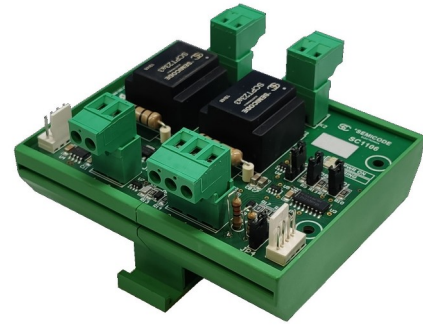


PRELIMINARY TECHNICAL INFORMATION

HIGHLIGHTS

- Dual SCR pulse transformer driver
- Up to 700 V_{RMS} working voltage
- Paralleled SCR firing for SC6006
- Driver for high current SSR applications
- Master/slave configuration



non-contractual image

SC1106 is a galvanically isolated dual SCR driver board which uses pulse transformers with picket fence pulse train. Primarily designed to work as doubler driver for SC6006 control and firing board for paralleled thyristor firing can also be used as stand-alone dual driver for general application as well.

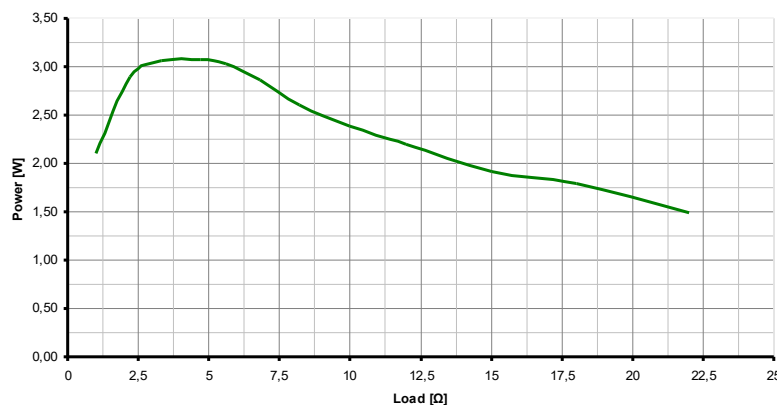
ELECTRICAL CHARACTERISTICS

Symbol	Parameter	Test Conditions	Min	Typ	Max	Units
V _{CC}	Supply voltage		-	15	-	V
I _{CC}	Supply current		-	-	250	mA
V _W	Working voltage		-	-	700	V _{RMS}
V _{ISO P-S}	Voltage isolation	1 min @ 50 Hz	6	-	-	kV

Output firing pulse train

Symbol	Parameter	Notes / test conditions	Min	Typ	Max	Units
I _{OUT}	Thyristor triggering current	V _{out} = 5V	-	-	600	mA
V _{OUT max}	Maximum output voltage		-	-	7.5	V
P _{OUT max}	Max. transferred power peak to load		-	-	3	W
f _{OUT}	Output firing train frequency		1	12	25	kHz
DC _{OUT}	Output firing train duty cycle		5	20	25	%

Output peak power vs. load



CONFORMALS

Conformal coating
Security

MIL-1-46058, Type UR
EN60950-1, UL60950-1

220609 Rev.:3

MECHANICAL DIMENSIONS

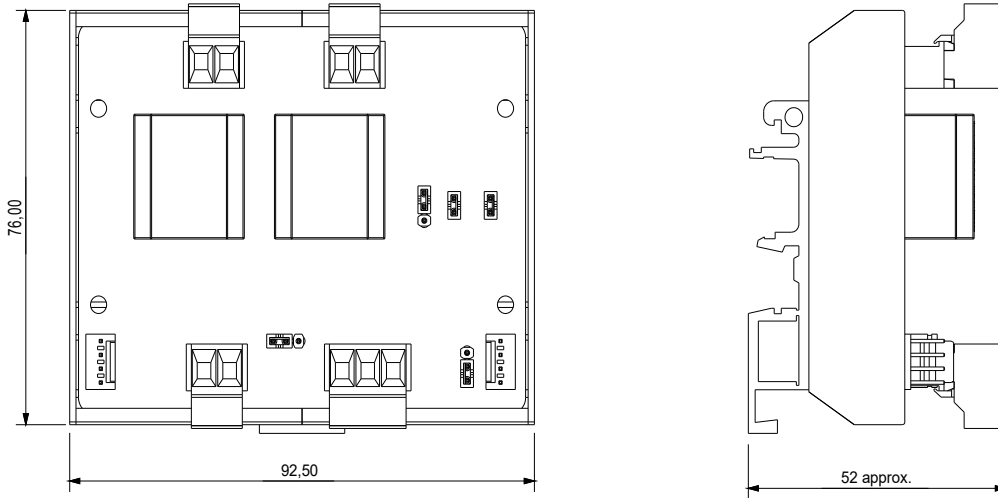


figure 1: Mechanical dimensions with DIN rail plate.

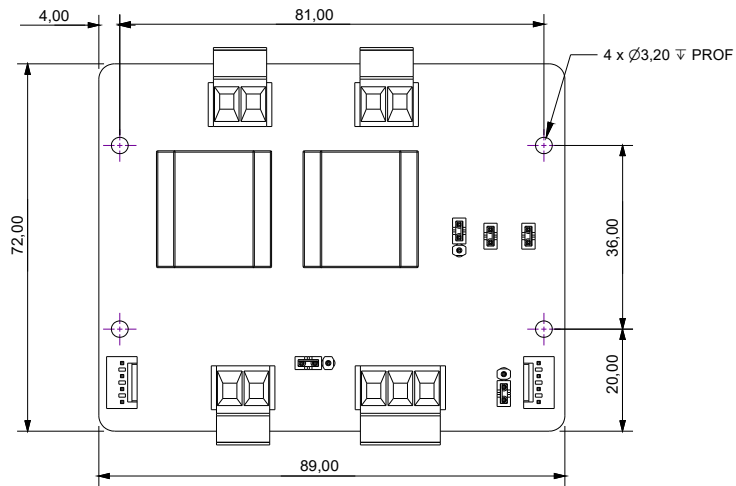


figure 2: Mechanical dimensions and PCB's fixation points without DIN rail plate.

All dimensions in mm.

MECHANICAL DIMENSIONS

Description

Dimensions with DIN rail plate	92.5 x 76 x 52	mm
Board dimensions	89 x 72 x 27	mm
Fixations	PCB fixation holes DIN platform, fast mounting on EN50022 rail.	4x Ø3.2 mm
Weight (aprox)	125	g

220609 Rev.:3

SIGNALING AND PINOUT

Symbol	Parameter	Notes / test conditions	Min	Typ	Max	Units
V_{IN_H}	Input signal voltage for high level		2		5	V
V_{IN_L}	Input signal voltage for low level	<i>IN1, IN2 as logic inputs JP4: DOWN</i>	0	-	0.8	V
$R_{IN1/2\ max}$	Signal input impedance		-	33	-	k Ω
f_{OUT}	Output firing train frequency	<i>[Typ. Value] $\pm 10\%$ when internal pulse train set. JP2: LEFT</i>	1	12	25	kHz
DC_{OUT}	Output firing train duty cycle		5	20	25	%

J1 – Power supply

pin	Designator	Function
1	(1) GND	Ground supply terminal
2	(2) 15VDC	Power supply, 15 V _{DC}

J3, J4 – SCR connectors

pin	Designator	Function
1	(K1), (K2)	Cathode SCR connection
2	(G1), (G2)	Gate SCR connection

J2 – Input signaling / firing signal from SC6006

pin	Designator	Function
1	(3) K / GND	Cathode connection from SC6006 / Ground/common logic signal
2	(4) G / IN1	Gate connection from SC6006 / Logic switching signal channel 1 (J3)
3	(5) IN2	Logic switching signal channel 2 (J4)

Numbers and designators in round brackets on Designator field referring to PCB numeration printed on its top white legend.

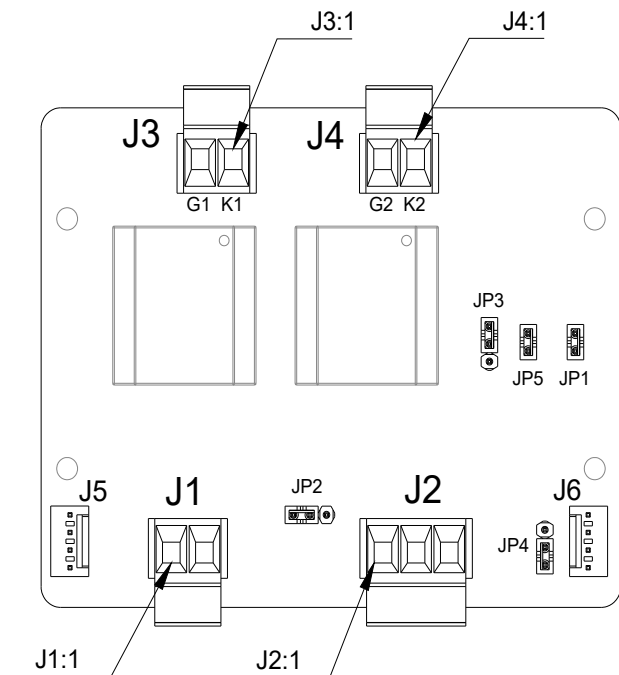


figure 3: SC1106 connectors and jumpers detail.

JUMPERS:

JP1 & JP5 – Master/slave jumpers

Setting	Function
ON	Master (by default)
OFF	Slave

JP2 – Input clk jumper

Setting	Function
LEFT	Internal pulse train (by default)
RIGHT	External, buffer for SC6006

JP3 – 2 channels or parallel output

Setting	Function
UP	2 independent channel (by default)
DW	Single input (IN1) to Parallel output

JP4 – TTL inputs or SC6006

Setting	Function
UP	Interfacing SC6006
DW	IN 1 as TTL input (by default)

CONNECTORS TYPE

Connector	Type
J1, J2, J3, J4	Plug connectors with screw. Phoenix Contact series MSTB 2,5 or equivalent
J5, J6	Molex KK 6410 series, 4 contacts

MASTER/SLAVE OPTION

SC1106 can be configured to work on a master/slave scheme. The units set as slave will fire duplicating the same outputs from the master unit. With this option up to 5 units (1 master with 4 slaves) can be used. When using cable link SCCAB1106 is only necessary to connect power supply (15 V_{DC}) to the master unit on J1 connector, all slave units connected to the master unit draws their power supply and signaling from SCCAB1106 connection.

Interconnection between SC1106 master and its slaves is made using SCCAB1106 cable connected on J4/J5 on convenience. Both connectors, J4 and J5 can be used indistinctively. See example below.

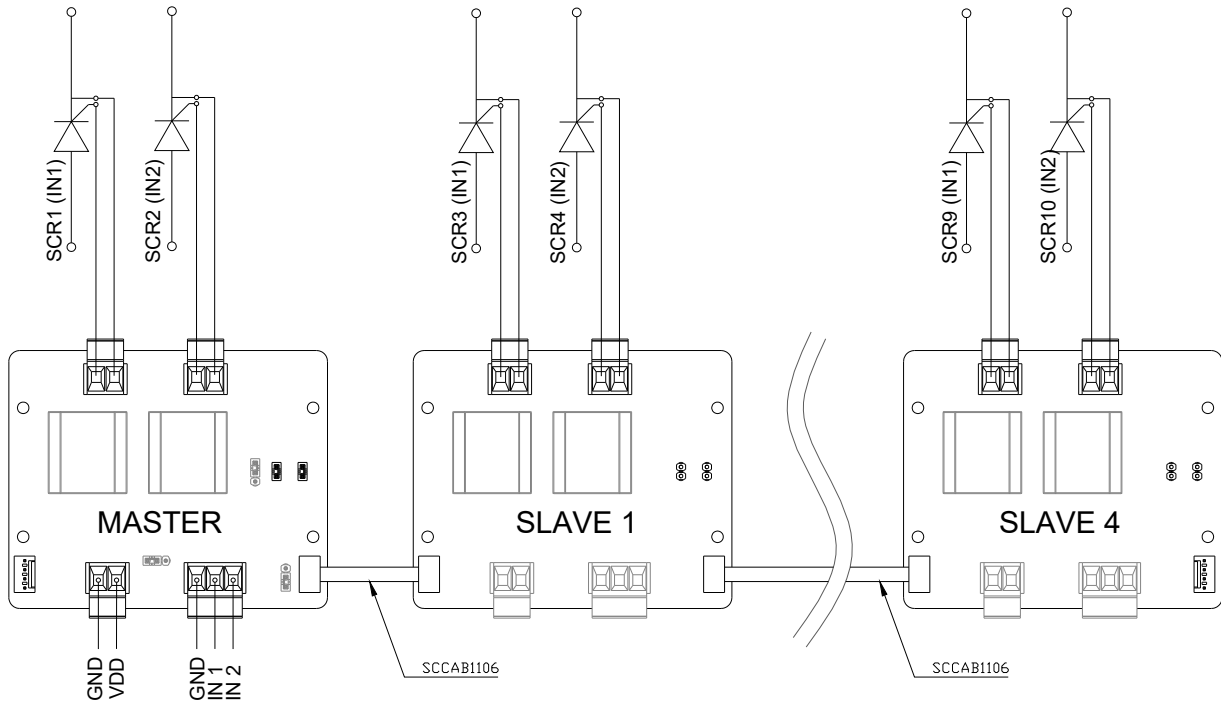


figure 4: Connexion example with 1 master and 4 slaves.

Please note that when interconnecting master/slave units only 1 unit on the same array can be set as master while the other ones must be set as slaves (JP5 & JP1 OFF)

When slave unit is set, by disconnecting JP1 and JP5, the configurations set by the other jumpers are ignored.

ACCESSORIES

The board is supplied with the following accessories:

- Plugging connectors
- Configuration jumpers
- DIN rail support plate

Optionally can be request the following accessories:

- Interconnection cable master/slave configurations (SCCAB1106 reference)
- External power supply (SCPS2515 standard type).



SCPS2515

SC6006 TYPICAL APPLICATION

SC1106 working as a double driver for firing a pair of SCR paralleled with SC6006. On figure 5 is depicted an example of the wiring and jumper configuration in order to fire 2x SCR in parallel using a single output from SC6006. For the sake of simplicity only one driver channel is shown.

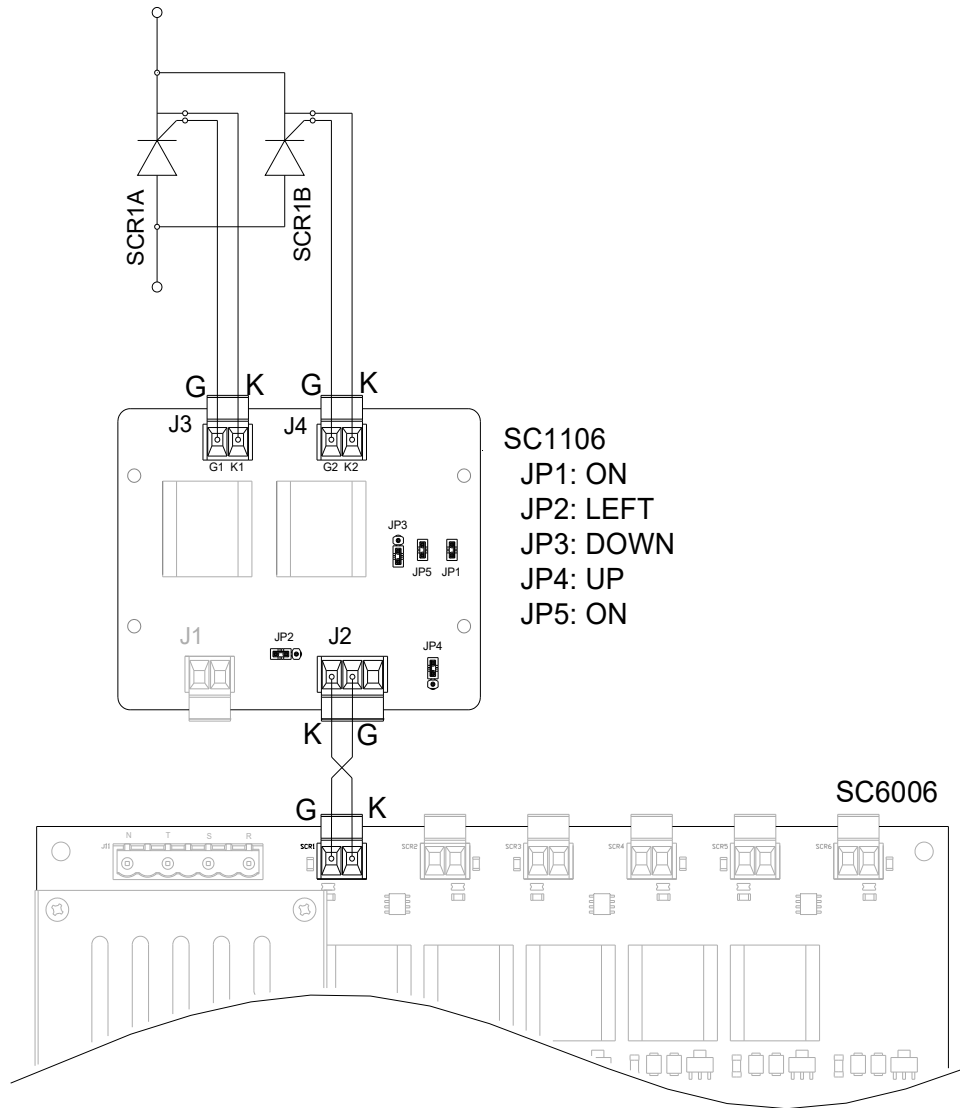


figure 5: Wiring detail using SC1106 with SC6006 firing paralleled thyristors.

All further and detailed documentation regarding SC6006 can be found on its manual [here](#).

If additional SCR modules should be paralleled when using SC1106 with SC6006 it is possible to add up to 4 additional slave SC1106 modules connected to the master SC1106 unit to increase the number of paralleled channels.

Cost Effective Products

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No Annotation: The product parameters are fixed and the product is available to datasheet specification.

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