REDLER
TECHNOLOGIES

WHITE PAPER

REDLER For UAVs / UAS / Gimbals & Pedestals

www.redlertechnologies.com

WRITTEN BY:
Zohar Barabie

ABSTRACT

Established in 1994, Redler specializes in developing and suppling Super Intelligent, solid state Circuit Breakers, relays and PDU alongside High power density and small sized Servo motion control & management solutions and up to high power focusing on military and defense platforms – and aerial and small applications

SECTION 1
POWER RIDER - INNOVATIVE ELECTRICAL POWER PROTECTION, MANAGEMENT AND MAINTENANCE FOR AIRBORNE PLATFORMS

Power Rider is a leading solution for electrical power Protection, power saving, efficient electrical power grid design, management and maintenance with attractive investment cost –for any Aerial vehicle

- Survivability – The electrical power grid is the backbone that allows activating all system in the platform for protection and for fighting. With the POWER RIDER the platform will keep the systems safe of electrical faults events based its protecting patent, safe from short circuit, over-loads, over voltage and temperature - this way the payloads and subsystems will be electrically protected ALWAYS.
- Electrical Power saving – from one hand scenario-based operation- in takeoff, flight, maneuvering, landing etc. and from the second hand – low power consumption by the relay.
- Weight reduction topography – Power Rider can be installed in a local circuit breaker, relay or PDU configuration, thus reducing significantly the amount of power cables, thus the platforms weight (side product : less power losses, extended battery life)
- Endurance - Automatic recovering plan from a short or overload and relay capabilities ensure mission continuously
- Temperature protection – allows recognizing high temperature in the line that shows fire hazard risk and cutting the power flow – preventing fire to burst.
- Maintenance – Power Rider knows to tell you at any time what problem took place, where and when - the Power Rider will give you Diagnostics and prognostics tools. That increases your platform availability, reduces mission risks and abording and allows predictive and preventive maintenance.
- Monitoring – All advanced platforms today have ability to monitor their systems.

For more information and technical support:

E-mail: contact@redlertechnologies.com
Visit: www.redlertechnologies.com

The information in this Flyer is believed to be accurate; however, no responsibility is assumed by Redler Technologies Inc for its use, and no license or rights are granted by implication or otherwise in connection therewith.
Specifications are subject to change without notice.
© 2024 Redler Technologies Inc. All trademarks are the property of their respective owners.

The Power Rider comes with up to 25A, 150A and 12 channels PDU of 25A – All are configurable.

Possible applications –

- Batteries over voltage protection
- Power source switching
- Payloads and loads short circuit and overload protection
- Scenario based switching
- Location based electrical power safety

Power Rider – Technical, operational and functional values and capabilities survey

Challenge	Power Rider	Advantage
High reliability power protection - keep the systems fully protected from power hazards	• Patented - never goes short as short circuit current is not going through the device • You can configure overload. over-load, over voltage and over temp protection	Other solutions allow “controlled” current going through the device, yet, it may exceed the vendor’s allowed transistor working zone, thus reliability decreases. Other protections are configurable according to the channel
Efficient power budget design - the army seeks to increase the advanced new systems installation on the vehicle, thus efficient power design is crucial.	• Real time power consumption measurement on every channel • Total vehicle power consumption view	Better power wiring design according to real need, thus less power losses, less weight, thus less fuel usage, extended battery life
Reduction in the development cost - short time to design and deliver	Extensive, non-developer (no need to write a code) GUI allows the engineer to plan quickly the power budget, make changes in no time in devices, use extensive monitoring and configuration tools.	• 40 possible configurable parameters • Easy configurable logic rules and scenario rules • Real time analytic graphs tool • Built-in commands for different operational modes (Shut-down mode, storage modes and more)

For more information and technical support:

E-mail: contact@redlertechnologies.com
Visit: www.redlertechnologies.com

The information in this Flyer is believed to be accurate; however, no responsibility is assumed by Redler Technologies Inc for its use, and no license or rights are granted by implication or otherwise in connection therewith.
Specifications are subject to change without notice.
© 2024 Redler Technologies Inc. All trademarks are the property of their respective owners.

Challenge	Power Rider	Advantage
Availability and Safety Enhanced Electrical power maintenance and monitoring (Diagnostics and prognostics tools)	• Event log file – recording all problematic events • Changes recording – defined changes will be recorded for predictive analytics. • Over consumption alerts - allows preventive maintenance on subsystems • All channels view	• Quick electrical grid maintenance response increases availability of the vehicle • alerts and graphs allow to see over consumption of subsystems, thus to do preventive maintenance on them. • The full power consumption picture allows to see cross influence
Mobility supporting "protected node" ® configuration for reducing power wiring usage	• Knowing real time values of current supports designing the right power wiring needed. • Reducing the weight of the power harnesses leads to lighter vehicle (sometimes over 2 miles of wiring)	• The vehicle is lighter, thus faster or with better responsivity to steering and for speed needs.
Operator supporting electrical system The vehicle operator is focused on the mission as much as possible	• Power Rider supports configurable recovery plan – from one to endless trying – AUTOMATICALLY. The operator does not need to focus on switching it back manually. • By only one press of a button, the all system can go to specific pre-configured scenario mode	• The power system gives indications only when needed and automatically manage to channels • Scenario based activity simplifies operator's activities – e.g.: Silent watch mode. In one button press the lights will turned off, so is the motor etc. knowing the power in each channel can also help understanding if there's enough power in the battery for restart. • Safety – under pre configuration and signal from GPS, weapon systems can be inactive in base compound
Cost Effective - Best Power to budget value	• Smart effective "design to cost" leads to low cost vs. innovative devices	• With increased devices volume – Power Rider supports Armey cost reduction, yet keeping the troops safe alongside advanced technology

For more information and technical support:

E-mail: contact@redlertechnologies.com
Visit: www.redlertechnologies.com

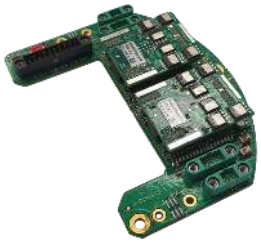
The information in this Flyer is believed to be accurate; however, no responsibility is assumed by Redler Technologies Inc for its use, and no license or rights are granted by implication or otherwise in connection therewith.
Specifications are subject to change without notice.
© 2024 Redler Technologies Inc. All trademarks are the property of their respective owners.

SECTION 2
SERVO MOTION CONTROLLERS FOR AIRBORNE APPLICATIONS

The Rayon Servo motion control is a leading solution for motion management with extremely high-power density alongside small dimensions and weight.
The Rayon Control software is known for its intuitive operation and its comprehensive answers for positioning, speed and current (Torque) requirements.

- The Rayon family covers from miniature to robust motion control application
- What you see is what you get - the real RMS continuous power.
- Amazing power density – both with the Micro Rayon, single board and others.
- Working with variety of feedbacks and communications protocols.
- SOM – System On Module solution for the smaller applications (UAVs, Gimbals). No need for special interface
- CUSTOMIZATION, MODIFICATIONS, ADJUSTMENT – we believe in adopting ourselves to the customer rather then customer's system to the controller.
- Proven application:

- Flaps actuators
- Propulsion
- Wings motor controlling
- Antenna's and vision systems movement control.



For more information and technical support:

E-mail: contact@redlertechnologies.com
Visit: www.redlertechnologies.com

The information in this Flyer is believed to be accurate; however, no responsibility is assumed by Redler Technologies Inc for its use, and no license or rights are granted by implication or otherwise in connection therewith.
Specifications are subject to change without notice.
© 2024 Redler Technologies Inc. All trademarks are the property of their respective owners.