
1,8	4,59	3,36	2,70	2,30	1,93	1,676	1,49	1,36	1,25	1,09	0,679



ES 7-12

12V-7Ah



Features

- High purity lead calcium grid plates to prolong service life and enhance corrosion resistance
- Low resistance microporous glass fibre separators, AGM VRLA spill resistant design
- One way, self-regulating pressure relief valve allows gas to escape and prevents the ingress of oxygen
- High conductivity, leak resistant female terminal thread for ease of installation
- Heat sealed lid to box weld for superior integrity
- Flame arrestors for added safety

Electrical Specification

Nominal Voltage	12V
20-hr rate Capacity to 1.8V/cell at 20°C	7 Ah
10-hr rate Capacity to 1.8V/cell at 20°C	6,25 Ah
10-min rate Constant Power 1.6V/cell at 20°C	31,6 Watts

Dimensions

Length	151 mm
Width	65 mm
Height	94 mm
Height over terminals	100 mm
Min height required above terminals	98 mm
Weight (typical)	2,1 kg

Terminal Type

Female threaded terminal	T1/T2 mm
Torque	-

Internal Resistance

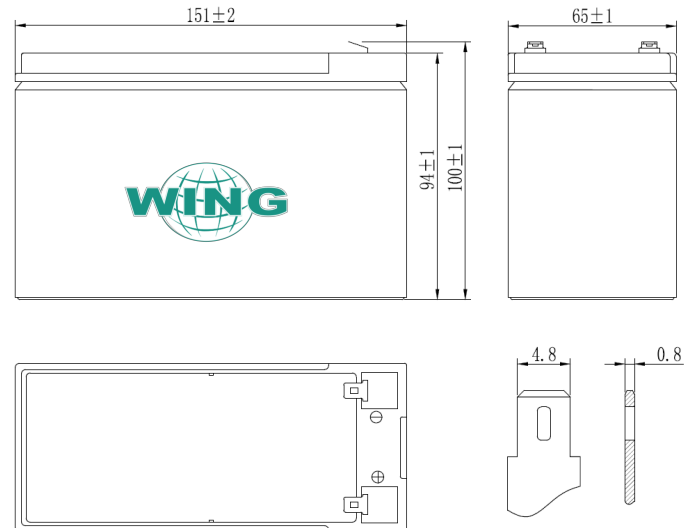
Impedance (fully charged)	34 mΩ
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Charge Voltage

Float charge voltage at 20°C	2.26~2.30 V/cell
Float charge voltage temperature correction factor (for variations from standard 20°C)	±3 mV/Cell/°C
Cyclic (or Boost) charge voltage at 20°C	2.42~2.49 V/cell
Cyclic charge voltage temperature correction factor (for variations from standard 20°C)	±4 mV/Cell/°C
Charge Current	
Maximum charge current limit	2,1 A
Remote Degassing Facility	-
Degassing Tube Diameter	-

Operating Temperature Range

Storage (fully charged condition)	-20 °C to 50 °C
Charge	-10 °C to 50 °C
Discharge	-15 °C to 50 °C



Storage

Capacity loss in storage at 20°C / month	<3 %
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Case Material

Standard option	ABS (UL94:V0 / HB)
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Design Life

EUROBAT Classification (High Performance)	6 - 9 years at 20 °C
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Maximum Discharge Current

1 Second	70 A
1 Minute	35 A
Short Circuit Current	115 A

Manufactured in ISO9001, ISO14001, OHSAS 18001 certified facility



Standards

Compliant with:
BS 6290-4: 1997
BS EN 60896-21: 2004
BS EN 60896-22: 2004



ES 7-12

12V-7Ah

Constant Current Discharge - Amps at 20°C (In MINUTES)

V/cell	5	10	15	20	25	30	35	40	45	50	55	60	90
1,6	26,6	16,8	13,3	10,5	8,65	7,42	6,60	5,99	5,51	5,12	4,81	4,55	3,22
1,63	26,2	16,6	13,2	10,4	8,58	7,36	6,55	5,94	5,46	5,08	4,77	4,51	3,21
1,65	25,8	16,3	13,0	10,2	8,52	7,27	6,47	5,87	5,40	5,02	4,71	4,48	3,20
1,7	24,7	15,6	12,5	9,87	8,31	7,05	6,27	5,69	5,23	4,87	4,57	4,37	3,17
1,75	23,7	15,0	12,1	9,53	8,14	6,88	6,12	5,55	5,11	4,75	4,46	4,28	3,12
1,8	22,3	14,1	11,4	9,03	7,89	6,63	5,89	5,34	4,92	4,58	4,29	4,15	3,04

Constant Current Discharge - Amps at 20°C (in HOURS)

V/cell	2	3	4	5	6	7	8	9	10	12	20
1,6	2,49	1,79	1,43	1,22	1,02	0,887	0,787	0,715	0,658	0,572	0,358
1,63	2,48	1,78	1,43	1,21	1,02	0,885	0,785	0,713	0,656	0,571	0,357
1,65	2,47	1,78	1,42	1,21	1,02	0,882	0,782	0,711	0,654	0,569	0,356
1,7	2,45	1,76	1,41	1,20	1,01	0,874	0,775	0,705	0,649	0,564	0,352
1,75	2,41	1,75	1,40	1,19	1,00	0,868	0,770	0,700	0,644	0,560	0,350
1,8	2,35	1,70	1,36	1,15	0,971	0,842	0,747	0,679	0,625	0,543	0,340

Constant Power Discharge - Watts per Cell at 20°C (in MINUTES)

V/cell	5	10	15	20	25	30	35	40	45	50	55	60	90
1,6	49,5	31,6	25,3	20,0	16,4	14,2	12,6	11,4	10,58	9,84	9,23	8,78	6,24
1,63	48,7	31,3	25,0	19,8	16,3	14,1	12,5	11,3	10,49	9,76	9,16	8,71	6,23
1,65	48,0	30,6	24,7	19,5	16,2	13,9	12,4	11,2	10,37	9,64	9,05	8,65	6,21
1,7	46,0	29,4	23,8	18,8	15,8	13,5	12,0	10,9	10,05	9,35	8,77	8,43	6,15
1,75	44,0	28,1	22,9	18,1	15,5	13,1	11,7	10,6	9,81	9,12	8,56	8,26	6,06
1,8	41,6	26,5	21,7	17,16	15,0	12,7	11,3	10,2	9,45	8,79	8,25	8,01	5,91

Constant Power Discharge - Watts per Cell at 20°C (in HOURS)

V/cell	2	3	4	5	6	7	8	9	10	12	20
1,6	4,85	3,54	2,84	2,42	2,04	1,77	1,57	1,43	1,32	1,14	0,715
1,63	4,83	3,53	2,83	2,41	2,03	1,76	1,57	1,43	1,31	1,14	0,713
1,65	4,82	3,52	2,82	2,41	2,02	1,76	1,56	1,42	1,31	1,14	0,711
1,7	4,78	3,49	2,80	2,38	2,01	1,74	1,55	1,41	1,30	1,13	0,705
1,75	4,71	3,47	2,78	2,37	1,99	1,73	1,54	1,40	1,29	1,12	0,700
1,8	4,59	3,36	2,70	2,30	1,93	1,676	1,49	1,36	1,25	1,09	0,679



ES 12-6

6V-12Ah



Features

- High purity lead calcium grid plates to prolong service life and enhance corrosion resistance
- Low resistance microporous glass fibre separators, AGM VRLA spill resistant design
- One way, self-regulating pressure relief valve allows gas to escape and prevents the ingress of oxygen
- High conductivity, leak resistant female terminal thread for ease of installation
- Heat sealed lid to box weld for superior integrity
- Flame arrestors for added safety

Electrical Specification

Nominal Voltage	6V
20-hr rate Capacity to 1.8V/cell at 20°C	12 Ah
10-hr rate Capacity to 1.8V/cell at 20°C	10,7 Ah
10-min rate Constant Power 1.6V/cell at 20°C	45,5 Watts

Dimensions

Lenght	151 mm
Width	50 mm
Height	94 mm
Height over terminals	100 mm
Min height required above terminals	100 mm
Weight (typical)	1,7 kg

Terminal Type

Female threaded terminal	T1/T2 mm
Torque	-

Internal Resistance

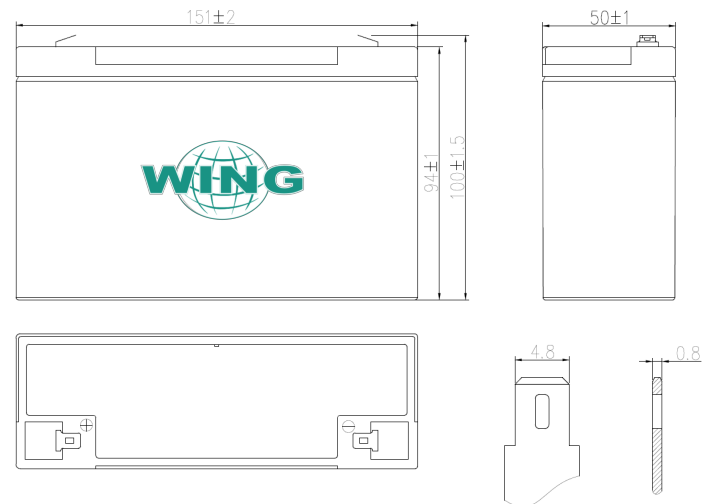
Impedance (fully charged)	10 mΩ
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Charge Voltage

Float charge voltage at 20°C	2.26~2.30 V/cell
Float charge voltage temperature correction factor (for variations from standard 20°C)	±3 mV/Cell/°C
Cyclic (or Boost) charge voltage at 20°C	2.42~2.49 V/cell
Cyclic charge voltage temperature correction factor (for variations from standard 20°C)	±4 mV/Cell/°C
Charge Current	
Maximum charge current limit	3,6 A
Remote Degassing Facility	-
Degassing Tube Diameter	-

Operating Temperature Range

Storage (fully charged condition)	-20 °C to 50 °C
Charge	-10 °C to 50 °C
Discharge	-15 °C to 50 °C



Storage

Capacity loss in storage at 20°C / month	<3 %
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Case Material

Standard option	ABS (UL94:V0 / HB)
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Design Life

EUROBAT Classification (High Performance)	6 - 9 years at 20 °C
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Maximum Discharge Current

1 Second	120 A
1 Minute	60 A
Short Circuit Current	190 A

Manufactured in ISO9001, ISO14001, OHSAS 18001 certified facility



Standards

Compliant with:
 BS 6290-4: 1997
 BS EN 60896-21: 2004
 BS EN 60896-22: 2004



ES 12-6

6V-12Ah

Constant Current Discharge - Amps at 20°C (In MINUTES)

V/cell	5	10	15	20	25	30	35	40	45	50	55	60	90
1,6	45,6	28,8	22,8	18,0	14,8	12,7	11,3	10,3	9,44	8,78	8,24	7,80	5,52
1,63	44,9	28,5	22,6	17,9	14,7	12,6	11,2	10,2	9,37	8,71	8,18	7,74	5,50
1,65	44,2	27,9	22,3	17,6	14,6	12,5	11,1	10,1	9,26	8,61	8,08	7,68	5,48
1,7	42,4	26,8	21,4	16,9	14,2	12,1	10,8	9,75	8,97	8,34	7,83	7,49	5,44
1,75	40,6	25,6	20,7	16,3	14,0	11,8	10,5	9,51	8,75	8,14	7,64	7,34	5,35
1,8	38,3	24,2	19,6	15,5	13,5	11,4	10,1	9,16	8,43	7,84	7,36	7,11	5,22

Constant Current Discharge - Amps at 20°C (in HOURS)

V/cell	2	3	4	5	6	7	8	9	10	12	20
1,6	4,26	3,07	2,45	2,09	1,75	1,52	1,35	1,23	1,13	0,981	0,613
1,63	4,25	3,06	2,45	2,08	1,75	1,52	1,35	1,22	1,13	0,978	0,611
1,65	4,24	3,05	2,44	2,07	1,74	1,51	1,34	1,22	1,12	0,975	0,610
1,7	4,20	3,02	2,42	2,05	1,73	1,50	1,33	1,21	1,11	0,967	0,604
1,75	4,14	3,00	2,40	2,04	1,72	1,49	1,32	1,20	1,10	0,960	0,600
1,8	4,03	2,91	2,33	1,98	1,66	1,44	1,28	1,16	1,07	0,931	0,582

Constant Power Discharge - Watts per Cell at 20°C (in MINUTES)

V/cell	5	10	15	20	25	30	35	40	45	50	55	60	90
1,6	84,8	54,1	43,3	34,2	28,2	24,3	21,6	19,6	18,1	16,9	15,8	15,1	10,7
1,63	83,5	53,6	42,9	33,9	28,0	24,1	21,4	19,4	18,0	16,7	15,7	14,9	10,7
1,65	82,3	52,5	42,3	33,4	27,8	23,8	21,2	19,2	17,8	16,5	15,5	14,8	10,6
1,7	78,9	50,4	40,7	32,1	27,1	23,1	20,5	18,6	17,2	16,0	15,0	14,5	10,5
1,75	75,5	48,2	39,3	31,1	26,5	22,5	20,0	18,2	16,8	15,6	14,7	14,2	10,4
1,8	71,2	45,5	37,3	29,41	25,7	21,7	19,3	17,5	16,2	15,1	14,1	13,7	10,1

Constant Power Discharge - Watts per Cell at 20°C (in HOURS)

V/cell	2	3	4	5	6	7	8	9	10	12	20
1,6	8,31	6,07	4,87	4,15	3,49	3,03	2,70	2,45	2,26	1,96	1,23
1,63	8,29	6,05	4,85	4,14	3,48	3,02	2,69	2,45	2,25	1,96	1,22
1,65	8,26	6,04	4,84	4,12	3,47	3,01	2,68	2,44	2,24	1,95	1,22
1,7	8,19	5,98	4,80	4,09	3,44	2,98	2,66	2,42	2,22	1,93	1,21
1,75	8,07	5,94	4,76	4,06	3,41	2,96	2,64	2,40	2,21	1,92	1,20
1,8	7,86	5,76	4,62	3,94	3,31	2,872	2,56	2,33	2,14	1,86	1,16



ES 12-12

12V-12Ah



Features

- High purity lead calcium grid plates to prolong service life and enhance corrosion resistance
- Low resistance microporous glass fibre separators, AGM VRLA spill resistant design
- One way, self-regulating pressure relief valve allows gas to escape and prevents the ingress of oxygen
- High conductivity, leak resistant female terminal thread for ease of installation
- Heat sealed lid to box weld for superior integrity
- Flame arrestors for added safety

Electrical Specification

Nominal Voltage	12V
20-hr rate Capacity to 1.8V/cell at 20°C	12 Ah
10-hr rate Capacity to 1.8V/cell at 20°C	10,7 Ah
10-min rate Constant Power 1.6V/cell at 20°C	54,1 Watts

Dimensions

Lenght	151 mm
Width	98 mm
Height	95 mm
Height over terminals	101 mm
Min height required above terminals	100 mm
Weight (typical)	3,45 kg

Terminal Type

Female threaded terminal	T1/T2 mm
Torque	-

Internal Resistance

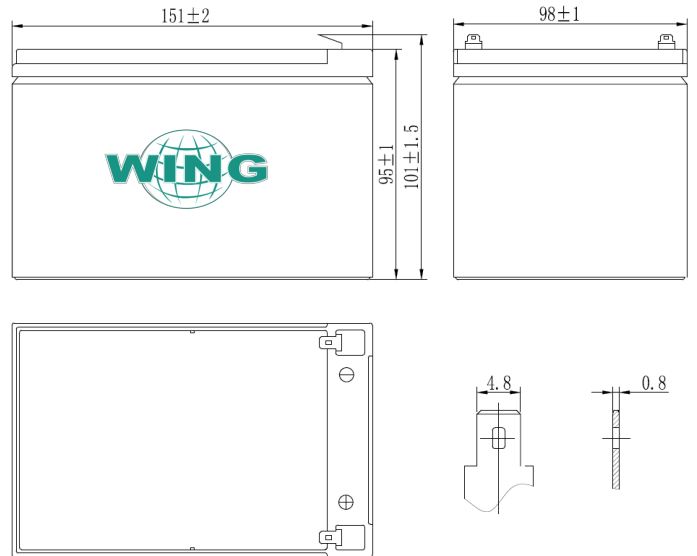
Impedance (fully charged)	20 mΩ
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Charge Voltage

Float charge voltage at 20°C	2.26~2.30 V/cell
Float charge voltage temperature correction factor (for variations from standard 20°C)	±3 mV/Cell/°C
Cyclic (or Boost) charge voltage at 20°C	2.42~2.49 V/cell
Cyclic charge voltage temperature correction factor (for variations from standard 20°C)	±4 mV/Cell/°C
Charge Current	
Maximum charge current limit	2,4 A
Remote Degassing Facility	-
Degassing Tube Diameter	-

Operating Temperature Range

Storage (fully charged condition)	-20 °C to 50 °C
Charge	-10 °C to 50 °C
Discharge	-15 °C to 50 °C



Storage

Capacity loss in storage at 20°C / month	<3 %
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Case Material

Standard option	ABS (UL94:V0 / HB)
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Design Life

EUROBAT Classification (High Performance)	6 - 9 years at 20 °C
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Maximum Discharge Current

1 Second	120 A
1 Minute	60 A
Short Circuit Current	195 A

Manufactured in ISO9001, ISO14001, OHSAS 18001 certified facility



Standards

Compliant with:
 BS 6290-4: 1997
 BS EN 60896-21: 2004
 BS EN 60896-22: 2004



ES 12-12

12V-12Ah

Constant Current Discharge - Amps at 20°C (In MINUTES)

V/cell	5	10	15	20	25	30	35	40	45	50	55	60	90
1,6	45,6	28,8	22,8	18,0	14,8	12,7	11,3	10,3	9,44	8,78	8,24	7,80	5,52
1,63	44,9	28,5	22,6	17,9	14,7	12,6	11,2	10,2	9,37	8,71	8,18	7,74	5,50
1,65	44,2	27,9	22,3	17,6	14,6	12,5	11,1	10,1	9,26	8,61	8,08	7,68	5,48
1,7	42,4	26,8	21,4	16,9	14,2	12,1	10,8	9,75	8,97	8,34	7,83	7,49	5,44
1,75	40,6	25,6	20,7	16,3	14,0	11,8	10,5	9,51	8,75	8,14	7,64	7,34	5,35
1,8	38,3	24,2	19,6	15,5	13,5	11,4	10,1	9,16	8,43	7,84	7,36	7,11	5,22

Constant Current Discharge - Amps at 20°C (in HOURS)

V/cell	2	3	4	5	6	7	8	9	10	12	20
1,6	4,26	3,07	2,45	2,09	1,75	1,52	1,35	1,23	1,13	0,981	0,613
1,63	4,25	3,06	2,45	2,08	1,75	1,52	1,35	1,22	1,13	0,978	0,611
1,65	4,24	3,05	2,44	2,07	1,74	1,51	1,34	1,22	1,12	0,975	0,610
1,7	4,20	3,02	2,42	2,05	1,73	1,50	1,33	1,21	1,11	0,967	0,604
1,75	4,14	3,00	2,40	2,04	1,72	1,49	1,32	1,20	1,10	0,960	0,600
1,8	4,03	2,91	2,33	1,98	1,66	1,44	1,28	1,16	1,07	0,931	0,582

Constant Power Discharge - Watts per Cell at 20°C (in MINUTES)

V/cell	5	10	15	20	25	30	35	40	45	50	55	60	90
1,6	84,8	54,1	43,3	34,2	28,2	24,3	21,6	19,6	18,1	16,9	15,8	15,1	10,7
1,63	83,5	53,6	42,9	33,9	28,0	24,1	21,4	19,4	18,0	16,7	15,7	14,9	10,7
1,65	82,3	52,5	42,3	33,4	27,8	23,8	21,2	19,2	17,8	16,5	15,5	14,8	10,6
1,7	78,9	50,35	40,7	32,1	27,1	23,1	20,5	18,6	17,2	16,0	15,0	14,5	10,5
1,75	75,5	48,2	39,3	31,1	26,5	22,5	20,0	18,2	16,8	15,6	14,7	14,2	10,4
1,8	71,2	45,5	37,3	29,4	25,7	21,7	19,3	17,5	16,2	15,1	14,1	13,7	10,1

Constant Power Discharge - Watts per Cell at 20°C (in HOURS)

V/cell	2	3	4	5	6	7	8	9	10	12	20
1,6	8,31	6,07	4,87	4,15	3,49	3,03	2,70	2,45	2,26	1,96	1,23
1,63	8,29	6,05	4,85	4,14	3,48	3,02	2,69	2,45	2,25	1,96	1,22
1,65	8,26	6,04	4,84	4,12	3,47	3,01	2,68	2,44	2,24	1,95	1,22
1,7	8,19	5,98	4,80	4,09	3,44	2,98	2,66	2,42	2,22	1,93	1,21
1,75	8,07	5,94	4,76	4,06	3,41	2,96	2,64	2,40	2,21	1,92	1,20
1,8	7,86	5,76	4,62	3,94	3,31	2,87	2,56	2,33	2,14	1,86	1,16



ES 18-12

12V-18Ah



Features

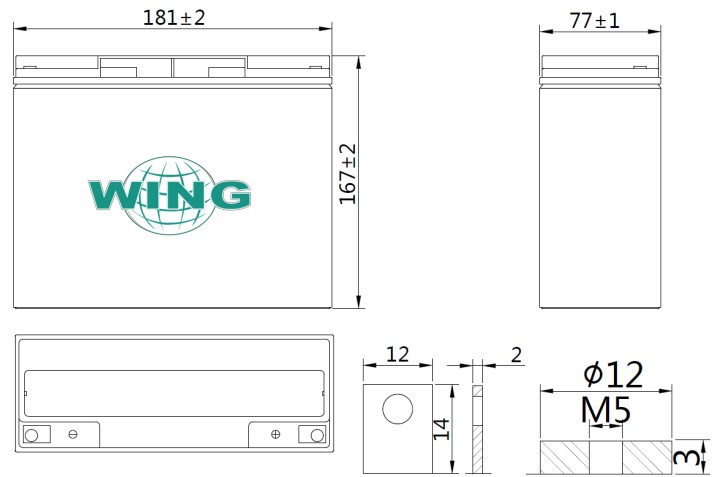
- High purity lead calcium grid plates to prolong service life and enhance corrosion resistance
- Low resistance microporous glass fibre separators, AGM VRLA spill resistant design
- One way, self-regulating pressure relief valve allows gas to escape and prevents the ingress of oxygen
- High conductivity, leak resistant female terminal thread for ease of installation
- Heat sealed lid to box weld for superior integrity
- Flame arrestors for added safety

Electrical Specification

Nominal Voltage	12V
20-hr rate Capacity to 1.8V/cell at 20°C	18 Ah
10-hr rate Capacity to 1.8V/cell at 20°C	16,1 Ah
10-min rate Constant Power 1.6V/cell at 20°C	81,2 Watts

Dimensions

Length	181 mm
Width	77 mm
Height	167 mm
Height over terminals	167 mm
Min height required above terminals	165 mm
Weight (typical)	5,25 kg



Terminal Type

Female threaded terminal	T8/T3 mm
Torque	5,5 Nm

Internal Resistance

Impedance (fully charged)	16 mΩ
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Charge Voltage

Float charge voltage at 20°C	2.26~2.30 V/cell
Float charge voltage temperature correction factor (for variations from standard 20°C)	±3 mV/Cell/°C
Cyclic (or Boost) charge voltage at 20°C	2.42~2.49 V/cell
Cyclic charge voltage temperature correction factor (for variations from standard 20°C)	±4 mV/Cell/°C

Charge Current	
Maximum charge current limit	5,4 A
Remote Degassing Facility	-
Degassing Tube Diameter	-

Operating Temperature Range

Storage (fully charged condition)	-20 °C to 50 °C
Charge	-10 °C to 50 °C
Discharge	-15 °C to 50 °C

Storage

Capacity loss in storage at 20°C / month	<3 %
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Case Material

Standard option	ABS (UL94:V0 / HB)
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Design Life

EUROBAT Classification (High Performance)	6 - 9 years at 20 °C
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Maximum Discharge Current

1 Second	180 A
1 Minute	90 A
Short Circuit Current	265 A

Manufactured in ISO9001, ISO14001, OHSAS 18001 certified facility



Standards

Compliant with:
 BS 6290-4: 1997
 BS EN 60896-21: 2004
 BS EN 60896-22: 2004



ES 18-12

12V-18Ah

Constant Current Discharge - Amps at 20°C (in MINUTES)

V/cell	5	10	15	20	25	30	35	40	45	50	55	60	90
1,6	68,4	43,2	34,2	27,0	22,2	19,1	17,0	15,4	14,2	13,2	12,4	11,7	8,28
1,63	67,4	42,8	33,9	26,8	22,1	18,9	16,8	15,3	14,1	13,1	12,3	11,6	8,25
1,65	66,3	41,9	33,4	26,4	21,9	18,7	16,6	15,1	13,9	12,9	12,1	11,5	8,23
1,7	63,6	40,2	32,1	25,4	21,4	18,1	16,1	14,6	13,5	12,5	11,7	11,2	8,15
1,75	60,9	38,4	31,1	24,5	20,9	17,7	15,7	14,3	13,1	12,2	11,5	11,0	8,03
1,8	57,5	36,3	29,4	23,2	20,3	17,0	15,2	13,7	12,7	11,8	11,0	10,7	7,83

Constant Current Discharge - Amps at 20°C (in HOURS)

V/cell	2	3	4	5	6	7	8	9	10	12	20
1,6	6,39	4,60	3,68	3,13	2,63	2,28	2,02	1,84	1,69	1,47	0,920
1,63	6,38	4,59	3,67	3,12	2,62	2,27	2,02	1,83	1,69	1,47	0,917
1,65	6,36	4,57	3,66	3,11	2,62	2,27	2,01	1,83	1,68	1,46	0,914
1,7	6,30	4,53	3,63	3,08	2,59	2,25	1,99	1,81	1,67	1,45	0,906
1,75	6,21	4,50	3,60	3,06	2,57	2,23	1,98	1,80	1,66	1,44	0,900
1,8	6,05	4,37	3,49	2,97	2,50	2,17	1,92	1,75	1,61	1,40	0,873

Constant Power Discharge - Watts per Cell at 20°C (in MINUTES)

V/cell	5	10	15	20	25	30	35	40	45	50	55	60	90
1,6	127	81,2	65,0	51,3	42,3	36,4	32,4	29,4	27,2	25,3	23,7	22,6	16,1
1,63	125	80,4	64,3	50,9	41,9	36,2	32,2	29,2	27,0	25,1	23,6	22,4	16,0
1,65	123	78,8	63,4	50,1	41,6	35,7	31,8	28,8	26,7	24,8	23,3	22,2	16,0
1,7	118	75,53	61,1	48,2	40,6	34,6	30,8	27,9	25,8	24,0	22,6	21,7	15,8
1,75	113	72,3	59,0	46,6	39,8	33,8	30,1	27,2	25,2	23,5	22,0	21,2	15,6
1,8	107	68,2	55,9	44,1	38,6	32,5	29,0	26,2	24,3	22,6	21,2	20,6	15,2

Constant Power Discharge - Watts per Cell at 20°C (in HOURS)

V/cell	2	3	4	5	6	7	8	9	10	12	20
1,6	12,5	9,11	7,30	6,22	5,24	4,54	4,05	3,68	3,39	2,94	1,84
1,63	12,4	9,08	7,28	6,21	5,22	4,53	4,04	3,67	3,38	2,93	1,83
1,65	12,4	9,05	7,26	6,19	5,20	4,51	4,02	3,66	3,37	2,93	1,83
1,7	12,3	8,97	7,20	6,13	5,16	4,47	3,99	3,63	3,34	2,90	1,81
1,75	12,1	8,91	7,15	6,09	5,12	4,44	3,96	3,60	3,31	2,88	1,80
1,8	11,8	8,64	6,93	5,91	4,97	4,31	3,84	3,49	3,21	2,79	1,75



ES 26-12

12V-26Ah



Features

- High purity lead calcium grid plates to prolong service life and enhance corrosion resistance
- Low resistance microporous glass fibre separators, AGM VRLA spill resistant design
- One way, self-regulating pressure relief valve allows gas to escape and prevents the ingress of oxygen
- High conductivity, leak resistant female terminal thread for ease of installation
- Heat sealed lid to box weld for superior integrity
- Flame arrestors for added safety

Electrical Specification

Nominal Voltage	12V
20-hr rate Capacity to 1.8V/cell at 20°C	26 Ah
10-hr rate Capacity to 1.8V/cell at 20°C	23,2 Ah
10-min rate Constant Power 1.6V/cell at 20°C	117 Watts

Dimensions

Lenght	166 mm
Width	175 mm
Height	125 mm
Height over terminals	125 mm
Min height required above terminals	125 mm
Weight (typical)	7,8 kg

Terminal Type

Female threaded terminal	T8/T3 mm
Torque	5,5 Nm

Internal Resistance

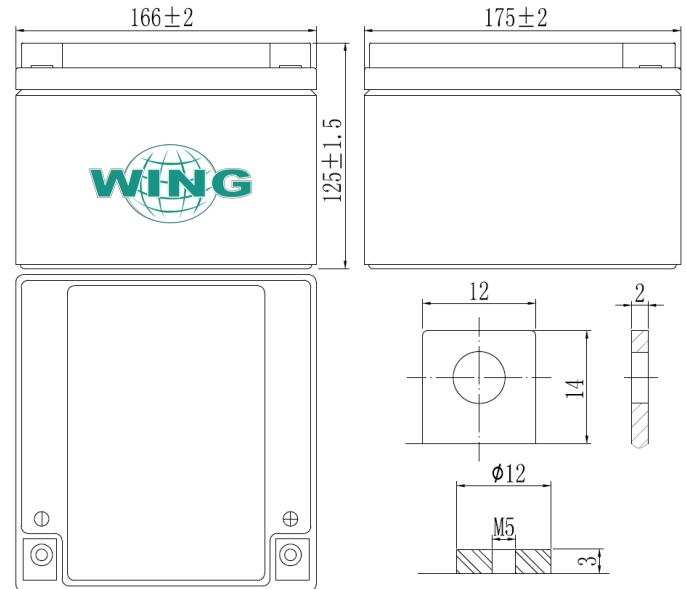
Impedance (fully charged)	13 mΩ
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Charge Voltage

Float charge voltage at 20°C	2.26~2.30 V/cell
Float charge voltage temperature correction factor (for variations from standard 20°C)	±3 mV/Cell/°C
Cyclic (or Boost) charge voltage at 20°C	2.42~2.49 V/cell
Cyclic charge voltage temperature correction factor (for variations from standard 20°C)	±4 mV/Cell/°C
Charge Current	
Maximum charge current limit	5,4 A
Remote Degassing Facility	-
Degassing Tube Diameter	-

Operating Temperature Range

Storage (fully charged condition)	-20 °C to 50 °C
Charge	-10 °C to 50 °C
Discharge	-15 °C to 50 °C



Storage

Capacity loss in storage at 20°C / month	<3 %
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Case Material

Standard option	ABS (UL94:V0 / HB)
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Design Life

EUROBAT Classification (High Performance)	6 - 9 years at 20 °C
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Maximum Discharge Current

1 Second	260 A
1 Minute	130 A
Short Circuit Current	415 A

Manufactured in ISO9001, ISO14001, OHSAS 18001 certified facility



Standards

Compliant with:
BS 6290-4: 1997
BS EN 60896-21: 2004
BS EN 60896-22: 2004



ES 26-12

12V-26Ah

Constant Current Discharge - Amps at 20°C (In MINUTES)

V/cell	5	10	15	20	25	30	35	40	45	50	55	60	90
1,6	98,8	62,4	49,4	39,0	32,1	27,6	24,5	22,2	20,5	19,0	17,9	16,9	12,0
1,63	97,3	61,8	48,9	38,7	31,9	27,3	24,3	22,1	20,3	18,9	17,7	16,8	11,9
1,65	95,8	60,5	48,2	38,1	31,7	27,0	24,0	21,8	20,1	18,7	17,5	16,6	11,9
1,7	91,9	58,0	46,4	36,7	30,9	26,2	23,3	21,1	19,4	18,1	17,0	16,2	11,8
1,75	87,9	55,5	44,9	35,4	30,2	25,5	22,7	20,6	19,0	17,6	16,6	15,9	11,6
1,8	83,0	52,4	42,5	33,5	29,3	24,6	21,9	19,9	18,3	17,0	16,0	15,4	11,3

Constant Current Discharge - Amps at 20°C (in HOURS)

V/cell	2	3	4	5	6	7	8	9	10	12	20
1,6	9,24	6,64	5,31	4,52	3,80	3,30	2,92	2,66	2,44	2,13	1,33
1,63	9,21	6,62	5,30	4,50	3,79	3,29	2,91	2,65	2,44	2,12	1,32
1,65	9,18	6,60	5,28	4,49	3,78	3,28	2,91	2,64	2,43	2,11	1,32
1,7	9,10	6,55	5,24	4,45	3,74	3,25	2,88	2,62	2,41	2,09	1,31
1,75	8,96	6,50	5,20	4,42	3,72	3,22	2,86	2,60	2,39	2,08	1,30
1,8	8,74	6,31	5,04	4,29	3,61	3,13	2,77	2,52	2,32	2,02	1,26

Constant Power Discharge - Watts per Cell at 20°C (in MINUTES)

V/cell	5	10	15	20	25	30	35	40	45	50	55	60	90
1,6	184	117	93,9	74,1	61,1	52,6	46,8	42,5	39,3	36,5	34,3	32,6	23,2
1,63	181	116	92,9	73,5	60,6	52,2	46,5	42,1	39,0	36,2	34,0	32,4	23,1
1,65	178	114	91,6	72,3	60,1	51,6	45,9	41,6	38,5	35,8	33,6	32,1	23,1
1,7	171	109	88,2	69,7	58,6	50,0	44,5	40,3	37,3	34,7	32,6	31,3	22,8
1,75	164	104	85,2	67,3	57,5	48,8	43,4	39,4	36,4	33,9	31,8	30,7	22,5
1,8	154	98,5	80,7	63,7	55,7	47,0	41,8	37,9	35,1	32,6	30,6	29,7	21,9

Constant Power Discharge - Watts per Cell at 20°C (in HOURS)

V/cell	2	3	4	5	6	7	8	9	10	12	20
1,6	18,0	13,2	10,6	8,99	7,56	6,56	5,85	5,31	4,89	4,25	2,66
1,63	18,0	13,1	10,5	8,96	7,54	6,54	5,83	5,30	4,88	4,24	2,65
1,65	17,9	13,1	10,5	8,94	7,52	6,52	5,81	5,28	4,86	4,23	2,64
1,7	17,7	13,0	10,4	8,86	7,45	6,46	5,76	5,24	4,82	4,19	2,62
1,75	17,5	12,9	10,3	8,80	7,40	6,42	5,72	5,20	4,78	4,16	2,60
1,8	17,0	12,5	10,0	8,53	7,18	6,22	5,55	5,04	4,64	4,04	2,52



ES 40-12

12V-42,2Ah



Features

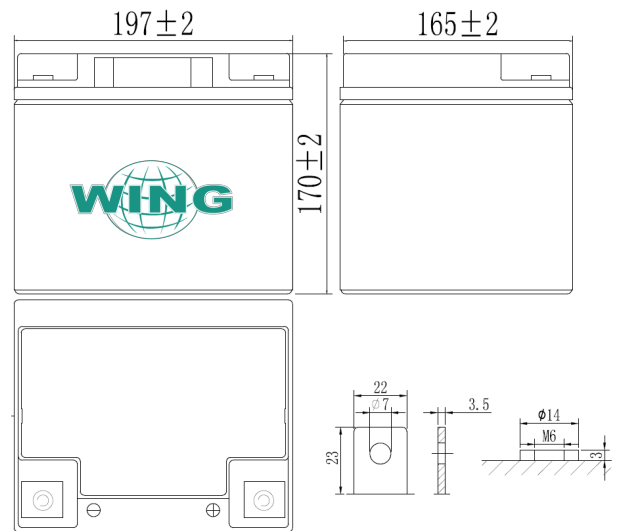
- High purity lead calcium grid plates to prolong service life and enhance corrosion resistance
- Low resistance microporous glass fibre separators, AGM VRLA spill resistant design
- One way, self-regulating pressure relief valve allows gas to escape and prevents the ingress of oxygen
- High conductivity, leak resistant female terminal thread for ease of installation
- Heat sealed lid to box weld for superior integrity
- Flame arrestors for added safety

Electrical Specification

Nominal Voltage	12V
20-hr rate Capacity to 1.8V/cell at 20°C	42,2 Ah
10-hr rate Capacity to 1.8V/cell at 20°C	40 Ah
10-min rate Constant Power 1.6V/cell at 20°C	151 Watts

Dimensions

Lenght	197 mm
Width	165 mm
Height	170 mm
Height over terminals	170 mm
Min height required above terminals	170 mm
Weight (typical)	12,5 kg



Terminal Type

Female threaded terminal	T9/T4 mm
Torque	8,5 Nm

Internal Resistance

Impedance (fully charged)	9,5 mΩ
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Charge Voltage

Float charge voltage at 20°C	2.25~2.30 V/cell
Float charge voltage temperature correction factor (for variations from standard 20°C)	±3 mV/Cell/°C
Cyclic (or Boost) charge voltage at 20°C	2.42~2.49 V/cell
Cyclic charge voltage temperature correction factor (for variations from standard 20°C)	±4 mV/Cell/°C
Charge Current	
Maximum charge current limit	12 A
Remote Degassing Facility	-
Degassing Tube Diameter	-

Operating Temperature Range

Storage (fully charged condition)	-20 °C to 50 °C
Charge	-10 °C to 50 °C
Discharge	-15 °C to 50 °C

Storage

Capacity loss in storage at 20°C / month	<3 %
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Case Material

Standard option	ABS (UL94:V0 / HB)
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Design Life

EUROBAT Classification (High Performance)	6 - 9 years at 20 °C
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Maximum Discharge Current

1 Second	200 A
1 Minute	130 A
Short Circuit Current	540 A

Manufactured in ISO9001, ISO14001, OHSAS 18001 certified facility



Standards

Compliant with:
BS 6290-4: 1997
BS EN 60896-21: 2004
BS EN 60896-22: 2004



ES 40-12

12V-42,2Ah

Constant Current Discharge - Amps at 20°C (In MINUTES)

V/cell	5	10	15	20	25	30	35	40	45	50	55	60	90
1,6	126	84,0	66,0	54,0	45,6	40,0	36,7	33,0	30,0	28,1	26,3	24,8	18,4
1,63	124	83,2	65,3	53,6	45,2	39,7	36,4	32,7	29,8	27,9	26,1	24,6	18,4
1,65	122	81,5	64,4	52,7	44,5	39,2	35,9	32,3	29,4	27,5	25,8	24,4	18,3
1,7	117	78,1	62,0	50,8	42,9	38,0	34,8	31,4	28,5	26,7	25,0	23,8	18,1
1,75	112	74,8	59,9	49,0	41,4	37,1	34,0	30,6	27,8	26,0	24,4	23,3	17,8
1,8	106	70,6	56,8	46,4	39,2	35,7	32,8	29,5	26,8	25,1	23,5	22,6	17,7

Constant Current Discharge - Amps at 20°C (in HOURS)

V/cell	2	3	4	5	6	7	8	9	10	12	20
1,6	14,6	10,2	8,36	7,14	6,24	5,47	4,90	4,44	4,07	3,46	2,14
1,63	14,6	10,2	8,34	7,12	6,22	5,49	4,88	4,43	4,06	3,45	2,13
1,65	14,5	10,1	8,31	7,10	6,21	5,46	4,87	4,41	4,06	3,45	2,13
1,7	14,4	10,1	8,26	7,05	6,16	5,43	4,83	4,39	4,05	3,44	2,13
1,75	14,2	10,0	8,20	7,00	6,12	5,40	4,80	4,37	4,03	3,42	2,11
1,8	13,8	9,7	7,95	6,79	5,94	5,29	4,66	4,36	4,00	3,40	2,10

Constant Power Discharge - Watts per Cell at 20°C (in MINUTES)

V/cell	5	10	15	20	25	30	35	40	45	50	55	60	90
1,6	221	151	121	98,8	84,4	74,8	68,6	61,7	56,1	52,8	49,7	47,1	35,0
1,63	217	150	120	98,0	83,7	74,2	68,0	61,2	55,7	52,4	49,3	46,7	34,9
1,65	214	147	118	96,4	82,3	73,3	67,2	60,5	55,0	51,7	48,7	46,4	34,7
1,7	205	141	114	92,9	79,3	71,1	65,2	58,6	53,3	50,2	47,3	45,2	34,4
1,75	196	135	110	89,7	76,6	69,3	63,6	57,2	52,0	48,9	46,1	44,3	33,9
1,8	185	127	104	85,0	72,5	66,8	61,3	55,1	50,1	47,1	44,4	43,0	33,6

Constant Power Discharge - Watts per Cell at 20°C (in HOURS)

V/cell	2	3	4	5	6	7	8	9	10	12	20
1,6	28,2	20,0	16,4	14,1	12,3	10,8	9,69	8,80	8,10	6,89	4,28
1,63	28,2	19,9	16,3	14,0	12,3	10,8	9,67	8,76	8,09	6,87	4,27
1,65	28,0	19,9	16,3	14,0	12,2	10,8	9,64	8,73	8,09	6,87	4,27
1,7	27,8	19,7	16,2	13,9	12,1	10,7	9,57	8,69	8,06	6,85	4,25
1,75	27,4	19,6	16,1	13,8	12,1	10,6	9,50	8,66	8,02	6,81	4,23
1,8	26,7	19,0	15,6	13,4	11,7	10,4	9,22	8,62	7,96	6,77	4,20



ES 65-12

12V-65Ah



Features

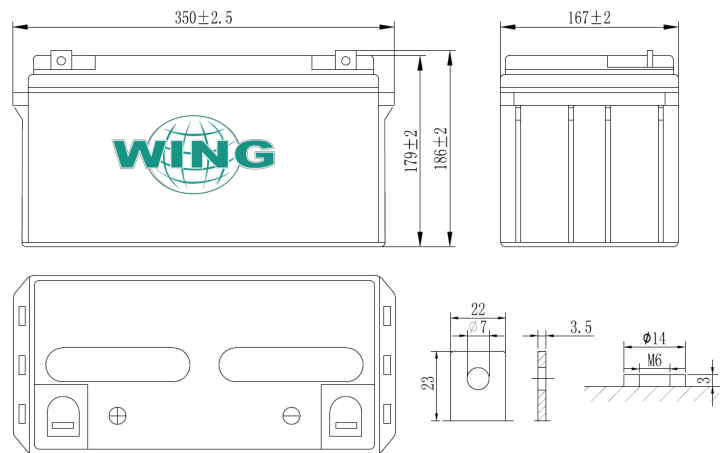
- High purity lead calcium grid plates to prolong service life and enhance corrosion resistance
- Low resistance microporous glass fibre separators, AGM VRLA spill resistant design
- One way, self-regulating pressure relief valve allows gas to escape and prevents the ingress of oxygen
- High conductivity, leak resistant female terminal thread for ease of installation
- Heat sealed lid to box weld for superior integrity
- Flame arrestors for added safety

Electrical Specification

Nominal Voltage	12V
20-hr rate Capacity to 1.8V/cell at 20°C	42,5 Ah
10-hr rate Capacity to 1.8V/cell at 20°C	68,2 Ah
10-min rate Constant Power 1.6V/cell at 20°C	246 Watts

Dimensions

Length	350 mm
Width	167 mm
Height	179 mm
Height over terminals	179 mm
Min height required above terminals	179 mm
Weight (typical)	20,5 kg



Terminal Type

Female threaded terminal	T9/T5 mm
Torque	8,5 Nm

Internal Resistance

Impedance (fully charged)	6,5 mΩ
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Charge Voltage

Float charge voltage at 20°C	2.25~2.30 V/cell
Float charge voltage temperature correction factor (for variations from standard 20°C)	±3 mV/Cell/°C
Cyclic (or Boost) charge voltage at 20°C	2.42~2.49 V/cell
Cyclic charge voltage temperature correction factor (for variations from standard 20°C)	±4 mV/Cell/°C
Charge Current	
Maximum charge current limit	19,5 A
Remote Degassing Facility	-
Degassing Tube Diameter	-

Operating Temperature Range

Storage (fully charged condition)	-20 °C to 50 °C
Charge	-10 °C to 50 °C
Discharge	-15 °C to 50 °C

Storage

Capacity loss in storage at 20°C / month	<3 %
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Case Material

Standard option	ABS (UL94:V0 / HB)
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Design Life

EUROBAT Classification (High Performance)	6 - 9 years at 20 °C
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Maximum Discharge Current

1 Second	325 A
1 Minute	165 A
Short Circuit Current	878 A

Manufactured in ISO9001, ISO14001, OHSAS 18001 certified facility



Standards

Compliant with:
BS 6290-4: 1997
BS EN 60896-21: 2004
BS EN 60896-22: 2004



ES 65-12

12V-65Ah

Constant Current Discharge - Amps at 20°C (in MINUTES)

V/cell	5	10	15	20	25	30	35	40	45	50	55	60	90
1,6	205	137	107	87,8	74,1	65,0	59,6	53,6	48,8	45,6	42,8	40,3	29,9
1,63	202	135	106	87,0	73,5	64,5	59,1	53,2	48,4	45,3	42,4	40,0	29,8
1,65	199	132	105	85,6	72,3	63,7	58,4	52,6	47,8	44,7	41,9	39,7	29,7
1,7	190	127	101	82,5	69,7	61,8	56,6	50,9	46,3	43,3	40,6	38,7	29,4
1,75	182	121	97,4	79,7	67,3	60,3	55,3	49,7	45,2	42,3	39,6	37,9	29,0
1,8	172	115	92,2	75,5	63,7	58,0	53,2	47,9	43,5	40,7	38,2	36,8	28,7

Constant Current Discharge - Amps at 20°C (in HOURS)

V/cell	2	3	4	5	6	7	8	9	10	12	20
1,6	23,8	16,6	13,6	11,6	10,1	8,89	7,96	7,22	6,62	5,62	3,47
1,63	23,7	16,5	13,6	11,6	10,1	8,92	7,93	7,19	6,60	5,61	3,47
1,65	23,6	16,5	13,5	11,5	10,1	8,87	7,91	7,16	6,60	5,61	3,47
1,7	23,4	16,4	13,4	11,5	10,0	8,83	7,85	7,14	6,58	5,60	3,46
1,75	23,0	16,3	13,3	11,4	9,95	8,78	7,80	7,11	6,55	5,56	3,44
1,8	22,5	15,8	12,9	11,0	9,65	8,60	7,57	7,08	6,50	5,53	3,41

Constant Power Discharge - Watts per Cell at 20°C (in MINUTES)

V/cell	5	10	15	20	25	30	35	40	45	50	55	60	90
1,6	358	246	196	161	137	122	111	100	91,2	85,8	80,8	76,6	56,8
1,63	353	243	194	159	136	121	111	99,5	90,4	85,1	80,2	76,0	56,7
1,65	348	238	192	157	134	119	109	98,3	89,3	84,1	79,2	75,4	56,4
1,7	333	229	184	151	129	115	106	95,3	86,6	81,5	76,8	73,5	55,9
1,75	319	219	178	146	124	113	103	93,0	84,5	79,5	74,9	72,1	55,1
1,8	301	206	169	138	118	109	99,5	89,5	81,4	76,6	72,2	69,8	54,5

Constant Power Discharge - Watts per Cell at 20°C (in HOURS)

V/cell	2	3	4	5	6	7	8	9	10	12	20
1,6	45,8	32,5	26,6	22,9	20,0	17,5	15,8	14,3	13,2	11,2	6,95
1,63	45,7	32,4	26,6	22,8	19,9	17,6	15,7	14,2	13,1	11,2	6,93
1,65	45,6	32,3	26,5	22,7	19,9	17,5	15,7	14,2	13,1	11,2	6,93
1,7	45,2	32,1	26,3	22,6	19,7	17,4	15,6	14,1	13,1	11,1	6,91
1,75	44,5	31,9	26,1	22,4	19,6	17,3	15,4	14,1	13,0	11,1	6,87
1,8	43,4	30,9	25,3	21,7	19,0	16,9	15,0	14,0	12,9	11,0	6,83