

VOLTAGE PROTECTION FOR DC SOLID-STATE RELAYS

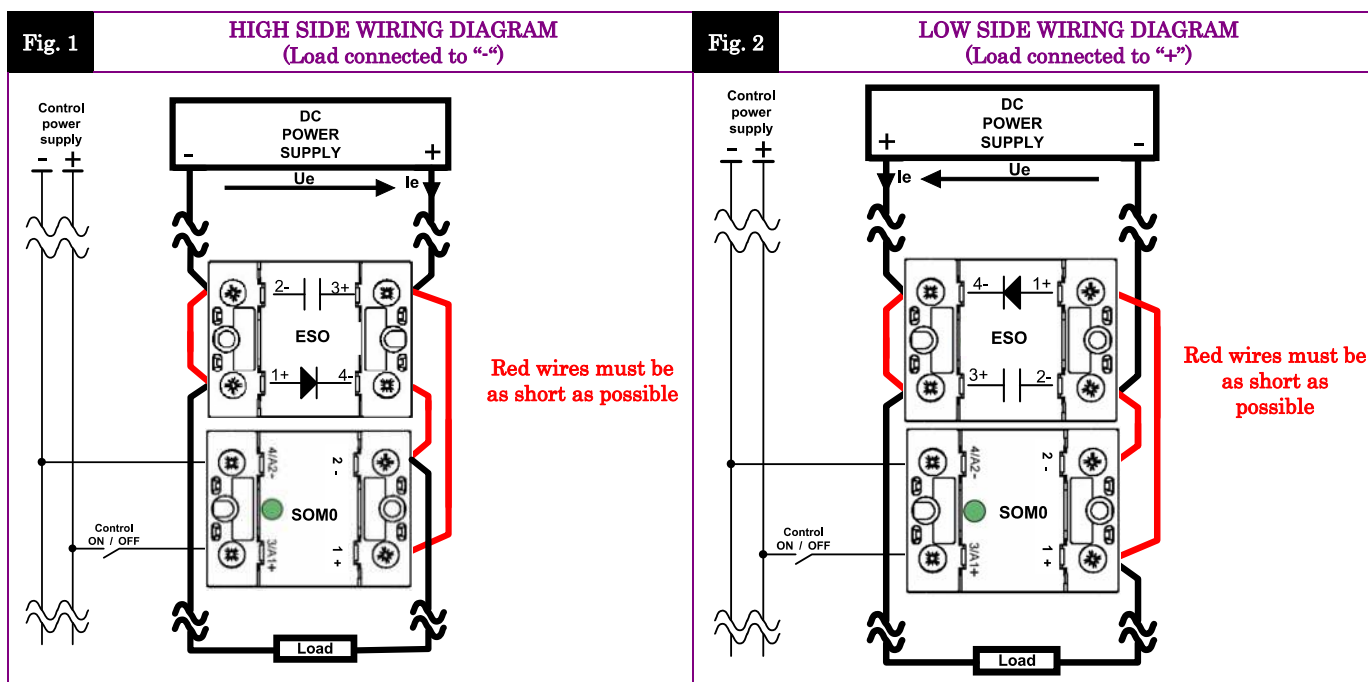
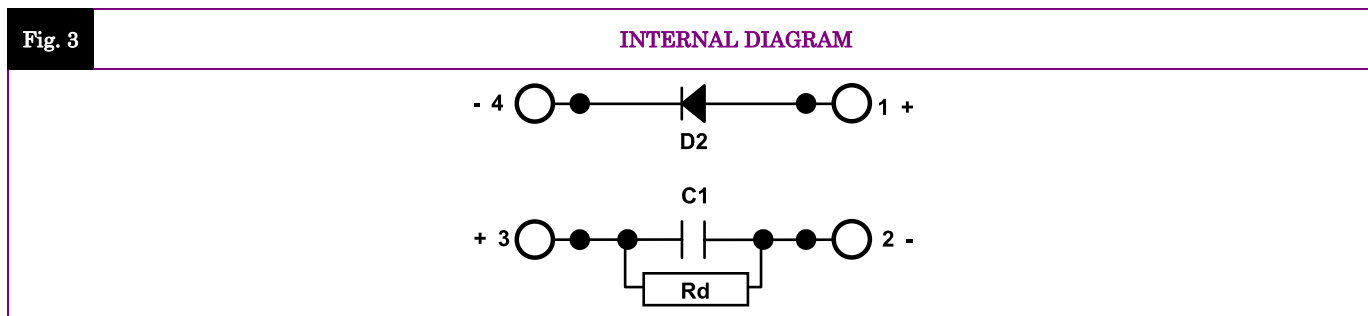
ESO01000



Non-repetitive peak voltage	200VDC
Max operating permanent current	80A
Clamping voltage function for DC relays (D1)	No

- Helps protecting solid-state relays against voltage transient due to the inductive effect of lines and loads.
- Fly wheel diode (D2), with fast response, low on-state voltage drop and connection polarity free, mounted on the metal base plate to be cooled by a heatsink for high switching frequency applications (PWM)
- Decoupling capacitor (C1), connection polarity free and non polarized (polyester) equipped with a discharging resistor
- SSR voltage clamping function (D1) not included therefore more adapted to SOM0 DC SSR range (SSR with built-in voltage protection D1)

Operating voltage range	Current range	DC SSR clamping voltage function	Isolations	Connections	Dimensions (LxHxD)	Weight
0-130VDC	0-80A	Non	4kV	Screw terminals	45 x 58.5 x 30	80g



Proud to serve you

Data given at Tambient=25°C and subject to modification without previous notice

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r e l a i s

GENERAL CHARACTERISTICS

	CHARACTERISTIC	LABEL	VALUE	INFO.
POWER CIRCUIT	DC mains max voltage	U _{emax}	130VDC	
	Non repetitive peak voltage	U _{ep}	200V	
	Max voltage rise	dU _e /dt	125V/μs	U _e =U _{ep}
	Max nominal current	I _{e max}	80A	
	Power output/case insulation	U _{imp}	4kV	
	Isolation resistance	R _{io}	1GΩ	
	Isolation capacitance	C _{io}	<8pF	
	Storage ambient temperature	T _{stg}	-40°C -> +100°C	
	Operating ambient temperature	T _{amb}	-40°C -> +90°C	
	Max. case temperature	T _c	100°C	

LINE CIRCUIT CHARACTERISTICS (C1 & Rd)

	CHARACTERISTIC	LABEL	VALUE	INFO.
LINE CIRCUIT	Decoupling capacitor	C1	4.4μF ±20%	
	Technology		Polyester	
	Discharging resistor	R _d	1MΩ / 0.5 W	
	Discharging time constant	τ	2s	

LOAD CIRCUIT CHARACTERISTICS (D2)

	CHARACTERISTIC	LABEL	VALUE	INFO.
LOAD CIRCUIT	Voltage drop during fly wheel	U _{D2} (V _F)	1.2V	@I _e =80A see fig. 4
	Instantaneous power dissipation	P _{D2}	0.96 + 0.003 x I _e	
	Max nominal average current	I _{D2av} (I _{Fav})	80A	
	Max repetitive peak overload current	I _{D2peak} (I _{FRM})	500A	T _{pulse} =25μs
	Max non repetitive peak overload current	I _{D2peak} (I _{FSM})	1000A	T _{pulse} =25μs
	Max leakage current	-I _{D2} (I _R)	0.1mA @ T _j =25°C	17mA @ T _j =T _{jmax} @U _{ep} @T _{jmax}
	Recovering time	t _{rr}	190ns	I _{D2} =1A, di/dt=50A/μs, T _c =25°C
	Junction/case thermal resistance	R _{thjc}	0.35K/W	
	Housing thermal resistance vertically mounted	R _{thra}	10K/W	@ΔT _{ra} =75°C
	Housing thermal time constant	T _{thra}	10 minutes	@ΔT _{ra} =60°C
	Maximum junction temperature	T _{jmax}	125°C	

OUTPUT CHARACTERISTIC CURVES

Fig. 4

VOLTAGE DROP VS CURRENT
(DIODE D2 DURING FLY WHEEL)

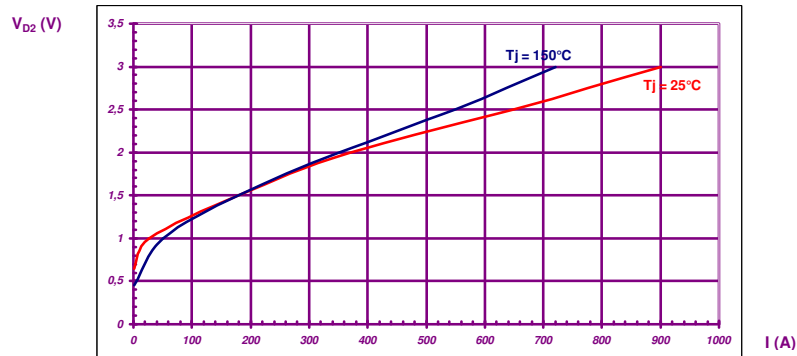


Fig. 5

THERMAL IMPEDANCE
(DIODE D2)

Not available

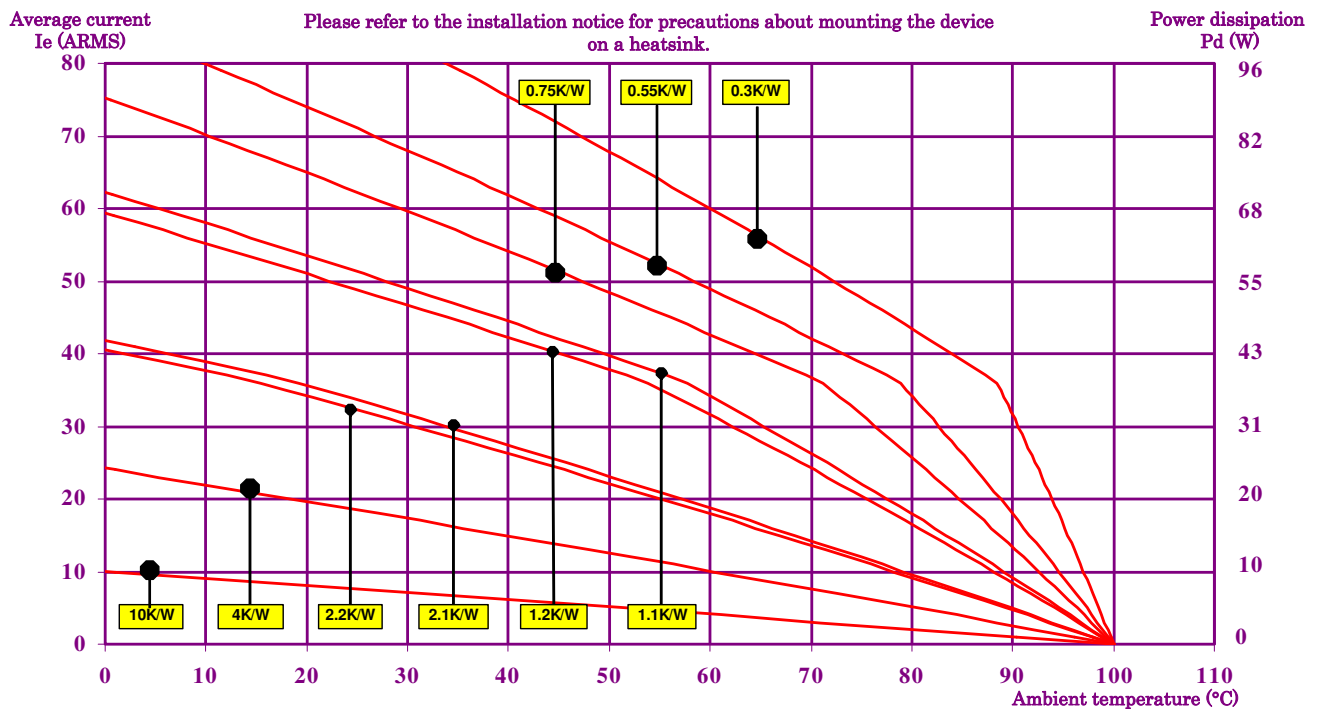
Fig. 6

OVERLOAD PERMITTED DURING ON-STATE
(DIODE D2 DURING FLY WHEEL)

Not available

Fig. 7

POWER DISSIPATION AND AVERAGE CURRENT VS AMBIENT TEMPERATURE



10K/W = No Heatsink / 1LD12020
2.1K/W = WF210000
0.75K/W = WF070000

4K/W = 150x150x3mm aluminium sheet
1.2K/W = WF121000
0.55K/W = WF050000

2.2K/W = WF262100 / WF151200
1.1K/W = WF131100
0.3K/W = WF031100

GENERAL INFORMATION

GENERAL INFORMATION	Mounting		2 screws (M4x12mm ; tightening = 1.2N.m)	See mounting sheet
	Screwdriver for connections		POZIDRIV2	
	tightening torque for connections		2 N.m	
	Insulated crimp terminals (round tabs, eyelet type)		M5	
	Display		Green LED (load supplied)	
	Housing		UL94V0	
	Weight		80g	

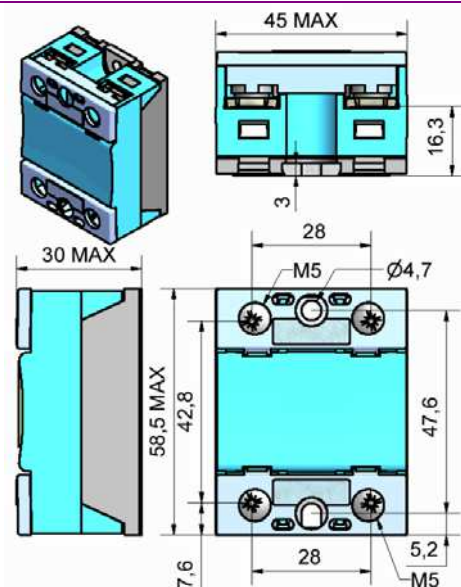
STANDARDS

STANDARDS	Standards		IEC60947-1	
	Protection level		IP20	
	Protection against direct touch		Yes	
	CE marking		Yes	
	UL, cULUS and VDE approvals		Pending	

DIMENSIONS AND ACCESSORIES

Fig. 8

DIMENSIONS (mm)



ACCESSORIES

FLAT TAB CONNECTION ADAPTORS
1L587000



Please consult our website for other accessory references
(Heatsinks, mounting adaptors, thermal grease...)