



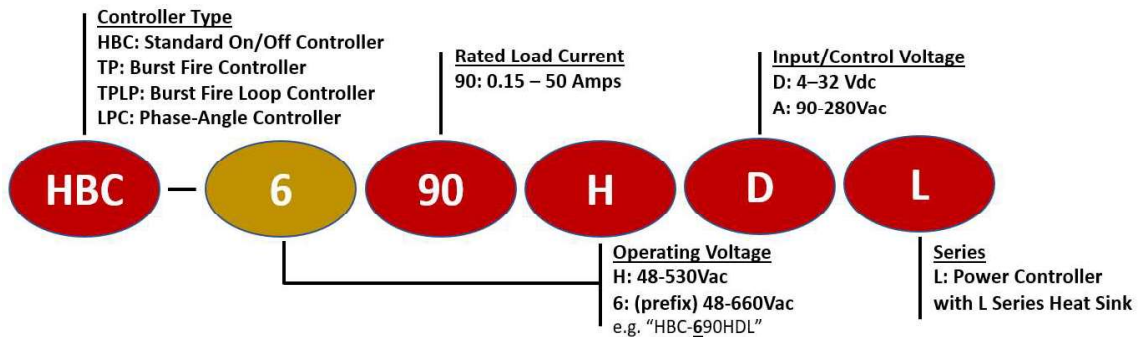
L Series

50 Amp Solid State Power Controller



- SCR output DIN mount solid-state relay Power Controller
- Output ratings up-to 50 amps @ 40°C ambient temperature
- Thermally efficient heat sink to maximize overall product life expectancy
- Direct-bond copper (DBC) substrate for superior thermal performance
- Epoxy free design eliminates stress on internal components due to epoxy expansion and contraction
- Direct-power lead-frame design reduces solder joints and enhances reliability
- MTBF > 7 million hours (>800 years)
- Touch-safe cover
- EMC compliant, level 3
- Agency approvals; UL, CSA, VDE/TUV, and CE

Series Nomenclature



Output Specifications

Part Number: HBC -	90HxL	690HxL
Operating Voltage (Vrms; 47-440Hz)	48-530	48-660
Load Current Range (Amps RMS)	.15 - 50	.15 - 50
Transient Overvoltage (Vpk)	1200	1200
Max. Surge Current (Apk; 50/60Hz)	1145/1200	1145/1200
Max. On-State Voltage Drop (Vrms)	1.15	1.15
Max I ² T for Fusing (A ² S; 50/60Hz)	6560/5976	6560/5976
Max. Off-State Leakage Current (mArms)	1	1
Min. Power Factor with Max. Load	0.5	0.5



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Input Specifications

Part Number:	HBC-xHDL	HBC-xHAL
Control Voltage Range	4-32Vdc	90-280Vac
Minimum Turn-On Voltage	4Vdc	90Vac
Must Turn-Off Voltage	1Vdc	10Vrms
Input Current Range (mA)	7 - 12	5 - 10
Nominal Input Impedance	Current Regulated	
Maximum Turn-On / Turn-Off Time (msec)	½ AC Cycle	20 / 30

General Specifications

Description	Specification
Dielectric Strength (Input/Output/Heat Sink)	4,000 Vrms
Ambient Operating Temperature Range	-40 t +80 °C
Weight	1.1 lbs (499 g)
Solid State Relay Housing Material	UL94 V-0 Polymers
Heat Sink Material	Aluminum
Input Terminal Screw Torque Range (in-lb/Nm)	13-15 / 1.5-1.7
Load Terminal Screw Torque Range (in-lb/Nm)	18-20 / 2.0-2.2
MTBF (Mean Time Between Failures) @ 40°C ambient	~11 Million Hours (>1,300 years)
MTBF (Mean Time Between Failures) @ 60°C ambient	~7 Million Hours (>800 years)

Available Options

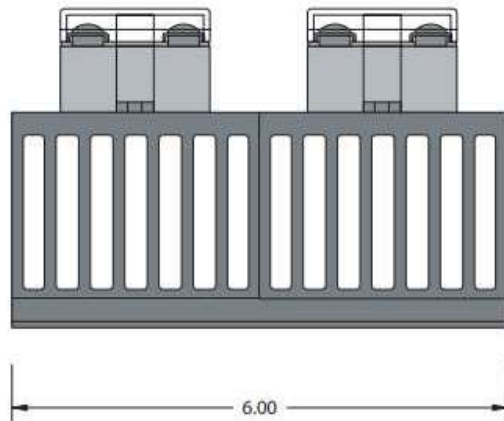
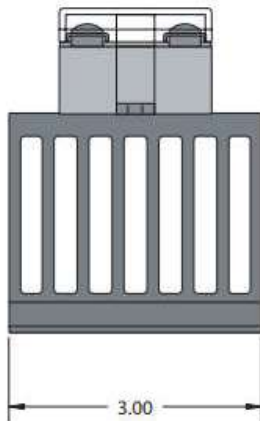
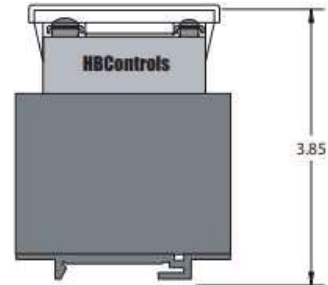
- 10 Random/Instantaneous turn-on (inductive or phase-control applications)
- M MOV (metal oxide varistor) overvoltage protection
- P Internal TVS overvoltage protection
- Z LED input status indicator
- E 24Vac control voltage (AC input only)
- TP Through-panel mounting
- PM Panel mounting
- ND Without DIN rail clip
- CT Current transducer
- 2 Two-pole configuration (for three-phase loads)
- 3 Three-pole configuration (for three-phase loads)
- WH Wiring harness for multiple pole configurations

Input Options (Change HBC- prefix to TP, TPLP or LPC prefix)

- TP** Burst fire (time proportioning) controller. Analog Input; 0-10Vdc, 0-5Vdc, 2-10Vdc, 1-5Vdc, 4-20mA, potentiometer or 0-135Ω rheostat (TP135 prefix). 24Vac power supply required (optional HBCcontrols PS series if 24Vac supply is not available)
- TPLP** Burst fire loop (time proportioning loop) controller. Analog Input; 4-20mA (24Vac supply not required)
- LPC** Linear phase-angle controller. Analog Input; 0-10Vdc, 0-5Vdc, 2-10Vdc, 1-5Vdc, 4-20mA, potentiometer or 0-135Ω rheostat (LPC135 prefix). 24Vac power supply required (optional HBCcontrols PS series if 24Vac supply is not available)



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3 Phase/
2 Pole
(-2 Option)

3 Phase/
3 Pole
(-3 Option)

