



# 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

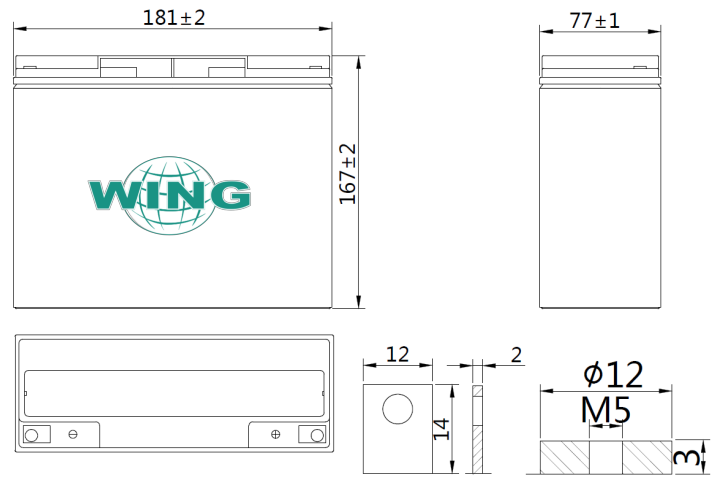
Impedance (fully charged)	16 mΩ
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### Charge Voltage

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
<b>Charge Current</b>	
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



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### 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