BROCHURE

IR (INTEGRATED ROOM SOLUTION)

CRC™

Measure What Matters.

PRODUCT OVERVIEW

The Integrated Room (IR) System is a scalable, non-proprietary solution for precise environmental monitoring, control, and space management. Engineered for safety and operational efficiency, it provides accurate ventilation control, pressure regulation, and environmental monitoring through an intuitive, expandable touchscreen interface. The system delivers real-time room parameters, status updates, and alarms for streamlined operation.

When integrated with CRC's patented low-pressure-drop, energy-efficient air valves and advanced control accessories, the IR System ensures consistent, repeatable performance with long-term energy savings and minimal maintenance. Designed for critical environments of varying size and complexity, it guarantees reliable and secure operation.

APPLICATIONS

- Hospitals
- Laboratories
- Manufacturing facilities
- Cleanrooms

Components of the IR Solution:

- Integrated Room Controller (IRC)
- Integrated Room Valve (IRV)
- Room Display

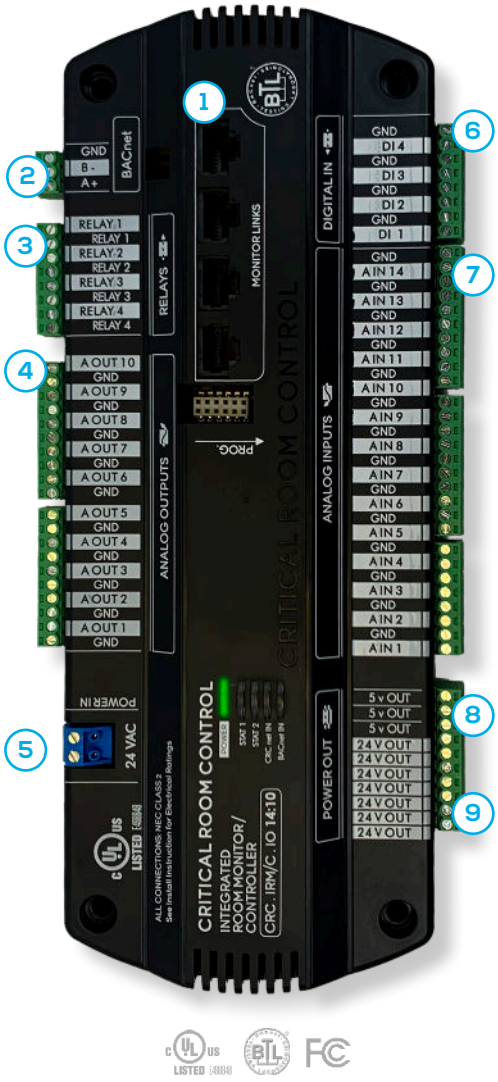
Optional Equipment:

- Additional Air Valves
- Fume hood valves and controls
- Additional room displays
- Additional pressure sensing
- Reheat coils and transitions
- Environmental sensors (e.g., temperature, humidity)

KEY FEATURES

- **Non-Proprietary Room-Level Controller:** Enables authorized personnel to configure, commission, and validate complex room control systems via an intuitive touchscreen interface.
- **Energy Efficiency:** Patented air valve technology minimizes pressure drop, optimizing energy consumption for long-term savings.
- **Scalability:** Designed to meet diverse critical environment requirements with flexible expansion capabilities.
- **Precision Control:** Ensures a safe, low-maintenance environment while maintaining optimal operational conditions.
- **Comprehensive Environmental Monitoring:** Supports up to 28 monitoring points for real-time data visualization, alarm management, and setpoint adjustments, with clear room status indications.
- **Adaptive Operating Modes:** Offers up to five configurable modes to balance energy efficiency and safety based on specific space usage.
- **Configurable Setpoint Control:** Provides secure, password-protected local setpoint adjustments via the touchscreen interface.
- **Advanced Alarm System:** Delivers simultaneous local visual and audible alarms, along with network-based notifications for enhanced situational awareness.
- **Secure User Access:** Features a password-protected interface with configurable permission levels for authorized setpoint modifications.
- **Scalable Display Integration:** Supports up to four display connections, including compatibility with the IRM-PM7.
- **Seamless BACnet Integration:** BACnet-certified for robust read/write access, ensuring smooth integration with building management systems.

INTEGRATED ROOM CONTROLLER (IRC)



SPECIFICATIONS

Dimensions	10.25 x 4 x 1.25 in
Input Power	24 VAC ± 10 %, 50/60 Hz, maximum 30 VA, Class 2
Onboard Power	5 @ 24 VDC (200 mA total max.) 3 @ 5 VDC (100 mA total max.)
Operating Temperature	32 to 158 °F (0 to 70 °C)
Storage Temperature	-40 to 158 °F (-40 to 70 °C)
Operating Humidity	10 to 70 % RH, non-condensing
Storage Humidity	10 to 70 % RH, non-condensing
Communication Protocol	BACnet® MS/TP (BTL - listed/tested)
Connectors	14 – 26 AWG wire
Listing	UL 916, C-UL, BTL
Manufactured Under	ISO 13485-2003

COMPONENTS

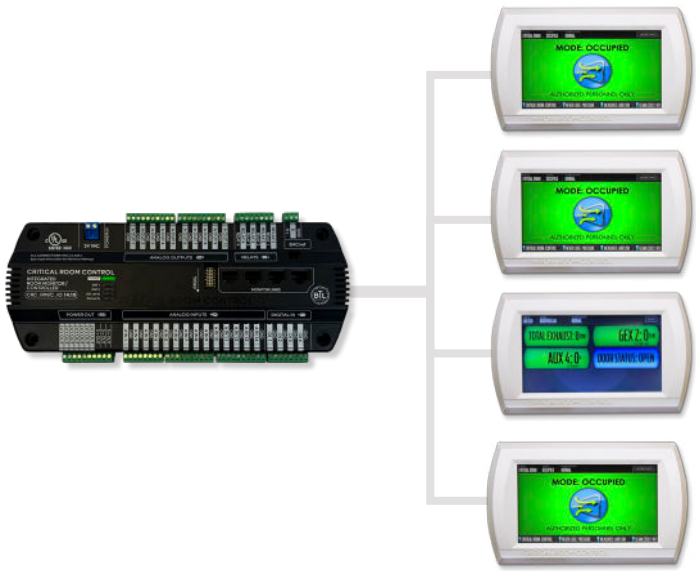
1. 4 Display ports
2. BACnet® MS/TP
3. 4 Relays (normally closed, 2 A @ 30 VDC)
4. 10 Analog outputs (configurable 0 to 10 VDC)
5. 24 VAC power in
6. 4 Digital inputs (normally closed)
7. 14 Analog inputs (configurable 0 to 10 VDC)
8. 5 VDC power to sensors
9. 24 VDC power to sensors

INTEGRATED ROOM 7 INCH DISPLAY

⚠ The displayed screen features a split view that can be configured as either a Pressure Monitor or Multiview.

SPECIFICATIONS

Dimensions	9 x 5.375 x 1.5 in.
Input Power	Supplied by I/O board via Cat6 cable
Cable Length	Up to 200 ft shielded Cat6 cable per display Up to 500 ft shielded Cat6 total for all connected displays
Operating Temperature	50 to 95 °F (10 to 35 °C)
Operating Humidity	0 to 95 % RH non-condensing
Resolution	WVGA RGB 480 x 800 px
Display Type	Resistive touch



⚠ Integrated Room supports up to four (4) screens, as illustrated.

The IRC Display is an intuitive user interface designed for initial setup, configuration, commissioning, and balancing of the IR system, while continuously monitoring critical room parameters and providing optional alarms.

Key Features:

- **Safety:** Clear, unambiguous indications with optional alarms to ensure critical environmental factors are maintained.
- **Display:** Full-color, intuitive touchscreen interface for ease of use.
- **Commissioning:** Built-in commissioning tools to stream line project startup and balancing.
- **I/O Diagnostics:** Visual indicators for real-time monitoring of IRC analog inputs, outputs, relays, and contacts for accurate troubleshooting.
- **Password Protection:** Multiple access levels for enhanced security.
- **Modes:** Supports up to five fully configurable operating modes.
- **Alarm Indicators:** Configurable audible and visual alarms for critical parameters.
- **Setpoint Adjustment:** Optional local adjustment of set points.
- **Room Status Display:** A dedicated screen provides clear visualization of room pressure status and usage.
- **Expandable Displays:** Supports up to three additional displays for broader monitoring capabilities.

PRODUCT OVERVIEW

The Integrated Room Valve (IRV) utilizes CRC's patented CLV air valve technology engineered to deliver precise and reliable airflow measurement and volume control, utilizing the venturi effect for unparalleled accuracy. Featuring minimal pressure drop and an industry-leading turn-down ratio, the IRV is a key component of the CRC IR Solution, ensuring optimal airflow control for critical environments.

CLV PATENTED VALVE TECHNOLOGY

The IRV air valve delivers highly accurate and reliable control by leveraging the venturi effect. Engineered for optimal performance, it features minimal pressure drop and an industry-leading turn-down ratio, ensuring exceptional efficiency and responsiveness.

ENERGY EFFICIENT – LOW PRESSURE DROP

Designed for maximum energy efficiency, the IRV delivers high airflow with minimal pressure drop. Operating at just 0.25" of static pressure, it stands as the most efficient air valve in the industry, providing both cost savings and performance.

LARGE CAPACITY

The IRV offers unmatched capacity with single-valve performance of up to 4,200 CFM and dual-valve capacities of 7,800 CFM, delivering more airflow per valve size than any other option available on the market.

FLEXIBLE INSTALLATION WITH NO RESTRICTIONS

The IRV simplifies installation with no requirements for straight duct sections at the inlet or outlet. It can be installed in any orientation or axis, making it versatile and easy to integrate while still providing precise, pressure-independent airflow control.

CLOSED LOOP PRESSURE INDEPENDENT

With closed-loop control logic, the IRV ensures precise, high-speed airflow regulation. By continuously monitoring airflow and adjusting in real-time to maintain the desired setpoint, it maintains accuracy even when duct static pressure or control setpoints fluctuate, ensuring reliable and consistent performance.

LOW OPERATING COST WITH NO SCHEDULED MAINTENANCE

Proven in thousands of installations across challenging environments, the IRV resists lint, dust, and contaminants that degrade other flow sensing technologies, requiring no scheduled maintenance and offering long-term reliability with reduced operating costs.

The IRV Air Valve offers the perfect combination of performance, energy efficiency, and ease of use, making it the ideal choice for maintaining critical environments with minimal maintenance and maximum efficiency.

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