

Johnson Controls HVAC/R Controls Products and Solutions

Original Equipment Manufacturer (OEM) Line Card



The power behind **your mission**



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Engineered control solutions

- Programmable controllers
- Input/output expansion modules economizer
- Programmable access display
- System view HMI

Typical applications

- Refrigeration
- HVAC
- Chillers
- Economizer



Sensors

- NS Series Network Sensors
- TE Series Temperature
- HE Series Humidity
- CD Series Carbon Dioxide
- OLS Series Occupancy
- DPT Series Pressure Differential
- Current Switches and Transducers
- Stainless Steel and Brass Wells

Typical applications

- HVAC environmental condition monitoring
- Demand control ventilation
- Energy savings
- Humidity, temperature or CO₂ monitoring for duct, outdoor or indoor spaces
- Wall, duct, probe, well, flush or strap mount
- Temperature control
- Occupancy sensing
- Relative humidity
- Remote temperature monitoring
- Remote cold storage sensing
- Hospital and resident care facilities



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PENN® Connected Refrigeration

- Wireless temperature monitoring
- Cloud platform
- Bluetooth probe and mobile app
- Refrigeration sensors

Typical applications

- Critical temperature monitoring
- Door monitoring
- HACCP
- Food Safety Modernization Act 2011
- The European Feed and Food Hygiene Regulation (EC) No. 852/2004



Temperature controls

- A19 Surface Mount, Hot Water/Well Immersion, Remote Bulb and Coiled Bulb Temperature Controls
- A421 Electronic Temperature Controls
- TC Series Case Temperature Controllers
- A11/A70 Low Limit Temperature Controls
- A25/A28 Warm Air Limit Temperature Controls
- A28 2-Stage Remote Bulb Temperature Controls

Typical applications

- Temperature control in HVAC/R applications
- Refrigerated display cases
- Walk-in coolers/freezers
- Boiler control
- Home brewing
- Fan cycling or cut-out control
- Wine and beer fermentation tank control



Dampers, louvers and air measuring

- Air flow measuring
- Volume control dampers
- Life safety dampers
- Louvers
- Industrial dampers

Typical applications

- Meet IAQ and ASHRAE 62 standards
- Control airflow within buildings
- UL 555 and 555S applications
- Keep rain and other matter out of buildings
- High velocity/pressure applications



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Modular electronic controller

- C450C Temperature, Pressure and Humidity Controls
- C450CPW Special Applications Module
- C450CRN and C450CEN Communication Modules
- C450CCU Refrigeration Control Module
- C450S Expansion Modules
- C450Y Power Module

Typical applications

- Clean rooms and computer rooms
- Greenhouses and swimming pools
- Condenser fan cycling
- Walk-in coolers and freezers and large refrigerated cases
- Cooling tower and boiler control
- Electronically Commutated (EC) motor control
- RS485 Modbus or Ethernet Communication
- Temperature, pressure and/or humidity with on/off, proportional, reset and differential control



Pressure controls

- P70/P170 Pressure Controls
- P100 Encapsulated Pressure Switches
- P470 Electronic Pressure Controls
- P77/P78 Pressure Controls
- P599 Electronic Pressure Transducers

Typical applications

- High- or low-pressure cut-out controls
- Head pressure control
- Condenser fan cycling control
- Pump down control
- Capacity control



Lube oil controls

- P28/P128 Lube Oil Controls
- P45/P145 Lube Oil Controls
- P545 Electronic Lube Oil Controls

Typical applications

- Lube oil pressure protection for semi-hermetic refrigeration compressors



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Commercial refrigeration scroll compressors

- ZS and DS Series
- Horizontal and Vertical, Fixed and Variable-Speed Scroll Compressors
- Approved for use with these refrigerants: R448A/R449A, R290 and R404A

Typical applications

- Gas stations and convenience stores
- Supermarkets and small retail grocery stores
- Pharmacy and medical equipment
- Walk-in cold rooms
- Outdoor condensing units, mini-racks, and packs
- Transport refrigeration



Refrigerant leak detectors

- RLD-10PRO-Line Voltage and Battery Operated
- 60XX Series Wall Mount

Typical applications

- Leak detection of CFC, HCFC, and HFC refrigerants and blends



Condenser fan controls

- P70/P170 Pressure Controls
- P266 Electronic Fan Speed Controls
- VFD68 Variable Frequency Drives
- P315 Series EC Motor Control

Typical applications

- Fan cycling control
- Fan speed control
- Commercial air-cooled condensers
- Cooling tower fans
- Fans in evaporative condensing units



Water regulating valves

- V43/V46/V48 Water Regulating Valves
- V146/V148 Water Regulating Valves for high water pressure
- V243/V246/V248 Water Regulating Valves for high-pressure refrigerants

Typical applications

- Ice machines
- Computer rooms
- Refrigerated cases
- Water-cooled heat pumps
- Water-cooled refrigeration condensers



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Flow and float controls

- F59 Liquid Level Switches
- F59 Sump Pump Switches
- F261 Low Flow Switches
- F261 Fluid Flow Switches
- F263 Liquid Level Float Switches

Typical applications

- Water purification and treatment systems
- Sump pumps
- Booster pumps
- Cooling tower sumps
- Boilers and chillers



Variable Speed Drives

- Micro Drives (1/2-30 Hp)
- Open Drives (1-250 Hp)
- Bypass Drives (1-250 Hp)
- Enclosed Drives (11/2-150 Hp)
- Motor Starters (1/2-60 Hp)
- Engineered Solutions (up to 1500 Hp)

Typical applications

- Fans
- Pumps
- Blowers



Communicating and non-communicating thermostats

- TEC3000 Series Smart Thermostats
- CS1 Smart Thermostat
- Kono Smart Thermostat
- Geo Smart Thermostat
- Brio Programmable Thermostat
- LUX Programmable
- LUX Non-Programmable
- FCP/FCN Fan Coil Thermostat

Typical applications

- Rooftop units
- Cabinet unit, perimeter heaters
- Heating and cooling equipment: heat pump, unitary rooftop, split systems
- Humidification/dehumidification, Wi-Fi, Zwave and Zigbee models available
- Fan Coil Units



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Valves

- VG1600 Series 6-Way Valves
- VG1000 Series Threaded and Flanged Control Ball Valves
- VG7000 Series Threaded Control Globe Valves
- VG2000 Series Flanged Control Globe Valves
- VF Series Butterfly Valves
- J Series Zone Valves
- VP140 Pressure Independent Control Valves

Typical applications

- Fan coils
- Chilled beams
- VAV reheat
- Perimeter heat
- Air handlers
- Chillers
- District heating
- Humidification
- Baseboards



Electric actuators

- M9100/M9300 Series
- Non-Spring Return Actuators
- M9200 Spring Return Actuators

Typical applications

- Air control dampers in HVAC systems
- Spring return and non-spring return
- VAV boxes



Custom control panels

- Conceptual designs
- Agency-compliant standard and custom turnkey solutions
- Flexible inventory management and shipment options
- Hassle-free web-based order management tool

Typical applications

- HVAC
- Refrigeration
- Lighting
- Process
- Energy



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About Johnson Controls

At Johnson Controls, we transform the environments where people live, work, learn and play. From optimizing building performance to improving safety and enhancing comfort, we drive the outcomes that matter most. We deliver our promise in industries such as healthcare, education, data centers, and manufacturing. With a global team of over 100,000 experts in more than 150 countries and over 130 years of innovation experience, we are the power behind our customers' mission. Our leading portfolio of building technology and solutions includes some of the most trusted names in the industry, such as Tyco®, YORK®, Metasys®, Ruskin®, Titus®, Frick®, PENN®, Sabroe®, Simplex® and Grinnell®.

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