

Standard panel mount package, 1-phase

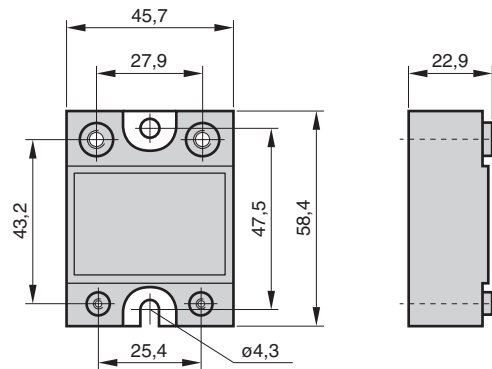
Solid-state relay HRS



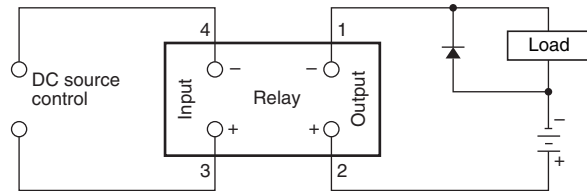
Construction S

- Control voltage range: 3,5 ... 32 Vdc
- Load voltage range: 0 ... 100 or 0 ... 200 Vdc
- Load current range: 0,02 ... 40 Adc

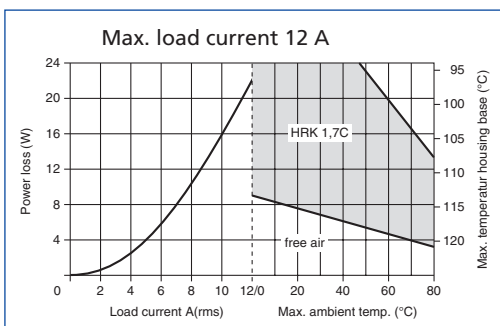
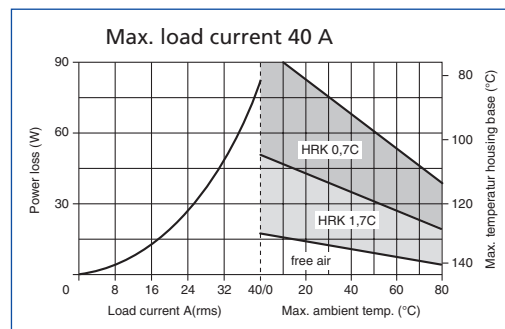
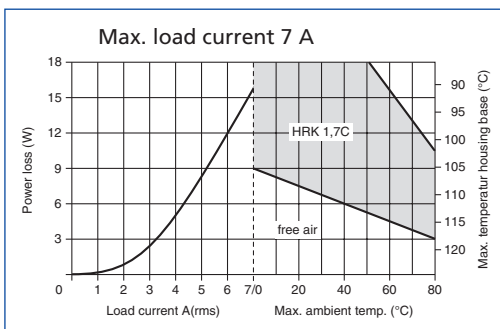
Dimensions



The polarity of inputs and outputs must be considered.
With inductive load, suppressor diodes must be used.



Thermal diagrams



Standard panel mount package, 1-phase

Solid-state relay HRS

Technical specifications	HRS D 1D07	HRS D 1D12	HRS D 1D40
Zero switching	–	–	–
Instantaneous switching-on	Yes	Yes	Yes
Control circuit	dc	dc	dc
Load circuit	dc	dc	dc
Load circuit			
Voltage range (47 ... 63 Hz)	0 ... 100 Vdc	0 ... 100 Vdc	0 ... 100 Vdc
Load current range	0,02 ... 7 Adc	0,02 ... 12 Adc	0,02 ... 40 Adc
Max. surge current (10 ms)	15 Adc	28 Adc	106 Adc
Max. off-state leakage current (rated voltage)	0,1 mAdc	0,2 mAdc	0,3 mAdc
Output impedance	0,29 Ohm	0,13 Ohm	0,05 Ohm
Min. off-state du/dt	–	–	–
Max. on-state voltage drop	2,0 Vdc	1,6 Vdc	2,1 Vdc
Max. turn-on time	100 ms	100 ms	100 ms
Max. turn-off time	1 ms	1 ms	1 ms
Thermal resistance to base	2,2 °C/W	1,34 °C/W	0,83 °C/W
Output switching device	MOSFET	MOSFET	MOSFET
Control circuit			
Control voltage range	3,5 ... 32 Vdc /	3,5 ... 32 Vdc	3,5 ... 32 Vdc
Must operate voltage	3,5 Vdc	3,5 Vdc	3,5 Vdc
Must release voltage	1,0 Vdc	1,0 Vdc	1,0 Vdc
Max. reverse voltage	–	–	–
Nominal input impedance	–	–	–
Typical input current at nominal voltage	1,6 mA / 5 Vdc	1,6 mA / 5 Vdc	1,6 mA / 5 Vdc
Typical input current at nominal voltage	28 mA / 32 Vdc	28 mA / 32 Vdc	28 mA / 32 Vdc
Generalities			
Insulation input/output/base	2500 Vrms	2500 Vrms	2500 Vrms
Insulation resistance	10 ⁹ Ohm / 500 Vdc	10 ⁹ Ohm / 500 Vdc	10 ⁹ Ohm / 500 Vdc
Max. capacitance input/output	–	–	–
Ambient operating temperature range	-30 ... +80 °C	-30 ... +80 °C	-30 ... +80 °C
Ambient storage temperature range	-40 ... +125 °C	-40 ... +125 °C	-40 ... +125 °C
Weight (typical)	87 g	87 g	87 g
Approvals	UL	UL	UL
Screw torque requirements:			
6-32 screws (Control circuit)	≤ 0,5 Nm	≤ 0,5 Nm	≤ 0,5 Nm
8-32 screws (Load circuit)	≤ 1,5 Nm	≤ 1,5 Nm	≤ 1,5 Nm
Article number	42310120	42310121	42310133
(Order data see chapter 1)			

Standard panel mount package, 1-phase

Solid-state relay HRS

Technical specifications	HRS D 2D07	HRS D 2D12
Zero switching	–	–
Instantaneous switching-on	Yes	Yes
Control circuit	dc	dc
Load circuit	dc	dc
Load circuit		
Voltage range (47 ... 63 Hz)	0 ... 200 Vdc	0 ... 200 Vdc
Load current range	0,02 ... 7 Adc	0,02 ... 12 Adc
Max. surge current (10 ms)	22 Adc	27 Adc
Max. off-state leakage current (rated voltage)	0,1 mAdc	0,3 mAdc
Output impedance	0,29 Ohm	0,23 Ohm
Min. off-state du/dt	–	–
Max. on-state voltage drop	2,0 Vdc	2,8 Vdc
Max. turn-on time	100 ms	100 ms
Max. turn-off time	1 ms	1 ms
Thermal resistance to base	1,05 °C/W	1,06 °C/W
Output switching device	MOSFET	MOSFET
Control circuit		
Control voltage range	3,5 ... 32 Vdc /	3,5 ... 32 Vdc
Must operate voltage	3,5 Vdc	3,5 Vdc
Must release voltage	1,0 Vdc	1,0 Vdc
Max. reverse voltage	–	–
Nominal input impedance	–	–
Typical input current at nominal voltage	1,6 mA / 5 Vdc	1,6 mA / 5 Vdc
Typical input current at nominal voltage	28 mA / 32 Vdc	28 mA / 32 Vdc
Generalities		
Insulation input/output/base	2500 Vrms	2500 Vrms
Insulation resistance	10 ⁹ Ohm / 500 Vdc	10 ⁹ Ohm / 500 Vdc
Max. capacitance input/output	–	–
Ambient operating temperature range	-30 ... +80 °C	-30 ... +80 °C
Ambient storage temperature range	-40 ... +125 °C	-40 ... +125 °C
Weight (typical)	87 g	87 g
Approvals	UL	UL
Screw torque requirements:		
6-32 screws (Control circuit)	≤ 0,5 Nm	≤ 0,5 Nm
8-32 screws (Load circuit)	≤ 1,5 Nm	≤ 1,5 Nm
Article number	42310122	42310123
(Order data see chapter 1)		