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

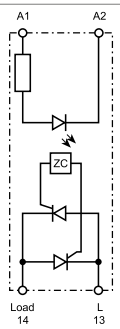
77.01
Screw terminal

* See L77-3 diagram page 10
** See L77-1 and L77-2 diagrams page 9

For outline drawing see page 12

77.01.x.xxx.8050

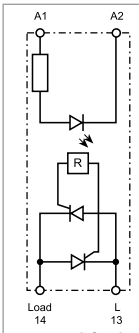
Zero-crossing switch-on
Suggested applications:
- Lamp inrush current reduction (CFL - Compact Fluorescent energy-saving Lamps and similar)
- Heater control
- Solenoid, contactor driver



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

D

Output specification					
Output configuration		1 NO (SPST-NO)		1 NO (SPST-NO)	
Rated current I_N/Max. peak current* (10 ms)	A	5/300*		5/300*	
Rated voltage	V AC (50/60 Hz)	230		230	
Rated voltage range	V AC (50/60 Hz)	60…240		60…240	
Switching voltage range	V AC (50/60 Hz)	48…265		48…265	
Repetitive peak off-state voltage	V_{pk}	800		800	
Rated load AC7a (cos φ = 0.8)	A	5		5	
Rated load AC15	A	5		3	
Single phase motor rating (230 V AC)	kW	—		0.37	
Nominal lamp rating:					
230 V incandescent/halogen	W	1000		800	
fluorescent tubes with electronic ballast	W	1000		800	
fluorescent tubes with electromechanical ballast	W	1000		800	
CFL	W	800		400	
230 V LED	W	800		400	
LV halogen or LED with electronic ballast	W	800		400	
LV halogen or LED with electromechanical ballast	W	1000		800	
Minimum switching current @ 230 V	mA	100		100	
Typical "OFF-state" leakage current @ 230 V	mA	1		1	
Max "ON-state" voltage drop @ 25 °C and 5 A/100 mA	V	0.85/1.5		0.85/1.5	
Power loss @ 5 A	W	4		4	
Input specification					
Nominal voltage (U_N)	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	$10 \cdot 10^6$		$10 \cdot 10^6$	
Operate/release time	ms	20/12		9/8	
Insulation between input and output (1.2/50 µs)	kV	5		5	
Ambient temperature	°C	–20…+70**		–20…+70**	
Protection category		IP 20		IP 20	
Approvals (according to type)		CE EAC			

Features

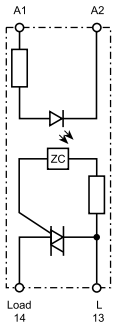
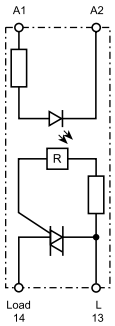
15 A modular SSR, 1 NO output

- 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

D

	77.11.x.xxx.8250	77.11.x.xxx.8251
		
	Zero-crossing switch-on **Suggested applications:** • Lamp inrush current reduction (CFL - Compact Fluorescent energy-saving Lamps and similar) • Heater control • Solenoid, contactor driver	**Random switch-on** **Suggested applications:** • Fine controls involving shorter time (specially motor control)
	 Simplified circuit diagram	 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	5/400*		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)	48…265		19…305	
Repetitive peak off-state voltage	V_{pk}	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	
Nominal lamp rating:					
230 V incandescent/halogen	W	4000		2500	
fluorescent tubes with electronic ballast	W	4000		2500	
fluorescent tubes with electromechanical ballast	W	2000		1000	
CFL	W	3000		1500	
230 V LED	W	3000		1500	
LV halogen or LED with electronic ballast	W	3000		1500	
LV halogen or LED with electromechanical ballast	W	3000		1500	
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	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	$10 \cdot 10^6$		$10 \cdot 10^6$	
Operate/release time	ms	< 10/< 10	< 10/< 30	< 1/< 10	< 2/< 25
Insulation between input and output (1.2/50 µs)	kV	6		6	
Ambient temperature	°C	–20…+80**		–20…+80**	
Protection category		IP 20		IP 20	
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

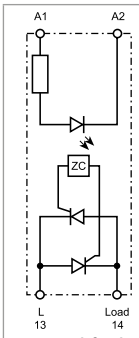
* See L77-5 diagram page 10
** See L77-4 diagrams page 9

For outline drawing see page 12

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

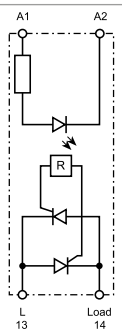


Simplified circuit diagram

77.31.x.xxx.8051

Random switch-on
Suggested applications:

- Finer control requiring short operate 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}	1100		1100	
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	
Nominal lamp rating:					
230 V incandescent/halogen	W	6000		4500	
fluorescent tubes with electronic ballast	W	6000		4000	
fluorescent tubes with electromechanical ballast	W	3000		1800	
CFL	W	4000		2500	
230 V LED	W	4000		2500	
LV halogen or LED with electronic ballast	W	4000		2500	
LV halogen or LED with electromechanical ballast	W	4000		2500	
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	$10 \cdot 10^6$		$10 \cdot 10^6$	
Operate/release time	ms	< 10/< 10	< 10/< 30	< 1/< 10	< 2/< 25
Insulation between input and output (1.2/50 µs)	kV	6		6	
Ambient temperature	°C	–20…+80**		–20…+80**	
Protection category		IP 20		IP 20	
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
- "Contactor-style" terminal arrangement (input and output terminals on adjacent sides)
- 35 mm rail (EN 60715) mount

D

77.31
Screw terminal

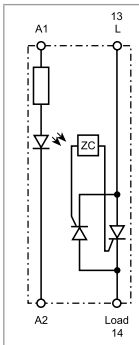
* See L77-5 diagram page 10
** See L77-4 diagrams page 9

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

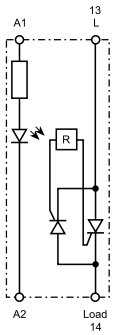


Simplified circuit diagram

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}	1100		1100	
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	
Nominal lamp rating:					
230 V incandescent/halogen	W	6000		4500	
fluorescent tubes with electronic ballast	W	6000		4000	
fluorescent tubes with electromechanical ballast	W	3000		1800	
CFL	W	4000		2500	
230 V LED	W	4000		2500	
LV halogen or LED with electronic ballast	W	4000		2500	
LV halogen or LED with electromechanical ballast	W	4000		2500	
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	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	$10 \cdot 10^6$		$10 \cdot 10^6$	
Operate/release time	ms	< 10/< 10	< 10/< 30	< 1/< 10	< 2/< 25
Insulation between input and output (1.2/50 µs)	kV	6		6	
Ambient temperature	°C	–20…+80**		–20…+80**	
Protection category		IP 20		IP 20	
Approvals (according to type)					

Features

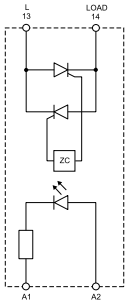
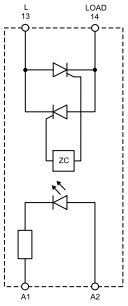
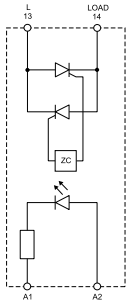
25, 40 And 50 A panel SSR, "hockey puck" style

- "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 on 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

	77.25.x.xxx.8250	77.45.x.xxx.8250	77.55.x.xxx.8250
			
	Zero-crossing switch-on • Output: 25 A/230 V AC • Suggested applications: heater control	**Zero-crossing switch-on** • Output: 40 A/230 V AC • Suggested applications: heater control	**Zero-crossing switch-on** • Output: 25 A/230 V AC • Suggested applications: heater control
			
	Simplified circuit diagram	Simplified circuit diagram	Simplified circuit diagram
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
Nominal lamp rating:			
230 V incandescent/halogen W	2000	4000	6000
fluorescent tubes with electronic ballast W	2000	4000	6000
fluorescent tubes with electromechanical ballast W	1000	2000	3000
CFL W	800	3000	4000
230 V LED W	800	3000	4000
LV halogen or LED with electronic ballast W	800	3000	4000
LV halogen or LED with electromechanical ballast W	1000	3000	4000
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	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	$10 \cdot 10^6$	$10 \cdot 10^6$	$10 \cdot 10^6$
Operate/release time ms	10/10 / 40/80	10/10 / 40/80	10/10 / 40/80
Insulation between input and output (1.2/50 µs) kV	5.6	5.6	5.6
Ambient temperature °C	–30…+80**	–30…+80**	–30…+80**
Protection category	IP 20	IP 20	IP 20
Approvals (according to type)	CE EAC cULus		

D

77 Series - Hockey puck Solid State Relay, 25 - 40 - 50 A

Features

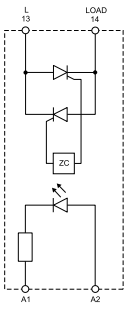
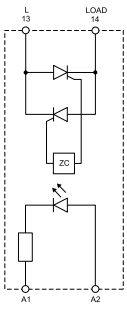
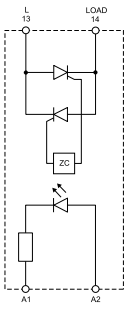
25, 40 And 50 A panel SSR, "hockey puck" style

- "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)

* See L77-11 diagrams page 10
** See L77-8, L77-9 and L77-10 diagrams page 9
For outline drawing see page 12

D

	77.25.x.xxx.8650	77.45.x.xxx.8650	77.55.x.xxx.8650
			
	Zero-crossing switch-on • Output: 25 A/600 V AC • Suggested applications: heater control	**Zero-crossing switch-on** • Output: 40 A/600 V AC • Suggested applications: heater control	**Zero-crossing switch-on** • Output: 25 A/600 V AC • Suggested applications: heater control
			

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}	1200		1200		1200	
Nominal lamp rating:							
230 V incandescent/halogen	W	2000		4000		6000	
fluorescent tubes with electronic ballast	W	2000		4000		6000	
fluorescent tubes with electromechanical ballast	W	1000		2000		3000	
CFL	W	800		3000		4000	
230 V LED	W	800		3000		4000	
LV halogen or LED with electronic ballast	W	800		3000		4000	
LV halogen or LED with electromechanical ballast	W	1000		3000		4000	
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	$10 \cdot 10^6$		$10 \cdot 10^6$		$10 \cdot 10^6$	
Operate/release time	ms	10/10	40/80	10/10	40/80	10/10	40/80
Insulation between input and output (1.2/50 µs)	kV	5.6		5.6		5.6	
Ambient temperature	°C	–30…+80**		–30…+80**		–30…+80**	
Protection category		IP 20		IP 20		IP 20	
Approvals (according to type)		CE EAC cULus					

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.

									A	B	C	D	
7	7	.	3	1	.	8	.	2	3	0	.	8	0	5	0

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

			77.01		77.11		77.31		72.25/45/55	
			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			2500 V AC	5 kV	3000 V AC	6 kV	3000 V AC	6 kV	4000 V AC	5.6 kV
Between input and ground (heat-sink)			—	—	3000 V AC	6 kV	3000 V AC	6 kV	4000 V AC	5.6 kV
Between output and ground (heat-sink)			—	—	2500 V AC	4 kV	4000 V AC	6 kV	4000 V AC	5.6 kV
EMC specifications		**Reference standard**	**77.01**		**77.11**		**77.31**		**72.25/45/55**	
			24 V AC/DC	230 V AC	24 V AC/DC	230 V AC	24 V AC/DC	230 V AC	24 V AC/DC - 230 V AC	
Electrostatic discharge	contact discharge	EN 61000-4-2	4 kV		4 kV		4 kV		4 kV	
	air discharge	EN 61000-4-2	8 kV		8 kV		8 kV		8 kV	
Radiated electromagnetic field (80…1000 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	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		—	
Terminals			**77.01**		**77.11**		**77.31**		**72.25/45/55**	
									Input	**Output**
Screw torque		Nm	0.8		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	1 x 6 / 2 x 4	1x4/2x25	1 x 6 / 2 x 4	1 x 6 / 2 x 4	1 x 6 / 2 x 4	1 x 6 / 2 x 4	1 (with ferrule)	4 (with ferrule) 10 (with fork tip)
		AWG	1x10/2x12	1x12/2x14	1x10/2x12	1x10/2x12	1x10/2x12	1x10/2x12	18 (with ferrule)	12 (with ferrule) 8 (with fork tip)
Wire strip length		mm	9		9		9		10	10
Other data										
Power lost to the environment	without output current	W	0.5		0.9		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	Input current
		AC		DC			
U_N		U_{min}	U_{max}	U_{min}	U_{max}	(AC/DC)	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

77.11

Nominal voltage	Input code	Operating range				Must drop-out voltage	Input current
		AC		DC			
U_N		U_{min}	U_{max}	U_{min}	U_{max}	(AC/DC)	I_N at U_N
V		V	V	V	V	V	mA
4	**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	Input current
		AC		DC			
U_N		U_{min}	U_{max}	U_{min}	U_{max}	(AC/DC)	I_N at U_N
V		V	V	V	V	V	mA
24	**9**.024	—	—	4	32	2	11
230	**8**.230	40	280	—	—	6	25

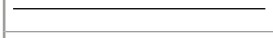
77.x5.x.xxx.8250

Nominal voltage	Input code	Operating range				Must drop-out voltage	Input current
		AC		DC			
U_N		U_{min}	U_{max}	U_{min}	U_{max}	(AC/DC)	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	Input current
		AC		DC			
U_N		U_{min}	U_{max}	U_{min}	U_{max}	(AC/DC)	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

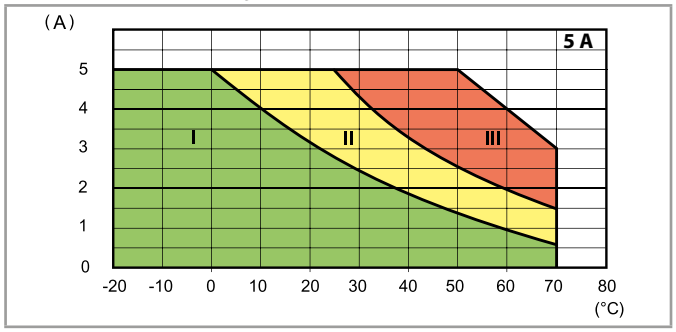
Led indication

LED	Supply voltage
	OFF
	ON

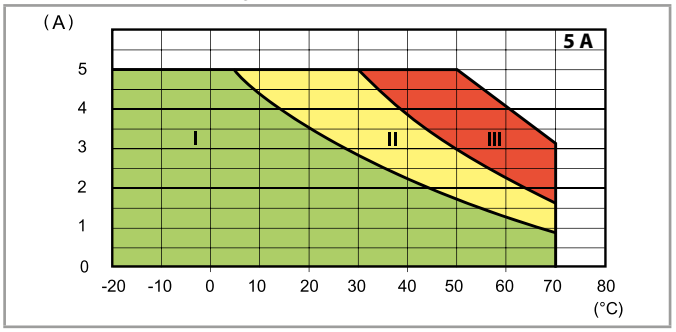
D

Output specification

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

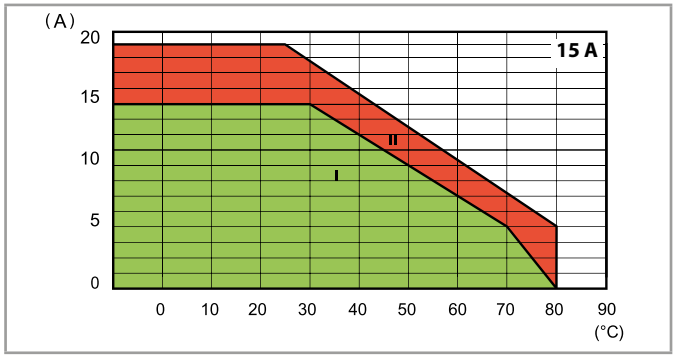


L77-2 Output RMS current v ambient temperature
77.01.8.230.805x @ 265 V AC



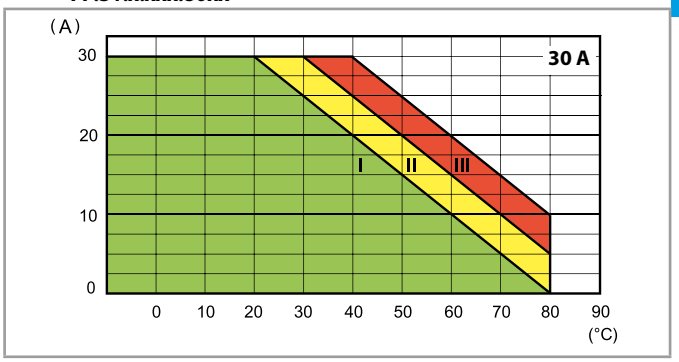
I - Modular SSR installed as a group (without gap)
II - Modular SSR installed as a group (9 mm gap between each SSR)
III - Modular SSR installed individually in free air (without a significant influence from nearby components)

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



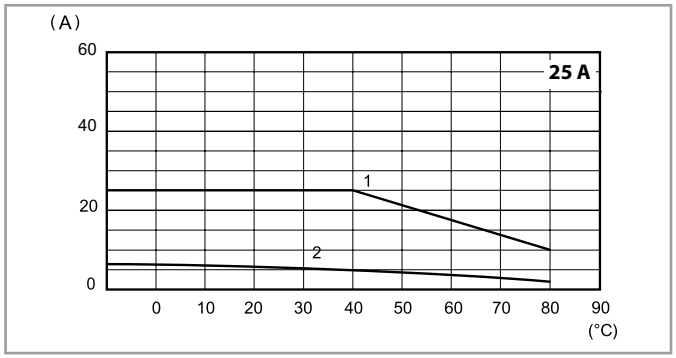
I - Modular SSR installed as a group (without gap)
II - Modular SSR installed individually in free air , or with a gap ≥ 20 mm, which implies a not significant influence from nearby components

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



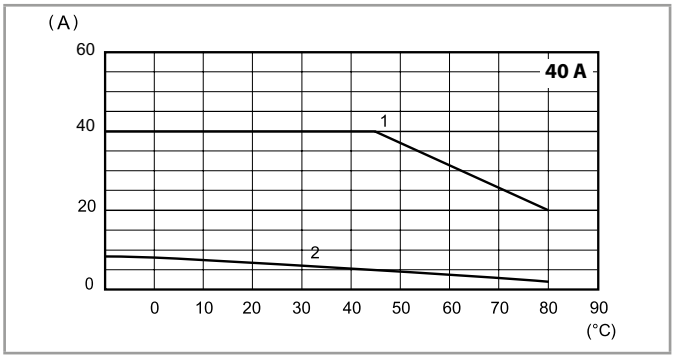
I - Modular SSR installed as a group (without gap)
II - Modular SSR installed as a group (20 mm gap between each SSR)
III - Modular SSR installed individually in free air , or with a gap ≥ 40 mm, which implies a not significant influence from nearby components)

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



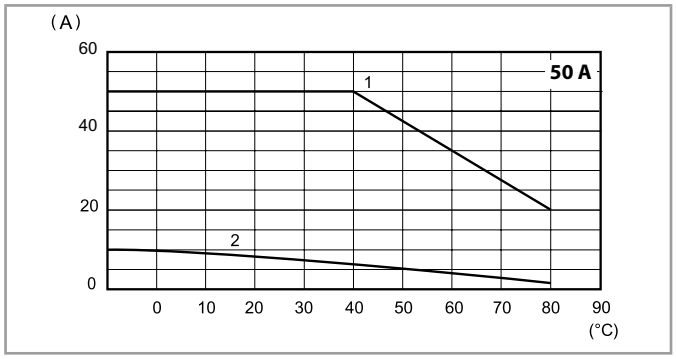
1 - Installation on 0.77.25 heat-sink (2 K/W)
2 - Installation individually in free-air

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

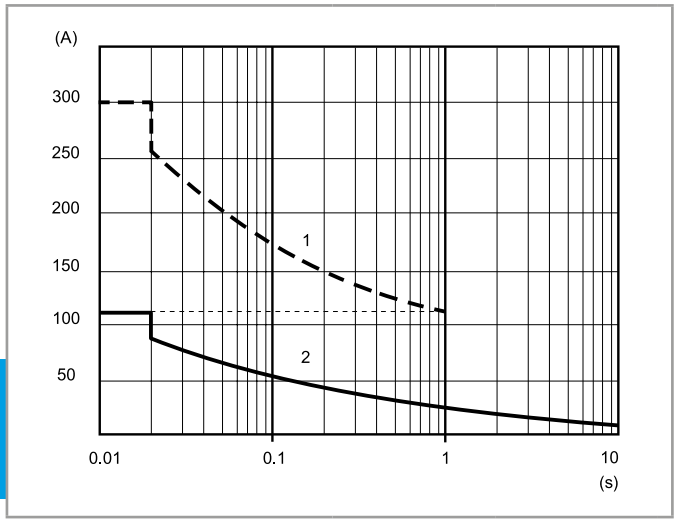


1 - Installation on 0.77.55 heat-sink (0.9 K/W)
2 - Installation individually in free-air

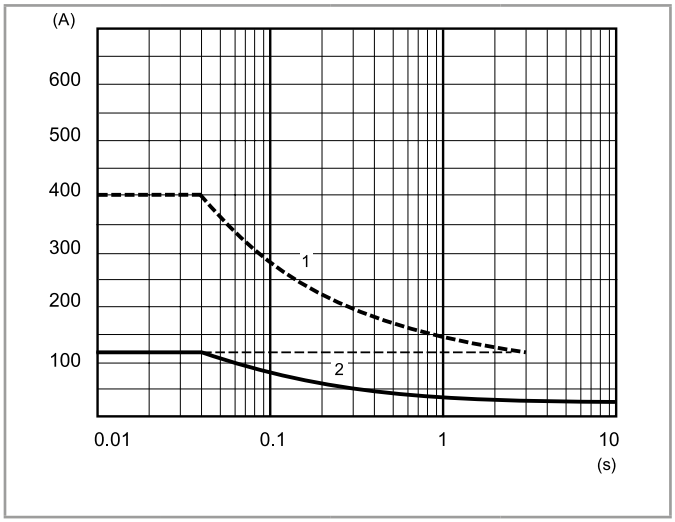
D

Output specification

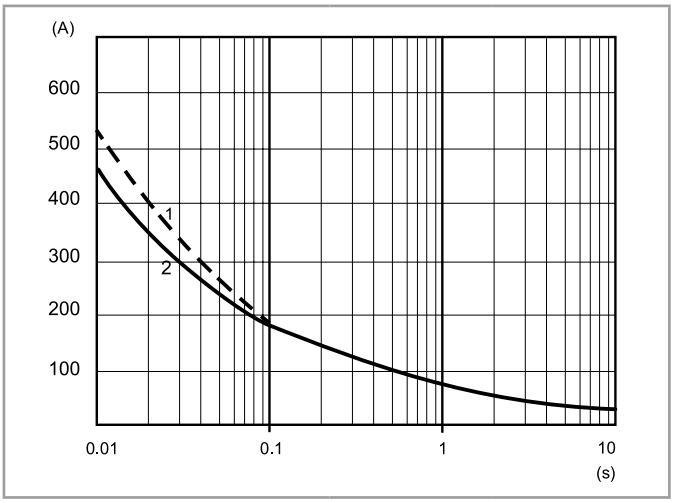
L77-3 Inrush peak current (AC) v inrush time
77.01.x.xxx.80xx



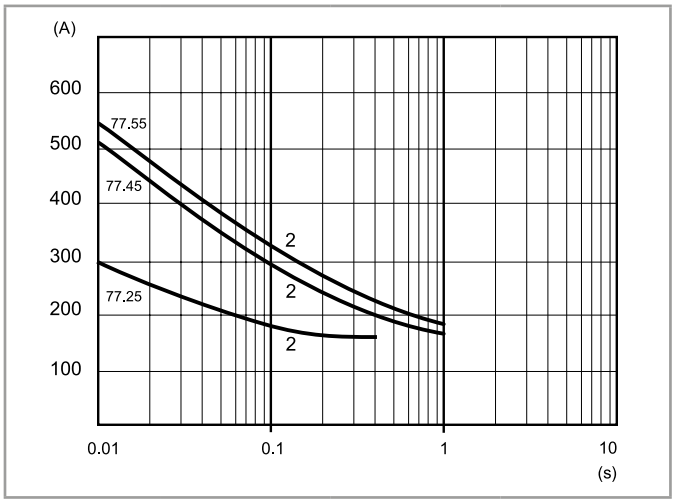
L77-7 Inrush peak current (AC) v inrush time
77.11.x.xxx.82xx



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)

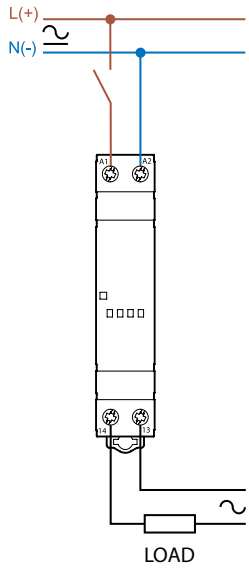
Max recommended switching frequency (Cycles/Hour, with 50% Duty-cycle)						
Load	**77.01**	**77.11**	**77.31**	**77.25**	**77.45**	**77.55**
5 A 230 V (AC1)	5000	—	—	—	—	—
1 A (AC15)	10000	—	—	—	—	—
0.5 A (AC15)	20000	—	—	—	—	—
15 A 305 V cos φ = 0.8	—	1800	—	—	—	—
15 A 305 V cos φ = 0.5	—	1200	—	—	—	—
30 A 480 V cos φ = 0.8	—	—	1800	—	—	—
30 A 480 V cos φ = 0.5	—	—	1200	—	—	—
25 A 230 V cos φ = 0.7	—	—	—	1800	—	—
40 A 230 V cos φ = 0.7	—	—	—	—	1800	—
50 A 230 V cos φ = 0.7	—	—	—	—	—	1800

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 °C	> 1000 V/µs	> 500 V/µs > 10 V/µs (with di/dt = 20 A/ms)	> 1000 V/µs	300 V/µs (..8250) 500 V/µs (..8650)	500 V/µs (..8250) 1000 V/µs (..8650)	1000 V/µs (..8250) 1000 V/µs (..8650)
Critical rising current di/dt @ T_j = 125 °C	> 50 A/µs	> 50 A/µs	> 150 A/µs	—	—	—
I^2t for fusing @ t_p = 10 ms	450 A^2s	1000 A^2s*	1350 A^2s**	450 A^2s	1250 A^2s	1350 A^2s

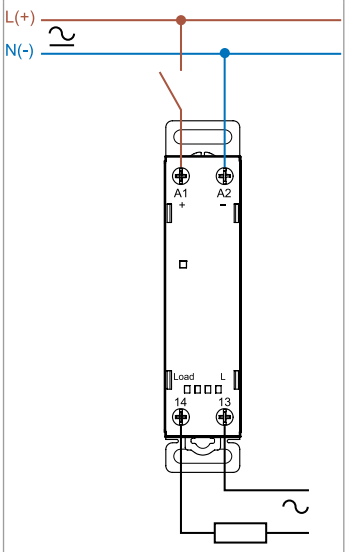
Suggested fuse (depending on application) for short-circuit protection (Ultra-Fast acting types for semiconductors):
* 20 A, 660 V AC, 10 x 38 mm, 200 kA, 360 A^2s.
** 30 A, 660 V AC, 10 x 38 mm, 200 kA, 1000 A^2s.

Wiring diagrams

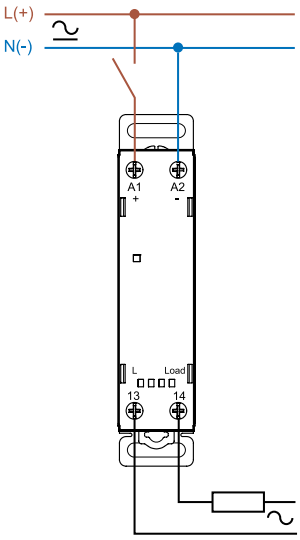
Single-phase connection (77.01)



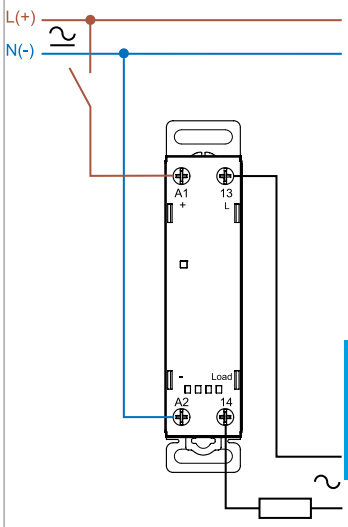
Single-phase connection (77.11)



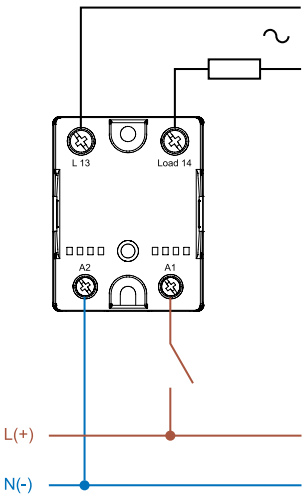
Single-phase connection (77.31.....5x)



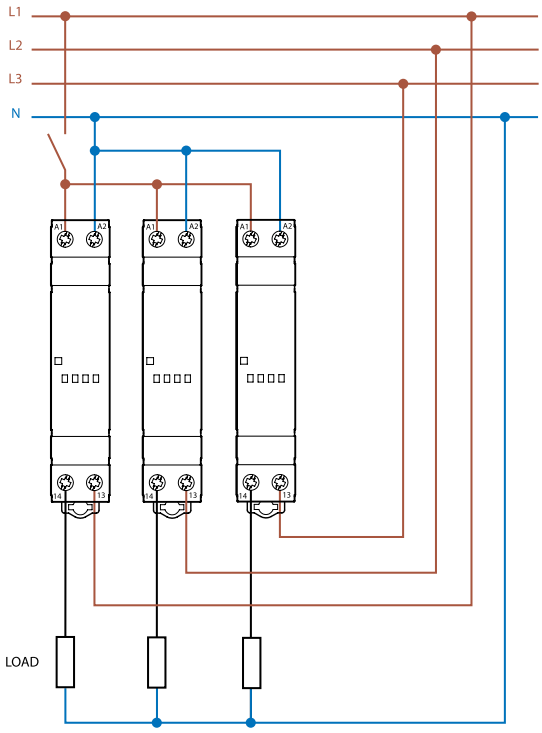
Single-phase connection (77.31.....7x)



Single-phase connection (77.x5)



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

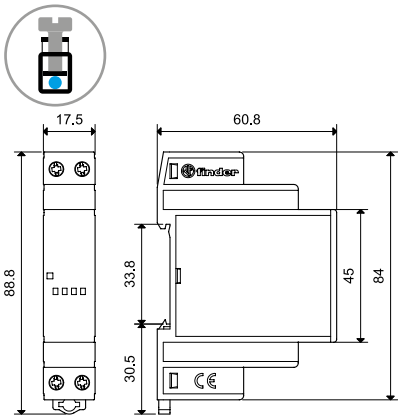


Note: this connection can be used with all 77 series types, with the exception of 77.01.8.230.8050.

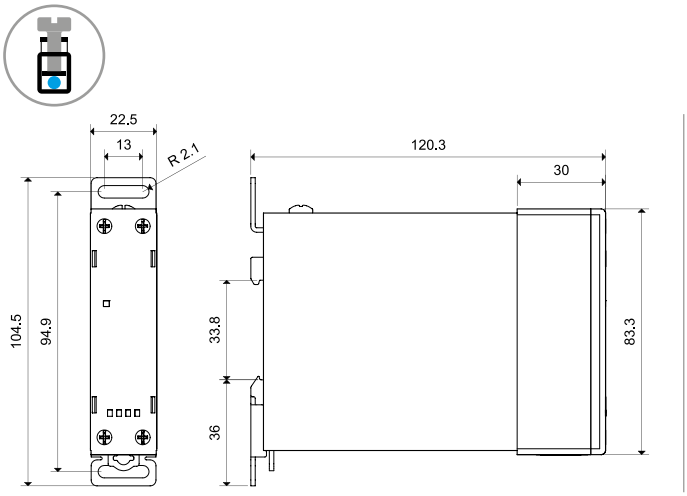
D

Outline drawings

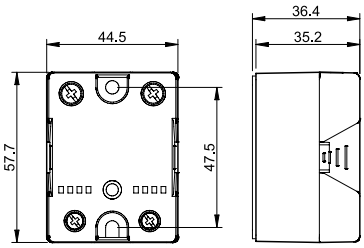
77.01
Screw terminal



77.11/31
Screw terminal



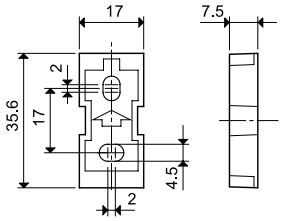
77.x5
Screw terminal (plate clamp)



Accessories

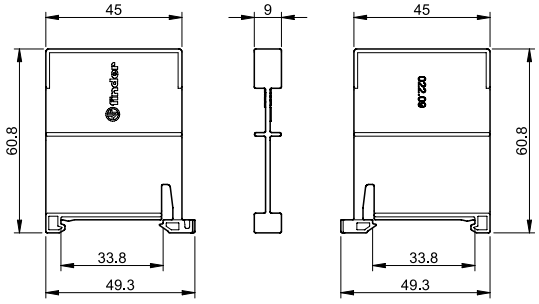
020.01

Adaptor for panel mounting, plastic, 17.5 mm wide for 77.01 only	020.01



022.09

Separator for rail mounting, plastic, 9 mm wide	022.09



060.72

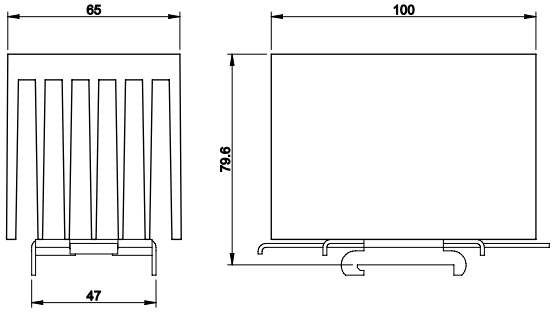
Sheet of marker tags, plastic, 72 tags, 6 x 12 mm	060.72

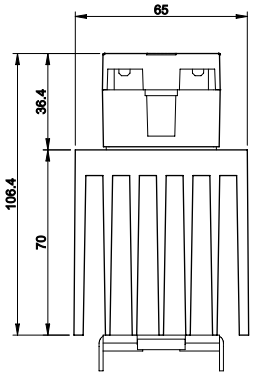
Accessories

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



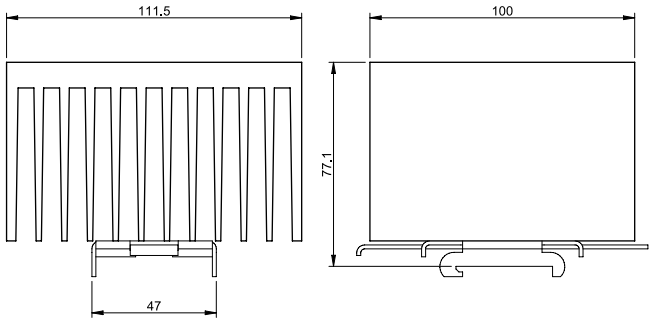


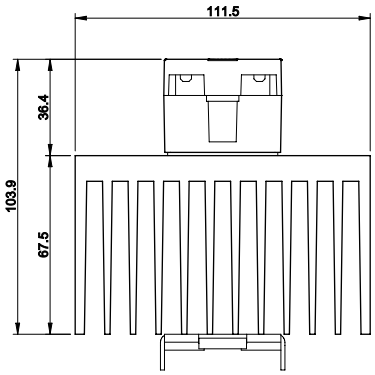
077.25 with 77.25

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

D