Product Description
The Flatpack2 2U Integrated is a compact power system containing a Monitoring and Control Unit (Smartpack), LVD, battery and load MCBs. It can house up to 4 Flatpack2 rectifier modules. Switch mode technology with resonant topology and high switching frequency is used to minimize volume and weight and to obtain high reliability. The system accepts large variations on the input voltage (85-290 VAC) and draws sinusoidal current with a soft start power-up.

Applications
Wireless, fiber and fixed line communication
Today’s communications demand state of the art, cost efficient and compact DC power systems. Flatpack2 delivers the industry leading power density of 21W/in³ and superb reliability at lowest lifetime cost.

Broadband and network access
Increasing network speed demands flexible and expandable DC power solutions. Flatpack2 is your key building block for future needs.

Product Features and Advantages

Highest efficiency in minimum space
Resonant topology makes the module efficiency industry leading and contributes to the rectifier's ultra compact dimensions

Digital controllers
Primary and secondary controls are digitalized, enabling excellent monitoring and regulation characteristics. Thus, the number of component has been reduced by 40% - for highly reliable, long life, trouble free DC power systems.

Heat management
Front-to-back air flow with chassis-integrated heat sinks gives the module the most suitable working environment and no limitations in the scalability of the desired system solution.

Unique connection
A true plug-and-play connection system: time-to-install and cost-reducing solution.

Global approvals
Flatpack2 is CE marked, UL recognized and NEBS certified for world wide installation.

Higher density and more compact power solutions
The Flatpack2 2U Integrated has been specifically designed to meet the demand for higher density and more compact power solutions. It is suitable for applications needing an expandable, easily serviceable and reliable power supply, fitting within a minimal space.
## Flatpack2, 2U Integrated
### Additional Technical Specifications

#### AC Input
| Voltage | 1 phase 230 VAC (single, dual or individual feed) |
| Frequency | 45 to 66Hz |
| Maximum Current | See Flatpack2 48VDC datasheet |
| Protection | o Soft start  
  o Surge protection (varistors)  
  o Internal fuses (L & N)  
  o Disconnect above 290 VAC |

#### Monitoring
| Monitoring unit | See Smartpack datasheet |
| Local operation | Menu driven software via keypads and LCD or PC (PowerSuite) |
| Remote operation | PowerSuite via modem or Monitoring via WebPower (WEB interface and SNMP protocol) |
| Alarm relays | 6 relays |
| Visual indications | o Green LED – System ON  
  o Yellow LED – Minor alarm(s)  
  o Red LED – Major alarm(s)  
  o LCD – system status |
| Digital inputs | 6 (for monitoring of external equipment) |
| Current measurements | Battery current  
  Rectifier current |
| Alarms | o Load fuse alarm  
  o Battery fuse alarm  
  o LVD operated  
  o Low output voltage alarms (2 individual alarm levels)  
  o High output voltage alarms (2 individual alarm levels)  
  o Battery capacity  
  o Temperature alarm  
  o Symmetry alarm |

#### DC Distribution Options
| No. of Load breakers | 6 x breakers (2-32A) |
| No. of Battery fuses | 1 or 2 (max. 100A each) |
| Programmable LVD | Optional: 1 LVBD (150A)  
  Optional: 1 LVLD (150A) |

#### Connections
| Battery connections | Battery cable, M6 bolts |
| Load MCB connections | Negative distribution from row connector (max 10mm2) |
| Alarm connections | Rear access row connector (2.5mm2) |

#### Other Specifications
| Isolation | o 3.0 KVAC – input and output  
  o 1.5 KVAC – input earth  
  o 0.5 KVDC – output earth |
| Operating temp. | -40 to +65°C (-40 to +145°F) |
| Storage temp. | -40 to +85°C (-40 to +185°F) |
| Dimensions | 482 x 370 x 89mm (2U) (wxdxh) (19 x 14.6 x 3.5’’) recommended cabinet depth is min 400 mm (15.7’’) |
| Weight | Approx. 5kg (11lbs) excl. rectifiers |

#### DC Output
| Voltage | 48 VDC |
| Current | Max 150A |

#### Applicable Standards
| Electrical safety | o IEC 60950-1  
  o UL 60950 |
| EMC | o ETSI EN 300 386 V.1.3.1 (telecommunication network)  
  o EN 61000-6-3 (emission, light industry)  
  o EN 61000-6-2 (immunity, industry) |
| Environment | o ETSI EN 300 019-2  
  o ETSI EN 300 132-2 |

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### Ordering Information

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<thead>
<tr>
<th>Part no.</th>
<th>Description</th>
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<tbody>
<tr>
<td>241115.100</td>
<td>Flatpack2 Rectifier Module, 48V 2kW (also the “High Efficiency” and “Back-to-Front Air flow” rectifier options)</td>
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<tr>
<td>CTO20402.nnn</td>
<td>Flatpack2, 2U Integrated 8kW (Sales configured system, CTO)</td>
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<tr>
<td>C20402.nnn</td>
<td>Flatpack2, 2U Integrated 8kW (Engineering Dep. configured system, CTE)</td>
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Specifications are subject to change without notice.

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