



Commercial refrigeration and air conditioning controls

Typical Applications

Temperature controls

A19/A28 Temperature Controls
A421 Electronic Temperature Controls
TC3 Electronic Case Temperature and Defrost Controllers

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



Pressure controls

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

- High, low, single and dual pressure cut-out controls
- Head pressure control
- Condenser fan cycling control
- Pump down control
- Capacity control



System 450™ Modular Electronic Controls

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

- Clean rooms and computer rooms
- Greenhouses and swimming pools
- Condenser fan cycling
- Medium- and low-temperature 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
- Walk-in coolers and freezers





Typical Applications

Lube oil controls

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

- Lube oil pressure protection for semi-hermetic refrigeration compressors



Refrigerant leak detectors

RLD-H10G-Line Voltage
RLD-H10PM-Battery Driven

- 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

- 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

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



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

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



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 105,000 experts in more than 150 countries and over 130 years of innovation, 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®, Ansul® and Grinnell®.

For more information, visit www.johnsoncontrols.com or www.penncontrols.com

JOHNSON CONTROLS, PENN, and the product names listed in this document are marks and/or registered marks. Unauthorized use is strictly prohibited. Printed in USA PUBL-5452 (Rev. 05/21). © 2021 Johnson Controls. All rights reserved.

The power behind your mission

