

Single-phase and three-phase version Power Solid-State Relays

NEW



For many industrial applications, the switching performance of contactors is no longer sufficient for switching loads reliably over long periods. For this reason, heating elements in plastics machinery, to take one example, are synchronized in order to control the heat output. Electro-mechanical components quickly reach the limits of their capacity in this regard. The switching noises from contactors – in the fields of refrigeration, plant and factory construction, or in processes where people work in the vicinity – are often a source of disturbance and distraction. This is where Power solid-state relays, with their noise-free, wear-free switching function, are right for the job.

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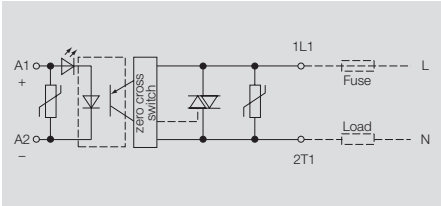
Power Solid-State Relays

PSSR

PSSR 24 V DC / 1 PH AC 20 A

Single-phase version

- Load circuit: single-phase 12 ... 275 V AC / 20 A
- Zero-voltage switch
- Ready-to-use: snap-on, connect, and ready
- Wear-free and noise-free switching
- High capacity for handling surge currents
 $I^2t = 312 \text{ A}^2\text{s}$ (10 ms)



Technical data

Control side

Rated voltage	3 ... 32 V DC
Power rating	0.03 ... 0.3 W
Making voltage	3 V
Dropout voltage	1 V
max. input frequency	10 Hz
Status indicator	LED green
Protective circuit	varistor

Load side

Solid-state type	Triac
Nominal switching voltage	12 ... 275 V
Nominal switching current	20 A @ 55 °C
Voltage drop at max. load	0.85 V
Leakage current	< 1 mA
Short-circuit-proof/Protective circuit	no / varistor
Switch-on delay/Switch-off delay	10 ms / 10 ms
Continuous current	20
Permissible short-circuit current/Fuse	250 A / 10 ms / FERRAZ gRC 25 A 14 x 51 165 A ² s
Load category	AC 53: 5 A

General data

Ambient temperature (operational)	-30 °C ... +80 °C
Storage temperature	-30 °C ... +100 °C
UL 94 flammability class	
Humidity	40 ... 85 % (indoor), no condensation
Approvals	CE, cURus
Standards	EN 60950, IEC 60947-4-3

Insulation coordination (EN 50 178)

Rated voltage	300 V
Rated impulse withstand voltage	4.0 kV
Clearance and creepage distances for control side – load side	≥ 6.4 mm
Surge category	III
Pollution severity	2

Dimensions

Clamping range (rating- / min. / max.)	mm ²	16 / 1.5 / 16
Length x width x height	mm	98 x 22.5 x 116.1

Note

Ordering data

Connection system

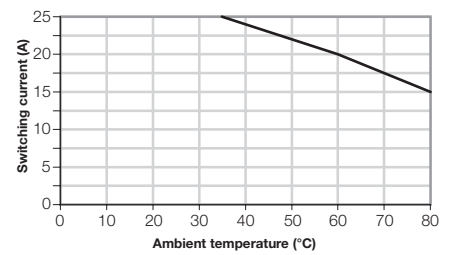
Type	Qty.	Order No.
PSSR 24VDC/1PH AC 20A	1	8952110000

Note

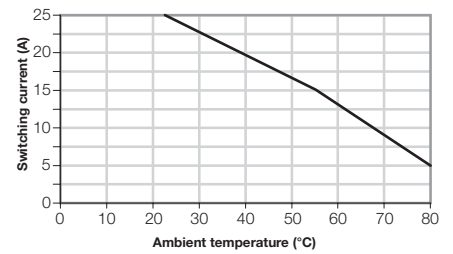
Accessories

Note

Derating curve with moderate ventilation and 50% operational running time



Derating curve without ventilation and in continual run mode

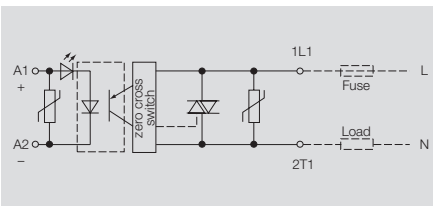


PSSR

PSSR 230 V AC / 1 PH AC 20 A

Single-phase version

- Load circuit: single-phase 12 ... 275 V AC / 20 A
- Zero-voltage switch
- Ready-to-use: snap-on, connect, and ready
- Wear-free and noise-free switching
- High capacity for handling surge currents
I²t = 312 A²s (10 ms)



Technical data

Control side

Rated voltage	110 ... 240 V DC / 150 ... 240 V AC
Power rating	0.3 ... 1.7 W
Making voltage	10 V DC / 150 V AC
Dropout voltage	1 V
max. input frequency	10 Hz
Status indicator	LED green
Protective circuit	RC element; varistor

Load side

Solid-state type	Triac
Nominal switching voltage	12 ... 275 V
Nominal switching current	20 A @ 55 °C
Voltage drop at max. load	0.85 V
Leakage current	< 1 mA
Short-circuit-proof/Protective circuit	no / RC element; varistor
Switch-on delay/Switch-off delay	30 ms / 30 ms
Continuous current	20
Permissible short-circuit current/Fuse	250 A / 10 ms / FERRAZ gRC 25 A 14 x 51 165 A ² s
Load category	AC 53: 5 A

General data

Ambient temperature (operational)	-30 °C...+80 °C
Storage temperature	-30 °C...+100 °C
UL 94 flammability class	
Humidity	40 ... 85 % (indoor), no condensation
Approvals	CE, cURus
Standards	EN 60950, IEC 60947-4-3

Insulation coordination (EN 50 178)

Rated voltage	300 V
Rated impulse withstand voltage	4.0 kV
Clearance and creepage distances for control side – load side	≥ 6.4 mm
Surge category	III
Pollution severity	2

Dimensions

Clamping range (rating- / min. / max.)	mm ²	16 / 1.5 / 16
Length x width x height	mm	98 x 22.5 x 116.1

Note

Ordering data

Connection system

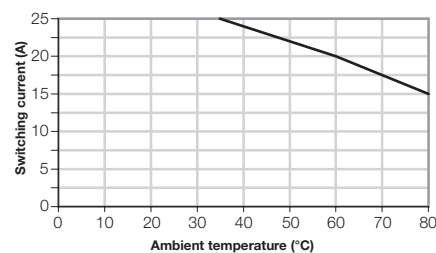
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Note

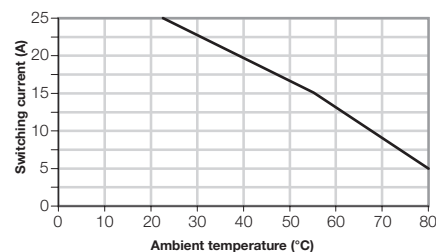
Accessories

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Derating curve with moderate ventilation and 50% operational running time



Derating curve without ventilation and in continual run mode



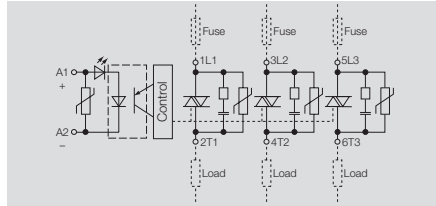
Power Solid-State Relays

PSSR

PSSR 24 V DC / 3 PH AC 20 A

Three-phase version

- Load circuit: three-phase 24 ... 520 V AC / 20 A
- Ready-to-use: snap-on, connect, and ready
- Wear-free and noise-free switching
- High capacity for handling surge currents
I²t = 1500 A²s (10 ms)



Technical data

Control side

Rated voltage	8 ... 30 V DC / 10 ... 30 V AC
Power rating	0.1 ... 2 W
Making voltage	8 V DC / 10 V AC
Dropout voltage	4 V
max. input frequency	10 Hz
Status indicator	LED green
Protective circuit	RC element; varistor

Load side

Solid-state type	Thyristor
Nominal switching voltage	24 ... 520 V
Nominal switching current	20 A @ 55 °C
Voltage drop at max. load	1.4 V
Leakage current	< 1 mA
Short-circuit-proof/Protective circuit	no / RC element; varistor
Switch-on delay/Switch-off delay	30 ms / 30 ms
Continuous current	15
Permissible short-circuit current/Fuse	550 A / 10 ms / FERRAZ gRC 63 A 22 x 58 1353 A ² s
Load category	AC 53: 3 x 12 A

General data

Ambient temperature (operational)	-40 °C ... +80 °C
Storage temperature	-40 °C ... +100 °C
UL 94 flammability class	
Humidity	40 ... 85 % (indoor), no condensation
Approvals	CE, cURus
Standards	EN 60950, IEC 60947-4-3

Insulation coordination (EN 50 178)

Rated voltage	300 V
Rated impulse withstand voltage	4.0 kV
Clearance and creepage distances for control side – load side	≥ 6.4 mm
Surge category	III
Pollution severity	2

Dimensions

Clamping range (rating- / min. / max.)	mm ²	10 / 1.5 / 10
Length x width x height	mm	98 x 89.6 x 126.2

Note

Ordering data

Connection system

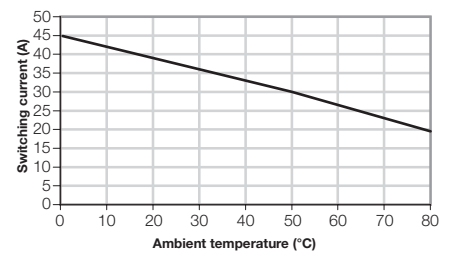
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Note

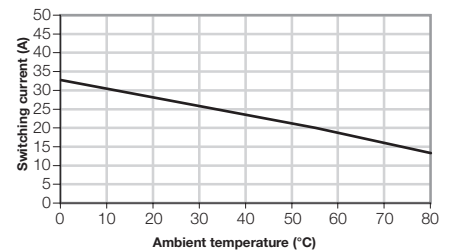
Accessories

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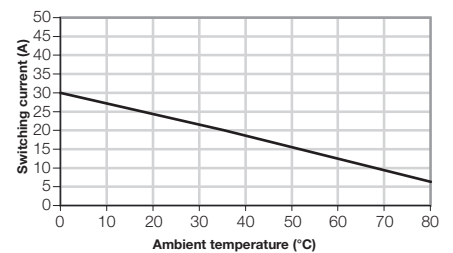
Derating curve with maximum ventilation



Derating curve with moderate ventilation and 50% operational running time



Derating curve without ventilation and in continual run mode

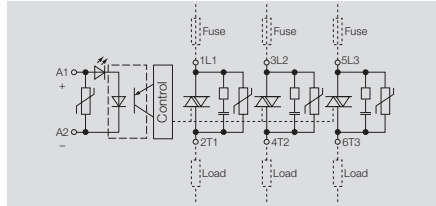


PSSR

PSSR 230 V AC / 3 PH AC 20 A

Three-phase version

- Load circuit: three-phase 24 ... 520 V AC / 20 A
- Ready-to-use: snap-on, connect, and ready
- Wear-free and noise-free switching
- High capacity for handling surge currents
 $I^2t = 1500 \text{ A}^2\text{s}$ (10 ms)



Technical data

Control side

Rated voltage	90 ... 240 V AC / DC
Power rating	0.4 ... 2.6 W
Making voltage	90 V AC / DC
Dropout voltage	15 V
max. input frequency	10 Hz
Status indicator	LED green
Protective circuit	RC element; varistor

Load side

Solid-state type	Thyristor
Nominal switching voltage	24 ... 520 V
Nominal switching current	20 A @ 55 °C
Voltage drop at max. load	1.4 V
Leakage current	< 1 mA
Short-circuit-proof/Protective circuit	no / RC element; varistor
Switch-on delay/Switch-off delay	30 ms / 30 ms
Continuous current	15
Permissible short-circuit current/Fuse	550 A / 10 ms / FERRAZ gRC 63 A 22 x 58 1353 A ² s
Load category	AC 53: 3 x 12 A

General data

Ambient temperature (operational)	-40 °C ... +80 °C
Storage temperature	-40 °C ... +100 °C
UL 94 flammability class	
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Approvals	CE, cURus
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Insulation coordination (EN 50 178)

Rated voltage	300 V
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Surge category	III
Pollution severity	2

Dimensions

Clamping range (rating- / min. / max.)	mm ²	10 / 1.5 / 10
Length x width x height	mm	98 x 89.6 x 126.2

Note

Ordering data

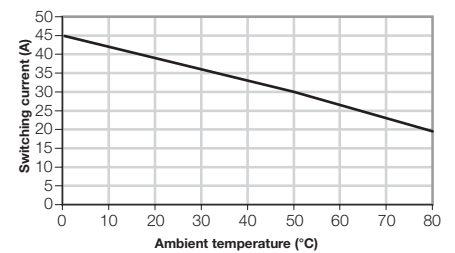
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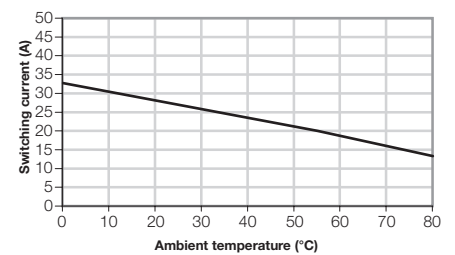
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Derating curve without ventilation and in continual run mode

