The PW-Series Modular Control System is an advanced access control hardware architecture capable of providing solutions for large enterprise applications. The Intelligent Controller (PW5K1IC, PW6K1IC or PW3K1IC) provides power and flexibility with its 32-bit architecture, TCP/IP support, flash memory, large local cardholder database, and large reader and I/O module support.

The Intelligent Controller is designed to operate off-line, making access control decisions independently from a PC or other controlling device. It can also be connected to a host computer for system configuration, alarm monitoring and direct control. Connectivity to the host computer is accomplished via direct serial communication (RS232 or RS485), dial-up modem, or TCP/IP network connection. The PW-6000 has Ethernet directly embedded and will support a second Ethernet connection.

The PW5K1IC and PW6K1IC Intelligent Controllers support any combination of up to 32 I/O or reader boards (16 for the PW3K1IC) to monitor alarm input points, relay output points and access control reader interfaces. By offering a modular design, the system can be tailored to meet a wide range of applications, while optimizing cost and mounting space.

The PW-6000 will support up to 300,000 cards and 50,000 transactions. The standard Intelligent Controller accommodates a card database of 7,800 cards and a standard transaction buffer of 5,000 transactions. The memory expansion module (PW5K1M4) allows for a card database of 72,000 cards and a transaction buffer capable of storing 35,000 transactions. The memory expansion module (PW5K1M8; only for PW5K1IC) allows for a card database of 157,000 cards and a transaction buffer capable of storing 35,000 transactions.

The PW-Series access modules have been designed to accommodate various mounting options. Units can be wall mounted in a high density configuration (PW5K2ENC1) when space is limited, a 19" rack configuration (PW5K2ENC2), or in a tile mount configuration (PW5K1ENC3). The PW-6000 controller utilizes a built-in Web server to configure the hardware attributes of the controller.

**KEY FEATURES**

- Up to 12 intervals per time zone where each interval is a start time, stop time and day map. The day map indicates the day of the week or holiday.
- 255 possible holidays are defined by a starting date and duration.
- Automatic calculation of leap year and Daylight Saving Time.
- 9-digit (32-bit) user ID standard / 15-digit maximum.
- Support for FIPS long card numbers.
- Activation and deactivation dates by card.
- Up to 32 access levels per card or individual time zones per readers.
- Up to 8-digit Personal Identification Numbers (PIN).
- Operating modes include locked, unlocked, facility code, card only, card and PIN, card or PIN, and PIN only.
- Strike modes include fail-safe and fail-secure.
- Up to eight card formats per reader.
- Entire card bit-stream reported with invalid facility code or invalid card format.
- Anti-passback support – free pass and exempt flags, last area accessed, last reader accessed and time/date of last access.
- Configurable as standard, entry delay latching, entry delay non-latching and exit delay.
- Configurable as standard (energize to activate) or fail-safe (de-energize to activate).
- Pulse control: single pulse (up to 24 hours) or repeating pulses (on/off in 0.1 second increments, up to 255 times).
- Any combination of 32 I/O or reader modules may be connected to the PW5K1IC RS485 ports. 4,000 feet / 1,250 meters total bus length per port (a max 16 I/O or reader board may connect to the PW3K1IC).
- UL294, UL1076 Listed.
- AES FIPS 197 Encryption.
- PW-6000 Web server for hardware configuration.
**Intelligent Controllers**

### PW-Series Modular Access Control System

#### SPECIFICATIONS

**Database:**
- **Cardholders:**
  - 7,800 standard, 157,000 with 8 MB memory expansion on PW-5000/PW-72,000 with 4 MB memory expansion PW-3000
  - 300,000 on PW-6000
- **Transaction storage:**
  - 5,000 standard, 35,000 with memory expansion on PW-5000/PW-3000
  - 50,000 on PW-6000
- **Flash programming for firmware revision updates**
- **Access codes:** virtually unlimited
- **Holidays:** virtually unlimited
- **Time codes:** 255
- **Card reader formats:** 8 per reader
- **Credential facility codes:** 8
- **Elevator support:** 128 floors
- **Dedicated tamper alarm**
- **Dedicated power fail alarm**
- **Real time clock:**
  - Geographic time zone support
  - Daylight Saving Time
  - Leap year support
  - 4 bit parallel accurate to 50 ppm

**Access Modules:**
- **PW-6000**
  - 2 RS485 ports supporting 32 total devices
- **PW-5000**
  - 4 RS485 ports supporting 32 total devices
- **PW-3000**
  - 2 RS485 ports supporting 16 total devices
- **Access modules available:**
  - Single reader module (PW5K1R1)
  - Dual reader module (PW6K1R2)
  - 16 relay output module (PW6K1OUT) (12 from the front edge)
  - 16 alarm input module (PW6K1IN)
- **Module connectivity via RS485 protocol (4000’)**

**Operational Functionality:**
- **Duress detection**
- **Operational modes:**
  - Credential only
  - PIN only
  - Credential or PIN
  - Credential and PIN
  - Facility code only
- **Maximum PIN size:** 8 digit
- **Door object support**
- **Threat level support:** 100 levels
- **Two person access rule**
- **Offline modes (selectable per reader):**
  - Facility code access
  - Locked (no access)
  - Unlocked (free access)
- **Anti-passback support:**
  - While preventing access (hard)
  - While allowing access (soft)
- **Transaction prioritization:** 999 levels

**Reader Support:**
- **HID**
- **OmniProx**
- **OmniClass**
- **DigiReaders**
- **Wiegand**
- **Keypads**
- **OmniAssure**

**Readers and Credentials:**
- **Prox:**
  - OmniAssure w/Prox
  - OmniProx
  - HID Prox
  - DigiReaders
  - Indala Readers
- **Smart:**
  - OmniAssure
  - OmniClass
  - iClass
  - Mifare
  - DESFire
- **Keypad**
- **Magstripe**
- **Wiegand**

**Communication Modules:**
- **Primary communication support:**
  - RS232
  - RS485
  - Dial up modem
  - Ethernet (TCP/IP)
- **Communication speed:** 38.4 KBps
- **Redundant communication support, automatic dial back:** (PW5K1IK or PW6K1IC)
- **RS485 port, 4000’ total bus length**
- **Standard speed is 38,400 bps**

**Communication Features:**
- **Power - twisted pair, 18 AWG**
- **RS485 - 24 AWG, 4,000’ (1,200m) max, 2 twisted pairs with shield (120W, 23 pF, Belden 9842 or equiv.)**
- **RS232 - 24 AWG, 25’ (7.6m) max**
- **Alarm input - twisted pair, 30 ohms max**
- **Enclosure Dimensions:**
  - **Board:** 9.0” H x 5.5” W x 1.0” D (228.6 mm H x 139.7 mm W x 25.4 mm D)
  - **PW5K2ENC1:** 13.9” H x 17” W x 9” D (353.0 mm H x 431.8 mm W x 228.6 mm D)
  - **PW5K2ENC2:** 13.9” H x 18.9” W x 9” D (353.0 mm H x 480.0 mm W x 228.6 mm D)
  - **PW5K1ENC3:** 14” H x 16” W x 4.5” D (355.6 mm H x 406.4 mm W x 114.3 mm D)
- **Environment:**
  - Temperature: 32 to 158° F (0 to 70° C) operational; -67 to 185° F (-55 to 85° C) storage
  - **Humidity:** 0 to 95% RHNC
- **Wire requirements:**
  - **Power - twisted pair, 18 AWG**
  - **RS485 - 24 AWG, 4,000’ (1,200m) max, 2 twisted pairs with shield (120W, 23 pF, Belden 9842 or equiv.)**
  - **RS232 - 24 AWG, 25’ (7.6m) max**
  - **Alarm input - twisted pair, 30 ohms max**

**COMMON SPECIFICATIONS**

**Database values may exceed current limitations of some security management systems.**
**BENEFITS**

- True 32-bit microprocessor provides fast transaction processing for the most demanding network applications
- Modular hardware architecture provides flexibility and expansion capabilities
- Flash memory allows new versions of firmware to be downloaded from the host computer to the controller(s) through the central network
- Large, local controller database allows access control decisions to be made by controller in real time without the need to communicate to the server
- Scalable architecture ensures optimal performance with a seamless upgrade path to accommodate future growth beyond its initial installation
- Seamless support for TCP/IP protocols to allow intelligent controllers to tap into a LAN or WAN connectivity
- Supports multiple reader and card formats for maximum flexibility and security options
- Multiple communication methods provide redundant paths for more robust system connectivity
- Supervised communication and Lithium battery backup ensures system reliability
- System offline modes customizable per reader include facility code access, locked (no access), and unlocked (full access)
- Redundant communication port feature allowing secondary port communication if primary fails

**PW-SERIES CONFIGURATION**
# PW-Series Modular Access Control System

## Intelligent Controllers

## ORDERING

<table>
<thead>
<tr>
<th>Order #</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PWKROP304DSW</td>
<td>(1) PW5K1IC Controller, (2) PW5K1R2 Two Reader, (1) PW5K2ENC1 Enclosure, (1) PW5K2E2PS Supply, (1) PW5KDCC Cable, (2) S-4 Suppressors, (4) OP30HONE OmniProx Readers, Pro-Watch PE software, (1) PW5K1ENC Ethernet daughter board, (1) 712B Nina Battery Backup</td>
</tr>
<tr>
<td>PWKROP404DSW</td>
<td>(1) PW5K1IC Controller, (2) PW5K1R2 Two Reader, (1) PW5K2ENC1 Enclosure, (1) PW5K2E2PS Supply, (1) PW5KDCC Cable, (2) S-4 Suppressors, (4) OP30HONE OmniProx Readers, Pro-Watch PE software, (1) PW5K1ENC Ethernet daughter board, (1) 712B Nina Battery Backup</td>
</tr>
<tr>
<td>PWKROM304DSW</td>
<td>(1) PW5K1IC Controller, (2) PW5K1R2 Two Reader, (1) PW5K2ENC1 Enclosure, (1) PW5K2E2PS Supply, (1) PW5KDCC Cable, (2) S-4 Suppressors, (4) OP30HONE OmniProx Readers, Pro-Watch PE software, (1) PW5K1ENC Ethernet daughter board, (1) 712B Nina Battery Backup</td>
</tr>
<tr>
<td>PWKROP302DSW</td>
<td>(1) PW5K1IC Controller, (1) PW5K1R2 Two Reader, (1) PW5K2ENC1 Enclosure, (1) PW5K2E2PS Supply, (1) PW5KDCC Cable, (2) S-4 Suppressors, (4) OP30HONE OmniProx Readers, Pro-Watch PE software, (1) PW5K1ENC Ethernet daughter board, (1) 712B Nina Battery Backup</td>
</tr>
<tr>
<td>PWKROP302DSW</td>
<td>(1) PW5K1IC Controller, (1) PW5K1R2 Two Reader, (1) PW5K2ENC1 Enclosure, (1) PW5K2E2PS Supply, (1) PW5KDCC Cable, (2) S-4 Suppressors, (4) OP30HONE OmniProx Readers, Pro-Watch PE software, (1) PW5K1ENC Ethernet daughter board, (1) 712B Nina Battery Backup</td>
</tr>
<tr>
<td>PWKROP302DSW</td>
<td>(1) PW5K1IC Controller, (1) PW5K1R2 Two Reader, (1) PW5K2ENC1 Enclosure, (1) PW5K2E2PS Supply, (1) PW5KDCC Cable, (2) S-4 Suppressors, (4) OP30HONE OmniProx Readers, Pro-Watch PE software, (1) PW5K1ENC Ethernet daughter board, (1) 712B Nina Battery Backup</td>
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## OmniProx Kits

<table>
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<tbody>
<tr>
<td>PWROP301DRE</td>
<td>(1) PW5K1IC Controller, (1) PW5K1R2 Two Reader, (1) PW5K2ENC1 Enclosure, (1) PW5K2E2PS Supply, (1) PW5KDCC Cable, (2) S-4 Suppressors, (2) OP30HONE OmniProx Readers</td>
</tr>
<tr>
<td>PWKTOP30</td>
<td>Remote Enclosure w/plug-in w/110V transformer/power supply, (2) S-4 Suppressors, (2) OP30 Prox Readers</td>
</tr>
<tr>
<td>PWKTOP30</td>
<td>(1) PW5K1R2, (2) S-4 Suppressors, (2) OP30 Prox Reader</td>
</tr>
<tr>
<td>PWOTOP40</td>
<td>(1) PW5K1R2, (2) S-4 Suppressors, (2) OP30 Prox Reader</td>
</tr>
<tr>
<td>PWKROM40</td>
<td>(1) PW5K1IC Intelligent Controller, (1) PW5K1R2 Dual Reader Module, (1) PW5K2ENC1 High Density Enclosure, (1) PW5K2E2PS Power Supply, (1) PW5KDCC Daisy Chain Cable, (2) S-4 Suppressors, (2) OP40 Prox Readers</td>
</tr>
<tr>
<td>PWKTOP40</td>
<td>(1) PW5K1IC, (1) PW5K1R2 Dual Reader Module, (1) PW5K1ENC3 Remote Enclosure w/plug-in w/110V transformer/power supply, (2) S-4 Suppressors, (2) OP30 Prox Readers</td>
</tr>
<tr>
<td>PWKTOP40</td>
<td>(1) PW5K1IC, (1) PW5K1R2 Dual Reader Module, (1) PW5K1ENC3 Remote Enclosure w/plug-in w/110V transformer/power supply, (2) S-4 Suppressors, (2) OP30 Prox Readers</td>
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## OmniClass Kits

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<tbody>
<tr>
<td>PWKROM30</td>
<td>(1) PW5K1IC Intelligent Controller, (1) PW5K1R2 Dual Reader Module, (1) PW5K2ENC1 High Density Enclosure, (1) PW5K2E2PS Power Supply, (1) PW5KDCC Daisy Chain Cable, (2) S-4 Suppressors, (2) OM30BHONA OmniClass Readers</td>
</tr>
<tr>
<td>PWKROM30</td>
<td>(1) PW5K1IC, (1) PW5K1R2 Dual Reader Module, (1) PW5K1ENC3 Remote Enclosure w/plug-in w/110V transformer/power supply, (2) S-4 Suppressors, (2) OP30BHONA OmniClass Readers, (2) S-4 suppressors, (2) OP40 prox readers</td>
</tr>
<tr>
<td>PWKROM30</td>
<td>(1) PW5K1IC, (1) PW5K1R2 Dual Reader Module, (1) PW5K1ENC3 Remote Enclosure w/plug-in w/110V transformer/power supply, (2) S-4 Suppressors, (2) OP40 Prox Readers</td>
</tr>
<tr>
<td>PWWROM30</td>
<td>(1) PW5K1R2, (2) S-4 Suppressors, (2) OM30BHONA Readers</td>
</tr>
<tr>
<td>PWWROM30</td>
<td>(1) PW5K1R2, (2) S-4 Suppressors, (2) OM40BHONA Readers, (2) OM40BHONA Readers, (2) OM40BHONA Readers</td>
</tr>
<tr>
<td>PWWMROM</td>
<td>(1) PW5K1R2, (2) S-4 Suppressors, (2) OM40BHONA Readers, (2) OM40BHONA Readers, (2) OM40BHONA Readers</td>
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