HVAC/R Equipment & Systems

Fast Facts

Market Applications

HVAC/R Equipment and Systems Applications for **SSAC** Products

Heating, ventilating, air conditioning, and refrigeration equipment offer a wide assortment of applications for **ABB SSAC** brand products. These applications span from helping to control the operation of the equipment to protecting the compressor and vital components from adverse operating conditions. **SSAC** has over 30 years experience designing and manufacturing control relays for the equipment manufacturers that supply products and systems for this industry.

Advantages of partnering with ABB SSAC:

- Over 30 years of experience designing & manufacturing
- OEM timers and controls for the HVAC/R industry
- Encapsulated modules are suited to outdoor applications
- Totally solid state designs are rated for 100 million operations
- 10 Year product warranty
- Rush delivery capability
- RoHS manufacturing means 100% lead free compatibility
- ISO 9000 Quality Management System
- LEAN manufacturing approach allows attractive cost structure
- Full staff of application engineers that understand the needs of HVAC/R equipment

ABB Group offers the power of a world wide organization with strong local support to ensure your customers get fast, reliable support and customer service.

HVAC

SSAC

ABB

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HVAC

Application Benefits:

3 Phase Voltage Monitoring Protection:

Phase Loss Protection (single phasing)

- Prevent motor failure caused by single phasing

Unbalanced Voltage Protection

- Prevents winding over-heating and insulation failure caused by unbalanced voltages

HLMU

Under & Over Voltage Protection
(not surge or transient protection)

PLMU

- Prevents winding overheating and insulation failure when the voltages are outside of the normal operating range
- Prevents contact chatter caused by low voltages

Phase Reversal Protection:

- Prevents reverse rotation of fans and screw compressors.

Random Restart Protection: (HLMU only)

- After a power outage, automatically delays the operation of compressors and other sensitive motors until the lighting and resistive heating load are energized. Motors are started when the voltage has returned to an acceptable range.

Short Cycling Protection: (HLMU only)

- Onboard adjustable time delay allows head pressure to equalize before a compressor is restarted

Alternating Relays:

ARP

- Equalize the running time of two compressors
- Switches at the end of a cycle
- Duplexing allows both compressors to run simultaneously
- Duplexing improves the energy efficiency of the system

Gain efficiency and reliability by sharing run time between two supply units. HVAC supply units can be sized for half the required maximum load (2x10 ton instead of 1x20 ton) and the alternating relay insures shared run time. Lower tonnage units are more efficiently matched to average loads, and backup is always available. During peak demand, optional lag input runs both systems.

KRPS
ProgramaCube FT mode
Alternator

Anti-Short Cycling Timers with Random Restart Protection:

- Time delay ensures a minimum OFF time
- Time delay allows head pressure to equalize before a compressor is restarted
- Prevents short cycling that occurs after a momentary power outage
- Prevents short cycling caused by faulty control contacts
- After a power outage, a random restart delay allows motors to restart after the lighting and heater loads are on and the voltage returns to normal.

T2D
Knob Adjustable
w/ Lockout Delay

TDU
Accurate Switch Adjustment

Bypass Timers:

- Allows cold weather and low pressure starting
- Prevents rapid cycling caused by pressure switch contact bounce
- Fast initiation (8.3 ms) prevents nuisance lockouts by the "Reset Relay"
- Resets at the end of each cooling cycle

TAC4

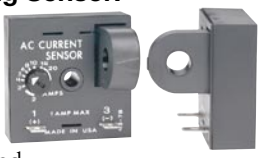
Fan Delay Timers:

- Increases the Seer rating of the equipment
- Keeps the fan on after a cooling cycle is complete
- Moves residual conditioned air from the ducts into the room

CT

Backup Resistive Heating Sensor:

- Saves energy by sensing when the backup resistive heat is operating allowing lower cost furnaces or boilers to be engaged
- Monitor operation of remote loads, provide runtime information to a DCS system



TCS

Custom Control Modules:

- Service running time
- Filter change monitor
- OEM Fan Softstart Control

NHPD

ABB Low Voltage Products & Systems
Technical Support 888-385-1221
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Atlantic & Quebec Region: 800-567-0283
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Mid-West & Pacific Region: 866-222-8368

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