

HGN Series AC Solid State Relay

Load current 10,15,25,40A--100A, Output voltage range 28-280VAC or 48-480VAC
Control voltage 3-32VDC or 90-280VAC

Electronic

DESCRIPTION

QT/YHL3845-2000

Technical information

FEATURES

- ▶ TRIAC output, Zero current turn-off
- ▶ Input and output 4000V optically isolated
- ▶ LED indicator
- ▶ Internal RC snubber
- ▶ Zero voltage and random turn-on switching
- ▶ Performance than price high, high reliability
- ▶ 100% tested at rated current , CE compliant

SELECTING CODE

HGN - 2 10 D /0L



Series name	Output voltage	Output current	Input voltage range	Function option
	2: 24-280VAC 3: 24-380VAC 4: 24-480VAC 5: 24-530VAC	10:0.1-10A 15:0.1-15A 25:0.1-25A 40:0.1-40A 100:0.1-100A	A:90-280VAC D:3-32VDC	No mark: Zero voltage turn-on Internal snubber 0: Zero voltage turn-on No snubber 1L:Random turn-on Internal snubber 1: Random turn-on No snubber

INPUT PARAMETERS(Ta=25℃)

Input type	D:DC Control	A:AC Control
Control voltage range	3-32 VDC	90-280 Vrms (50-60Hz)
Turn-on voltage(Max.)	3.0 VDC	90 Vrms
Turn-off voltage(Min.)	1.0 VDC	10 Vrms
Nominal input impedance	1500 Ohms	60k Ohms
Typical input current	10 mA@5 VDC 22 mA @24 VDC	5 mA@220 VAC 2.2 mA@110 VAC
Max. Reverse voltage	-32 VDC	----

APPLICATION

HGN Series AC Solid State Relays, adapting ignition-proof engineering plastic cover, filled with EPOXY, screw thread connection, have the features of hard structure, vibration-proof capability high, input current small convenient to interface with terminals of computer and various digital tele-control circuit. This series products are widely used in the fields of petrochemical equipment, foodstuff producing mechanism, textile and plastic mechanisms, packaging machines, tool numerical control, gymnasium equip.

Speciality be the same with canker, aquosity request prevent explode scurvines circumstance, and often switch of occasion.

HGN Series AC Solid State Relay

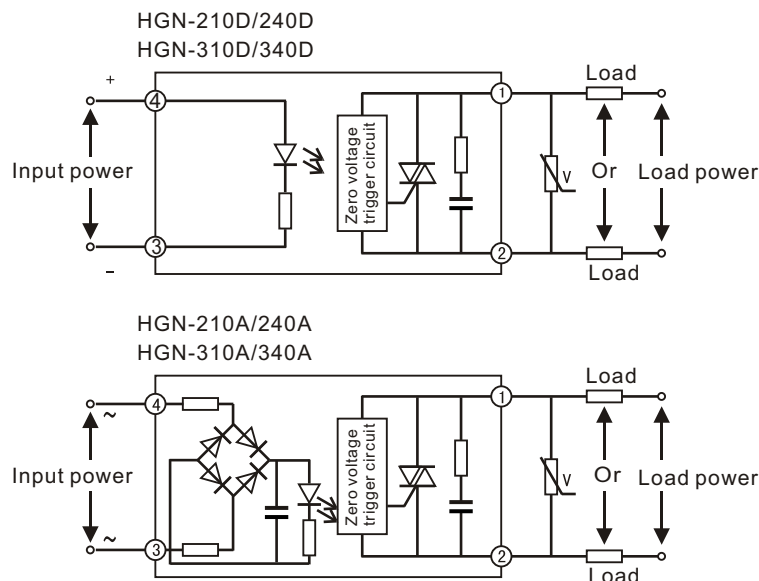
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OUTPUT PARAMETERS(Ta=25°C)

Output current type		10	15	25	40	45	50	75	100
Operating voltage range				2:28	280VAC	3:48	530VAC		
Max. Load current		10A	15A	25 A	40A	45A	50A	75A	100 A
Max. Surge current-Non repetitive (10ms)		120Apk	160Apk	250Apk	300Apk	350Apk	400Apk	700Apk	950Apk
Max. I ² t for fusing (10ms)		72 A ² s	128A ² s	312.5A ² s	450A ² s	550A ² s	650A ² s	900A ² s	1300A ² s
Thermalresistance junction to case(Rjc)		2.5 /W	2.3 /W	1.1 /W	0.9 /W	0.8 /W	0.7 /W	0.5 /W	
Min. Off-state dv/dt		250V/μsec							
Max. Over-zero voltage		35VAC							
Min. Load current		100 mA							
Max. On-state voltage drop		1.5VAC@rated current							
Max. Off-state leakage current		5mA,1mA/no RC @rated voltage							
Transient over voltage		2:800Vpk 3:1000Vpk							
Operating frequency range		47 63Hz							
Dielectric strength(50Hz 1Min)		4000VAC input-output 2500VAC input/output-base							
Insulation resistance		1000M 500VDC Voltage Test							
Vibration resistance	Destructive	117.6mm/s2(12G),10-55 Hz double Amplitude of 2 mm							
	Functional	117.6mm/s2(12G),10-55 Hz double Amplitude of 2 mm							
Shock resistance	Destructive	Min .980m/s2(100G)(5 times each for X,Y,Z axis)							
	Functional	Min .980m/s2(100G)(4 times each for X,Y,Z axis)							
Max. Capacitance		8pF input-output							
Max. Turn-on time	Zero voltage turn-on	(1/2 cycle of load power)+1msec(DC input)							
		(3/2 cycle of load power)+1msec(AC input)							
	Random turn-on	1msec							
Max. Turn-off time		(1/2 cycle of load power)+1msec(DC input) (3/2 cycle of load power)+1msec(AC input)							
Ambient operating temperature		-30 to 80							
Ambient storage temperature		-30 to 120							
Ambient humidity relative		45% to 85%							
Weight typical		85g							

CONNECTION/WIRING

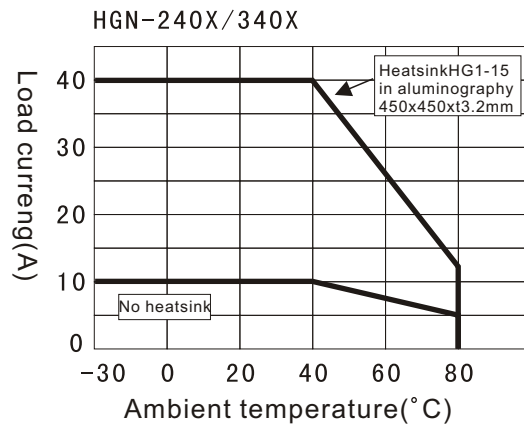
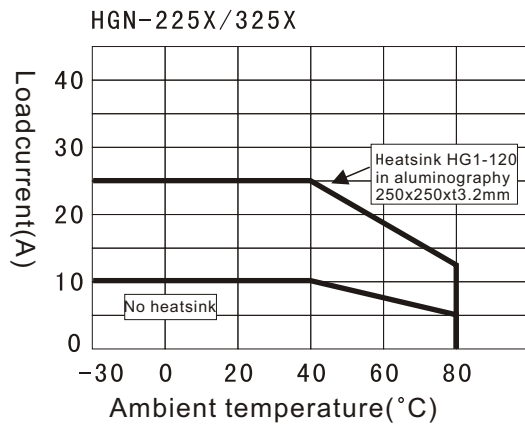
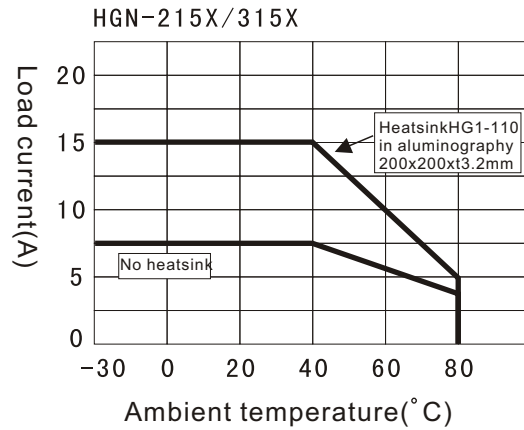
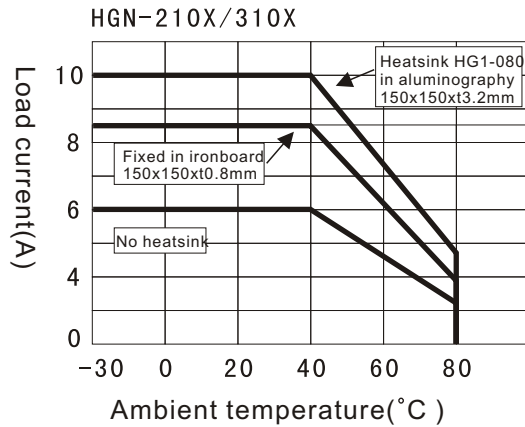


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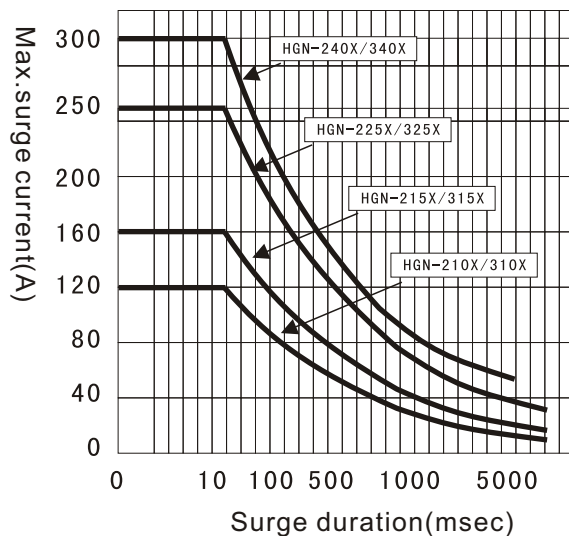
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CURRENT DERATING CURVES



MAX. SURGE vs DURATION

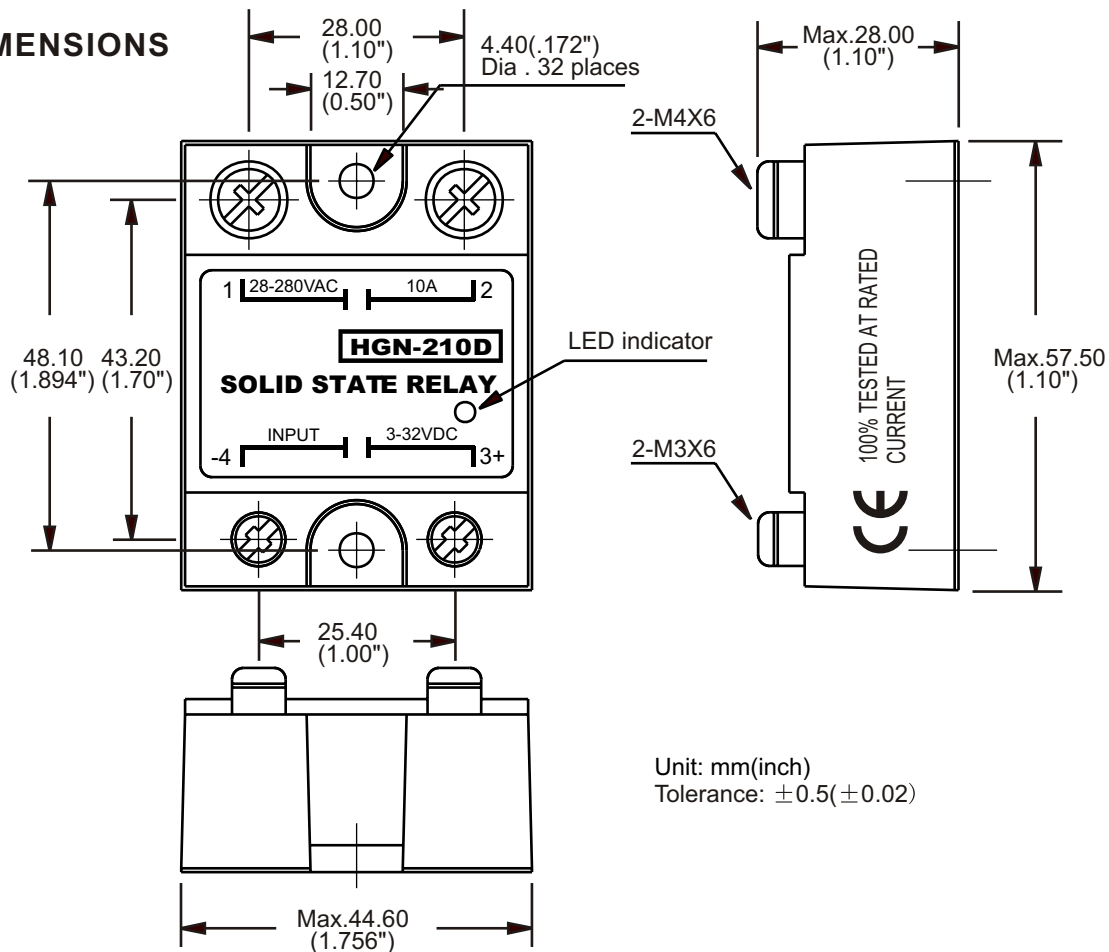


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DIMENSIONS



Unit: mm(inch)
Tolerance: $\pm 0.5(\pm 0.02)$

PRECAUTIONS

- ▶ Heatsink should be used when the current is up to 5 Amperes, and heat-conductive silicate should be spreaded between the heatsink and the base.
- ▶ When controlling inductive load, the SSR may be damaged by the high transient voltage and surge current added on the output, so some special clamping devices should be used to control voltage, such as zener diode, varistor (MOV).
- ▶ When controlling a small current (close to Min. load current) load, a dummy load resistance should be paralleled to reduce the rest higher voltage produced by the leakage current on the output.
- ▶ To avoid the temperature exceeding the allowance, heatsink efficiency and the mounting position should be regarded, suitable space will be left when two or more SSR are mounted.
- ▶ The output end must not be used in parallel to enlarge the current, however can be used in series for higher suitable operating voltage.
- ▶ The input end can be used either mean when sharing a control power supply.
- ▶ Please contact HALON application engineering department for additional information and specific application questions.