

## Solid state DC Motor reverser

- ▶ Reverser relay DC with integrated free wheel diode
- ▶ Control by switch ON/OFF, by direction turn control Forward and reverse
- ▶ Built-in overvoltage protections and fast transients burst.
- ▶ Built-in protection against shorts-circuits of the load.
- ▶ Delivered with pluggable connections by spring terminals without tool
- ▶ Interlocking simultaneous control protection.



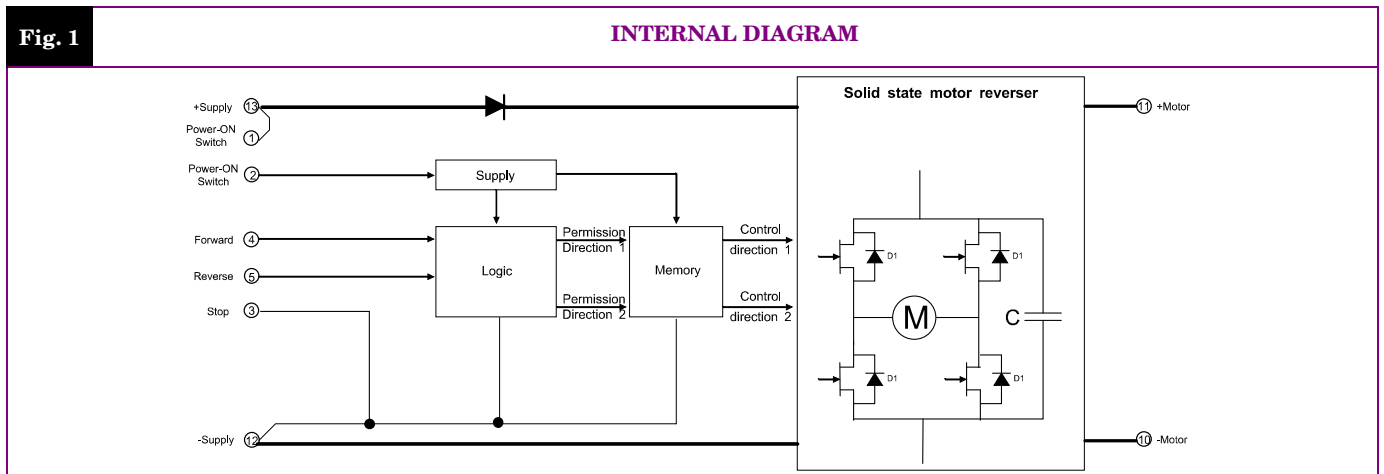
**Reverser DC**  
**8-36VDC**  
**10A DC**

***This product was designed with an evolutionary spirit, other possibilities on request :***

- ⇒ Mains voltage 48VDC
- ⇒ Higher rated current
- ⇒ PWM Control for speed variation or Soft-start
- ⇒ Level detection of batteries
- ⇒ Adjustment of threshold by potentiometer
- ⇒ Visualization by LEDs
- ⇒ Diagnostic Output etc....

***Do not hesitate to consult us***

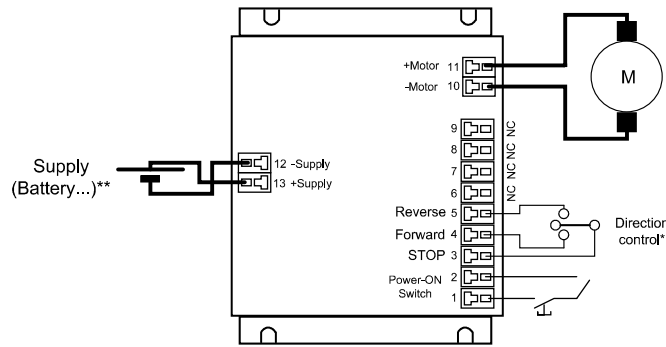
Main Voltage	Main Frequency	Current DC3 DC5 max	Control	Protections	Insulation I/O	Connections	Dimensions (LxWxD)	Weight
8 to 36VDC	DC	10A	Switch	Overvoltage Short-circuit	No insulation	Spring 2,5mm <sup>2</sup>	100*73.5*37.5	295 g



*Proud to serve you*

**Fig. 2**

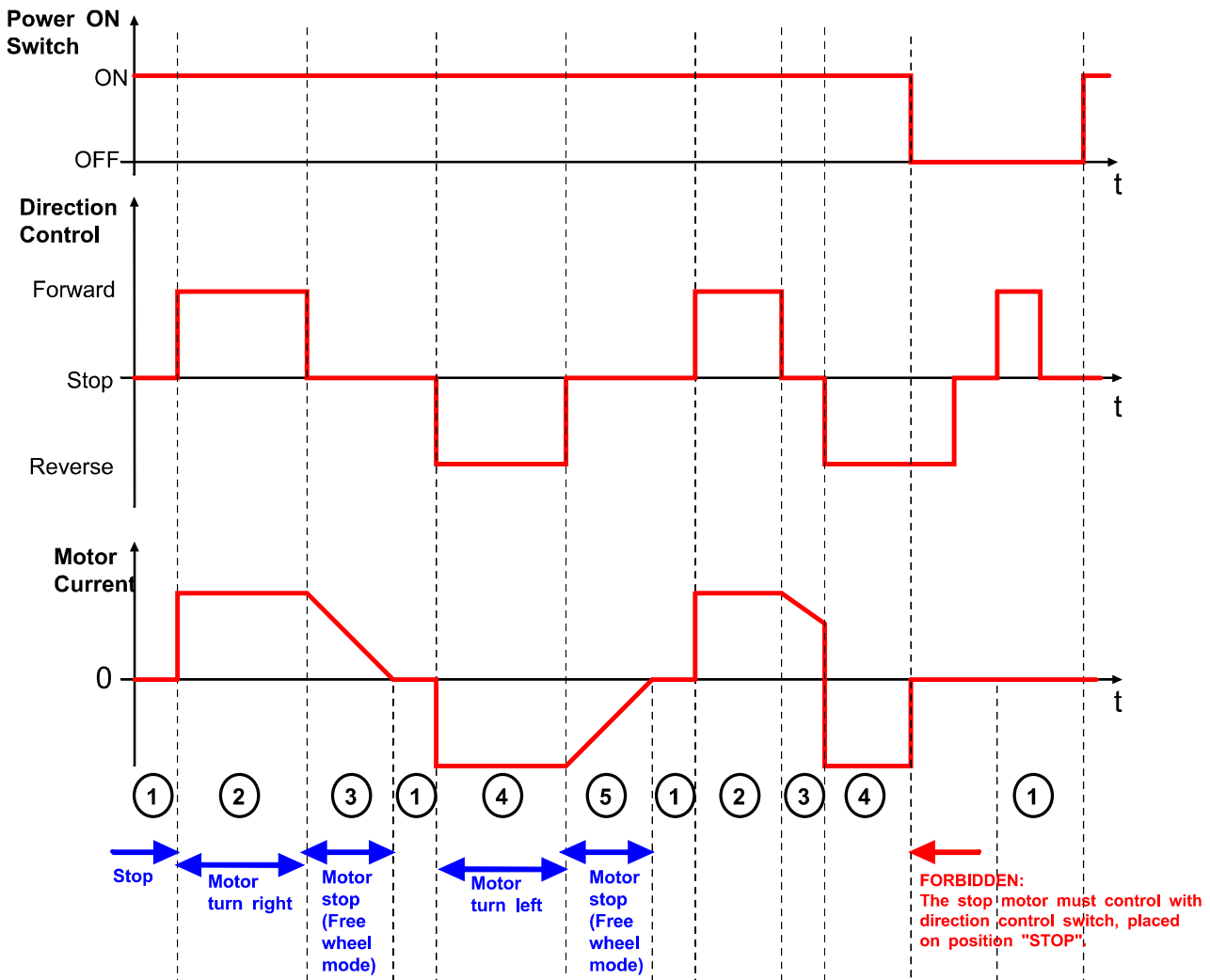
**WIRING SCHEMATIC**

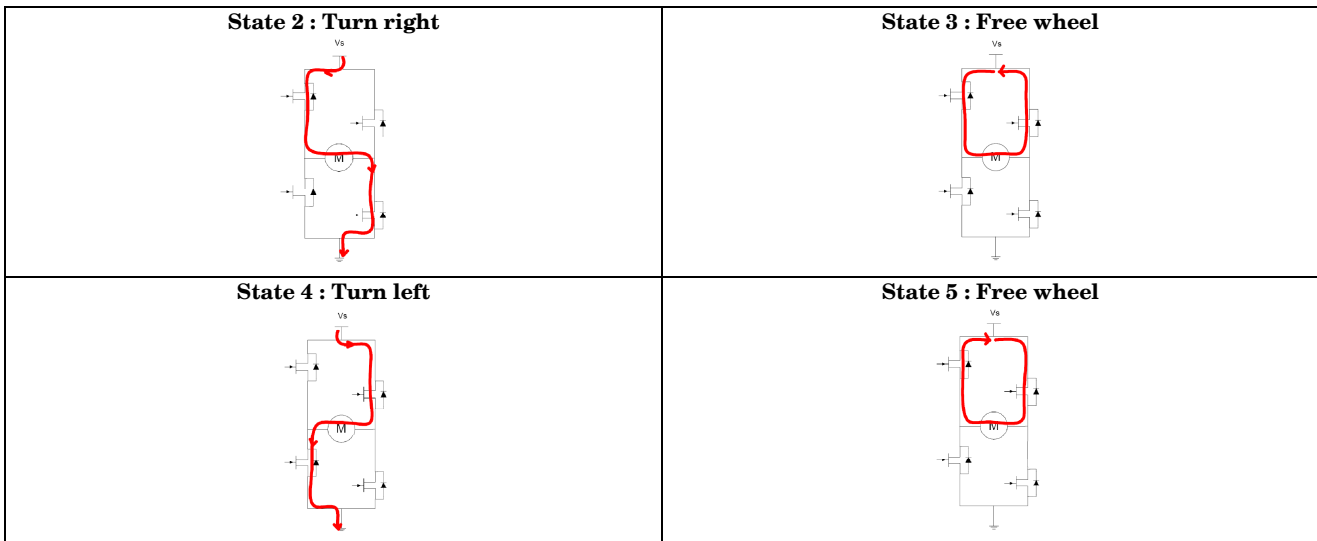


\*:Possible control by switch or electronic

\*\*Possible second supply connector for connecting a battery charger

**OPERATING CHRONOGRAMS**





**CONTROL INPUTS CHARACTERISTICS**

CONTROLS CIRCUIT	CHARACTERISTIC	LABEL	VALUE	INFO.
	Marking		<b>Power-ON Switch, STOP, Forward and Reverse</b>	
	Function		ON/OFF control and direction control	
	Signal type		Pulse current	
	Scrutation current		10mA DC	
	Max. scrutation Voltage		5V	
	Max. allowed drop out switch voltage		1V	
	Max. Length. between the terminals and switches		100m	
	Max. résistance of contacts		100 Ohms	

**SUPPLY CHARACTERISTICS**

CONTROLS CIRCUIT	CHARACTERISTIC	LABEL	VALUE	INFO.
	Marking		<b>Main + and Main -</b>	Term. 12 and 13
	Main voltage	<b>Ue</b>	<b>8-36VAC</b>	
	Maximum peak voltage	<b>Uep</b>	60V	
	Consumption	<b>Is</b>	20mA	@Ue=36VDC
	Ovoltage protection		Transient voltage suppressor	
	Reverse polarity protection		YES	



**POWER OUTPUT CHARACTERISTICS**

POWER CIRCUIT	CHARACTERISTIC	LABEL	VALUE	INFO.
	Main voltage	Ue	8-36VAC	
	Maximum peak voltage	Uep	60V	
	Overvoltage protection	C;D1	Capacitor + Transient voltage suppressor	
	Rated current	Ie	10A	See fig. 3
	Maximum motor power	Pn	240W @24VDC	
	No repetitive peak overload current	ITSM	215A	See fig. 4
	Maximum leakage current	Ielk	10µA	@36VDC
	Maximum voltage rise	dv/dt	20V/µs	
	Maximum current rise	di/dt	100A/µs	
	Maximum on-state resistance	Rds on	18.5mΩ	@25°C
			33mΩ	@125°C
	Maximum junction temperature	Tjmax	125°C	
	Junction/ambient thermal resistance per power element	Rthja	23°C/W	
	Heat sink thermal time constant	Tthra	18 minutes	
	Control inputs/Power outputs insulation voltage	Uimp	NO INSULATION	
	Inputs/case insulation voltage	Uimp	4kV	
	Outputs/case insulation voltage	Uimp	4kV	
Insulation resistance	Rio	NO INSULATION		
Storage ambient temperature	Tstg	-25->+100°C		
Operating ambient temperature	Tamb	-25->+100°C	See fig. 3	



**GENERALES INFORMATIONS**

CONNECTIONS	Connections	Power	Control
	Type	Cage spring manual lever plug	
	Tightening torque	Pending	
	Maximum conductors section	2,5mm <sup>2</sup>	
MISC.	Case material	UL94V0	
	Mounting	4 screws (M4x12mm)	
	Noise level	0	
	Weight	295g	

**STANDARDS**

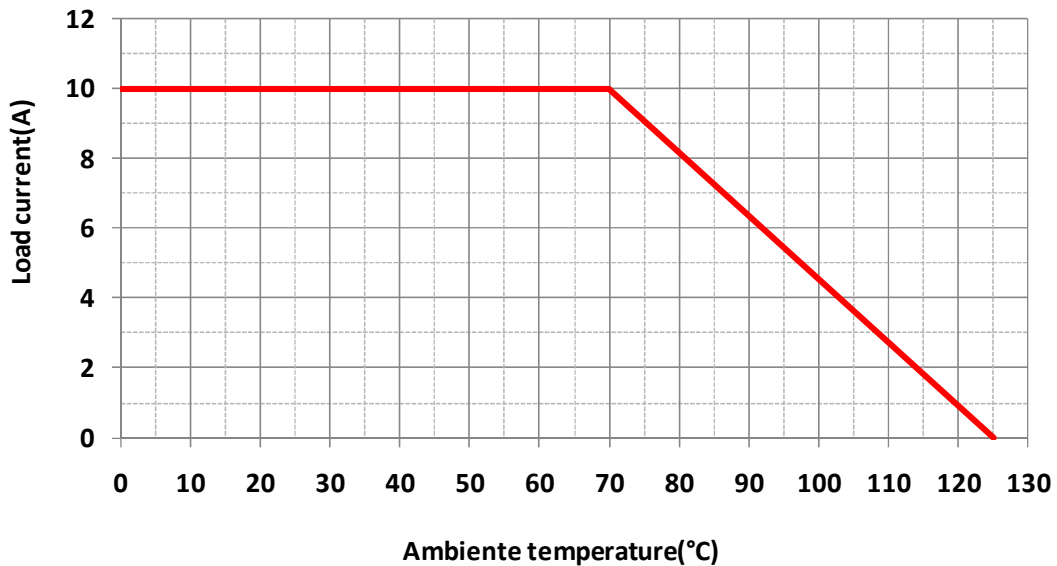
GENERAL	Standards	IEC60947-4-1		
	Protection level	IP20		
	Protection against direct touch	YES		
	CE Marking	YES		
	UL, cUL US and VDE approvals	Pending		
E.M.C IMMUNITY	TYPE DE TEST	STANDARD	LEVEL	EFFECT
	E.S.D. (Electrostatic discharges)	EN61000-4-2	Pending	
	Radiated electromagnetic fields	EN61000-4-3	Pending	
	Fast transients bursts	EN61000-4-4	Pending	
	Electric chocks	EN61000-4-5	Pending	
	Voltage drop	EN61000-4-11	Pending	
C.E.M. EMISSION	Radiated and conducted disturbances	NFEN55011	Pending	



**THERMAL CURVES**

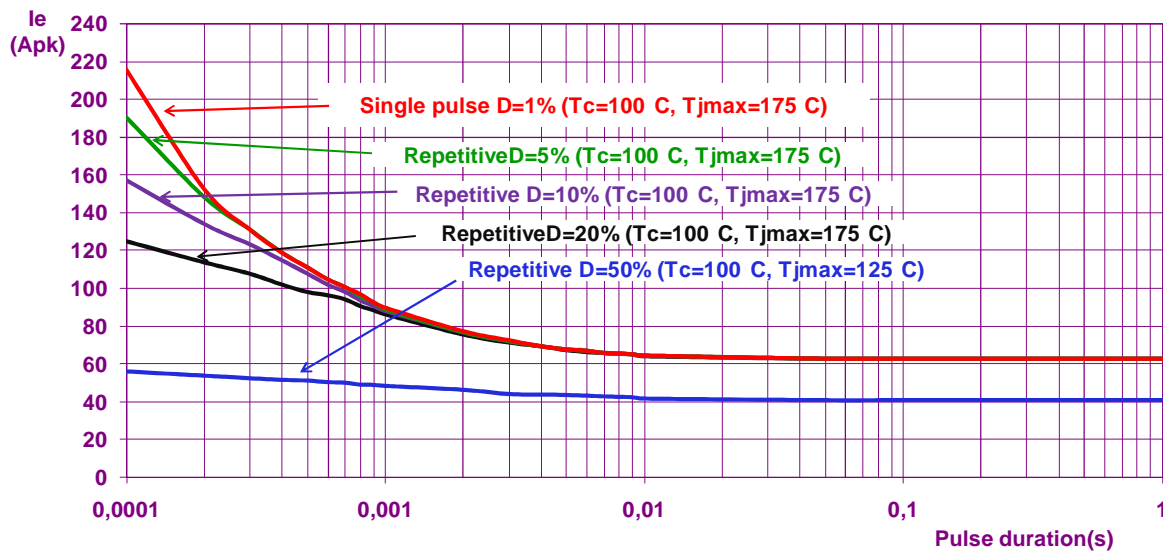
**Fig. 3**

**LIMIT LOAD CURRENT VS TEMPERATURE**



**Fig. 4**

**PEAK OVERLOAD CURRENT VS PULSE DURATION**



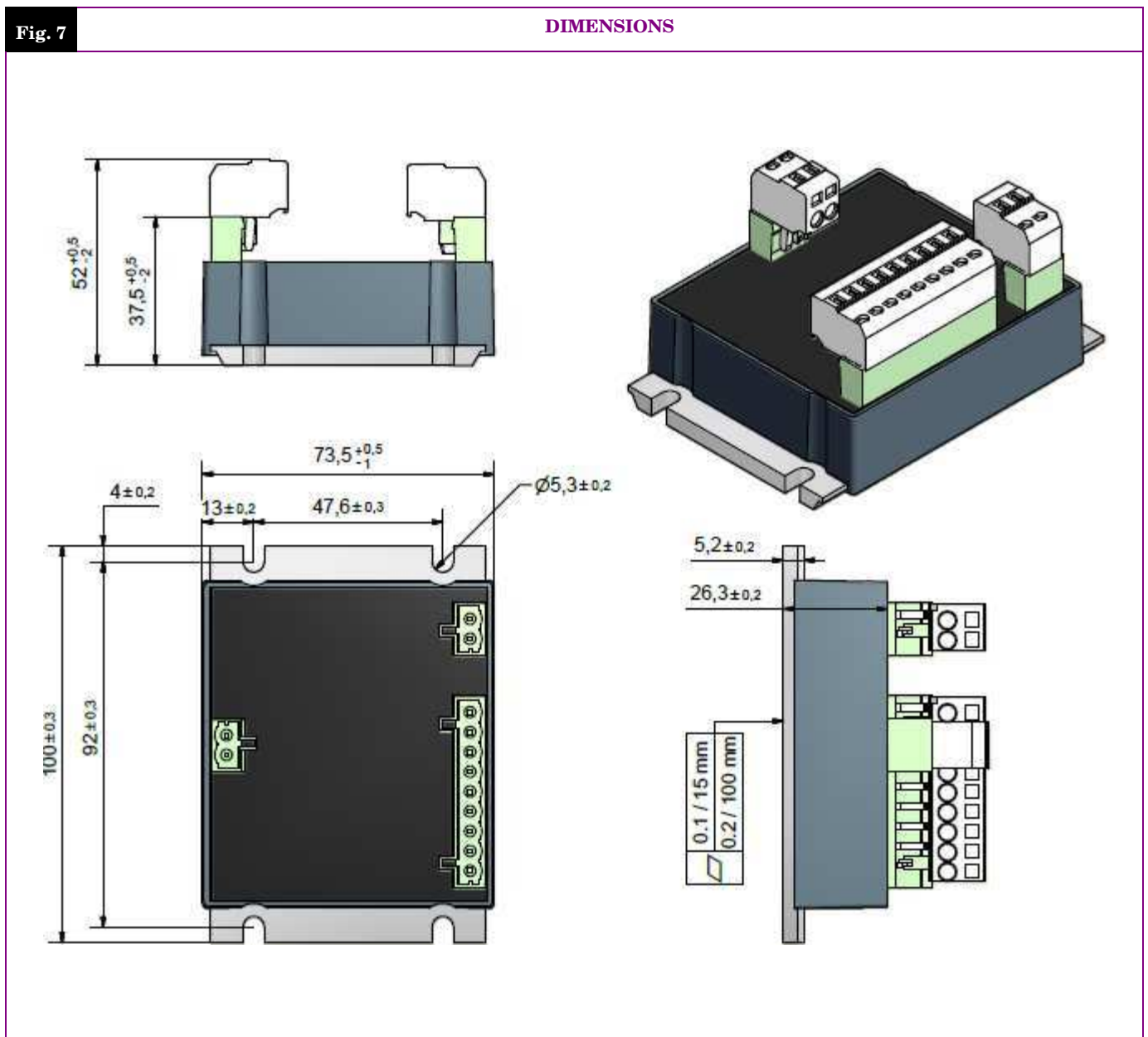
**DIMENSIONS AND ACCESSORIES**



ISO 9001  
N° 1993/1106a

Fig. 7

**DIMENSIONS**



ISO 9001  
N° 1993/1106a