

OWNER'S MANUAL

RD-804FE

IMPORTANT: Read these instructions before installing, operating or servicing this product.

MODEL: TR-3504 TURNING ROLL

Serial Number : 0608019 and later

Revised Date: Sep. 2, 2006

UNITED PROARC CORPORATION

No. 3 Gungye 10th Road, Pingjen Ind. Park,
Pingjen City, Taoyuan 324, Taiwan
<http://www.proarc.com.tw>

TEL NO:886 3 4696600
FAX NO:886 3 4694499
E-Mail:customerservice@proarc.com.tw

TABLE OF CONTENTS

Introduction	Instruction	i
	Limited warranty	iii
Specification	1.1 Specification	1
Operation	2.1 Remote control instruction.....	2
Trouble Shooting Guide	3.1 Trouble shooting guide.....	3
Parts List	4.1 Parts list –TR-3504P/ TR-3504I Machine.....	5
	4.2 Parts list – Control.....	8
Circuit Diagram	5.1 Control circuit	10
	6.1 Control system box	12
	6.2 Inside input/output connect interface.....	13
	6.3 Input/output connect interface.....	16
Appendix A	Inverter settings	18

INSTRUCTION



WARNING

A procedure, which if not properly followed, may cause injury to the operator or others in the operating area.

Equipment Identification

The identification number specification or part number, model, and serial number of this unit usually appear on a nameplate attached to the control panel; record these numbers for future reference.

Receipt of Equipment

When you receive the equipment, check it against the shipping documents. Make sure it is complete and inspect the equipment for possible damage during shipping. If there is any damage, notify the carrier immediately to file a claim.

Furnish complete information concerning damage claims or mistake(s) in shipment to United ProArc Corporation: No. 3 Gungye 10th Road, Pingjen Ind. Park, Pingjen City, Taoyuan 324, Taiwan. Include the equipment's identification number along with a description of the parts in question.

Move the equipment to the installation site before uncrating the unit. Use care to avoid damaging the equipment when using bars, hammers, etc. to uncrate the unit.

INSTRUCTION



WARNING

Falling machine due to lifting device failure may cause death or injury.

- * Lifting device may fail when overloaded.
- * Avoid sudden jerks, drops or swinging.
- * Check lifting device components visually for looseness and signs of metal fatigue.
- * Before changing any hardware, check grade and size of bolts, replace with bolts of equal or higher size and grade.

LIMITED WARRANTY

UNITED PROARC CORPORATION warrants all new equipment to be free from defects in material and workmanship for a period of one (1) year, provided that the equipment is installed and operated according to instructions stated in this manual.

UNITED PROARC's obligation under this warranty policy is expressly limited to the replace or repair, at its option, of the defected part only. ProArc's option to repair or replacement of a defected part under this warranty shall be based on FOB Taiwan basis.

UNITED PROARC CORPORATION shall not be liable for any loss or consequential damage or express accruing directly or indirectly from the use of equipment covered by this warranty.

This warranty supersedes all previous ProArc warranties and is exclusive with no other guarantees or warranties expressed or implied.

This warranty excludes the consumable parts that are used in normal operation.

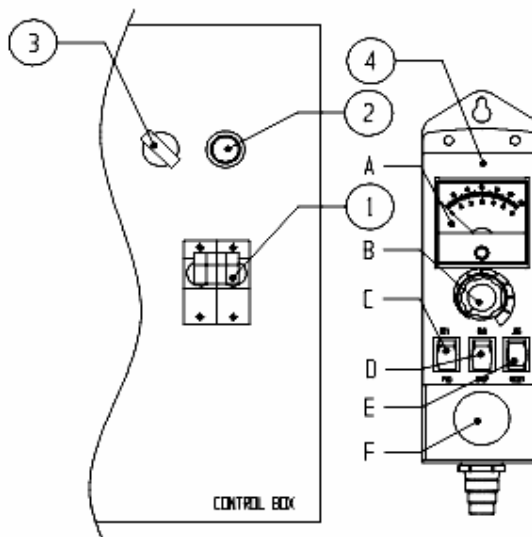
1.1 SPECIFICATION

- Direct final positive gear drive
- Roll work range, from 9mm to 1200mm diameter, without changing wheel center
- “Forward/Stop/Reverse” switch with potentiometer for stepless speed adjustment
- Ideal where pipe works for welding
- PU rubber tires provide friction drive and uniformly smooth pipe rotation

MODEL	UNIT	TR-3504
POWER INPUT	~	1 PHASE 220V 50/60Hz
TURNING CAPACITY	kg	3500
LOAD CAPACITY (DRIVE & IDLER)	kg	3500
DIAMETER RANGE(F)	mm	9-1400
SPEED RANGE	mm/min	60-1200
ROTATION MOTOR	hp	1/2
ROLLER DIA.(D)	mm	200
ROLLER WIDTH(E)	mm	100
ROLLER TYPE	-	PU
OVERALL LENGTH (A) (DRIVE/IDLER)	mm	430/280
OVERALL WIDTH (B) (DRIVE/IDLER)	mm	800/710
OVERALL HEIGHT (C)	mm	520
NET WEIGHT (DRIVE/IDLER)	kg	110/55

2.1 REMOTE CONTROL INSTRUCTION

1. Main power switch
System's main power - NFB switch (circuit breaker).
2. "Start" switch
Press to start the system – green light.
3. HP/RF switch(H.P/R.F) :
H.P : the turning speed of rotation table is only controlled by hand pendant , foot switch has rotation/start function 。
R.F : the maximum speed of rotation table is controlled by hand pendant speed knob
4. Remote control device
 - A. Speed meter
Shows the speed data (Hz.)
 - B. Speed knob
To increase speed, turn clockwise.
To decrease speed, turn counter clockwise.
 - C. Forward/Reverse
Indicates forward and reverse direction of the turning rollers.
CAUTION: [WHILE TURNING, PLEASE AVOID CHANGING DIRECTION.]
 - D. Run/Stop
Set the "**Forward/Reverse**" direction followed by pressing the "**Run**" button to turn the rollers continuously. Press "**Stop**" button to stop the turning.
 - E. Jog/Reset
While the machine is not in motion, you can adjust to desired position slowly by pressing "**Jog**" function. When the inverter driver displays an error message, press "**Reset**" to clear the error and reset the system.
 - F. E-stop button
Press the emergency stop button to terminate the driver circuit.



3.1 TROUBLE SHOOTING GUIDE

NO	SYMPTOM	POSSIBLE CAUSE	REMEDY
1	After switch on, the power light doesn't lit	1. NFB jumps off 2. No power input. 3. DC24V no output 4. Control PC board 5.The indicator light breaks down	1. To check the main circuit-disconnect or short 2. To inspect the AC power input voltage and phase 3.1 To inspect and make sure the switching power supply input voltage is correct or not? 3.2 To Check the Fuse was burn down or not? If yes, please replace new one. 4. Please refer the item 2 5.1 To make sure the voltage of indicator-DC24V 5.2 To inspect the indicator
2	Control PC board indicator(LED lamp) wasn't illuminated or damaged.	1.AC or DC power input disconnected 2.Fuse burn down.	1.To inspect power input voltage and phase 2.To inspect the F1 & F2 fuse working or not, If damaged, please replace a new one.
3	Inverter – no display.	1. Inverter has no power input. 2. Inverter has power input.	1.Check if magnetic contactor is defective (replace). 2. Check if inverter's digital remote panel is defective (replace).
4	Inverter – displays ALM.	1.Inverter Driver Display" ALM "data	1 .To make sure the Display status, and refer the inverter driver Trouble shooting.

3.1 TROUBLE SHOOTING GUIDE

NO	SYMPTOM	POSSIBLE CAUSE	REMEDY
5	The turntable has no movement.	1. Remote control breaks down 2 Control PC board 3 Inverter breaks down, no output 4 Failed motor 5 The reducer is damaged	1. Please refer the item 6 2 Please refer the item 2 3 Please refer the item 3&4 4 Check/change a new motor 5 Replace a new reducer
6	Remote switch has no action or speed control knob disable.	1. Snap switch damaged. 2. Potentiometer damaged. 3. Indicator was no work.	1. To check the snap switch connector is normal or not? And replace it. 2. To measuring the potentiometer resistance(5KΩ)is normal or not? If yes, please change a new one. 3. To change the indicator.
7	Remote Foot Control has no response, or cannot control speed.	1. Remote Foot Control limited switch failed 2. Potentiometer damaged.	1.1 Check the limited switch and its connector. Replace when required. 1.2 To make sure the activating position in the dog is correct. Adjust its position if required. 2. Measure the resistance of the potentiometer – should be about 5KΩ. Replace when necessary.

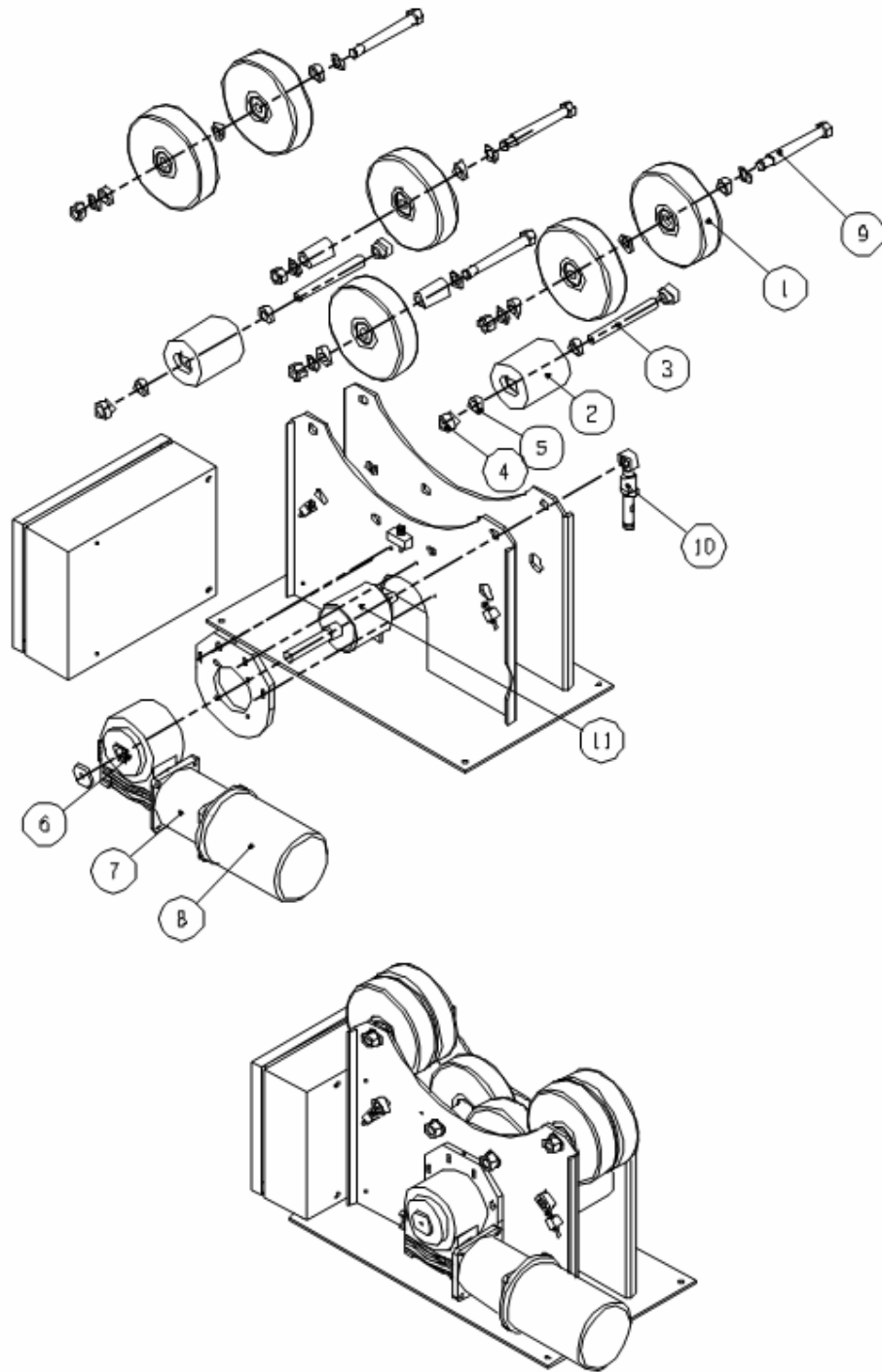
4.1 PARTS LIST – TR-3504P / TR-3504I MACHINE

Fig No.	Part No.	Description	Q'ty.		Remark
			TR-3504P	TR-3504I	
1	5041-1030000-10	PU roller with bearing	6	6	41-103.1*12PCS/ BE-6204Z*24PCS
2	5045-1560100-10	Friction wheel	2		
3	5045-1560200-10	Friction shaft	2		
4	5045-1560300-10	Bush	4		
5	0301-0403	Deep-Groove ball bearing	4		
6	5245-1530300-10	Worm reducers	1		
7	5045-1530200-10	Gear reducer	1		
8	5045-1530100-10	Motor AC 220V 1/2HP	1		
9	5045-1540300-10	Screw	4	4	
10	0311-2001	Joint bearing	1		
11	5045-1570000-21	Driving roller	1		

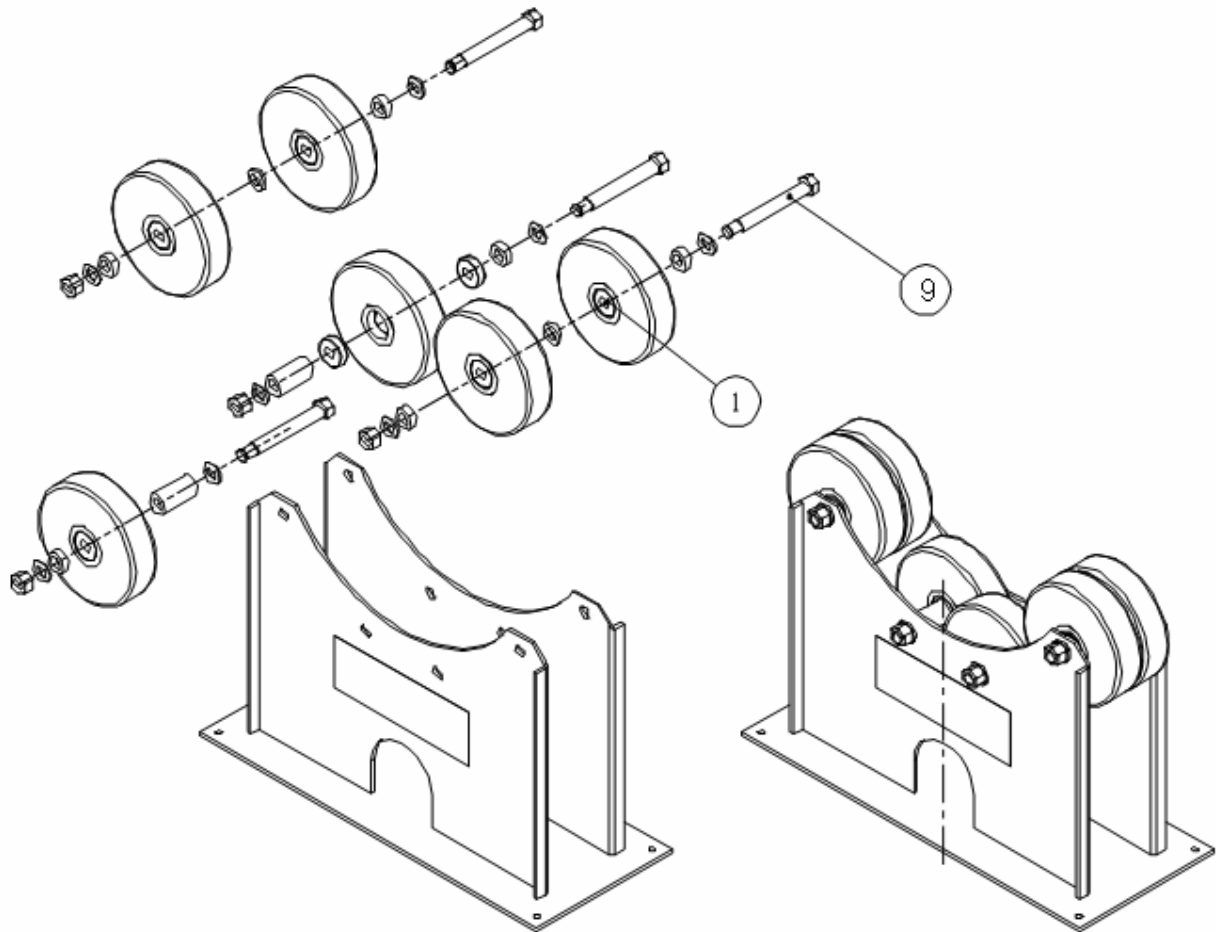
* Recommended spare parts

** Options

4.1 PARTS LIST – TR 3504P MACHINE



4.1 PARTS LIST –TR-3504I MACHINE



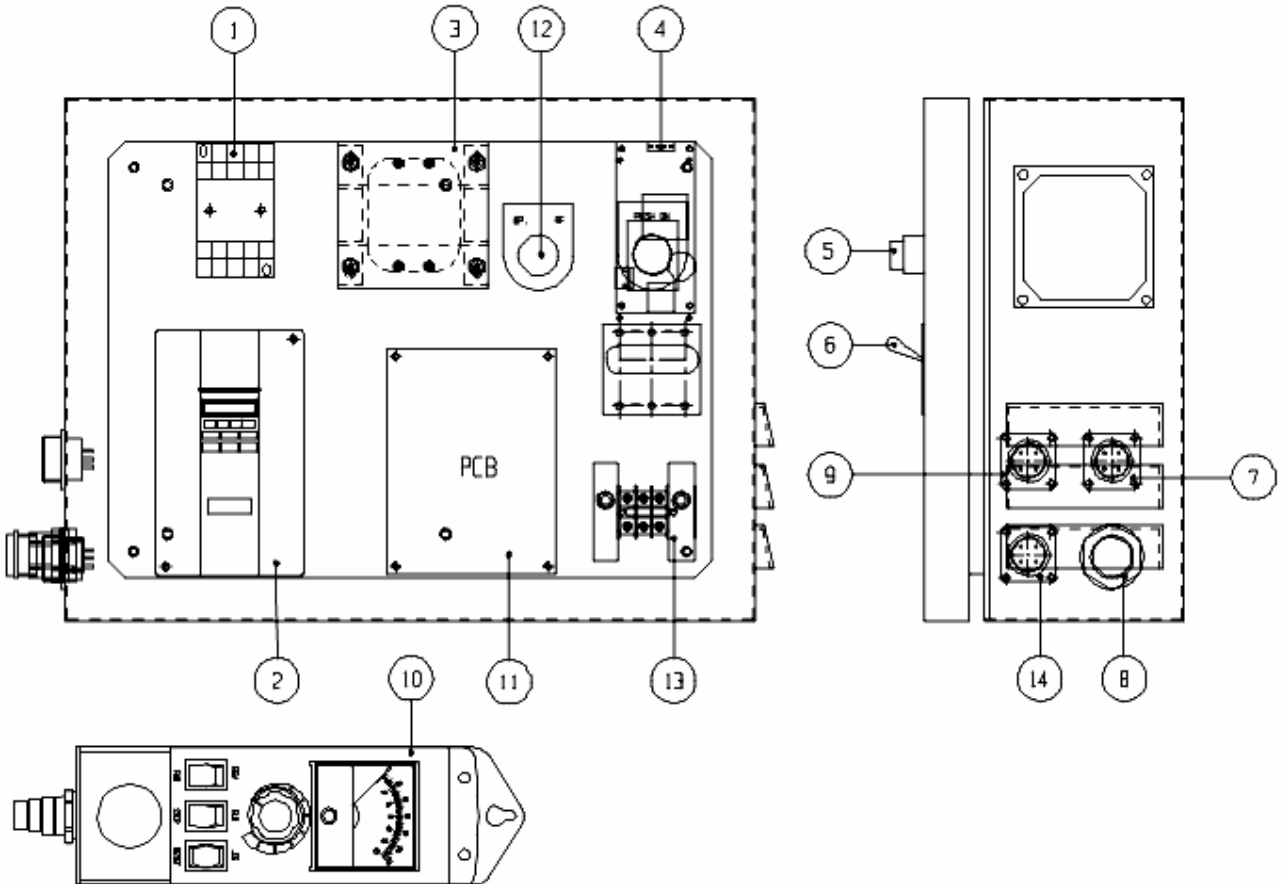
4.2 PARTS LIST - CONTROL BOX

Fig No.	Part No.	Description	Q'ty.	Remark
1	* 3224-1001	Magnetic Contactor	1	MC
2	3021-2001	Inverter 1phase	1	INV
	** 3021-4003	Inverter drives	1	INV
3	3311-0018	Transformer	1	T1
4	* 3323-0001	Power supply	1	PS
5	3214-4006	Push button (w/ light)	1	PB1
6	3222-2002	Circuit breaker	1	NFB 230VAC
7	3121-4003	Male metal connector 7 Pin	1	JN2
	3122-4003	Female male connector 7 Pin	1	JN2
8	3534-3005	Cable clamp	1	P1
9	3121-7002	Male metal connector 17 Pin	1	JN4
10	3023-0003	Remote control 7.5M	1	
11	* 6652-1211	Power cord	1	PCB
12	3211-4105	Select switch	1	SW1
13	3422-0006	Terminal	3	TB
14	3122-4004	Metal connector socket 10Pin	1	JN5

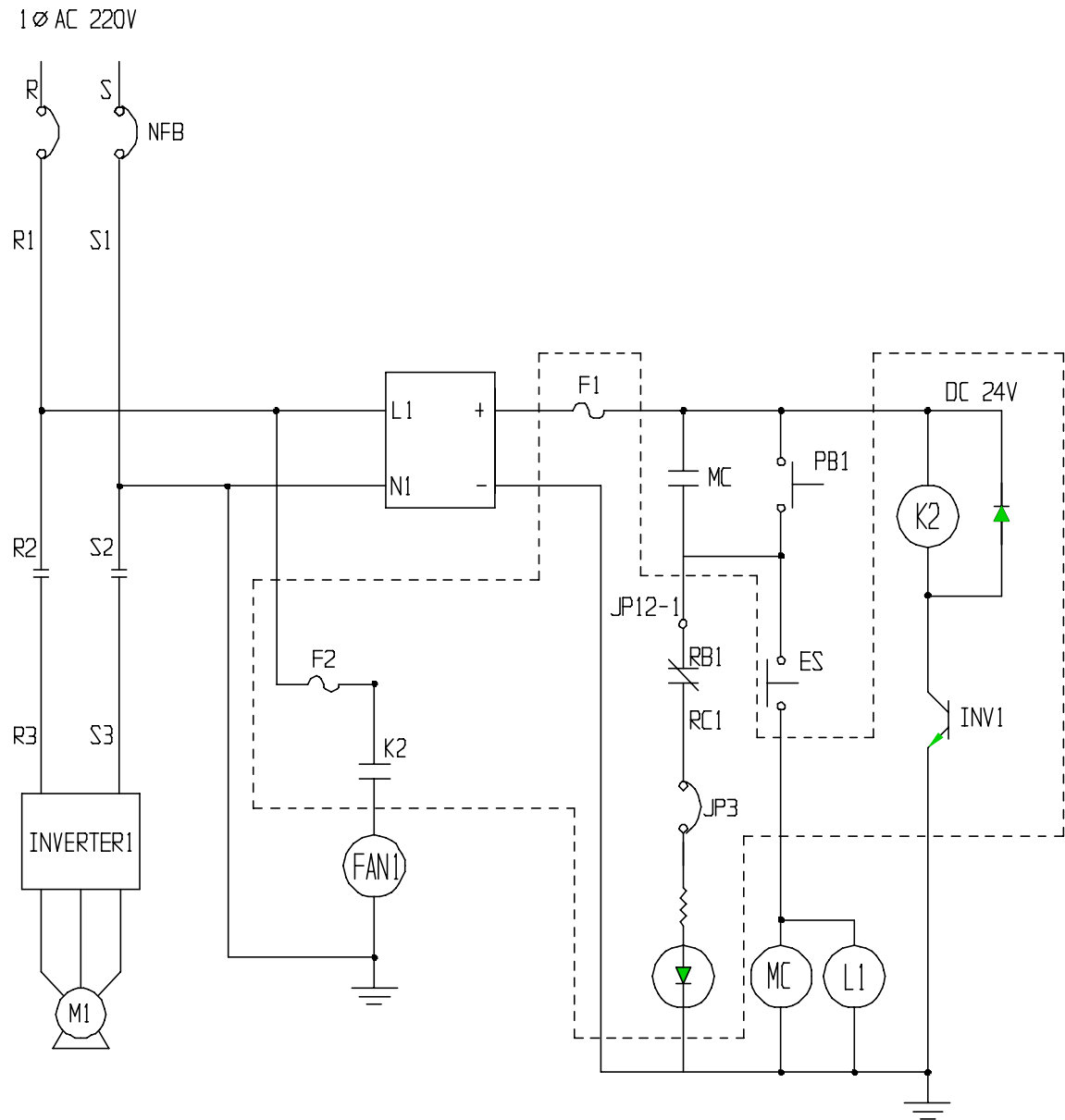
* Recommended spare parts

** Options

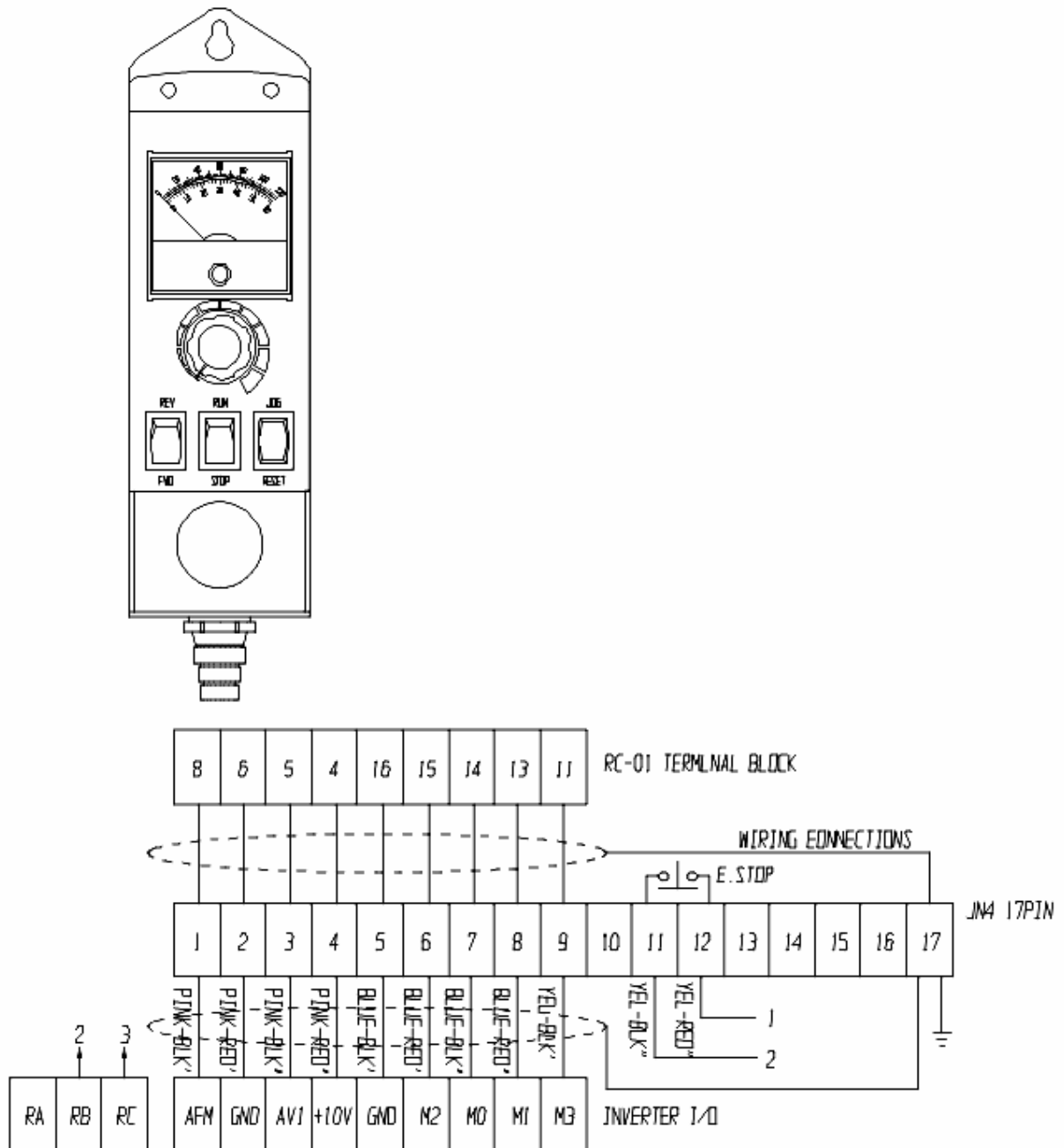
4.2 PARTS LIST - CONTROL BOX



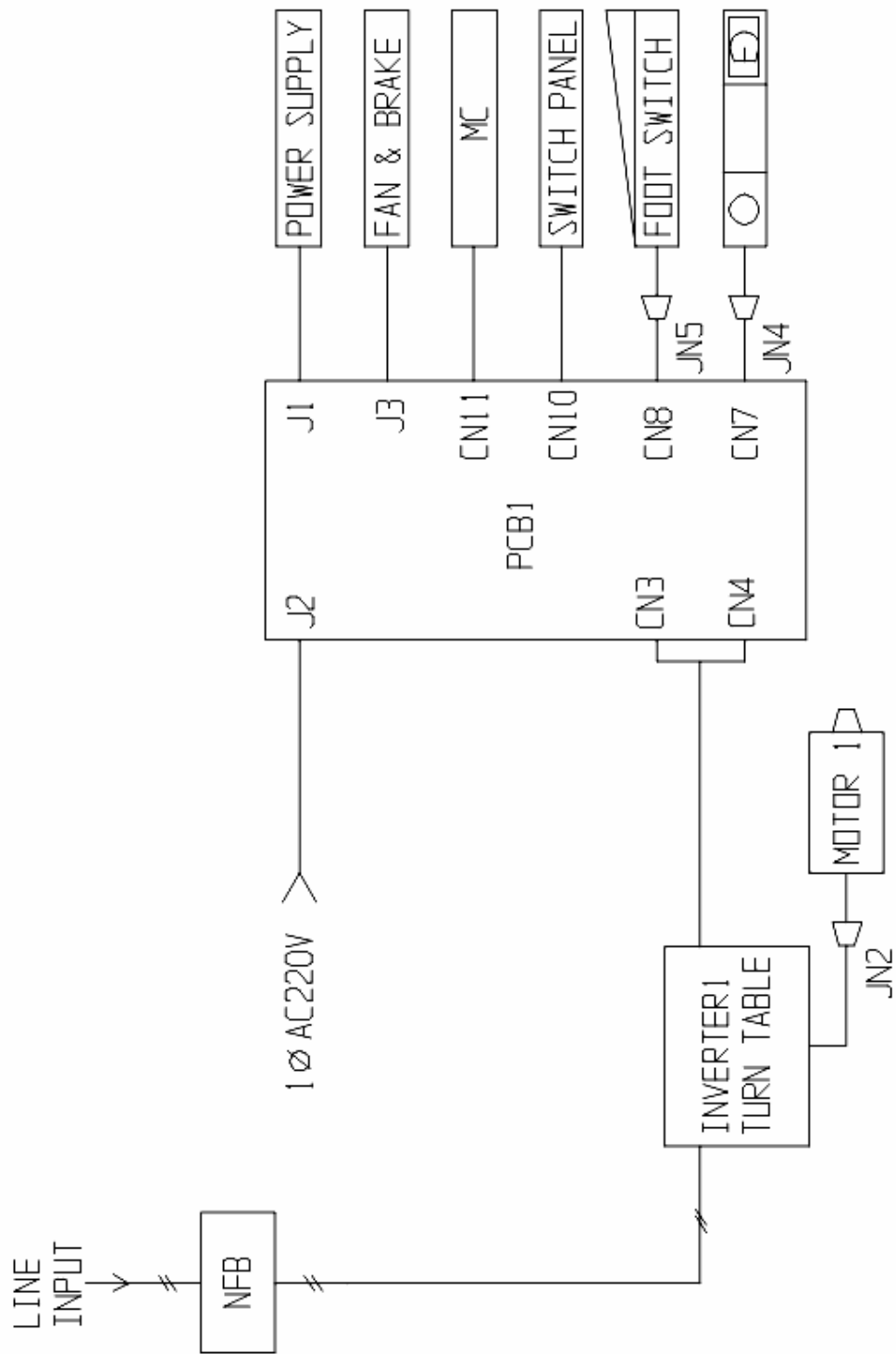
5.1 CONTROL CIRCUIT



5.1 CONTROL CIRCUIT



6.1 CONTROL SYSTEM BOX



6.2 INSIDE INPUT/OUTPUT CONNECT INTERFACE : PCB1

J1 CONNECTOR		
J1	POWER SUPPLY	Description
1	1	220V-L
2	2	220V-N
3	3	DC24V
4	4	DC0V

J3 CONNECTOR		
J3	INVERTER CTL	Description
1	1	INV1-F1
2	2	INV1-F2
3	3	INV2-B1
4	4	INV2-B2
5	5	FAN1
6	6	FAN2

CN3 CONNECTOR		
	INVERTER 1	Description
1	1	RA
2	2	RB
3	3	RC

6.2 INSIDE INPUT/OUTPUT CONNECT INTERFACE : PCB1

CN4 CONNECTOR		
	INVERTER 1	Description
1	1	M0
2	2	M1
3	3	M2
4	4	M3
5	5	M4
6	6	M5
7	7	GND
8	8	AFM
9	9	AVI
10	10	+10V
11	11	MCM
12	12	M01

CN7 CONNECTOR		
	HAND PENDANT	Description
1	1	AFM1
2	2	GND1
3	3	AVI1-HP
4	4	10V1
5	5	GND1
6	6	M12
7	7	M10-HP
8	8	M11
9	9	M13
10	10	NC
11	11	ES-1
12	12	ES-2

6.2 INSIDE INPUT/OUTPUT CONNECT INTERFACE : PCB1

CN8 CONNECTOR		
	REMOTE FOOT SWITCH	Description
1	1	RMV
2	2	GND1
3	3	RMI
4	4	GND1
5	5	M10-RF
6	6	GND1

CN10 CONNECTOR		
	FRONT SW	Description
1	1	PB1-1
2	2	PB1-2
3	3	L1-1
4	4	L1-2
5	5	DN1
6	6	DN2
7	7	UP1
8	8	UP2
9	9	SW1-1
10	10	SW1-2
11	11	SW2-1
12	12	SW2-2

CN11 CONNECTOR		
	MC	Description
1	1	MC-A1
2	2	MC-A2
3	3	MC-C1
4	4	MC-C2
	CN11-3	
	CN10-1	

6.3 INPUT/OUTPUT CONNECT INTERFACE

JN2 CONNECTOR		
	PCB-J3	Description
1		U1
2		V1
3		W1
4		G
5	3	INV1-F1
6	4	INF1-F2
7		

JN4 CONNECTOR		
	PCB-CN7	Description
1	1	AFM1
2	2	GND1
3	3	AVI1-HP
4	4	10V1
5	5	GND1
6	6	M12
7	7	M10-HP
8	8	M11
9	9	M13
10	10	NC
11	11	ES-1
12	12	ES-2
13		
14		
15		
16		
17		G

6.3 INPUT/OUTPUT CONNECT INTERFACE

JN5 CONNECTOR		
	PCB-CN8	Description
1	4	GND1
2	3	RMI
3	1	RMV
4	5	M10-RF
5	2	GND1
6	6	GND1
7		
8		
9		
10		G

APPENDIX A : INVERTER SETTINGS

ITEM	NO	NAME	Setting Value	Remark
1	Pr00	Source of Frequency Command	01	
2	Pr01	Source of Operation Command	01	
3	Pr03	Maximum Output Frequency	60	
4	Pr04	Maximum Voltage Frequency	60	
5	Pr05	Maximum Output Voltage	220	
6	Pr06	Mid-Point Frequency	3.0	
7	Pr07	Mid-Point Voltage	23	
8	Pr08	Minimum Output Frequency	1.5	
9	Pr09	Minimum Output Voltage	18	
10	Pr10	Acceleration Time 1	1	
11	Pr11	Deceleration Time 1	1	
12	Pr12	Acceleration Time 2	1	
13	Pr13	Deceleration Time 2	1	
14	Pr14	Acceleration / Deceleration S-Curve	3	
15	Pr16	Jog Frequency	60	
16	Pr38	Multi-function Input Terminal (M0,M1)	01	
17	Pr40	Multi-function Input Terminal (M3)	09	
18	Pr45	Multi-function Output Terminal 1	00	
19	Pr46	Multi-function Output Terminal 2	07	
20	Pr54	Torque Compensation	0	
21	Pr58	Electronic Thermal Overload Relay Selection	1	
22	Pr59	Electronic Thermal Motor Overload	60	
23	Pr60	Over-Torque Detection Mode	03	
24	Pr61	Over-Torque Detection Level	150	
25	Pr62	Over-Torque Detection Time	01	
26	Pr76	Parameter Lock and Configuration	01	
27	Pr114	Cooling Fan Control	02	

Appendix A : WIRING DIAGRAM

