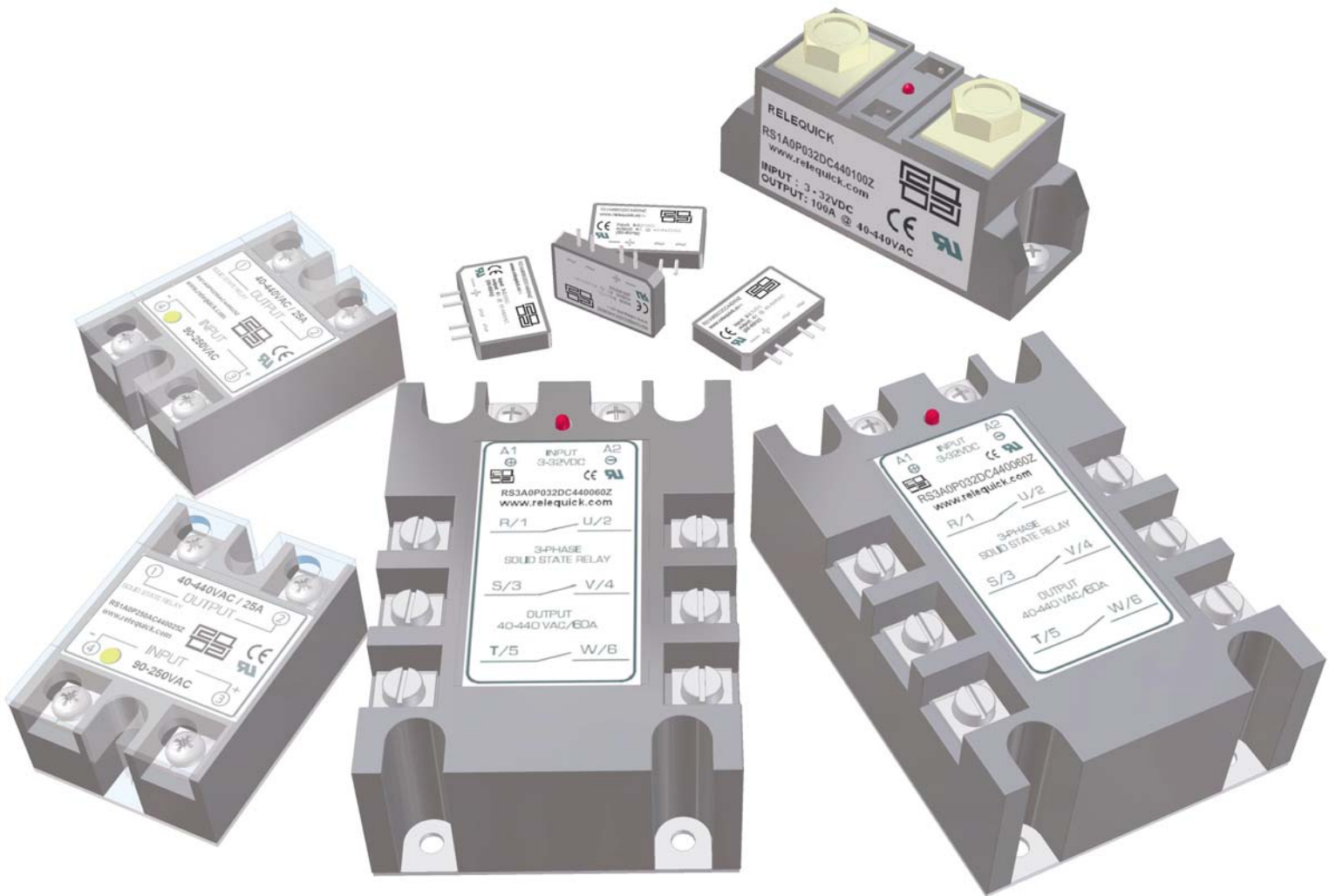


RELEQUICK



SOLID STATE RELAYS



- » Zero crossing AC solid state relay.
- » 2 input ranges: 3-32 VDC and 90-280 VAC.
- » Maximum load current (AC1 at 25° C): 25, 60, 80, 100A.
- » Operational ratings: 40 - 480 VAC.
- » Frequency range: 47- 63 Hz.
- » Maximum non-repetitive peak voltage: 1,200 Vp.
- » LED indicator.
- » Clip on protective cover for greater safety (IP 20).

Models and references

Zero crossing	Control voltage	Rated operational voltage	Rated operational current	Reference
Yes	3 - 32 VDC	40 - 440 VAC	25 A	RS1A0P032DC440025Z
			60 A	RS1A0P032DC440060Z
			80 A	RS1A0P032DC440080Z
			100 A	RS1A0P032DC480100Z
	90 - 250 VAC	40 - 440 VAC	25 A	RS1A0P250AC440025Z
			60 A	RS1A0P250AC440060Z
			80 A	RS1A0P250AC440080Z
			100 A	RS1A0P280AC480100Z
90 - 280 VAC	40 - 480 VAC	100 A	RS1A0P280AC480100Z	

Specifications

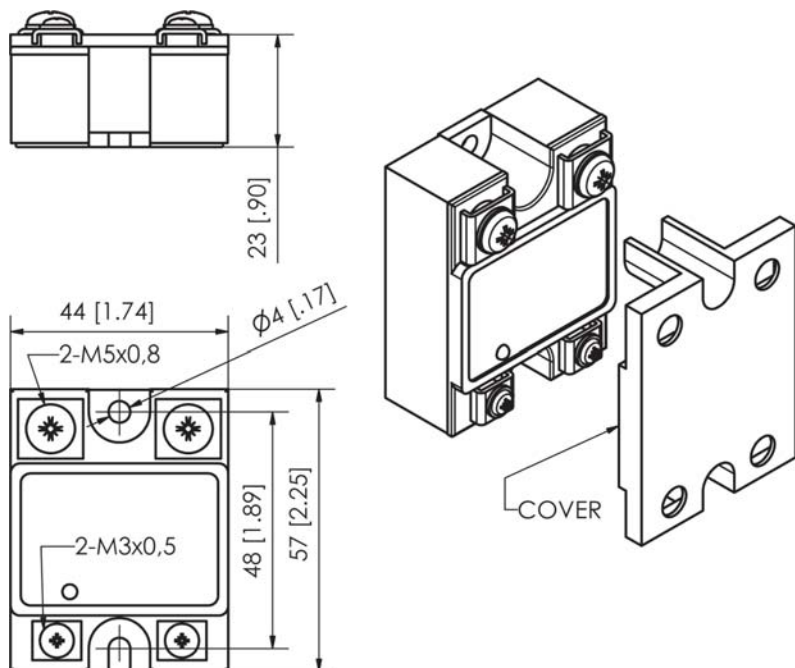
GENERAL SPECIFICATIONS	VDC input		VAC input	
Dielectric insulation (between input & output)	2,500 VAC			
Operating temperature	-25 to 70° C	-30 to 80° C	-25 to 70° C	-30 to 80° C
Storage temperature	-35 to 85° C	-35 to 85° C	-35 to 85° C	-35 to 85° C
Rth junction to case	2.5° C/W (25 A) 0.65° C/W (60 A) 0.5° C/W (80 A)	0.3° C/W	2.5° C/W (25 A) 0.65° C/W (60 A) 0.5° C/W (80 A)	0.3° C/W
Ambient humidity	Operating: up to 85 %			
CE marking	Yes			

INPUT SPECIFICATIONS	VDC input		VAC input	
Control voltage range	3 - 32 VDC		90 - 250 VAC	90 - 280 VAC
Input current (maximum)	10/16 mA @= 5 V/24 V	13/16 mA @= 5 V/24 V	29 mA @= 220 VAC	
Pick-up voltage	1.9 VDC		70 VAC	
Drop-out voltage	1.9 VDC		70 VAC	
Maximum reverse voltage	32 VDC		-	
Max. response time pick-up	½ cycle		1 cycle	
Max. response time drop-out	½ cycle		2 cycles	

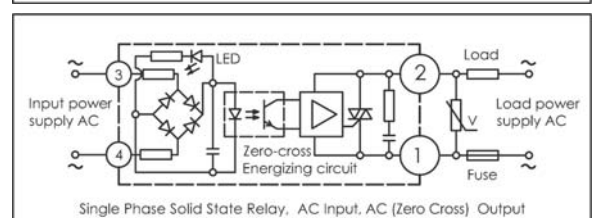
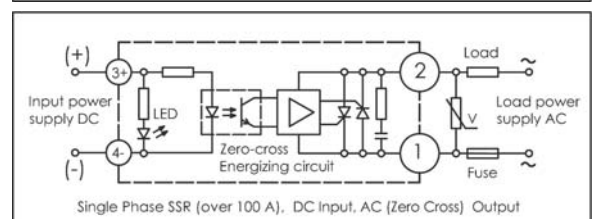
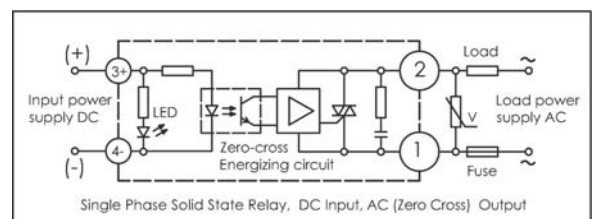
OUTPUT SPECIFICATIONS	VDC input		VAC input	
	25, 60, 80 A	100 A	25, 60, 80 A	100 A
Maximum load current (AC51 @ Ta = 25° C) (AC53a @ Ta = 25° C)	25, 60, 80 A 5, 15, 18 A	100 A 20 A	25, 60, 80 A 5, 15, 18 A	100 A 20 A
Load voltage range	40 - 440 VAC	40 - 480 VAC	40 - 440 VAC	40 - 480 VAC
Frequency range	50 - 60 Hz	47 - 63 Hz	50 - 60 Hz	47 - 63 Hz
Max. non-repetitive peak voltage	930 Vp	1,200 Vp	930 Vp	1,200 Vp
Max. non-repetitive peak current (t=10ms)	350 Ap / 25 A 630 Ap / 60 A 910 Ap / 80 A	1,100 Ap	350 Ap / 25 A 630 Ap / 60 A 910 Ap / 80 A	1,100 Ap
Maximum off state leakage current	10 mA	8 mArms	10 mA	8 mArms
Minimum off state dv / dt	200 V / µseg			
Maximum on state voltage	1.6 VAC			
Minimum load current	0.1 A			
I²t (10 ms) (orientative data)	625 A²s (25 A) 2,025 A²s (60 A) 4,225 A²s (80 A) 6,050 A²s (100 A)			

HOUSING SPECIFICATIONS	VDC input		VAC input	
	60 x 45 x 22	58 x 44 x 23	60 x 45 x 22	58 x 44 x 23
Dimensions (L x W x H mm)	60 x 45 x 22	58 x 44 x 23	60 x 45 x 22	58 x 44 x 23
Weight	150 g maximum			
Baseplate	Aluminum, nickel-plated			
Control terminal (M3x6) torque	1.2 Nm			
Power terminal (M5x9) torque	2.4 Nm			

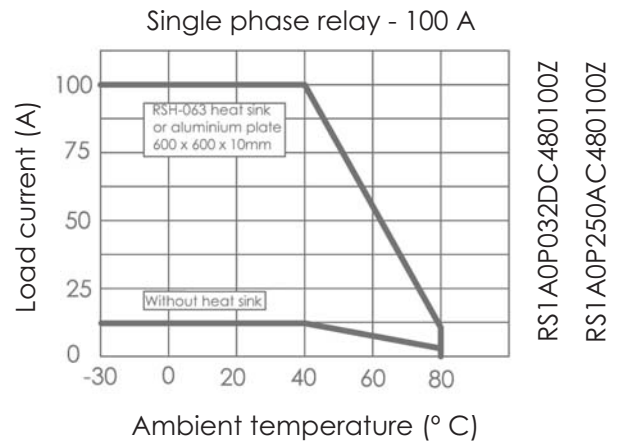
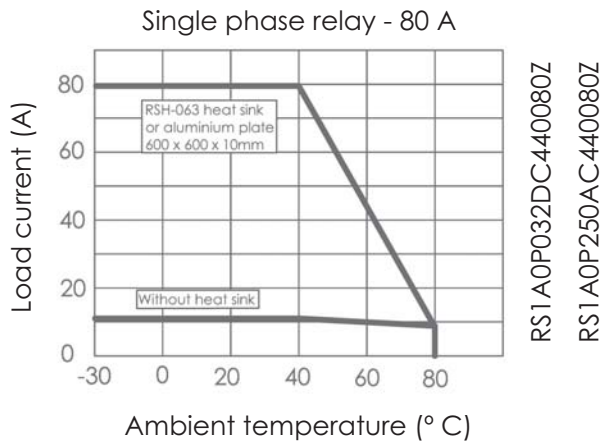
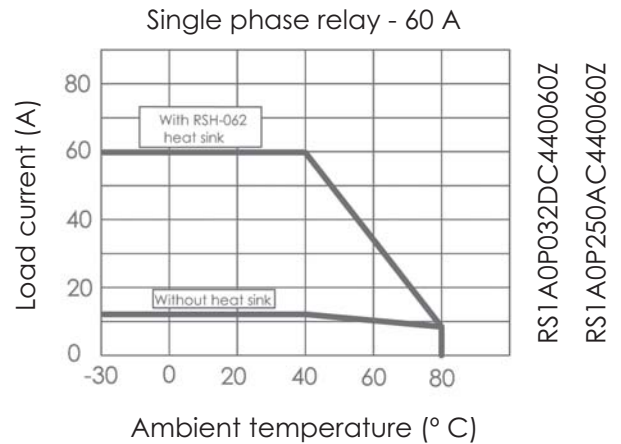
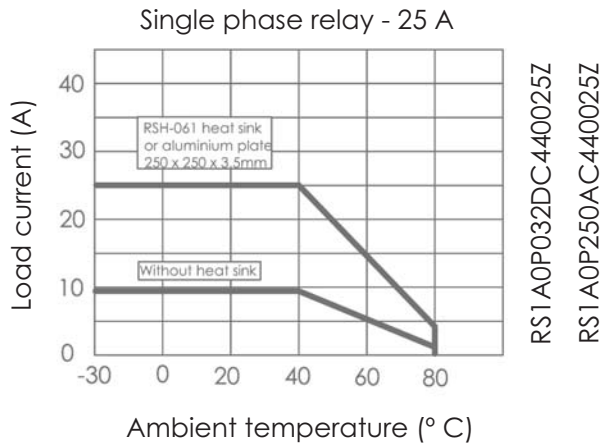
Dimensions



Diagrams

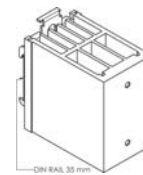


Load current vs. ambient temperature

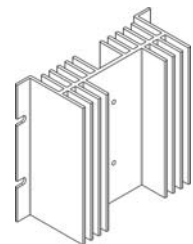


Heat sinks

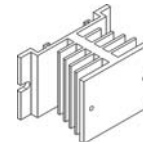
Reference	Output current	Dimensions	Relays to be used with
RSH-059 (DIN-rail)	≤ 20 A	44 x 75 x 70	RS1A0P032DC440025Z RS1A0P250AC440025Z
RSH-060	≤ 20 A	80 x 50 x 50	RS1A0P032DC440025Z RS1A0P250AC440025Z
RSH-061	≤ 40 A	125 x 70 x 50	RS1A0P032DC440025Z RS1A0P250AC440025Z
RSH-062	≤ 60 A	125 x 115 x 50	RS1A0P032DC440060Z RS1A0P250AC440060Z
RSH-063	≤ 100 A	120 x 80 x 50	RS1A0P032DC440080Z RS1A0P250AC440080Z RS1A0P032DC440100Z RS1A0P280AC480100Z



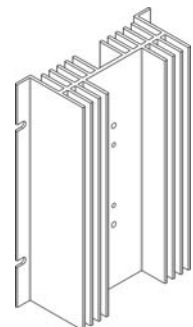
RSH-059



RSH-062

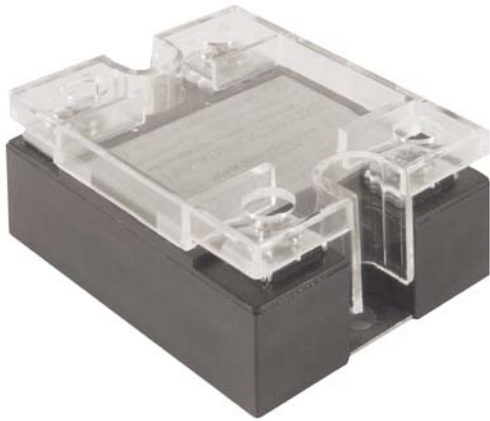


RSH-060



RSH-063

Over 10 A load a heat sink must be used. The use of a heat sink will make the lifetime of the relay up to four times longer, even when using it with load currents lower than 10 A.



- » Instant switching AC solid state relay.
- » 2 input ranges: 3-32 VDC and 90-280 VAC.
- » Maximum load current (AC1 at 25° C): 25, 60, 80, 100A.
- » Operational ratings: 40 - 480 VAC.
- » Frequency range: 47- 63 Hz.
- » Maximum non-repetitive peak voltage: 1,200 Vp.
- » LED indicator.
- » Clip on protective cover for greater safety (IP 20).

Models and references

Zero crossing	Control voltage	Rated operational voltage	Rated operational current	Reference
No	3 - 32 VDC	40 - 480 VAC	25 A	RS1A0P032DC480025R
			60 A	RS1A0P032DC480060R
			80 A	RS1A0P032DC480080R
			100 A	RS1A0P032DC480100R
	90 - 280 VAC		25 A	RS1A0P280AC480025R
			60 A	RS1A0P280AC480060R
			80 A	RS1A0P280AC480080R
			100 A	RS1A0P280AC480100R

Specifications

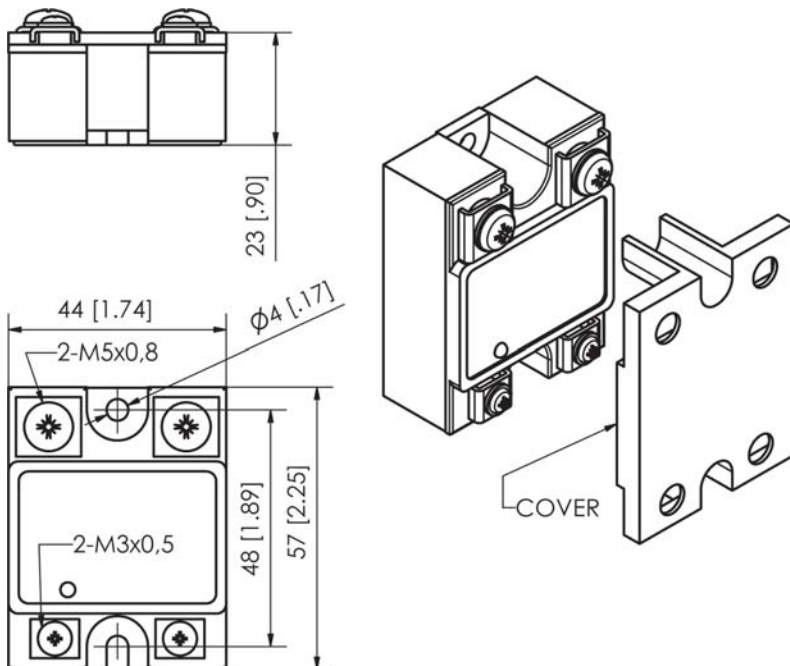
GENERAL SPECIFICATIONS	VDC input		VAC input	
Dielectric insulation (between input & output)	2,500 VAC			
Operating temperature	-30 to 80° C			
Storage temperature	-35 to 85° C			
Rth junction to case	2.5° C/W (25 A) 0.65° C/W (60 A) 0.5° C/W (80 A)	0.3° C/W	2.5° C/W (25 A) 0.65° C/W (60 A) 0.5° C/W (80 A)	0.3° C/W
Ambient humidity	Operating: up to 85 %			
CE marking	Yes			

INPUT SPECIFICATIONS	VDC input	VAC input
Control voltage range	3 - 32 VDC	90 - 280 VAC
Input current (maximum)	13/16 mA @= 5 V/24 V	29 mA @= 220 V
Pick-up voltage	1.9 VDC	70 VAC
Drop-out voltage	1.9 VDC	70 VAC
Maximum reverse voltage	32 VDC	-
Max. response time pick-up	1 ms	
Max. response time drop-out	½ cycle	

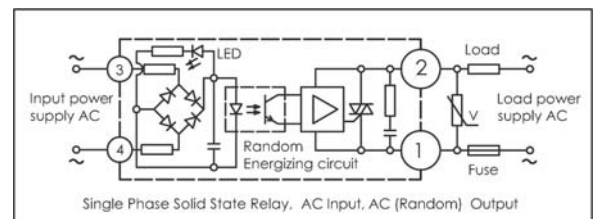
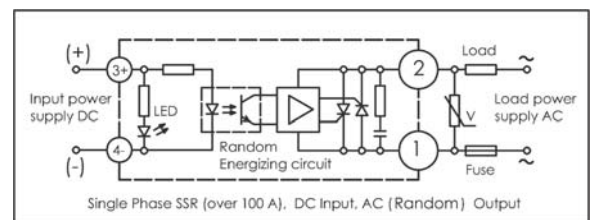
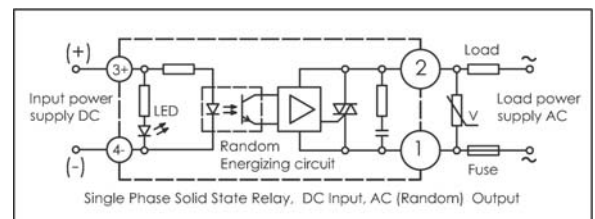
OUTPUT SPECIFICATIONS	VDC input		VAC input	
Maximum load current (AC51 @ Ta = 25° C) (AC53a @ Ta = 25° C)	25, 60, 80 A 5, 15, 18 A	100 A 20 A	25, 60, 80 A 5, 15, 18 A	100 A 20 A
Load voltage range	40 - 480 VAC			
Frequency range	47 - 63 Hz			
Max. non-repetitive peak voltage	930 Vp	1,200 Vp	930 Vp	1,200 Vp
Max. non-repetitive peak current (t=10ms)	350 Ap / 25 A 630 Ap / 60 A 910 Ap / 80 A	1,100 Ap	350 Ap / 25 A 630 Ap / 60 A 910 Ap / 80 A	1,100 Ap
Maximum off state leakage current	8 mArms			
Minimum off state dv / dt	200 V / µseg			
Maximum on state voltage	1.6 VAC			
Minimum load current	0.05 Arms			
I ² t (10 ms) (orientative data)	625 A ² s (25 A) 2,025 A ² s (60 A) 4,225 A ² s (80 A) 6,050 A ² s (100 A)			

HOUSING SPECIFICATIONS	
Dimensions (L x W x H mm)	58 x 44 x 23
Weight	150 g maximum
Baseplate	Aluminum, nickel-plated
Control terminal (M3x6) torque	1.2 Nm
Power terminal (M5x9) torque	2.4 Nm

Dimensions

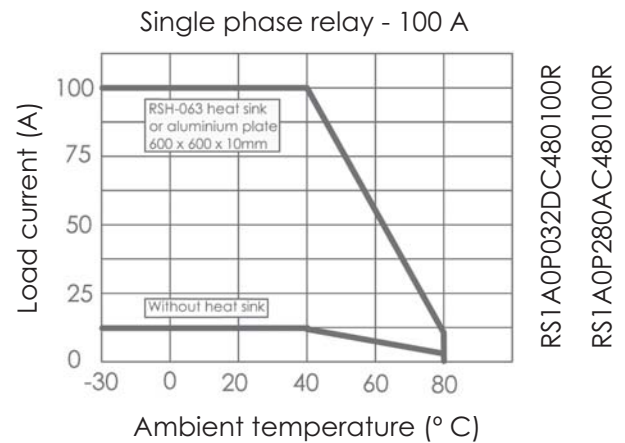
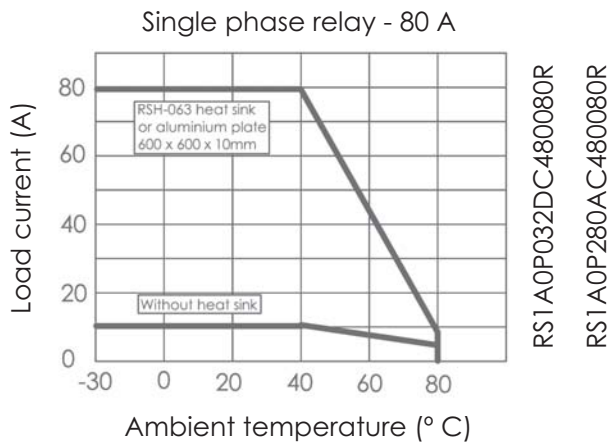
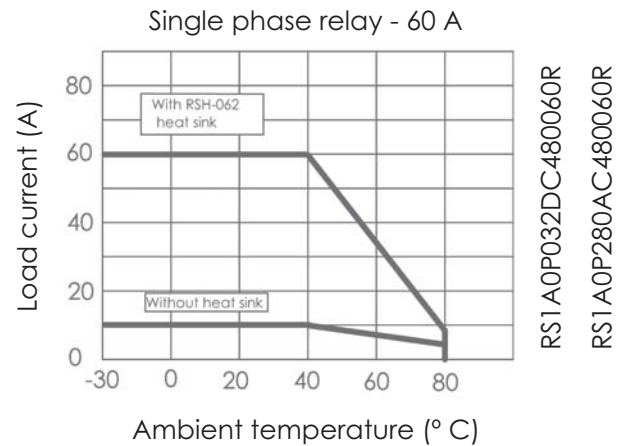
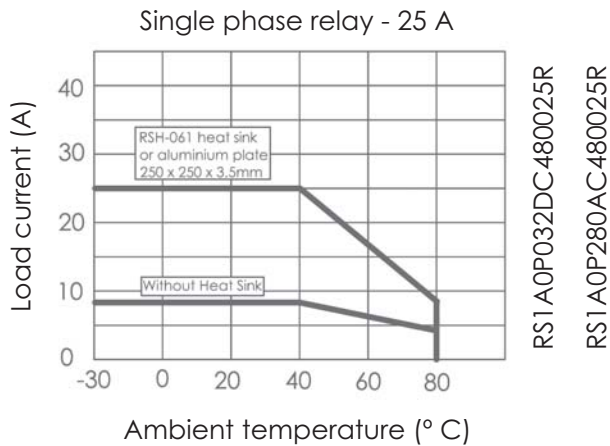


Diagrams



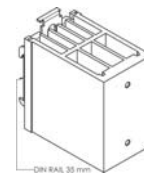


Load current vs. ambient temperature

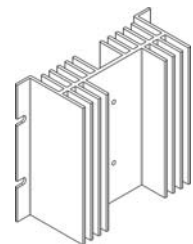


Heat sinks

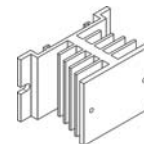
Reference	Output current	Dimensions	Relays to be used with
RSH-059 (DIN-rail)	≤ 20 A	44 x 75 x 70	RS1A0P032DC480025R RS1A0P280AC480025R
RSH-060	≤ 20 A	80 x 50 x 50	RS1A0P032DC480025R RS1A0P280AC480025R
RSH-061	≤ 40 A	125 x 70 x 50	RS1A0P032DC480025R RS1A0P280AC480025R
RSH-062	≤ 60 A	125 x 115 x 50	RS1A0P032DC480060R RS1A0P280AC480060R
RSH-063	≤ 100 A	120 x 80 x 50	RS1A0P032DC480080R RS1A0P280AC480080R RS1A0P032DC480100R RS1A0P280AC480100R



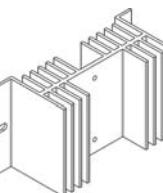
RSH-059



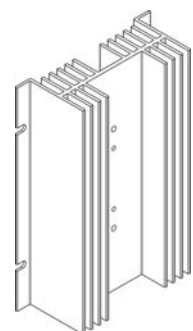
RSH-062



RSH-060

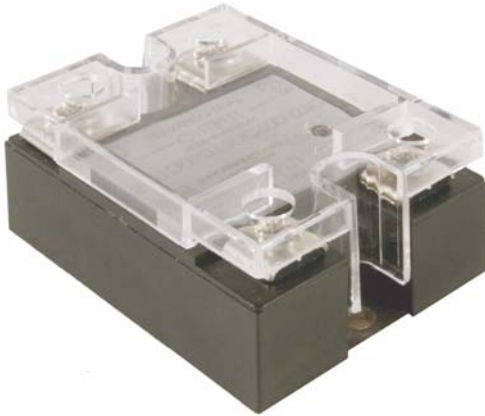


RSH-061



RSH-063

Over 10 A load a heat sink must be used. The use of a heat sink will make the lifetime of the relay up to four times longer, even when using it with load currents lower than 10 A.



- » DC solid state relay.
- » Input range: 3 - 15 VDC.
- » Maximum load current (AC1 at 25° C): 25, 40, 60, 80A.
- » Operational ratings: 12 - 600 VDC.
- » LED indicator.
- » Clip on protective cover for greater safety (IP 20).

Models and references

Control voltage	Load operational current	Reference
3 - 15 VDC	25 A	RS1D0P015DC600025D
	40 A	RS1D0P015DC600040D
	60 A	RS1D0P015DC600060D
	80 A	RS1D0P015DC600080D

Specifications

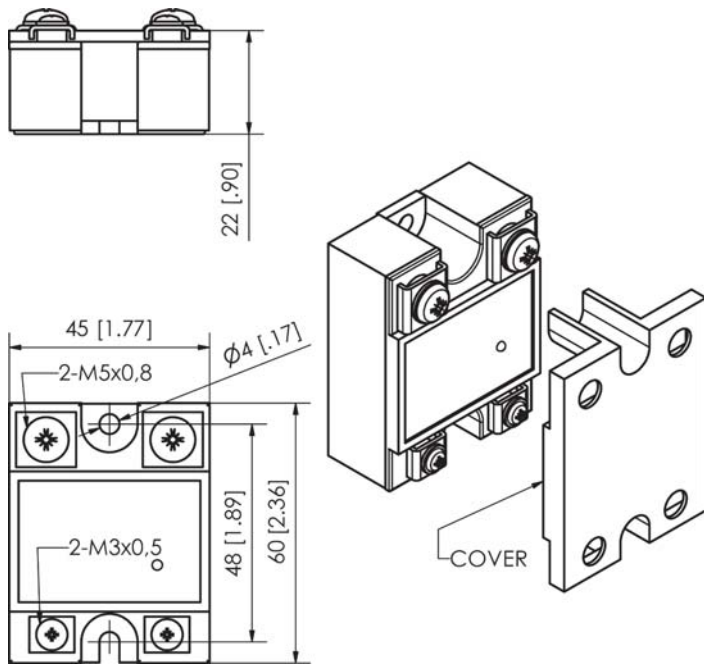
INPUT SPECIFICATIONS	VDC input
Control voltage range	3 - 15 VDC
Maximum input current	2 / 30 mA @= 3 V / 15 V
Pick-up voltage	1.5 VDC
Drop-out voltage	1.5 VDC
Maximum reverse voltage	15 VDC
Maximum response time pick-up	5 ms
Maximum response time drop-out	0.2 ms

OUTPUT SPECIFICATIONS	VDC input
Maximum load current (AC51 @ Ta = 25° C)	25, 40, 60, 80 A
(AC53a @ Ta = 25° C)	5, 10, 15, 18 A
Load voltage range	12 - 600 VDC
Maximum off state leakage current	1 mA
Maximum on state voltage	1.4 VDC
Minimum load current	0.1 A

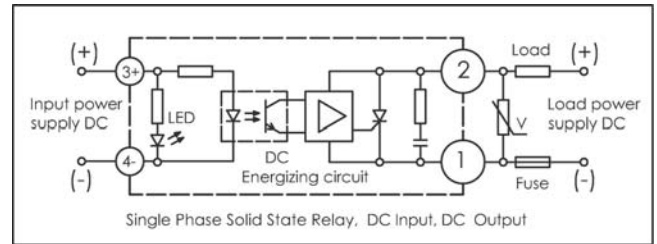
GENERAL SPECIFICATIONS	
Insulation to cover	2,000 VDC
Dielectric insulation (between input and output)	1,500 VDC
Operating temperature	-40 to 80° C
Storage temperature	-45 to 85° C
Rth junction to case	2.5° C/W (25 A) 0.65° C/W (60 A) 0.5° C/W (80 A)
Ambient humidity	Operating: up to 85%
CE-marking	Yes

HOUSING SPECIFICATIONS	
Dimensions (L x W x H mm)	60 x 45 x 22
Weight	150 g maximum
Baseplate	Aluminum, nickel-plated
Control terminal (M3x6) torque	1.2 Nm
Power terminal (M5x9) torque	2.4 Nm

Dimensions

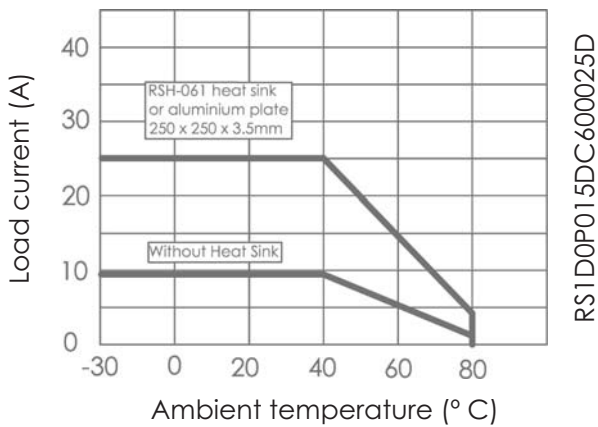


Circuit diagram

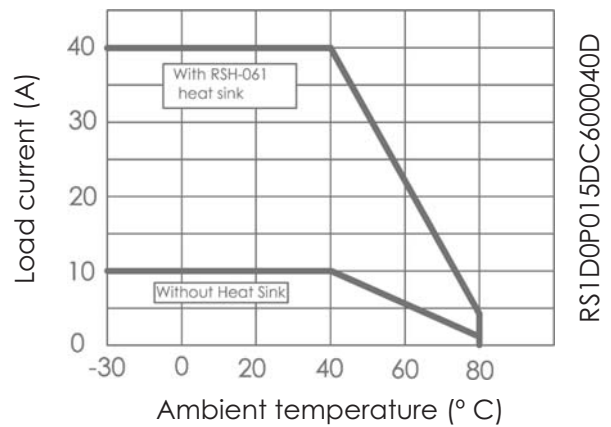


Load current vs. ambient temperature

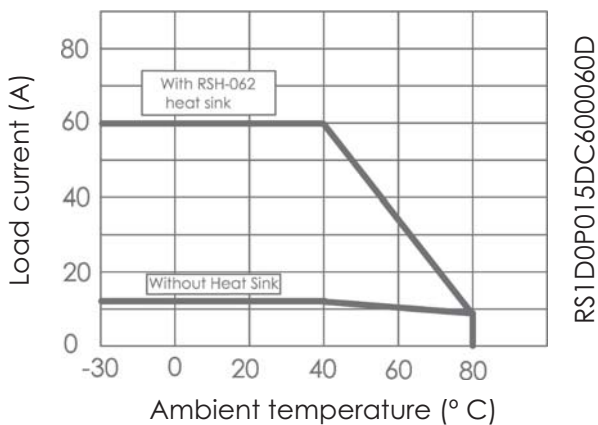
Single phase relay - 25 A



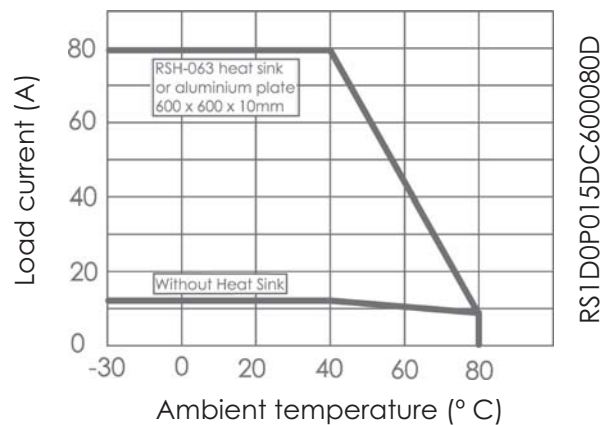
Single phase relay - 40 A



Single phase relay - 60 A



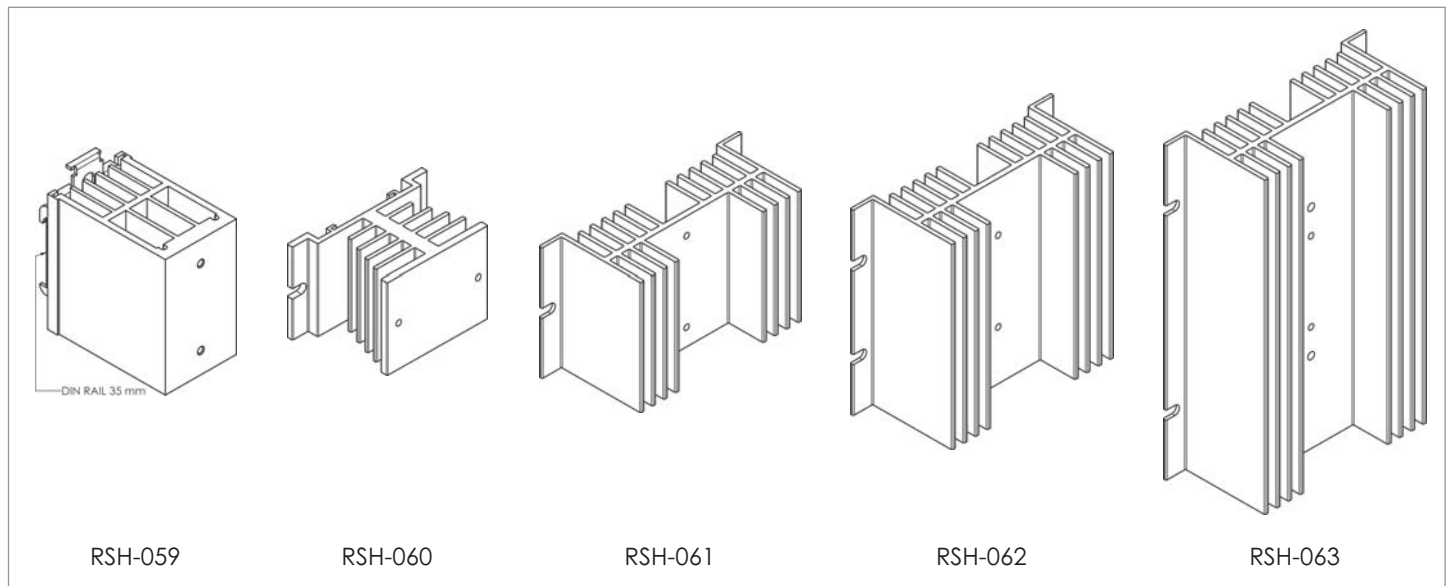
Single phase relay - 80 A

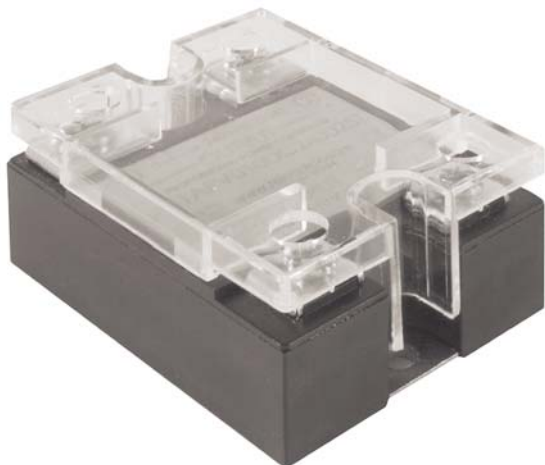


Heat sinks

Heat sink reference	Output current	Dimensions	Relays to be used with
RSH-059 (DIN-rail)	≤ 20 A	44 x 75 x 70 mm	RS1D0P015DC600025D
RSH-060	≤ 20 A	80 x 50 x 50 mm	RS1D0P015DC600025D
RSH-061	≤ 40 A	125 x 70 x 50 mm	RS1D0P015DC600025D RS1D0P015DC600040D
RSH-062	≤ 60 A	125 x 115 x 50 mm	RS1D0P015DC600060D
RSH-063	≤ 100 A	120 x 80 x 50 mm	RS1D0P015DC600080D

Over 10 A load a heat sink must be used. The use of a heat sink will make the lifetime of the relay up to four times longer, even when using it with load currents lower than 10 A.





- » Analog switching AC solid state relay.
- » 2 input ranges: 4 - 20 mA and 2 - 10 VDC.
- » Maximum load current (AC1 at 25° C): 25, 40, 60, 80, 100 A.
- » Operational ratings: 0 - 380 VAC.
- » Frequency range: 50 - 60 Hz.
- » Maximum non-repetitive peak voltage: 850 Vp.
- » Clip on protective cover for greater safety (IP 20).

Models and references

Control mode	Rated operational voltage	Rated operational current	Reference
2 - 10 VDC	0 - 240 VAC	25 A	RS1APV010DC240025R
		40 A	RS1APV010DC240040R
		60 A	RS1APV010DC380060R
	0 - 380 VAC	80 A	RS1APV010DC380080R
		100 A	RS1APV010DC380100R
4 - 20 mA	0 - 240 VAC	25 A	RS1API4020mA240025R
		40 A	RS1API4020mA240040R
		60 A	RS1API4020mA380060R
	0 - 380 VAC	80 A	RS1API4020mA380080R
		100 A	RS1API4020mA380100R

Specifications

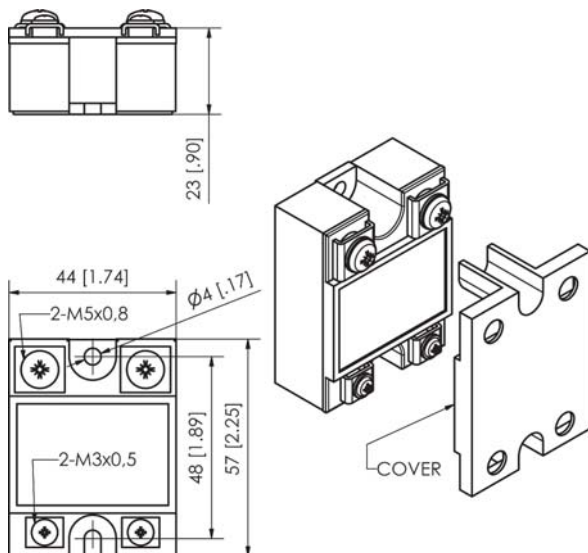
GENERAL SPECIFICATIONS	Voltage		Current	
Dielectric insulation (between input & output)	2,500 VAC			
Operating temperature	-40 to 80° C			
Storage temperature	-45 to 85° C			
Rth junction to case	2.5° C/W (25 A)	0.65° C/W (60 A)	2.5° C/W (60 A)	0.65° C/W (60 A)
	1.25° C/W (40 A)	0.5° C/W (80 A)	1.25° C/W (40 A)	0.5° C/W (80 A)
		0.3° C/W (100 A)		0.3° C/W (100 A)
Ambient humidity (operating)	Operating: up to 85 %			
CE-marking	Yes			

INPUT SPECIFICATIONS	Voltage	Current
Control range voltage / current	2 - 10 VDC	4 - 20 mA
Pick-up voltage / current	1.9 VDC	4 mA
Drop-out voltage / current	1.9 VDC	4 mA
Maximum reverse voltage	10 VDC	-
Maximum response time pick-up	20 ms	
Maximum response time drop-out	20 ms	

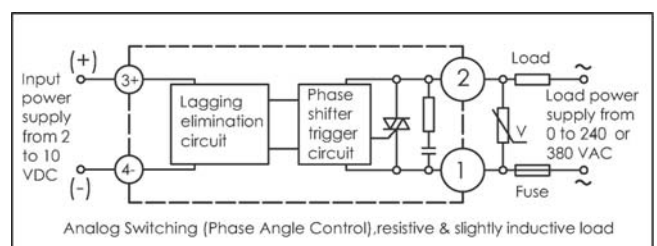
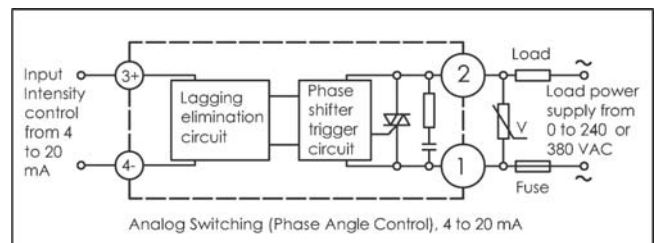
OUTPUT SPECIFICATIONS	Voltage		Current	
Maximum load current (AC1 at 25° C) (AC53a @ Ta = 25° C)	25, 40 A 5, 10 A	60, 80, 100 A 15, 18, 20 A	25, 40 A 5, 10 A	60, 80, 100 A 15, 18, 20 A
Load voltage range	0 - 240 VAC	0 - 380 VAC	0 - 240 VAC	0 - 380 VAC
Frequency range	50 - 60 Hz			
Maximum non-repetitive peak voltage	650 Vp	850 Vp	650 Vp	850 Vp
Maximum non-repetitive peak current (10 ms)	350 Ap / 25 A 500 Ap / 40 A	630 Ap / 60 A 910 Ap / 80 A 1,100 Ap / 100 A	350 Ap / 25 A 500 Ap / 40 A	630 Ap / 60 A 910 Ap / 80 A 1,100 Ap / 100 A
Maximum off state leakage current	3 mA			
Maximum on state voltage	2 VAC			
Minimum off state dv / dt	1,000 V / μ s			
Minimum load current	0.15 A	0.25 A	0.15 A	0.25 A
I ² t (10 ms) (orientative data)	625 A ² s (25 A) 1,250 A ² s (40 A) 2,025 A ² s (60 A) 4,225 A ² s (80 A) 6,050 A ² s (100 A)			

HOUSING SPECIFICATIONS	
Dimensions (L x W x H mm)	68 x 48 x 28
Weight	160 g. maximum
Baseplate	Aluminum, nickel-plated
Control terminal (M3x6) torque	1.2 Nm
Power terminal (M5x9) torque	2.4 Nm

Dimensions



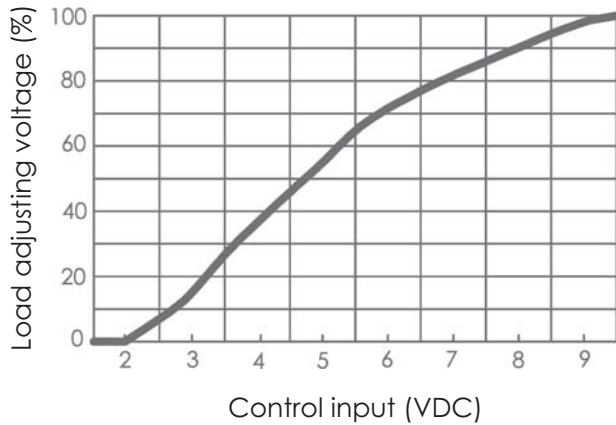
Circuit diagrams



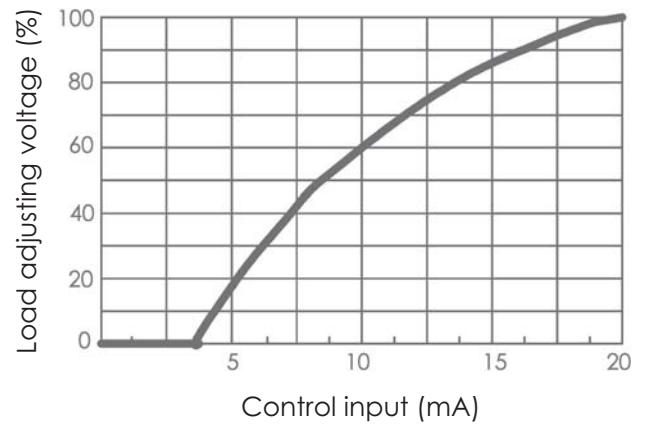


Input voltage vs. output voltage _____ Input current vs. output voltage _____

RS1APV010DC240025R
RS1APV010DC240040R
RS1APV010DC380060R
RS1APV010DC380080R
RS1APV010DC380100R

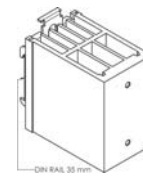


RS1API4020mA240025R
RS1API4020mA240040R
RS1API4020mA380060R
RS1API4020mA380080R
RS1API4020mA380100R

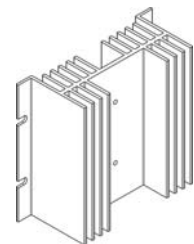


Heat sinks _____

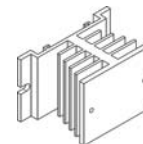
Reference	Output current	Dimensions	Relays to be used with
RSH-059 (DIN-rail)	≤ 20 A	44 x 75 x 70	RS1APV010DC240025R RS1API4020mA380025R
RSH-060	≤ 20 A	80 x 50 x 50	RS1APV010DC240025R RS1API4020mA380025R
RSH-061	≤ 40 A	125 x 70 x 50	RS1APV010DC240025R RS1API4020mA380025R RS1APV010DC240040R RS1API4020mA380040R
RSH-062	≤ 60 A	125 x 115 x 50	RS1APV010DC240060R RS1API4020mA380060R
RSH-063	≤ 100 A	120 x 80 x 50	RS1APV010DC240080R RS1API4020mA380080R RS1APV010DC240100R RS1API4020mA380100R



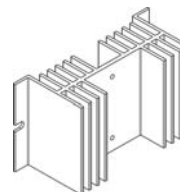
RSH-059



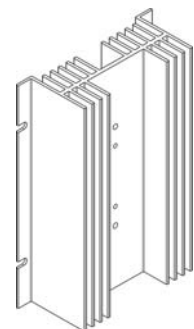
RSH-062



RSH-060



RSH-061



RSH-063

Over 10 A load a heat sink must be used. The use of a heat sink will make the lifetime of the relay up to four times longer, even when using it with load currents lower than 10 A.



- » Zero crossing AC solid state relay.
- » Input range: 5 - 24 VDC.
- » Maximum load current (AC1 at 25° C): 25, 60 A.
- » Operational ratings: 48 - 480 VAC.
- » Frequency range: 47 - 63 Hz.
- » Maximum non-repetitive peak voltage: 1,000 Vp.
- » 2 LED indicators (input / output).
- » Clip on protective cover for greater safety (IP 20).
- » Heat sink included.
- » Can be mounted directly on a DIN-rail with a clip for DIN-rail.

Models and references

Zero crossing	Control voltage	Rated operational voltage	Rated operational current	Reference
Yes	5 - 24 VDC	48 - 480 VAC	25 A	RS1A0R024DC480025Z
			60 A	RS1A0P032DC480060Z

Specifications

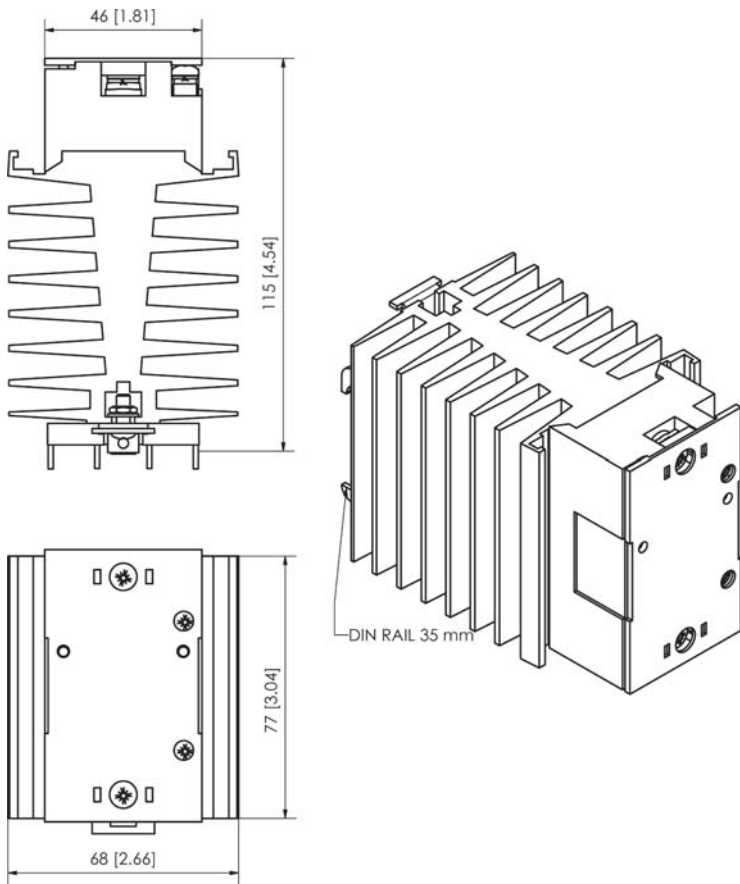
GENERAL SPECIFICATIONS	
Dielectric insulation (between input and output)	2,500 VAC
Operating temperature	-40 to 80° C
Storage temperature	-45 to 85° C
Ambient humidity	Operating: up to 85%
CE-marking	Yes

INPUT SPECIFICATIONS	
Control voltage range	5 - 24 VDC
Maximum input current	16/18 mA @= 5 V / 24 V
Pick-up voltage	2.2 VDC
Drop-out voltage	2.2 VDC
Maximum reverse voltage	24 VDC
Maximum response time pick-up	10 ms
Maximum response time drop-out	10 ms

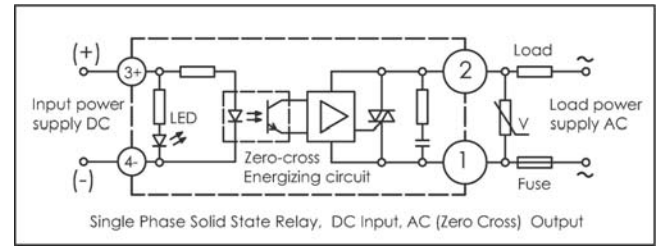
HOUSING SPECIFICATIONS		
Dimensions (L x W x H mm)	75 x 35 x 100	80 x 70 x 105
Weight	200 g	340 g
Baseplate	Aluminum, nickel-plated	
Control terminal (M3x6) torque	1.2 Nm	
Power terminal (M5x9) torque	2.4 Nm	

OUTPUT SPECIFICATIONS		
Maximum load current (AC51 @ Ta = 25° C)	25 A	60 A
(AC53a @ Ta = 25° C)	5 A	15 A
Load voltage range	48 - 480 VAC	
Frequency range	47 - 63 Hz	
Maximum non-repetitive peak voltage	1,000 Vp	
Maximum non-repetitive peak current (t = 10 ms)	350 Ap	630 Ap
Maximum off state leakage current (t = 25° C)	3 mA	
Minimum off state dv / dt	500 V / μs	
Maximum on state voltage	1.2 VAC	
Minimum load current	0.1 A	
I _{pt} (10 ms) (orientative data)	625 A ² s (25 A) 2,025 A ² s (60 A)	

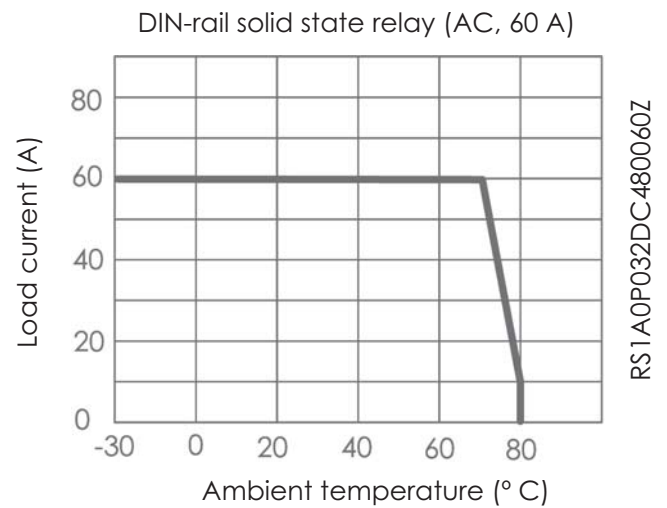
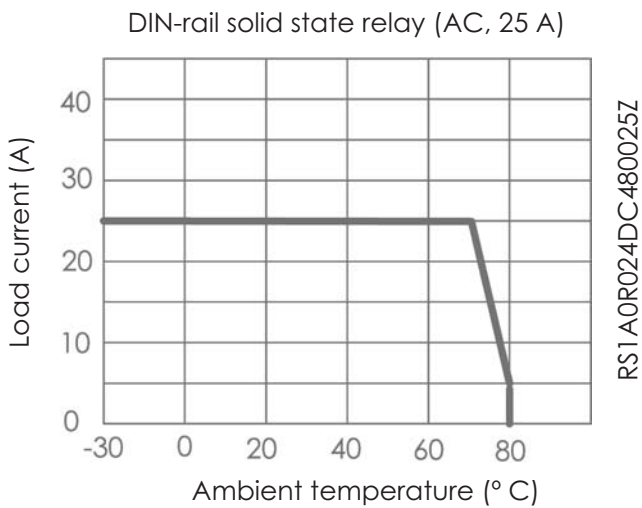
Dimensions



Circuit diagram



Load current vs. ambient temperature





- » AC Solid state relay, zero crossing.
- » Input range: 3 - 32 VDC.
- » Maximum load current (AC1 at 25° C): 100, 150, 250 A.
- » Operational ratings: 40 - 400 VAC.
- » Frequency range: 50 - 60 Hz.
- » Maximum non-repetitive peak voltage: 930 Vp.
- » LED indicator.

Models and references

Zero crossing	Control voltage	Rated operational voltage	Rated operational current	Reference
Yes	3 - 32 VDC	40 - 440 VAC	100 A	RS1A0P032DC440100Z
			150 A	RS1A0P032DC440150Z
			250 A	RS1A0P032DC440250Z

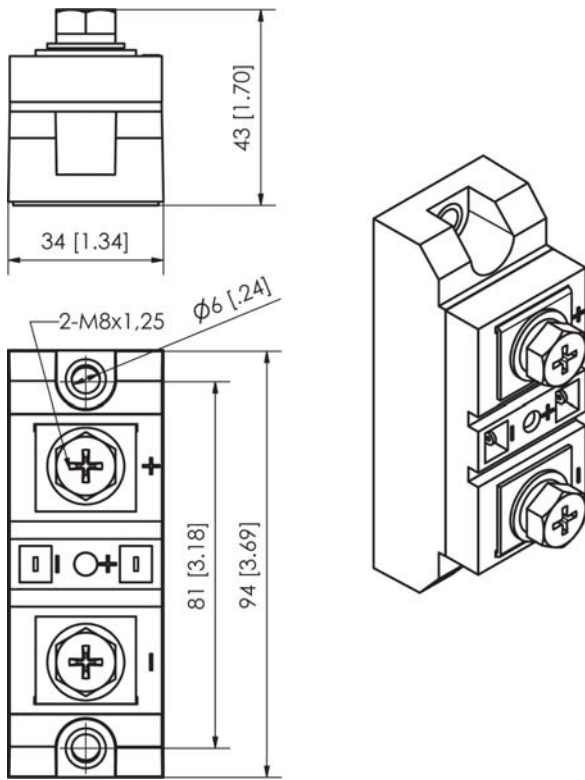
Specifications

GENERAL SPECIFICATIONS		VDC input	HOUSING SPECIFICATIONS	
Dielectric insulation (between input & output)	2,500 VAC		Dimensions (L x W x H mm)	95 x 35 x 43
Operating temperature	-30° to 80° C		Weight	235 g
Storage temperature	-45° to 85° C		Baseplate	Aluminum, nickel-plated
Ambient humidity (operating)	Up to 85 %		Control terminal (M3x6) torque	1.0 Nm
CE-marking	Yes		Power terminal (M5x9) torque	2.4 Nm

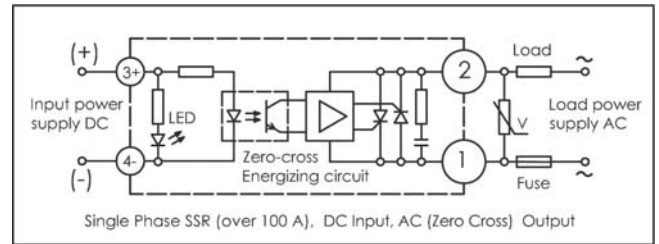
INPUT SPECIFICATIONS	
Control voltage range	3 - 32 VDC
Maximum input current	6/35 mA @= 3 V / 32 V
Pick-up voltage	3 VDC
Drop-out voltage	1 VDC
Maximum reverse voltage	32 VDC
Maximum response time pick-up	10 ms
Maximum response time drop-out	10 ms

OUTPUT SPECIFICATIONS			
Maximum load current	100 A	150 A	250 A
Load voltage range	40 - 440 VAC		
Frequency range	50 - 60 Hz		
Maximum non-repetitive peak voltage	930 Vp		
Maximum non-repetitive peak current (t = 10 ms)	1,100 Ap	1,450 Ap	2,200 Ap
Maximum off state leakage current (T = 25° C)	10 mA		
Minimum off state dv / dt	500 V / μs		
Maximum on state voltage	1.6 VAC		
I ² t (10 ms) (orientative data)	6,050 A ² s (100 A) 10,500 A ² s (150 A) 24,200 A ² s (250 A)		

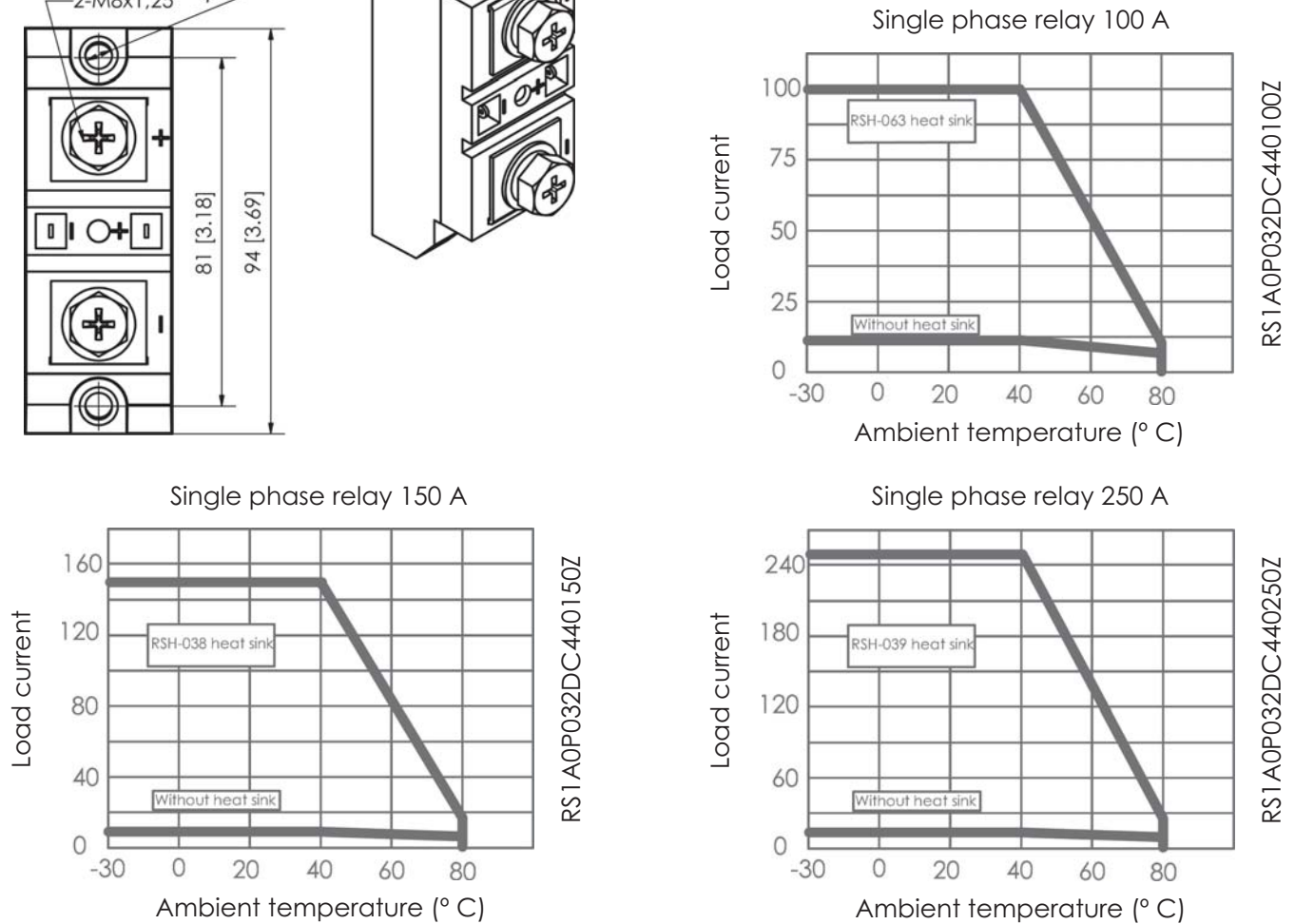
Dimensions



Circuit diagram

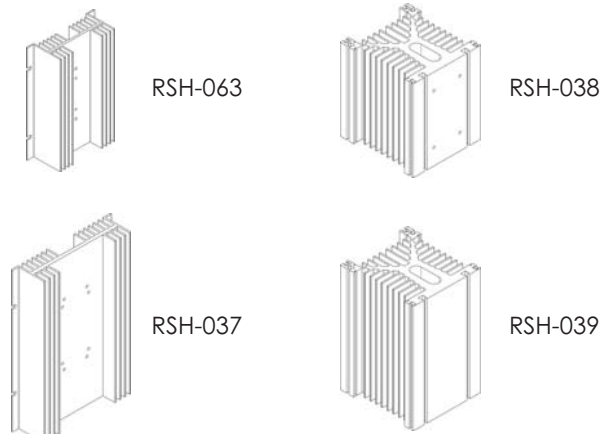


Load current vs. ambient temperature

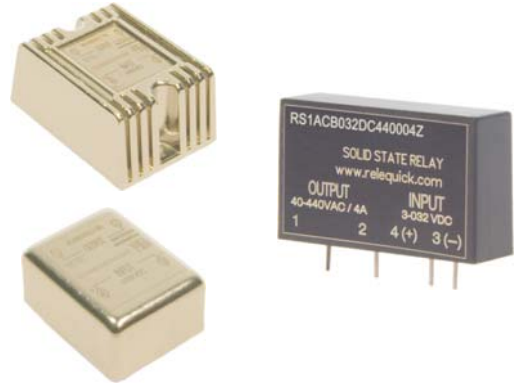


Heat sinks

Ref.	Output current	Dimensions (mm)	Relays to be used with
RSH-063	≤ 100 A	120 x 80 x 50	RS1A0P032DC440100Z
RSH-037	≤ 80 A	260 x 180 x 50	RS1A0P032DC440100Z
RSH-038	≤ 100 A	150 x 125 x 135	RS1A0P032DC440150Z
RSH-039	≤ 200 A	200 x 125 x 135	RS1A0P032DC440250Z



- » AC Solid state relay, zero crossing.
- » Input range: 3 - 32 VDC.
- » Maximum load current (AC1 at 25° C): 4, 5 A.
- » Operational ratings: 40 - 400 VAC.
- » Frequency range: 50 - 60 Hz.
- » Maximum non-repetitive peak voltage: 1,200 Vp.



Models and references

Zero crossing	Control voltage	Rated operational voltage	Rated operational current	Reference
Yes	3 - 32 VDC	40 - 440 VAC	4 A	RS1ACB032DC440004Z
			5 A	RS1AMB032DC440004Z
				RS1AMB032DC440005Z

Specifications

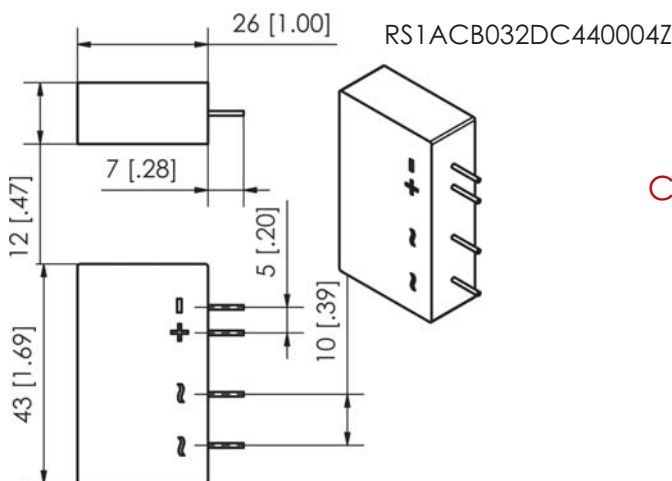
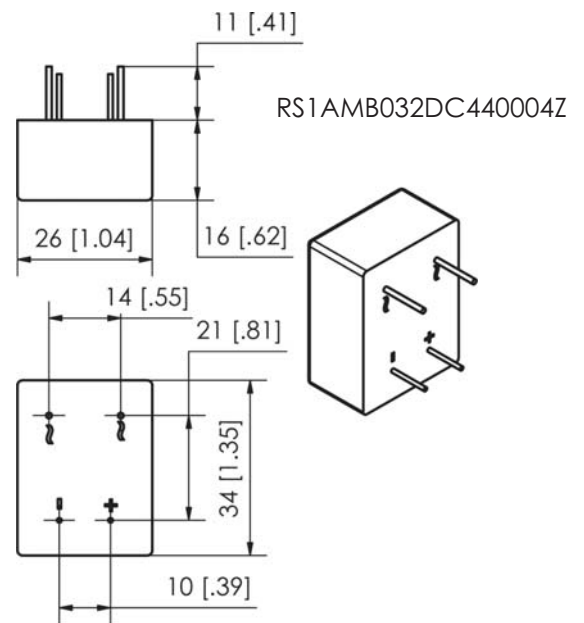
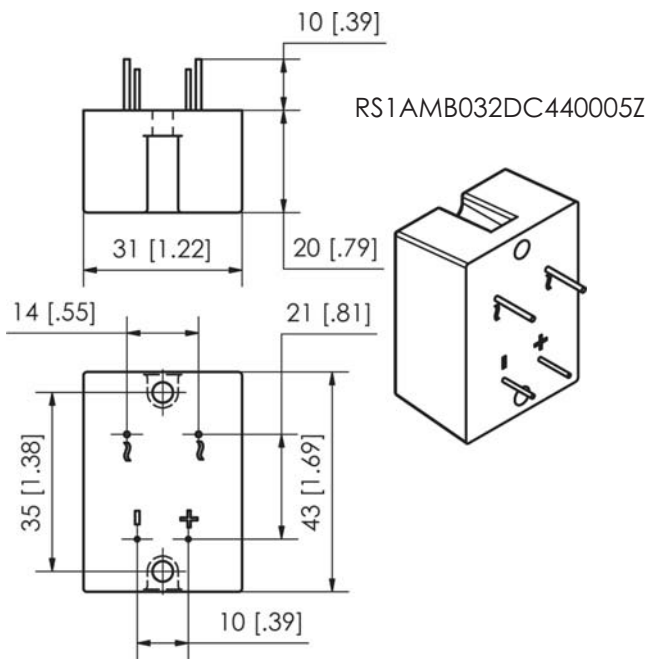
GENERAL SPECIFICATIONS	VDC input
Dielectric insulation (between input & output)	1,500 VAC
Operating temperature	-30° to 80° C
Storage temperature	-35° to 85° C
Ambient humidity (operating)	Up to 85 %
CE-marking	Yes

INPUT SPECIFICATIONS	
Control voltage range	3 - 32 VDC
Maximum input current	9 / 16 mA @= 5 V / 24 V
Pick-up voltage	1.5 VDC
Drop-out voltage	1.5 VDC
Maximum reverse voltage	32 VDC
Maximum response time pick-up	10 ms
Maximum response time drop-out	10 ms

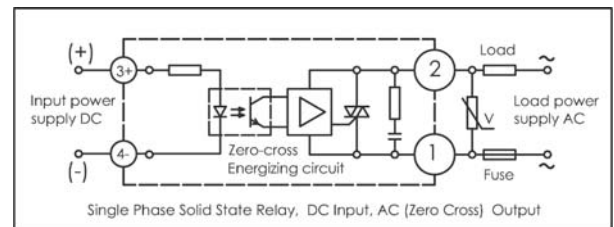
OUTPUT SPECIFICATIONS	4 A	5 A
Maximum load current (AC51 @ Ta = 25° C)	4 A	5 A
Load voltage range	40 - 440 VAC	
Frequency range	50 - 60 Hz	
Maximum non-repetitive peak voltage	1,200 Vp	
Maximum non-repetitive peak current (t = 10 ms)	7 Ap	
Maximum off state leakage current	10 mA	
Minimum off state dv / dt	200 V / μs	
Maximum on state voltage	1.6 VAC	
Minimum load current	0.1 A	

HOUSING SPECIFICATIONS	5 A	4 A	4 A plastic
Dimensions (L x W x H mm)	43 x 31 x 20	35 x 27 x 17	43 x 26 x 12
Weight	78 g maximum	34 g	22 g
Baseplate	Aluminum, nickel-plated		

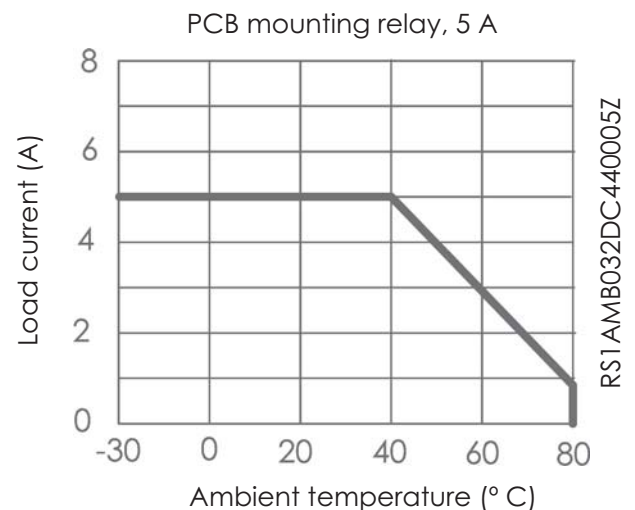
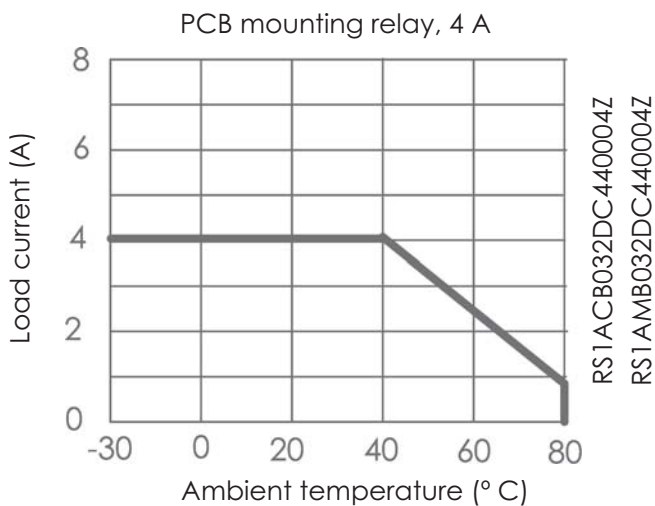
Dimensions



Circuit diagram



Load current vs. ambient temperature





- » Socket solid state relay.
- » 8 models:
 - 4 programmable (2 DC, 2 AC).
 - 4 non-programmable (2 DC, 2 AC).
- » Input range: 5 - 28 VDC.
- » Maximum load current: 3 A (in DC), 2 A (in AC).
- » Operational ratings: 1.5 - 250 VAC and 5 - 50 VDC.
- » Frequency range: 50 - 60 Hz.
- » Maximum non-repetitive peak voltage: 450 Vp.
- » LED indicator.
- » Free programming software available online.
- » Both timing (range from 1 ms to 999 hours) and PWM functions (DC load).

Models and references

Control voltage	Rated operational voltage	Zero crossing	Polarity output	Programmable	Reference
5 - 28 VDC	1.5 - 250 VAC	Yes	-	No	RFS1SL028ACZ0
				Yes	RFS1SL028ACZP
		No	-	No	RFS1SL028AC00
				Yes	RFS1SL028AC0P
	5 - 50 VDC	-	Positive common	No	RFS1SL028DC00
				Yes	RFS1SL028DC0P
		-	Negative common	No	RFS1SL028DCN0
				Yes	RFS1SL028DCNP

Specifications

INPUT SPECIFICATIONS	
Control voltage range	5 - 28 VDC
Maximum input current	10 - 20 mA
Pick-up voltage	5 VDC
Drop-out voltage	3 VDC
Maximum reverse voltage	28 VDC
Maximum response time pick-up	1 ms
Maximum response time drop-out	2 ms

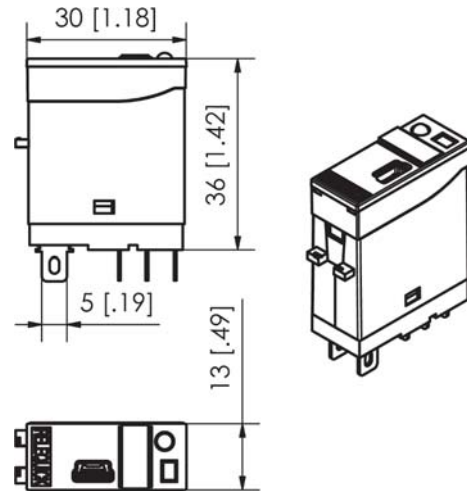
OUTPUT SPECIFICATIONS		
Maximum load current (AC51 @ Ta = 25° C)	3 A	2 A
Load voltage range	1.5 - 250 VAC	5 - 50 VDC
Frequency range	50 - 60 Hz	-
Maximum non-repetitive peak voltage	450 Vp	150 VDC
Maximum non-repetitive peak current (t = 5 ms)	20 Ap	
Maximum off state leakage current	1 mA	
Minimum off state dv / dt	5 A / 350 μs	
Maximum on state voltage	1.5 VAC	1.5 VDC
Minimum load current	0.1 A	
I ² t (5 ms) (orientative data)	1 A ² s	

Specifications

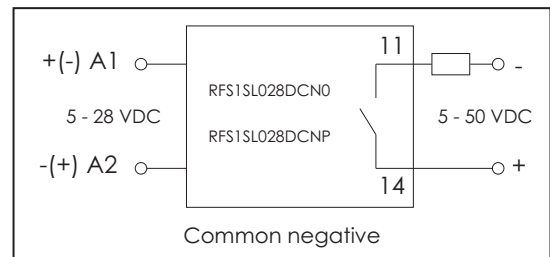
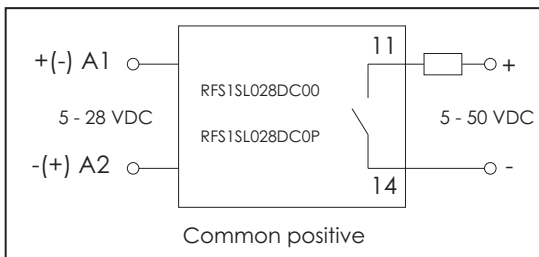
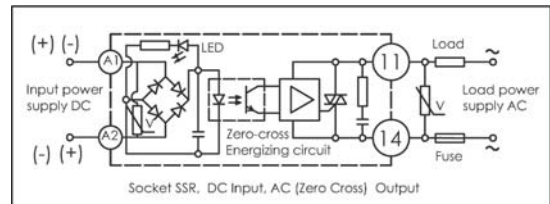
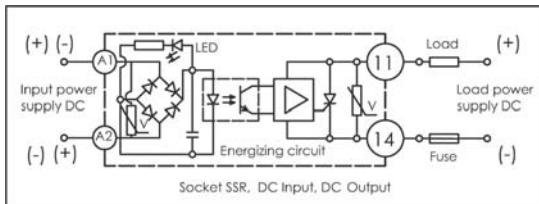
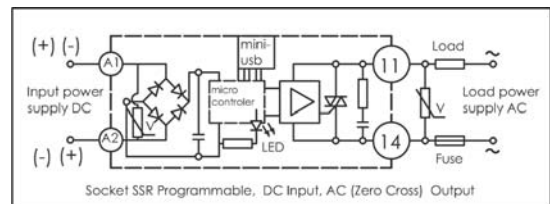
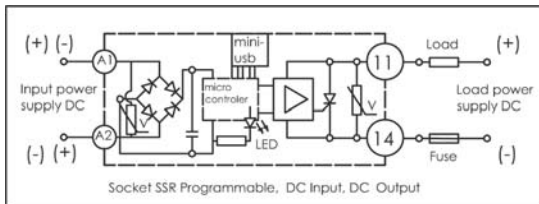
Dimensions

GENERAL SPECIFICATIONS	
Dielectric insulation (between input & output)	3,750 KV
Operating temperature	-20° to 60° C
Storage temperature	-20° to 100° C
Ambient humidity (operating)	Up to 85 %
CE-marking	Yes

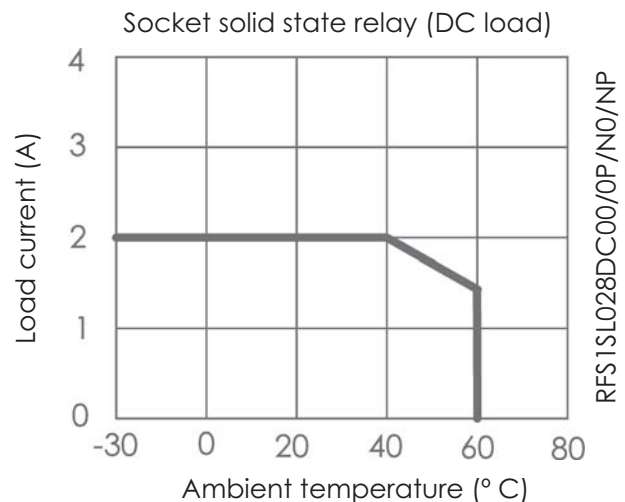
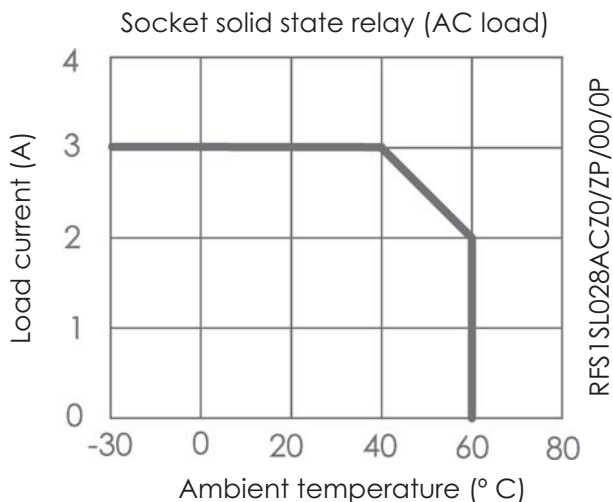
HOUSING SPECIFICATIONS	
Dimensions (L x W x H mm)	29 x 13 x 40
Weight	23 g maximum
Baseplate	Aluminum, nickel-plated



Circuit diagrams



Load current vs. ambient temperature





Programming functions

	Function name	Initial state	Diagram	Description
Simple timer	Switch-on delay			Delay timing (t time) to the connection of the relay.
	Switch-off delay			Delay timing (t time) to the disconnection of the relay.
Symmetric and asymmetric cycle timing functions	Pulse delay			The relay is switched on after a t1 delay is over and keeps on for a t2 lapse. The delay begins when the module is feeded.
	Symmetric timing cycle (starting closed)			Once the module is feeded a symmetric cycle begins, being the relay open for a t timelapse and closed during the next t interval. The relay starts being closed during the first interval.
	Symmetric timing cycle (starting open)			Once the module is feeded a symmetric cycle begins, being the relay closed for a t timelapse and open during the next t interval. The relay starts being open during the first interval.
	Asymmetric timing cycle (starting closed)			Once the module is feeded an asymmetric cycle begins, being the relay closed for a t1 timelapse and open during a t2 interval. The relay starts being closed during the first interval.
	Asymmetric timing cycle (starting open)			Once the module is feeded an asymmetric cycle begins, being the relay open for a t1 timelapse and closed during a t2 interval. The relay starts being open during the first interval.
	DC load regulation	PWM progressive connection ramp (for DC loads)		
PWM progressive disconnection ramp (for DC loads)				The relay is disconnected slowly as the progressive disconnection ramp (PWM) is completed during the specified time t.



- » Three phase AC solid state relay, zero crossing.
- » 2 input ranges: 3 - 32 VDC and 90 - 250 VAC.
- » Maximum load current (AC1 at 25° C): 25, 60, 80, 100, 120 A.
- » Operational ratings: 40 - 530 VAC.
- » Frequency range: 47- 63 Hz.
- » Maximum non-repetitive peak voltage: 1,000 Vp.
- » LED indicator.
- » Clip on protective cover for greater safety (IP 20).

Models and references

Zero crossing	Control voltage	Rated operational voltage	Rated operational current	Reference
Yes	3 - 32 VDC	40 - 440 VAC	25 A	RS3A0P032DC440025Z
			60 A	RS3A0P032DC440060Z
			80 A	RS3A0P032DC440080Z
			120 A	RS3A0P032DC480120Z
	90 - 250 VAC		25 A	RS3A0P250AC440025Z
			60 A	RS3A0P250AC440060Z
			80 A	RS3A0P250AC440080Z
			100 A	RS3A0P280AC480100Z
		40 - 530 VAC		

Specifications

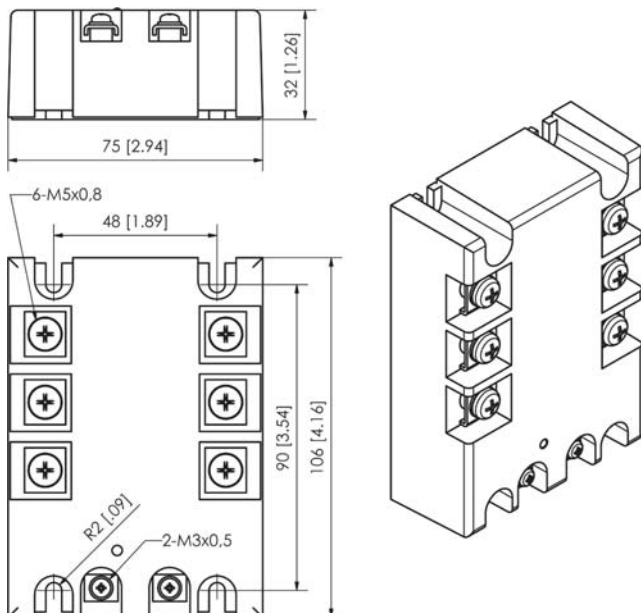
GENERAL SPECIFICATIONS	VDC input	VAC input
Dielectric insulation (between input & output)	2,500 VAC	2,000 VAC
Operating temperature	-25 to 70° C	-40 to 80° C
Storage temperature	-35 to 85° C	-45 to 85° C
Ambient humidity	Operating: 45 % to 85 %	
CE marking	Yes	

INPUT SPECIFICATIONS	VDC input	VAC input	
Control voltage range	3 - 32 VDC	90 - 250 VAC	
Input current (maximum)	5/25 mA @= 3 V / 32 V	5/30 mA @= 90 VAC / 250 VAC	15/20 mA @= 90 VAC / 250 VAC (only RS3A0P250AC530100Z)
Pick-up voltage	3 VDC	70 VAC	
Drop-out voltage	1 VDC	70 VAC	
Maximum reverse voltage	32 VDC	-	
Max. response time pick-up	10 ms		
Max. response time drop-out	10 ms		

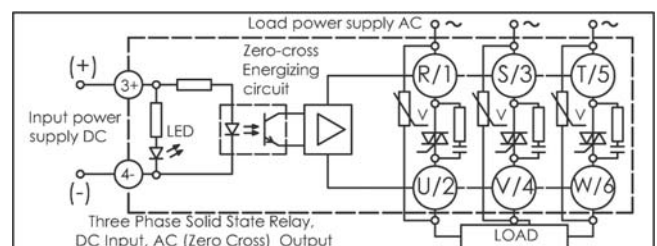
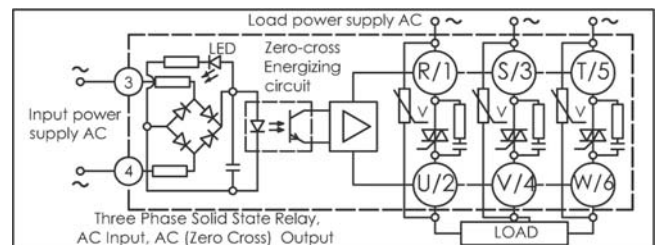
OUTPUT SPECIFICATIONS	VDC input			VAC input
Maximum load current (AC51 @ Ta = 25° C) (AC53a @ Ta = 25° C)	25, 60, 80 A 5, 15, 18 A	120 A 21 A	25, 60, 80 A 5, 15, 18 A	100 A 20 A
Load voltage range	40 - 440 VAC			40 - 530 VAC
Frequency range	50 - 60 Hz			47 - 63 Hz
Max. non-repetitive peak voltage	930 Vp			1,000 Vp
Max. non-repetitive peak current (t=10ms)	350 Ap / 25 A 630 Ap / 60 A 910 Ap / 80 A	1,400 Ap	350 Ap / 25 A 630 Ap / 60 A 910 Ap / 80 A	1,100 Ap
Maximum off state leakage current	10 mA			1 mA
Maximum on state voltage	1.6 VAC			1.5 VAC
Minimum off state dv / dt	300 V / μseg			
Minimum load current	0.1 Arms			
I²t (10 ms) (orientative data)	625 A²s (25 A) 2,025 A²s (60 A) 4,225 A²s (80 A) 6,050 A²s (100 A) 9,800 A²s (120 A)			

HOUSING SPECIFICATIONS	VDC input	VAC input
Dimensions (L x W x H mm)	105 x 75 x 32	120 x 85 x 50
Weight	500 g maximum	
Baseplate	Aluminum, nickel-plated	
Control terminal (M3x6) torque	1.2 Nm	
Power terminal (M5x9) torque	2.4 Nm	

Dimensions



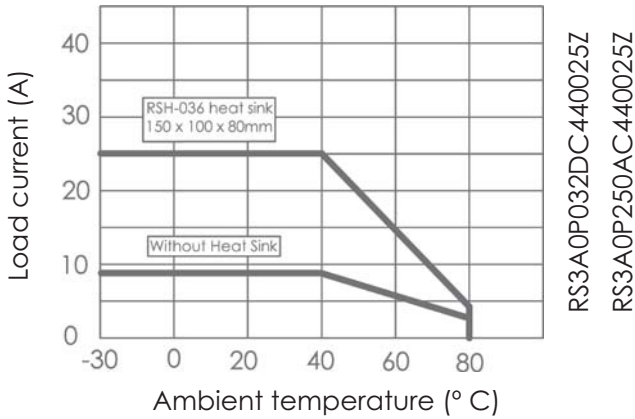
Circuit diagrams





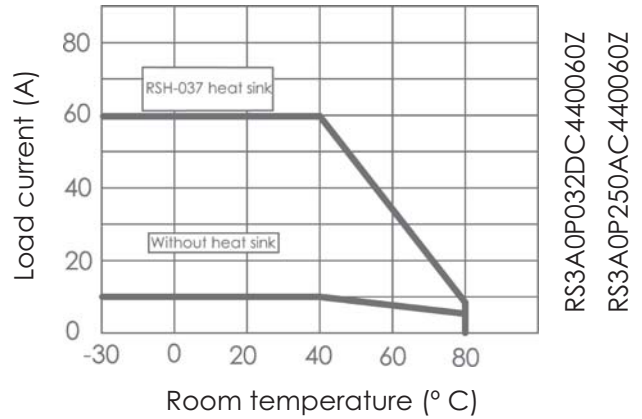
Load current vs. ambient temperature

Three phase relay - 25 A



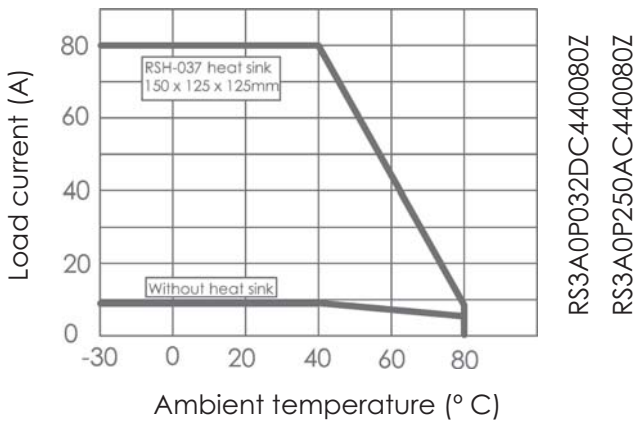
RS3A0P032DC440025Z
RS3A0P250AC440025Z

Three phase relay - 60 A



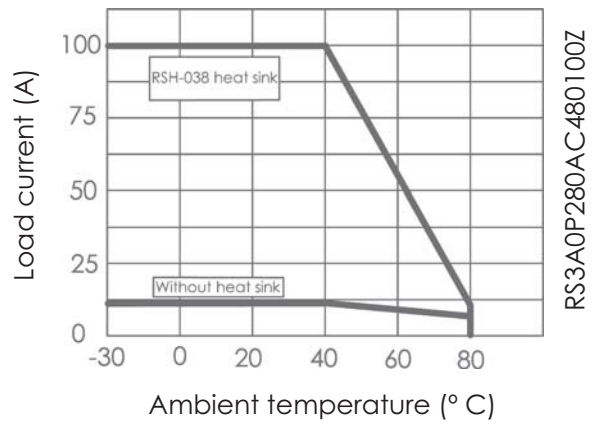
RS3A0P032DC440060Z
RS3A0P250AC440060Z

Three phase relay - 80 A



RS3A0P032DC440080Z
RS3A0P250AC440080Z

Three phase relay - 100 A



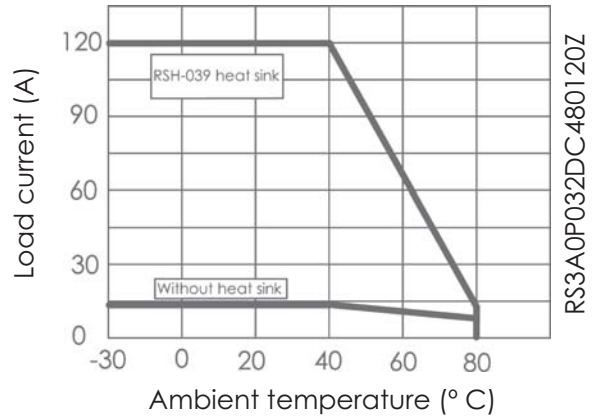
RS3A0P280AC480100Z

Heat sinks

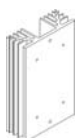
Over 10 A load a heat sink must be used. The use of a heat sink will make the lifetime of the relay up to four times longer, even when using it with load currents lower than 10 A.

Ref.	Output current	Dimensions	Relays to be used with
RSH-035	≤ 20 A	150 x 90 x 35	RS3A0P032DC440025Z RS3A0P250AC440025Z
RSH-036	≤ 40 A	150 x 100 x 80	RS3A0P032DC440025Z RS3A0P250AC440025Z
RSH-037	≤ 80 A	260 x 180 x 50	RS3A0P032DC440060Z RS3A0P250AC440060Z
RSH-038	≤ 100 A	150 x 125 x 135	RS3A0P032DC440080Z RS3A0P250AC440080Z RS3A0P250AC530100Z
RSH-039	≤ 200 A	200 x 125 x 135	RS3A0P032DC440120Z

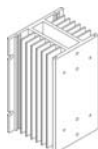
Three phase relay - 120 A



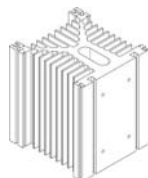
RS3A0P032DC480120Z



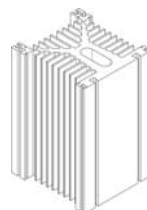
RSH-035



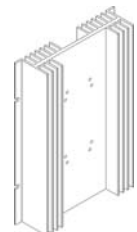
RSH-036



RSH-038



RSH-039



RSH-037



- » Motor reversing solid state relay, AC.
- » 2 input ranges: 10 - 30 VDC and 90 - 115 VAC.
- » Maximum load power: 1 KW and 5 KW.
- » Operational ratings: 24 - 530 VAC.
- » Frequency range: 47- 63 Hz.
- » Maximum non-repetitive peak voltage: 1,200 Vp.
- » LED indicator (green: forward; yellow: reverse).

Overview

This relay is used to invert the turn direction of an engine, which will depend on the input circuit. If the system is fed between the terminals F and GND, the triphase network will work in a direct way; if it is fed between R and GND, the direction of the engine will be inverted.

Input control	Output connection
GND - F	R → U S → V T → W
GND - R	R → V S → U T → W

Models and references

Control voltage	Rated operational voltage	Maximum load power	Reference
10 - 30 VDC	24 - 530 VAC	1 KW	RS1ARP030DC5301K3Z
90 - 115 VAC		5 KW	RS1ARP030DC5305K3Z
			RS1ARP115AC5305K3Z

Specifications

GENERAL SPECIFICATIONS	VDC input	VAC input
Dielectric insulation (between input and output)	2,500 VAC	
Operating temperature	-30 to 80° C	
Storage temperature	-35 to 85° C	
Rth junction to case	0.25° C/W	0.22° C/W
Ambient humidity	Up to 85 %	
CE marking	Yes	

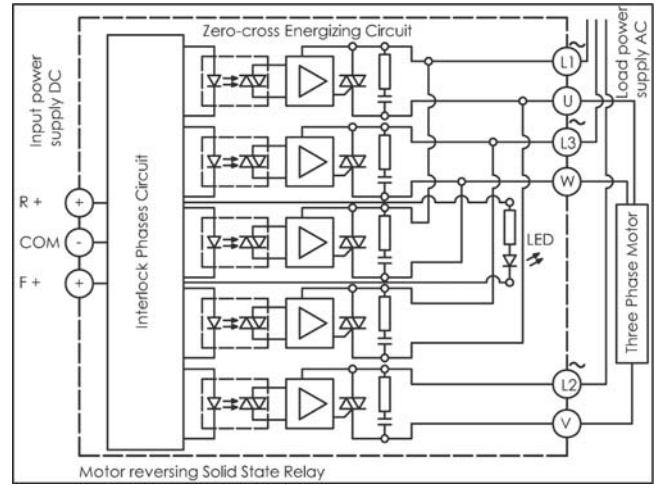
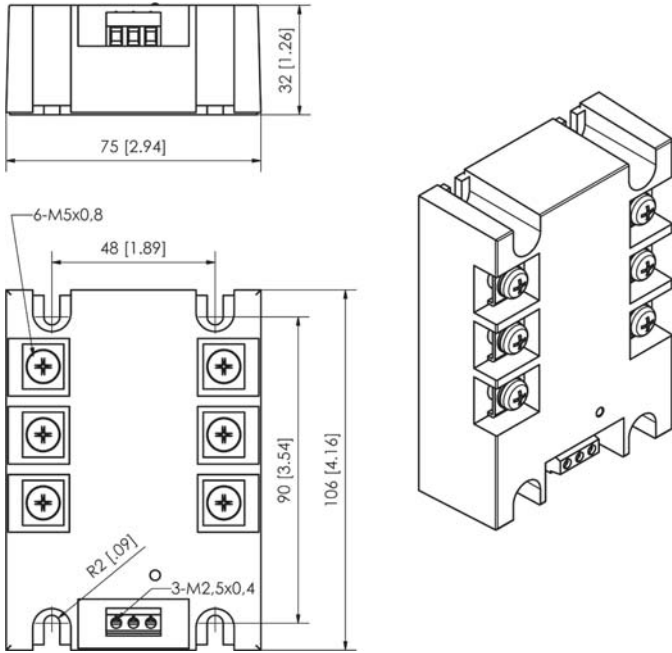
INPUT SPECIFICATIONS	VDC input	VAC input
Control voltage range	10 - 30 VDC	90 - 115 VAC
Maximum input current	30 mA	35 mA
Pick-up voltage	8 VDC	85 VAC
Drop-out voltage	4 VDC	30 VAC
Maximum reverse voltage	30 VDC	-
Max. response time pick-up	½ cycle	
Max. response time drop-out	½ cycle	

HOUSING SPECIFICATIONS	
Dimensions (L x W x H mm)	104 x 74 x 40
Weight	430 g maximum
Baseplate	Aluminum, nickel-plated
Control terminal (M3x6) torque	1.2 Nm
Power terminal (M5x9) torque	2.4 Nm

OUTPUT SPECIFICATIONS	VDC input		VAC input
Maximum load power	1 KW	5 KW	5 KW
Load voltage range	24 - 530 VAC		
Maximum load current range	25 A	60 A	
Frequency range	47 - 63 Hz		
Max. non-repetitive peak voltage	1,200 Vp		
Max. non-repetitive peak current (t = 20 ms)	350 Ap	850 Ap	
Maximum off state leakage current	8 mArms		
Minimum off state dv / dt	500 V / µseg		
Maximum on state voltage	1.6 VAC	1.8 VAC	
Minimum load current	0.1 A		
I²t (10 ms) (orientative data)	625 A²s	3,600 A²s	

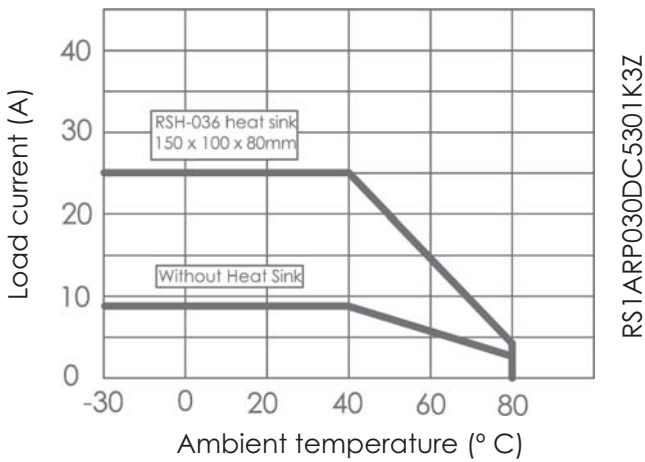
Dimensions

Circuit diagram



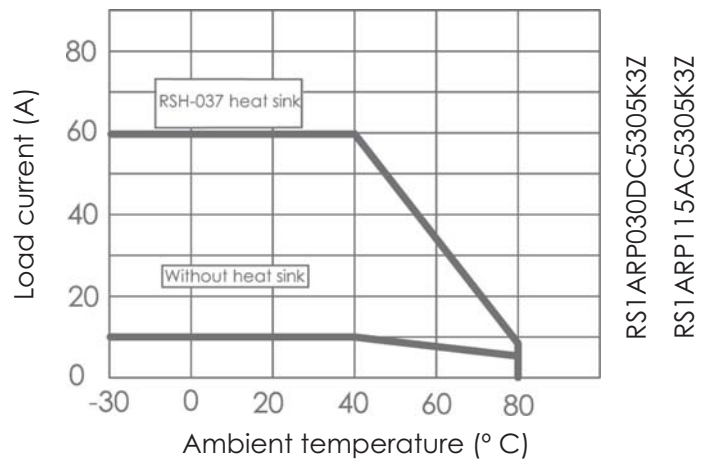
Load current vs. ambient temperature

Motor reversing relay - 1 KW



RS1ARP030DC5301K3Z

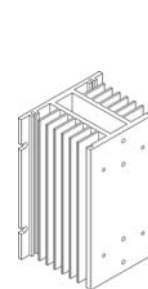
Motor reversing relay - 5 KW



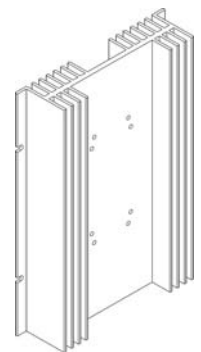
RS1ARP030DC5305K3Z
RS1ARP115AC5305K3Z

Heat sinks

Reference	Output current	Dimensions	Relays to be used with
RSH-036	≤ 40 A	150 x 100 x 80	RS1ARP030DC5301K3Z
RSH-037	≤ 80 A	260 x 180 x 50	RS1ARP030DC5305K3Z RS1ARP115AC5305K3Z



RSH-036

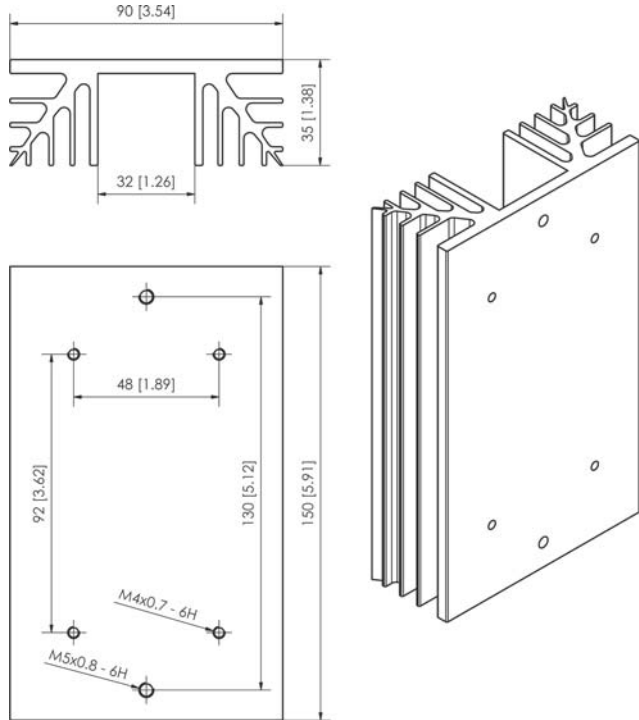
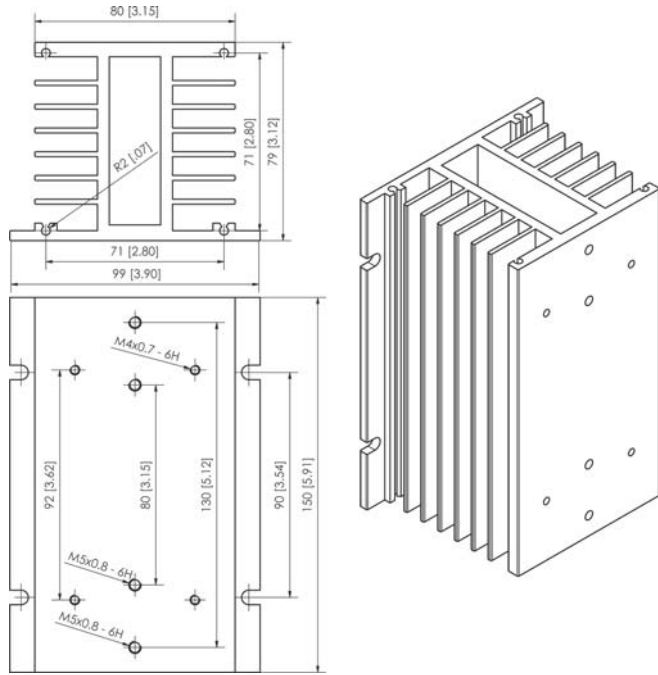



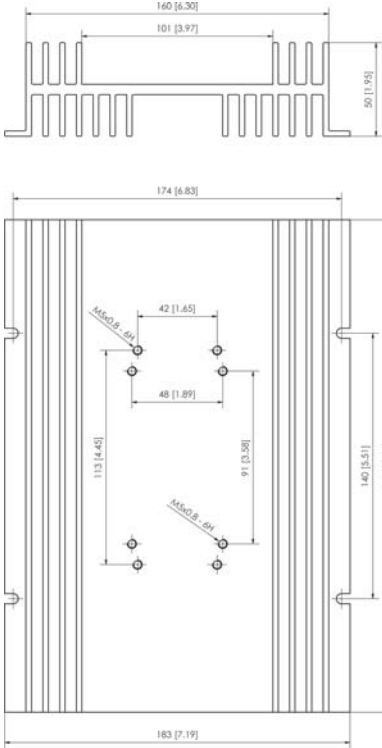
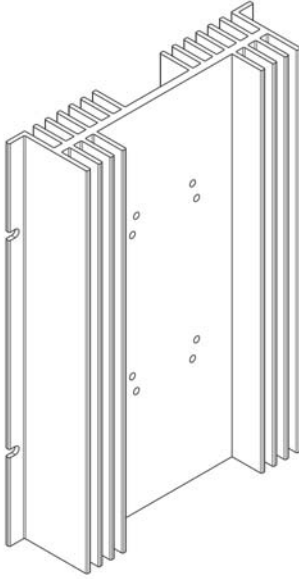

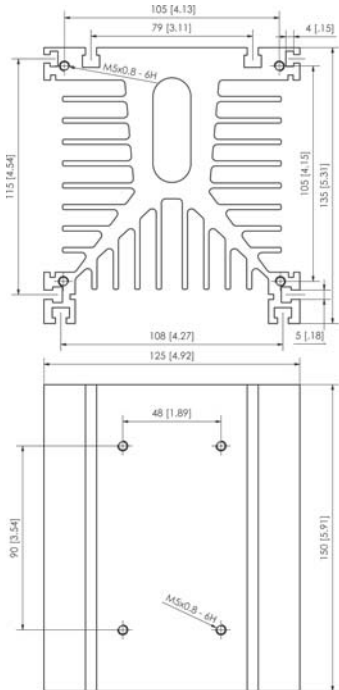
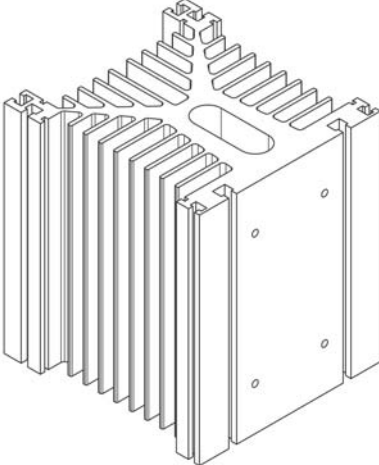
RSH-037

Overview

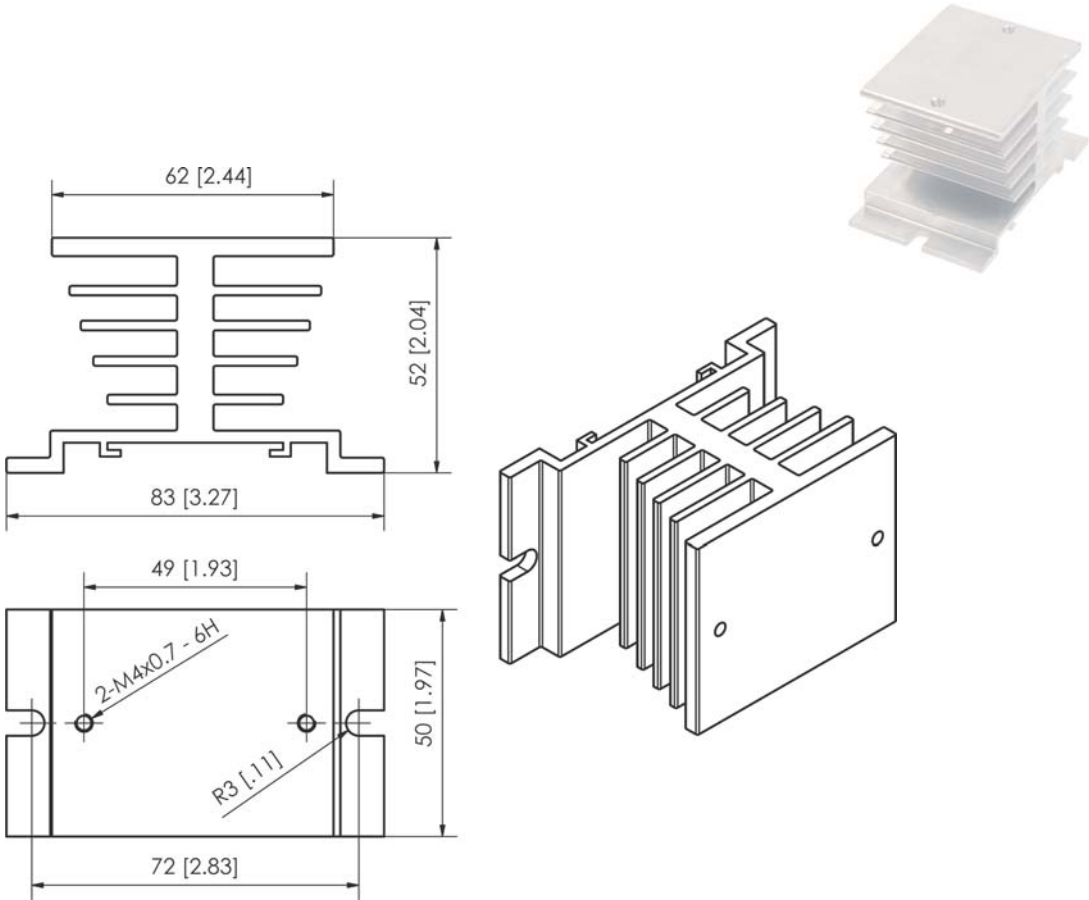
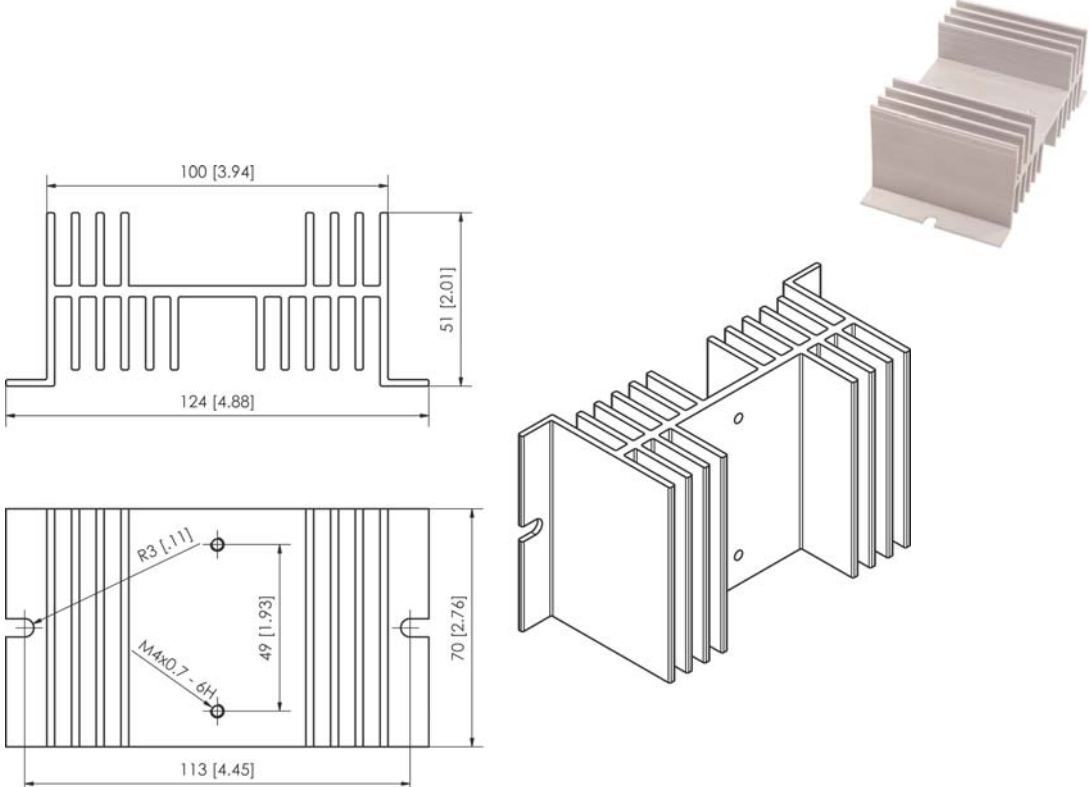
Over 10 A load a heat sink must be used. The use of a heat sink will make the lifetime of the relay up to four times longer, even when using it with load currents lower than 10 A. The following is a list of Relequick's available heat sinks, a full range that covers the requirements of all out solid state relays.


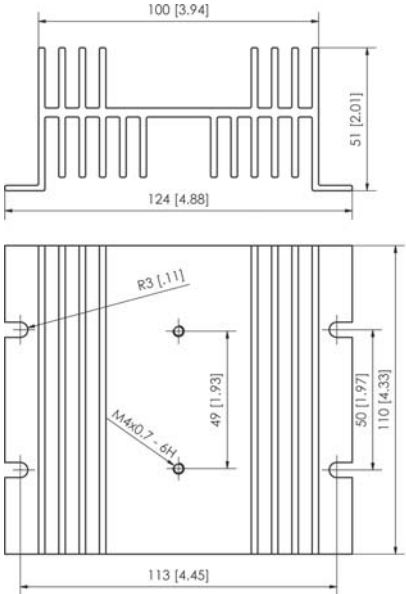
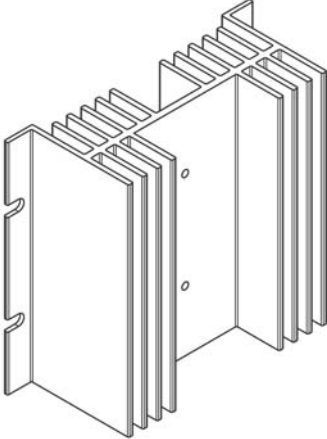
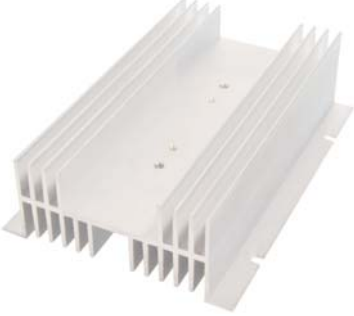
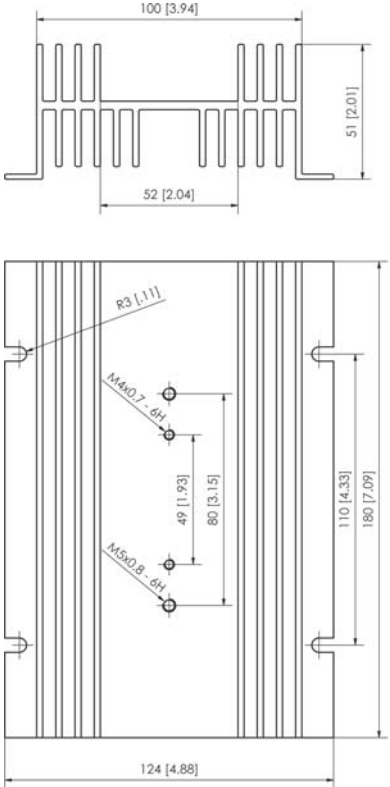
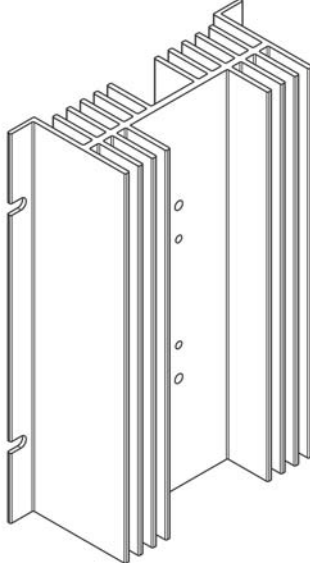
Heat sinks

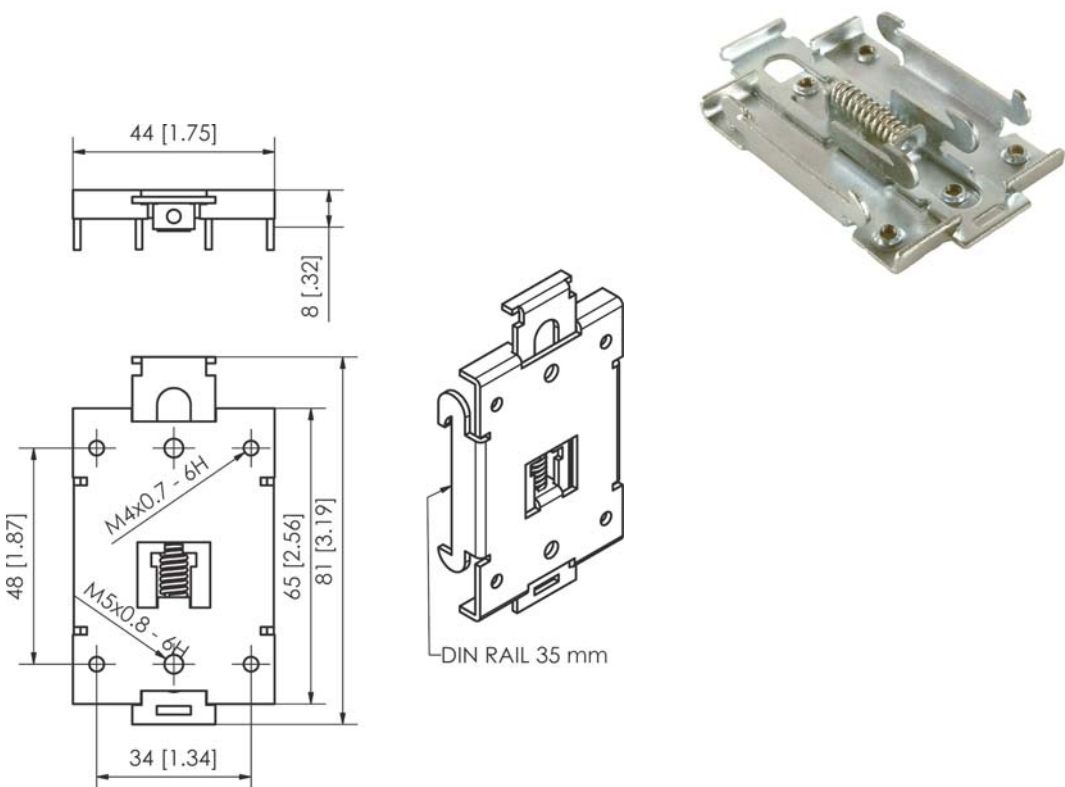
Reference	Current	Dimensions
RSH-035	≤ 20 A	
RSH-036	≤ 40 A	

Reference	Current	Dimensions
RSH-037	≤ 80 A	  
RSH-038	≤ 100 A	  

Reference	Current	Dimensions
RSH-039	≤ 200 A	
RSH-059	≤ 20 A	

Reference	Current	Dimensions
RSH-060	≤ 20 A	
RSH-061	≤ 40 A	

Reference	Current	Dimensions
RSH-062	≤ 60 A	  
RSH-063	≤ 100 A	  

Reference	Current	Dimensions
RSH-MR	<= 5 A	 <p>Technical drawings and 3D model of the RSH-MR heat sink. The top drawing shows a width of 44 [1.75] and a height of 8 [.32]. The front view shows a total height of 81 [3.19], a mounting hole offset of 48 [1.87], a central hole offset of 65 [2.56], and a width of 34 [1.34]. It specifies M4x0.7-6H and M5x0.8-6H screws. A 3D model shows the component mounted on a DIN RAIL 35 mm.</p>