

Y Series

35 Amp Solid State Relay Assembly



Y Series Assembly

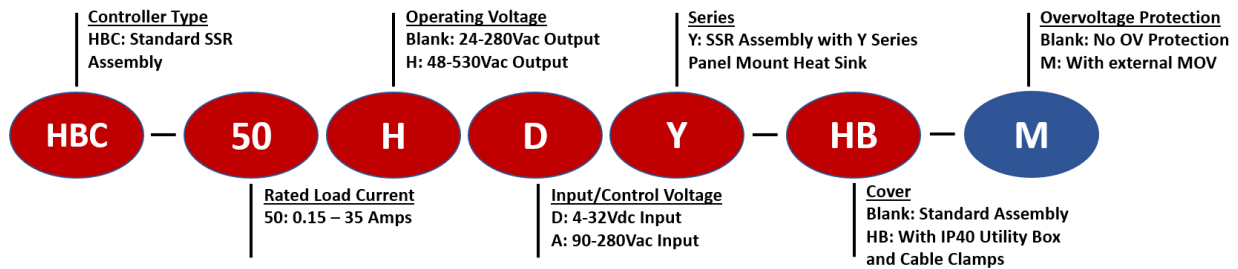


-HB Suffix Assembly



- SCR output panel mount solid-state power controller
- Output ratings up-to 35 amps @ 24-530Vac in a 40°C ambient temperature
- 90-280Vac or 3-32Vdc input / control
- Optional IP-40 protective utility box
- 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
- Solid-state relay approvals include VDE/TÜV and CE

Series Nomenclature



Output Specifications

Part Number:	HBC-50xY (-HB)	HBC-50HxY (-HB)
Crydom Solid-State Relay Utilized*	Hx4850	Hx4850
Operating Voltage (Vrms; 47-440Hz)	24-280	48-530
Load Current Range (Amps RMS)	.15 – 35	.15 – 35
Transient Overvoltage (Vpk)	600	1200
Maximum Surge Current (Apk; 50/60Hz)	597/625	597/625
Maximum On-State Voltage Drop (Vrms)	1.15	1.15
Maximum I ² T for Fusing (A ² S; 50/60Hz)	1770/1629	1770/1629
Maximum Off-State Leakage Current (mArms)	1	1
Minimum Power Factor with Max. Load	0.5	0.5

*UL Recognized Components - E116949 (“x” refers to either “A” (AC input) or “D” (DC input) SSR)

Either the heat sink or the utility box of the Y series assembly must be properly grounded to ensure that personnel and/or equipment are adequately protected

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Input Specifications

Part Number:	HBC-50DY (-HB)	HBC-50HDY (-HB)	HBC-50xAY (-HB)
Control Voltage Range	3-32Vdc	4-32Vdc	90-280Vac
Minimum Turn-On Voltage	3Vdc	4Vdc	90Vac
Must Turn-Off Voltage	1Vdc	1Vdc	10Vrms
Input Current Range (mA)	7 - 12	7 - 12	5 - 10
Nominal Input Impedance	Current Regulated		
Maximum Turn-On / Turn-Off Time (msec)	½ AC Cycle	½ AC Cycle	20 / 30

General Specifications

Description	Specification	
SSR Dielectric Strength (Input/Output/Heat Sink)	4,000 Vrms	
Ambient Operating Temperature Range	-40 to +80 °C	
Weight	0.7 lbs (317 g)	-HB Option 1.2 lbs (544 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 (Suffix at end of part number)

-M MOV (metal oxide varistor) overvoltage protection

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

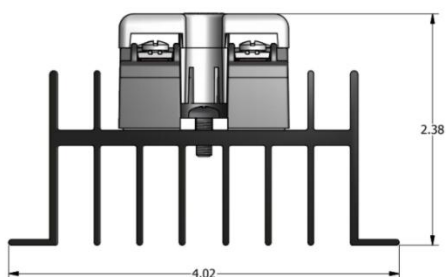
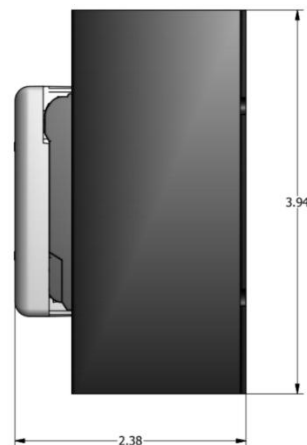
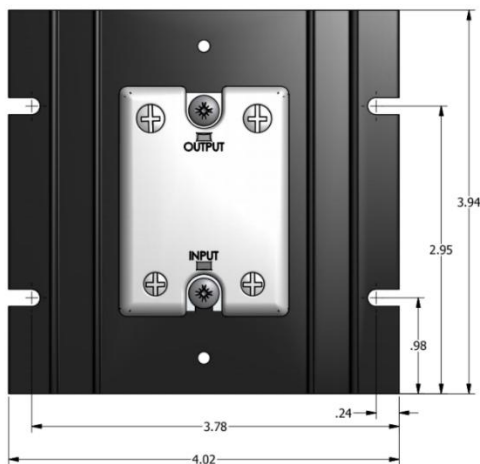
- TP** Burst fire (time proportioning) controller. Analog Input; 0-10Vdc, 0-5Vdc, 2-10Vdc, 1-5Vdc, 4-20mA, potentiometer or 0-135Ω rheostat (TP135 prefix). 24Vac power supply required (optional HBCcontrols PS series if 24Vac supply is not available)
- TPLP** Burst fire loop (time proportioning loop)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

**Proportional control input options are only available for Y series assemblies without the -HB suffix.*

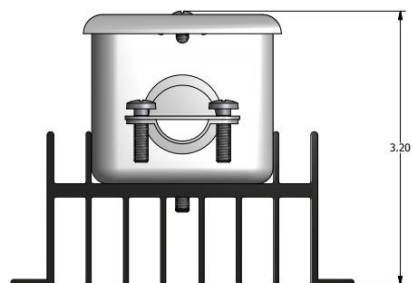
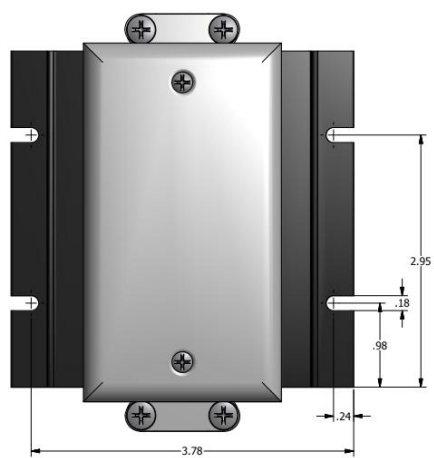
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