

Protégé® Intelligent 2 Reader Expander



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The Protégé® Intelligent 2 Reader Expander provides extensive hardware advancements that provide flexible access control, area control and alarm monitoring:

- Connect 2 readers using the independent reader inputs or use the 2 reader operation to connect 4 readers providing dual entry and exit door connection.
- Provision to control up to 3 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 (2 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® Intelligent 2 Reader Expander operates from a 16VAC input, utilizing low cost transformers and providing a fully monitored 12VDC power solution using:

- 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® Intelligent 2 Reader Expander 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 Protégé® 16 Input Destination Reporting Interface in elevator mode.

Connectivity and System Expansion

Expanding the Protégé® System with local zone (input) and PGM (Output) from the Protégé® Intelligent 2 Reader Expander 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 Protégé® Intelligent 2 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 2 zones per Protégé® Intelligent 2 Reader Expander for alarm and automation connection.
- Enable the RS-485 slave network for slave repeater operation or elevator floor control.
- Address configuration of the Protégé® Intelligent 2 Reader Expander Interface is achieved using an 8 way DIP switch or by attaching a local Protégé® Alphanumeric LCD Keypad to the RS-485 interface.
- 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:

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

Upgradable Firmware

Utilizing the latest flash technology and high performance communication mediums the firmware of the Protégé® Intelligent 2 Reader Expander can be updated using the ICT Loadit utility over the Protégé® system module network.

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® Intelligent 2 Reader Expander allows the control of 2 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 Protégé® 16 PGM Output Expander using the slave RS-485 communication port for intelligent elevator control (controls 16 floors per Protégé® 16 PGM Output Expander per elevator car).
- Optional high level RS-485 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-pass back and area control to take place on the readers used in multiplex mode.
- Increased saving to customer while giving retrofit and installation flexibility.

Technical Specifications	
Operating Voltage	15.5 to 16.5VAC, 50 to 60Hz @ 40VA (max)
Operating Current	119mA (207mA max all relays activated)
DC Output (Auxiliary)	1.2A fused/monitored
Battery Charging	350mA/700mA
Battery Low	11.2VDC alarm
Battery Restore	12.5VDC
Electronic Disconnection	8.76VDC
RS-485 Communication (Serial)	2 isolated communication interface ports 12VDC @ 28mA
Readers (Standard Mode)	2 Wiegand or clock data readers providing one entry/exit door or two entry/exit only doors
Readers (Multiplex-reader Mode)	4 Wiegand readers (connected in multiplex reader mode) providing any combination of entry or exit for two doors
Zone Inputs (Tamper)	Normally closed/Normally open
Zone Inputs (System Zones)	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
PGM Outputs (Lock Control)	2 fixed voltage high current Outputs (1.0A continuous, 1.2A max) monitored with auto shutdown and reportable events
PGM Outputs (System PGMs)	6 50mA (max) open collector Output for reader LED and beeper or general functions
Operating Temperature	5° to 55°C (41° to 131°F)
Humidity	0% to 85% (non condensing)
Dimensions (H x W x D)	183 x 234 x 35mm (7.20 x 9.21 x 1.37")
Weight	790g (27.86oz)
The size of conductor used for the supply of all power to the Protégé® Intelligent 2 Reader Expander should be adequate in size to prevent voltage drop at the terminals of no more than 5% of the rated voltage. Specifications are subject to change without notice, please visit www.integratedcontroltechnology.com for updated information.	

Ordering Code	Description
PRT-RDI2-PCB	Protégé® Intelligent 2 Reader Expander



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Designers and manufacturers of integrated electronic access control, security and automation products.
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International Compliance Standards:

The Protégé® Intelligent 2 Reader Expander complies with the following international standards. For an installation of the Protégé® Intelligent 2 Reader 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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