

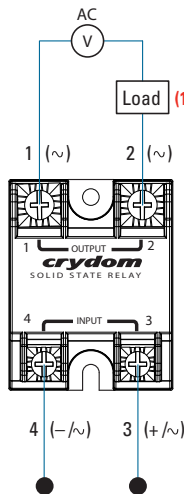
## INPUT SPECIFICATIONS <sup>(1)</sup>

| Description                  | HD48xx                   | HA48xx            | HA48xxE    |
|------------------------------|--------------------------|-------------------|------------|
| Control Voltage Range        | 4-32 VDC <sup>(5)</sup>  | 90-280 Vrms       | 18-36 Vrms |
| Minimum Turn-On Voltage      | 4.0 VDC                  | 90 Vrms           | 18 Vrms    |
| Minimum Turn-Off Voltage     | 1.0 VDC                  | 10 Vrms           | 4.0 Vrms   |
| Maximum Reverse Voltage      | -32 VDC                  | -                 | -          |
| Minimum Input Current        | 7.0 mA                   | 5 mA              | 16 mA      |
| Maximum Input Current        | 12 mA                    | 10 mA             | 20 mA      |
| Nominal Input Impedance      |                          | Current Regulated |            |
| Maximum Turn-On Time [msec]  | 1/2 Cycle <sup>(6)</sup> | 20                | 20         |
| Maximum Turn-Off Time [msec] | 1/2 Cycle                | 30                | 30         |

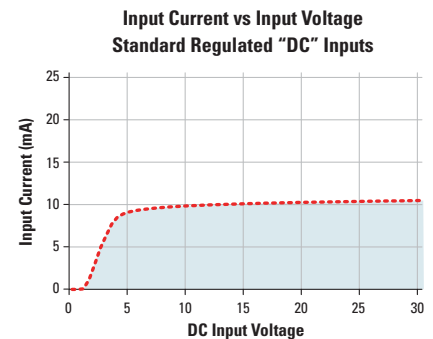
## GENERAL SPECIFICATIONS <sup>(1)</sup>

| Description                                                                   | Parameters                     |
|-------------------------------------------------------------------------------|--------------------------------|
| Dielectric Strength, Input/Output/Base (50/60Hz)                              | 4000 Vrms                      |
| Minimum Insulation Resistance (@ 500 VDC)                                     | 10 <sup>9</sup> Ohm            |
| Maximum Capacitance, Input/Output                                             | 8 pF                           |
| Ambient Operating Temperature Range                                           | -40 to 80 °C                   |
| Ambient Storage Temperature Range                                             | -40 to 125 °C                  |
| Weight (typical)                                                              | 2.6 oz (74.9 g)                |
| Housing Material                                                              | UL94 V-0                       |
| Baseplate Material                                                            | Aluminum                       |
| Input Terminal Screw Torque Range (in-lbs/Nm)                                 | 13-15 / 1.5-1.7                |
| Load Terminal Screw Torque Range (in-lbs/Nm)                                  | 18-20 / 2.0-2.2                |
| SSR Mounting Screw Torque Range (in-lbs/Nm)                                   | 18-20 / 2.0-2.2                |
| Input/Load Terminal Screw Torque Range (in-lbs/Nm) <sup>(14)</sup>            | w/"K" option 8-10 / 0.9-1.13   |
| Humidity                                                                      | 85% non-condensing             |
| LED Input Status indication                                                   | w/"G" option (green)           |
| MTBF (Mean Time Between Failures) at 40°C ambient temperature <sup>(15)</sup> | 11,641,553 hours (1,328 years) |
| MTBF (Mean Time Between Failures) at 60°C ambient temperature <sup>(15)</sup> | 7,210,376 hours (823 years)    |

## WIRING DIAGRAM



| Recommended Wire Sizes |                                                   |                                 |
|------------------------|---------------------------------------------------|---------------------------------|
| Terminals              | Wire Size (Solid / Stranded)                      | Wire Pull-Out Strength (lbs)[N] |
| Input                  | 24 AWG (0.2 mm <sup>2</sup> ) / 0.2 [minimum]     | 10 [44.5]                       |
|                        | 2 x 12 AWG (3.3 mm <sup>2</sup> ) / 3.3 [maximum] | 90 [400]                        |
| Output                 | 20 AWG (0.5 mm <sup>2</sup> ) / 0.518 [minimum]   | 30 [133]                        |
|                        | 2 x 10 AWG (5.3 mm <sup>2</sup> ) / 5.3 [maximum] | 110 [490]                       |
|                        | 2 x 8 AWG (8.4 mm <sup>2</sup> ) / 8.4 [maximum]  | 90 [400]                        |



## EQUIVALENT CIRCUIT BLOCK DIAGRAMS

