

Powered by **Polarity**

A Global Leader in Power Solutions



AS 9100:2009 REV C

Specifications:

- 4KW Winch /HV PS
- 3KW Payload Dn Conv. PS, 24VDC/48VDC
- Tether with Comm. Link: up to 500 feet
- Tether winch with Up Conv. PS
- 3KW Payload pwr conv: 5bs
- Payload Weight: 10lbs



3kW Mutli-Rotor PS



Tether Winch System with Up Converter
(Truck mount rugged aluminum or flyaway case)

Drone Tether System

Ideally suited for demanding performance in tethered systems that require several kilowatts of power delivered over several 100 feet of electrical cable, 500feet nominal. Built to withstand harsh environments for shipboard, ground mobile, and fixed ground applications.

System Components

- 4KW avg, 5KW peak UPCONV
- 3kW avg, 4.5kW peak DNCONV
- 500ft tether with optic comm.
- Tether Management System
- IPAD controller, way point prg
- DJI flight controller

Built-in protection

- Fast peak/average GND faults
- HV UV fault with auto-battery
- Panel interlocks
- Onboard battery backup
- Static discharge suppression
- Lands within a 12" of "home"

Additional Options

- Ethernet, RS485 to optic fiber, media converter
- Custom mounting
- Air cooled
- Smaller Winch System
- 7KVA Generator

Guaranteed Reliability

- Proven reliability to operate in harsh environments - high ambient temps, high humidity, and sand/dust.
- Designed with power components that have accumulated more than 1 million hours of operation.
- High voltage potting was developed for high voltage equipment that operates above 50K feet.

Polarity's Tether System is specifically designed to meet mission critical ground to air applications that can exceed 500 feet. Polarity offers custom models suited for all ground mobile and stationary applications. Outstanding thermal design ensures reliable operation to ambient temperatures of +60deg C. The Tether System offers a design with industry leading reliability and its design ensures rugged performance that is unmatched. High efficiency designs meet the demands of today's complex systems and offer the ability to effectively power manage increasingly challenging requirements for electrical tether systems.

Industry Leading Performance — Affordable — Proven Reliability

Performance Specifications :

Tether System

Payload Power:	3kW avg, 4.5kW peak @ 500ft
Output voltage:	24V and 48V
Winch/PS Power:	6000W maximum
Options:	Battery back up / management
Line Input:	185 to 240VAC, 50-60Hz, 1PH
Power :	6KW (max)
Power Factor:	0.95 (min)

Built-in Protection

Built-in electronic crowbar, <3us response time
Ground current average fault
Ground current peak fault
OC, OV, Output Arc, UV
Down converter OC/OV
Grounding Rod Connection

Environmental

Operating Temperature:	-10deg C to +50deg C, NOTE: depends on available airflow and enclosure geometry.
Non-Operating:	-40 deg C to +85deg C,
Relative Humidity:	95%
Altitude:	
Operating:	10,000 ft
Non-Operating:	70,000 ft
Shock:	20 g peak , 11 msec , ½ sine
Vibration:	2.1 grms , 5Hz to 500Hz
Thermal:	Air cooled, rotor airflow

Remote Interface

Ethernet to optic
RS-485 to optic

Optional Telemetry: Altitude, GPS Location, Voltage/Current, Temperature, Wind speed, Ka band Sat comm., Streaming video, IR Camera, Ground Station, Way point Programming

Optional Payloads:

• Communications: 8lbs



• 4K 340 Degree Camera



• Flir IR Camera

