



Passionate about protection and control

HVAC SOLUTIONS

*MONITORING, CONTROL
& PROTECTION SOLUTIONS
FOR*

SCROLL/SCREW
COMPRESSORS

AIR HANDLING
UNITS

CHILLERS

ROOFTOP SYSTEMS

HEAT PUMPS

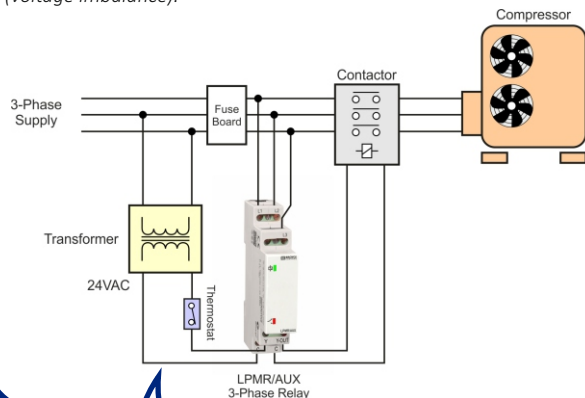
REFRIGERATION
SYSTEMS



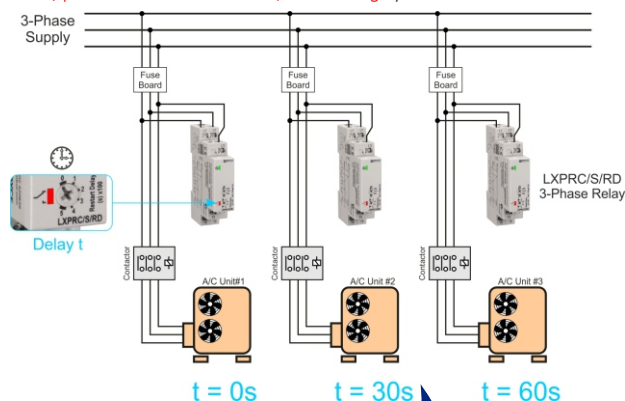
ULTIMATE PROTECTION SOLUTIONS

3-Phase Compressor protection (with Aux. supply)

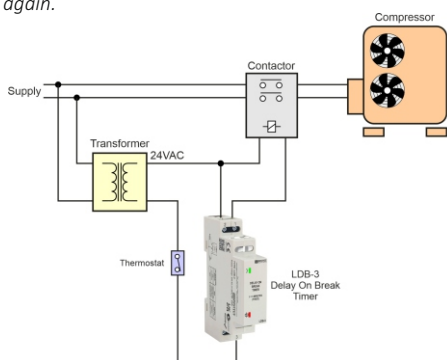
Powered by an external 24V auxiliary source (i.e. from control panel transformer), provides monitoring of the 3-phase compressor supply. **Protects compressor** against **single-phasing** (phase loss/blown fuse), **rotating in the wrong direction** (phase reversal) and **overheating** (voltage imbalance).

**Staggered starting of multiple compressors**

Prevents multiple compressors starting simultaneously but adding an intentional delay before starting. Each compressor is fitted with its own 3-phase monitoring relay and the **restart delay** period is staggered based on size and capacity of the compressor. In addition, each relay still provides compressor protection against **phase loss, phase reversal** and **under/over voltage** protection.

✓ **MONITOR**✓ **CONTROL**✓ **PROTECT****Compressor anti-short cycle (lock-out) protection**

Connected on the low-voltage side of the control panel transformer in between the thermostat and compressor contactor, the timer prevents rapid recycling of the compressor by initiating a time delay when the thermostat opens. This is also known as a "lock-out" delay. The time delay must have finished before the compressor can be started again.

**Maximum protection for your HVAC equipment**

A range of products designed to ensure smooth running of your HVAC installation offering re-assurance and piece of mind that costly damage will be prevented in the event of a fault.

Monitor - Permanently installed relays can constantly monitor for faults and detect conditions that may lead to the risk of damage or disruption

Control - Switch the equipment when absolutely necessary

Protect - Your equipment to guarantee trouble-free operation

These are the key elements to ensuring your application will run as you'd expect.



CHILLERS



ROOFTOP
UNITS



AIR HANDLING
UNITS



HEAT PUMPS



LXPRC/S/RD

FIND ME ONLINE: www.broycecontrol.com

Compressor Protection (with delayed restart)

Key Features:

- Selectable nominal voltages - 2 ranges available **200 - 240VAC** or **380 - 460VAC L>L**
- Monitors own supply - detects if phases exceed the fixed Under or Over voltage trip levels
- Detects incorrect phase sequence and loss
- Adjustable Restart time delay (**1 - 500s**)

Benefits:

- ✓ Protects compressor against loss of phase (single-phasing) and reverse running
- ✓ Choice of selectable nominal voltages for global applications
- ✓ Adjustable Restart delay - allows for staggering of multiple compressors



3-PHASE
MONITORING



Dims: to DIN 43880
W. 17.5mm

LXPRC/S/F

FIND ME ONLINE: www.broycecontrol.com

Compressor Protection (with adjustable timer)

Key Features:

- Designed for **415V L>L** supplies
- Monitors own supply and detects if one or more phases exceed the fixed Under or Over voltage trip levels (+/-10% of selected nominal)
- Detects incorrect phase sequence and loss
- Adjustable time delay to prevent nuisance tripping

Benefits:

- ✓ Easy to install
- ✓ Minimal setting up required



3-PHASE
MONITORING



Dims: to DIN 43880
W. 17.5mm

LPMR/AUX

FIND ME ONLINE: www.broycecontrol.com

Compressor Protection (with auxiliary supply)

Key Features:

- Wide 3-phase monitoring voltage range **190 - 600VAC L>L**
- Low voltage auxiliary supply **24VAC**
- Detects voltage unbalance, phase reversal and phase loss

Benefits:

- ✓ Low cost and simple to install
- ✓ No setting up required
- ✓ Compact dimensions



3-PHASE
MONITORING

Dims: to DIN 43880
W. 17.5mm

M1TVR-4W

FIND ME ONLINE: www.broycecontrol.com

3-Phase Under Voltage Monitoring with Delayed Restart

Key Features:

- Designed for **230V/400VAC** 3-phase supplies
- Monitors own supply - detects if phases exceed the fixed Under voltage trip level
- Detects phase and neutral loss
- Adjustable Restart time delay (**5 - 10m**)

Benefits:

- ✓ Meets the DEWA regulations specification for HVAC installations
- ✓ Easy to install
- ✓ Also available in single phase (M1TVR)



3-PHASE
MONITORING

Dims: to DIN 43880
W. 17.5mm



CHILLERS



ROOFTOP
UNITS



AIR HANDLING
UNITS



HEAT PUMPS



LDB-3

Compressor Lockout/Anti-Short Cycle/Random Start

Key Features:

- Designed for 24VAC supplies with simple 3-wire connection
- Fixed time delay of 3 minutes
- LED indication
- Solid-state output

Benefits:

- Protects compressors from damage caused by rapid short cycling
- Easy to install
- No user adjustments

FIND ME ONLINE: www.broycecontrol.com



TIMING

Dims: to DIN 43880
W. 17.5mm

Protection

Earth Leakage

Protect installations against injury to personnel and damage to equipment due to earth leakage faults.

Benefits:

- Maximises safety



FIND ME ONLINE: www.broycecontrol.com



Monitoring

Voltage and Current

Monitoring relays for under or over voltage and current sensing.

Benefits:

- Protect compressors and motors from single phasing and current unbalance
- Multi-voltage supply



FIND ME ONLINE: www.broycecontrol.com



Timing

Single or Multifunction

Choice of timing relays for control of specific HVAC equipment such as compressors, exhaust fans, etc.

Benefits:

- Key timing functions available
- Multi-voltage supply
- Compact dimensions
- Easy to install



FIND ME ONLINE: www.broycecontrol.com



Bespoke

Customised Solutions

Need something different for your HVAC application? We can customise and offer a solution to meet your requirements.

Benefits:

- Product operates as you require
- Keeps product simple
- Option to brand for your company



MORE INFO ONLINE: www.broycecontrol.com

Inspired by over 60 years of exceptional customer service



Broyce Control Ltd. Pool Street, Wolverhampton,
West Midlands, WV2 4HN. U.K.

Tel: +44 (0) 1902 773746

Email: sales@broycecontrol.com Web: www.broycecontrol.com



Certificate No: 156532009