

THYRISTOR CONTROLS 3 PHASE 0-10VDC

EY3..

These thyristor controls accept 0-10vdc input signals from temperature controllers to regulate the current flow to electric heaters or other resistive loads in order to achieve accurate proportional control. The unit operates on burst fire zero voltage switched principle. Zero voltage switching for minimum RFI. Burst firing for minimum harmonic distortion. The FULL load is switched on & off in timed bursts and is proportional to the input signal.



For other voltages DO NOT exceed the fuse rating.

Fitted with fast semi-conductor fuses to protect against short circuit & overload.
Max. ambient is 40°C - derate 20% at 50°C.
Aluminium body with cooling fins.

Metal cover

Ensure unit is adequately ventilated to dissipate internally generated heat.

Load >100KΩ.

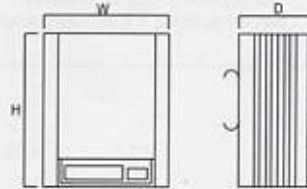
Type	Phase	Max Heater Duty kW	VAC	Supply Hz	Internal Fuse	Dissipated Heat Watts	Thermal Cut-Out	Mounting	Protection
EY3-10	3	10	415	50/60	15A/Ph	3 x load current	-	Din Rail	IP20
EY3-20	3	20	415	50/60	30A/Ph	3 x load current	-	Din Rail	IP20
EY3-28	3	28	415	50/60	40A/Ph	3 x load current	-	Din Rail	IP20
EY3-36	3	36	415	50/60	55A/Ph	3 x load current	-	Bracket	IP20
EY3-54	3	54	415	50/60	75A/Ph	3 x load current	In built	Bracket	IP20
EY3-86	3	86	415	50/60	120A/Ph	3 x load current	In built	Bracket	IP20
EY3-105	3	105	415	50/60	160A/Ph	3 x load current	In built	Bracket	IP20
EY3-150	3	150	415	50/60	220A/Ph	3 x load current	In built	Bracket	IP20

For larger heaters SPLIT the load between two thyristors and control from a single temperature controller.

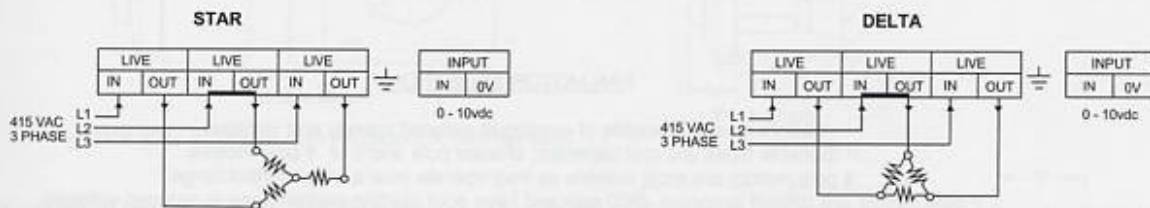
For use with 0-10vdc temperature controllers - see separate data sheet. Replacement fuses available on request.

DIMENSIONS:

Type	H	W	D	Type	H	W	D
EY3-10	150	150	98	EY3-54	200	250	155
EY3-20	150	150	98	EY3-86	200	250	155
EY3-28	150	150	118	EY3-105	250	250	155
EY3-36	150	250	155	EY3-150	230	345	222



WIRING:



No mains neutral connection should be made to the heater. L1 & L3 switch the current to the heater. L2 is permanently connected. The load must be split EQUALLY on all phases. During long 'off' periods the power supply to the thyristor should be turned off. Heater batteries should be protected with a high temperature cut-out.

On 0-10vdc input, both the ground (OV) & signal wires must be connected. If the input signal is cut the thyristor output will be zero.

Select a thyristor **allowing** for heater battery & supply voltage tolerances which may cause the current to increase by approx 20%. Note the fuse ratings.

Min sensor / control signal cable size 7/0.2mm. Max length 100m. Two internal fuses are fitted to protect the thyristor only.

Keep sensor/control signal wires away from power cables/units which may cause interference. Screened cable is recommended.

All cables & external fuses must be fitted according to local regulations & safety requirements. Input signal terminals 0.5 - 2.5mm²

Load terminal sizes :

EY3-10 2.5mm² EY3-20, EY3-28 6mm² EY3-36 16mm² EY3-54, EY3-86 35mm² EY3-105, EY3-150 70mm²

INSTALLATION:

Allow 25mm clearance on horizontal axis & 100mm on vertical axis between units. Air must be allowed to flow freely through the unit. Fit grilles or louvres to the top or bottom of any enclosures.

Install with cooling fins vertically - Forced ventilation may be necessary.

Do not exceed maximum ambient temperature.

FAULT FINDING:

Check the 0-10Vdc input ground & signal wires are in the correct terminals.

If the internal fuses are blowing :-

Check all terminals & wiring connections are TIGHT.

Check electric heater or load rating.

Check for short circuit on wiring or heater.

Check the fuse rating & ensure the fuse is screwed down tightly.

Loose connections can cause bad contact/arcing or the terminal to overheat.

Check other units which may cause excessive current to be drawn.

Check supply voltage variations.