



PTI Integrated Systems
Lightning & Power Surge Protection Options
Technical Support Form

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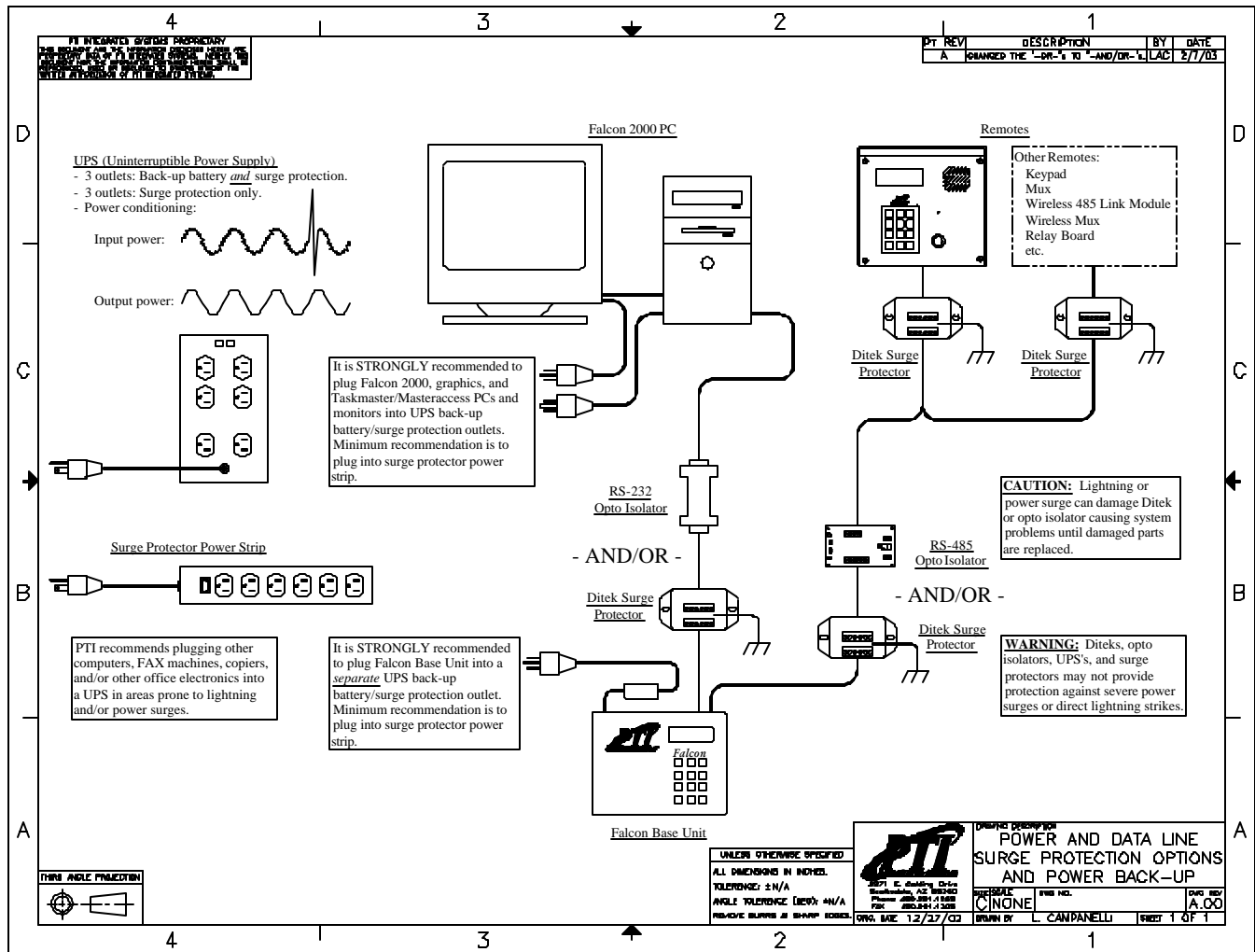
Power fluctuations and surges are issues that are faced by all access control systems and electronics. PTI manufactured equipment has excellent built-in surge protection, however, if you are in an area that is prone to brownouts, blackouts, powerful electrical storms, or other major power interruptions or fluctuations, PTI recommends that your system be equipped with the following safeguards against these problems to maintain the integrity of your site's security:

- UL rated power supplies adequately rated to provide at least 12 volts (AC or DC) and no more than 18 volts (AC or DC) at each PTI remote as well as sufficient amperage throughout the system.
- Power conditioning & surge suppression in the form of a Uninterruptable Power Supply (UPS) system connecting the Falcon Base Unit, the access control system's power supplies, and any computers to the 120v power. We recommend the Falcon Base Unit and system power supplies be connected to separate UPS's from your computer. Each component plugged into a UPS reduces the actual battery backup time. See Drawing on Page 2.
- Ditek or Opto-Isolator surge protection for the Falcon Base unit RS232 and RS485 communications. See Drawing on Page 2.
- Ditek surge protection for each separate remote unit. See Drawing on Page 2.
- Gates, door strikes, and elevators should have battery backup or other safety measures that meet local and national electrical codes.
- Office computers, copiers, fax machines telephones and other electronics should be plugged into surge protectors or UPS's for protection as necessary.
- If you are in an area that is prone to regular lightning strikes or electrical storms, PTI strongly recommends that you obtain adequate lightning insurance coverage from your insurance agent for all electronic equipment.
- For ongoing power issues, contact your local electrical company for their recommendations. Often, they can install power conditioners and/or surge suppressors on the incoming power lines to help protect your site from that direction.

These recommendations will provide protection against most common power surges and fluctuations, unfortunately due to the naturally destructive nature of lightning and electrical storms, there is only so much protection that can be provided to any hard-wired system of electronics. The recommendations above will help to provide some protection against indirect strikes and general electrical storm activity. However, any local or direct strike may damage one or more pieces of electronic equipment in the vicinity and may damage or destroy the surge protectors or even in some cases the entire system. Considering that lightning is powerful enough to arc more than 12 miles across the sky in a lightning strike, there is nothing that you can do to protect any electrical equipment against a direct strike other than to have appropriate lightning insurance. To purchase a UPS, Ditek, or Opto-Isolator, or for any questions regarding your system power, please contact PTI technical support by telephone at (480) 941-1513 or by email at support@ptiaccess.com. Technical Support assistance and documentation is also available on the internet at www.ptiaccess.com.



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We strongly recommend that any service, installation, or work on PTI equipment or computers be done by a certified, licensed, qualified, and competent person. PTI Integrated Systems can recommend local dealers and installers, but it is up to the customer to verify their qualifications and negotiate any pricing or contracts unless PTI has been specifically contracted in writing to do so for the customer. With any setup, some adjustment or troubleshooting of the configuration may be required. This will differ with every setup depending on the computer, operating system, software, wiring, internet connection, modem connection, site specific issues and/or any other variable introduced into the setup. This troubleshooting and configuration may involve a great deal of time and investigation. It may also include purchasing additional equipment and/or redoing part or all of the installation. In no circumstances will PTI Integrated Systems be responsible for any damages either incidental or consequential based on these recommendations. In no circumstances will PTI be liable for any damages based on the failure of recommended lightning or power surge protection options to protect your system. Please refer to our warranty for specific coverages and warranties. Please refer to the manufacturer of the UPS, Ditek, or Opto-isolator for their specific coverages and/or warranties.