

30 kW



Grid-Resilient 30 kW AC/DC/DC Power Conversion System (PCS)

- *Transformerless Isolation*
- *Lightest Weight and Smallest Footprint on the Market*
- *Supports Seamless Integration of Solar and Storage*
 - *PV Smoothing/Firming*
 - *PV Microgrids*
- *Supports Global Standards*
 - *60 Hz*
 - *50 Hz*
 - *On-Grid/Grid Following*
 - *Off-Grid/Grid Forming*
- *Designed and Manufactured in the USA*



TRANSFORMERLESS ISOLATION

Ideal Power's 30B3-4DF is a multi-port AC/DC/DC PCS that utilizes our proprietary Power Packet Switching Architecture (PPSA) to efficiently transfer energy between its single AC and dual DC power ports, dramatically simplifying the integration of solar and energy storage. The converter's embedded power management algorithms deliver PV smoothing and PV firming for grid-tied applications, while also enabling the deployment of high performance PV-based microgrids. PPSA provides port-to-port electrical isolation, eliminating the need for an external isolation transformer.

GRID-RESILIENT

Beyond the grid-tied functionality described above, the PCS is easily re-configured to support a wide variety of microgrid applications, making it ideal for free-standing off-grid power systems as well as grid-resilient applications in regions where grid quality or grid availability is often compromised.

LAUNCH PRODUCTS FASTER!

Our robust command/control interface is shared across our second generation PCS family, improving product flexibility while simplifying systems integration and code maintenance.

LIGHTEST WEIGHT AND SMALLEST FOOTPRINT ON THE MARKET

Our PCS enclosure weighs 125 pounds and is NEMA 3R rated.

WORKS GLOBALLY

The converter's nameplate rating of 30 kW supports 480 V_{AC}/60 Hz 3-phase North American grid standards, and both AC output voltage and AC output frequency are user programmable via the unit's Modbus interface.

For 400 V_{AC}/50 Hz 3-phase applications found outside of North America, the nominal nameplate rating is 25 kW.

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Specifications

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|---|---|
| Bidirectional AC Power Port | |
| Maximum AC Power | 30 kW at 480 V _{AC} 25 kW at 400 V _{AC} |
| Maximum AC Current | 39 Amps |
| Voltage Range | Supports 480 V _{AC} , 400 V _{AC} and 380 V _{AC} grid standards |
| Frequency Range | Supports 60 Hz, 50 Hz, and 57.5 Hz (HECO) grid standards |
| Power Factor | > 0.97 at rated output power |
| Typical Efficiency | > 96% |
| Peak Efficiency | 97% |
| Tare Losses | < 25 W |
| Current Harmonics | IEEE 1547 Compliant, < 4% THD at full power |
| Available Control Methods | Constant Power, Net Power |
| Off-Grid Mode | Voltage Forming/ Load Following |
| Bidirectional DC Power Ports (2) | |
| Maximum DC Power | 30 kW |
| Maximum DC Current | 50 Amps |
| Absolute Max Voltage (V _{DC}) | ± 600 V _{DC} (1200 V _{DC}) |
| Operating Voltage Range | ±100 to ± 500 V _{DC} (200 to 1000 V _{DC}) |
| Full Power Voltage Range | ± 300 to ± 500 V _{DC} (600 to 1000 V _{DC}) |
| Available Control Methods | Constant Power, Constant Current, MPPT (PV), Net Power |
| Wiring Configuration | 4 Wire Bipolar with Integral GFDI Circuit |
| Maximum GFDI Current | 1A: fused; trip point is programmable |
| Transient Overvoltage | Yes, MOV voltage clamps |
| Environmental | |
| Ambient Operating Temp | -25 to 40°C full power, reduced power > 40°C |
| Ambient Storage Temp | -40 to 70°C (non-operating) |
| Humidity | 0 to 100% relative humidity |
| Cooling | Forced convection with redundant variable speed fans |
| Enclosure / Rating / Material | NEMA-3R / Powder-coated aluminum |
| Certifications | UL1741, IEEE1547 |
| General | |
| Enclosure Size | 23.5" W x 36.5" H x 10.75" D |
| Weight | 125 lbs |
| Mounting | Wall Mount |
| Isolation Transformer | Not Required |
| Control Interface | RS-485 / Modbus |
| Warranty | 10 years |



Intertek