

S1 & S3 Thyristor Controller Ranges

Applications

Heater Batteries in HVAC Systems

- All solid state design using thyristor modules
- Nominal line voltage 230V or 415Vac
- Single and two arm control of load circuit
- 0-10Vdc input
- 1.5kW to 12kW single-phase
- 10kW to 150kW three-phase
- CE compliant
- BSEN 50178 build standard
- Naturally air cooled



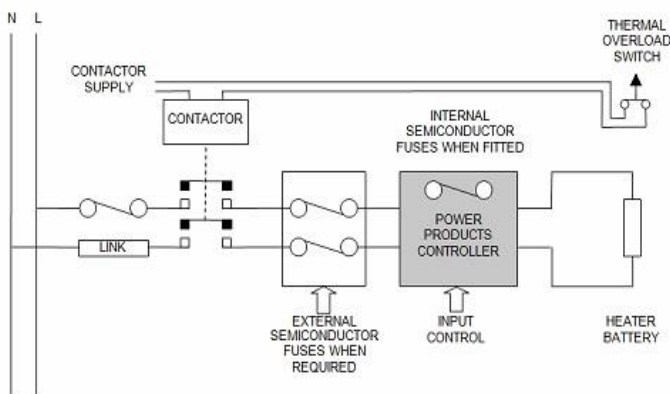
The Power Products ranges of thyristor power controllers are designed for the control of heater batteries in HVAC systems.

Available in single and three phase versions, the units comply with current EMC and safety regulations, are CE marked and built to BSEN 50178.

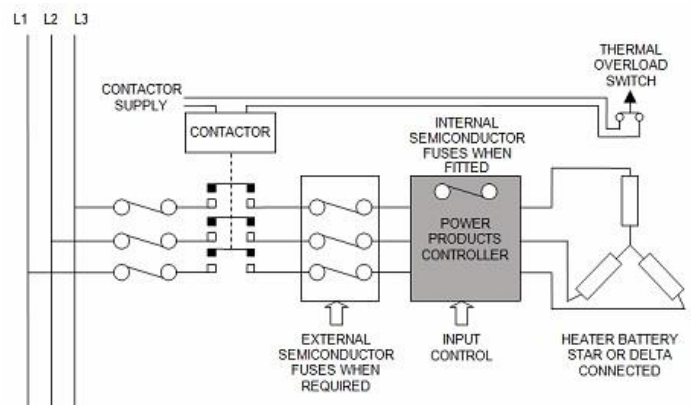
Both single and three phase versions employ the burst-pulse control principle which means that power is switched to the load only in multiples of complete mains cycles, thus keeping supply disturbances and electrical noise to a minimum.

For example, with a control input signal of 5Vdc and a 50% power demand the unit will switch on for 0.4 seconds and off for a similar period. A pro rata power output would apply to other input voltages.

Typical single-phase layout



Typical three-phase layout



RANGE INFORMATION

Din Rail Mounted Controllers									
	Single Phase			Three Phase					
Type Number	S1-1.5DR	S1-3DR	S1-7DR	S3-10DR	S3-12DR	S3-18DR	S3-20DR	S3-28DR	
Order Code	21-1605/01	21-1605/03	21-1660/01	21-1442/01	21-1465/12KW	21-1465/18KW	21-1443/01	21-1444/01	
Total Rating (kW)	1.5	3	7	10	12	18	20	28	
Max Current rms (A)	6.5	13	30	14	17	25	28	39	
Losses (W)	5	12	32	26	32	50	58	84	
Supply Voltage (Vac)	230 -15+10%			415 -15+10%					
Frequency (Hz)	50 – 60								
Power Supply	Line / Self Powered								
Controlled Arms	One			Two					
Cooling	Natural Air Convection								
Fuse Type	None	None	None	20CT	None	None	50FE	100FE	
Terminal Size	2.5 mm ²	2.5 mm ²	6 mm ²	M4	2.5 mm ²	2.5 mm ²	4 mm ²	4 mm ²	
AUTO / MANUAL override				YES			YES	YES	
Input Signal (Vdc)	0-10								
Input Impedance (ohms)	47K								
Cycle Time (S)	0.4 at 50% output rising to 1 at 0% and 100% output								
Isolation (V) 1 Sec	2500						3600		
Operating Temp (°C)	-10 to +40								
De rating	20% at 50°C								
Dimensions (mm)	H	90	90	90	151	90	90	151	150
	W	91	91	153	150	242	242	150	160
	D	61	61	66	71	84	84	95	133

Panel Mounted Controllers							
	Single Phase	Three Phase					
Type Number	S1-12PM	S3-36PM	S3-54PM	S3-86PM	S3-105PM	S3-150PM	
Order Code	21-1441/01	21-1445/01	21-1446/01	21-1447/01	21-1448/01	21-1449/01	
Total Rating (kW)	12	36	54	86	105	150	
Max Current rms (A)	52	50	75	120	146	209	
Losses (W)	59	98	144	252	288	452	
Supply Voltage (Vac)	230 -15+10%	415 -15+10%					
Frequency (Hz)	50 – 60						
Power Supply	Line / Self Powered						
Controlled Arms	One	Two					
Cooling	Natural Air Convection						
Fuse Type	100FE	100FE	100FE	2 x 100FE	315FM	315FM	
Terminal Size	10 mm ²	10 mm ²	16 mm ²	25 mm ²	35 mm ²	70 mm ²	
AUTO / MANUAL override	YES	YES	YES	YES	YES	YES	
Input Signal (Vdc)	0-10						
Input Impedance (ohms)	47K						
Cycle Time (S)	0.4 at 50% output rising to 1 at 0% and 100% output						
Isolation (V) 1 Sec	3600						
Operating Temp (°C)	-10 to +40						
De rating	20% at 50°C						
Dimensions (mm)	H	206	201	201	201	252	232
	W	146	265	265	265	265	344
	D	115	159	159	159	159	242