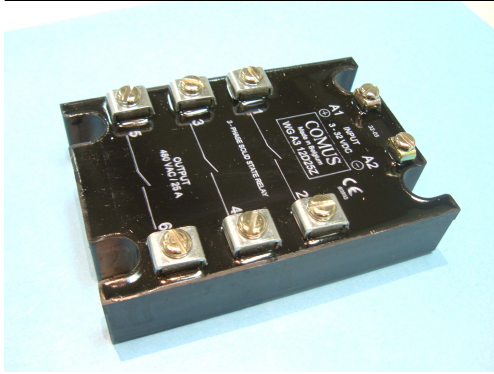


# Solid State Relays

## Datasheet WG A3

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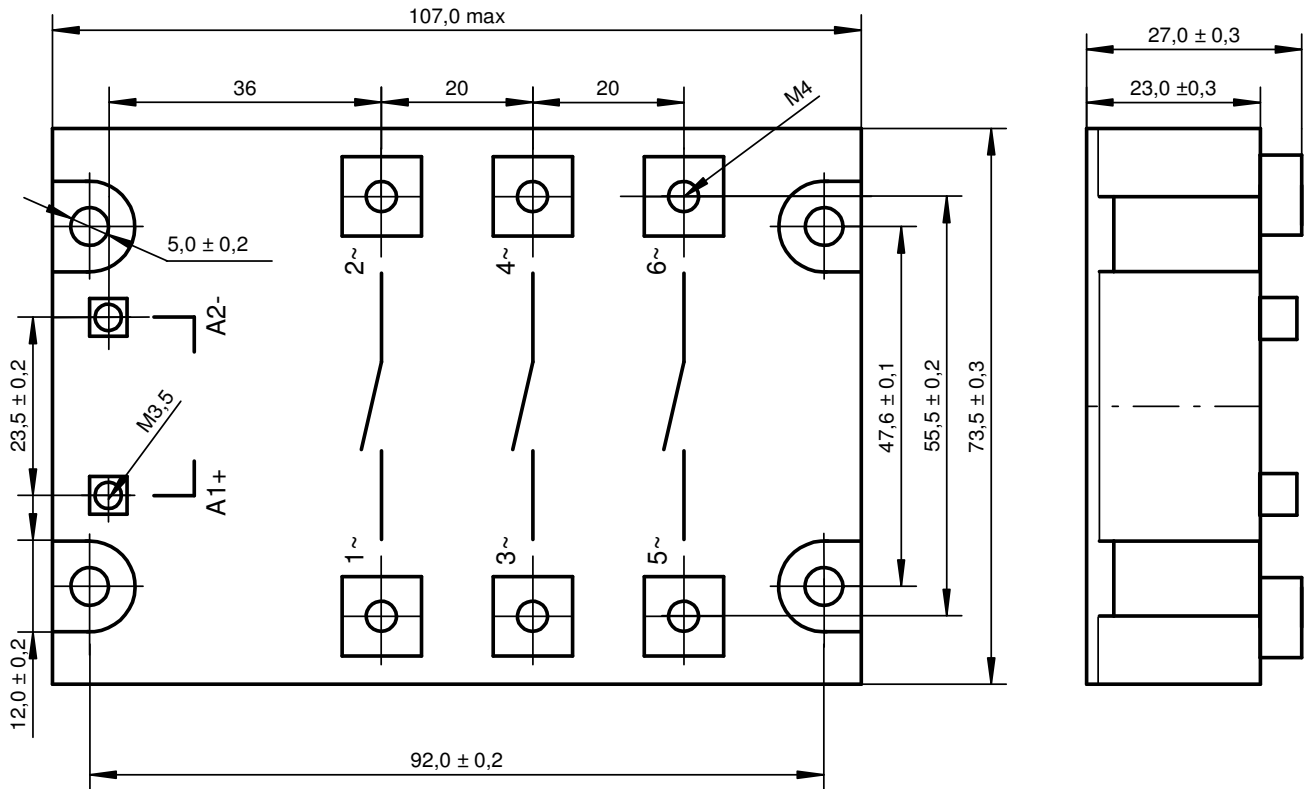
### Features

<b>Switching</b>	Zero-cross and Random
<b>Output</b>	Back to back SCR
<b>INPUT</b>	DC
<b>Applications</b>	Three phase loads ( motors, transformers ) resistive and inductive loads with $\cos\varphi > 0.85$ (Z-type) inductive load ( R-type )

### Technical data

	WG A3 12D... WG A3 16D...	10 Z	25 Z	45 Z	10 R	25 R	45 R
<b>Input circuit</b>							
Control voltage range	3...32 VDC						
Control current max	25 mA						
Turn-off voltage min..	1 VDC						
Input resistance	Constant current						
<b>Output circuit</b>							
Load voltage Range	24...480 VAC (12D) 24...660 VAC (16D)			48...480 VAC (12D) 48...660 VAC (16D)			
Peak-off state votage	1200 V <sub>drm</sub> (12D) 1600 V <sub>drm</sub> (16D)						
Off-state leakage current	10 mA eff.						
Load current range	0,1..10 A	0,2..25 A	0,4..45 A	0,1..10 A	0,2..25 A	0,4..45 A	
Surge current 1 half wave	110 A <sub>peak</sub>	230 A <sub>peak</sub>	500 A <sub>peak</sub>	110 A <sub>peak</sub>	230 A <sub>peak</sub>	500 A <sub>peak</sub>	
I <sup>2</sup> t for fusing	60 A <sup>2</sup> s	260 A <sup>2</sup> s	500 A <sup>2</sup> s	60 A <sup>2</sup> s	260 A <sup>2</sup> s	500 A <sup>2</sup> s	
On-state voltage	1,6 V <sub>peak</sub>						
Off-state (static) dv/dt	1000 V/μs						
Snubber	47 Ω / 10 nF						
<b>General data</b>							
Turn-on time max.	11 ms	0,1 ms	11 ms	0,1 ms	11 ms	0,1 ms	
Turn-off time max.	11 ms						
Line frequency range.	47...63 Hz						
Isolation volt. between input/output	4.000 V						
Isolation volt. between input-output/base	2.500 V						
Isolation resistance	50 MΩ						
Operating temperature	-20...+80 °C						
Recommended varistor	SIOV-S20 K420						
Approvals							

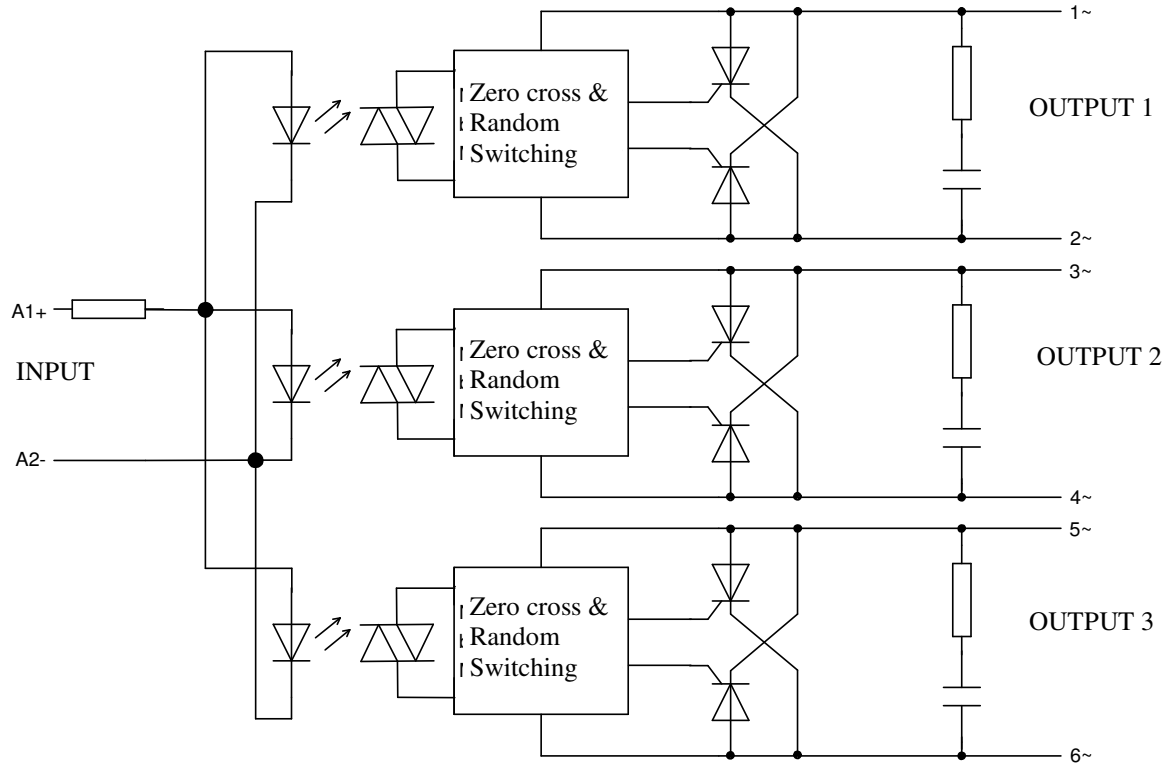
### Dimensions in mm



### Housing specification

Weight	Approx. 430 g.
Housing material	Glass filled polyester
Potting compound	UL recognized Epoxy
Base plate	Aluminium , nickel plated
Terminals	Input : M3,5-screws Output : M4-screws

### Circuit diagram



### Ordering

**WG A3 12 D 10 Z**

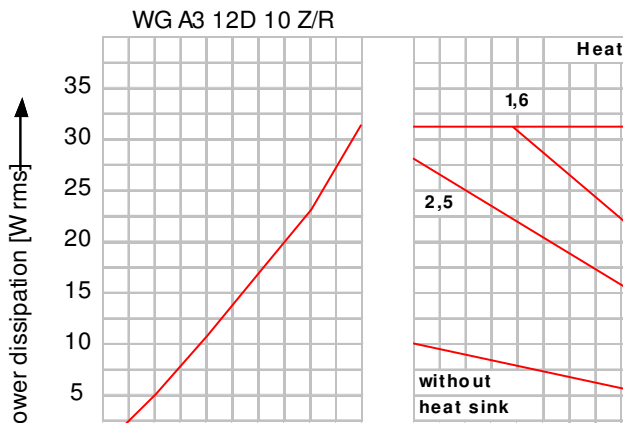
**Voltage** ————  
 12 : 1200 V  
 16 : 1600 V

**Current** ————  
 10 : 10A  
 25 : 25A  
 45 : 45A

**Switching** ————  
 Z : Zero cross  
 R : Random

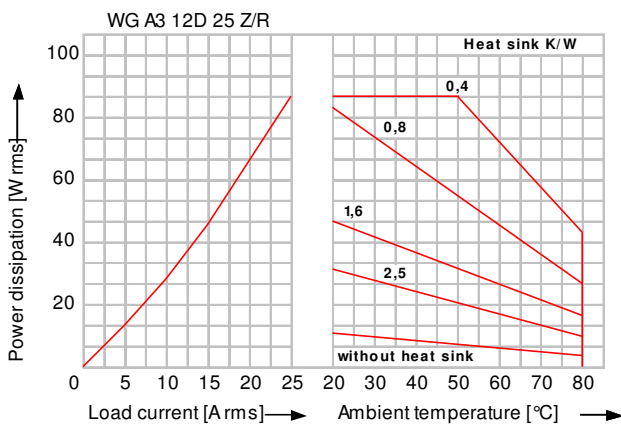
Description	Part Number
Protective case large	8440 5701 770
Thermal Conducting paste	8406 0180 020
Heat sink WG K2/100	5981 5701 110
Heat sink WG K3/160	5981 5701 370
Heat sink WG K4/160L	5981 5701 371
Mounting plate	5981 5701 420

### Derating-diagrams



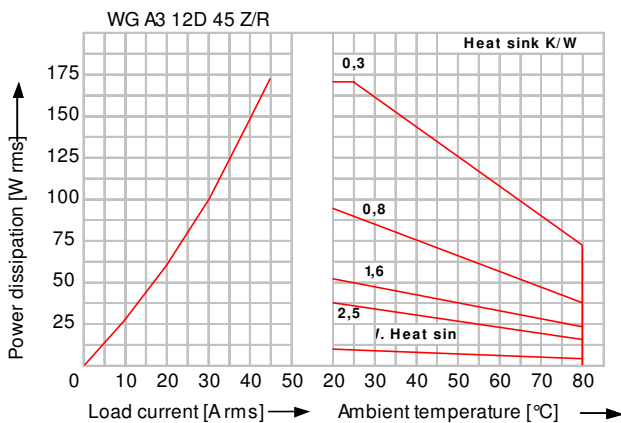
Load current for 1 SSR	
Heat sink	
WG K2/100	6 A
WG K3/160	10 A
WG K4/160L	10 A

Values for 40°C enclosure-temperature and mounted with conduction paste between the SSR and the heat sink



Load current for 1 SSR	
Heat sink	
WG K2/100	6 A
WG K3/160	16 A
WG K4/160L	25 A

Values for 40°C enclosure-temperature and mounted with conduction paste between the SSR and the heat sink



Load current for 1 SSR	
Heat sink	
WG K2/100	6 A
WG K3/160	17 A
WG K4/160L	42 A

Values for 40°C enclosure-temperature and mounted with conduction paste between the SSR and the heat sink