ESG
Engineered Systems Group

The PW-2000 controller is the most reliable panel in the industry with thousands of installations worldwide. It supports up to four readers and eight relay outputs (DPDT), expandable to twenty outputs. The PW-2000 also monitors sixteen supervised or unsupervised alarm points.

The standard memory on the PW-2000 controller holds 5,000 card numbers and buffers up to 10,200 transactions. Should your application require greater capacities, the PW-2000-IV-X can expand to eight (DPDT) relay outputs (expandable to 24 outputs), 25,000 cards and 6,600 buffers. To add more readers or alarm points, simply connect additional controllers.

The PW-2000 Series controllers operate as total stand alone units with a fully distributed database. A PW-2000 panel can control access to multiple doors with no dependency on a central computer system. All valid card numbers, time zones, relay pulse times, and alarm point shunt times are loaded into the controller's memory. By utilizing distributed technology, no more than four card readers or keypads are controlled by a given controller thereby providing maximum reliability.

FEATURES

- Distributed database provides greater performance with no dependency on a central computer system
- Relays are time-programmable for automatic control
- Supports all major reader technologies and 12-digit ABA card formats
- Operates in remote site configurations with dial-up (requires M-9600 and PW-485-HUB-B) or leased lines
- Provides up to 25,000 card memory
- 16 supervised alarm inputs. Separate inputs for tamper switch and primary power fail monitoring
- DPDT Form C relays; 4 on PW-2000-III/IV, 8 on PW-2000-III/IV-X
- 63 time zones to control card access, relays and alarm points
- 12 VDC battery backup
- 12 VDC, 500 mA output for reader/IR devices
- Multiple programmable card formats supported
- Preassembled, hinged, locking enclosure with battery and toggle switch
- UL294 listing/CE certification

PW-2000 SERIES CONTROLLER SPECIFICATIONS

BENEFITS

- Modular hardware architecture provides flexibility and expansion capabilities

- 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

- Multiple communication methods provide redundant paths for more robust system connectivity (requires N485DRLA)

- Supervised communication

- SuperCap instead of Lithium battery provides maintenance free backup of panel programming and data storage

Specifications

Database:
- Cardholders: 5,000 standard, 25,000 with memory expansion
- Transaction storage: 10,200 standard, 6,600 with memory expansion
- Holidays: 32
- Time codes: 63 per controller
- Card reader formats: 8
- Credential facility codes: 8
- Elevator support: 32 groups
- Leap Year support

Communication:
- Communication support:
  - RS-485
  - 20mA
- Communication speed: 38.4 KBps (RS485 Backbone) (1200-4800/20mA)
- Automatic dial back:
  - Dial back on alarm condition
  - Dial back when transaction buffer capacity is reached
- Download functionality:
  - System functional during system download: Yes
  - System functional during credential download: Yes

Operational Functionality:
- Duress detection
- Card/PIN:
  - Credential only
  - Credential and PIN
- Anti-passback support:
  - Learn
  - Hand
  - Forgiveness at midnight

Enclosure Dimensions:
- 14 in. H x 16 in. W x 4 in. D
  (35.56 cm H x 40.64 cm W x 10.16 cm D)

Weight:
- 21 lbs. (9.5 kg)

Environment:
- Temperature: 35-110°F (2-43°C) operational
- Humidity: 0 to 85% RHNC

Wire Requirements:
- Power - twisted pair, 18AWG
- RS-485 - 24 AWG, 4,000 ft. / 1,200 m max, 2 twisted pairs with shield (120Ω, 23pF, Belden 9842 or equiv.)
- Alarm input - twisted pair, 22AWG 2000 ft.
- Reader - 5 wire, 18 AWG up to 500 ft (152 m)
- Matrix keypad - 11 conductor up to 500 ft (152 m)

Recommended Components

Controllers:
- PW-2000-III two reader controller module
- PW-2000-III-X two reader controller module with four additional relay outputs and additional card capacity
- PW-2000-IV four reader controller module
- PW-2000-IV-X four reader controller module with four additional relay outputs and additional card capacity

Communication Devices:
- PW-485-PCI-B - RS485 direct connect to PC comm port
- PW-485-HUB-B - RS485 remote dial-up application (RS232 modem to 485 drop line)
- N485PCI2L - Convert RS485 to 232 for LANSRL100
- C-100-A2 - 20mA to 232

Readers:

Proximity Readers:

OmniProx
- OMNI-10 (2-3" reader range) Mini
- OMNI-30 (4" reader range) Mullion
- OMNI-40 (4" reader range) Wall Switch

HID
- PR-MAX-PRO (24" reader range)
- PRPROII (8" reader range)
- PR-PROXPRO-K-2 (8" reader range, card / keypad reader)
- PR-MINI-PROX (5" reader range)

Indala
- FP603 (4" reader range)
- FP605 (4" reader range)
- FP610 (10" reader range)
- FP620 (24" reader range)

Wiegand:
- CR-1 (wiegand swipe reader)

Magnetic Stripe Readers:
- NR-5-WR (track 2 reader)
- NR-2-WR (track 1 reader)

Keypads:
- KP10 switchplate 11 wire matrix
- KP11 switchplate 5 wire wiegand
- KP12 mullion mount 11 wire matrix
- KP13 mullion mount 5 wire wiegand

Recommended Components

Credentials

Proximity:

HID Proximity Cards
- PX-4-H (34-bit)
- PX-26-H (26-bit)
- PVC-H-4 (34-bit for video badging)
- PVC-H-4-26 (26-bit for video badging)
- PVC-H-5 (34-bit with magnetic stripe for video badging)

Indala Proximity Cards
- PX-121-I (26-bit)
- PVC-I-6 (26-bit with magnetic stripe for video badging)
- PVC-I-7 (26-bit for video badging)

Magnetic Stripe
- NC-2 (32-bit standard)
- PVC-M-2 (PVC card for video badging)

Wiegand
- SC-2 (26-bit with hot stamp number)
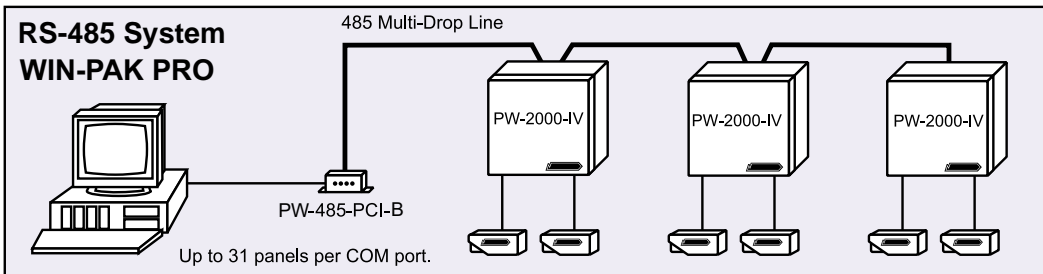- PVC-W-2 (26-bit with hot stamp number for video badging)

Miscellaneous

X-4 power transformer for PW-2000
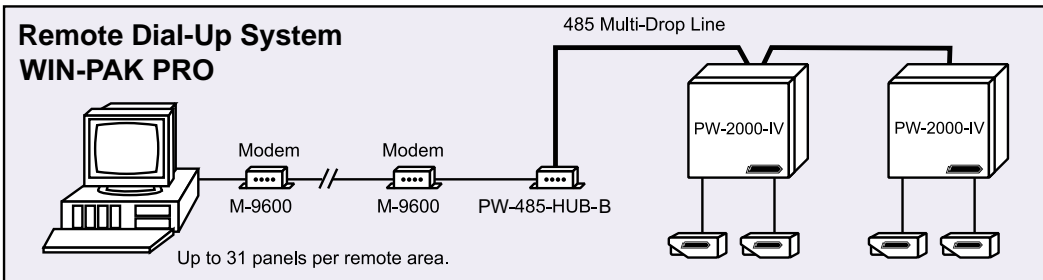
S-4 suppressor kit for each active relay

BENEFITS

- Optional 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

- Scalability makes the PW-2000 very cost effective for all applications, from small to very large systems
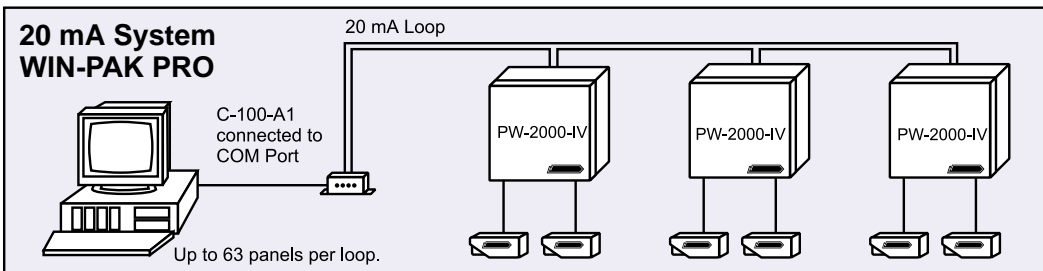
PW-2000 Configuration using WIN-PAK PRO

**RS-485 System
WIN-PAK PRO**

485 Multi-Drop Line

PW-2000-IV   PW-2000-IV   PW-2000-IV

PW-485-PCI-B

Up to 31 panels per COM port.

OR

**Remote Dial-Up System
WIN-PAK PRO**

485 Multi-Drop Line

PW-2000-IV   PW-2000-IV

Modem   Modem
M-9600   M-9600   PW-485-HUB-B

Up to 31 panels per remote area.

OR

**20 mA System
WIN-PAK PRO**

20 mA Loop

C-100-A1 connected to COM Port

PW-2000-IV   PW-2000-IV   PW-2000-IV

Up to 63 panels per loop.

ORDERING INFORMATION

Order #	Description
PW-2000 Series Controllers	
PW-2000-III	Two reader controller module, 4 DPDT relays, 16 supervised inputs
PW-2000-III-X	Two reader controller module with 8 DPDT relay outputs and additional card capacity
PW-2000-IV	Four reader controller module, 4 DPDT relays, 16 supervised inputs
PW-2000-IV-X	Four reader controller module with 8 additional relay outputs and additional card capacity
Hardwired communication devices for PW-2000 series controllers	
N-485-PCI-B	RS-232 to RS-485 single port converter
C-100-A2	RS-232 to 20mA single port converter
Network communication devices for PW-2000 series controllers	
LANSRL100	RS-232 to LAN converter, 10/100 mbps
Dial-up communication devices for PW-2000 series controllers	
N485PCI2L	RS-232 to RS-485 LAN converter that works in conjunction with the LANSR100L
N-485-HUB-2	RS-232 / 25 pin modem converter to RS-485
M-9600-2	Dial-up modem
Miscellaneous	
X-4	Power transformer for PW-2000 control panels
S-4	Suppressor kit for each active relay

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