

# Standard panel mount package, 1-phase

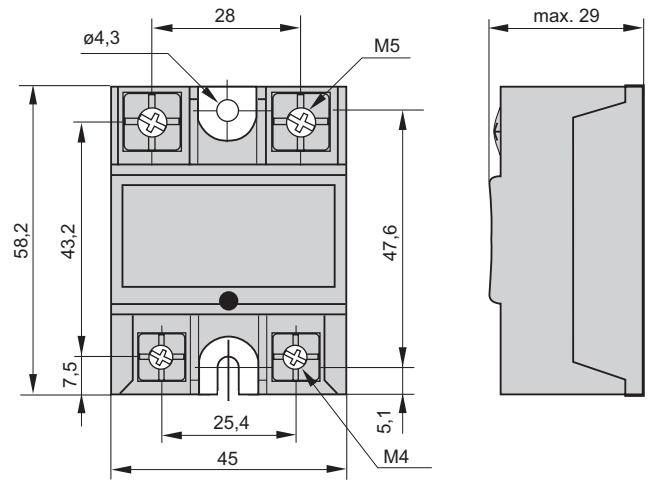
## Solid-state relay HS, zero voltage switch

- Control voltage range: 3... 32 VDC, 20 ... 265 VAC/DC
- Load voltage range: 12 ... 660 VAC
- Load current range: 5 mA ... 125 A



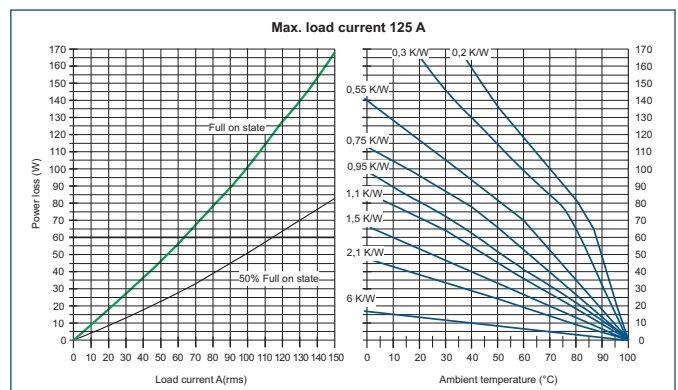
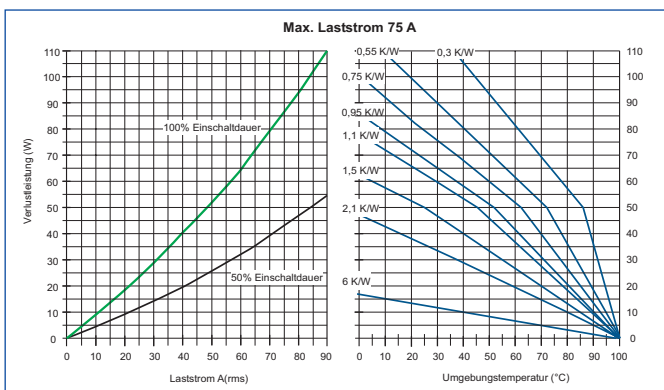
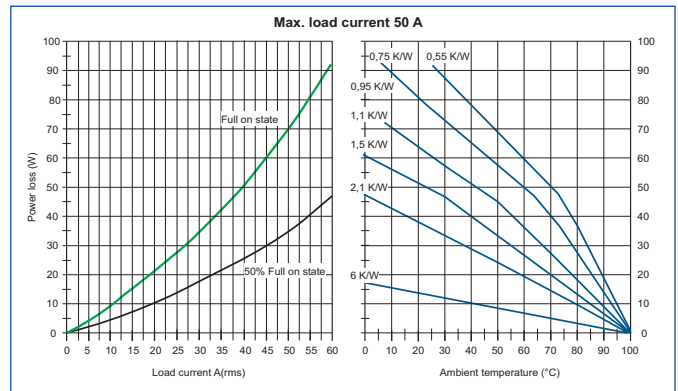
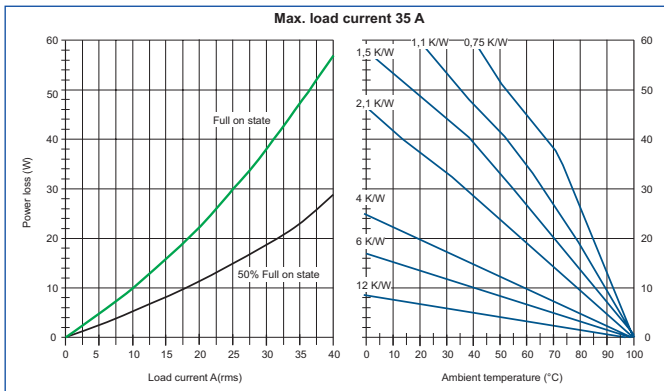
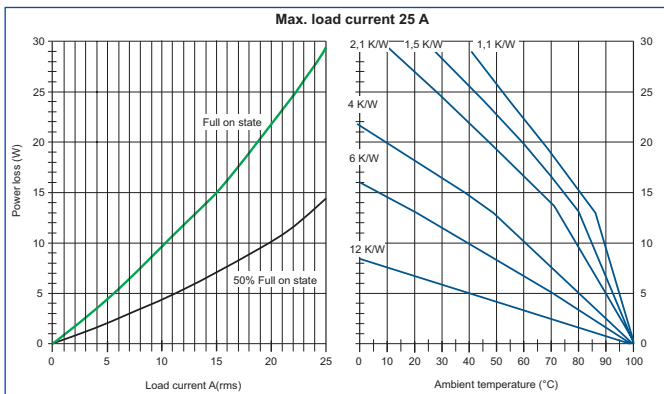
Construction S

### Dimensions



Heat sinks see on pages 32, 33 and 34

### Thermal diagrams (all relays already have heat conduction foil)



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### Solid-state relay HS , zero voltage switch

Technical specifications	HS D2825	HS A2825	HS D6035
Zero switching	Yes	Yes	Yes
Instantaneous switching-on	–	–	–
Control circuit	DC	AC/DC	DC
Load circuit	AC	AC	AC
<b>Load circuit</b>			
Voltage range	12 ... 280 VAC	12 ... 280 VAC	24 ... 600 VAC
Operating frequency range	0,1 ... 800 Hz	0,1 ... 800 Hz	0,1 ... 800 Hz
Transient overvoltage	600 V	600 V	1200 V
Load current range	5 mA ... 25 A	5 mA ... 25 A	5 mA ... 35 A
Max. surge current (10 ms)	350 A	350 A	500 A
Max. off-state leakage current (rated voltage)	1 mA	1 mA	1 mA
Min. off-state du/dt	500 V/μs	500 V/μs	500 V/μs
Max. on-state voltage drop	0,85 V	0,85 V	0,9 V
Max. turn-on time	10 ms	30 ms	10 ms
Max. turn-off time	10 ms	30 ms	10 ms
Max. I <sup>2</sup> t for fusing (10 ms)	600 A <sup>2</sup> s	600 A <sup>2</sup> s	1250 A <sup>2</sup> s
Thermal resistance to base	1,7 K/W	1,7 K/W	0,6 K/W
<b>Control circuit</b>			
Control voltage range	3 ... 32 VDC	185 ... 265 VAC/DC	3,5 ... 32 VDC
Must release voltage	2 V	3 V	2 V
Max. reverse voltage	32 V	–	32 V
Typical input current at nominal voltage	< 13 mA	< 10 mA	< 13 mA
<b>Generalities</b>			
Insulation input/output/base	4000/2500 Vrms	4000/2500 Vrms	4000/4000 Vrms
Insulation resistance	1000 MΩ (@ 500 VDC)	1000 MΩ (@ 500 VDC)	1000 MΩ (@ 500 VDC)
Ambient operating temperature range	-55 ... +100 °C	-55 ... +100 °C	-55 ... +100 °C
Ambient storage temperature range	-55 ... +125 °C	-55 ... +125 °C	-55 ... +125 °C
Weight (typical)	85 g	85 g	85 g
Approvals	UL	UL	UL
Screw torque requirements:			
M4 screws (Control circuit)	1,2 Nm	1,2 Nm	1,2 Nm
M5 screws (Load circuit)	2 Nm	2 Nm	2 Nm
Article number	42310203	42310200	42310204
(Order data see chapter 1)			

## Standard panel mount package, 1-phase

### Solid-state relay HS, zero voltage switch

Technical specifications	HS D2850	HS D6050	HS A5150
Zero switching	Yes	Yes	Yes
Instantaneous switching-on	–	–	–
Control circuit	DC	DC	AC/DC
Load circuit	AC	AC	AC
<b>Load circuit</b>			
Voltage range	12 ... 280 VAC	24 ... 600 VAC	24 ... 510 VAC
Operating frequency range	0,1 ... 800 Hz	0,1 ... 800 Hz	0,1 ... 800 Hz
Transient overvoltage	600 V	1200 V	950 V
Load current range	5 mA ... 50 A	5 mA ... 50 A	5 mA ... 50 A
Max. surge current (10 ms)	720 A	720 A	720 A
Max. off-state leakage current (rated voltage)	1 mA	1 mA	1 mA
Min. off-state du/dt	500 V/μs	500 V/μs	500 V/μs
Max. on-state voltage drop	0,9 V	0,9 V	0,9 V
Max. turn-on time	10 ms	10 ms	30 ms
Max. turn-off time	10 ms	10 ms	30 ms
Max. I <sup>2</sup> t for fusing (10 ms)	2500 A <sup>2</sup> s	2500 A <sup>2</sup> s	2500 A <sup>2</sup> s
Thermal resistance to base	0,45 K/W	0,45 K/W	0,45 K/W
<b>Control circuit</b>			
Control voltage range	3 ... 32 Vdc	3,5 ... 32 Vdc	20 ... 265 VAC/DC
Must release voltage	2 V	2 V	5 VDC
Max. reverse voltage	32 V	32 V	–
Typical input current at nominal voltage	< 13 mA	< 13 mA	< 10 mA
<b>Generalities</b>			
Insulation input/output/base	4000/4000 Vrms	4000/4000 Vrms	4000/4000 Vrms
Insulation resistance	1000 MΩ (@ 500 VDC)	1000 MΩ (@ 500 VDC)	1000 MΩ (@ 500 VDC)
Ambient operating temperature range	-40 ... +100 °C	-40 ... +100 °C	-40 ... +100 °C
Ambient storage temperature range	-40 ... +125 °C	-40 ... +125 °C	-40 ... +125 °C
Weight (typical)	85g	85 g	85 g
Approvals	UL	UL	UL
Screw torque requirements:			
M4 screws (Control circuit)	1,2 Nm	1,2 Nm	1,2 Nm
M5 screws (Load circuit)	2 Nm	2 Nm	2 Nm
Article number	42310206	42310207	42310201
(Order data see chapter 1)			

## Standard panel mount package, 1-phase

### Solid-state relay HS, zero voltage switch

Technical specifications	HS D6075	HS A5175	HS D51125
Zero switching	Yes	Yes	Yes
Instantaneous switching-on	–	–	–
Control circuit	DC	AC/DC	DC
Load circuit	AC	AC	AC
<b>Load circuit</b>			
Voltage range	24 ... 600 VAC	24 ... 510 VAC	24 ... 510 VAC
Operating frequency range	0,1 ... 800 Hz	0,1 ... 800 Hz	0,1 ... 800 Hz
Transient overvoltage	1200 V	950 V	950 V
Load current range	5 mA ... 75 A	5 mA ... 75 A	5 mA ... 125 A
Max. surge current (10 ms)	1200 A	1200 A	2200 A
Max. off-state leakage current (rated voltage)	1 mA	1 mA	1 mA
Min. off-state du/dt	500 V/μs	500 V/μs	500 V/μs
Max. on-state voltage drop	0,9 V	0,9 V	0,9 V
Max. turn-on time	10 ms	30 ms	10 ms
Max. turn-off time	10 ms	30 ms	10 ms
Max. I <sup>2</sup> t for fusing (10 ms)	7200 A <sup>2</sup> s	7200 A <sup>2</sup> s	24'000 A <sup>2</sup> s
Thermal resistance to base	0,4 K/W	0,4 K/W	0,25 K/W
<b>Control circuit</b>			
Control voltage range	3,5 ... 32 VDC	20 ... 265 VAC/DC	3,5 ... 32 VDC
Must release voltage	2 V	5 V	2 V
Max. reverse voltage	32 V	–	32 V
Typical input current at nominal voltage	< 13 mA	< 10 mA	< 13 mA
<b>Generalities</b>			
Insulation input/output	4000/4000 Vrms	4000/4000 Vrms	4000/4000 Vrms
Insulation resistance	1000 MΩ (@ 500 VDC)	1000 MΩ (@ 500 VDC)	1000 MΩ (@ 500 VDC)
Ambient operating temperature range	-40 ... +100 °C	-40 ... +100 °C	-40 ... +100 °C
Ambient storage temperature range	-40 ... +125 °C	-40 ... +125 °C	-40 ... +125 °C
Weight (typical)	85 g	85 g	85 g
Approvals	UL	UL	UL
Screw torque requirements:			
M4 screws (Control circuit)	1,2 Nm	1,2 Nm	1,2 Nm
M5 screws (Load circuit)	2 Nm	2 Nm	2 Nm
Article number	42310208	42310202	42310209
(Order data see chapter 1)			