BACSYS
ADVANCED EDGE IOT PLATFORM

RT M16

BACSYS RT Series offers versatile, high-performance I/O modules designed for HVAC control and industrial automation. Engineered for flexibility, reliability, and seamless integration, the RT Series is ideal for hospitals, IT buildings, data centres, and mixed-use utility buildings. The RT-M16 model features a 16-channel mixed I/O configuration, ensuring adaptability for diverse automation needs.

Key Features

- **Electrical Performance Metrics**
  - Powered by 24V AC/DC power supply
    - 24V AC (+/- 20%)
    - 24V DC (21–30V)
- **Overvoltage Protection:**
  - Inputs & Outputs protected against voltage fluctuations (24V AC ± 20% / 20–28V DC)
  - Short-circuit protection for enhanced reliability
- **Safety & Connectivity Features**
  - Fail-Safe Operation
    - In case of communication failure, relay outputs automatically switch to safety positions
    - Configurable via Modbus Register or BACnet Point Address
  - Visual Indicators for Diagnostics
    - Status LED, Service LED, and Power LED for easy troubleshooting
  - Effortless Network Configuration
    - Hex switch for setting Panel Bus address
- **Quick & Secure Wiring**
  - Push-in terminals for fast and reliable connections
- **Protocol & Communication**
  - Multi-Protocol Support: BACnet MS/TP & Modbus RTU (Selectable via DIP Switches)
  - Seamless Integration: Extends APEX 100, APEX 200, and other standard network controllers via serial bus connections
- **Key Advantages**
  - Compact & Modular Design – Optimised for engineering efficiency and quick deployment
  - Distributed Control Capability – Enhances building automation & industrial control networks
  - Fast Addressing & Commissioning – DIP switches allow quick address configuration
  - Reliable Performance – Designed for industry standard applications

Universal Input	Analog Output	Digital Input	Digital Output
8	4	0	4

Technical Specification

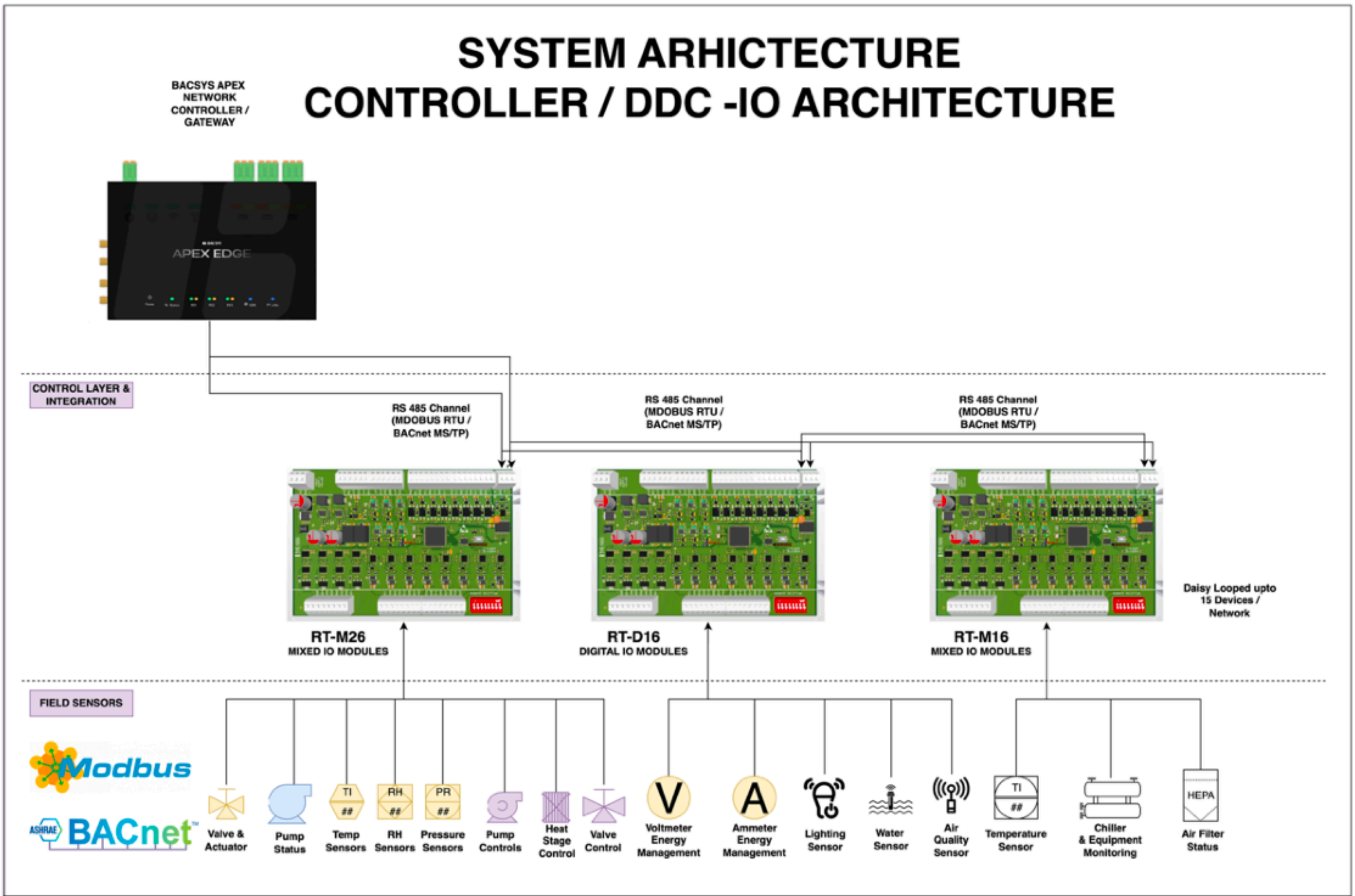
Communication	**RS 485 Interface** Half-duplex, Up to 15 Devices per Network **Protocol** • BACnet MS/TP • Modbus RTU **Baud Rate** 4800-115200 **Network Address** 0-15, assigned by a DIP switches (*) To be upgraded to 30 in upcoming software update **Programming** 5 PIN Programming Slot on the Controller Board Firmware Update
Power	**Operating Voltage** 24VAC, ranges from 20 to 28 VAC 24VDC, ranges from 20 to 28 VDC **Overvoltage Protection** Maximum overvoltage protection 28V DC, 28V AC Terminals have short-circuit protection **Power Consumption** 9W
Environmental	**Storage Temperature** 0 ~ 65°C **Operating Temperature** 0 ~ 50°C **Relative Humidity** 10% ~ 90% non-condensing **Vibration** 6 IPS **Cooling** Natural Convection
Dimension	**Length** 160mm **Width** 108mm **Height** 73mm
Annuciators	**Operation Status** Power, Status & Communication **IO Status** Digital Input, Digital Output

Mounting	**DIN Rail** YES (DIN EN 50022 norm) **Housing** Self-extinguishing plastic (PC/ABS) **Push in Terminal** 1.5 Sq.mm

- Based on the cable length, resistance and its quality, supports up to 15 devices per network, due to the addressing limitations
- Can be configurable as BACNet MS/TP or Modbus RTU on real-time, with device power reset
- Compatible with industry leading controllers and gateways

RT M16 Input / Output Description

Universal Input	Analog Output	Digital Output
8 Inputs Configurable as: • PT100, PT1000, NTC10K, NTC20K • 0 to 10V • 4 to 20mA • 12 Bit Resolution	4 Outputs Configurable as: • 0 to 10V • 4 to 20mA • 12 Bit Resolution	6 Outputs Configurable as: • MOSFET Open Drain • Voltage 24V DC • Maximum total current 3A • LED per Output



Description: System Architecture for Controller & IO Integration for HVAC Controls Revision: V 1.0 Date: 6th Dec 2024	Supported Protocols: BACNET MS/TP, Modbus RTU Supported Systems: System Architecture for HVAC Controls Applications: Energy Management System, HVAC Controls, CPM, Utility Billing Solutions	Created By: BACSYS Technical Support Team (hello@bacsys.ai) Reviewed By: BACSYS Technical Team Approved By: - BACSYS Technical Team

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