Solid State Relay

ZRH48 Series

Build-In Heatsink

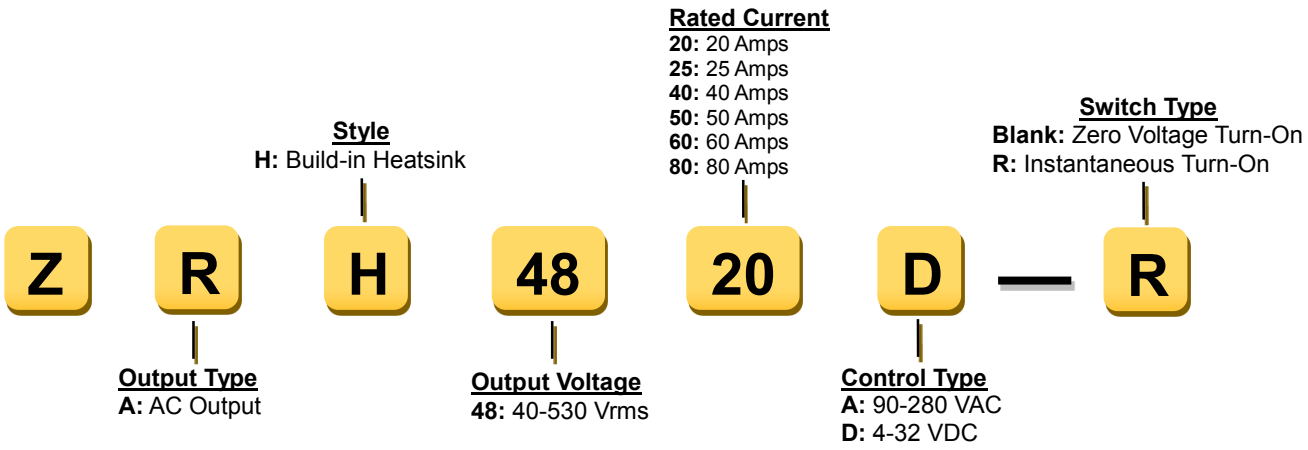
Picture is ZRH4840D

- Ratings from 20A to 80A @ 40-530 VAC
- 1000 Volts transient overvoltage
- LED input status indicator
- Strengthened output design specifically for temperature control.
- CE approved, RoHS/EMC compliant.
- All-in-one SSR with build-in Heatsink
- Designed in according with the requirements of IEC 62314
- Zero-crossing (resistive loads) output

PRODUCT SELECTION

Control Voltage	20A	25A	40A	50A	60A	80A
90-280 VAC	ZRH4820A	ZRH4825A	ZRH4840A	ZRH4850A	ZRH4860A	ZRH4880A
4-32 VDC	ZRH4820D	ZRH4825D	ZRH4840D	ZRH4850D	ZRH4860D	ZRH4880D

MODEL NAME DEFINITIONS



OUTPUT SPECIFICATIONS (1)

Description	20A	25A	40A	50A	60A	80A
Operating Voltage (47-63Hz) [Vrms]	40-530	40-530	40-530	40-530	40-530	40-530
Transient Overvoltage [Vpk]	1000	1000	1000	1000	1000	1000
Maximum Off-State Leakage Current @ Rated Voltage [mArms]	5	5	5	5	5	5
Minimum Off-State dv/dt @ Maximum Rated Voltage [V/μsec]	300	300	300	500	500	500
Maximum Load Current(2) [Arms]	20	25	40	50	60	80
Minimum Load Current [Arms]	0.15	0.15	0.15	0.15	0.15	0.15
Maximum 1 Cycle Surge Current (50/60Hz) [Apk]	248/260	392/410	477/500	573/600	764/800	859/900
Maximum On-State Voltage Drop @ Rated Current [Vrms]	1.15	1.15	1.15	1.2	1.2	1.2
Thermal Resistance Junction to Case (Rjc) [°C/W]	1.62	1.12	0.71	0.59	0.57	0.49
Maximum 1/2 Cycle I^2t for Fusing (50/60 Hz) [A^2 sec]	234/222	285/259	1770/1629	2124/1954	2442/2247	3230/2971
Minimum Power Factor (with Maximum Load)	0.5	0.5	0.5	0.5	0.5	0.5
Weight (typical) [Gram]	175	433	433	680	680	980

INPUT SPECIFICATIONS (1)

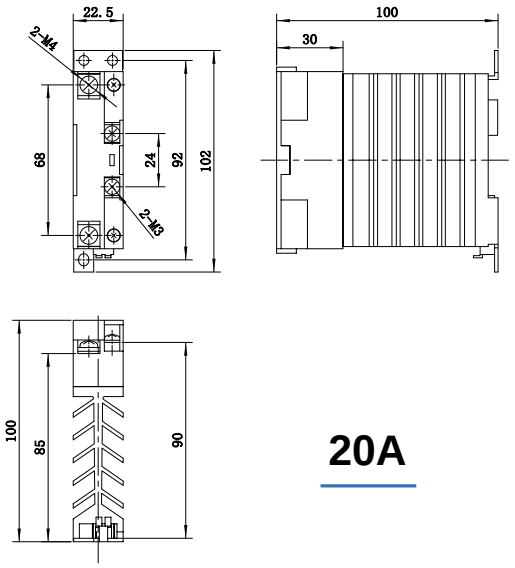
Description	ZRH48 xxA	ZRH48 xxD
Control Voltage Range	90-280 Vrms	4 32 VDC
Maximum Reverse Voltage	-	-32
Minimum Turn-On Voltage	90 Vrms	3.0 VDC
Minimum Turn-Off Voltage	10 Vrms	1.0 VDC
Minimum Input Current [mA]	5	7
Maximum Input Current [mA]	15	12
Nominal Input Impedance	Current Regulated	Current Regulated
Maximum Turn-On Time(3) [msec]	20	1/2 cycle
Maximum Turn-Off Time [msec]	20	1/2 cycle

Solid State Relay

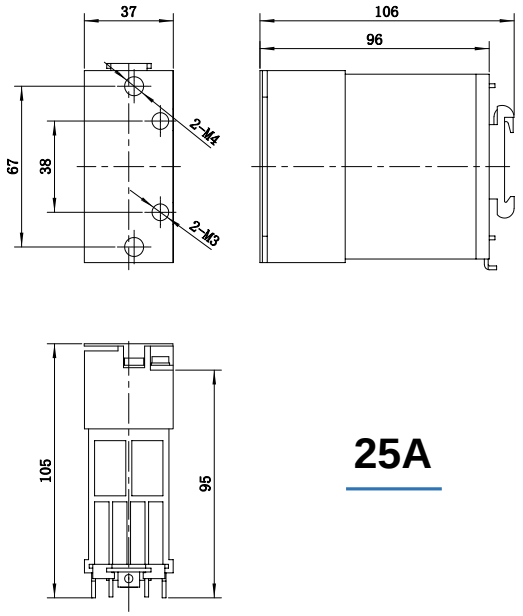
GENERAL SPECIFICATIONS

Description	Parameters
Dielectric Strength, Input/Output/Base (50/60Hz)	4000 Vrms
Minimum Insulation Resistance (@ 500 V DC)	10^9 Ohm
Maximum Capacitance, Input/Output	8 pF
Ambient Operating Temperature Range	-40 to 80°C
Ambient Storage Temperature Range	-40 to 125 °C
Housing Material	UL E211125: 94 V-0
Terminal Material	Gilded
Humidity	85% non-condensing
LED Input Status Indicator	Red

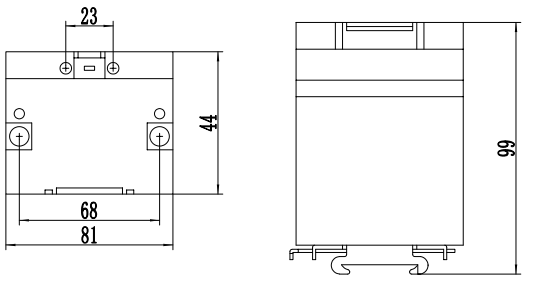
DIMENSION, MM



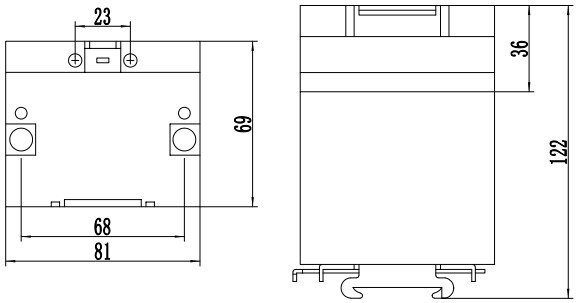
20A



25A



40A



50-80 A

RECOMMENDED MODEL & HEATSINK

Choosing compatible current is critical in selecting a right model of solid state relay. Our engineers recommend SSR models according to actual applications and internal components of relay. For example, when solid state relay is used for electric heating, because of the cold resistance effect (the resistance value is 60% of heating wire value when it is in cold state), the SSR's current should be 1.67 times bigger than actual working current in order to prevent the over-current of solid state relay.

Application to Electric Heating

Actual Load Current	0.15A-12A	0.15A-18A	0.15A-22A	0.15A-27A	0.15A-31A	0.15A-40A
Recommended Model(4)	ZRH4820D	ZRH4825D	ZRH4840D	ZRH4850D	ZRH4860D	ZRH4880D

Application to Single-Phase Motors

Actual Load Current	0.15A-2A	0.15A-5A	0.15A-7A	0.15A-8A	0.15A-10A	0.15A-12A
Recommended Model(4)	ZRH4820D-R	ZRH4825D-R	ZRH4840D-R	ZRH4850D-R	ZRH4860D-R	ZRH4880D-R

Application to Transformer Loads

Actual Load Current	0.15A-4A	0.15A-10A	0.15A-12A	0.15A-15A	0.15A-17A	0.15A-22A
Recommended Model(4)	ZRH4820D-R	ZRH4825D-R	ZRH4840D-R	ZRH4850D-R	ZRH4860D-R	ZRH4880D-R

Application to Solenoid Valves

Actual Load Current	0.15A-1.4A	0.15A-3.7A	0.15A-4.5A	0.15A-5.4A	0.15A-6.3A	0.15A-8.18A
Recommended Model(4)	ZRH4820D-R	ZRH4825D-R	ZRH4840D-R	ZRH4850D-R	ZRH4860D-R	ZRH4880D-R

GENERAL NOTES

(1) All parameters at 25°C and per section unless otherwise specified.
(2) Heat sinking required, for derating curves see next page.
(3) Turn-on time for random turn-on (-R) version is 0.1 msec.
(4) It is DC control as a default in the recommendation table, but it can be changed to AC control according to demand.