
The SHARP logo consists of the word "SHARP" in a bold, white, sans-serif font, centered within a solid blue rectangular background.

ELECTRICS MANUAL

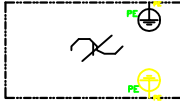

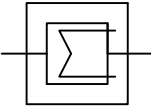

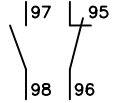
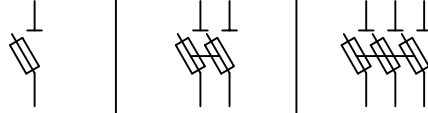
**FOR
LARGE VERTICAL KNEE TYPE MILLS
MODEL V-1**



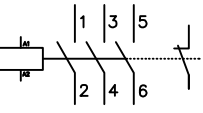




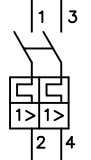

Manual Number : KRDM24C9 Date : NOV,2018 REV : V3.0S

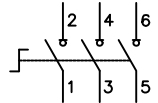
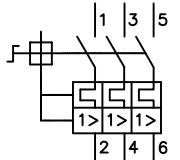
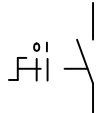
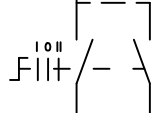
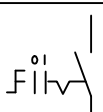
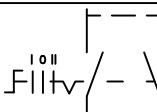
CONTENTS


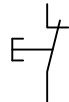
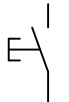

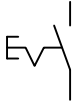




CHAPTER 10 ELECTRICS DRAWINGS




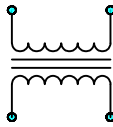
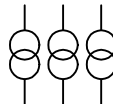
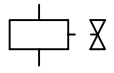
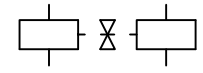
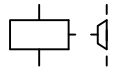
PAGE	PAGE DESCRIPTION	SUPPLEMENTARY PAGE FIELD	DATE	EDITED BY
I	SYMBOL		01.30,2015	
II	SYMBOL		01.30,2015	
III	SYMBOL		01.30,2015	
IV	SYMBOL		01.30,2015	
V	SYMBOL		01.30,2015	
VI	SYMBOL		01.30,2015	
01	LAYOUT		11.30,2018	
A/01	MAIN CIRCUIT		11.30,2018	
C/01	AC110V CIRCUIT		01.30,2015	
C/02	AC24V CIRCUIT		11.30,2018	
C/03	AC24V CIRCUIT		01.30,2015	
E/01	SPINDLE INVERTER LAYOUT		01.30,2015	
E/02	LAYOUT		11.30,2018	

1	2		3	4	5	6	7		
A	LETTER CODE	KIND OF ITEM		EXAMPLES	ITEM DESIGNATION	GRAPHICAL SYMBOLS			
A	A	Filter		Filter	A				
B	E	Miscellaneous		Fan	E				
B				Heat exchanger or ventilator	EV				
C				Wark lamp	EL				
C	H	Signaling devices		Indicator lamp	HL				
D	F	Protective devices		Auxiliary contact	FR				
D				Fuse	FU				
E				MACHINE CONTROL	TURRET MILL SERIES	NO.	VERSION	DATE	CHECK
	TITLE:	SYMBOL		PAGE:	I	1.	V 2.0	01.30,2015	
						2.			
						3.			
1	2		3	4	5	6	7		

1		2		3		4		5		6		7	
A	LETTER CODE	KIND OF ITEM		EXAMPLES		ITEM DESIGNATION		GRAPHICAL SYMBOLS					
	K	Relays, Contactors		Relay		KA							
				Contactor		KM							
	L	Inductors, Reactor		Reactor		L							
	M	Motor				M							
Q	Mechanical switch device for power circuit		Circuit breaker or Nor fuse breaker		Q		  						
E				MACHINE	TURRET MILL SERIES	NO.	VERSION	DATE	CHECK				
				CONTROL		1.	V 2.0	01.30,2015					
	TITLE:	SYMBOL		DWG NO.	SYMBOL002	2.							
		PAGE:	II		DRAWER	NICOLE LI	3.						
1		2		3		4		5		6		7	

1	2	3	4	5	6	7					
A	LETTER CODE	KIND OF ITEM	EXAMPLES	ITEM DESIGNATION	GRAPHICAL SYMBOLS		A				
B	Q	Mechanical switch device for power circuit	Main power switch	QF			B				
			Circuit breaker (motor breaker)	QM							
C	S	Switching devices for control, Monitoring, Signaling circuit, ETC	Select button (auto-return type)	SA			C				
D			Select button (nor-auto return type)				D				
E			MACHINE CONTROL		TURRET MILL SERIES	NO.	VERSION	DATE	CHECK	E	
TITLE:	SYMBOL	PAGE:	III	DWG NO.	SYMBOL003	DRAWER	NICOLE LI	1.	V 2.0	01.30,2015	
1	2	3	4	5	6	7					

1	2		3	4	5	6	7						
A	LETTER CODE	KIND OF ITEM		EXAMPLES	ITEM DESIGNATION	GRAPHICAL SYMBOLS		A					
B	S	Switching devices for control, Monitoring, Signaling circuit, ETC		E-stop Push button	SB			A					
C				Push button (auto-return type)				B					
D				Push button (nor-auto return type)				B					
E				Key switch				C					
F				Position sensor	SC			C					
G				Foot switch	SF			D					
H				Limit switch (O.T/POSITION)	SL			D					
I	TITLE:	SYMBOL		PAGE:	IV	MACHINE CONTROL	TURRET MILL SERIES	NO.	VERSION	DATE	CHECK	I	
J	1	2		3	4	DWG NO.	SYMBOL004	2.					J
K	1	2		3	4	DRAWER	NICOLE LI	3.					K
L	1	2		3	4	5	6	7	L				

1	2		3	4	5	6	7			
A	LETTER CODE	KIND OF ITEM	EXAMPLES	ITEM DESIGNATION	GRAPHICAL SYMBOLS			A		
S	Switching devices for control, Monitoring, Signaling circuit, ETC	Liquid level switch	SS				B			
		Pressure switch	SP							
P	Safety ground		PE				B			
T	Transformers	Transformers for control circuit supply	TC				C			
		Power transformer	TM							
Y	Electrically operated mechanical devices	Solenoid valve	YV				D			
		Electromagnetically operated valve	YB							
E				MACHINE CONTROL	TURRET MILL SERIES	NO.	VERSION	DATE	CHECK	E
TITLE:	SYMBOL		PAGE:	V	DWG NO.	SYMBOL005	1.	V 2.0	01.30,2015	
					DRAWER	NICOLE LI	2.			
							3.			
1	2	3	4	5	6	7				

1

2

3

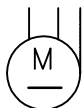
4

5

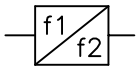
6

7

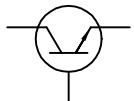
A



DC Montor



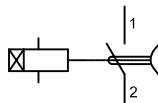
Frefuence changer



NPN-Transistor



Spark Killer



Timer



Thermal overloaid relay

B

A

C

C

D

D

E

E

MACHINE	TURRET MILL SERIES	NO.	VERSION	DATE	CHECK
CONTROL		1.	V 2.0	01.30,2015	
DWG NO.	SYMBOL006	2.			
DRAWER	NICOLE LI	3.			

TITLE:

SYMBOL

PAGE:

VI

1

2

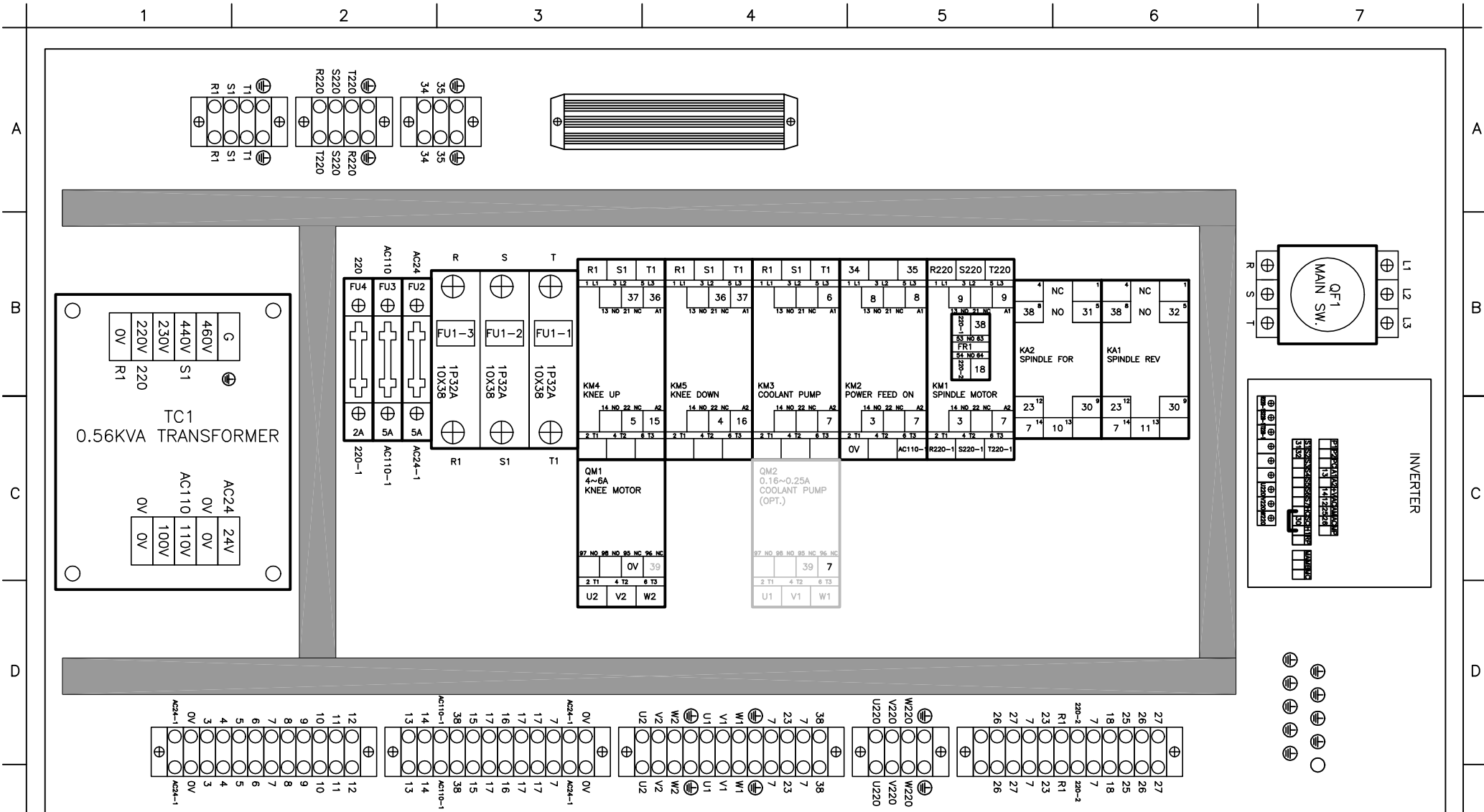
3

4

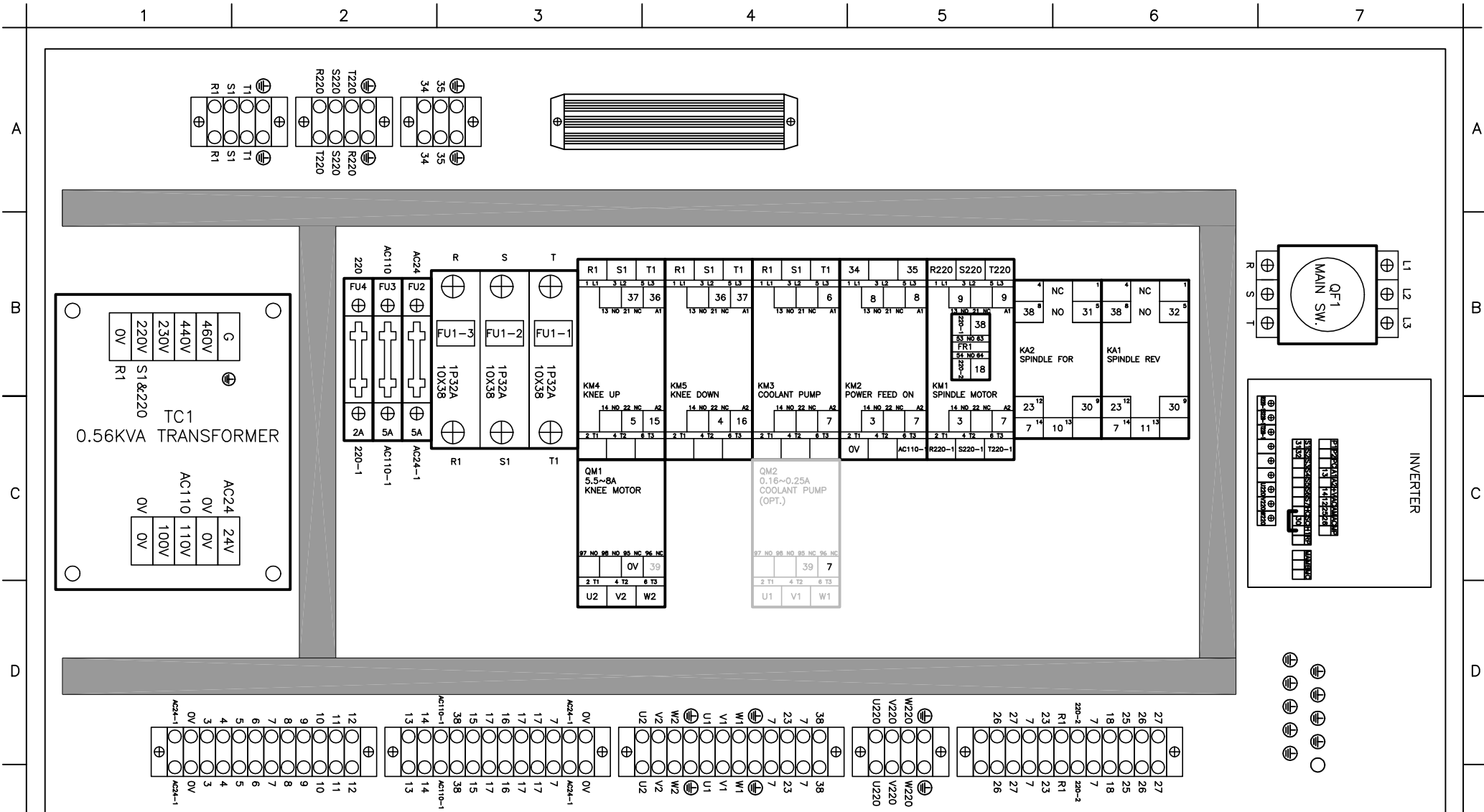
5

6

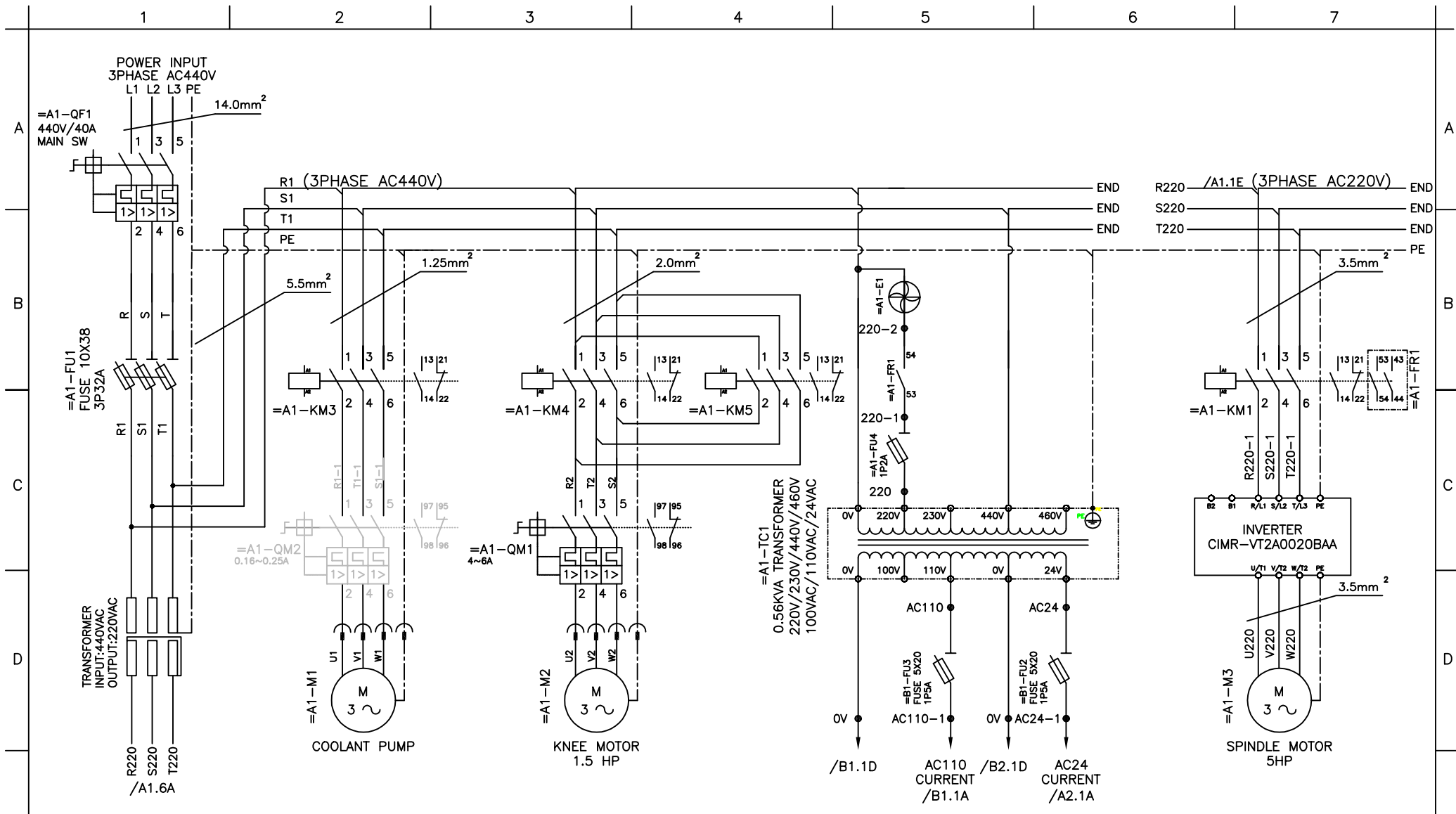
7



		MACHINE	TURRET MILL SERIES	NO.	VERSION	DATE	CHECK
		CONTROL		1.	V 2.0	01.30,2015	
TITLE:	LAYOUT (FOR I3000SL AC440V)	DWG NO.	MILL0000011	2.	V 3.0S	11.30,2018	
		DRAWER	EVA CHANG	3.			

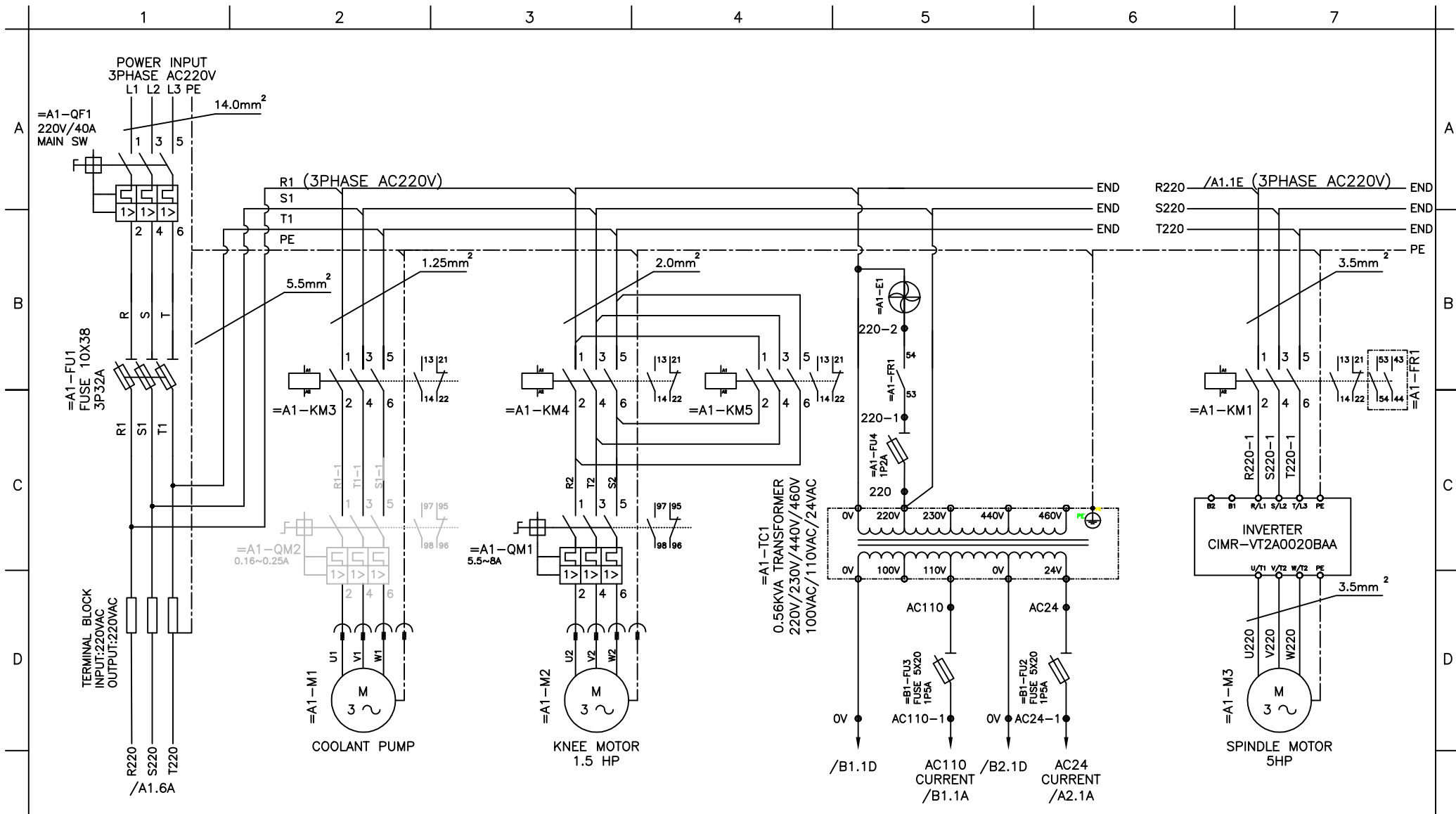


		MACHINE	TURRET MILL SERIES	NO.	VERSION	DATE	CHECK
TITLE:		LAYOUT		1.	V 2.0	01.30,2015	
(FOR I3000SL AC220V)		CONTROL		2.	V 3.0S	11.30,2018	
PAGE:	01	DWG NO.	MILL0000012	3.			
		DRAWER	EVA CHANG				



MACHINE	TURRET MILL SERIES	NO.	VERSION	DATE	CHECK
CONTROL		1.	V 2.0	01.30,2015	
DWG NO.	MILL00A0011	2.	V 3.0S	11.30,2018	
DRAWER	EVA CHANG	3.			

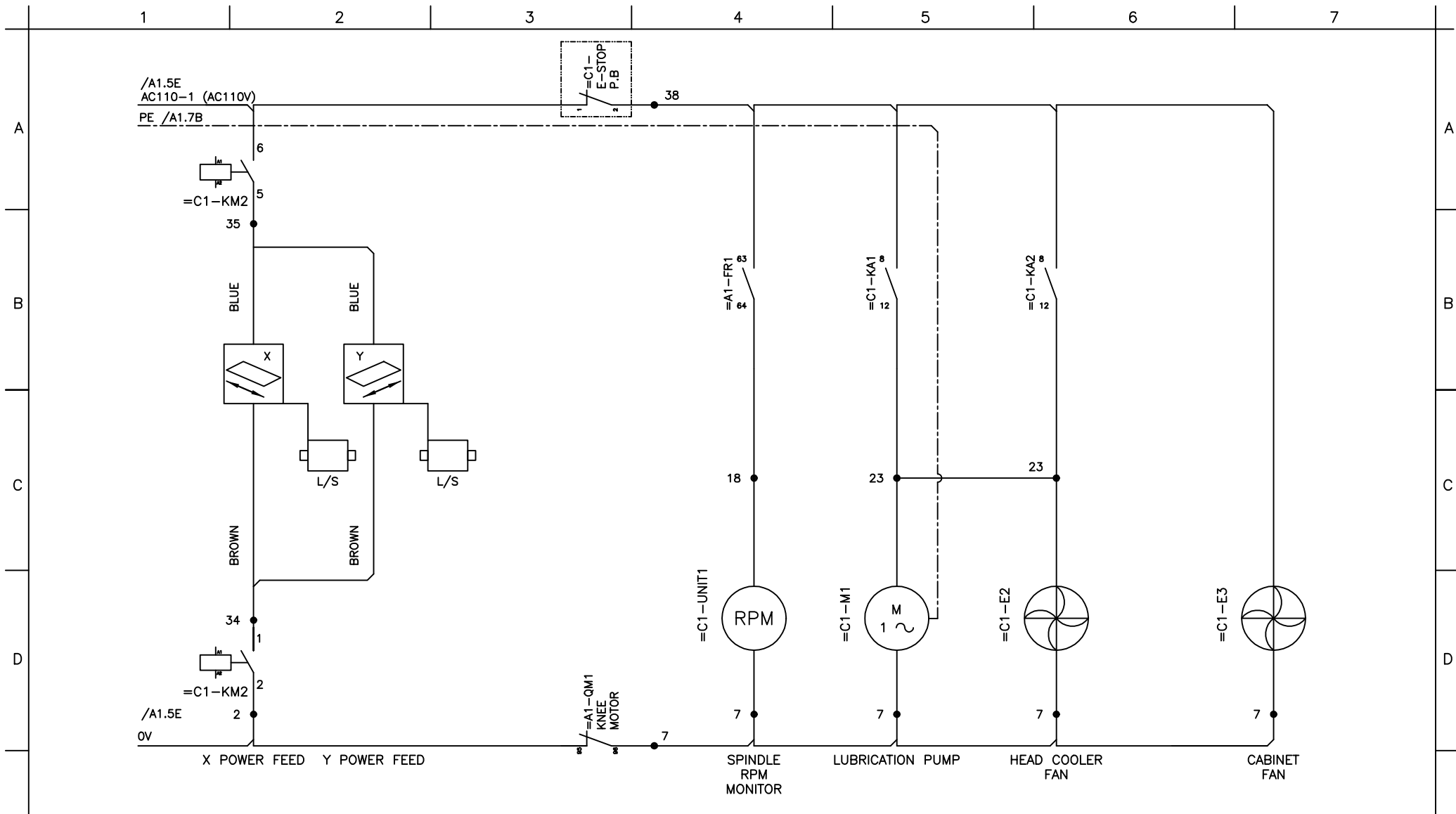
TITLE:	MAIN CIRCUIT (FOR INPUT POWER 440V)	PAGE:	A / 01
--------	--	-------	--------



MACHINE	TURRET MILL SERIES	NO.	VERSION	DATE	CHECK
CONTROL		1.	V 2.0	01.30,2015	
DWG NO.	MILL00A0012	2.	V 3.0S	11.30,2018	
DRAWER	EVA CHANG	3.			

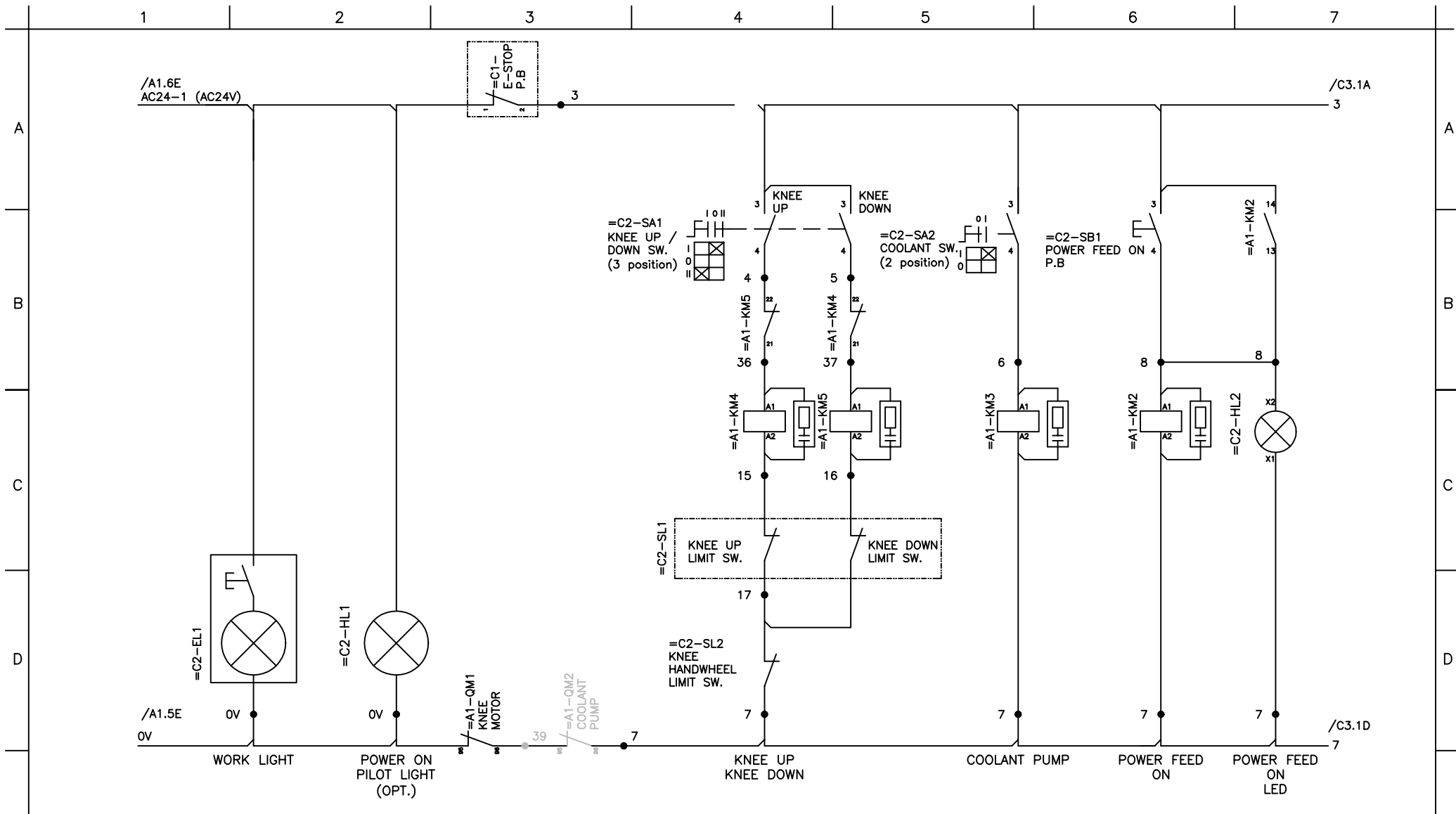
TITLE: MAIN CIRCUIT (FOR INPUT POWER 220V)

PAGE: A / 01



MACHINE	TURRET MILL SERIES	NO.	VERSION	DATE	CHECK
CONTROL		1.	V 2.0	01.30,2015	
DWG NO.	MILL00C0010	2.			
DRAWER	NICOLE LI	3.			

TITLE: AC110V CIRCUIT PAGE: C / 01



MACHINE	TURRET MILL SERIES	NO.	VERSION	DATE	CHECK
CONTROL		1.	V 2.0	01.30,2015	
DWG NO.	MILL00C0020	2.	V 3.0S	11.30,2018	
DRAWER	NICOLE LI	3.			

TITLE: AC24V CIRCUIT PAGE: C / 02

1 2 3 4 5 6 7

A

A

B

B

C

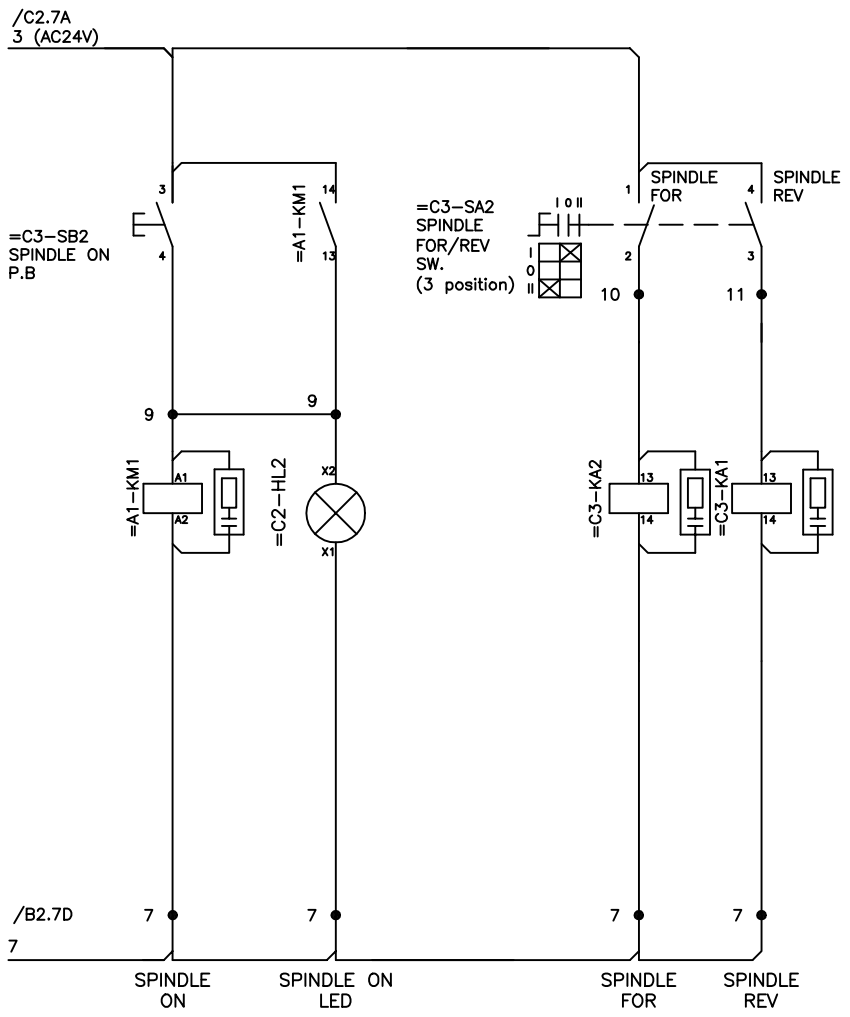
C

D

D

E

E



MACHINE	TURRET MILL SERIES	NO.	VERSION	DATE	CHECK
CONTROL		1.	V 2.0	01.30,2015	
DWG NO.	MILL00C0030	2.			
DRAWER	NICOLE LI	3.			

TITLE: **AC24V CIRCUIT** PAGE: **C / 03**

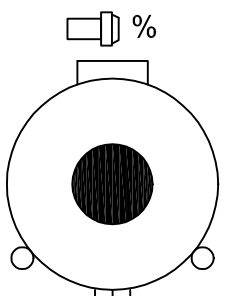
1 2 3 4 5 6 7

1 2 3 4 5 6 7

A

B

SPINDLE OVERRIDE



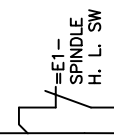
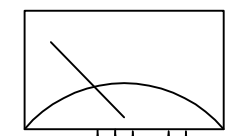
INVERTER

P1	P2	PC	A1	A2	+	VAC	A	M	A	C	M	P
			13	14	12	25	26					

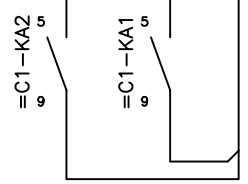
S1	S2	S3	S4	S5	S6	S7	HC	S	C	H	1	R	P
31	32										30		

⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕
R220-1	S220-1	T220-1					U220	V220	W220	

RPM



18 /C1.4C
7 /C1.4D



C

D

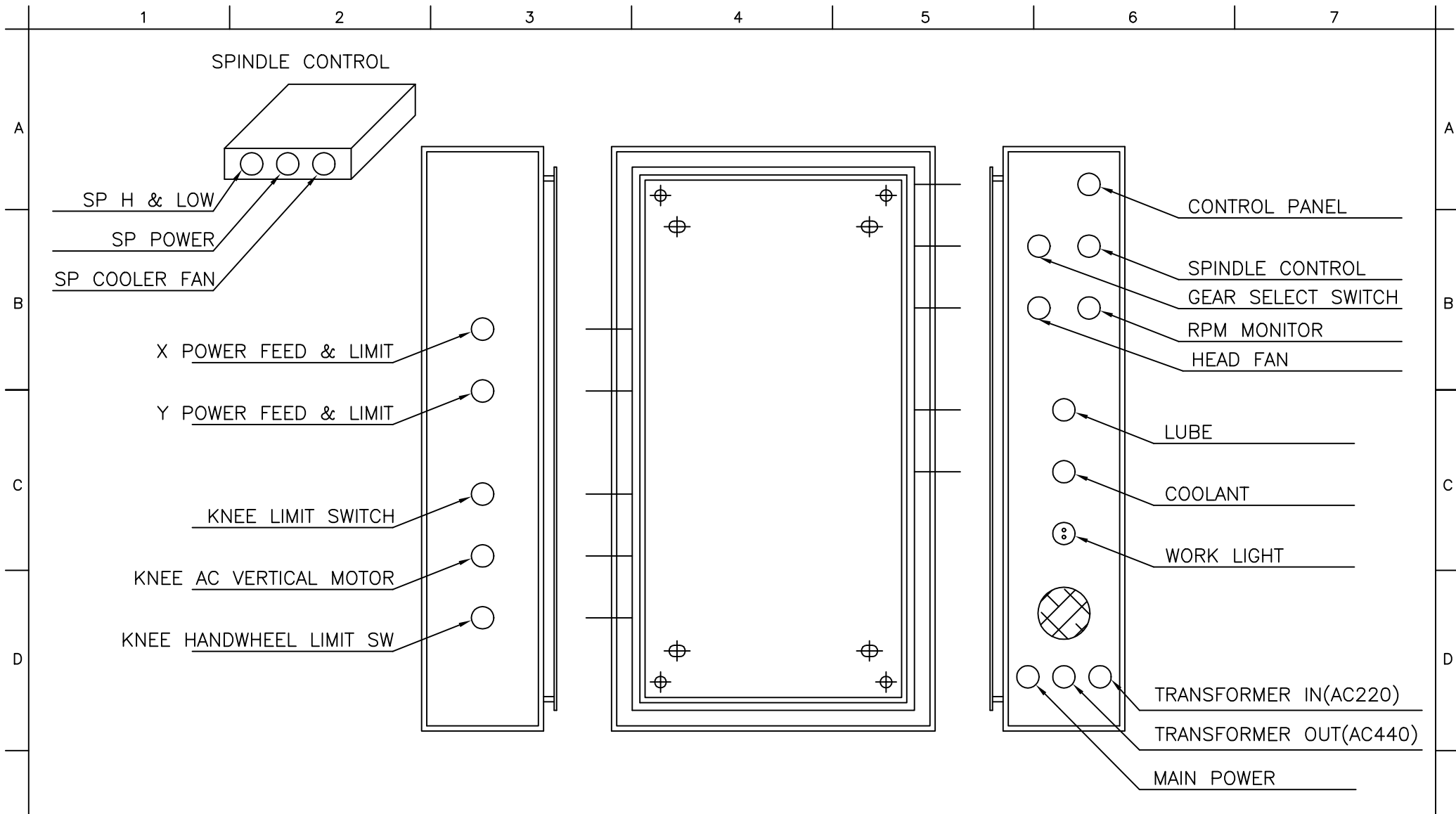
E

MACHINE	TURRET MILL SERIES	NO.	VERSION	DATE	CHECK
CONTROL		1.	V 2.0	01.30,2015	
DWG NO.	MILL00E0010	2.			
DRAWER	NICOLE LI	3.			

TITLE:	SPINDLE INVERTER LAYOUT	PAGE:	E / 01
--------	-------------------------	-------	--------

1 2 3 4 5 6 7

E



MACHINE	TURRET MILL SERIES	NO.	VERSION	DATE	CHECK
CONTROL		1.	V 2.0	1.30,2015	
DWG NO.	MILL00E0020	2.	V 3.0S	11.30,2018	
DRAWER	EVA CHANG	3.			

TITLE: LAYOUT (FOR I3000SL) PAGE: E / 02