Design Drawings, PV and Pump Sizing Reports for Community Tapstands to be Constructed in Bugiri, Namayingo, Butaleja and Kaabong Districts (Eastern & North Eastern Uganda)

The following list of Design Drawings, PV and Pump Sizings are Appended:

1. Drawing 1: Reservoir/Water Tank, Pump House and Solar Mounting Structure Details
2. Drawing 2: Fencing Details
3. Drawing 3: Marker Post Details
4. Drawing 4: Trenching Details
5. Drawing 5: Meter Chamber Details
6. PV & Pump 6: Typical PV & Pump Sizing Details for Community Tapstand

February 2022
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D-02

230mm thick brick

275

600x75mm

Splash apron

90

40x40x3mm SHS

To shop details

Post to support lader

90

100mm thick

Mortar bed

15mm Thick c.

Squary tiles finish to

100mm thick floor

---

layer

Binding sand

325

50mm

135mm thick

Hardcore

150mm thick

Earth mass

---

Pilin section Details

---

General notes:

1. All dimensions are in metric unless otherwise stated.

2. All tolerances are 10mm unless otherwise stated.

3. All post to support lader post to support lader.
R.C. STRUCTURAL DETAILS

STORY BEAMS &
MARKER POST ELEVATION

BACK VIEW

FRONT VIEW

<table>
<thead>
<tr>
<th>1:2.4 mass concrete</th>
</tr>
</thead>
<tbody>
<tr>
<td>499 (20mm)</td>
</tr>
</tbody>
</table>

Painted block and writing painted white with BINGO bar post reinforced concrete marker

Φ65mm

D=1000mm
Plan

Stand post with two flanges/taps:

Section through X-X

Ground level in concrete mix 1:2:4 reinforced with wire mesh G2.5.
Volume thick. Manhole well and floor reinforced with wire mesh G2.

Schedule of fittings

- V: Valve
- T: Tee
- F: Fitting
- M: Manhole
- W: Wall
- D: Drain
- P: Pipe
- S: Schedule of fittings

Dimensions are in millimeters (mm)


**PS2-1800 HRE-23**

Solar Submersible Pump System for 4” wells

### System Overview

- **Head**: max. 80 m
- **Flow rate**: max. 3.9 m³/h

### Technical Data

**Controller PS2-1800**
- Controlling and monitoring
- Control inputs for dry running protection, remote control etc.
- Protected against reverse polarity, overload and overtemperature
- Integrated MPPT (Maximum Power Point Tracking)
- Battery operation: Integrated low voltage disconnect
- Integrated Sun Sensor

**Motor ECDRIVE 1800-HRE**
- Maintenance-free brushless DC motor
- Water filled
- Premium materials, stainless steel: AISI 304/316
- No electronics in the motor

- **Rated power**: 1.7 kW
- **Efficiency**: max. 92 %
- **Motor speed**: 900...3,300 rpm
- **Insulation class**: F
- **Enclosure class**: IP68
- **Submersion**: max. 150 m

**Pump End PE HRE-23***
- Non-return valve
- Premium materials, stainless steel: AISI 304/316
- Helical rotor pump

- **Efficiency**: max. 67 %

**Pump Unit PU1800 HRE-23 (Motor, Pump End)**
- **Borehole diameter**: min. 4.0 in
- **Water temperature**: max. 50 °C

### Standards

- 2006/42/EC, 2004/108/EC, 2006/95/EC
- IEC/EN 61702:1995, IEC/EN 62253 Ed.1

The logos shown reflect the approvals that have been granted for this product family. Products are ordered and supplied with the approvals specific to the market requirements.

**Vmp**: MPP-voltage under Standard Test Conditions (STC): 1000 W/m² solar irradiance, 25 °C cell temperature

***Specify temperature range on order

BERNT LORENTZ GmbH
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Created by LORENTZ COMPASS 3.1.0.201
All specifications and information are given with good intent, errors are possible and products may be subject to change without notice. Pictures may differ from actual products depending on local market requirements and regulations.
PS2-1800 HRE-23
Solar Submersible Pump System for 4" wells

Pump Chart

Dimensions and Weights

Controller
- H1 = 352 mm
- H2 = 333 mm
- W1 = 207 mm
- W2 = 170 mm
- W3 = 164 mm
- D1 = 124 mm

Pump Unit
- A = 970 mm
- B = 205 mm
- C = 765 mm
- D = 96 mm
- E = 147 mm
- S = 1.25 in

Net weight
- Controller 6.0 kg
- Pump Unit 11 kg
- Motor 6.8 kg
- Pump End 4.5 kg

*Vmp: MPP-voltage under Standard Test Conditions (STC): 1000 W/m² solar irradiance, 25 °C cell temperature

Well Probe V2

Mechanical float switch for dry run protection of LORENTZ solar pumps

The well probe provides a reliable method of run dry protection for LORENTZ pumps. The well probe detects that water is present within a well, tank or other water source. The well probe is typically attached to the riser pipe above the pump and connected to the controller. When the well probe becomes dry (water level is below the probe) the pump switches off to avoid dry running.

Order Information

Item no.: 19-000005   Product name: Well probe sensor V2

Features

- Reliable dry run protection
- Simple to install using 3 cable ties
- Improved tolerance to dirt
- Splicing kit and cable ties for fixing are included

Technical Data

- Max. operating temperature 55°C
- Enclosure class: IP68
- Submersion depth: max 50 m (164 ft)
- Cable length: 1.5 m
- Wire size: 2 x 0.50 mm² or AWG 20, waterproofed
- Must be mounted in a vertical position
- Meets the requirements for CE

Dimensions / Weight

- Packaging dimensions: 255 x 170 x 40 mm
  10.0 x 6.7 x 1.6 in
- Total weight: 0.1 kg / 0.2 lbs
WP Water Meter

The WP (Woltman) Water Meter is suitable for applications with a pipe size from DN50 to DN200.

**Features**
- Dry dial register ensures clear reading
- Low pressure loss, long working life
- Easy to install
- Reed switch output for easy water flow control and monitoring

**Technical Data**
- Water temperature 40°C
- Water pressure: max. 16 bar
- IP64
- CE Conformity
Order information

<table>
<thead>
<tr>
<th>item number</th>
<th>description</th>
</tr>
</thead>
<tbody>
<tr>
<td>19-002165</td>
<td>water meter, WP-DN50, 0.1 cbm/p</td>
</tr>
<tr>
<td>19-002170</td>
<td>water meter, WP-DN65, 0.1 cbm/p</td>
</tr>
<tr>
<td>19-002180</td>
<td>water meter, WP-DN80, 0.1 cbm/p</td>
</tr>
<tr>
<td>19-002190</td>
<td>water meter, WP-DN100, 0.1 cbm/p</td>
</tr>
<tr>
<td>19-002200</td>
<td>water meter, WP-DN125, 0.1 cbm/p</td>
</tr>
<tr>
<td>19-002210</td>
<td>water meter, WP-DN150, 0.1 cbm/p</td>
</tr>
<tr>
<td>19-002202</td>
<td>water meter, WP-DN200, 0.1 cbm/p</td>
</tr>
</tbody>
</table>

Accuracy Curve

The Accuracy curve shows the deviation in percent for different flow rates. In regular operation the deviation is between -2% and +2%.
### Table 1: WP - Flow rate characteristics

<table>
<thead>
<tr>
<th></th>
<th>DN50</th>
<th>DN65</th>
<th>DN80</th>
<th>DN100</th>
<th>DN125</th>
<th>DN150</th>
<th>DN200</th>
</tr>
</thead>
<tbody>
<tr>
<td>max. flow rate: $Q_{\text{max}}$ [m³/h]</td>
<td>30</td>
<td>50</td>
<td>80</td>
<td>120</td>
<td>200</td>
<td>300</td>
<td>500</td>
</tr>
<tr>
<td>nominal flow rate: $Q_{\text{n}}$ [m³/h]</td>
<td>15</td>
<td>25</td>
<td>40</td>
<td>60</td>
<td>100</td>
<td>150</td>
<td>250</td>
</tr>
<tr>
<td>transition flow rate: $Q_{\text{t}}$ [m³/h]</td>
<td>3.0</td>
<td>5.0</td>
<td>8.0</td>
<td>12</td>
<td>20</td>
<td>30</td>
<td>50</td>
</tr>
<tr>
<td>minimum flow rate: $Q_{\text{min}}$ [m³/h]</td>
<td>0.7</td>
<td>0.75</td>
<td>1.2</td>
<td>1.8</td>
<td>3.0</td>
<td>4.5</td>
<td>7.5</td>
</tr>
</tbody>
</table>

### Table 2: WP - Dimensions, weight specifications

<table>
<thead>
<tr>
<th></th>
<th>DN50</th>
<th>DN65</th>
<th>DN80</th>
<th>DN100</th>
<th>DN125</th>
<th>DN150</th>
<th>DN200</th>
</tr>
</thead>
<tbody>
<tr>
<td>L [mm]</td>
<td>200</td>
<td>200</td>
<td>225</td>
<td>250</td>
<td>250</td>
<td>300</td>
<td>350</td>
</tr>
<tr>
<td>H [mm]</td>
<td>232</td>
<td>242</td>
<td>252</td>
<td>262</td>
<td>275</td>
<td>325</td>
<td>355</td>
</tr>
<tr>
<td>H1 [mm]</td>
<td>303</td>
<td>313</td>
<td>323</td>
<td>333</td>
<td>346</td>
<td>396</td>
<td>426</td>
</tr>
<tr>
<td>G [mm]</td>
<td>360</td>
<td>360</td>
<td>360</td>
<td>360</td>
<td>360</td>
<td>420</td>
<td>420</td>
</tr>
<tr>
<td>D [mm]</td>
<td>165</td>
<td>185</td>
<td>200</td>
<td>220</td>
<td>250</td>
<td>285</td>
<td>340</td>
</tr>
<tr>
<td>D1 [mm]</td>
<td>125</td>
<td>145</td>
<td>160</td>
<td>180</td>
<td>210</td>
<td>240</td>
<td>295</td>
</tr>
<tr>
<td>Connecting bolt quantity</td>
<td>4xM16</td>
<td>4xM16</td>
<td>8xM16</td>
<td>8xM16</td>
<td>8xM16</td>
<td>8xM20</td>
<td>12xM20</td>
</tr>
<tr>
<td>Weight [kg]</td>
<td>12</td>
<td>13</td>
<td>16</td>
<td>18</td>
<td>20</td>
<td>42</td>
<td>74</td>
</tr>
</tbody>
</table>
LORENTZ is the global market leader in solar powered water pumping solutions. Founded in Germany during 1993 LORENTZ has pioneered, innovated and excelled in the engineering and manufacturing of solar powered water pumping. Today LORENTZ is active in over 130 countries through a dedicated network of professional partners. LORENTZ technology uses the power of the sun to pump water, sustaining and enhancing the life of millions of people, their livestock and crops.

Simply – **Sun. Water. Life.**
PV Disconnect 440-40-1
Connection box with DC disconnect

Description
An outdoor rated, combining connection box with DC disconnect switch that allows 1 strings of PV modules to be connected safely to a solar pump system.
The PV disconnect is also designed to accept an optional lightning protection device.

Features
- DC rated disconnect to provide safe isolation of the system
- Robust weather proof housing designed to make installation simple
- Lockable to secure the system during maintenance (power locked off)
- For professional installation of pumping systems
- Internal touch protection with screws
- Designed to be used with LORENTZ PS2-150 to PS2 4000 systems

Ordering and shipping information
- Item no: 19-000125
- Product name: PV Disconnect 440-40-1
- Packed volume 0.01 m³ (0.35 ft³)
- Packed weight 1.9 kg (4.2 lbs)

Approvals and standards
- Switch IEC 60947-3

Technical data / Specifications

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum voltage</td>
<td>440 V DC</td>
</tr>
<tr>
<td>Maximum current per string</td>
<td>40 A</td>
</tr>
<tr>
<td>Maximum total current</td>
<td>40 A</td>
</tr>
<tr>
<td>Number of strings.</td>
<td>1</td>
</tr>
<tr>
<td>Input cables</td>
<td>4 - 10 mm² AWG 12 - 8</td>
</tr>
<tr>
<td>Output cables</td>
<td>4 - 10 mm² AWG 12 - 8</td>
</tr>
<tr>
<td>PG glands (input)</td>
<td>2 x M16</td>
</tr>
<tr>
<td>PG glands (output)</td>
<td>2 x M16</td>
</tr>
<tr>
<td>Lightening protection mounting hole</td>
<td>PG16 cap</td>
</tr>
<tr>
<td>Environmental protection</td>
<td>IP68 NEMA6</td>
</tr>
<tr>
<td>Housing material</td>
<td>Polycarbonate</td>
</tr>
</tbody>
</table>

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Optional lightning surge protector

Provides protection for the pump controller from incoming high voltages on the PV side. The surge protector connects through a pre-drilled and blanked mounting hole in the PV connect housing

- Proper grounding of the device is required to achieve protection
- Item no.: 19-002120 MNSPD-115 PS2-150 to PS2-200
- Item no.: 19-002130 MNSPD-300 PS2-600 to PS2-1800
- Item no.: 19-002140 MNSPD-600 PS2-4000

Mounting options

- Wall mount using 4 holes with weather protection
- Designed for optional pole mounting. Mounting points are pre-marked inside the housing.

Dimensions and weight

- See diagram for mm sizes
- Max height 220 mm (8.66”)
- Max width (no surge protector) 197 mm (7.75”)
- Max width (surge protector) 297 mm (Max 11.7”)
- Depth 140 mm (5.5”)
- Weight 1403 g (3.1 lbs)
PS2 Manual Speed Controller
Device to provide manual motor speed control of PS2 systems

The LORENTZ PS2 Manual Speed Controller allows adjustment of the maximum motor speed without using the PumpScanner App. To use the Manual Speed Controller, it is required to activate this function in the settings of PumpScanner during or before installation.

ORDER INFORMATION
- Item no.: 19-000035  Product name: PS2 Manual Speed Controller

FEATURES
- Allows manual control of PS2 motor speed
- Outdoor rated, installed in the housing of the controller

TECHNICAL DATA
- Voltage: 15-24 V DC
- Enclosure class: IP65
- Ambient temperature: -38...50 °C (-36... 122 F)
- Wire size: 2 x 0.75 mm²/18 AWG
- Replaces Ø 20mm cable gland
- Meets the requirements for CE
- Please note that if “Manual Speed Controller” is configured then “Set speed limitation” function is not available in PumpScanner.

DIMENSION/WEIGHT
- Packing dimension: 100 x 70 x 35 mm; 3.9 x 2.7 x 1.3 in
- Total weight: 0.2 kg / 0.4 lbs
PS 2 Controller Plug Kit

Kit for an easy and electrical safe installation of PS2 Controller

The LORENTZ PS2 Controller Plug Kit can be installed on any PS2 system. The kit extends the internal wiring connections to plugs allowing systems to be pre-wired and delivered to site. Possible uses for the plug kit are where time on site needs to me minimized, where systems are often moved or where the skills available onsite do not allow for a standard installation.

The sensor extension kit allows the installation of two additional sensors, the standard set contains only two plug sets for sensor connections.

Order Information

- 19-005001 Plug- Kit PS2- Controller
- 19-005011 Sensor Plug Extension Kit

Features

- Allows fast, easy and electrical safe installation of PS2 Controller
- Customer must not open the controller for installation
- Outdoor rated, all parts are designed for outdoor use

Technical Data

<table>
<thead>
<tr>
<th>PLUG</th>
<th>Wire size</th>
<th>max. current</th>
<th>max. voltage</th>
<th>Ambient temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motor</td>
<td>max. 6mm²</td>
<td>32 A</td>
<td>600V DC</td>
<td>-40°C ... +90°C</td>
</tr>
<tr>
<td></td>
<td>(10 AWG)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PV</td>
<td>max 8mm²</td>
<td>40 A</td>
<td>1500V DC</td>
<td>-40°C ...+90°C</td>
</tr>
<tr>
<td></td>
<td>(8 AWG)</td>
<td>(27A at 2.5mm² /14AWG)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sensor</td>
<td>max. 1.5mm²</td>
<td>3 A</td>
<td>50V DC</td>
<td>-40°C ...+90°C</td>
</tr>
<tr>
<td></td>
<td>(16 AWG)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Packing Dimension/Weight

19-005001 Plug- Kit PS2- Controller

- Packing dimension: 16 x 300 x 4cm (6.3x12x1.6inch)
- Total weight: 0.33kg (0,73lb)

19-005011 Sensor Plug Extension Kit

- Packing dimension: 16 x 24 x 2cm (6.3x10x0.8inch)
- Total weight: 0.1kg (0,22lb)
Surge Protector2
Device to Protect LORENTZ Pump Accessories from Voltage Spikes

ORDER INFORMATION
- Item no.: 19-005210  product name: Surge Protector2

FEATURES/COMPATIBILITY
- Reliable surge protection device for any switched, pulse or analogue (4-20 mA) inputs sensors including:
  - Well Probe Sensor 19-000000
  - Water Sensor 19-000001
  - Float Switch 19-000030
  - Pressure Switch 19-000310
  - Liquid Level (all types, e.g. 19-005040)
  - Liquid Pressure Sensor (all types, e.g. 19-004460)
  - Water Meter (all types, e.g. 19-002160)
  - Sun Switch (19-000050)
- The device must be installed inside the PS2 or PSk2 controller.

TECHNICAL DATA
- Max. voltage: 30 V DC
- Max current 8/20µs: 500 A
- Enclosure class: IP20
- Ambient temperature: max. 80°C (176°F)
- Wire size: 2 x 1.5mm² (AWG 16)
- Meets the requirements for CE

DIMENSION/WEIGHT
- Packing dimensions: 56 x 26 x 120 mm
  2.2 x 1.02 x 0.47 in
- Total weight 0.1 kg / 0.2 lbs
LC330-P72
High-efficiency PV Module

Features
- High energy yields ensured by high conversion efficiency
- Sturdy, clear-anodized aluminum frame with pre-drilled holes for quick installation
- Advanced EVA encapsulation with triple-layer backsheet, meets the most stringent safety requirements for high-voltage operation
- Pre-wired junction box equipped with connectors "plug'n'play"
- Reliable bypass diodes to prevent overheating (hot spot effect) and to minimise power loss by shading
- Manufactured in ISO 9001:2000-certified factory

Specifications

Electrical Data

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peak power Pmax [Wp]</td>
<td>330</td>
</tr>
<tr>
<td>Tolerance [%]</td>
<td>+0/6</td>
</tr>
<tr>
<td>Max. power current Imp [A]</td>
<td>8.84</td>
</tr>
<tr>
<td>Max. power voltage Vmp [V]</td>
<td>37.3</td>
</tr>
<tr>
<td>Short circuit current Isc [A]</td>
<td>9.55</td>
</tr>
<tr>
<td>Open circuit voltage Voc [V]</td>
<td>45.6</td>
</tr>
<tr>
<td>Temperature co-efficient for Pmax [%/°C]</td>
<td>-0.43</td>
</tr>
<tr>
<td>Temperature co-efficient for Voc [%/°C]</td>
<td>-0.32</td>
</tr>
<tr>
<td>Temperature co-efficient for Isc [%/°C]</td>
<td>0.04</td>
</tr>
<tr>
<td>Max. system voltage [VDC]</td>
<td>1,000</td>
</tr>
<tr>
<td>Module efficiency [%]</td>
<td>17.09</td>
</tr>
</tbody>
</table>

All technical data at standard test condition:
AM = 1.5, E = 1,000W/m², cell temperature: 25 °C

Cells

- Number of cells in series: 72
- Number of cells in parallel: 1
- Cell technology: polycrystalline
- Cell shape: rectangular

Standards

LC330-P72 is certified according to IEC 61215 and 61730 by TÜV Rheinland and meets the requirements for CE.

IEC 61215
IEC 61730
Regular Production Surveillance
www.tuv.com
ID 1419063782
### Electrical Performance

#### for different temperatures, at AM=1.5, E=1,000 W/m²

<table>
<thead>
<tr>
<th>Voltage [V]</th>
<th>0</th>
<th>200</th>
<th>400</th>
<th>600</th>
<th>800</th>
<th>1,000</th>
<th>1,200</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current [A]</td>
<td>0</td>
<td>4</td>
<td>6</td>
<td>8</td>
<td>10</td>
<td>12</td>
<td>14</td>
</tr>
</tbody>
</table>

#### for different irradiation, at 25°C

<table>
<thead>
<tr>
<th>Irradiance [W/m²]</th>
<th>0</th>
<th>200</th>
<th>400</th>
<th>600</th>
<th>800</th>
<th>1,000</th>
<th>1,200</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current [A]</td>
<td>0</td>
<td>4</td>
<td>6</td>
<td>8</td>
<td>10</td>
<td>12</td>
<td>14</td>
</tr>
</tbody>
</table>

### Temperature Dependence

<table>
<thead>
<tr>
<th>Cell temperature [°C]</th>
<th>-25</th>
<th>0</th>
<th>25</th>
<th>50</th>
<th>75</th>
<th>100</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normalised Isc, Voc and Pmax (%)</td>
<td>75°C</td>
<td>80</td>
<td>100</td>
<td>120</td>
<td>140</td>
<td>160</td>
</tr>
</tbody>
</table>

### Irradiation Dependence

<table>
<thead>
<tr>
<th>Irradiance [W/m²]</th>
<th>0</th>
<th>200</th>
<th>400</th>
<th>600</th>
<th>800</th>
<th>1,000</th>
<th>1,200</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normalised Isc, Voc and Pmax (%)</td>
<td>25°C</td>
<td>60</td>
<td>80</td>
<td>100</td>
<td>120</td>
<td>140</td>
<td>160</td>
</tr>
</tbody>
</table>

### Physical Specifications mm [inch]

- Weight: 20.8 kg
- Dimension: 1,956 × 992 × 40 mm
- Strength: 2,400 N/m²
- Cable: approx. 900 mm, 4 mm²
- Connectors: MC4 compatible
Mono PERC Half-cell Module
Reduced resistance between cells
Less micro cracks, higher output power

Positive power tolerance (0~+5W)

Outstanding mechanical load resistance
3800 Pa wind load, 5400 Pa snow load

High performance under low light
Works at cloudy, rainy days

Anti-PID (potential induced degradation)
Passed anti-PID test under 85% damp heat,
85% relative humidity for 96 hours

Great Durability against extreme conditions
Passed salt mist corrosion test, ammonia corrosion test,
dust & sand test, fire test, all certified by TUV

Double electroluminescence (EL) tests
Carefully inspected before and after lamination
to guarantee fault-free modules

12-year product warranty
25-year linear power warranty

Our Offices: Soleil Power B.V, Keizersgracht 482, 1017EG, Amsterdam, Netherland.
Soleil Power FZC, P8-03-56, Po Box: 514763, Saif Zone, Sharjah, UAE.
Email: rajesh@soleilpower.ae, Website: www.soleilpower.ae
**ELECTRICAL PERFORMANCE**

Electrical Parameters Standard Test Conditions

- **Module Type**: SP-330M-120, SP-350M-120
- **Power Output**: $P_{max}$: 325, 330, 335
- **Power Tolerance**: $\Delta P_{max}$: 0/+5W
- **Module Efficiency**: $\eta$: 19.44, 19.74, 20.04
- **Voltage at $P_{max}$**: $V_{m}$: 33.3, 33.5, 33.7
- **Current at $P_{max}$**: $I_{p}$: 10.17, 10.26, 10.36
- **Open-Circuit Voltage**: $V_{oc}$: 40.4, 41.0, 41.2
- **Short-Circuit Current**: $I_{sc}$: 10.17, 10.26, 10.36
- **STC**: 1000W/m² irradiance, 25°C module temperature, AM1.

**THERMAL CHARACTERISTICS**

- **Nominal Operating Cell Temperature**: NOCT: 45±2°C
- **Temperature Coefficient of $P_{max}$**: $\gamma$: -0.390/°C
- **Temperature Coefficient of $V_{oc}$**: $\beta_{Voc}$: -0.290/°C
- **Temperature Coefficient of $I_{sc}$**: $\beta_{Is}$: -0.450/°C

**OPERATING CONDITIONS**

- **Max. System Voltage**: 1000V/1500V
- **Max. Series Fuse Rating**: 15A
- **Operating Temperature Range**: -40°C~85°C
- **Max static snow load**: 5400Pa
- **Max static wind load**: 3800Pa
- **Application Class**: A

**CONSTRUCTION MATERIALS**

- **Front Cover (material/ type/thickness)**: low-iron tempered glass/3.2mm
- **Cell (quantity/type/position)**: monocrystalline/120
- **Encapsulant (material)**: ethylene vinyl acetate (EVA)
- **Frame (material/anodization color)**: anodized aluminum alloy/silver or black
- **Junction Box (protection degree)**: IP67
- **Cable (length/cross-sectional area)**: 400mm²/4mm²
- **Plug Connector**: MC4 compatible

**GENERAL CHARACTERISTICS**

- **Dimension (L/W/H)**: 1685/992/35mm
- **Weight**: 18.5kg

**PACKING CONFIGURATION**

- **Pallet Size (L/W/H)**: 1725/1120/2440mm
- **Pallet Weight**: 1220kg
- **Pieces per Pallet**: 64pcs
- **Pieces per Container**: 832pcs

**INTERNATIONAL CERTIFICATES**

- **TÜV**: ISO14001:2015

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