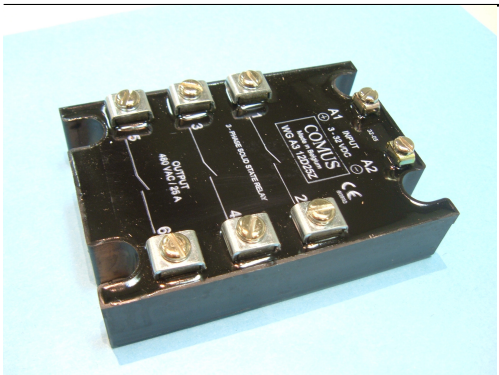
Solid State Relays
Datasheet WG A3

Comus International Bvba
Overhaamlaan 40
3700 Tongeren, Belgium
Phone: +32 12390400
Fax: +32 12235754
Email: info@comus.be
www.comus.be



Features

Switching	Zero-cross and Random
Output	Back to back SCR
INPUT	DC
Applications	Three phase loads (motors, transformers) resistive and inductive loads with cosφ > 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
Input circuit						
Control voltage range	3...32 VDC					
Control current max	25 mA					
Turn-off voltage min..	1 VDC					
Input resistance	Constant current					
Output circuit						
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_{drm} (12D) 1600 V_{drm} (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_{peak}	230 A_{peak}	500 A_{peak}	110 A_{peak}	230 A_{peak}	500 A_{peak}
I^2t for fusing	60 A^2s	260 A^2s	500 A^2s	60 A^2s	260 A^2s	500 A^2s
On-state voltage	1,6 V_{peak}					
Off-state (static) dv/dt	1000 V/µs					
Snubber	47 Ω / 10 nF					
General data						
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						

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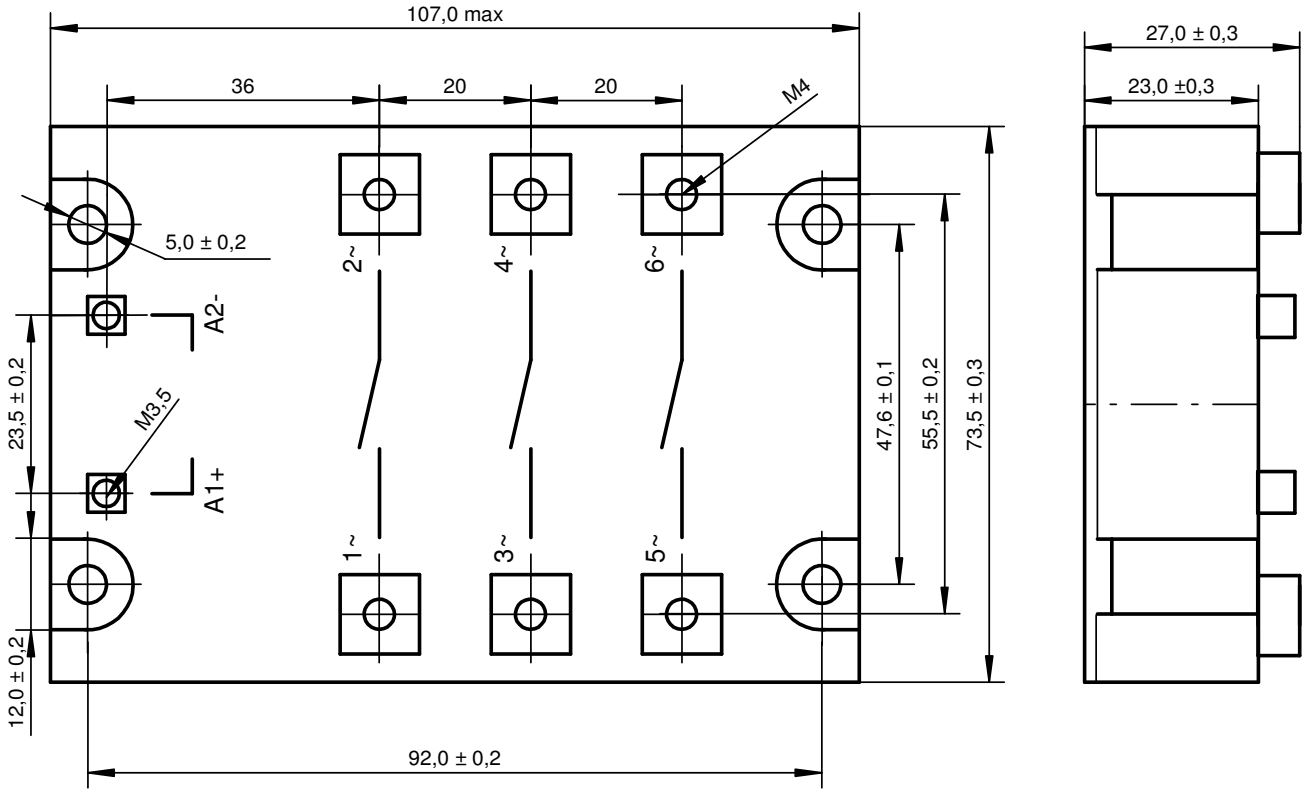
Dimensions in mm



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

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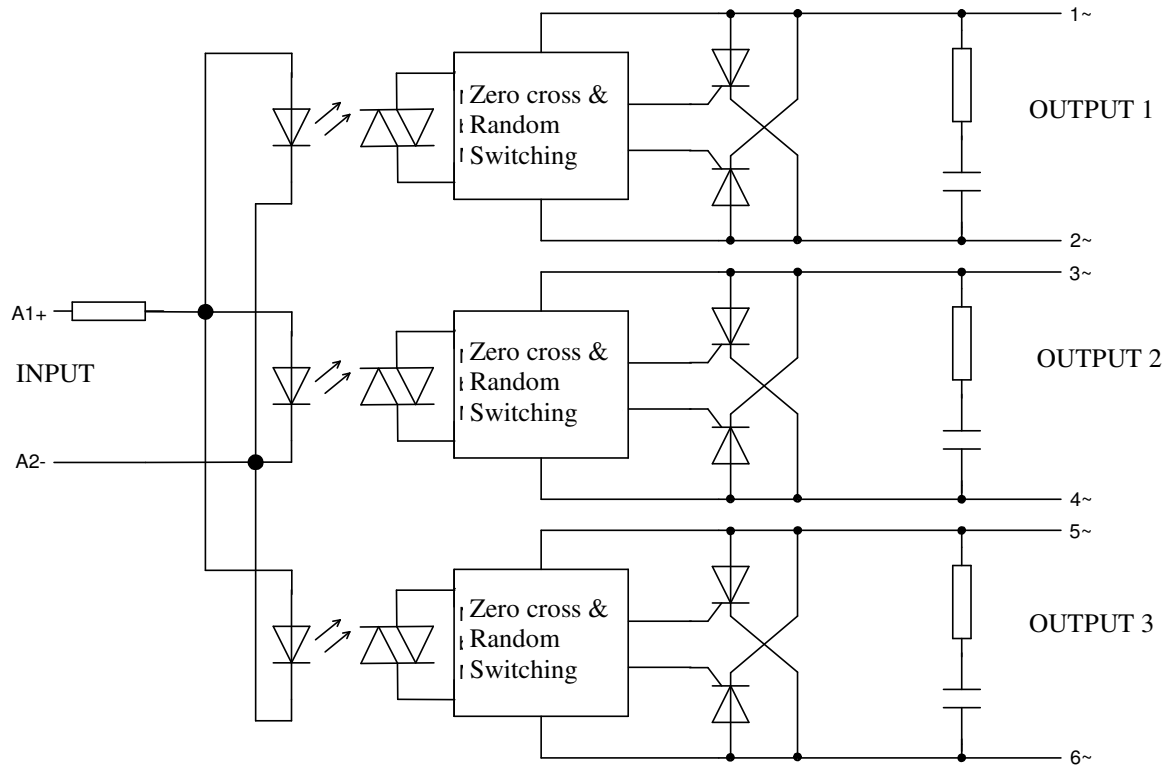
Circuit diagram



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

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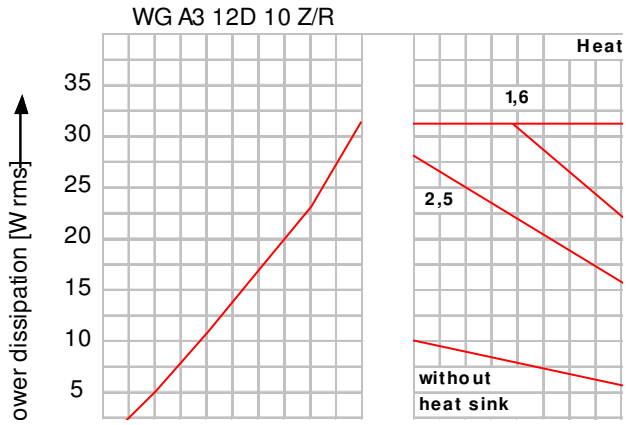
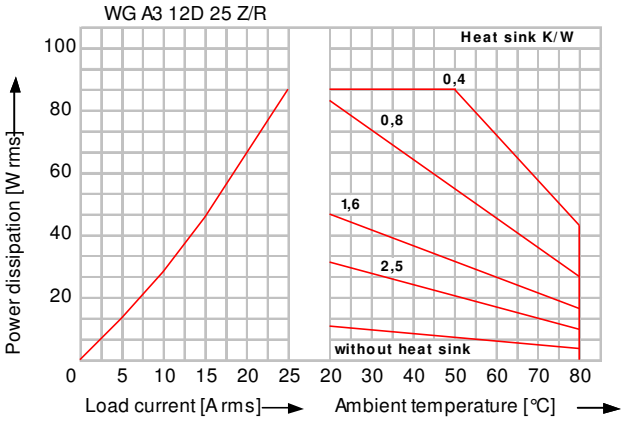
Derating-diagrams



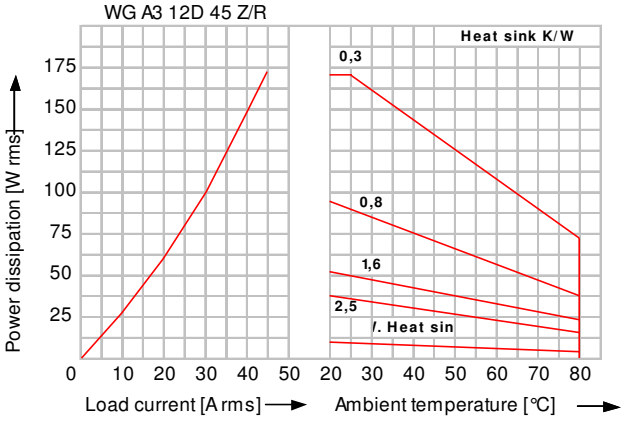
	Load current for 1 SSR
Heat sink	
WG K2/100	6 A
WG K3/160	10 A
WG K4/160L	10 A

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