

SM-54 Panel mounted Constant current welding controls

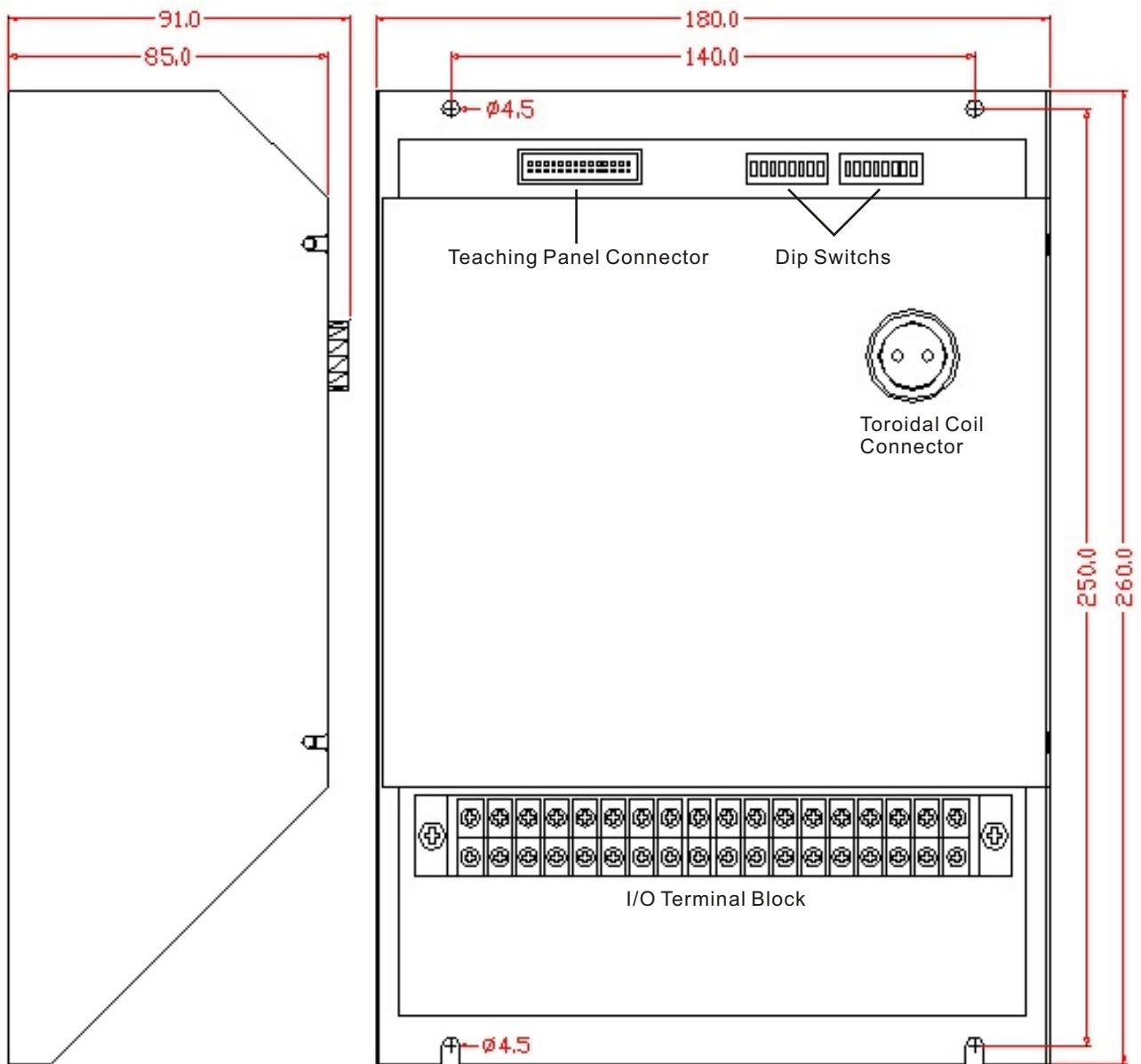


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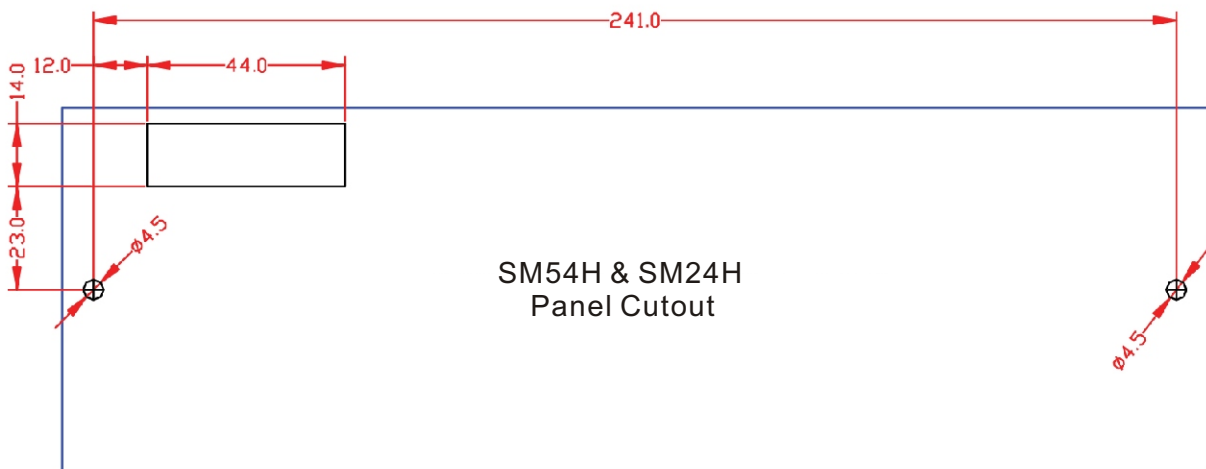
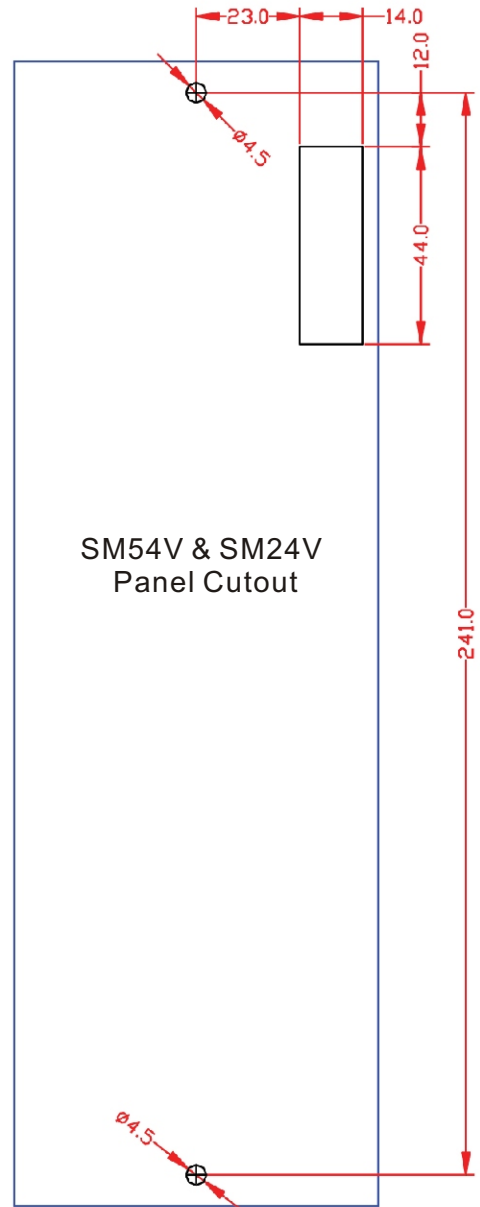
Ratings and Specifications

ITEM		SM-54V	SM-54H
Weld Power		200~240VAC/380~480VAC, 50/60Hz	
Control Power		100~240VAC (Free Voltage), 50/60Hz	
Control Method		Secondary feed-back constant current control	
Control Speed		1/2 cycle	
Current Accuracy		±2%	
Indication		7-Segment LED Display	
Program Parameters	SCHEDULE	15 schedules	
	SQUEEZE	0 ~ 99 cycles	
	WELD 1		
	COOL 1	0 ~ 9 cycles	
	UP SLOPE		
	WELD 2	0 ~ 99 cycles	
	COOL 2	0 ~ 99 cycles (0~99 half cycles)	
	WELD 3	0 ~ 99 cycles	
	DOWN SLOPE	0 ~ 9 cycles	
	HOLD	0 ~ 99 cycles	
	OFF/PULSATION	0 ~ 99 cycles / 0 ~ 9 times	
VALVE	7 operations		
Maximum Current Setting Range		3.0 ~ 80.0KA	
Current Setting Range		15 Schedules Constant Current Control Mode (0.3KA ~ 80.0KA) Current1,2,3 : 10% ~ 100% of Maximum Current Setting	
Current Monitor	Setting of Upper Limit	15 Schedules, ±0 ~ 49%	
	Setting of Lower Limit		
Valve Output	System	Valve No.1 or 2 and be selected for 15 schedules and 7 operations	
	Output	Control Voltage Output or Free Valve	
Stepper Up of Current	Step No.	0 ~ 9	
	Step Count	0 ~ 9999	
	Step Up Rate	50 ~ 200%	
Counter	Weld Count	0 ~ 99	
	Work Count	0 ~ 9999	
	Total Count	0 ~ 9999	
External Input (Dry contact or open collector)		Program Lock Switch	
		Start 1, 2, 4, 8 Switch	
		Weld ON/OFF Switch	
		Weld Transformer or SCR Temperature Limit Switch	
		Step Reset Switch	
		Error Reset Switch	
		Interlock / Weld No. Switch	
External Contact Output (250V 0.5A Max.)		Hold End Output	
		Error Output	
		Step End Output	
		Interlock / Weld No. Error Output	
Memory Retention		More than 10 years after power failure	
Dimensions	Control Box	180mm(W) x 91mm(H) x 260mm(D) 7.1"(W) x 3.6"(H) x 10.2"(D)	
	Teaching Panel	81(W) x 15(H) x 255mm(D) 3.2"(W) x 0.6"(H) x 10.0"(D)	255(W) x 15(H) x 81mm(D) 10.0"(W) x 0.6"(H) x 3.2"(D)
Toroidal Coil		TC-450L, TC-600L (Optional)	

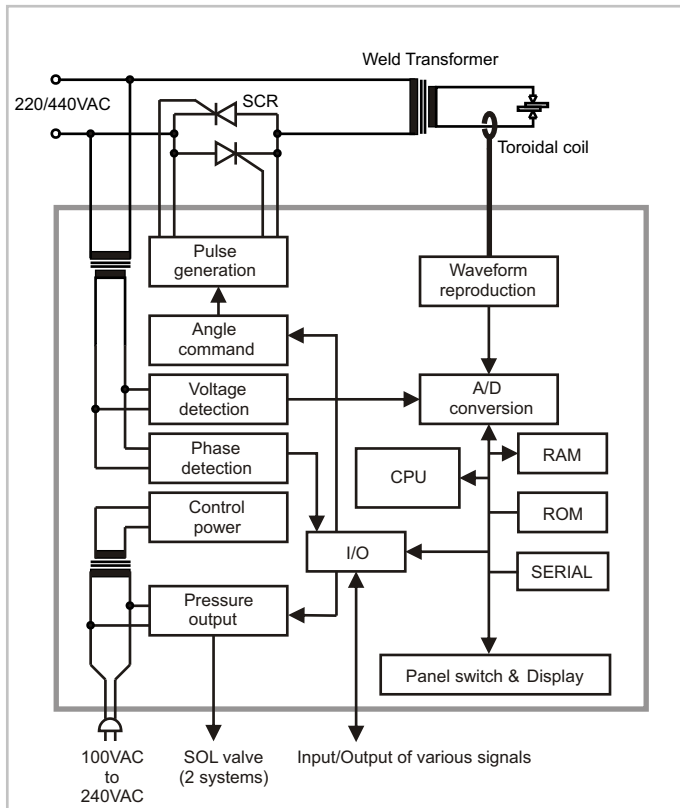
Control Box Dimensions



Teaching Panel Mounting



Versatile, easy-to-operate, micro-computer control unit.



Constant current feed-back theory

Using a toroidal coil, the current wave form is reconstructed from the output signal. It is then transformed into an RMS effective value using the following formula:

$$RMS = \sqrt{\frac{1}{T} \int_0^T (i)^2 dt}$$

The control then compares this effective value with the set current value. The weld current is corrected with every half cycle through phase conversion and trigger pulse oscillation.

The result is smooth, consistent secondary welding current delivered at the weld regardless of the line voltage fluctuations.



Selection Table :

SM54V

Product name

SM54V : Vertical type

SM54H : Horizontal type

- Control power : 100~240VAC
- Welding power : 200~240VAC and 380~480VAC
- Pressure Valve output : Control voltage output