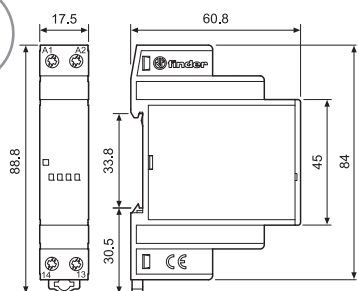


Features

5 A modular SSR, 1 NO output

- 17.5 mm housing
- 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

77.01.8050 / 77.01.8051
Screw terminal



* see L77-3 diagram page 3

** see L77-1 and L77-2 diagrams page 3

Output specification

Output configuration	1 NO (SPST-NO)	1 NO (SPST-NO)
Rated current / Max. peak current (10 ms *) A	5 / 300 *	5 / 300 *
Rated switching voltage V AC (50/60 Hz)	60...240	60...240
Switching voltage range V AC (50/60 Hz)	48...265	48...265
Blocking (max. reverse repetitive) voltage V DC	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 (½ HP)
230 V lamps rating:		
incandescent W	1,000	800
compact fluorescent (CFL) W	800	400
electronic ballast fluorescent tubes W	1,000	800
electromagnetic ballast compensated fluorescent tubes W	500	250
Minimum switching current @ 230 V mA	100	100
Max. "OFF-state" leakage current@ 230 V mA	3.5	3.5
Max "ON-state" voltage drop @25 °C and 5A/100mA V	0.85 / 1.5	0.85 / 1.5

Input specification

Nominal voltage (U_N)	V AC (50/60 Hz)	24	110 ... 240	24	110 ... 240
	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 ⁶	10·10 ⁶
Operate / release time	ms	20 / 12	9 / 8
Insulation between input and output (1.2/50 μ s) kV		5	5
Ambient temperature	°C	-20...+70 **	-20...+70 **
Protection category		IP20	IP20

Approvals (according to type)



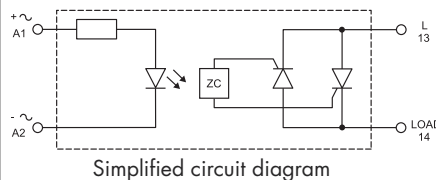
NEW 77.01.x.xxx.8050



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

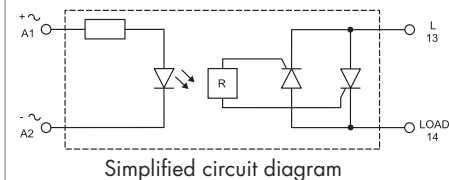
NEW 77.01.x.xxx.8051



Random switch-on

Suggested applications:

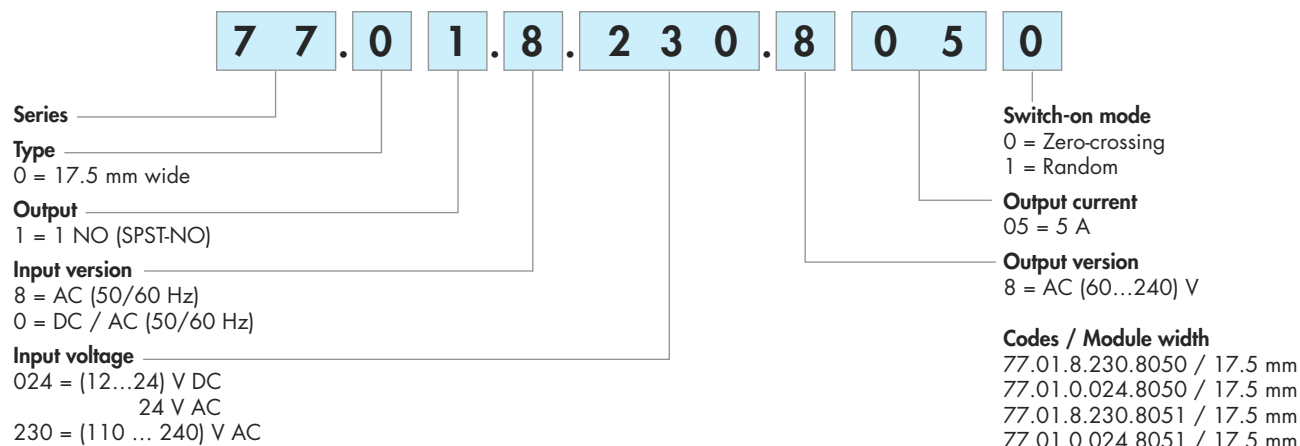
- Fine controls involving shorter time (specially motor control)
- AC supply phase different from AC output phase
- 3-phase general purpose



Simplified circuit diagram

Ordering information

Example: 77 series modular SSR, 1 output 5 A AC, input voltage (110...240) V AC, zero-crossing switch-on.



Technical data

Insulation			Dielectric strength	Impulse (1.2/50 µs)
between input and output			2,500 V AC	5 kV
EMC specifications				
Type of test		Reference standard	77.01.0.024.805x	77.01.8.230.805x
Electrostatic discharge	contact discharge	EN 61000-4-2	4 kV	
	air discharge	EN 61000-4-2	8 kV	
Radiated electromagnetic field (80 ... 1,000 MHz)		EN 61000-4-3	30 V/m	
Fast transients on supply terminals (burst 5/50 ns, 5 and 100 kHz)		EN 61000-4-4	1 kV	4 kV
Voltage pulses on supply	common mode	EN 61000-4-5	2 kV	4 kV
terminals (surge 1,2/50 µs)	differential mode	EN 61000-4-5	1 kV	4 kV
Other data				
Max recommended switching frequency at full load, with duty-cycle 50%		cycles/hour	5,000	
Max recommended switching frequency at 1 A (AC 15 load), with duty-cycle 50%		cycles/hour	10,000	
Max recommended switching frequency at 0,5 A (AC 15 load), with duty-cycle 50%		cycles/hour	20,000	
Power lost to the environment	without contact current	W	0.5	
	with rated current	W	4.0	
Critical rising voltage dv/dt (@ Tj =125 °C)		V/µs	> 1,000	
Critical rising current di/dt (@ tr<100 ns, Tj =125 °C)		A/µs	> 50	
I²t for fusing (@ tp =10 ms)		A²s	450	
Terminals				
⊕ Screw torque		Nm	0.8	
Max. wire size			solid cable	stranded cable
		mm²	1x6 / 2x4	1x4 / 2x2.5
		AWG	1x10 / 2x12	1x12 / 2x14
Wire strip length		mm	9	

Input specification

Input data AC / DC

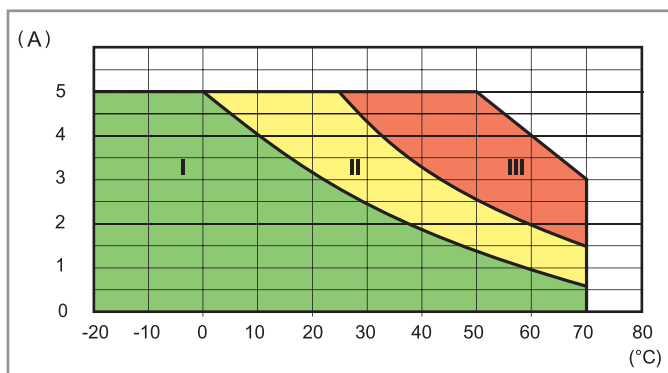
Nominal voltage	Input code	Operating range				Must drop-out voltage (AC/DC)	Impedance	Input current
		AC		DC				
		U _{min}	U _{max}	U _{min}	U _{max}			
U _N		U _{min}	U _{max}	U _{min}	U _{max}			I _N at U _N
V		V	V	V	V	V	Ω	mA
24	0.024	16	32	9.8	32	2.4	1,000	25
230	8.230	90	265	—	—	24	15,000	15

Led indication

LED	Supply voltage
	OFF
	ON

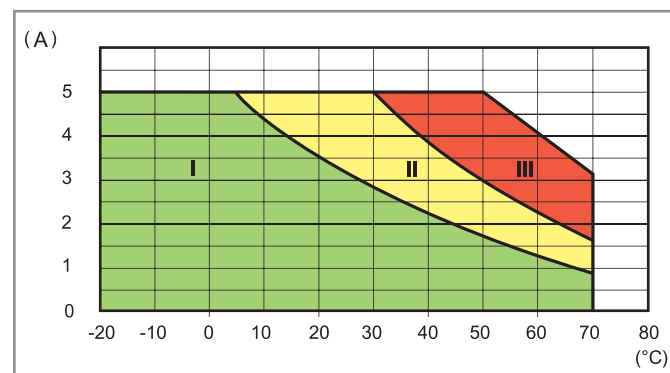
Output specification

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

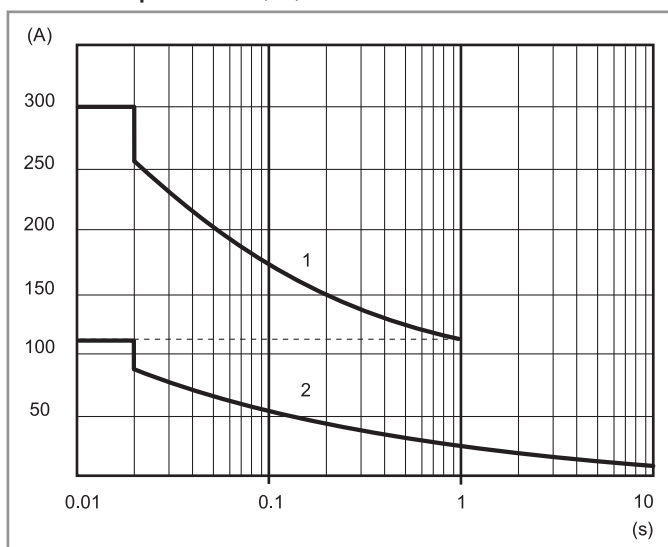


- I - Modular SSR installed as a group (without gap)
- II - Modular SSR installed as a group (9 mm gap between each SSR)
- III - Modular SSR installed individually in free air (without a significant influence from nearby components)

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



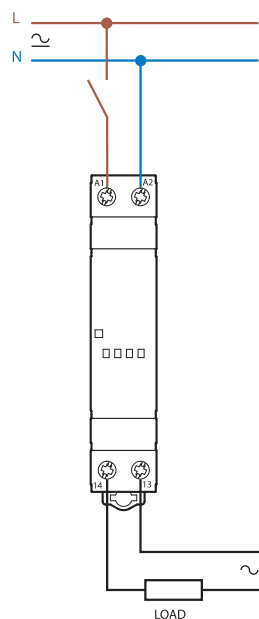
L77-3 Inrush peak current (AC) vs. time



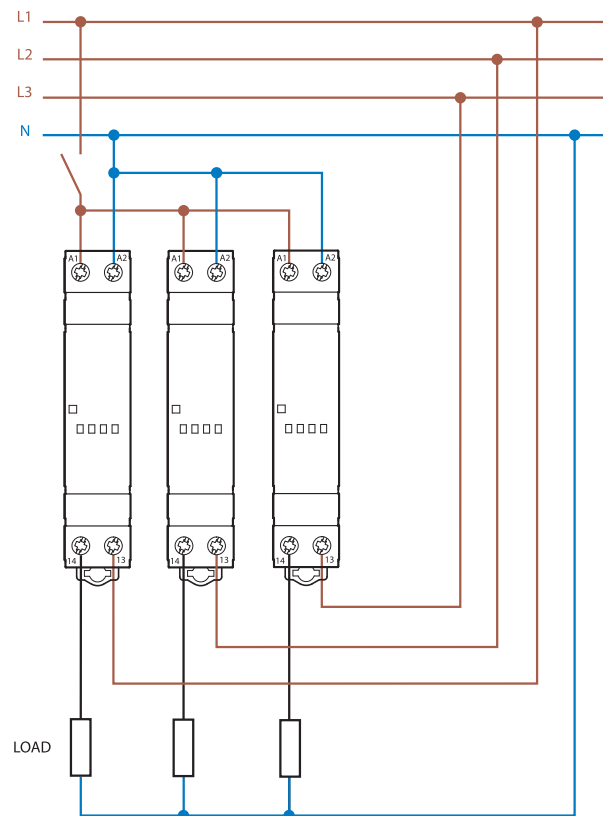
- 1 - "Cold" conditions (ambient temperature = 23 °C, no output current during the last 15 minutes)
- 2 - "Hot" conditions (ambient temperature = 50 °C, output current 5 A)

Wiring diagrams

Example of single-phase connection



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



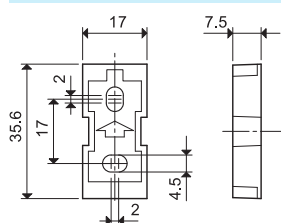
Accessories



020.01

Adaptor for panel mounting, plastic, 17.5 mm wide

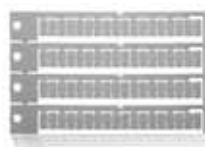
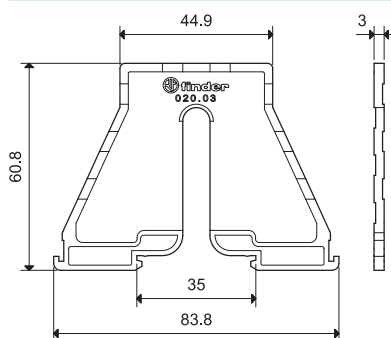
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020.03

Separator for panel mounting, plastic, 3 mm wide

020.03



060.72

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

060.72