

## 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 μs) 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 <sub>N</sub> / 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 <sub>pk</sub>	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 "ONstate" voltage drop @ 25 °C and 5A/100mA V	0.85 / 1.5
Power loss @ 5 A W	4

### Input specification

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

### Technical data

Electrical life	cycles	10·10 <sup>6</sup>	10·10 <sup>6</sup>
Operate / release time	ms	20 / 12	9 / 8
Insulation between input and output (1.2/50μs)	kV	5	5
Ambient temperature	°C	-20...+70 **	-20...+70 **
Protection category		IP20	IP20

### Approvals (according to type)

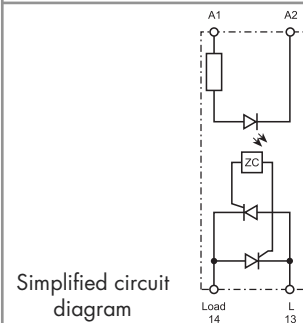
### 77.01.x.xxx.8050



#### Zero-crossing switch-on

Suggested applications:

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



Simplified circuit diagram

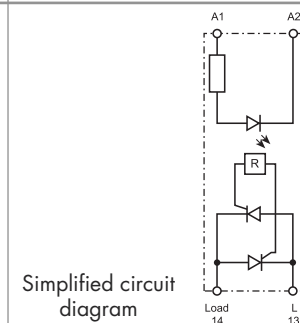
### 77.01.x.xxx.8051



#### 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



Simplified circuit diagram

## 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 μs) 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

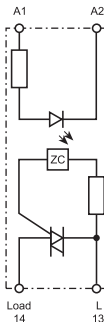
### 77.11.x.xxx.8250



#### Zero-crossing switch-on

Suggested applications:

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



Simplified circuit diagram

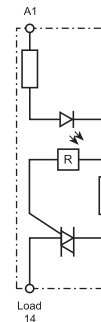
### 77.11.x.xxx.8251



#### Random switch-on

Suggested applications:

- Fine controls involving shorter time (specially motor control)



Simplified circuit diagram

### Output specification

Output configuration	1 NO (SPST-NO)		1 NO (SPST-NO)	
Rated current I <sub>N</sub> / 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 <sub>pk</sub>	800		800	
Rated load AC7a (cos φ = 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 <sub>N</sub> )	V AC (50/60 Hz)	—	230	—	230
	V DC	24	—	24	—
Rated power @ U <sub>MAX</sub>	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 <sup>6</sup>		10·10 <sup>6</sup>	
Operate / release time	ms	< 10 / <10	< 10 / < 30	< 1 / <10	< 2 / < 25
Insulation between input and output (1.2/50μs)	kV	6		6	
Ambient temperature	°C	-20...+80 **		-20...+80 **	
Protection category		IP20		IP20	

Approvals (according to type)



## 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 μs) 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)
Rated current $I_N$ / Max. peak current* (10 ms) A	30 / 520 *
Rated voltage V AC (50/60 Hz)	400
Rated voltage range V AC (50/60 Hz)	60...440
Switching voltage range V AC (50/60 Hz)	48...480
Repetitive peak off-state voltage $V_{pk}$	1,100
Rated load AC7a (cos φ = 0.8) A	30
Rated load AC15 A	20
Single phase motor rating (230 V AC) kW	—
230 V lamps rating: incandescent/halogen W	6,000
compact fluorescent (CFL)/Led W	4,000
electronic ballast fluorescent tubes W	6,000
electromagnetic ballast compensated fluorescent tubes W	3,000
Minimum switching current @ 400 V mA	300
Typical "OFF-state" leakage current @ 400 V mA	1
Max "ON-state" voltage drop @ 25 °C and 30 A V	0.85
Power loss @ 30 A W	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 <sup>6</sup>	10·10 <sup>6</sup>
Operate / release time	ms	< 10 / <10	< 10 / < 30
Insulation between input and output (1.2/50μs)	kV	6	6
Ambient temperature	°C	-20...+80 **	-20...+80 **
Protection category		IP20	IP20

### Approvals (according to type)

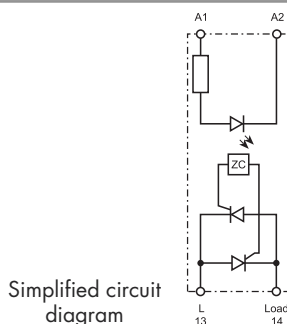
### 77.31.x.xxx.8050



#### 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

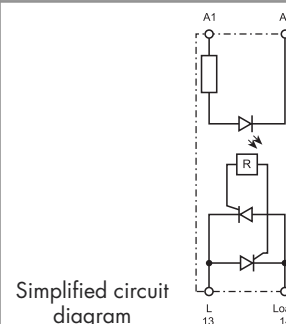
### 77.31.x.xxx.8051



#### 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 μs) 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

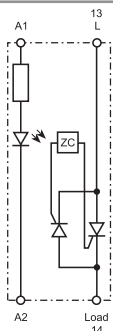
### 77.31.x.xxx.8070



#### Zero-crossing switch-on

Suggested applications:

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



Simplified circuit diagram

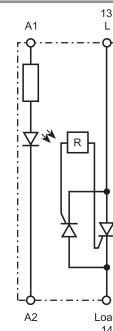
### 77.31.x.xxx.8071



#### Random switch-on

Suggested applications:

- Fine controls involving shorter time (specially motor control)



Simplified circuit diagram

### 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 φ = 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 <sup>6</sup>		10·10 <sup>6</sup>	
Operate / release time	ms	< 10 / <10	< 10 / < 30	< 1 / <10	< 2 / < 25
Insulation between input and output (1.2/50μs)	kV	6		6	
Ambient temperature	°C	-20...+80 **		-20...+80 **	
Protection category		IP20		IP20	

Approvals (according to type)



## 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

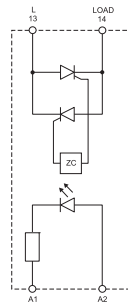
For outline drawing see page 12

Output specification		77.25.x.xxx.8250		77.45.x.xxx.8250		77.55.x.xxx.8250	
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 <sup>6</sup>		10·10 <sup>6</sup>		10·10 <sup>6</sup>	
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

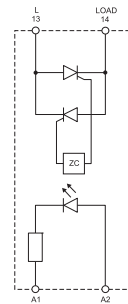


Simplified circuit diagram

**NEW** 77.45.x.xxx.8250



- Zero-crossing switch-on**
- Output: 40 A / 230 V AC
  - Suggested applications: heater control

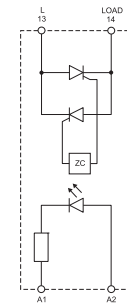


Simplified circuit diagram

**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

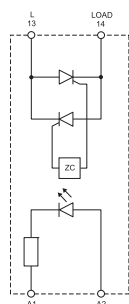
77.x5  
Screw terminal (plate clamp)



**NEW** 77.25.x.xxx.8650



**Zero-crossing switch-on**  
• Output: 25 A / 600 V AC  
• Suggested applications: heater control

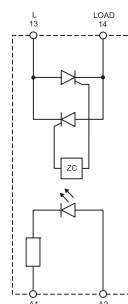


Simplified circuit diagram

**NEW** 77.45.x.xxx.8650



**Zero-crossing switch-on**  
• Output: 40 A / 600 V AC  
• Suggested applications: heater control

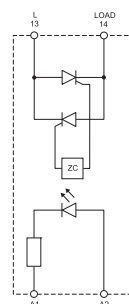


Simplified circuit diagram

**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

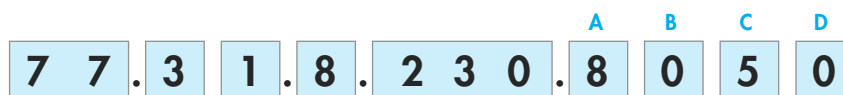
Output specification							
Output configuration		1 NO (SPST-NO)		1 NO (SPST-NO)		1 NO (SPST-NO)	
Rated current I <sub>N</sub> / Max. peak current* (10 ms) A		25/300 *		40/500 *		50/520 *	
Rated voltage V AC (50/60 Hz)		600		600		600	
Rated voltage range V AC (50/60 Hz)		48...600		48...600		48...600	
Switching voltage range V AC (50/60 Hz)		43.2...660		43.2...660		43.2...660	
Repetitive peak off-state voltage V <sub>pk</sub>		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 <sub>N</sub> V		1.6		1.6		1.6	
Power loss @ I <sub>N</sub> W		40		64		80	
Input specification							
Nominal voltage (U <sub>N</sub> )	V AC (50/60 Hz)	—	230	—	230	—	230
	V DC	24	—	24	—	24	—
Rated power @ U <sub>MAX</sub>	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 <sup>6</sup>		10·10 <sup>6</sup>		10·10 <sup>6</sup>	
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"

### 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)

### 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

## 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	Reference standard	77.01		77.11		77.31		77.25/45/55
		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
	air discharge	EN 61000-4-2		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		—
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
	differential mode	EN 61000-4-5		1 kV		4 kV		0.5 kV
Radio-frequency common mode voltage (0.15...230 MHz)	on supply terminals	EN 61000-4-6		—		10 V		10 V
								—
Terminals	Reference standard	77.01		77.11		77.31		77.25/45/55
								Input
⊕ Screw torque	Nm	0.8		0.8		0.8		Output
Max. wire size		solid cable	stranded cable	solid cable	stranded cable	solid cable	stranded cable	solid and stranded cable
	mm <sup>2</sup>	1x6/2x4	1x4/2x2.5	1x6/2x4	1x6 / 2x4	1x6/2x4	1x6 / 2x4	1 (with ferrule) 4 (with ferrule)
	AWG	1x10/2x12	1x12/2x14	1x10/2x12	1x10/2x12	1x10/2x12	1x10/2x12	10 (with ferrule) 12 (with ferrule)
Wire strip length	mm	9		9		9		8 (with ferrule tip) 10
Other data								
Power lost to the environment	without output current	W		0.5		0.9		0.6
	with rated current	W		4.0		14		16
								40/64/80

## Input specification

## 77.01

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

## 77.11

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

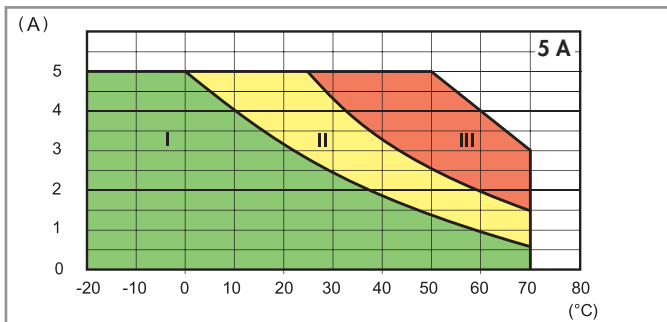
## Led indication

LED	Supply voltage
	OFF
	ON



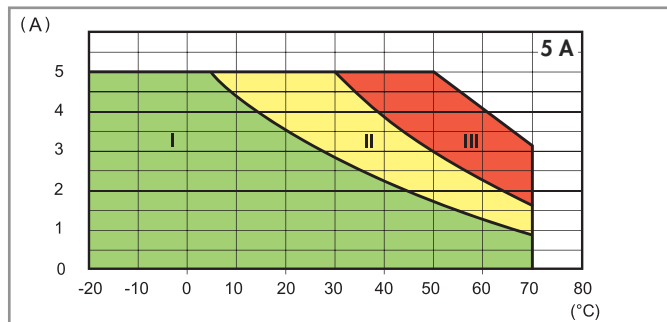
Output specification

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

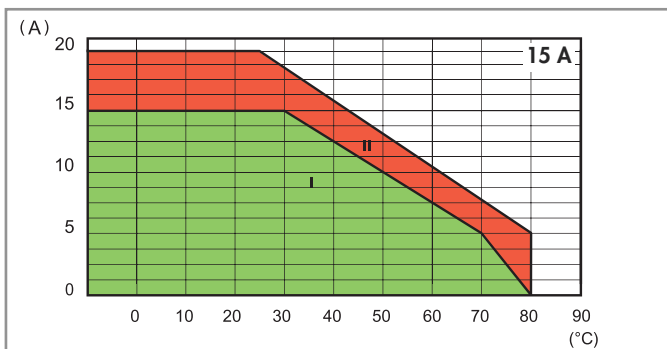


- I - Modular SSR installed as a group (without gap)
- II - Modular SSR installed as a group (9 mm gap between each SSR)
- III - Modular SSR installed individually in free air (without a significant influence from nearby components)

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

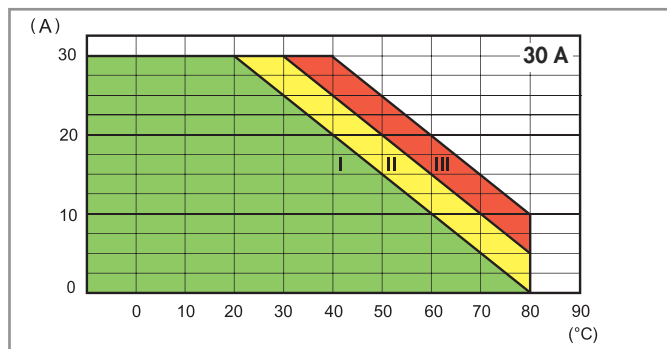


**L77-6 Output RMS current v ambient temperature**  
77.11.x.xxx.82xx



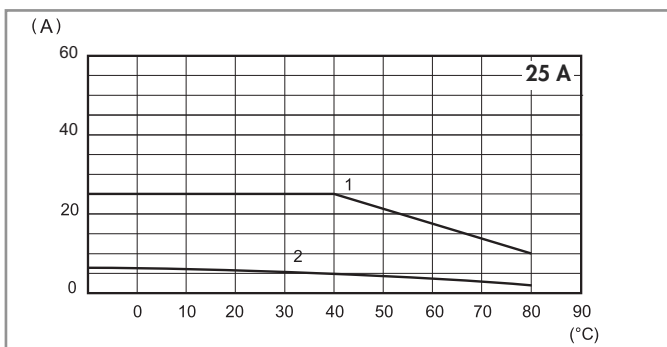
- I - Modular SSR installed as a group (without gap)
- II - Modular SSR installed individually in free air, or with a gap  $\geq 20$  mm, which implies a not significant influence from nearby components

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



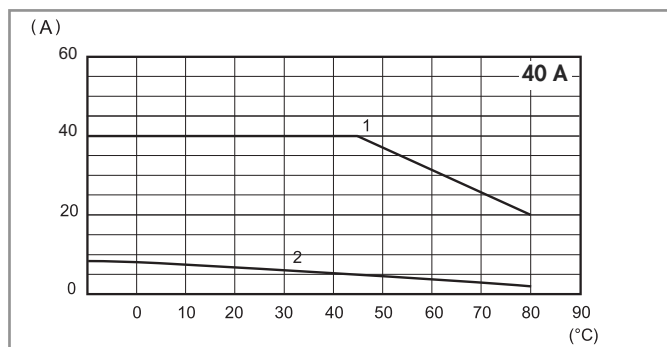
- I - Modular SSR installed as a group (without gap)
- II - Modular SSR installed as a group (20 mm gap between each SSR)
- III - Modular SSR installed individually in free air, or with a gap  $\geq 40$  mm, which implies a not significant influence from nearby components

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



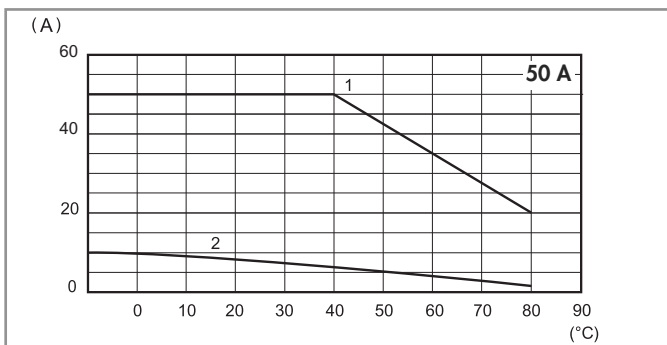
- 1 - Installation on 0.77.25 heat-sink (2 K/W)
- 2 - Installation individually in free-air

**L77-9 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

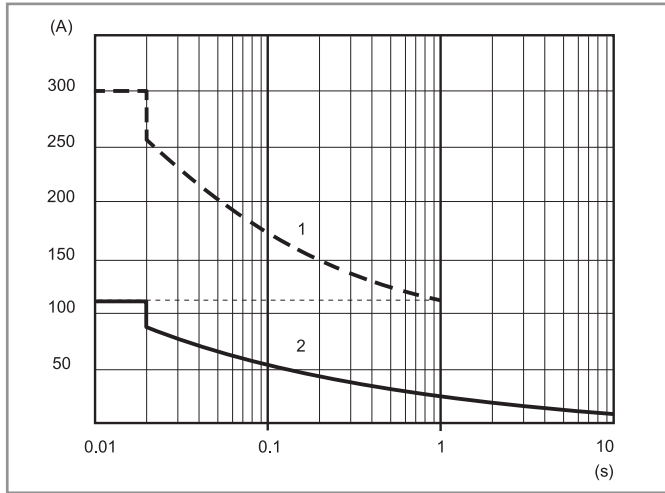
**L77-8 Output RMS current v ambient temperature**  
77.55.x.xxx.8x50



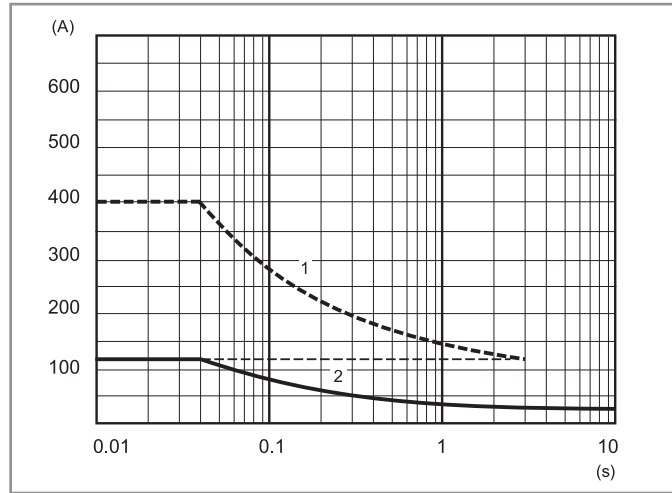
- 1 - Installation on 0.77.55 heat-sink (0.9 K/W)
- 2 - Installation individually in free-air

Output specification

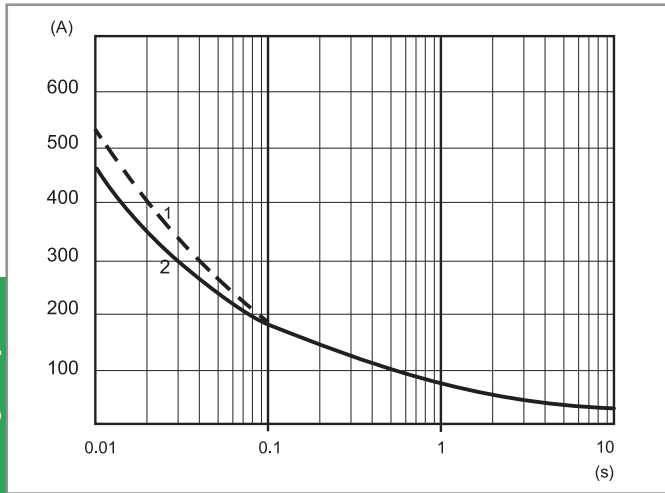
L77-3 Inrush peak current (AC) v inrush time  
77.01.x.xxx.80xx



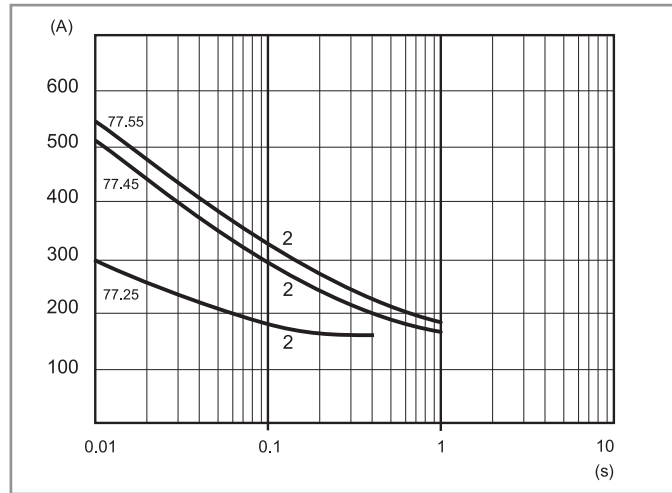
L77-7 Inrush peak current (AC) v inrush time  
77.11.x.xxx.82xx



L77-5 Inrush peak current (AC) v inrush time  
77.31.x.xxx.80xx



L77-11 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 φ = 0.8	—	1,800	—	—	—	—
15 A 305 V cos φ = 0.5	—	1,200	—	—	—	—
30 A 480 V cos φ = 0.8	—	—	1,800	—	—	—
30 A 480 V cos φ = 0.5	—	—	1,200	—	—	—
25 A 230 V cos φ = 0.7	—	—	—	1,800	—	—
40 A 230 V cos φ = 0.7	—	—	—	—	1,800	—
50 A 230 V cos φ = 0.7	—	—	—	—	—	1,800

Other data

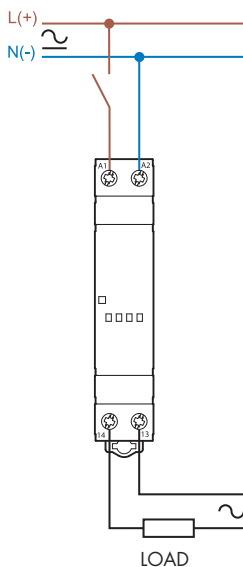
	77.01	77.11	77.31	77.25	77.45	77.55
<b>Critical rising voltage</b> dv/dt without input control (gate open) @ T <sub>i</sub> = 125 °C	> 1,000 V/μs	> 500 V/μs > 10 V/μs (with di/dt = 20 A/ms)	> 1,000 V/μs	300 V/μs (.8250) 500 V/μs (.8650)	500 V/μs (.8250) 1,000 V/μs (.8650)	1,000 V/μs (.8250) 1,000 V/μs (.8650)
<b>Critical rising current</b> di/dt @ T <sub>i</sub> = 125 °C	> 50 A/μs	> 50 A/μs	> 150 A/μs	—	—	—
<b>I<sup>2</sup>t for fusing</b> @ t <sub>p</sub> = 10 ms	450 A <sup>2</sup> s	1,000 A <sup>2</sup> s*	1,350 A <sup>2</sup> s**	450 A <sup>2</sup> s	1,250 A <sup>2</sup> s	1,350 A <sup>2</sup> s

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

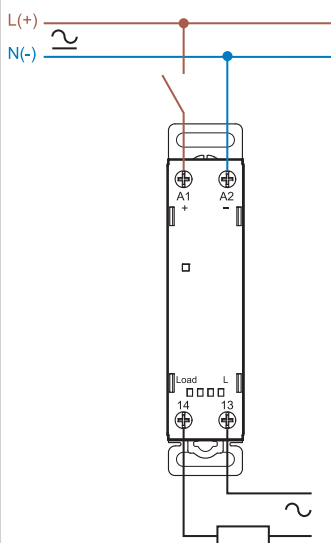
- \* 20 A, 660 V AC, 10x38 mm, 200 kA, 360 A<sup>2</sup>s.
- \*\* 30 A, 660 V AC, 10x38 mm, 200 kA, 1,000 A<sup>2</sup>s.

Wiring diagrams

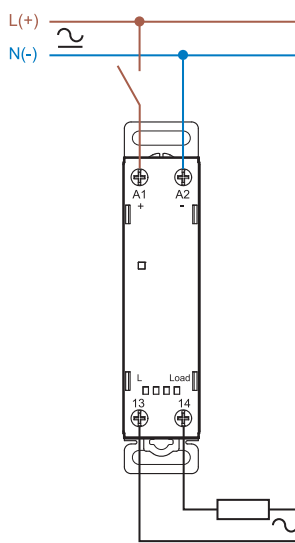
Single-phase connection (77.01)



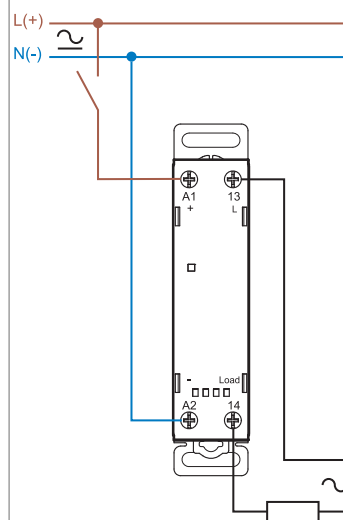
Single-phase connection (77.11)



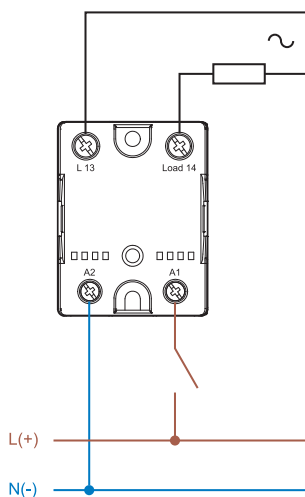
Single-phase connection (77.31.....5x)



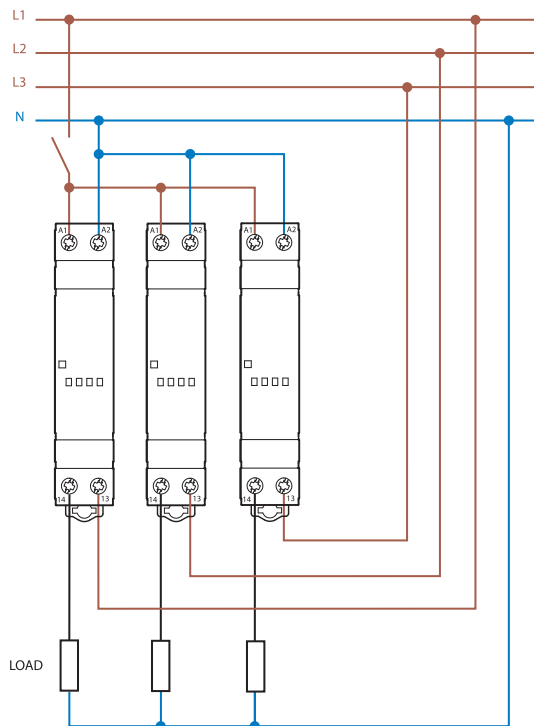
Single-phase connection (77.31.....7x)



Single-phase connection (77.x5)



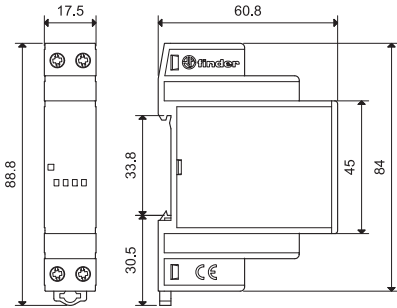
Example of three-phase connection (with 3 x 77.01.8.230.8051)



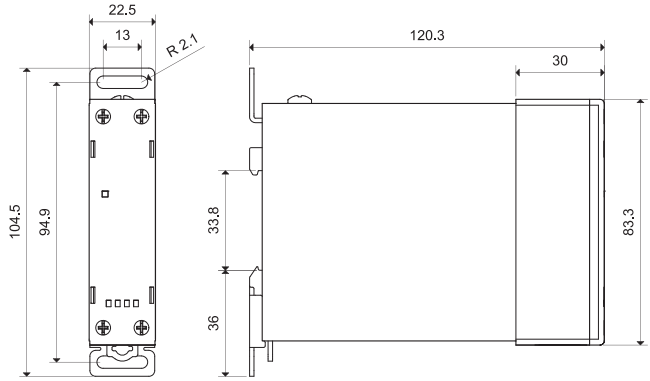
Note: this connection can be used with all 77 series types, with the exception of 77.01.8.230.8050.

Outline drawings

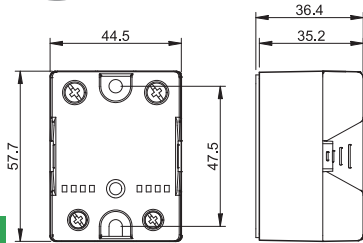
77.01  
Screw terminal



77.11/31  
Screw terminal



77.x5  
Screw terminal (plate clamp)



Timers and Monitoring relays

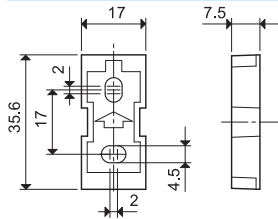
Accessories



020.01

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

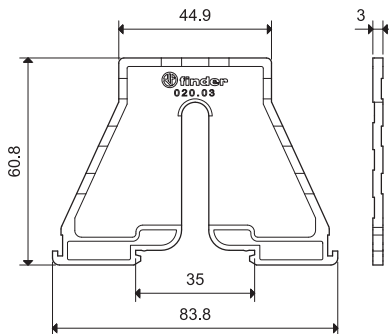
020.01



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

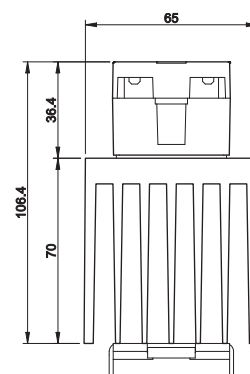
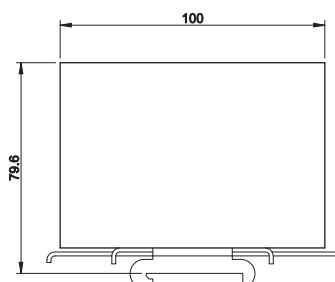
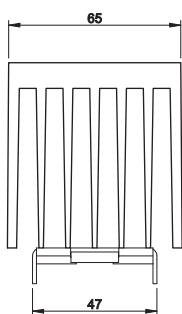


077.25

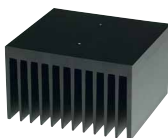
**Heat-sink**, anodized aluminium, 2 K/W, 65 x 100 mm, for 77.25 only

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

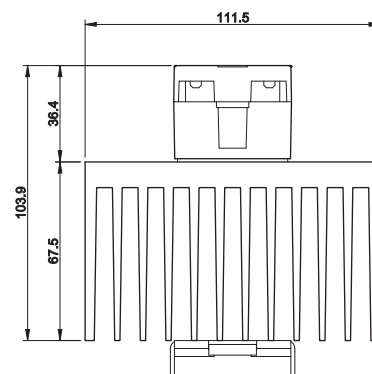
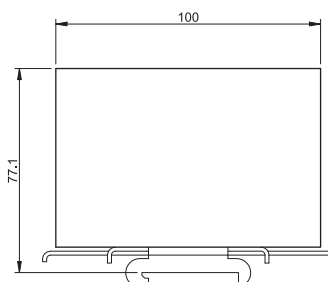
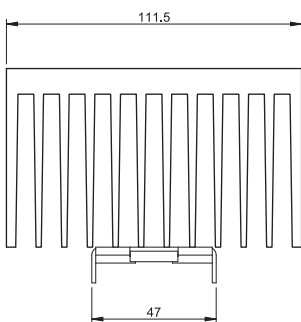


077.55

**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