finder
RELAYING INNOVATION

# Solid State Relays from 5 to 125 A

77
SERIES

- Industrial motors
- Industrial furnaces and ovens
- Lighting control in corridors (for hotels, offices and hospitals)
- Bottling plant
- Labelling machines
- Packaging machines



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**5 A modular SSR, 1 NO AC 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
- 3-phase general purpose
- 35 mm rail (EN 60715) mount

77.01
Box clamp



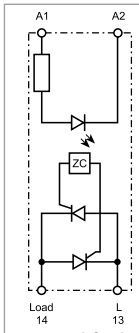
* See L77-8 diagram page 20
** See L77-1 and L77-2 diagrams page 19

For outline drawing see page 27

## 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

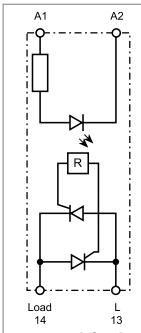


Simplified circuit diagram

## 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



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 | 5/300* | | 5/300* | |
| Rated voltage | V AC (50/60 Hz) | 230 | | 230 | |
| 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 | — | | 0.1 | |
| Nominal lamp rating: | | | | | |
| (230 V) incandescent/halogen | W | 1000 | | 800 | |
| fluorescent tubes with electronic ballast | W | 1000 | | 800 | |
| fluorescent tubes with electromagnetic 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 electromagnetic ballast | W | 1000 | | 800 | |
| Minimum switching current @ 230 V | mA | 100 | | 100 | |
| Typical "OFF-state" leakage current @ 230 V | mA | 0.5 | | 3.5 | |
| 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) | — | 230 | — | 230 |
| | V DC | 6…24 | — | 6…24 | — |
| Rated power | VA (50 Hz)/W | —/0.4 | 3.6/0.3 | —/0.4 | 3.6/0.3 |
| Operating range | V AC (50/60 Hz) | — | 90…265 | — | 90…265 |
| | V DC | 4…32 | — | 4…32 | — |
| Must drop-out voltage | V AC (50/60 Hz)/DC | 3 | 24 | 3 | 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) | | | | | |



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# 77 SERIES
# Modular Solid State Relays 7 - 15 A

**7 - 15 A modular SSR, 1 NO DC output**

- 17.5 mm housing
- 2 versions, for 24 and 125 V DC mosfet output
- 4 kV (1.2/50 µs) insulation between Input and Output
- Short circuit protection
- High switching speed
- High endurance
- Silent switching
- Spark and bounce-free switching
- Low control power
- 35 mm rail (EN 60715) mount

77.01
Box clamp



* See L77-3 and L77-4 diagrams page 19

For outline drawing see page 27

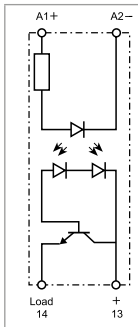


## 77.01.9.024.9024



**24 V DC output switching**
**15 A rated**

**Applications in Energy, Automation and Machines:**
- Control of electric, pneumatic and hydraulic electromagnetic valves
- Direct control of loads such as motors and electromagnets



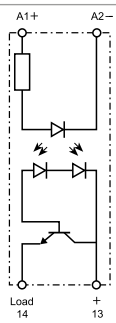

Simplified circuit diagram

## 77.01.9.024.9125



**110…125 V DC output switching**
**7 A rated**

**Applications in Energy, Automation and Machines:**
- Control of electric, pneumatic and hydraulic electromagnetic valves
- Direct control of loads such as motors and electromagnets




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 | 15/160 | 7/60 |
| Rated voltage | V DC | 24 | 125 |
| Switching voltage range | V DC | 16…32 | 43…140 |
| Rated load DC13 | A | 5 | 2.5 |
| DC motor rating | kW | 0.2 | — |
| Minimum switching current | mA | 100 | 50 |
| Typical "OFF-state" leakage current | mA | 3 | 6 |
| Max "ON-state" voltage drop @ 25 °C and $I_N$ | V | 0.06 | 0.2 |
| Power loss @ $I_N$ | W | 1 | 1.5 |
| **Input specification** | | | |
| Nominal voltage ($U_N$) | V DC | 6…24 | 6…24 |
| Rated power | W | 0.4 | 0.4 |
| Operating range | V DC | 4…32 | 4…32 |
| Must drop-out voltage | V DC | 3 | 3 |
| **Technical data** | | | |
| Electrical life | cycles | $10 \cdot 10^6$ | $10 \cdot 10^6$ |
| Operate/release time | ms | 0.05/2 | 0.05/2 |
| Insulation between input and output (1.2/50 µs) | kV | 4 | 4 |
| Ambient temperature | °C | –20…+70* | –20…+70* |
| Protection category | | IP 20 | IP 20 |
| **Approvals** (according to type) | | CE UKCA EAC cULus | |





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**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
- 3-phase general purpose
- "Relay-style" terminal arrangement (input and output terminals on opposite sides)
- 35 mm rail (EN 60715) mount

77.11
Box clamp



* See L77-9 diagram page 20
** See L77-5 diagrams page 19

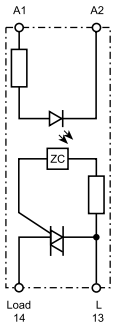
For outline drawing see page 27

## 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



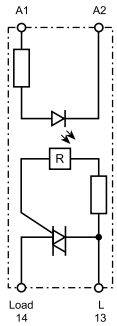

Simplified circuit diagram

## 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 $I_N$/Max. peak current* (10 ms) | A | 15/400* | | 15/400* | |
| Rated voltage | V AC (50/60 Hz) | 230 | | 230 | |
| 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 φ = 0.8, @ 25 °C) | A | 20 | | 20 | |
| Rated load AC15 | A | 15 | | 15 | |
| Single phase motor rating (230 V AC) | kW | — | | 0.75 | |
| Nominal lamp rating: | | | | | |
| (230 V) incandescent/halogen | W | 4000 | | 2500 | |
| fluorescent tubes with electronic ballast | W | 4000 | | 2500 | |
| fluorescent tubes with electromagnetic 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 electromagnetic 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…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) | | | | | |



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# 77 SERIES
# Modular Solid State Relays 25 A

**25 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
- 3-phase general purpose
- "Relay-style" terminal arrangement (input and output terminals on opposite sides)
- 35 mm rail (EN 60715) mount

77.21
Box clamp



* See L77-10 diagram page 20
** See L77-6 diagrams page 19

For outline drawing see page 27

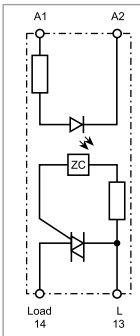
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## 77.21.x.xxx.8250



**Zero-crossing switch-on**
**Suggested applications:**

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



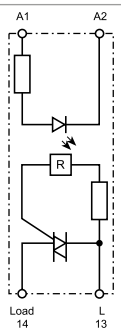

Simplified circuit diagram

## 77.21.x.xxx.8251



**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 (@40 °C) $I_N$/ Max. peak current* (10 ms) | A | 25/400* | | 25/400* | |
| Rated voltage | V AC (50/60 Hz) | 230 | | 230 | |
| 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 φ = 0.8, @ 25 °C) | A | 25 | | 25 | |
| Rated load AC15 | A | 25 | | 25 | |
| Single phase motor rating (230 V AC) | kW | — | | 1 | |
| Nominal lamp rating: | | | | | |
| (230 V) incandescent/halogen | W | 4000 | | 2500 | |
| fluorescent tubes with electronic ballast | W | 4000 | | 2500 | |
| fluorescent tubes with electromagnetic 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 electromagnetic 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 25 A | V | 1.55 | | 1.55 | |
| Power loss @ 25 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…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) | | | | | |



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**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
- 3-phase general purpose
- "Relay-style" terminal arrangement (input and output terminals on opposite sides)
- 35 mm rail (EN 60715) mount

77.31
Box clamp



* See L77-11 diagram page 20
** See L77-7 diagrams page 19

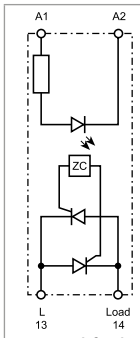
For outline drawing see page 27

## 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



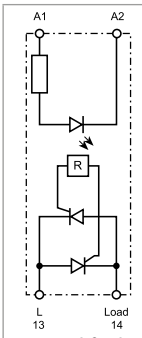

Simplified circuit diagram

## 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 | |
| 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 | — | | 1.5 | |
| Nominal lamp rating: | | | | | |
| (230 V) incandescent/halogen | W | 6000 | | 4500 | |
| fluorescent tubes with electronic ballast | W | 6000 | | 4000 | |
| fluorescent tubes with electromagnetic 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 electromagnetic 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) | 24 | 230 | — | 230 |
| | V DC | 24 | — | 24 | — |
| Rated power @ $U_{MAX}$ | VA (50 Hz)/W | 0.24/0.4 | 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 | 6/2 | 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) | | | | | |

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# 77 SERIES
# Modular Solid State Relays 30 A

**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
- 3-phase general purpose
- "Contactor-style" terminal arrangement (input and output terminals on adjacent sides)
- 35 mm rail (EN 60715) mount

77.31
Box clamp



* See L77-11 diagram page 20
** See L77-7 diagrams page 19

For outline drawing see page 27

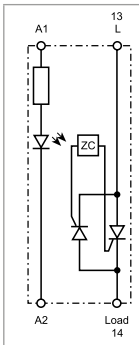
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## 77.31.x.xxx.8070



**Zero-crossing switch-on**
**Suggested applications:**

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



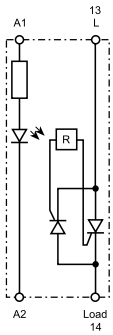

Simplified circuit diagram

## 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 | |
| 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 | — | | 1.5 | |
| Nominal lamp rating: | | | | | |
| (230 V) incandescent/halogen | W | 6000 | | 4500 | |
| fluorescent tubes with electronic ballast | W | 6000 | | 4000 | |
| fluorescent tubes with electromagnetic 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 electromagnetic 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) | | | | | |



XI-2026, www.findernet.com

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**25, 40 and 60 A panel Zero-crossing SSR, "hockey puck" style**

**Type 77.A1.x.xxx.8x50:** 25 A

**Type 77.B1.x.xxx.8x50:** 40 A

**Type 77.D1.x.xxx.8x50:** 60 A

**8250:** 24 to 280 VAC switching load voltage

**8650:** 24 to 660 VAC switching load voltage

- "hockey puck" housing with folding screw cover
- High endurance and switching speed
- Silent switching
- Spark and bounce-free switching
- Low control power
- "Relay-style": input and output terminals on opposite sides
- Mounting on control cabinet sheet metal or on heatsink

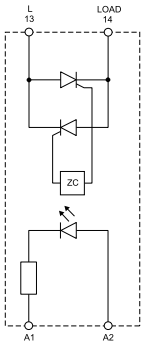
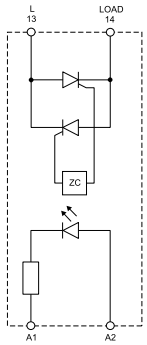
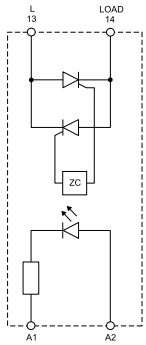
77.A1/B1/D1
Screw terminal (plate clamp)*



* See recommendation for wiring page 17

** See L77-13, L77-14 and L77-15 diagrams page 21

Four outline drawing see page 27

| | 77.A1.x.xxx.8x50 | 77.B1.x.xxx.8x50 | 77.D1.x.xxx.8x50 |
|---|---|---|---|
| |  |  |  |
| | **Zero-crossing switch-on**<br>• Output: 25 A<br>• Suggested applications: heater control, lamps, solenoid, contactor driver | **Zero-crossing switch-on**<br>• Output: 40 A<br>• Suggested applications: heater control, lamps, solenoid, contactor driver | **Zero-crossing switch-on**<br>• Output: 60 A<br>• Suggested applications: heater control, lamps, solenoid, contactor driver |
| |  |  |  |
| | Simplified circuit diagram | Simplified circuit diagram | Simplified circuit diagram |

| **Output specification** | | **77...8250** | **77...8650** | **77...8250** | **77...8650** | **77...8250** | **77...8650** |
|---|---|---|---|---|---|---|---|
| Output configuration | | 1 NO | | 1 NO | | 1 NO | |
| Rated current $I_N$/Max. peak current (10 ms) | A | 25/300 | | 40/500 | | 60/700 | |
| Rated voltage | V AC (50/60 Hz) | 240 | 600 | 240 | 600 | 240 | 600 |
| Switching voltage range | V AC (50/60 Hz) | 24…280 | 24…660 | 24…280 | 24…660 | 24…280 | 24…660 |
| Operating frequency range | Hz | 47…400 | 47…400 | 47…400 | 47…400 | 47…400 | 47…400 |
| Repetitive peak off-state voltage | $V_{pk}$ | 600 | 1600 | 600 | 1600 | 600 | 1600 |
| Rated load AC53 | A | 5 | | 8 | | 12 | |
| Nominal lamp rating: | | | | | | | |
| (230 V) incandescent/halogen | W | 2000 | | 4000 | | 7200 | |
| fluorescent tubes with electronic ballast | W | 2000 | | 4000 | | 7200 | |
| fluorescent tubes with electromagnetic ballast | W | 1000 | | 2000 | | 3600 | |
| CFL | W | 800 | | 3000 | | 4800 | |
| (230 V) LED | W | 800 | | 3000 | | 4800 | |
| LV halogen or LED with electronic ballast | W | 800 | | 3000 | | 4800 | |
| LV halogen or LED with electromagnetic ballast | W | 1000 | | 3000 | | 4800 | |
| Minimum switching current @ 250 V | mA | 100 | | 100 | | 100 | |
| Typical "OFF-state" leakage current @ rated voltage | mA | 0.1 | | 0.1 | | 0.1 | |
| Max "ON-state" voltage drop @ 25 °C and $I_N$ | V | 1.5 | | 1.5 | | 1.5 | |
| Power loss @ $I_N$ | W | 30 | | 48 | | 72 | |
| **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 | 5.3/0.55 | | 5.3/0.55 | | 5.3/0.55 | |
| 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 | 15/1 | | 15/1 | | 15/1 | |
| **Technical data** | | | | | | | |
| Electrical life | cycles | — | | — | | — | |
| Operate/release time | (230 V AC) ms | 40/20 | | 40/20 | | 40/20 | |
| | (24 V DC) ms | 10/10 | | 10/10 | | 10/10 | |
| Insulation between input and output (1.2/50 µs) | kV | 6 | | 6 | | 6 | |
| Ambient temperature | °C | –30…+80** | | –30…+80** | | –30…+80** | |
| Protection category | | IP 20 | | IP 20 | | IP 20 | |
| **Approvals** (according to type) | | | | | | | |



XI-2026, www.findernet.com



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# 77 SERIES
# Hockey puck Solid State Relays 80 - 100 - 125 A

**80, 100 and 125 A panel Zero-crossing SSR, "hockey puck" style**

**Type 77.F1.x.xxx.8x50:** 80 A

**Type 77.G1.x.xxx.8x50:** 100 A

**Type 77.H1.x.xxx.8x50:** 125 A

**8250:** 24 to 280 VAC switching load voltage

**8650:** 24 to 660 VAC switching load voltage

- "hockey puck" housing with folding screw cover
- High endurance and switching speed
- Silent switching
- Spark and bounce-free switching
- Low control power
- "Relay-style": input and output terminals on opposite sides
- Mounting on control cabinet sheet metal or on heatsink

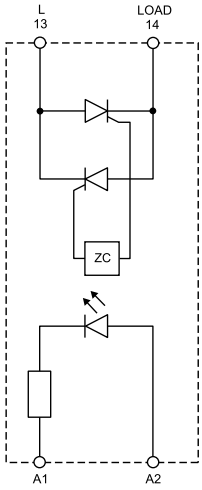
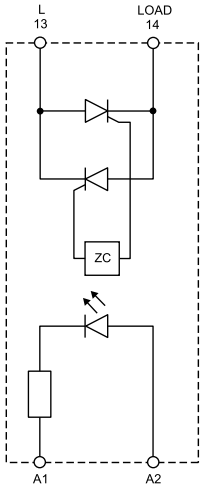
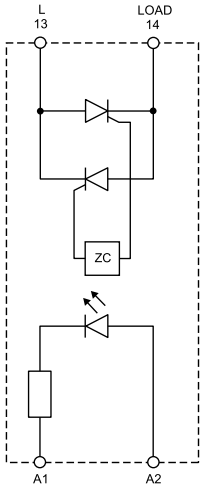
77.F1/G1/H1
Screw terminal (plate clamp)*



* See recommendation for wiring page 17

** See L77-16, L77-17 and L77-18 diagrams page 21

For outline drawing see page 27

| | 77.F1.x.xxx.8x50 | 77.G1.x.xxx.8x50 | 77.H1.x.xxx.8x50 |
|---|---|---|---|
| |  |  |  |
| | **Zero-crossing switch-on**<br>• Output: 80 A<br>• Suggested applications: heater control, lamps, solenoid, contactor driver | **Zero-crossing switch-on**<br>• Output: 100 A<br>• Suggested applications: heater control, lamps, solenoid, contactor driver | **Zero-crossing switch-on**<br>• Output: 125 A<br>• Suggested applications: heater control, lamps, solenoid, contactor driver |
| |  |  |  |
| | Simplified circuit diagram | Simplified circuit diagram | Simplified circuit diagram |

| **Output specification** | | **77...8250** | **77...8650** | **77...8250** | **77...8650** | **77...8250** | **77...8650** |
|---|---|---|---|---|---|---|---|
| Output configuration | | 1 NO | | 1 NO | | 1 NO | |
| Rated current $I_N$/Max. peak current (10 ms) | A | 80/800 | | 100/1500 | | 125/2250 | |
| Rated voltage | V AC (50/60 Hz) | 240 | 600 | 240 | 600 | 240 | 600 |
| Switching voltage range | V AC (50/60 Hz) | 24…280 | 24…660 | 24…280 | 24…660 | 24…280 | 24…660 |
| Operating frequency range | Hz | 47…400 | 47…400 | 47…400 | 47…400 | 47…400 | 47…400 |
| Repetitive peak off-state voltage | $V_{pk}$ | 600 | 1600 | 600 | 1600 | 600 | 1600 |
| Rated load AC53 | A | 16 | | 20 | | 25 | |
| Minimum switching current @ 250 V | mA | 100 | | 100 | | 100 | |
| Typical "OFF-state" leakage current @ rated voltage | mA | 0.1 | | 0.1 | | 0.1 | |
| Max "ON-state" voltage drop @ 25 °C and $I_N$ | V | 1.5 | | 1.5 | | 1.5 | |
| Power loss @ $I_N$ | W | 96 | | 120 | | 150 | |
| **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 | 5.3/0.55 | | 5.3/0.55 | | 5.3/0.55 | |
| 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 | 15/1 | | 15/1 | | 15/1 | |
| **Technical data** | | | | | | | |
| Electrical life | cycles | — | | — | | — | |
| Operate/release time | (230 V AC) ms | 40/20 | | 40/20 | | 40/20 | |
| | (24 V DC) ms | 10/10 | | 10/10 | | 10/10 | |
| Insulation between input and output (1.2/50 µs) | kV | 6 | | 6 | | 6 | |
| Ambient temperature | °C | –30…+80** | | –30….+80** | | –30…+80** | |
| Protection category | | IP 20 | | IP 20 | | IP 20 | |
| **Approvals** (according to type) | | | | | | | |



XI-2026, www.findernet.com

Downloaded from Arrow.com.

**25, 50 and 75 A dual phase Random SSR, "hockey puck" style with 2 independent channels**

**Type 77.A2.9.024.8671:** 25 A - 600 V AC

**Type 77.C2.9.024.8671:** 50 A - 600 V AC

**Type 77.E2.9.024.8671:** 75 A - 600 V AC

- 2 independent output channel driven by independent low power DC input
- "hockey puck" housing with folding screw cover
- High endurance and switching speed
- Silent switching
- Spark and bounce-free switching
- "contactor-style": input and output terminals on adjacent sides
- Mounting on control cabinet sheet metal or on heatsink

77.A2/C2/E2
Screw terminal (plate clamp)*

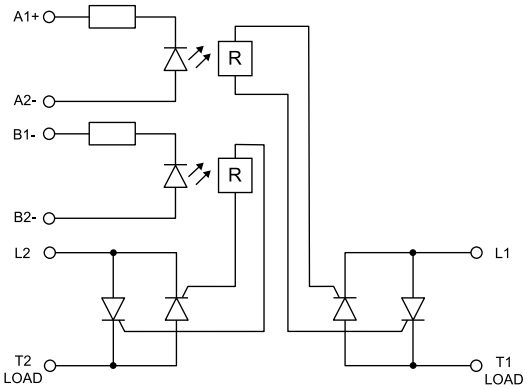


* See recommendation for wiring page 17

** See L77-19, L77-20 and L77-21 diagrams page 22

For outline drawing see page 27

| | 77.A2.9.024.8671 | 77.C2.9.024.8671 | 77.E2.9.024.8671 |
|---|---|---|---|
| |  |  |  |
| | **Random switch-on**<br>• Output: 25 A/600 V AC<br>• Suggested applications: heater or motor control | **Random switch-on**<br>• Output: 50 A/600 V AC<br>• Suggested applications: heater or motor control | **Random switch-on**<br>• Output: 75 A/600 V AC<br>• Suggested applications: heater or motor control |




Simplified circuit diagram

| | | | | |
|---|---|---|---|---|
| **Output specification** | | | | |
| Output configuration | | 2 NO | 2 NO | 2 NO |
| Rated current $I_N$/Max. peak current (10 ms) | A | 25/300 | 50/500 | 75/750 |
| Rated voltage | V AC (50/60 Hz) | 600 | 600 | 600 |
| Switching voltage range | V AC (50/60 Hz) | 24…660 | 24…660 | 24…660 |
| Operating frequency range | Hz | 47…400 | 47…400 | 47…400 |
| Repetitive peak off-state voltage | $V_{pk}$ | 1200 | 1200 | 1200 |
| Rated load AC53 | A | 5 | 10 | 15 |
| Minimum switching current @ 600 V | mA | — | — | — |
| Typical "OFF-state" leakage current @ rated voltage | mA | 5 | 5 | 5 |
| Max "ON-state" voltage drop @ 25 °C and $I_N$ | V | 1.5 | 1.5 | 1.5 |
| Power loss @ $I_N$ | W | 60 | 120 | 180 |
| **Input specification** | | | | |
| Nominal voltage ($U_N$) | V DC | 24 | 24 | 24 |
| Rated power @ $U_{MAX}$ | W | 0.3 | 0.3 | 0.3 |
| Operating range | V DC | 4…32 | 4…32 | 4…32 |
| Must drop-out voltage | V AC (50/60 Hz)/DC | 1 | 1 | 1 |
| **Technical data** | | | | |
| Electrical life | cycles | — | — | — |
| Operate/release time | ms | 1/10 | 1/10 | 1/10 |
| Insulation between input and output (1.2/50 µs) | kV | 6 | 6 | 6 |
| Ambient temperature | °C | –30…+80** | –30…+80** | –30…+80** |
| Protection category | | IP 20 | IP 20 | IP 20 |
| **Approvals** (according to type) | | | | |



Xi-2026, www.findernet.com

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# 77 SERIES
## Hockey puck Solid State Relays 25 - 40 A

**25 and 40 A three phase Random SSR, "hockey puck" style**

**Type 77.A3.x.xxx.8671:** 25 A - 600 V AC

**Type 77.B3.x.xxx.8671:** 40 A - 600 V AC

- High endurance and switching speed
- Silent switching
- Spark and bounce-free switching
- Low control power
- "contactor-style": input and output terminals on adjacent sides
- Mounting on control cabinet sheet metal or on heatsink

77.A3/B3
Screw terminal (plate clamp)*



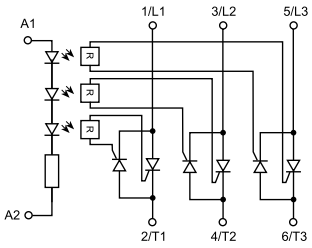
D

* See recommendation for wiring page 17

** See L77-22 and L77-23 diagrams page 22

For outline drawing see page 27

| | 77.A3.x.xxx.8671 | 77.B3.x.xxx.8671 |
|---|---|---|
| |  |  |
| | **Random switch-on**<br>• Output: 25 A/600 V AC<br>• Suggested applications: heater or motor control | **Random switch-on**<br>• Output: 40 A/600 V AC<br>• Suggested applications: heater or motor control |




Simplified circuit diagram

| | | | |
|---|---|---|---|
| **Output specification** | | | |
| Output configuration | | 3 NO | 3 NO |
| Rated current $I_N$/Max. peak current (10 ms) | A | 25/300 | 40/500 |
| Rated voltage | V AC (50/60 Hz) | 600 | 600 |
| Switching voltage range | V AC (50/60 Hz) | 24…660 | 24…660 |
| Operating frequency range | Hz | 47…400 | 47…400 |
| Repetitive peak off-state voltage | $V_{pk}$ | 1600 | 1600 |
| Rated load AC53 | A | 5 | 8 |
| Minimum switching current @ 600 V | mA | — | — |
| Typical "OFF-state" leakage current @ rated voltage | mA | 10 | 10 |
| Max "ON-state" voltage drop @ 25 °C and $I_N$ | V | 1.6 | 1.6 |
| Power loss @ $I_N$ | W | 90 | 144 |
| **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 | 5.3/0.55 | 5.3/0.55 |
| Operating range | V AC (50/60 Hz) | 90…280 | 90…280 |
| | V DC | 4…32 | 4…32 |
| Must drop-out voltage | V AC (50/60 Hz)/DC | 15/1 | 15/1 |
| **Technical data** | | | |
| Electrical life | cycles | — | — |
| Operate/release time | (230 V AC) ms | 10/20 | 10/20 |
| | (24 V DC) ms | 1 | 1 |
| Insulation between input and output (1.2/50 µs) | kV | 6 | 6 |
| Ambient temperature | °C | –30…+80** | –30…+80** |
| Protection category | | IP 20 | IP 20 |
| **Approvals** (according to type) | | | |



XI-2026, www.findernet.com

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**60 and 80 A three phase Random SSR, "hockey puck" style**

**Type 77.D3.x.xxx.8671:** 60 A - 600 V AC

**Type 77.F3.x.xxx.8671:** 80 A - 600 V AC

- High endurance and switching speed
- Silent switching
- Spark and bounce-free switching
- Low control power
- "contactor-style": input and output terminals on adjacent sides
- Mounting on control cabinet sheet metal or on heatsink

77.D3/F3
Screw terminal (plate clamp)*

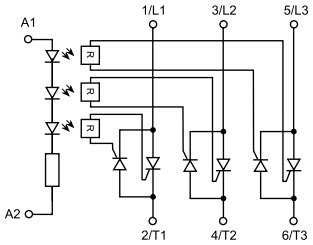


* See recommendation for wiring page 17

** See L77-24 and L77-25 diagrams page 22

For outline drawing see page 27

| | 77.D3.x.xxx.8671 | 77.F3.x.xxx.8671 |
|---|---|---|
| |  |  |
| | **Random switch-on**<br>• Output: 60 A/600 V AC<br>• Suggested applications: heater or motor control | **Random switch-on**<br>• Output: 80 A/600 V AC<br>• Suggested applications: heater control |




Simplified circuit diagram

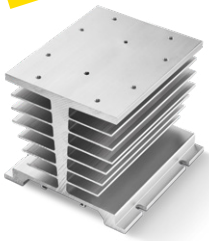
| | | | |
|---|---|---|---|
| **Output specification** | | | |
| Output configuration | | 3 NO | 3 NO |
| Rated current $I_N$/Max. peak current (10 ms) | A | 60/700 | 80/1280 |
| Rated voltage | V AC (50/60 Hz) | 600 | 600 |
| Switching voltage range | V AC (50/60 Hz) | 24…660 | 24…660 |
| Operating frequency range | Hz | 47…400 | 47…400 |
| Repetitive peak off-state voltage | $V_{pk}$ | 1600 | 1600 |
| Rated load AC53 | A | 12 | 16 |
| Minimum switching current @ 600 V | mA | — | — |
| Typical "OFF-state" leakage current @ 600 V | mA | 10 | 10 |
| Max "ON-state" voltage drop @ 25 °C and $I_N$ | V | 1.6 | 1.6 |
| Power loss @ $I_N$ | W | 216 | 288 |
| **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 | 5.3/0.55 | 5.3/0.55 |
| Operating range | V AC (50/60 Hz) | 90…280 | 90…280 |
| | V DC | 4…32 | 4…32 |
| Must drop-out voltage | V AC (50/60 Hz)/DC | 15/1 | 15/1 |
| **Technical data** | | | |
| Electrical life | cycles | — | — |
| Operate/release time | (230 V AC) ms | 10/20 | 10/20 |
| | (24 V DC) ms | 1 | 1 |
| Insulation between input and output (1.2/50 µs) | kV | 6 | 6 |
| Ambient temperature | °C | –30…+80** | –30…+80** |
| Protection category | | IP 20 | IP 20 |
| **Approvals** (according to type) | | | |



XI-2026, www.findernet.com

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## Hockey puck SSR heat sink compatibility chart

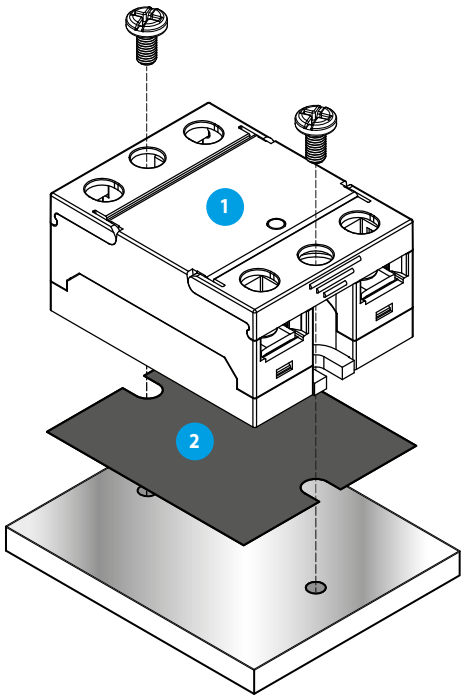
| Heat sink | SSR relay | Thermal pad | K/W | Product Description |
|---|---|---|---|---|
| NEW 077.21  | 77.A1 | 077.T1  077.T2 - Adhesive  | 2.1 | Heat sink SSR 1 phase |
| NEW 077.13  | 77.A1<br>77.B1 | 077.T1  077.T2 - Adhesive  | 1.3 | Heat sink SSR 1 phase |
| NEW 077.08  | 77.B1 - D1 - F1 - G1 - H1<br>77.A2 - C2 - E2<br>77.A3 - B3 | 077.T1  077.T2 - Adhesive  077.T3  | 0.8 | Heat sink SSR 1, 2, 3 phases |
| NEW 077.03.9.024  | 77.D1 - F1 - G1 - H1<br>77.A2 - C2 - E2<br>77.A3 - B3 - D3 - F3 | 077.T1  077.T2 - Adhesive  077.T3  | 0.35 | Heat sink with 24 V DC - 5.5 W cooling fan<br>Suitable for SSR 1, 2, 3 phases |
| NEW 077.03.8.230  | 77.D1 - F1 - G1 - H1<br>77.A2 - C2 - E2<br>77.A3 - B3 - D3 - F3 | 077.T1  077.T2 - Adhesive  077.T3  | 0.35 | Heat sink with 230 V AC - 14.5 W cooling fan<br>Suitable for SSR 1, 2, 3 phases |

D



XI-2026, www.findernet.com

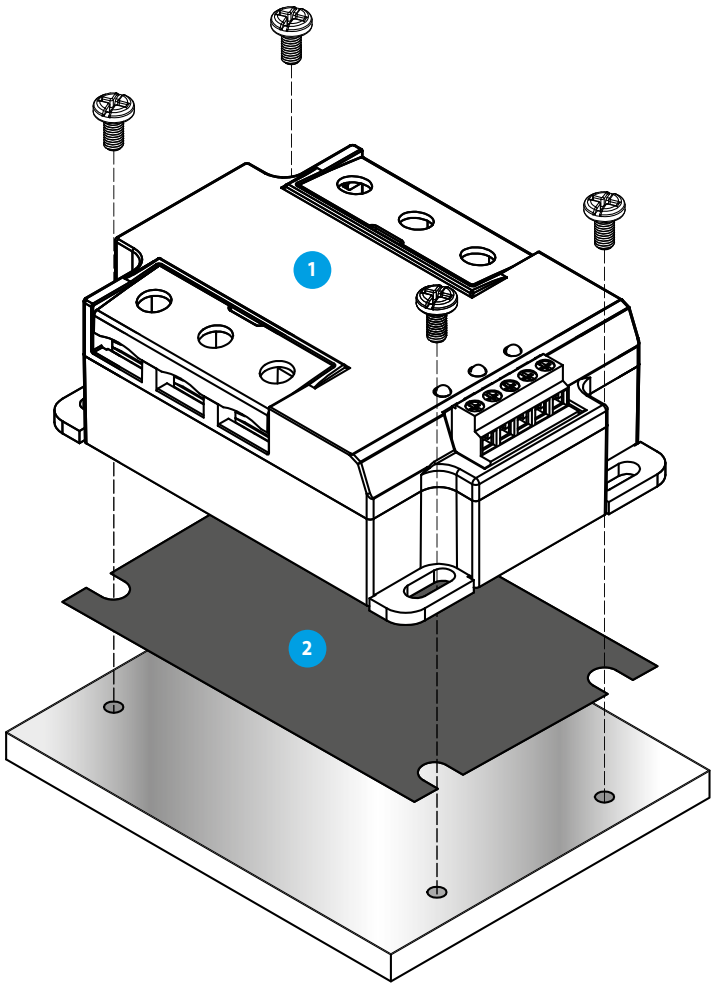
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**1 Type**
77.x1
77.x2

**2 Thermal Pad**
077.T1
077.T2

D




**1 Type**
77.A3
77.B3
77.D3
77.F3

**2 Thermal Pad**
077.T3

XI-2026, www.findernet.com



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## Ordering information - Modular SSRs

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

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 7 | 7 | . | 3 | 1 | . | 8 | . | 2 | 3 | 0 | . | 8 | 0 | 5 | 0 |
| | | | | | | | | | | | | AB | | C | D |

**Series**

**Type/rated current**
0 = 5/7/15 A output (77.01)
1 = 15 A output (77.11)
2 = 25 A output (77.21)
3 = 30 A output (77.31)

**No. of poles/mounting**
1 = 1 pole, modular housing (plastic or heat sink/plastic), DIN rail mounting

**Input version**
8 = AC (50/60 Hz)
9 = DC

**Supply voltage**
See "input specification"

**D: Switch-on mode**
0 = Zero-crossing
1 = Random

**C: Terminal arrangement**
5 = "Relay style" (input and output on opposite sides)
7 = "Contactor style" (input and output on adjacent sides)

**AB: Output circuit** (rated voltage)
80 = 230 V AC (77.01), 400 V AC (77.31)
82 = 230 V AC (77.11, 77.21)
9024 = 24 V DC
9125 = 110…125 V DC

**Codes/Module width**

77.01.8.230.8050/17.5 mm 5 A
77.01.9.024.8050/17.5 mm 5 A
77.01.8.230.8051/17.5 mm 5 A
77.01.9.024.8051/17.5 mm 5 A
77.01.9.024.9125/17.5 mm 7 A
77.01.9.024.9024/17.5 mm 15 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

77.21.8.230.8250/22.5 mm 25 A
77.21.9.024.8250/22.5 mm 25 A
77.21.8.230.8251/22.5 mm 25 A
77.21.9.024.8251/22.5 mm 25 A

77.31.8.024.8050/22.5 mm 30 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

## Ordering information - "Hockey puck" style SSRs

Example: 77 Series modular SSR, 1 output 25 A AC, input voltage 230 V AC, relay style terminal arrangement, zero-crossing switch-on.

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 7 | 7 | . | A | 1 | . | 8 | . | 2 | 3 | 0 | . | 8 | 2 | 5 | 0 |
| | | | | | | | | | | | | AB | | C | D |

**Series**

**Type/rated current**
A = 25 A output
B = 40 A output
C = 50 A output
D = 60 A output
E = 75 A output
F = 80 A output
G = 100 A output
H = 125 A output

**No. of poles/mounting**
1 = 1 phase, heat-sink or directly panel mounting ("hockey puck")
2 = 2 phases
3 = 3 phases

**Input version**
8 = AC (50/60 Hz)
9 = DC

**Supply voltage**
See "input specification"

**D: Switch-on mode**
0 = Zero-crossing
1 = Random

**C: Terminal arrangement**
5 = "Relay style" (input and output on opposite sides)
7 = "Contactor style" (input and output on adjacent sides)

**AB: Output circuit** (rated voltage)
82 = 230 V AC
86 = 600 V AC

**Codes/Module width**

**1 phase 25 - 40 - 60 - 80 - 100 - 125 A**
77.x1.8.230.8250/"hockey puck"
77.x1.9.024.8250/"hockey puck"
77.x1.8.230.8650/"hockey puck"
77.x1.9.024.8650/"hockey puck"

**2 phases 25 - 50 - 75 A**
77.x2.9.024.8671/"hockey puck"

**3 phases 25 - 40 - 60 - 80 A**
77.x3.8.230.8671/"hockey puck"
77.x3.9.024.8671/"hockey puck"

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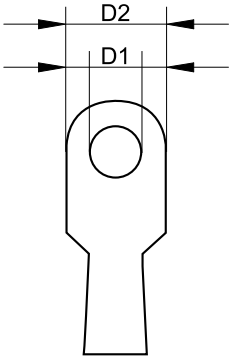
## Technical data

| Insulation | | | 77.01.8xxx | | 77.01.9xxx | | 77.11 | | 77.21 | | 77.31 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 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) | Dielectric strength | Impulse (1.2/50 µs) |
| Between input and output | | | 2500 V AC | 5 kV | 3000 V AC | 4 kV | 3000 V AC | 6 kV | 3000 V AC | 6 kV | 3000 V AC | 6 kV |
| Between input and ground (heat-sink) | | | — | — | — | — | 3000 V AC | 6 kV | 3000 V AC | 6 kV | 3000 V AC | 6 kV |
| Between output and ground (heat-sink) | | | — | — | — | — | 2500 V AC | 4 kV | 2500 V AC | 4 kV | 4000 V AC | 6 kV |
| **EMC specifications** | | **Reference standard** | **77.01.8.230** | | **77.01.9.024** | | **77.11** | | **77.21** | | **77.31** | |
| | | | 230 V AC | | 24 V DC | | 24 V DC | 230 V AC | 24 V 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 | | 4 kV | |
| | air discharge | EN 61000-4-2 | 8 kV | | 8 kV | | 8 kV | | 8 kV | | 8 kV | |
| Radiated electromagnetic field (80…1000 MHz) | | EN 61000-4-3 | 30 V/m | | 20 V/m | | 20 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 | | 1 kV | | 1 kV | 3 kV | 1 kV | 3 kV | 1 kV | 3 kV |
| Voltage pulses on supply terminals (surge 1.2/50 µs) | common mode | EN 61000-4-5 | — | | — | | 3 kV | 3 kV | 3 kV | 3 kV | 3 kV | 3 kV |
| | differential mode | EN 61000-4-5 | 1 kV | | 0.5 kV | | 0.5 kV | 1.5 kV | 0.5 kV | 1.5 kV | 0.5 kV | 1.5 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 | | 10 V | |
| **Terminals** | | | **77.01.x.xxx** | | **77.01.9.xxx** | | **77.11** | | **77.21** | | **77.31** | |
| Screw torque | | Nm | 0.8 | | 0.8 | | 0.8 | | 0.8 | | 0.8 | |
| Max. wire size | | | solid cable | stranded cable | solid cable | stranded cable | solid cable | stranded cable | solid cable | stranded cable | solid cable | stranded cable |
| | | $mm^2$ | 1 x 4 / 2 x 2.5 | 1 x 4 / 2 x 2.5 | 1 x 4 / 2 x 2.5 | 1 x 4 / 2 x 2.5 | 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 x 6 / 2 x 4 | 1 x 6 / 2 x 4 |
| | | AWG | 1 x 12 / 2 x 14 | 1 x 12 / 2 x 14 | 1 x 12 / 2 x 14 | 1 x 12 / 2 x 14 | 1 x 10 / 2 x 12 | 1 x 10 / 2 x 12 | 1 x 10 / 2 x 12 | 1 x 10 / 2 x 12 | 1 x 10 / 2 x 12 | 1 x 10 / 2 x 12 |
| Wire strip length | | mm | 9 | | 9 | | 9 | | 9 | | 9 | |
| **Other data** | | | | | | | | | | | | |
| Power lost to the environment | without output current | W | 0.5 | | 0.5 | | 0.9 | | 0.9 | | 0.9 | |
| | with rated current | W | 4.0 | | 4.0 | | 14 | | 15 | | 16 | |

| | | | 77.x1 | 77.x2 | 77.x3 |
|---|---|---|---|---|---|
| | | | Dielectric strength | Dielectric strength | Dielectric strength |
| Between Input and output | | | 4 kV | 4 kV | 4 kV |
| Between input and ground (heat-sink) | | | 4 kV | 2.5 kV | 2.5 kV |
| **Terminals** | | | | | |
| Screw torque | Input side | Nm | 1.5 | 0.5 | 0.5 |
| | Output side | Nm | 2.2 | 2.2 | 2.2 |
| | On heatsink with thermal pad or paste | Nm | 2.2 | 2.2 | 2.2 |

## Recommendation for wiring

| Load current (A) | Cross section area of wire ($mm^2$) | Wire size (AWG) | DIN 46234 terminal model | D1 (mm) | D2 (mm) |
|---|---|---|---|---|---|
| 15 - 20 | 2.5 | 12 | 4 - 6 | 4.3 | 8 |
| | | | 5 - 6 | 5.3 | 10 |
| 20 - 35 | 4 | 10 | 4 - 6 | 4.3 | 8 |
| | | | 5 - 6 | 5.3 | 10 |
| 25 - 32 | 6 | 10 | 4 - 6 | 4.3 | 8 |
| | | | 5 - 6 | 5.3 | 10 |
| 32 - 50 | 10 | 8 | 5 - 10 | 5.3 | 10 |
| 50 - 65 | 16 | 6 | 5 - 16 | 5.3 | 11 |
| 65 - 85 | 25 | 4 | 5 - 25 | 5.3 | 12 |




Note: If the wire cross section area is bigger than 25 $mm^2$, we suggest to use 2 smaller cross section wires and connect them back to back superimposed (in parallel).



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## 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 | **9**.024 | — | — | 4 | 32 | 3.0 | 18 |
| 230 | **8**.230 | 90 | 265 | — | — | 24 | 15 |

**77.11/77.21**

| 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 | 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 | **8**.024 | 16 | 32 | — | — | 6 | 10 |
| 24 | **9**.024 | — | — | 4 | 32 | 2 | 11 |
| 230 | **8**.230 | 40 | 280 | — | — | 6 | 25 |

**77.x1.x.xxx.8x50**

| 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 | 1.25 | 25 |
| 230 | **8**.230 | 90 | 280 | — | — | 1.25 | 35 |

**77.x2.9.024.8671**

| 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 | 1.5 | 25 |

**77.x3.x.xxx.8671**

| 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 | 1.6 | 35 |
| 230 | **8**.230 | 90 | 280 | — | — | 1.6 | 30 |

**Led indication**

| LED | Supply voltage |
|---|---|
| | OFF |
| | ON |

| LED (77.01.9.024.9xxx only) | Short circuit* |
|---|---|
| | NO |
| | YES |

* To restore normal operation it is necessary to disconnect the power, resolve the short circuit and then restore power.

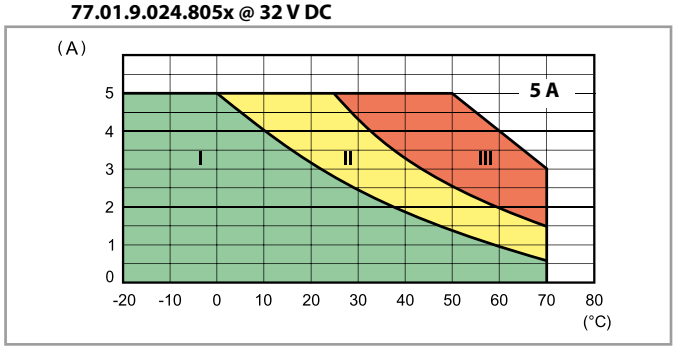


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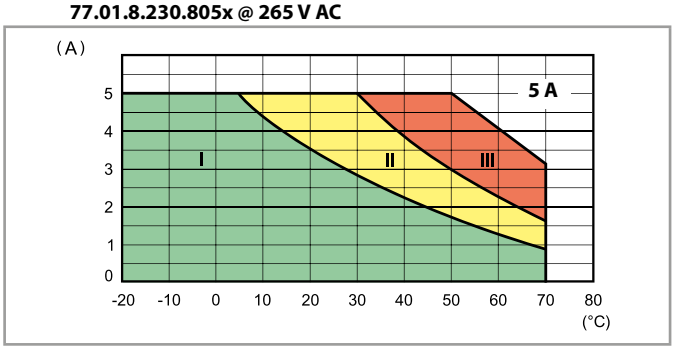
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## Output specification

**L77-1 Output RMS current v ambient temperature**
**77.01.9.024.805x @ 32 V DC**

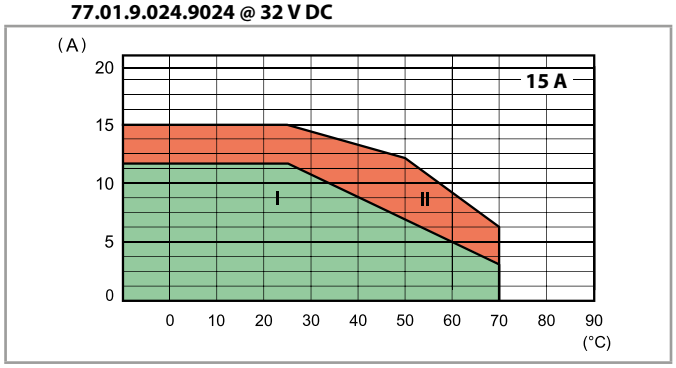



**L77-2 Output RMS current v ambient temperature**
**77.01.8.230.805x @ 265 V AC**

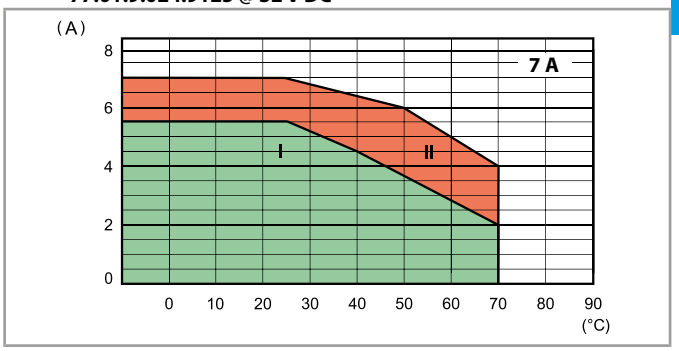



**I** - Modular SSR installed as a group (without gap)
**II** - Modular SSR installed as a group (9 mm gap between each SSR)
**III** - Modular SSR installed individually in free air (without a significant influence from nearby components)

**L77-3 Output DC current v ambient temperature**
**77.01.9.024.9024 @ 32 V DC**

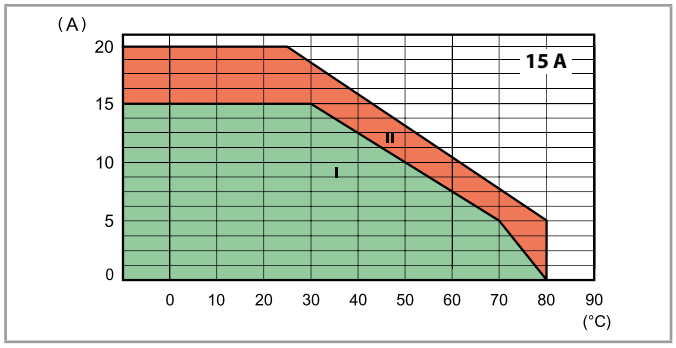



**L77-4 Output DC current v ambient temperature**
**77.01.9.024.9125 @ 32 V DC**



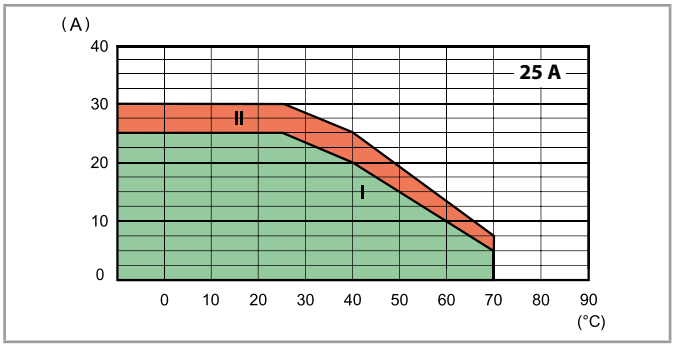

**I** - Modular SSR installed as a group (without gap)
**II** - Modular SSR installed individually in free air , or with a gap ≥ 9 mm, which implies a not significant influence from nearby components

**L77-5 Output RMS current v ambient temperature**
**77.11.x.xxx.82xx**



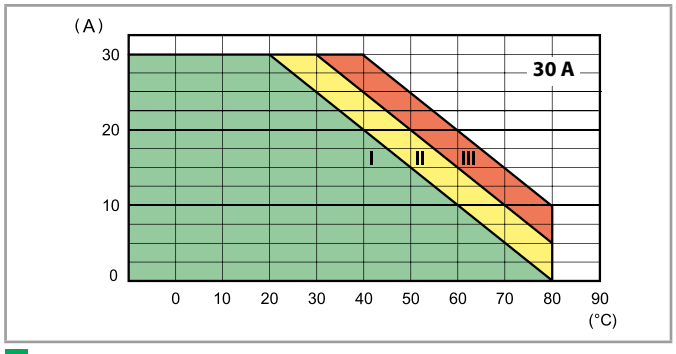

**I** - Modular SSR installed as a group (without gap)
**II** - Modular SSR installed individually in free air , or with a gap ≥ 20 mm, which implies a not significant influence from nearby components

**L77-6 Output RMS current v ambient temperature**
**77.21.x.xxx.825x**




**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

**L77-7 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)

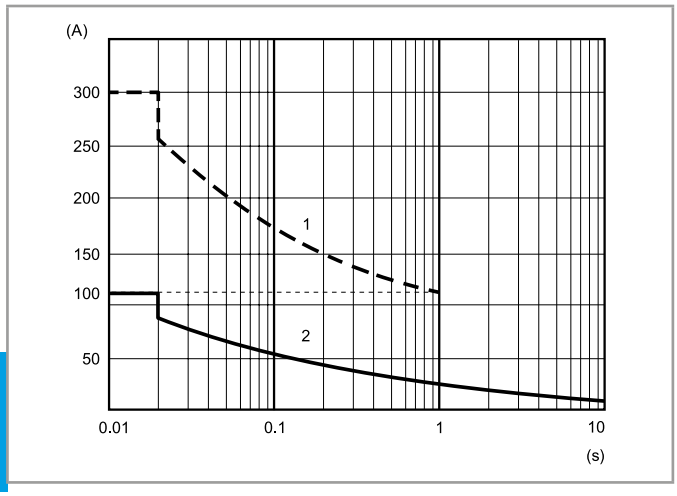
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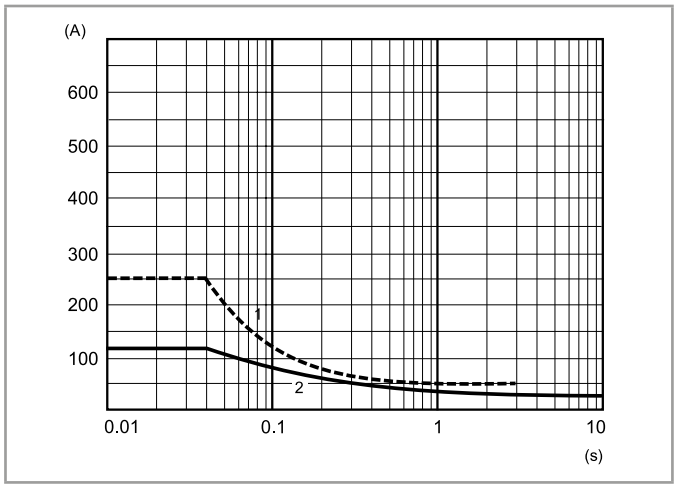
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## Output specification

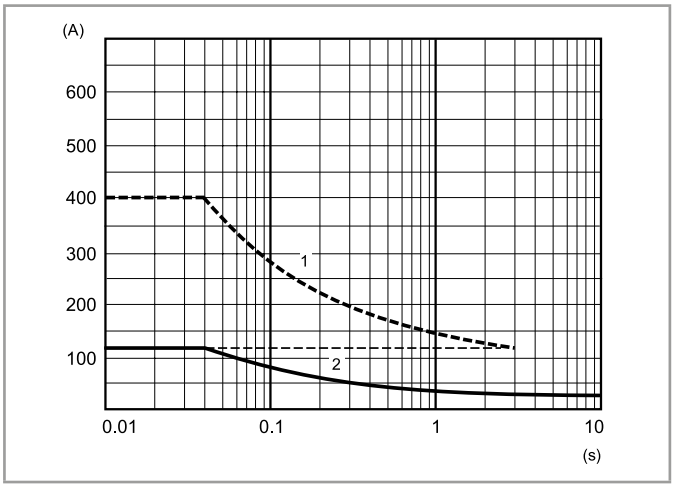
**L77-8 Inrush peak current (AC) v inrush time**
**77.01.x.xxx.80xx**



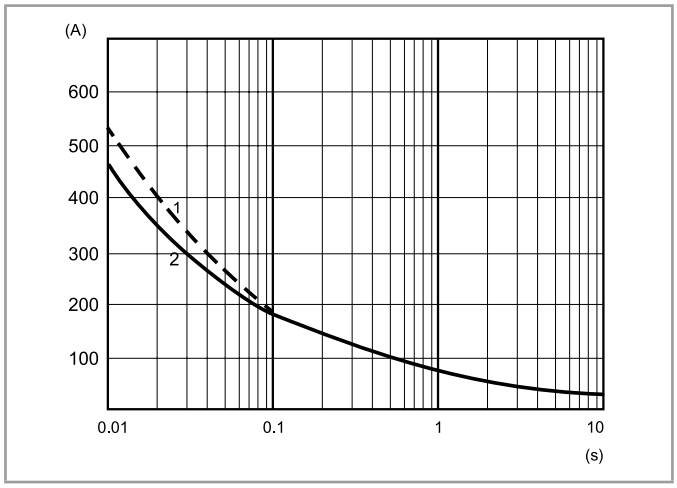

**L77-9 Inrush peak current (AC) v inrush time**
**77.11.x.xxx.82xx**




**L77-10 Inrush peak current (AC) v inrush time**
**77.21.x.xxx.825x**




**L77-11 Inrush peak current (AC) v inrush time**
**77.31.x.xxx.80xx**




**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)

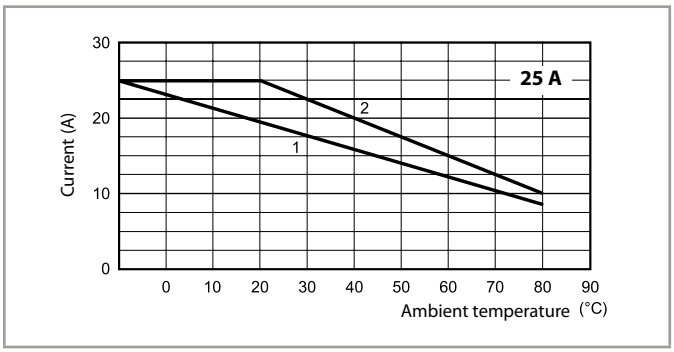
D



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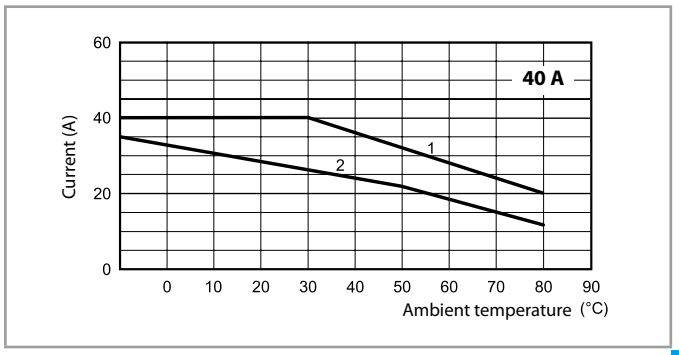
## Output specification

**L77-12 Output RMS current v ambient temperature**
**77.A1.x.xxx.8x50**




**1 -** Installation on heat-sink 077.21 (2.1 K/W)
**2 -** Installation on heat-sink 077.13 (1.3 K/W)

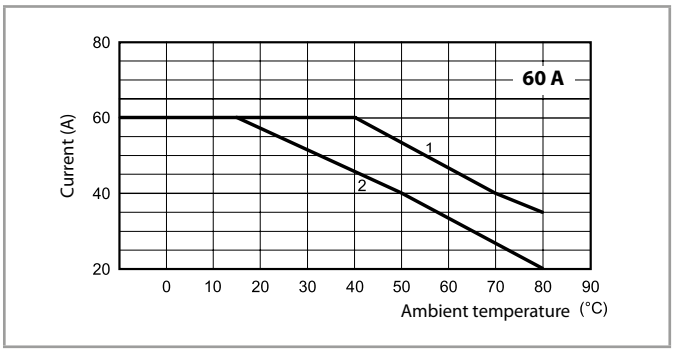
**L77-13 Output RMS current v ambient temperature**
**77.B1.x.xxx.8x50**




**1 -** Installation on heat-sink 077.08 (0.8 K/W)
**2 -** Installation on heat-sink 077.13 (1.3 K/W)

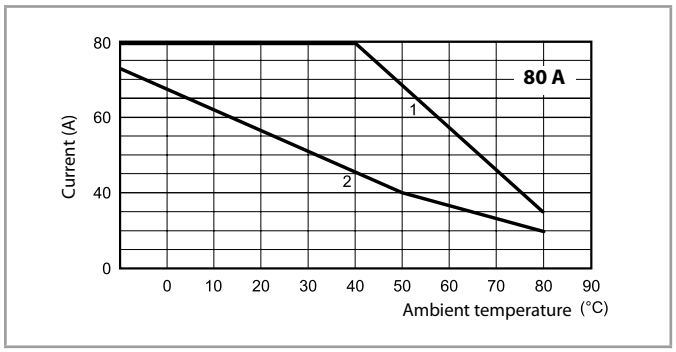
D

**L77-14 Output RMS current v ambient temperature**
**77.D1.x.xxx.8x50**



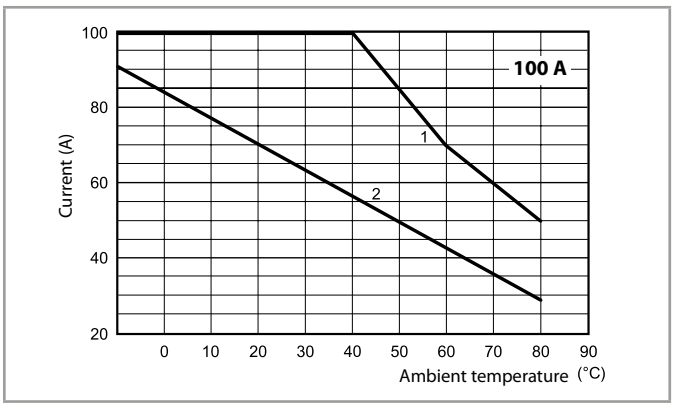

**1 -** Installation on heat-sink 077.03.x.xxx (0.35 K/W)
**2 -** Installation on heat-sink 077.08 (0.8 K/W)

**L77-15 Output RMS current v ambient temperature**
**77.F1.x.xxx.8x50**



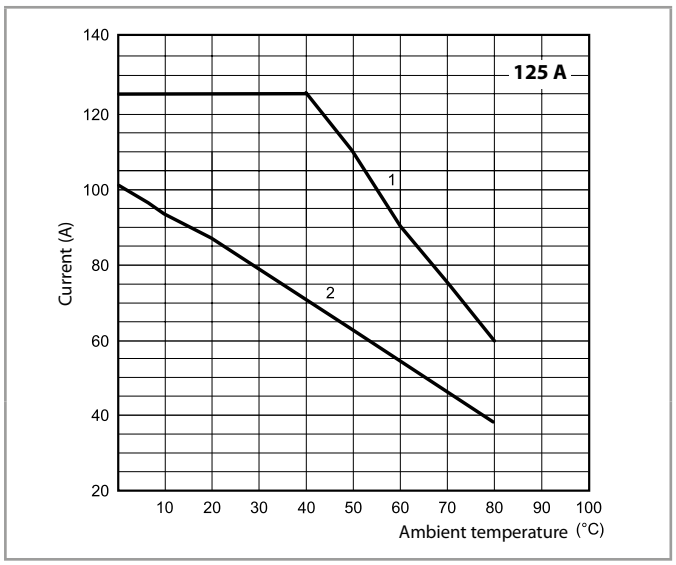

**1 -** Installation on heat-sink 077.03.x.xxx (0.35 K/W)
**2 -** Installation on heat-sink 077.08 (0.8 K/W)

**L77-16 Output RMS current v ambient temperature**
**77.G1.x.xxx.8x50**




**1 -** Installation on heat-sink 077.03.x.xxx (0.35 K/W)
**2 -** Installation on heat-sink 077.08 (0.8 K/W)

**L77-17 Output RMS current v ambient temperature**
**77.H1.x.xxx.8x50**



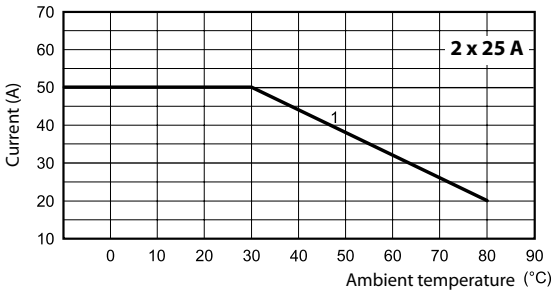

**1 -** Installation on heat-sink 077.03.x.xxx (0.35 K/W)
**2 -** Installation on heat-sink 077.08 (0.8 K/W)



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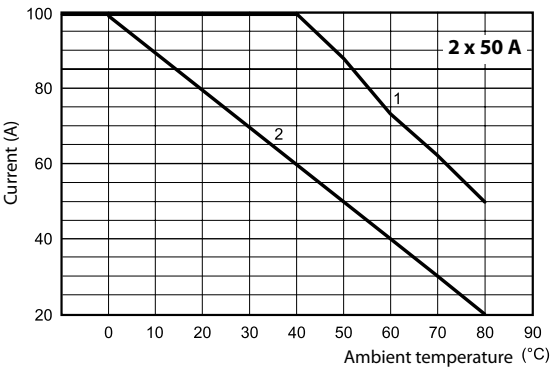
## Output specification

**L77-18 Output RMS current v ambient temperature**
**77.A2.9.024.8671**



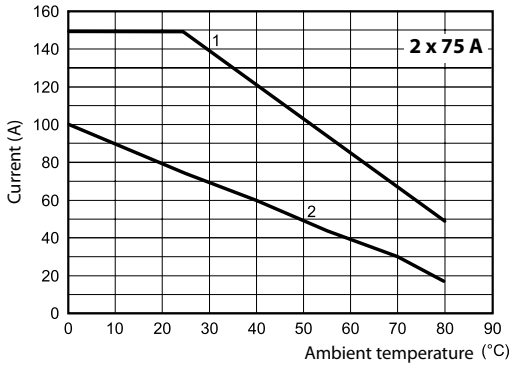

**1 -** Installation on heat-sink 077.08 (0.8 K/W)

**L77-19 Output RMS current v ambient temperature**
**77.C2.9.024.8671**



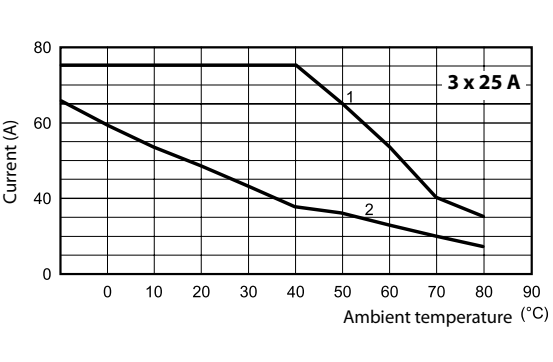

**1 -** Installation on heat-sink 077.03.x.xxx (0.35 K/W)
**2 -** Installation on heat-sink 077.08 (0.8 K/W)

**L77-20 Output RMS current v ambient temperature**
**77.E2.9.024.8671**



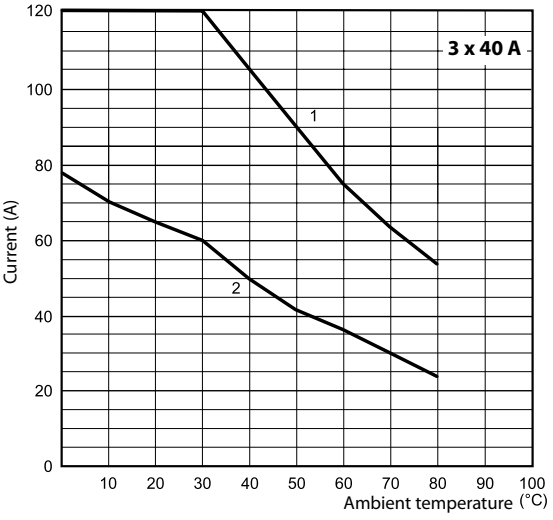

**1 -** Installation on heat-sink 077.03.x.xxx (0.35 K/W)
**2 -** Installation on heat-sink 077.08 (0.8 K/W)

**L77-21 Output RMS current v ambient temperature**
**77.A3.x.xxx.8671**



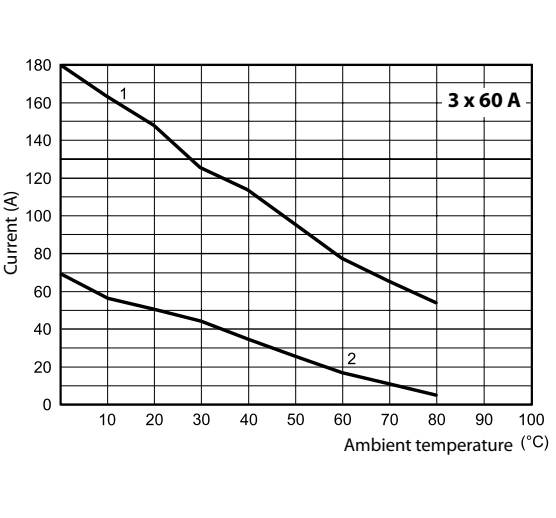

**1 -** Installation on heat-sink 077.03.x.xxx (0.35 K/W)
**2 -** Installation on heat-sink 077.08 (0.8 K/W)

**L77-22 Output RMS current v ambient temperature**
**77.B3.x.xxx.8671**




**1 -** Installation on heat-sink 077.03.x.xxx (0.35 K/W)
**2 -** Installation on heat-sink 077.08 (0.8 K/W)

**L77-23 Output RMS current v ambient temperature**
**77.D3.x.xxx.8671**




**1 -** Installation on heat-sink 077.03.x.xxx (0.35 K/W)
**2 -** Installation on heat-sink 077.08 (0.8 K/W)

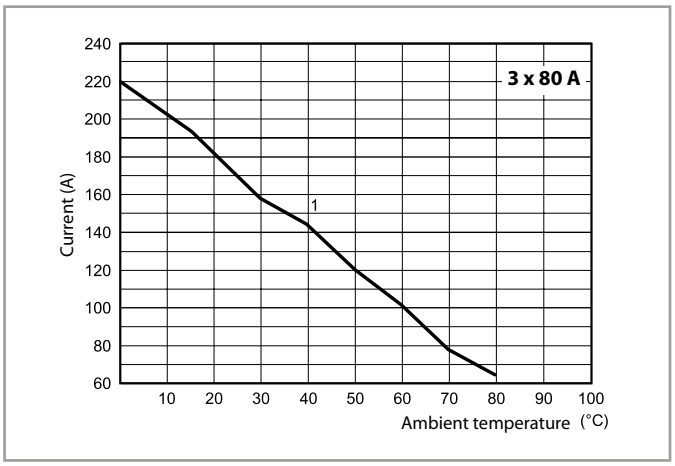


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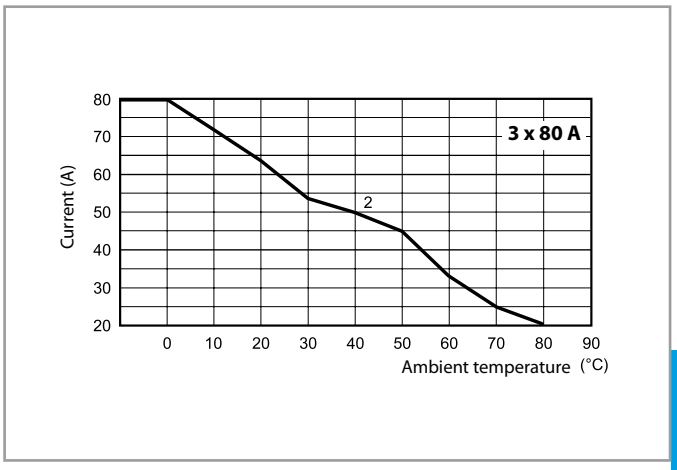
## Output specification

**L77-24 Output RMS current v ambient temperature**
**77.F3.x.xxx.8671**




**1 -** Installation on heat-sink 077.03.x.xxx (0.35 K/W)

**L77-25 Output RMS current v ambient temperature**
**77.F3.x.xxx.8671**




**2 -** Installation on heat-sink 077.08 (0.8 K/W)

D



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## Output specification

| **Max recommended switching frequency** (Cycles/Hour, with 50% Duty-cycle) | | | | |
|---|---|---|---|---|
| Load | **77.01.x.xxx.805x** | **77.01.9.024.9xxx** | **77.11/21** | **77.31** |
| 5 A 230 V (AC1) | 5000 | — | — | — |
| 5 A 24 V DC L/R = 20 ms | — | 3600 | — | — |
| 1 A (AC15) | 10 000 | — | — | — |
| 0.5 A (AC15) | 20 000 | — | — | — |
| 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 | — | — | — | — |
| 40 A 230 V cos φ = 0.7 | — | — | — | — |
| 50 A 230 V cos φ = 0.7 | — | — | — | — |

| **Other data** | | | | |
|---|---|---|---|---|
| | **77.01.x.xxx.805x** | **77.01.9.024.9xxx** | **77.11/21** | **77.31** |
| **Critical rising voltage** dv/dt without input control (gate open) @ $T_j$ = 125 °C | > 1000 V/µs | > 1000 V/µs | > 500 V/µs<br>> 10 V/µs<br>(with di/dt = 20 A/ms) | > 1000 V/µs |
| **Critical rising current** di/dt @ $T_j$ = 125 °C | > 50 A/µs | > 50 A/µs | > 50 A/µs | > 150 A/µs |
| **$I^2t$ for fusing** @ $t_p$ = 10 ms | 450 $A^2s$ | 450 $A^2s$ | 1000 $A^2s$* | 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 $A^2s$.

| **Max recommended switching frequency** (Cycles/Hour, with 50% Duty-cycle) | | | | | | |
|---|---|---|---|---|---|---|
| Load | **77.A1.x.xxx** | **77.B1.x.xxx** | **77.D1.x.xxx** | **77.F1.x.xxx** | **77.G1.x.xxx** | **77.H1.x.xxx** |
| 25 A 230 V cos φ = 0.7 | 1800 | — | — | — | — | — |
| 40 A 230 V cos φ = 0.7 | — | 1800 | — | — | — | — |
| 60 A 230 V cos φ = 0.7 | — | — | 1800 | — | — | — |
| 80 A 230 V cos φ = 0.7 | — | — | — | 1800 | — | — |
| 100 A 230 V cos φ = 0.7 | — | — | — | — | 1800 | — |
| 125 A 230 V cos φ = 0.7 | — | — | — | — | — | 1800 |

| **Other data** | | | | | | |
|---|---|---|---|---|---|---|
| | **77.A1.x.xxx** | **77.B1.x.xxx** | **77.D1.x.xxx** | **77.F1.x.xxx** | **77.G1.x.xxx** | **77.H1.x.xxx** |
| **Critical rising voltage** dv/dt without input control (gate open) @ $T_j$ = 125 °C | 500 V/µs | 500 V/µs | 500 V/µs | 500 V/µs | 500 V/µs | 500 V/µs |
| **$I^2t$ for fusing** @ $t_p$ = 10 ms | 450 $A^2s$ | 1250 $A^2s$ | 2450 $A^2s$* | 3200 $A^2s$** | 11 250 $A^2s$ | 25 000 $A^2s$ |

| **Max recommended switching frequency** (Cycles/Hour, with 50% Duty-cycle) | | | |
|---|---|---|---|
| Load | **77.A2.x.xxx** | **77.C2.x.xxx** | **77.E2.x.xxx** |
| 25 A 230 V cos φ = 0.7 | 1800 | — | — |
| 50 A 230 V cos φ = 0.7 | — | 1800 | — |
| 75 A 230 V cos φ = 0.7 | — | — | 1800 |

| **Other data** | | | |
|---|---|---|---|
| | **77.A2.x.xxx** | **77.C2.x.xxx** | **77.E2.x.xxx** |
| **Critical rising voltage** dv/dt without input control (gate open) @ $T_j$ = 125 °C | 500 V/µs | 500 V/µs | 500 V/µs |
| **$I^2t$ for fusing** @ $t_p$ = 10 ms | 450 $A^2s$ | 2110 $A^2s$ | 2810 $A^2s$* |

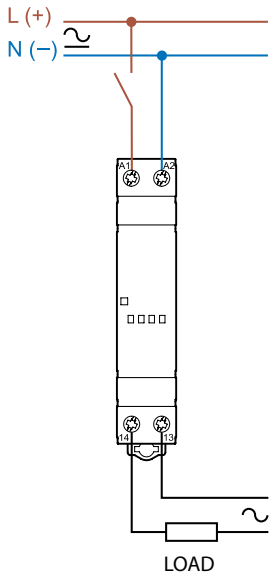
| **Max recommended switching frequency** (Cycles/Hour, with 50% Duty-cycle) | | | | |
|---|---|---|---|---|
| Load | **77.A3.x.xxx** | **77.B3.x.xxx** | **77.D3.x.xxx** | **77.F3.x.xxx** |
| 25 A 230 V cos φ = 0.7 | 1800 | — | — | — |
| 40 A 230 V cos φ = 0.7 | — | 1800 | — | — |
| 60 A 230 V cos φ = 0.7 | — | — | 1800 | — |
| 80 A 230 V cos φ = 0.7 | — | — | — | 1800 |

| **Other data** | | | | |
|---|---|---|---|---|
| | **77.A3.x.xxx** | **77.B3.x.xxx** | **77.D3.x.xxx** | **77.F3.x.xxx** |
| **Critical rising voltage** dv/dt without input control (gate open) @ $T_j$ = 125 °C | 500 V/µs | 500 V/µs | 500 V/µs | 500 V/µs |
| **$I^2t$ for fusing** @ $t_p$ = 10 ms | 450 $A^2s$ | 1250 $A^2s$ | 2450 $A^2s$* | 8190 $A^2s$** |

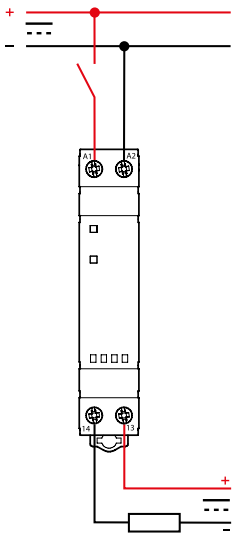

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## Wiring diagrams

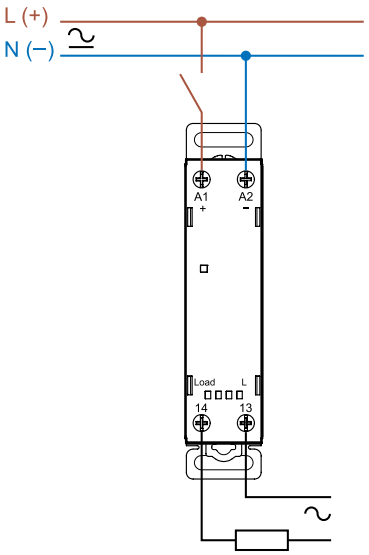
**Single-phase connection (77.01...805x)**



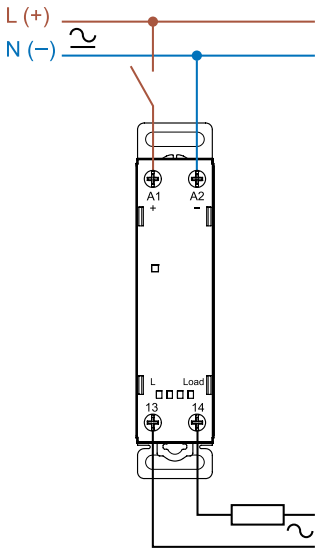

**Single-phase connection DC (77.01...9x2x)**



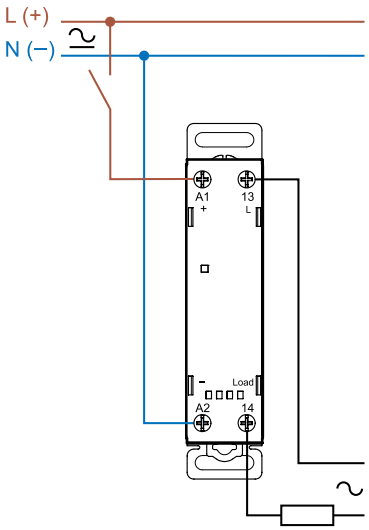

**Single-phase connection (77.11/77.21)**



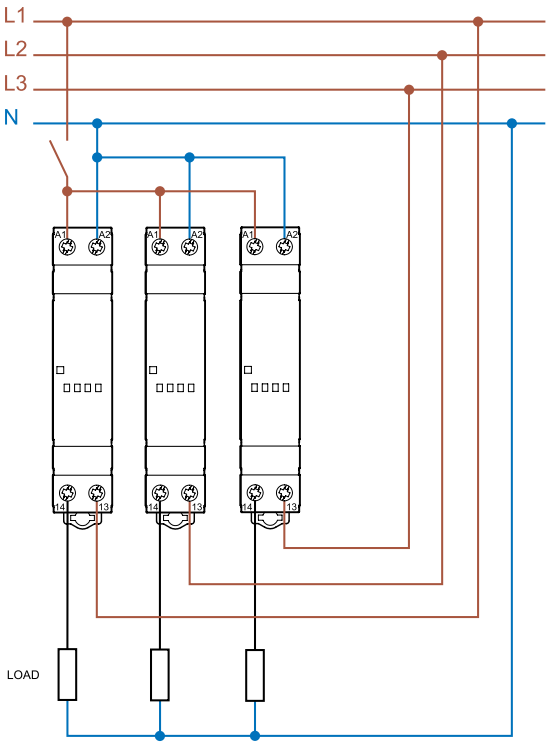

**Single-phase connection (77.31...805x)**




**Single-phase connection (77.31...807x)**




**Example of three-phase connection (with 3 x 77.01)**



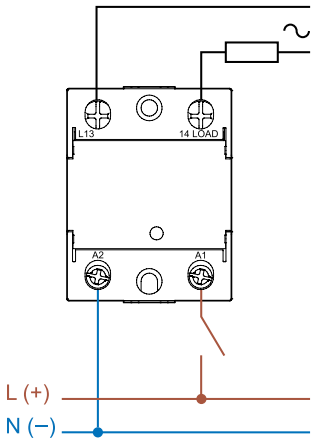

Note: this connection can be used with all 77 series types.



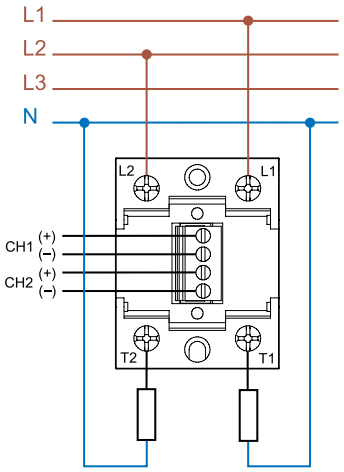
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## Wiring diagrams

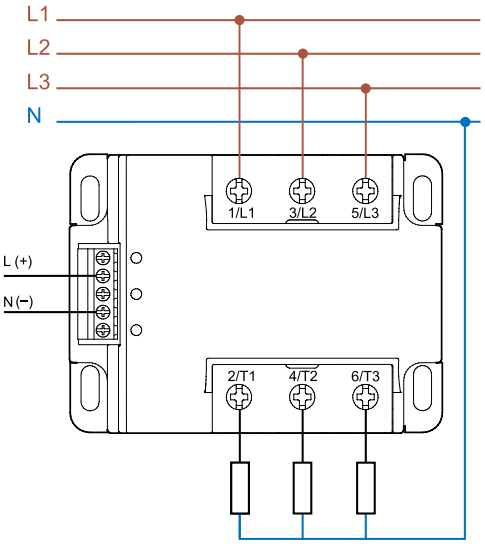
**Single-phase connection**
**(77.x1)**




**Dual phase connection**
**(77.x2)**




**Three phase connection**
**(77.x3)**




D

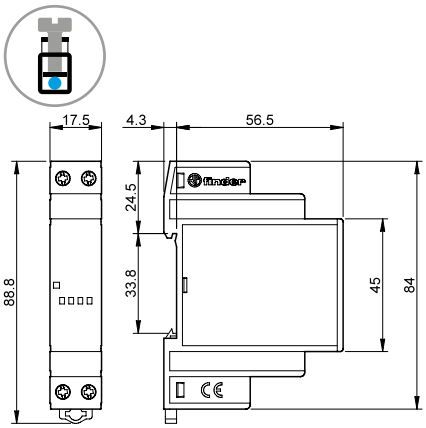


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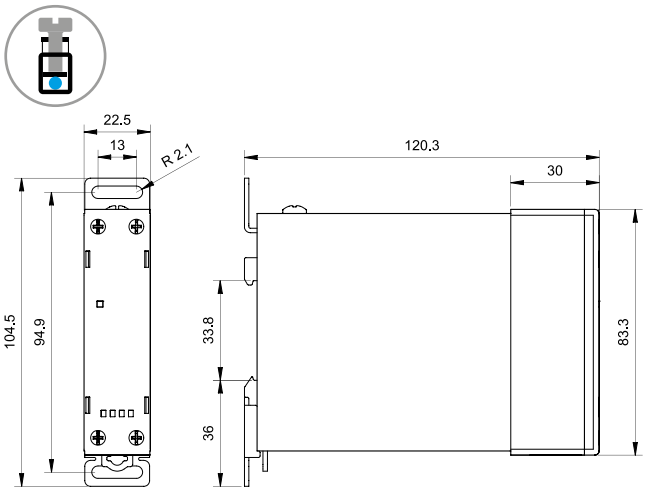
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## Outline drawings

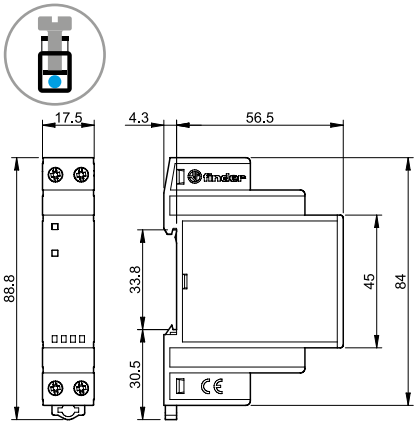
Type 77.01
Box clamp



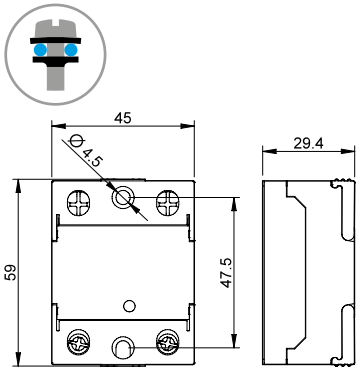

Types 77.11/21/31
Box clamp



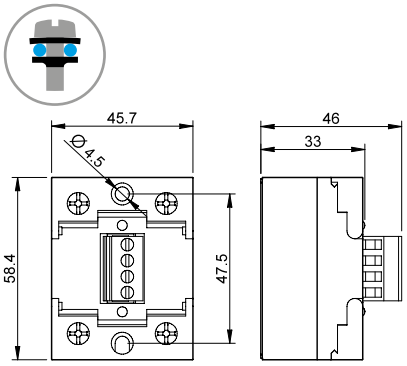

Type 77.01 DC
Box clamp



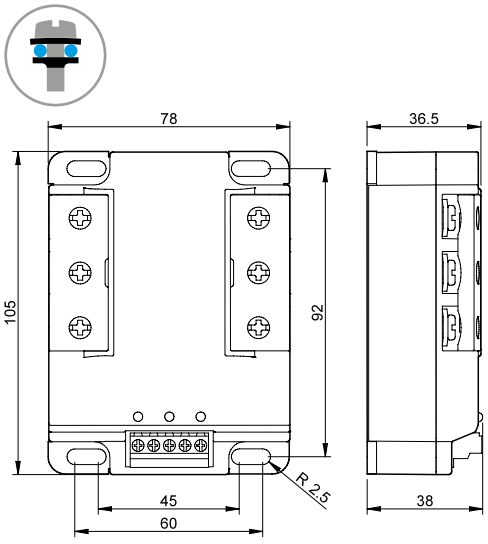

Type 77.x1
Screw terminal (plate clamp)




Type 77.x2
Screw terminal (plate clamp)




Type 77.x3
Screw terminal (plate clamp)




D

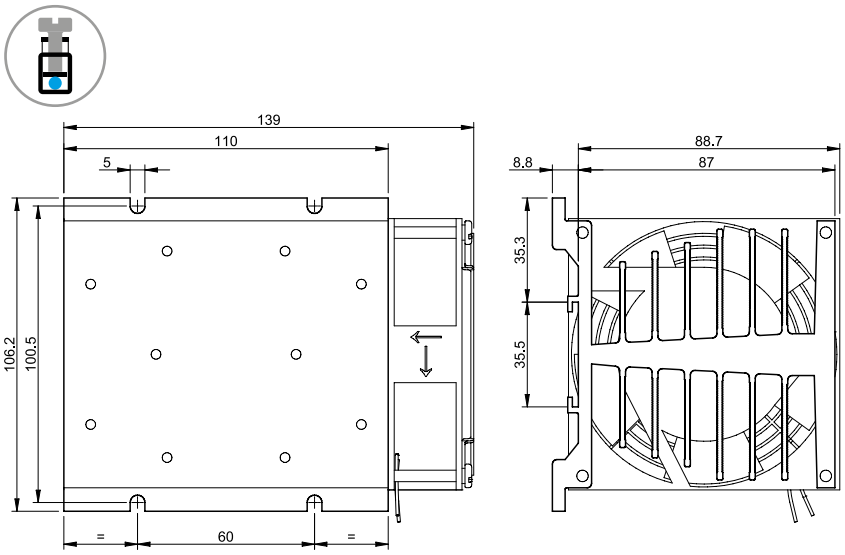
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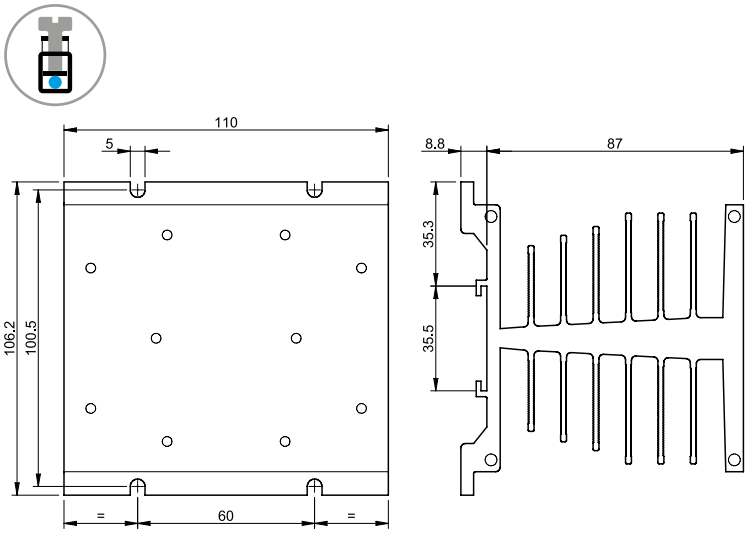
Downloaded from Arrow.com.

## Outline drawings

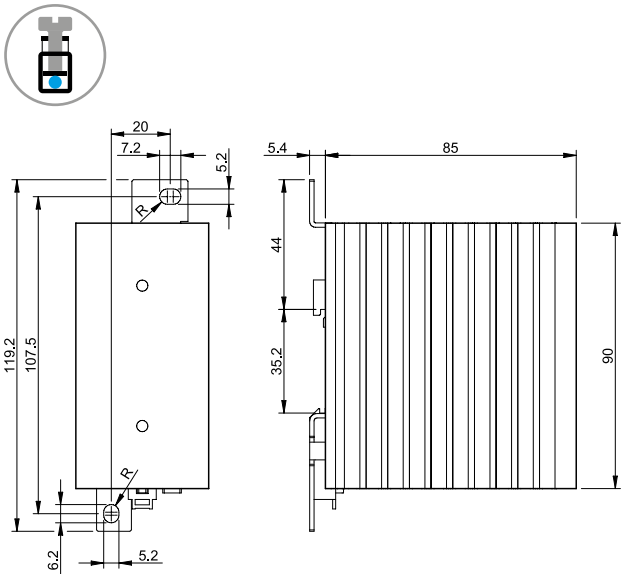
Type 077.03.x.xxx
Box clamp



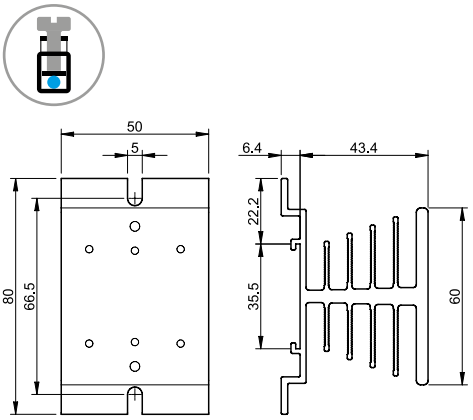

Type 077.08
Box clamp




Type 077.13
Box clamp




Type 077.21
Box clamp






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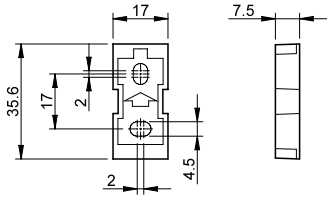
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## Accessories



020.01

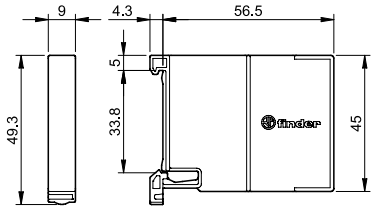
| | |
|---|---|
| **Adaptor for panel mounting**, plastic, 17.5 mm wide for 77.01 only | 020.01 |

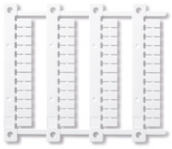





022.09

| | |
|---|---|
| **Separator for rail mounting**, plastic, 9 mm wide | 022.09 |



060.48

| | |
|---|---|
| **Sheet of marker tags (CEMBRE Thermal transfer printers)** for all relays (48 tags), 6 x 12 mm | 060.48 |

D



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