MANUAL BOOK

DC400A

INVERTER DC MMA

WELDING MACHINE

ANUGRAH DUTA NIAGA

Jalan Arif Rahman Hakim 51 Ruko 21 Blok D-1, Surabaya

0851-0199-2232 | 031-5990089 |031-5997259 | salesadnsby@gmail.com | adnsby.co.id

I. MAIN USAGE AND THE RANGE OF USAGE

DC400A arc welder produced with Thyristor Rectifier technology is a high reliability welding machine . The welding current is infinitely and independently adjustable.All ferrous metal,copper and stainless steel material can be omnibearing welding in all position. The welding current is stable. The welding seam is nice.few spatters and low noise occurs during welding. The welder has outstanding feature of minimum current. It is particularly suitable for enterprise of plant and mine, build, decoration and maintenance sectors.

Ⅱ. MAIN TECHNICAL SPECIFICATIONS

MODEL		DC400A
INPUT	Voltage	AC 380V/400V/415V/420V/440V ±10% 50/60Hz Three phase
MMA	No-load Voltage	60~70V
	current Adjusting	400A
	Rated Output Curre	50-400A
	Rated Duty Cycle	60%
Efficiency		≥70%
Protection Class of enclosure		IP21S
Mass		136Kg
Outline Dimensions mm^3		376×675×747

Ⅲ. OPERATING CONDITION AND WORK SURROUNDING

1. Operating condition:

Voltage of power source: three phases AC 380V/400V/415V/420V/440V ±10%

Frequency: 50/60Hz

Reliable grounding protection

2.Work surrounding

①. relative humidity: not more than 90 %(average monthly temperature not more than 20℃)

②. ambient temperature:-10℃ ~ 40℃

③. The welding site should have no harmful gas, Chemicals, molds and inflammable matter, explosive and corrosive medium, no big vibration and bump to the welder.

④. Avoiding rain water. Operating in rain is not allowed.

Ⅳ. DESCRIPTION OF THE ERECTION

1. Before welding, the operator should read the operation instructions.

2.Check the welder appearance for deformation and damage.

3.For the safety of the equipment and the persons, the customer must correctly make grounding or protection according to the power supply system:using 4mm^2 lead to connect the protection grounding of the welder

4. Welding operation should be carried out in dry and good ventilating area.The surrounding objects should be not less than 0. 5m away from the welder.

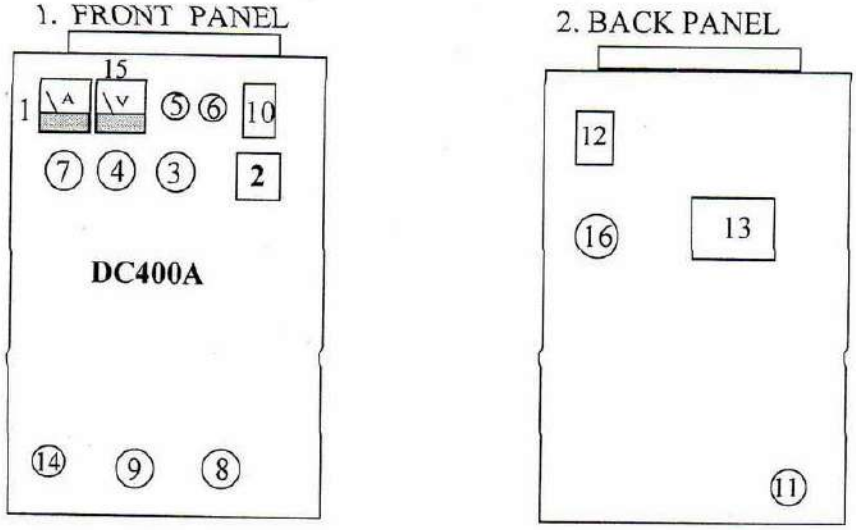
5.Checking the welder output connector for tightness.

6.The welder can not be moved and the cover can not be opened during the power is on and welding operation is carried out.

7.The welder should be cared, used and managed by specialized person.

8.Current of the distribution board:not less than 60A

Ⅴ.SKETCH SKETCH THE PANEL FUNCTION



1.indication of welding current 2.power switch 3.welding current regulator 4,ARC force regulator

5 indicating light of power 6, warning indicating light 7. surge current 8.output"+" 9 output"-"

10..Control mode switch (remote/local) 11.safety earthing column 12.power supply

13,nameplate 14 remote receptacle 15 .indication of welding voltage 16 FUSE(8A)

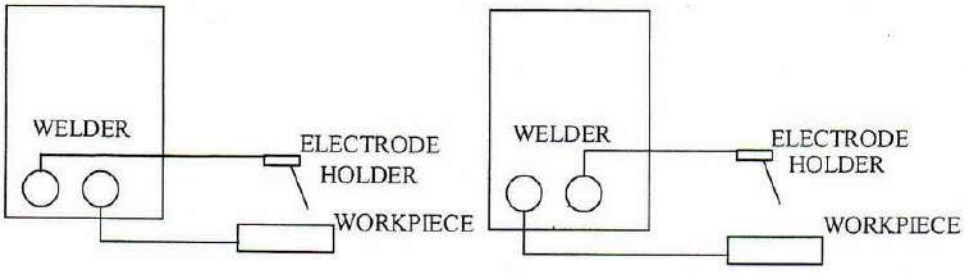
Ⅵ.METHOD OF THE OPERATION

1.Hand welding with electrode

①.Regulating Current Knob"4"(base current regulator) to select right welding current select empiric formula:I=40D, D is dia. of the electrode

②..Notice positive and negative connection during welding.

A. POSITIVE CONNECTION B . NEGATIVE CONNECTION



④ .Connecting input power for the welder, then switch on the power and current indicating light "5" is on .

⑤.Pay attention to rated welding current and rated duty cycle of the welder. Overload is not allowed.

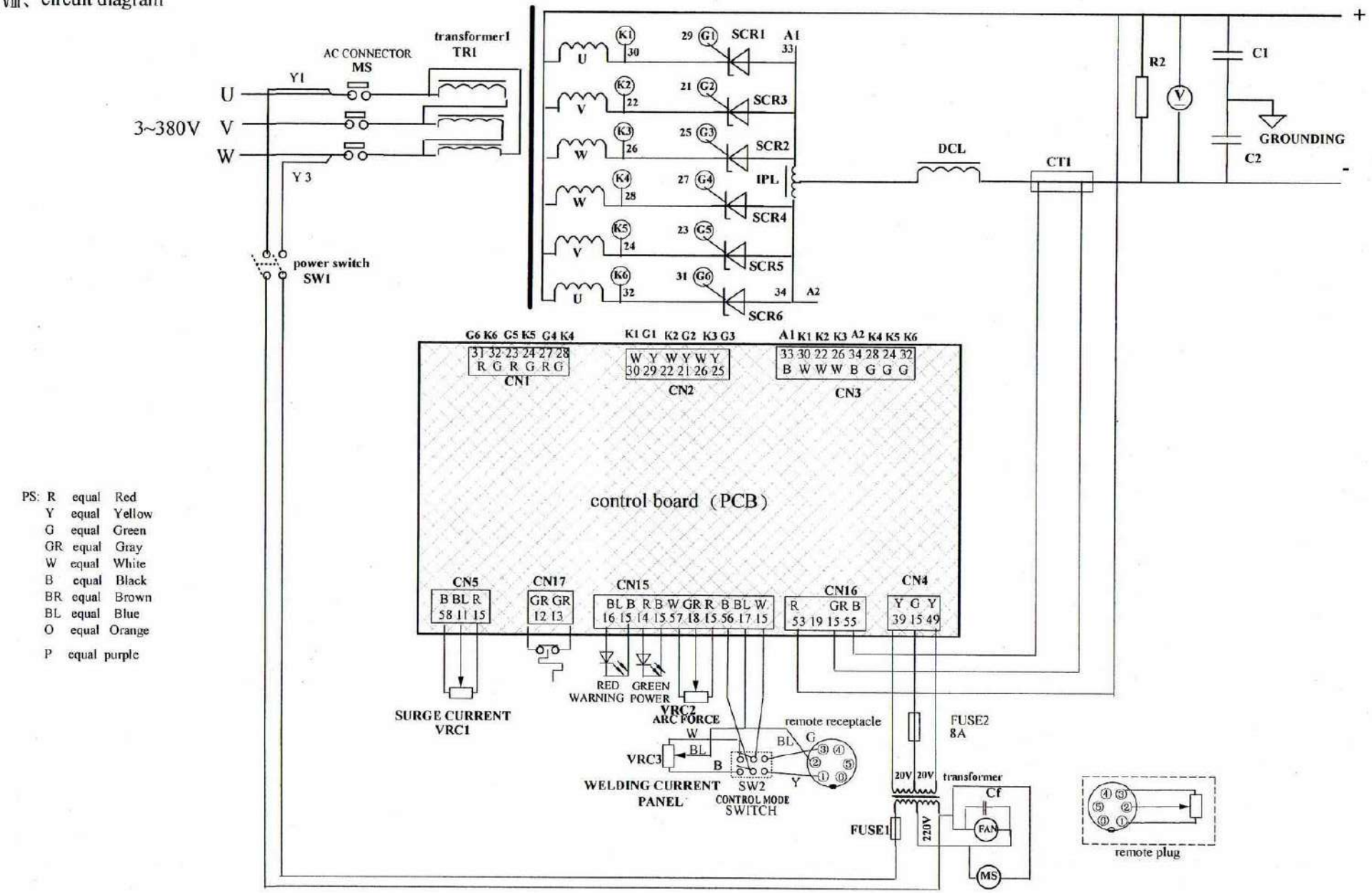
⑥.After the welding operation is finished, let the welder be ventilated for a few minutes and then cut off the power switch.

Ⅶ.This product is sold subject to the understanding that if any defect in manufacture or material shall appear within 12 months from date of consumer sale, the manufacturer will arrange for such defect to be rectified without charge on the sales invoice and warranty card . (except for any personal trouble)

General Troubles and Problem Solving:

Trouble	Causes	Problem Solving
Power lamp not light	1.No electricity input 2.Switch of welder fails. 3.Absence phase(fan rotating)	1.Check incoming line . 2.Replace the switch 3.Check incoming line.
Fan not rotating	1.Fan power line is off. 2.Enclosure blocks the fan due to deformation 3.The fan fails. 4.Absence phase (red lamp lights).	1.Reconnect the line 2.Reform the enclosure . 3.Replace the fan 4.Check the input power source.
Warning lamp lights	1.Over heat	1.Welding after cooling.
Output current decreased	1. Input Voltage is low 2. Input line is too thin	2. Power line is thickened
Current can not be regulated	1.Connecting line of the potentiometer is off 2.Potentiometer for current regulation fails	1.Reconnecting the line 2.Replace potentiometer

Ⅷ、circuit diagram



PS: R equal Red
Y equal Yellow
G equal Green
GR equal Gray
W equal White
B equal Black
BR equal Brown
BL equal Blue
O equal Orange
P equal purple

NOTE: This diagram is for reference only. It may not be accurate for all machines covered by this manual.
If the diagram is illegible, write to the Service Department for a replacement. Give the equipment code number.

COMPONENTS LIST

N0	mark			title	components number			quantity			remark		
	DC250A	DC400A	DC500A		DC250A	DC400A	DC500A	DC250A	DC400A	DC500A	DC250A	DC400A	DC500A
1	TR1			MAIN transformer	ZX5-25020	ZX5-40020	ZX5-50020	1					
2	TR2			CONTROL transformer	ZX5-50021			1			20+20(0.4A)/220V(0.55A)/9V(0.5A)x2		
3	IPL			balance reactor coil	ZX5-25024 (whole)	ZX5-40024 (whole)	ZX5-50027	1 set		1			
4	DCL			filter reactor coil			ZX5-50024			1			
5	SCR1-6			thyristor	PWB60A40	PWB130A40	PWB130A40	2					
6	R2			REST	FRW50A39R	FRW50A75R	FRW50A100R	1			50W,39Ω	50W,75Ω	50W,100Ω
7	ZNR1-3,6,G1			input fittings	FRX2001	FRX3501	FRX5001	1 set			ZNR1-3,6:ERZC20DK112 G1:B2D231C131-70		
8	C1,C2			capacitance fittings	FRX5002			1 set			ECQE104473KF		
9	Cf			CAPACITANCE	FRD1.2UF400VAC			1			for fooling fan		
10	A			CURRENT METER	FR2903A400		FR2903A600	1					
11	V			VOLTAGE METER	FR2903V75			1					
12	CT			current mutual inductance implement	250A/75mV	400A/75mV	500A/75mV	1					
13	SW1			POWER SWITCH	KN1-202			1					
14	SW2			CONTROL MODE SWITCH	KN11-202			1					
15	VRC1			SURGE CURRENT REGULATOR	WX111-2K2			1					
16	VRC2			ARC FORCE CURRENT REGULATOR	WX111-10K			1					
17	VRC3			WELDING CURRENT REGULATOR	WX111-2K2			1					
18	LED1			POWER indicator light (green)	BT203-1			1			POWER indicator light (green)		
19	LED2			warning indicator light (red)	BT203-2			1			warning indicator light (red)		
20	FUSE1			fuse	BGXP10NR6			1			power fuse (1A)		
21	FUSE2			fuse	BGXP30NR6						8A		
22	MS			AC connector	FR46-30A220V	FR46-30A220V	FR46-37A220V	1					
23	FAN			cooling fan	FR250D220V			1			fan leaf:FR250FAN		
24	Thp1			heat relay	67L085			1			protect for thyristor		
25	CO3			6 core jack	FR25B6YP			1			heated for flow meter		
26	PCB			control board	ZX5-400(250)	ZX5-400(400)	ZX5-400(500)	1 set					
27													