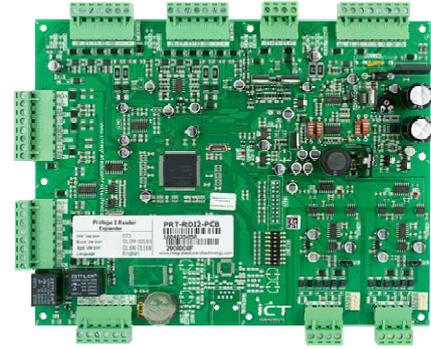


## Protege Intelligent 2 Reader Expander

The Protege Intelligent 2 Reader Expander provides the interface of up to 4 reader inputs and 2 locking device outputs to the Protege system, an advanced technology security product providing seamless and powerful integration of access, security and building automation. The Protege Intelligent 2 Reader Expander provides extensive hardware advancements that provide flexible access control, area control and alarm monitoring.



### Feature Highlights

- > 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 LED indicates a valid decode of the format on the Reader
- > 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

### Local Monitored Power Supply

The 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 inputs

### Arming/Disarming - RDE/RDI

The Ethernet 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 Protege 16 Input Destination Reporting Interface in elevator mode

### Connectivity and System Expansion

Expanding the Protege System from the Ethernet 2 Reader Expander allows convenient cost effective expansion and added benefit of dual functionality on door monitoring inputs:

- > 8 inputs can be used to perform any system alarm and automation functions with a dedicated enclosure tamper switch. All 8 inputs are assigned functions that are processed by the Ethernet 2 Reader Expander for door control. Each function can be enabled individually.
- > Enable the RS-485 slave network for slave repeater operation or elevator floor control.
- > Address configuration is achieved using an 8 way DIP switch or by attaching a local Protege Alphanumeric LCD Keypad to the RS-485 interface.
- > Unused outputs for reader control can be used within the system as normal outputs to control relays, lighting and automation.

### 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 inputs
- > Automatic shutdown on lock over current when activated or shorted. Automatic restore on next deactivation/activation cycle. Shutdown reported using trouble inputs
- > Drive electric strikes directly from the lock outputs

## Elevator Control

The Ethernet 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 use the Late Open option forcing the floor to remain locked on a schedule until valid access to the floor is granted.
- > Interface to the Protege 16 PGM Output Expander using the slave RS-485 communication port for intelligent elevator control (controls 16 floors per Protege 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-passback and area control to take place on the readers used in multiplex mode
- > Increased saving to customer while giving retrofit and installation flexibility

## Communication

Dual galvanic isolated RS-485 communication interface 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 can be updated using the Loadit utility over the system module network.

# Technical Specifications

Operating Voltage	16 to 16.5VAC secondary (via transformer)
Operating AC Input Current	3.15A @ 16.5VAC, 3.3A @ 16VAC when Total Combined Current = 2.5A 2.2A @ 16.5VAC, 2.25A @ 16VAC when Total Combined Current = 1.7A
Operating Current	120mA (Typical)
Total Combined Current	1.7A (Max) using a 37/40VA transformer 2.5A (Max) using a 60VA or greater transformer Electronically limited at 2.5A
AUX DC Outputs	11.0V-12.3V, 700mA (Typical) Electronic Shutdown at 1.1A
L1/L2 DC Outputs (Continuous)	11.0V-12.3V, 700mA (Typical) Electronic Shutdown at 1.1A
L1/L2 DC Outputs (Inrush)	1000mA (1A)
R1/R2 DC Outputs (Continuous)	11.0V-12.3V, 700mA (Typical) Electronic Shutdown at 1.1A
Battery Charging	350mA/700mA
Battery Low	11.2VDC
Battery Restore	12.5VDC
Electronic Disconnection	9.4VDC
Communication (Serial, COM1 Master and COM2 Slave)	2 Isolated RS-485 Communication Interface Port 12VDC @ 28mA. (Input)
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
Tamper Input	Dedicated Hardware Tamper Input
PGM Outputs	6 50mA (Max) Open Collector Output for reader LED and beeper or general functions
Relay 1 / Relay 2 Outputs	Contact Rating 7A, 30VDC or 30VAC (power factor of 0.6)
Status Output	1 50mA (Max) Open Collector Output
Operating Temperature	0° - 50° Celsius (32° - 122° Fahrenheit)
Storage Temperature	-10° - 85° Celsius (14° - 185° Fahrenheit)
Humidity	0%-93% non-condensing, indoor use only (Relative Humidity)
PCB Dimensions	234mm X 183mm X 35mm (9.21" X 7.2" X 1.37")
Weight	339g (11.95oz)

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