

Features

5 A modular SSR, 1 NO output

- 17.5 mm housing
- 60 to 240 V AC output (with back to back SCR)
- 5 kV (1.2/50 μ s) insulation between Input and Output
- Zero-crossing and random switch-on versions available
- High switching speed
- High endurance
- Silent switching
- Spark and bounce-free switching
- Low control power
- 35 mm rail (EN 60715) mount

77.01

Screw terminal



* See L77-3 diagram page 10

** See L77-1 and L77-2 diagrams page 9

For outline drawing see page 12

Output specification

Output configuration	1 NO (SPST-NO)
Rated current I_N / Max. peak current* (10 ms) A	5 / 300 *
Rated voltage V AC (50/60 Hz)	230
Rated voltage range V AC (50/60 Hz)	60...240
Switching voltage range V AC (50/60 Hz)	48...265
Repetitive peak off-state voltage V_{pk}	800
Rated load AC7a (cos φ = 0.8) A	5
Rated load AC15 A	5
Single phase motor rating (230 V AC) kW	—
230 V lamps rating: incandescent/halogen W	1,000
compact fluorescent (CFL)/Led W	800
electronic ballast fluorescent tubes W	1,000
electromagnetic ballast compensated fluorescent tubes W	500
Minimum switching current @ 230 V mA	100
Typical "OFF-state" leakage current @ 230 V mA	1
Max "ON-state" voltage drop @ 25 °C and 5A/100mA V	0.85 / 1.5
Power loss @ 5 A W	4

Input specification

Nominal voltage (U_N)	V AC (50/60 Hz)	24	230
	V DC	12 ... 24	—
Rated power	VA (50 Hz)/W	0.6 / 0.5	3.6 / 0.3
Operating range	V AC (50/60 Hz)	16...32	90...265
	V DC	9.8...32	—
Must drop-out voltage	V AC (50/60 Hz)/DC	2.4	24

Technical data

Electrical life	cycles	10·10 ⁶
Operate / release time	ms	20 / 12
Insulation between input and output (1.2/50 μ s) kV		5
Ambient temperature	°C	-20...+70 **
Protection category		IP20

Approvals (according to type)

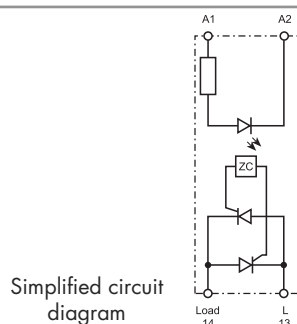
77.01.x.xxx.8050



Zero-crossing switch-on

Suggested applications:

- Lamp inrush current reduction (CFL - Compact Fluorescent energy-saving Lamps and similar)
- Heater control
- Solenoid, contactor driver



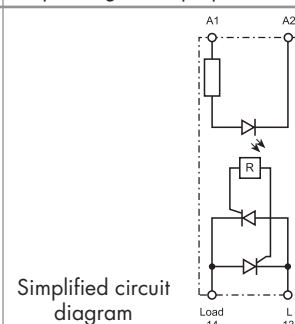
77.01.x.xxx.8051



Random switch-on

Suggested applications:

- Finer control requiring short operate time (specially motor control)
- AC Input phase different from AC Output phase
- 3-phase general purpose



D

77 Series - Modular Solid State Relay 15 A

Features

15 A modular SSR, 1 NO output

- 22.5 mm housing, heat-sink + plastic cover
- 24 to 277 V AC output (with triac)
- 6 kV (1.2/50 μ s) insulation between Input and Output
- Zero-crossing and random switch-on versions available
- High switching speed
- High endurance
- Silent switching
- Spark and bounce-free switching
- Low control power
- "Relay-style" terminal arrangement (input and output terminals on opposite sides)
- 35 mm rail (EN 60715) mount

77.11
Screw terminal

- * See L77-7 diagram page 10
- ** See L77-6 diagrams page 9

For outline drawing see page 12

Output specification

Output configuration	1 NO (SPST-NO)		1 NO (SPST-NO)	
Rated current I_N / Max. peak current* (10 ms) A	15 / 400 *		15 / 400 *	
Rated voltage V AC (50/60 Hz)	230		230	
Rated voltage range V AC (50/60 Hz)	24...277		24...277	
Switching voltage range V AC (50/60 Hz)	19...305		19...305	
Repetitive peak off-state voltage V_{pk}	800		800	
Rated load AC7a ($\cos \varphi = 0.8$, @ 25 °C) A	20		20	
Rated load AC15 A	15		15	
Single phase motor rating (230 V AC) kW	—		1.2	
230 V lamps rating: incandescent/halogen W	4,000		2,500	
compact fluorescent (CFL)/led W	3,000		1,500	
electronic ballast fluorescent tubes W	4,000		2,500	
electromagnetic ballast compensated fluorescent tubes W	2,000		1,000	
Minimum switching current @ 250 V mA	100		100	
Typical "OFF-state" leakage current @ 250 V mA	1		1	
Max "ON-state" voltage drop @ 25 °C and 15 A V	1.55		1.55	
Power loss @ 15 A W	14		14	

Input specification

Nominal voltage (U_N)	V AC (50/60 Hz)	—	230	—	230
	V DC	24	—	24	—
Rated power @ U_{MAX}	VA (50 Hz)/W	0.4	7.5 / 0.9	0.4	7.5 / 0.9
Operating range	V AC (50/60 Hz)	—	40...305	—	40...305
	V DC	4...32	—	4...32	—
Must drop-out voltage	V AC (50/60 Hz)/DC	— / 2	6 / —	— / 2	6 / —

Technical data

Electrical life	cycles	10·10 ⁶		10·10 ⁶	
Operate / release time	ms	< 10 / <10	< 10 / < 30	< 1 / <10	< 2 / < 25
Insulation between input and output (1.2/50 μ s) kV		6		6	
Ambient temperature	°C	-20...+80 **		-20...+80 **	
Protection category		IP20		IP20	

Approvals (according to type)



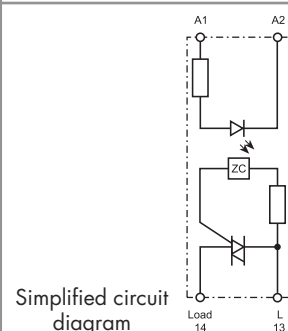
77.11.x.xxx.8250



Zero-crossing switch-on

Suggested applications:

- Lamp inrush current reduction (CFL - Compact Fluorescent energy-saving Lamps and similar)
- Heater control
- Solenoid, contactor driver



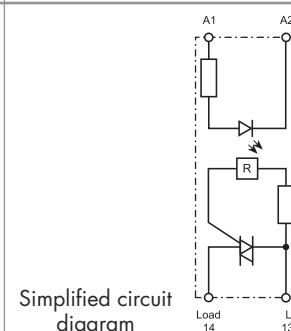
77.11.x.xxx.8251



Random switch-on

Suggested applications:

- Fine controls involving shorter time (specially motor control)



Features

30 A modular SSR, 1 NO output

- 22.5 mm housing, heat-sink + plastic cover
- 60 to 440 V AC output (with back to back SCR)
- 6 kV (1.2/50 μ s) insulation between Input and Output
- Zero-crossing and random switch-on versions available
- High switching speed
- High endurance
- Silent switching
- Spark and bounce-free switching
- Low control power
- "Relay-style" terminal arrangement (input and output terminals on opposite sides)
- 35 mm rail [EN 60715] mount

77.31
Screw terminal



* See L77-5 diagram page 10
** See L77-4 diagrams page 9

For outline drawing see page 12

Output specification

Output configuration	1 NO (SPST-NO)		1 NO (SPST-NO)	
Rated current I_N / Max. peak current* (10 ms) A	30 / 520 *		30 / 520 *	
Rated voltage V AC (50/60 Hz)	400		400	
Rated voltage range V AC (50/60 Hz)	60...440		60...440	
Switching voltage range V AC (50/60 Hz)	48...480		48...480	
Repetitive peak off-state voltage V_{pk}	1,100		1,100	
Rated load AC7a ($\cos \varphi = 0.8$) A	30		30	
Rated load AC15 A	20		20	
Single phase motor rating (230 V AC) kW	—		2.5	
230 V lamps rating: incandescent/halogen W	6,000		4,500	
compact fluorescent (CFL)/Led W	4,000		2,500	
electronic ballast fluorescent tubes W	6,000		4,000	
electromagnetic ballast compensated fluorescent tubes W	3,000		1,800	
Minimum switching current @ 400 V mA	300		300	
Typical "OFF-state" leakage current @ 400 V mA	1		1	
Max "ON-state" voltage drop @ 25 °C and 30 A V	0.85		0.85	
Power loss @ 30 A W	16		16	

Input specification

Nominal voltage (U_N)	V AC (50/60 Hz)	—	230	—	230
	V DC	24	—	24	—
Rated power @ U_{MAX}	VA (50 Hz)/W	0.4	7.5 / 0.9	0.4	7.5 / 0.9
Operating range	V AC (50/60 Hz)	—	40...280	—	40...280
	V DC	4...32	—	4...32	—
Must drop-out voltage	V AC (50/60 Hz)/DC	— / 2	6 / —	— / 2	6 / —

Technical data

Electrical life	cycles	10·10 ⁶		10·10 ⁶	
Operate / release time	ms	< 10 / <10	< 10 / < 30	< 1 / <10	< 2 / < 25
Insulation between input and output (1.2/50 μ s) kV		6		6	
Ambient temperature	°C	-20...+80 **		-20...+80 **	
Protection category		IP20		IP20	

Approvals (according to type)

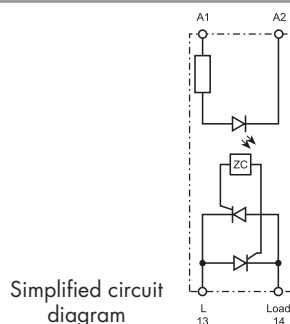
77.31.x.xxx.8050



Zero-crossing switch-on

Suggested applications:

- Lamp inrush current reduction (CFL - Compact Fluorescent energy-saving Lamps and similar)
- Heater control
- Solenoid, contactor driver



Simplified circuit diagram

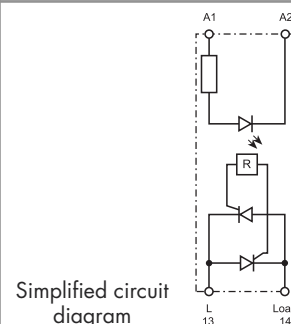
77.31.x.xxx.8051



Random switch-on

Suggested applications:

- Fine controls involving shorter time (specially motor control)



Simplified circuit diagram

Features

30 A modular SSR, 1 NO output

- 22.5 mm housing, heat-sink + plastic cover
- 60 to 440 V AC output (with back to back SCR)
- 6 kV (1.2/50 μ s) insulation between Input and Output
- Zero-crossing and random switch-on versions available
- High switching speed
- High endurance
- Silent switching
- Spark and bounce-free switching
- Low control power
- "Contactor-style" terminal arrangement (input and output terminals on adjacent sides)
- 35 mm rail (EN 60715) mount

77.31
Screw terminal

* See L77-5 diagram page 10
** See L77-4 diagrams page 9

For outline drawing see page 12

Output specification

Output configuration	1 NO (SPST-NO)		1 NO (SPST-NO)	
Rated current I_N / Max. peak current* (10 ms) A	30 / 520 *		30 / 520 *	
Rated voltage V AC (50/60 Hz)	400		400	
Rated voltage range V AC (50/60 Hz)	60...440		60...440	
Switching voltage range V AC (50/60 Hz)	48...480		48...480	
Repetitive peak off-state voltage V_{pk}	1,100		1,100	
Rated load AC7a ($\cos \varphi = 0.8$) A	30		30	
Rated load AC15 A	20		20	
Single phase motor rating (230 V AC) kW	—		2.5	
230 V lamps rating: incandescent/halogen W	6,000		4,500	
compact fluorescent (CFL)/Led W	4,000		2,500	
electronic ballast fluorescent tubes W	6,000		4,000	
electromagnetic ballast compensated fluorescent tubes W	3,000		1,800	
Minimum switching current @ 400 V mA	300		300	
Typical "OFF-state" leakage current @ 400 V mA	1		1	
Max "ON-state" voltage drop @ 25 °C and 30 A V	0.85		0.85	
Power loss @ 30 A W	16		16	

Input specification

Nominal voltage (U_N)	V AC (50/60 Hz)	—	230	—	230
	V DC	24	—	24	—
Rated power @ U_{MAX}	VA (50 Hz)/W	0.4	7.5 / 0.9	0.4	7.5 / 0.9
Operating range	V AC (50/60 Hz)	—	40...280	—	40...280
	V DC	4...32	—	4...32	—
Must drop-out voltage	V AC (50/60 Hz)/DC	— / 2	6 / —	— / 2	6 / —

Technical data

Electrical life	cycles	10·10 ⁶		10·10 ⁶	
Operate / release time	ms	< 10 / < 10	< 10 / < 30	< 1 / < 10	< 2 / < 25
Insulation between input and output (1.2/50 μ s) kV		6		6	
Ambient temperature	°C	-20...+80 **		-20...+80 **	
Protection category		IP20		IP20	

Approvals (according to type)



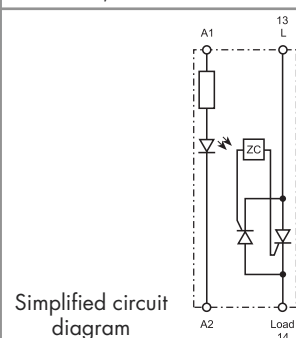
77.31.x.xxx.8070



Zero-crossing switch-on

Suggested applications:

- Lamp inrush current reduction (CFL - Compact Fluorescent energy-saving Lamps and similar)
- Heater control
- Solenoid, contactor driver



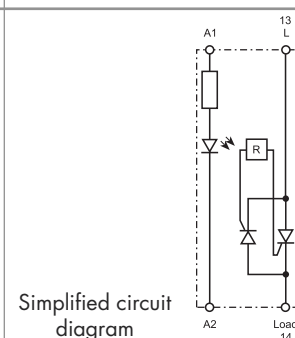
77.31.x.xxx.8071



Random switch-on

Suggested applications:

- Fine controls involving shorter time (specially motor control)



Features

25, 40 and 50 A panel SSR, "hockey puck" style

- "hockey puck" housing with cover
- 24 to 240 V AC output
- Zero-crossing version
- High switching speed
- High endurance
- Silent switching
- Spark and bounce-free switching
- Low control power
- "Relay-style" terminal arrangement (input and output terminals on opposite sides)
- Mounting to heatsink with screws

77.x5

Screw terminal (plate clamp)



* See L77-11 diagrams page 10

** See L77-8, L77-9 and L77-10 diagrams page 9

For outline drawing see page 12

Output specification

Output configuration	1 NO (SPST-NO)		1 NO (SPST-NO)		1 NO (SPST-NO)	
Rated current I_N / Max. peak current* (10 ms) A	25/300 *		40/500 *		50/520 *	
Rated voltage V AC (50/60 Hz)	230		230		230	
Rated voltage range V AC (50/60 Hz)	24...240		24...240		24...240	
Switching voltage range V AC (50/60 Hz)	21.6...280		21.6...280		21.6...280	
Repetitive peak off-state voltage V_{pk}	600		600		600	
Minimum switching current @ 250 V mA	120		250		250	
Typical "OFF-state" leakage current @ 250 V mA	10		10		10	
Max "ON-state" voltage drop @ 25 °C and I_N V	1.6		1.6		1.6	
Power loss @ I_N W	40		64		80	

Input specification

Nominal voltage (U_N)	V AC (50/60 Hz)	—	230	—	230	—	230
	V DC	24	—	24	—	24	—
Rated power @ U_{MAX}	VA (50 Hz)/W	— / 0.6	4.8 / —	— / 0.6	4.8 / —	— / 0.6	4.8 / —
Operating range	V AC (50/60 Hz)	—	90...280	—	90...280	—	90...280
	V DC	3...32	—	3...32	—	3...32	—
Must drop-out voltage	V AC (50/60 Hz)/DC	— / 1	10 / —	— / 1	10 / —	— / 1	10 / —

Technical data

Electrical life	cycles	10·10 ⁶		10·10 ⁶		10·10 ⁶	
Operate / release time	ms	10 / 10	40 / 80	10 / 10	40 / 80	10 / 10	40 / 80
Insulation between input and output (1.2/50μs)	kV	5.6		5.6		5.6	
Ambient temperature	°C	-30...+80 **		-30...+80 **		-30...+80 **	
Protection category		IP20		IP20		IP20	

Approvals (according to type)

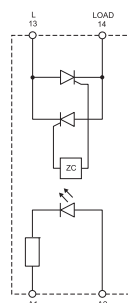


NEW 77.25.x.xxx.8250



Zero-crossing switch-on

- Output: 25 A / 230 V AC
- Suggested applications: heater control



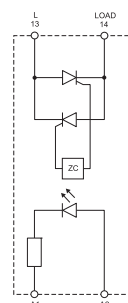
Simplified circuit diagram

NEW 77.45.x.xxx.8250



Zero-crossing switch-on

- Output: 40 A / 230 V AC
- Suggested applications: heater control



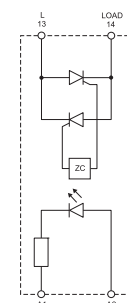
Simplified circuit diagram

NEW 77.55.x.xxx.8250



Zero-crossing switch-on

- Output: 50 A / 230 V AC
- Suggested applications: heater control



Simplified circuit diagram

Features

25, 40 and 50 A panel SSR, "hockey puck" style

- "hockey puck" housing with cover
- 48 to 600 V AC output
- Zero-crossing version
- High switching speed
- High endurance
- Silent switching
- Spark and bounce-free switching
- Low control power
- "Relay-style" terminal arrangement (input and output terminals on opposite sides)
- Mounting on heatsink with screws

77.x5

Screw terminal (plate clamp)

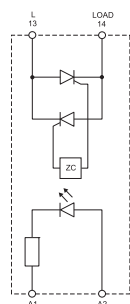


NEW 77.25.x.xxx.8650



Zero-crossing switch-on

- Output: 25 A / 600 V AC
- Suggested applications: heater control



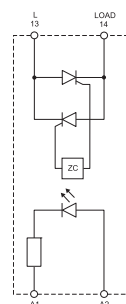
Simplified circuit diagram

NEW 77.45.x.xxx.8650



Zero-crossing switch-on

- Output: 40 A / 600 V AC
- Suggested applications: heater control



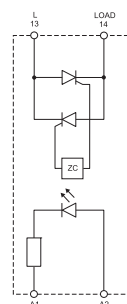
Simplified circuit diagram

NEW 77.55.x.xxx.8650



Zero-crossing switch-on

- Output: 50 A / 600 V AC
- Suggested applications: heater control



Simplified circuit diagram

* See L77-11 diagrams page 10

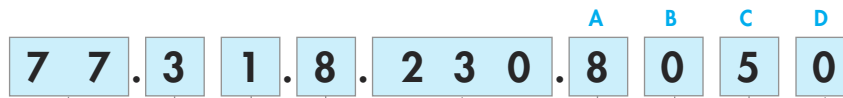
** See L77-8, L77-9 and L77-10 diagrams page 9

For outline drawing see page 12

Output specification							
Output configuration		1 NO (SPST-NO)		1 NO (SPST-NO)		1 NO (SPST-NO)	
Rated current I _N / Max. peak current* (10 ms) A		25/300 *		40/500 *		50/520 *	
Rated voltage V AC (50/60 Hz)		600		600		600	
Rated voltage range V AC (50/60 Hz)		48...600		48...600		48...600	
Switching voltage range V AC (50/60 Hz)		43.2...660		43.2...660		43.2...660	
Repetitive peak off-state voltage V _{pk}		1,200		1,200		1,200	
Minimum switching current @ 250 V mA		120		250		250	
Typical “OFF-state” leakage current @ 250 V mA		10		10		10	
Max “ON-state” voltage drop @ 25 °C and I _N V		1.6		1.6		1.6	
Power loss @ I _N W		40		64		80	
Input specification							
Nominal voltage (U _N)	V AC (50/60 Hz)	—	230	—	230	—	230
	V DC	24	—	24	—	24	—
Rated power @ U _{MAX}	VA (50 Hz)/W	— / 0.6	2.4 / —	— / 0.6	2.4 / —	— / 0.6	2.4 / —
Operating range	V AC (50/60 Hz)	—	90...280	—	90...280	—	90...280
	V DC	4...32	—	4...32	—	4...32	—
Must drop-out voltage	V AC (50/60 Hz)/DC	— / 1	10 / —	— / 1	10 / —	— / 1	10 / —
Technical data							
Electrical life	cycles	10·10 ⁶		10·10 ⁶		10·10 ⁶	
Operate / release time	ms	10 / 10	40 / 80	10 / 10	40 / 80	10 / 10	40 / 80
Insulation between input and output (1.2/50μs) kV		5.6		5.6		5.6	
Ambient temperature °C		–30...+80 **		–30...+80 **		–30...+80 **	
Protection category		IP20		IP20		IP20	
Approvals (according to type)		  					

Ordering information

Example: 77 series modular SSR, 1 output 30 A AC, input voltage 230 V AC, relay style terminals arrangement, zero-crossing switch-on.



Series

Type/rated current

0 = 5 A output (77.01)
1 = 15 A output (77.11)
2 = 25 A output (77.25)
3 = 30 A output (77.31)
4 = 40 A output (77.45)
5 = 50 A output (77.55)

No. of poles/mounting

1 = 1 pole, modular housing (plastic or heat sink/plastic), DIN rail mounting
5 = 1 pole, heat-sink or directly panel mounting ("hockey puck")

Input version

0 = DC/AC (50/60 Hz)
8 = AC (50/60 Hz)
9 = DC

Supply voltage

See "input specification"

Codes / Module width

77.01.8.230.8050 / 17.5 mm 5 A	77.11.8.230.8250 / 22.5 mm 15 A	77.31.8.230.8050 / 22.5 mm 30 A	77.25.8.230.8250 / hockey puck 25 A
77.01.0.024.8050 / 17.5 mm 5 A	77.11.9.024.8250 / 22.5 mm 15 A	77.31.9.024.8050 / 22.5 mm 30 A	77.25.9.024.8250 / hockey puck 25 A
77.01.8.230.8051 / 17.5 mm 5 A	77.11.8.230.8251 / 22.5 mm 15 A	77.31.8.230.8051 / 22.5 mm 30 A	77.25.8.230.8650 / hockey puck 25 A
77.01.0.024.8051 / 17.5 mm 5 A	77.11.9.024.8251 / 22.5 mm 15 A	77.31.9.024.8051 / 22.5 mm 30 A	77.25.9.024.8650 / hockey puck 25 A
		77.31.8.230.8070 / 22.5 mm 30 A	77.45.8.230.8250 / hockey puck 40 A
		77.31.9.024.8070 / 22.5 mm 30 A	77.45.9.024.8250 / hockey puck 40 A
		77.31.8.230.8071 / 22.5 mm 30 A	77.45.8.230.8650 / hockey puck 40 A
		77.31.9.024.8071 / 22.5 mm 30 A	77.45.9.024.8650 / hockey puck 40 A
			77.55.8.230.8250 / hockey puck 50 A
			77.55.9.024.8250 / hockey puck 50 A
			77.55.8.230.8650 / hockey puck 50 A
			77.55.9.024.8650 / hockey puck 50 A

D: Switch-on mode

0 = Zero-crossing
1 = Random

C: Terminals arrangement

5 = "Relay style" (input and output on opposite sides)
7 = "Contactor style" (input and output on adjacent sides)

AB: Output circuit (rated voltage range)

80 = 60...240 V AC (77.01),
60...440 V AC (77.31)
82 = 24...277 V AC (77.11),
24...240 V AC (77.x5)
86 = 48...600 V AC (77.x5)

Technical data

Insulation		77.01		77.11		77.31		77.25/45/55	
		Dielectric strength	Impulse (1.2/50 µs)	Dielectric strength	Impulse (1.2/50 µs)	Dielectric strength	Impulse (1.2/50 µs)	Dielectric strength	Impulse (1.2/50 µs)
Between input and output		2,500 V AC	5 kV	3,000 V AC	6 kV	3,000 V AC	6 kV	4,000 V AC	5.6 kV
Between input and ground (heat-sink)		—	—	3,000 V AC	6 kV	3,000 V AC	6 kV	4,000 V AC	5.6 kV
Between output and ground (heat-sink)		—	—	2,500 V AC	4 kV	4,000 V AC	6 kV	4,000 V AC	5.6 kV
EMC specifications		77.01		77.11		77.31		77.25/45/55	
		Reference standard	24 V AC/DC	230 V AC	24 V DC	230 V AC	24 V DC	230 V AC	24 V DC - 230 V AC
Electrostatic discharge	contact discharge	EN 61000-4-2	4 kV	4 kV	4 kV	4 kV	4 kV	4 kV	4 kV
	air discharge	EN 61000-4-2	8 kV	8 kV	8 kV	8 kV	8 kV	8 kV	8 kV
Radiated electromagnetic field (80 ... 1,000 MHz)		EN 61000-4-3	30 V/m	20 V/m	30 V/m	30 V/m	30 V/m	30 V/m	—
Fast transients on supply terminals (burst 5/50 ns, 5 and 100 kHz)		EN 61000-4-4	1 kV	4 kV	1 kV	3 kV	1 kV	3 kV	2 kV
Voltage pulses on supply terminals (surge 1.2/50 µs)	common mode	EN 61000-4-5	2 kV	4 kV	3 kV	3 kV	3 kV	3 kV	2 kV
	differential mode	EN 61000-4-5	1 kV	4 kV	0.5 kV	1.5 kV	0.5 kV	1.5 kV	1 kV
Radio-frequency common mode voltage (0.15...230 MHz) on supply terminals		EN 61000-4-6	—	10 V	10 V	10 V	10 V	—	—
Terminals		77.01		77.11		77.31		77.25/45/55	
								Input	Output
Screw torque		Nm		0.8		0.8		0.5	1.2
Max. wire size									
		solid cable	stranded cable	solid cable	stranded cable	solid cable	stranded cable	solid and stranded cable	
		mm ²	1x6/2x4	1x4/2x2.5	1x6/2x4	1x6 / 2x4	1x6 / 2x4	1 (with ferrule)	4 (with ferrule)
								10 (with fork tip)	
		AWG	1x10/2x12	1x12/2x14	1x10/2x12	1x10/2x12	1x10/2x12	18 (with ferrule)	12 (with ferrule)
								8 (with fork tip)	
Wire strip length		mm		9		9		10	10
Other data									
Power lost to the environment	without output current	W	0.5	0.9	0.9	0.9	0.9	0.6	
	with rated current	W	4.0	14	16	16	16	40/64/80	

Input specification

77.01

Nominal voltage	Input code	Operating range				Must drop-out voltage (AC/DC)	Input current
		AC		DC			
		U _{min}	U _{max}	U _{min}	U _{max}		
U _N		U _{min}	U _{max}	U _{min}	U _{max}		I _N at U _N
V		V	V	V	V	V	mA
24	0.024	16	32	9.8	32	2.4	25
230	8.230	90	265	—	—	24	15

Led indication

LED	Supply voltage
	OFF
	ON

77.11

Nominal voltage	Input code	Operating range				Must drop-out voltage (AC/DC)	Input current
		AC		DC			
		U _{min}	U _{max}	U _{min}	U _{max}		
U _N		U _{min}	U _{max}	U _{min}	U _{max}		I _N at U _N
V		V	V	V	V	V	mA
24	9.024	—	—	4	32	2	11
230	8.230	40	305	—	—	6	25

77.31

Nominal voltage	Input code	Operating range				Must drop-out voltage (AC/DC)	Input current I_N at U_N
		AC		DC			
		U_{min}	U_{max}	U_{min}	U_{max}		
U_N		U_{min}	U_{max}	U_{min}	U_{max}		
V		V	V	V	V	V	mA
24	9.024	—	—	4	32	2	11
230	8.230	40	280	—	—	6	25

77.x5.x.xxx.8250

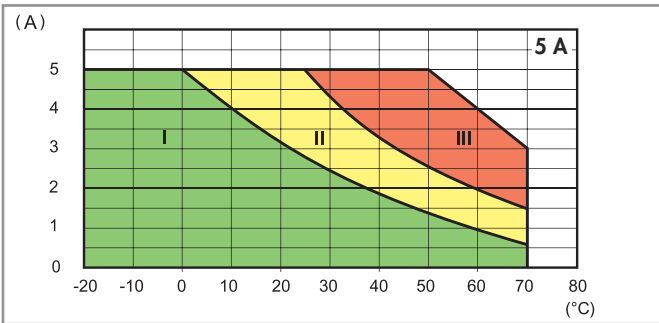
Nominal voltage	Input code	Operating range				Must drop-out voltage (AC/DC)	Input current
		AC		DC			
		U _{min}	U _{max}	U _{min}	U _{max}		
U _N		U _{min}	U _{max}	U _{min}	U _{max}		I _N at U _N
V		V	V	V	V	V	mA
24	9.024	—	—	3	32	1	22
230	8.230	90	280	—	—	10	20

77.x5.x.xxx.8650

Nominal voltage	Input code	Operating range				Must drop-out voltage (AC/DC)	Input current
		AC		DC			
		U _{min}	U _{max}	U _{min}	U _{max}		
U _N		U _{min}	U _{max}	U _{min}	U _{max}		I _N at U _N
V		V	V	V	V	V	mA
24	9.024	—	—	4	32	1	25
230	8.230	90	280	—	—	10	10

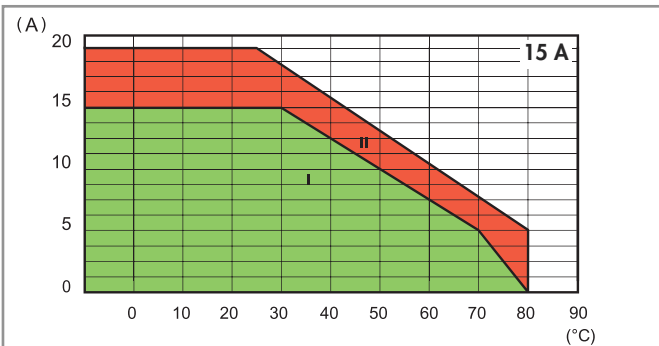
Output specification

L77-1 Output RMS current v ambient temperature
77.01.0.024.805x @ 32 V DC



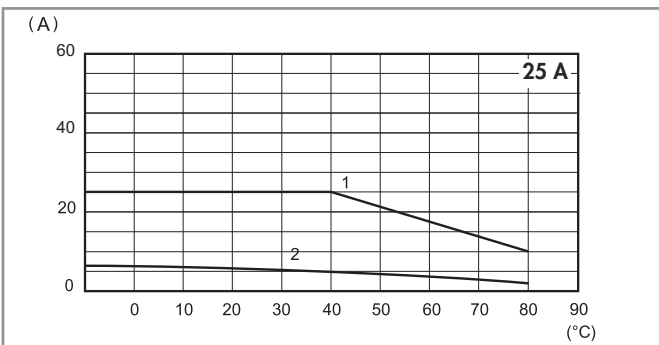
- I - Modular SSR installed as a group (without gap)
- II - Modular SSR installed as a group (9 mm gap between each SSR)
- III - Modular SSR installed individually in free air (without a significant influence from nearby components)

L77-6 Output RMS current v ambient temperature
77.11.x.xxx.82xx



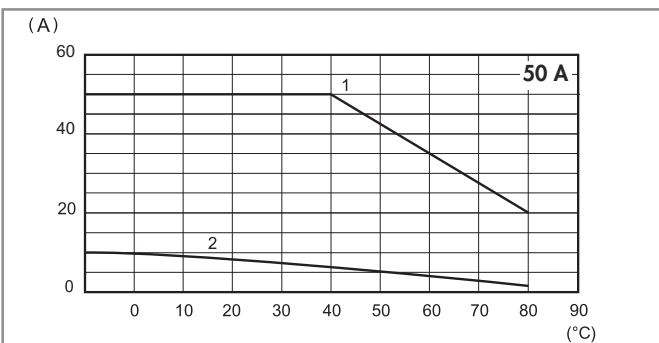
- I - Modular SSR installed as a group (without gap)
- II - Modular SSR installed individually in free air, or with a gap ≥ 20 mm, which implies a not significant influence from nearby components

L77-10 Output RMS current v ambient temperature
77.25.x.xxx.8x50

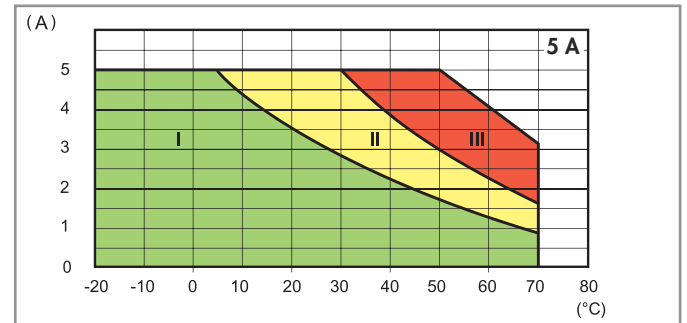


- 1 - Installation on 0.77.25 heat-sink (2 K/W)
- 2 - Installation individually in free-air

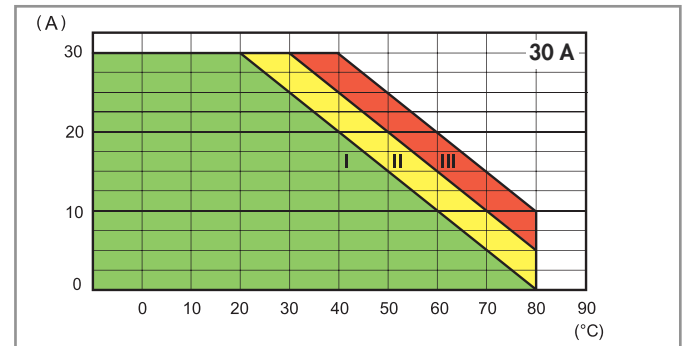
L77-8 Output RMS current v ambient temperature
77.55.x.xxx.8x50



L77-2 Output RMS current v ambient temperature
77.01.8.230.805x @ 265 V AC

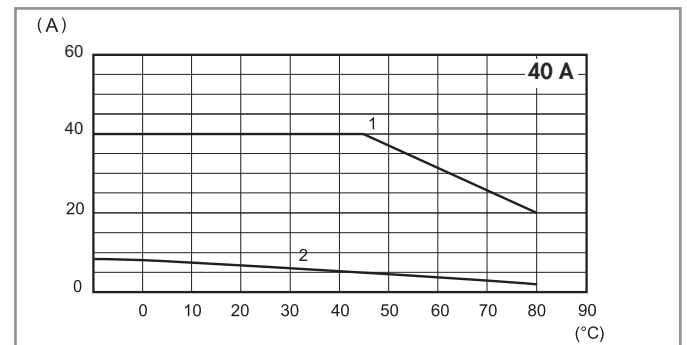


L77-4 Output RMS current v ambient temperature
77.31.x.xxx.80xx



- I - Modular SSR installed as a group (without gap)
- II - Modular SSR installed as a group (20 mm gap between each SSR)
- III - Modular SSR installed individually in free air, or with a gap ≥ 40 mm, which implies a not significant influence from nearby components

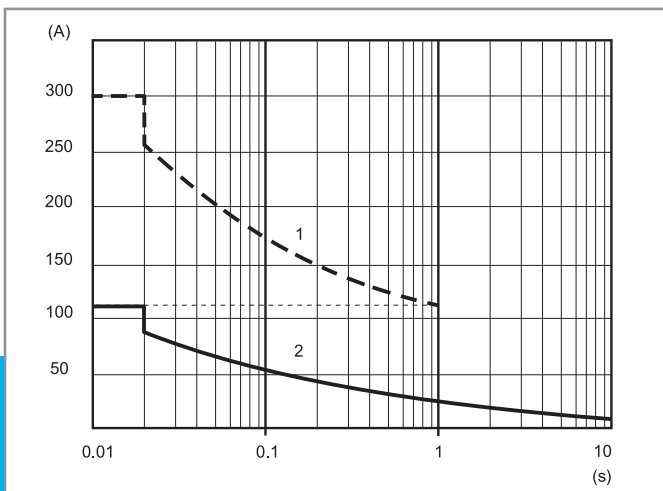
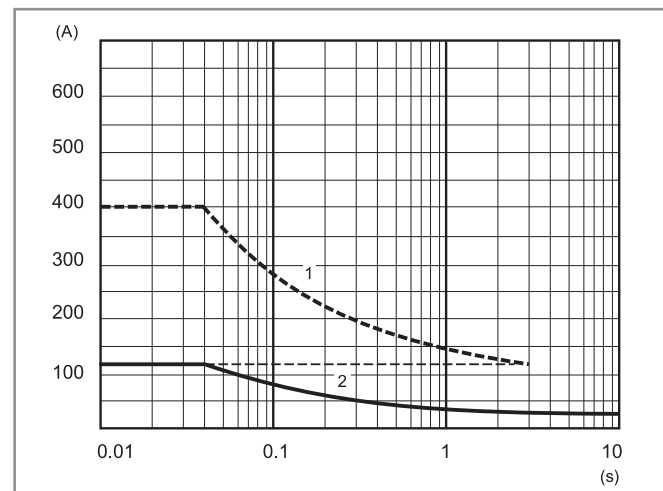
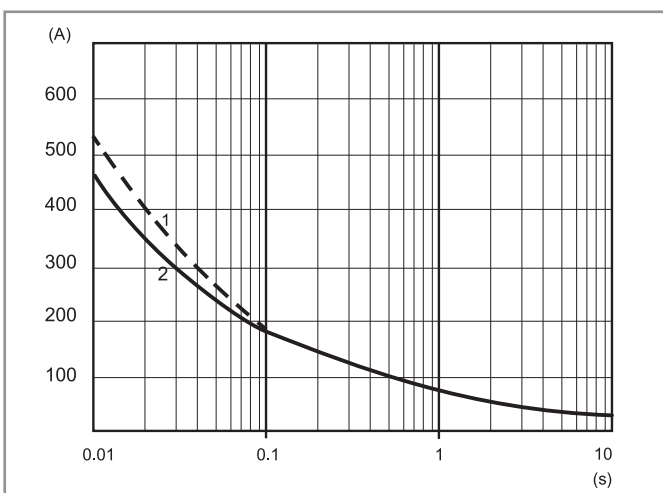
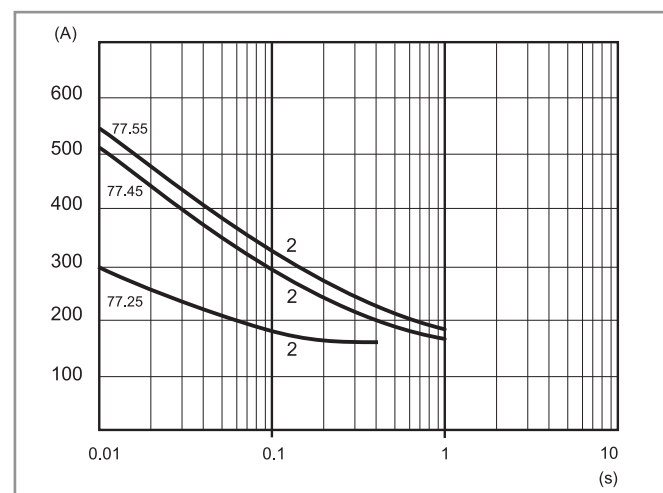
L77-9 Output RMS current v ambient temperature
77.45.x.xxx.8x50



- 1 - Installation on 0.77.55 heat-sink (0.9 K/W)
- 2 - Installation individually in free-air

- 1 - Installation on 0.77.55 heat-sink (0.9 K/W)
- 2 - Installation individually in free-air

Output specification

L77-3 Inrush peak current (AC) v inrush time
77.01.x.xxx.80xxL77-7 Inrush peak current (AC) v inrush time
77.11.x.xxx.82xxL77-5 Inrush peak current (AC) v inrush time
77.31.x.xxx.80xxL77-11 Inrush peak current (AC) v inrush time
77x5.x.xxx.8x50

- 1 - "Cold" conditions (ambient temperature = 23 °C, no output current during the last 15 minutes)
2 - "Hot" conditions (ambient temperature = 50 °C, rated output current)

Max recommended switching frequency (Cycles/Hour, with 50 % Duty-cycle)

Load	77.01	77.11	77.31	77.25	77.45	77.55
5 A 230 V (AC1)	5,000	—	—	—	—	—
1A (AC15)	10,000	—	—	—	—	—
0.5 A (AC15)	20,000	—	—	—	—	—
15 A 305 V $\cos \varphi = 0.8$	—	1,800	—	—	—	—
15 A 305 V $\cos \varphi = 0.5$	—	1,200	—	—	—	—
30 A 480 V $\cos \varphi = 0.8$	—	—	1,800	—	—	—
30 A 480 V $\cos \varphi = 0.5$	—	—	1,200	—	—	—
25 A 230 V $\cos \varphi = 0.7$	—	—	—	1,800	—	—
40 A 230 V $\cos \varphi = 0.7$	—	—	—	—	1,800	—
50 A 230 V $\cos \varphi = 0.7$	—	—	—	—	—	1,800

Other data

	77.01	77.11	77.31	77.25	77.45	77.55
Critical rising voltage dv/dt without input control (gate open) @ $T_j = 125^\circ\text{C}$	> 1,000 V/ μs	> 500 V/ μs > 10 V/ μs (with di/dt = 20 A/ms)	> 1,000 V/ μs	300 V/ μs (..8250) 500 V/ μs (..8650)	500 V/ μs (..8250) 1,000 V/ μs (..8650)	1,000 V/ μs (..8250) 1,000 V/ μs (..8650)
Critical rising current di/dt @ $T_j = 125^\circ\text{C}$	> 50 A/ μs	> 50 A/ μs	> 150 A/ μs	—	—	—
I²t for fusing @ $t_p = 10\text{ ms}$	450 A ² s	1,000 A ² s*	1,350 A ² s**	450 A ² s	1,250 A ² s	1,350 A ² s

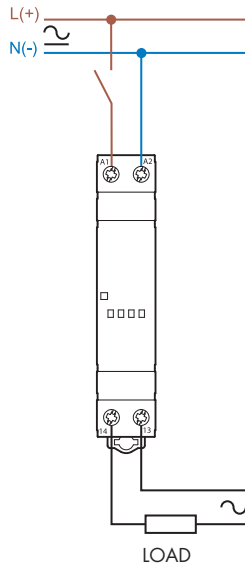
Suggested fuse (depending on application) for short-circuit protection (Ultra-Fast acting types for semiconductors):

* 20 A, 660 V AC, 10x38 mm, 200 kA, 360 A²s.

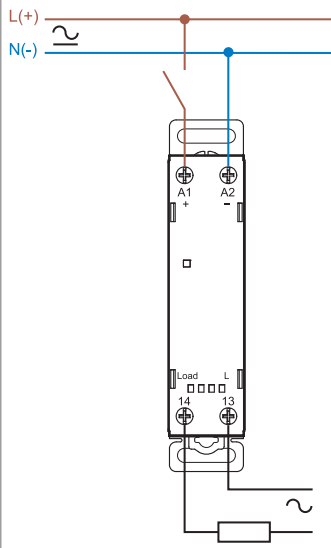
** 30 A, 660 V AC, 10x38 mm, 200 kA, 1,000 A²s.

Wiring diagrams

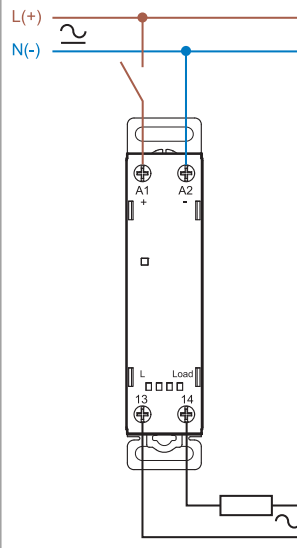
Single-phase connection (77.01)



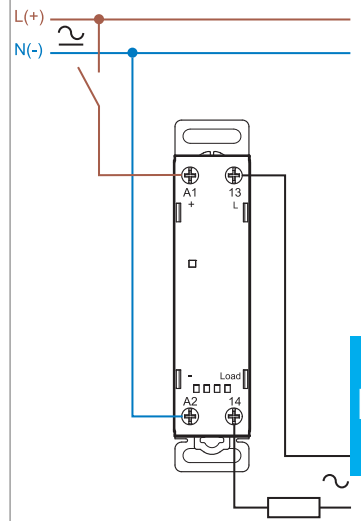
Single-phase connection (77.11)



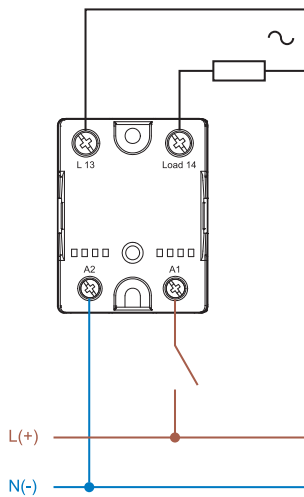
Single-phase connection (77.31.....5x)



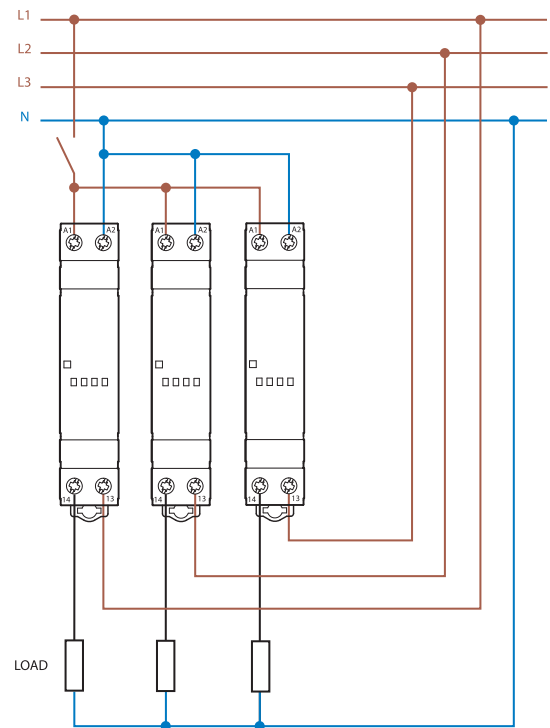
Single-phase connection (77.31.....7x)



Single-phase connection (77.x5)



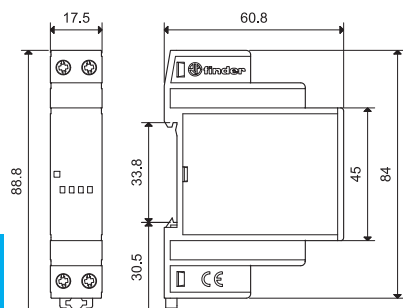
Example of three-phase connection (with 3 x 77.01.8.230.8051)



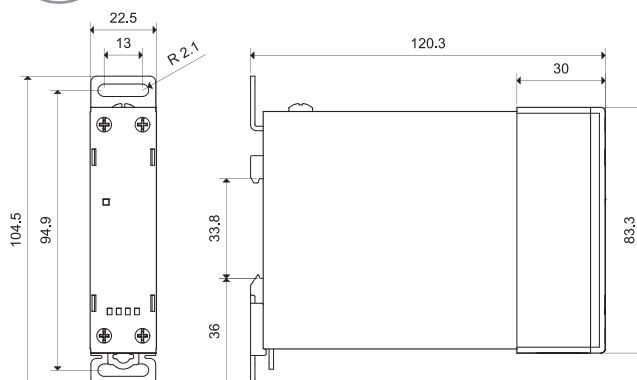
Note: this connection can be used with all 77 series types, with the exception of 77.01.8.230.8050.

Outline drawings

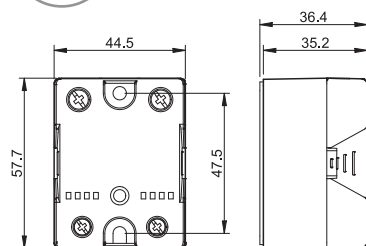
77.01
Screw terminal



77.11/31
Screw terminal



77.x5
Screw terminal (plate clamp)



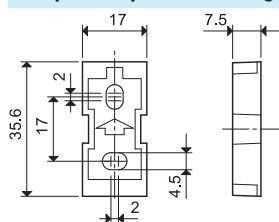
Accessories



020.01

Adaptor for panel mounting, plastic, 17.5 mm wide for 77.01 only

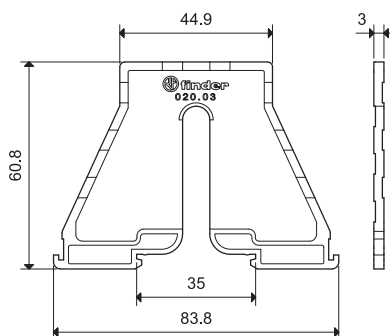
020.01



020.03

Separator for panel mounting, plastic, 3 mm wide

020.03



060.72

Sheet of marker tags, plastic, 72 tags, 6x12 mm

060.72

Accessories

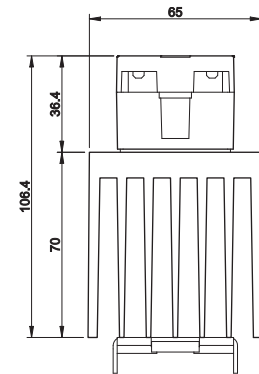
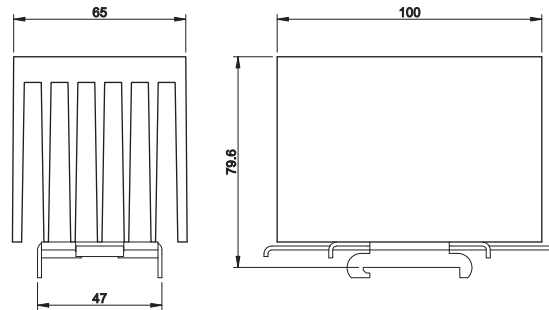


077.25

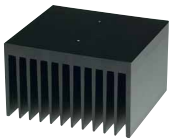
Heat-sink, anodized aluminium, 2 K/W, 65 x 100 mm, for 77.25 only

077.25

- Both the SSR and 35 mm rail clip mount to the heat-sink using M4 screws (supplied with heat-sink)
- Before assembling to the heat-sink, it is necessary to apply a thin and even layer of thermal conductive paste (not supplied) to the lower metal surface of the SSR



077.25 with 77.25

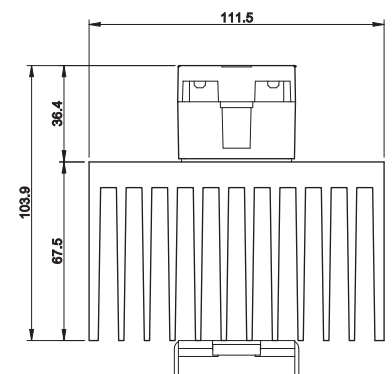
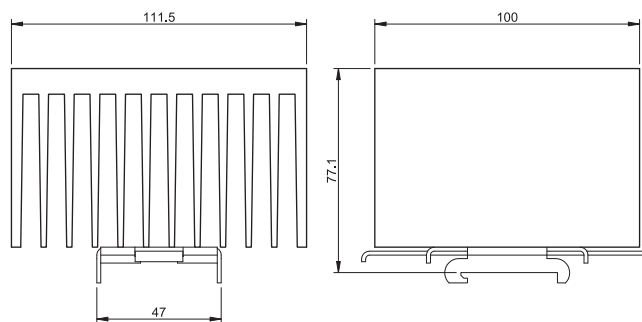


077.55

Heat-sink, anodized aluminium, 0.9 K/W, 111 x 100 mm, for 77.45 and 77.55

077.55

- Both the SSR and 35 mm rail clip mount to the heat-sink using M4 screws (supplied with heat-sink)
- Before assembling to the heat-sink, it is necessary to apply a thin and even layer of thermal conductive paste (not supplied) to the lower metal surface of the SSR



077.55 with 77.45/55

