

 **PROTEGE[®]**
Protégé Two Reader Intelligent Expander

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The Protégé Two Reader Intelligent Expander module provides the interface of up to four reader inputs and 2 locking device outputs to the Protégé Integrated Access Control, Security and Building Automation system, an advanced technology security product providing seamless and powerful integration.

The Protégé Two Reader Intelligent Expander module provides interface with up to 4 reader inputs using industry standard card and reader protocols and controls dual monitored electronic locking device outputs.

Intelligent Reader Hardware Interface

The Protégé Two Reader Intelligent Expander provides extensive hardware advancements that provide flexible access control, area control and alarm monitoring:

- Connect two readers using the independent reader inputs or use the Two Reader operation to connect four readers providing dual entry and exit door connection.
- Provision to control up to three outputs per reader input with predefined configurations for instant connection (Red LED, Green LED and Buzzer Control).
- Support for intelligent reader tamper operation the system will monitor the reader for reader keep-alive transmissions using the programmed protocol.
- Data received display indicates a valid decode of the format on the DATA indicator and the reader number the information was received (Two Reader Mode).
- Individually fused and monitored reader power supply protected with auto reset electronic polythermal fuse and monitored reader supply voltage.
- Power output indicator shows power is available on the reader voltage outputs.
- Over 45 formats predefined for simple configuration, additional formats added using the format builder or implemented directly using the firmware update function.

Local Monitored Power Supply

The Protégé Two Reader Intelligent Expander operates from a 16VAC Input, utilizing low cost transformers and providing a fully monitored reader and door solution:

- Deep discharge prevention of the battery with automatic electronic cut-off.
- Manual or processor controlled battery charge selection of 350mA or 700mA.
- Intelligent charging algorithm monitors battery and AC supply allowing optimum performance to be achieved using standard lead acid batteries.
- Monitored signals for Battery Low/Disconnect and AC Failure using local trouble zones.

Arming/Disarming

The Protégé Two Reader Intelligent Expander module allows a user to Arm and Disarm an Area from a reader input when associated with a door:

- Deny access to a user based on the status of the area reducing false alarms.
- Dual presentation of the card can arm an area associated with the entry or exit direction of the door being accessed.
- Fail to arm programmable output can be programmed to provide feedback in the event areas fail to arm when using card reading functions.
- Prevent access to a keypad using a card and pin function or allow card presentation to automatically login the user at the associated keypad.
- Disarm an area associated with an elevator floor on access when using the Destination Reporting Interface in Elevator Mode.

Connectivity and System Expansion

Expanding the Protégé System with local Zone (Input) and PGM (Output) from the Two Reader Interface module allows convenient cost effective expansion and added benefit of dual functionality on door monitoring zones:

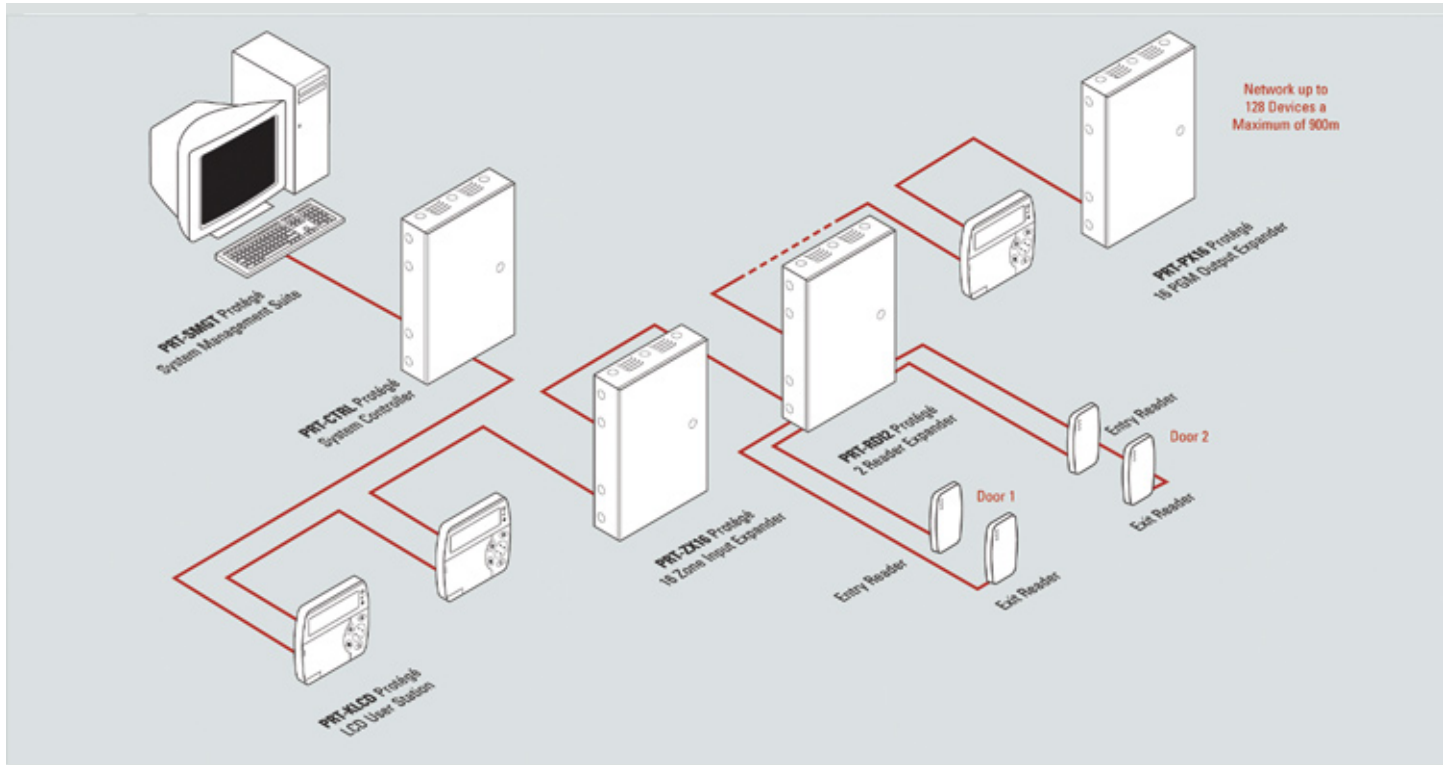
- 8 Zones can be used to perform any system alarm and automation functions with a dedicated enclosure tamper switch. All 8 zones are assigned functions that are processed by the Two Reader expander for door control. Each function can be enabled individually.
- Multi-Mode door contact monitoring and request to exit when enabled frees up to two zones per reader expander for alarm and automation connection.
- Enable the RS-485 network isolation function using the slave (SL) communications interface to provide module network isolation (RS-485 Slave Repeater and Elevator Floor Control).
- Address configuration of the Protégé multiple reader interface is achieved using an eight way DIP switch.
- Unused PGM's for reader control can be used within the system as normal PGM's to control relays, lighting and automation.

Communication

Dual galvanic isolated RS-485 communication interface ports and optional ethernet communications port allow powerful communication options:

- Network RS-485 port used for all network communication functions and interconnects to other modules.

Standard Configuration



Upgradable Firmware

Utilizing the latest flash technology and high performance communication mediums the firmware of the Protégé Two Reader Intelligent Expander module can be updated using the Protégé System Controller or the Protégé System Management Suite.

Electronic Lock Outputs

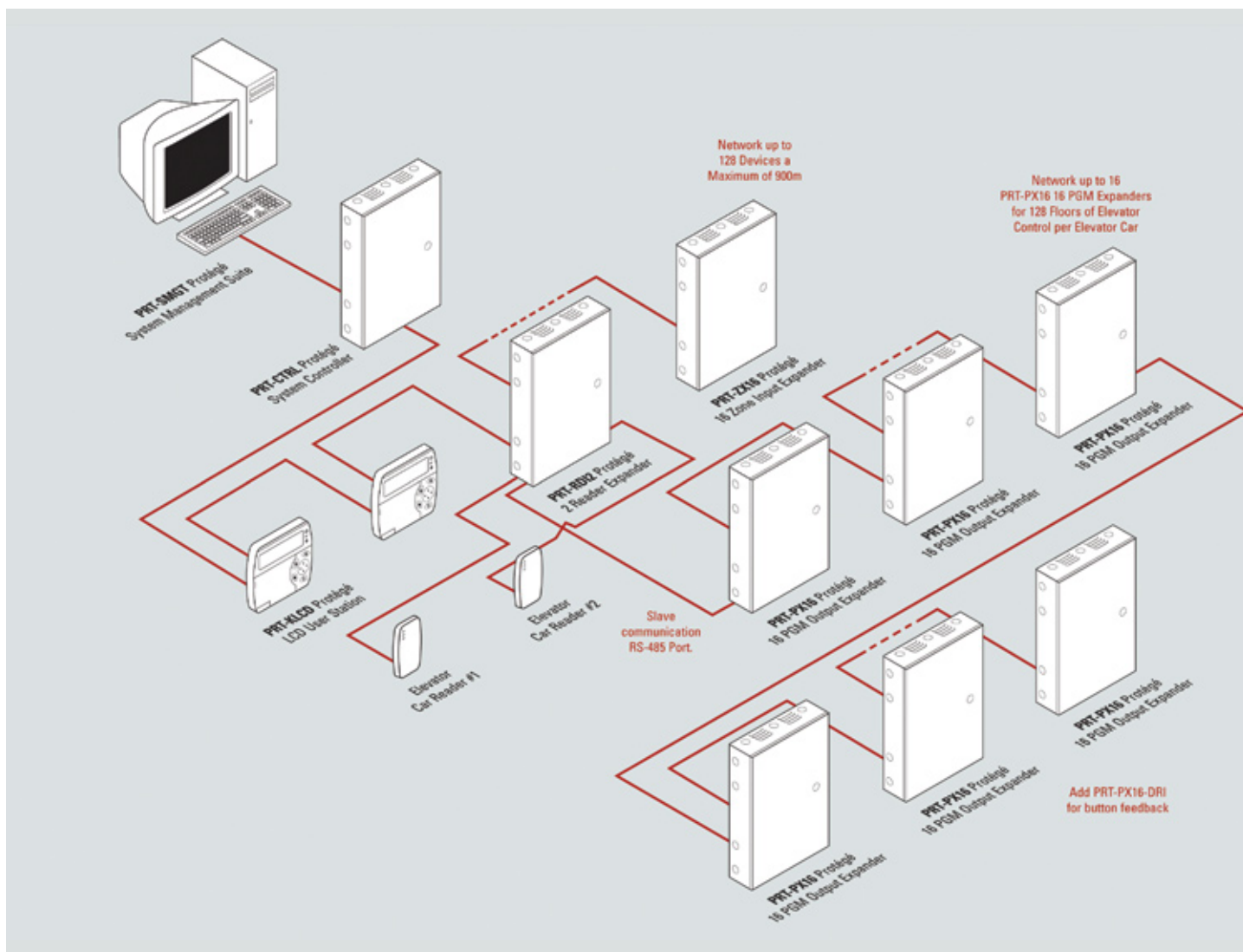
High current electronic monitored electric lock control outputs:

- Indication of lock output activation using LED.
- Lock failure monitoring or lock disconnected (Tamper) displayed as indicator and reported using trouble zone.
- Automatic shutdown on lock over current when activated or shorted. Automatic restore on next deactivation/activation cycle. Shutdown reported using trouble zone.
- Drive electric strikes directly from the lock outputs.

Elevator Control

The Protégé Two Reader Intelligent Expander module allows the control of two independent elevator cars capable of servicing 128 openings (floors):

- Utilize button feedback for floor selection monitoring and single badge, single floor control prevents user tailgating with full floor selection audit.
- Deny access to a user based on the status of the area on a specific floor that they are attempting to access (Button Feedback Required).
- Floor can unlock using the 'Late Open' option forcing the floor to remain locked after schedule until valid access to the floor.
- Interface to the PRT-PX16 using the slave RS485 communication port for intelligent elevator control (Controls 16 Floors per PRT-PX16 per elevator car).
- Optional high level RS485 communication to Elevator Control System (Requires protocol documentation to be provided).

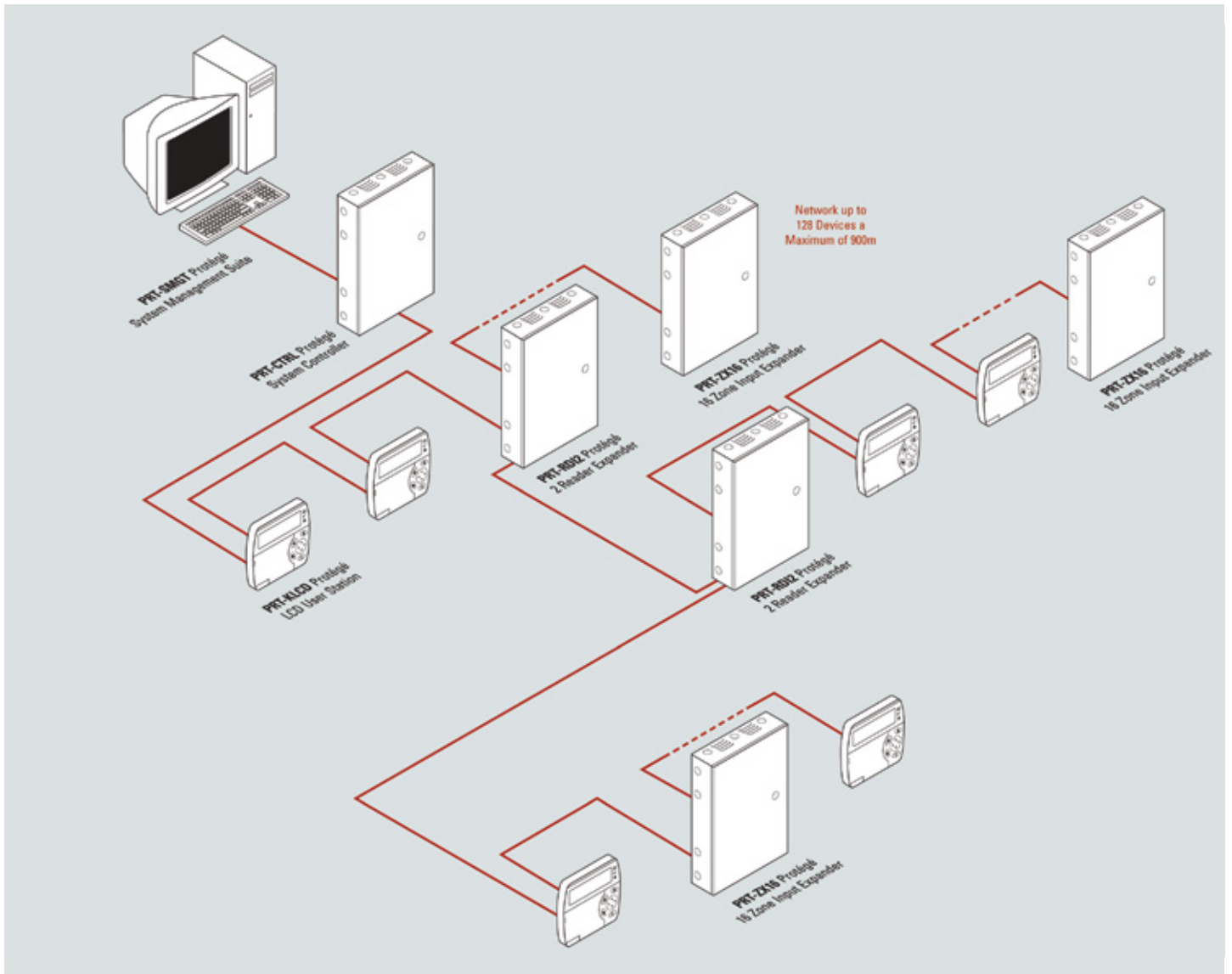


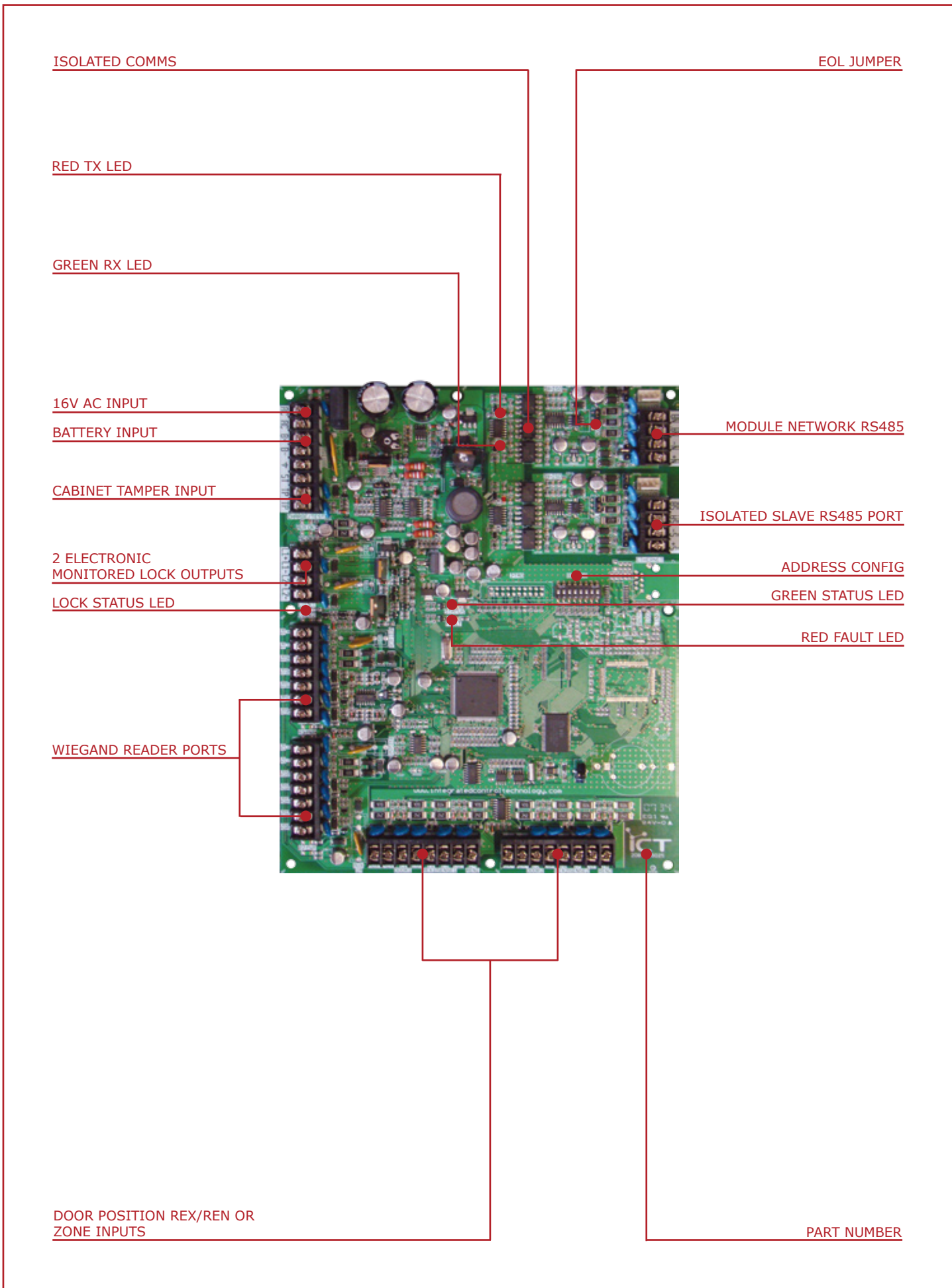
Multiplex Reader Mode

Pushing the boundaries of functionality Integrated Control Technology have taken another step in providing the capability to connect up to 4 readers on to ANY of the reader expanders, introducing the Multiplex Reader Mode.

- Allows the addition of an EXIT reader on to any existing entry with REX egress configuration.
- Identifies the entity with the associated EXIT and ENTRY events.

- No limitations are made on the operation allowing user counting, car park counting, loiter operation, credential anti-passback and area control to take place on the readers used in Multiplex Mode.
- Increased saving to customer while giving retrofit and installation flexibility.





Protégé Reader Expander Feature Set Comparison Chart

	Power Supply	Battery Backup	Aux PSU	Lock Outputs	Lock Monitoring	Reader Ports	Entry/Exit Readers	Zone Inputs	Isolated RS485 Ports	Non-Isolated RS485	Ethernet	Offline Users
PRT-RDM2	12VDC			2 Relay		2	•	6		1		10
PRT-RDS2	16VAC	•	1A	2 Electronic	•	2	•	8	1			10
PRT-RDI2	16VAC	•	1A	2 Electronic	•	2	•	8	2			2000
PRT-RDE2	16VAC	•	1A	2 Electronic	•	2	•	8	2		•	2000

Technical Specifications

Power	Operating Voltage Operating Current Auxiliary Output	15.5VAC to 16.5VAC, 50-60Hz, 40VA (Max) 119mA (207mA Max) 1.2A Fused / Monitored
Battery Backup	Type Charging Low Battery Electronic Disconnection	13.8V Sealed Lead Acid 350mA/700mA 11.2VDC Alarm, 12.5VDC Restore 8.76VDC
Cable Specifications	Protégé RS-485 Encrypted System Network Communication	Beldon Part Code 9842 or Equivalent. CAT5 / 5e (up to a maximum length of 300m).
Communication	Serial Isolated Power	2 RS485 Isolated Communication Interface Ports 12VDC @ 28mA
Readers	Standard Mode Multiplex-Reader Mode	2 Wiegand or Clock Data Readers providing one Entry/Exit door or two entry/exit only doors. 4 Wiegand Readers (connected in multiplex reader mode) providing any combination of entry or exit for two doors.
Zone (Inputs)	System Zones Enclosure Tamper	8 Standard zones individual resistor or no resistor per zone. Each zone links to programmable door function. Request to exit, Door contact, Bond sensing and request to enter. Normally Closed/Normally Open
PGM (Outputs)	Lock Control PGMs System PGMs	2 Fixed Voltage High Current Outputs (1.0A Continuous, 1.2A Max) Monitored with Auto Shutdown and Reportable Events. 6 50mA (Max) Open collector output for reader LED and beeper or general functions.
Temperature	Operating Storage Humidity	5° to 55°C (41° to 131°F) -10° to +85°C (14° to 185°F) 0%-85% (Non Condensing)
Dimensions	Height Width Depth Weight	183mm (7.20") 234mm (9.21") 35mm (1.37") 790gms (27.86 ounces)

The size of conductor used for the supply of all power to the Protégé Two Reader Intelligent Expander should be adequate in size to prevent voltage drop at the terminals of no more than 5% of the rated voltage.

International Compliance Standards:

The Protégé Two Reader Intelligent Expander complies with the following international standards.

For an installation of the Protégé Two Reader Intelligent Expander to comply with any of the standards all installation procedures and programming configuration settings must be made in accordance with the required standard.

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