

DESIGNED TO WITHSTAND THE HARSH CONDITIONS OF THE SEABED



## POWER SOLUTIONS FOR UNDERWATER VEHICLES AND SUBSEA EQUIPMENT

### Higher Performance

- 4X Longer Run Time Endurance (vs SLA)
- 100% Condition Based Monitoring
- High Current, High Power Versions

### Lower Risk

- ABS Certified & 2nd Generation Learned
- 6000M Pressure Tolerant Tested
- UN 38.3 Certified and Safety Tested
- ISO 9001 Quality Manufactured
  - Electronic Test Datasheets

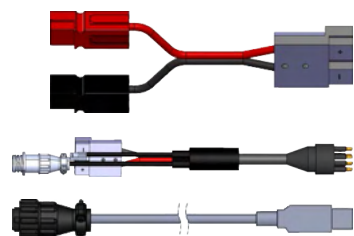
### Patented Battery Management System

- Automatic Cell Balancing
- Automatic Module-to-Module Balancing
- Continuous, Redundant Safety Protection
- Ability to Balance High Capacity Packs
- Subsea Application Proven

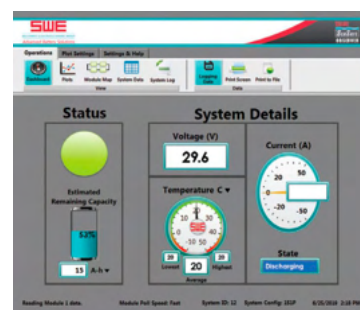
### Chargers



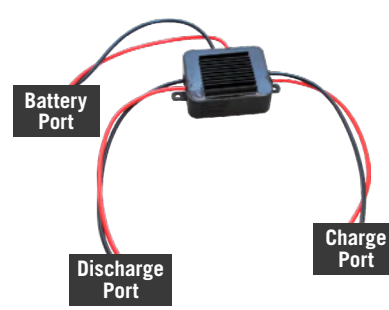
### Charger Cables



### Observer Software



### Diode OR-ing (DOM)



## THE FULL PRODUCT LINE-UP



USE DIRECT IN WATER








USE IN PBOF CASE

USE IN 1 ATM PV

- 24V, 30V and 37V Versions
- Battery System Sizing Flexibility
  - Connect in Series - System Voltage Increments
  - Connect in Parallel - System Endurance Capacity or Power Increments
- Three Versions for Best Battery Application Fit
  - Direct in Water - Pressure Tolerant - SeaSafe® Direct
  - In Oil Filled Case - Pressure Tolerant - SeaSafe® II
  - In Pressure Vessel - 1 Atmosphere - SeaSafe® Endurance

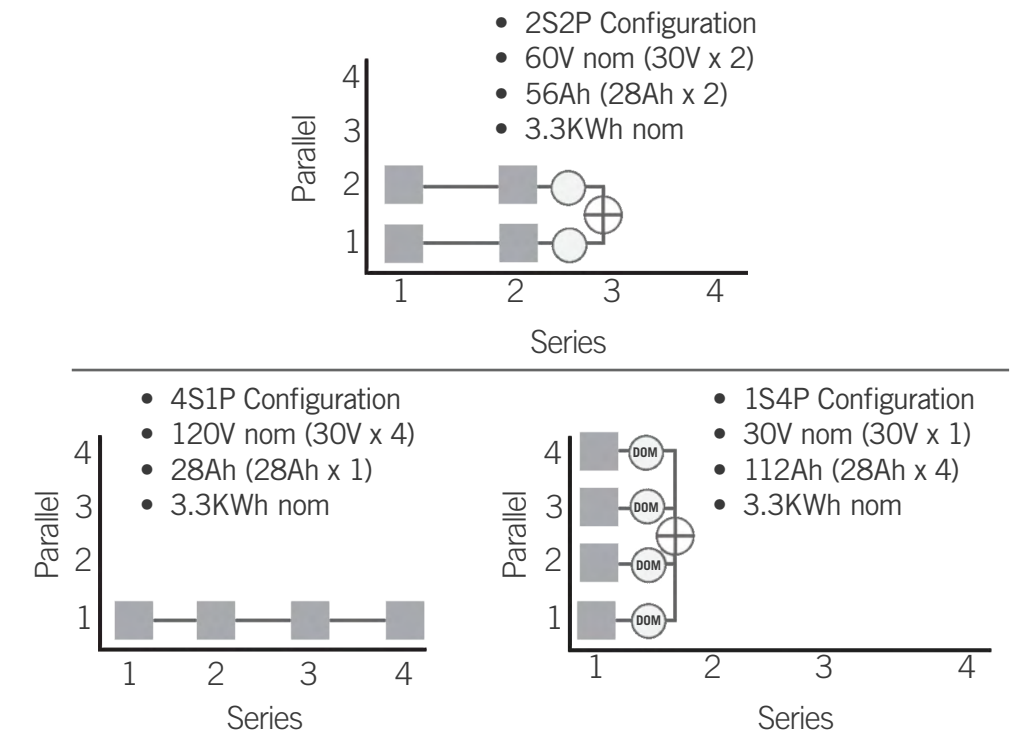
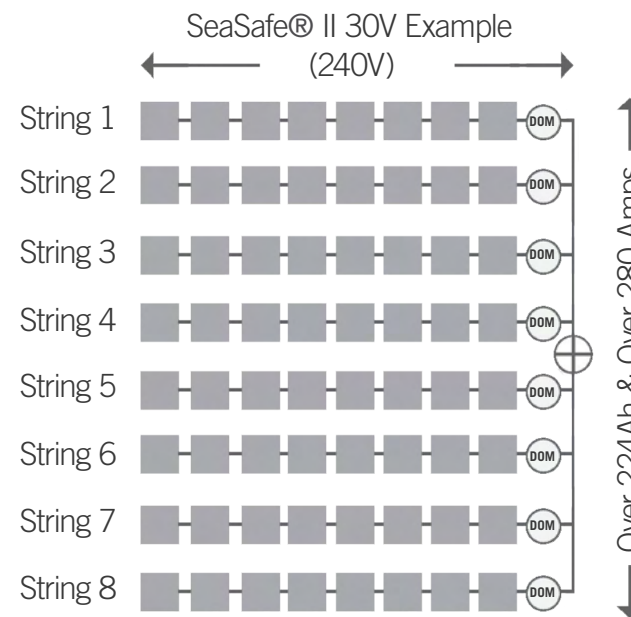
# CONTACT US TO DISCUSS YOUR REQUIREMENTS:

P.O. Box 31340, Houston, Texas, 77231  
 TEL +1-281-240-4000 EMAIL seasafe@swe.com

| SeaSafe® - Smart Subsea Battery Modules Technical Specifications |                        |      |           |  |           |             |  |           |             |   |           |             |  | PRELIMINARY |             |   |             |             |
|--|------------------------|------|-----------|--|-----------|-------------|--|-----------|-------------|---|-----------|-------------|--|-------------|-------------|---|-------------|-------------|
| SPEC   | FEATURE                | UNIT |           | SeaSafe® II - Daisy Chain<br> |           |             | SeaSafe® Direct<br> |           |             | SeaSafe® Direct - 40 Amp<br> |           |             | SeaSafe® Direct - Low Profile<br> |             |             | SeaSafe® Endurance<br> |             |             |
| USE CASE   | PRESSURE TOLERANT      |      | <6,000M   | YES  |           |             | YES  |           |             | YES   |           |             | YES  |             |             | NO  |             |             |
|  | IN CASE, DIRECT, OR PV |      |           | FOR USE IN PBOF CASE IN OIL  |           |             | FOR USE DIRECT IN WATER  |           |             | FOR USE DIRECT IN WATER   |           |             | FOR USE DIRECT IN WATER  |             |             | FOR USE IN 1 ATM PV   |             |             |
| MODULE SIZE  |                        |      |           | 24V  | 30V       | 37V         | 24V  | 30V       | 37V         | 24V   | 30V       | 37V         | 24V  | 30V         | 37V         | 24V   | 30V         | 37V         |
| PART NUMBER  |                        | Main |           | 46792428   | 46793028  | 46793728    | 46792428   | 46793028  | 46793728    | 46792428  | 46793028  | 46793728    | 46792428   | 46793028    | 46793728    | 39792447  | 39793047    | 39793747    |
|  |                        | Ext  |           | .3412  |           |             | .3402  |           |             | .3442   |           |             | .3405  |             |             | .3352   |             |             |
| CELLS IN SERIES  |                        |      |           | 7  | 8         | 10          | 7  | 8         | 10          | 7   | 8         | 10          | 7  | 8           | 10          | 7   | 8           | 10          |
| VOLTAGE  | OCV                    | VDC  | NOM       | 25.9   | 29.6      | 37.0        | 25.9   | 29.6      | 37.0        | 25.9  | 29.6      | 37.0        | 25.9   | 29.6        | 37.0        | 25.9  | 29.6        | 37.0        |
|  | OCV @ 93% SOC          | VDC  | MAX       | 28.6   | 32.7      | 40.9        | 28.6   | 32.7      | 40.9        | 28.6  | 32.7      | 40.9        | 28.6   | 32.7        | 40.9        | 28.7  | 32.8        | 41.0        |
|  | OCV                    | VDC  | MIN       | 21.0   | 24.0      | 30.0        | 21.0   | 24.0      | 30.0        | 21.0  | 24.0      | 30.0        | 21.0   | 24.0        | 30.0        | 21.0  | 24.0        | 30.0        |
| CURRENT  | DISCHARGE (CONTINUOUS) | A    | MAX       | 40   |           |             | 10   |           |             | 40  |           |             | 20   |             |             | 40  |             |             |
|  | DISCHARGE (60 usec)    | A    | MAX       | 90   |           |             | 54   |           |             | 90  |           |             | 54   |             |             | 90  |             |             |
|  | CHARGE                 | A    | MAX       | 40   |           |             | 10   |           |             | 40  |           |             | 20   |             |             | 40  |             |             |
| POWER  | DISCHARGE (CONTINUOUS) | W    | MAX       | 1036   | 1184      | 1480        | 259  | 296       | 370         | 1036  | 1184      | 1480        | 518  | 592         | 740         | 1036  | 1184        | 1480        |
| CAPACITY   | 93% SOC / 100% SOC     | Ah   | NOM       | 28 / 30  |           |             | 28 / 30  |           |             | 28 / 30   |           |             | 28 / 30  |             |             | 47 / 52   |             |             |
|  | 93% SOC / 100% SOC     | Wh   | NOM       | 725 / 777  | 829 / 888 | 1036 / 1110 | 725 / 777  | 829 / 888 | 1036 / 1110 | 725 / 777   | 829 / 888 | 1036 / 1110 | 725 / 777  | 829 / 888   | 1036 / 1110 | 1217 / 1347   | 1391 / 1539 | 1739 / 1924 |
| TEMPERATURE  | DISCHARGE              | °C   | MIN / MAX | -20 / +60  |           |             | -20 / +60  |           |             | -20 / +60   |           |             | -20 / +60  |             |             | -20 / +60   |             |             |
|  | CHARGE                 | °C   | MIN / MAX | 0 / +45  |           |             | 0 / +45  |           |             | 0 / +45   |           |             | 0 / +45  |             |             | 0 / +45   |             |             |

## CONFIGURATIONS AND FEATURES FOR A WIDE VARIETY OF APPLICATIONS

| CHOOSE YOUR PREFERRED SEASAFE BATTERY FOR YOUR APPLICATION |        |     |     |           |              |
|--|--------|-----|-----|-----------|--------------|
|  | AUV/UV | MUV | ROV | OIL & GAS | OCEANOGRAPHY |
| SeaSafe® II  | ●      | ●   |     | ●         | ●            |
| SeaSafe® Direct  | ●      | ●   | ●   |           | ●            |
| SeaSafe® Direct (40 amp)                                   | ●      |     | ●   | ●         |              |
| SeaSafe® Direct (Low profile)                              | ●      | ●   | ●   | ●         | ●            |
| SeaSafe® Endurance   | ●      |     |     | ●         | ●            |



DOM = Diode OR-ing Module