

# Electrical Manual

**KLS-2280C**

**ENGINE LATHE**

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## **ELECTRIC SYSTEM OF THE MACHINE**

### 1. Characteristics of Power

- a) Main circuit: a. c. 3 phases. 50/60 Hz, 380/400/415/440/575 V&220/230/240V
- b) Control circuit: a. c. 110 V&24V
- c) Lighting circuit: a. c. 24 V
- d) Indicator: a. c. 24 V

### 2. Protection Measures of the Machine

Electrical Standard GB 5226.1-1996 (GB refers to the National Standard of China) has been implemented for the machine so that the door of the electric cabinet can not be opened unless the master switch has been turned off, and the master switch can not be turned on unless the door has been closed. Inside the cabinet, the electric parts over 50 V are all housed for safety.

### 3. Operation of the Machine

Tie the power cable and ground wire (the end of which is marked with PE) respectively as indicated in connecting diagram of electric apparatus. Close the door of electric cabinet. Turn on the master switch QF and the indicator HL will light. Press SB4 or SB5, KM1 is electrified and the spindle turns. Pull the operation lever up, the spindle runs forward. Push the operation lever down, the spindle runs reverse. Press button SB3, KM1 is de-electrified and the spindle stops. Turn SA1 to ON position, KM2 is electrified and the coolant pump works. Turn SA1 to OFF position, KM2 is de-electrified and the coolant pump stops. Under an emergent condition, just press the mushroom like red button SB1 and all contactors and relays will de-electrified. The spindle will stop at once.

### 4. Maintenance of Electric Apparatus

Principle layout of electric apparatus, Connecting diagram of electric apparatus and List of electric elements may be referred to for the maintenance of the electric apparatus.

5. List of electric elements is shown in the following table.

#### Points for attention

- a. To open the door of the electric cabinet, just turn the lock to “OFF” position then turn counterclockwise for a small angle while pulling gently the door handle and the cabinet door will be opened. To close the door, just push the door handle with a bit force so that a clear sound is heard and the door has been securely closed.
- b. If you want to lock the cabinet door, just turn the lock to “OFF” position, insert the key and turn it clockwise for a certain angle. Do the opposite to unlock the door.
- c. Because of product renovation, we reserve the right of revising this manual without notice.

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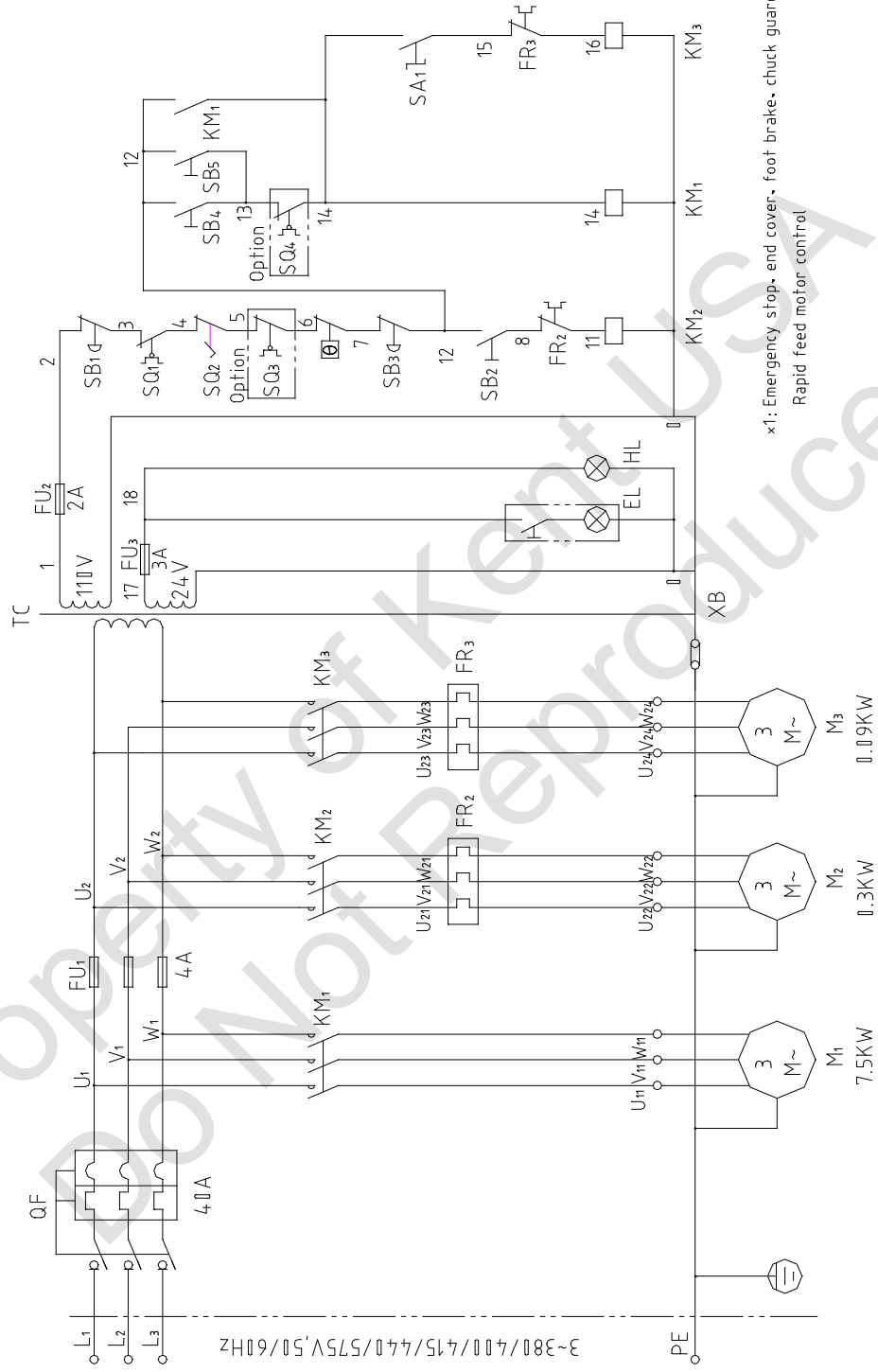
### List of electric elements

Code	Description	Model	Specifications	Qty
			3~380/400/415/440/575V 50/60HZ	
M1	Main motor	Y160M-6-TH	7.5KW, 1160r/min	1
M2	Coolnat pump	AB-12TH	40W	1
M3	Rapid feed motor	YSS5634	300W, 1400r/min	1
QF	Automatic switch	DZ15-40/3902	3 poles, 40A	1
TC	Control transformer	JBK5-160TH	380V. 400V. 415V. 440V. 575V/110V、24V	1
FR1	Thermal relay	3UA59	0.25-0.4A	1
FR2	Thermal relay	3UA59	1.6-2.5A	1
KM1	a. c. contactor	3TB43	Coil voltage 110V, 22A	1
KM2、KM3	a. c. contactor	3TB40	Coil voltage 110V, 9A	2
	Blow fuse	RT18-32		5
FU1	Fuse wire	RT14	4A	3
FU2	Fuse wire	RT14	2A	1
FU3	Fuse wire	RT14	3A	1
θ	Temperature relay	JW6-125°C	Working temperature 125°C	1
SQ1	Door switch	LXW3		1
SQ2	Limit switch	JW2-11H/W1		1
SQ3	Micro switch	LXW5-11Q1		1
SB1	Button	LAY3-01ZS/1	Red	1
SB2	Button	LA9	Green	1
SB3	Button	LAY3-01	Red	1
SB4、SB5	Button	LAY3-11	Green	2
SA1	Turning switch	LAY3-11X/2	Black	1
EL	Machine lamp	JC11-1		1
	Bulb		24V, 40W	1
HL	Indictor light	XB2EV163	24V, Green	1

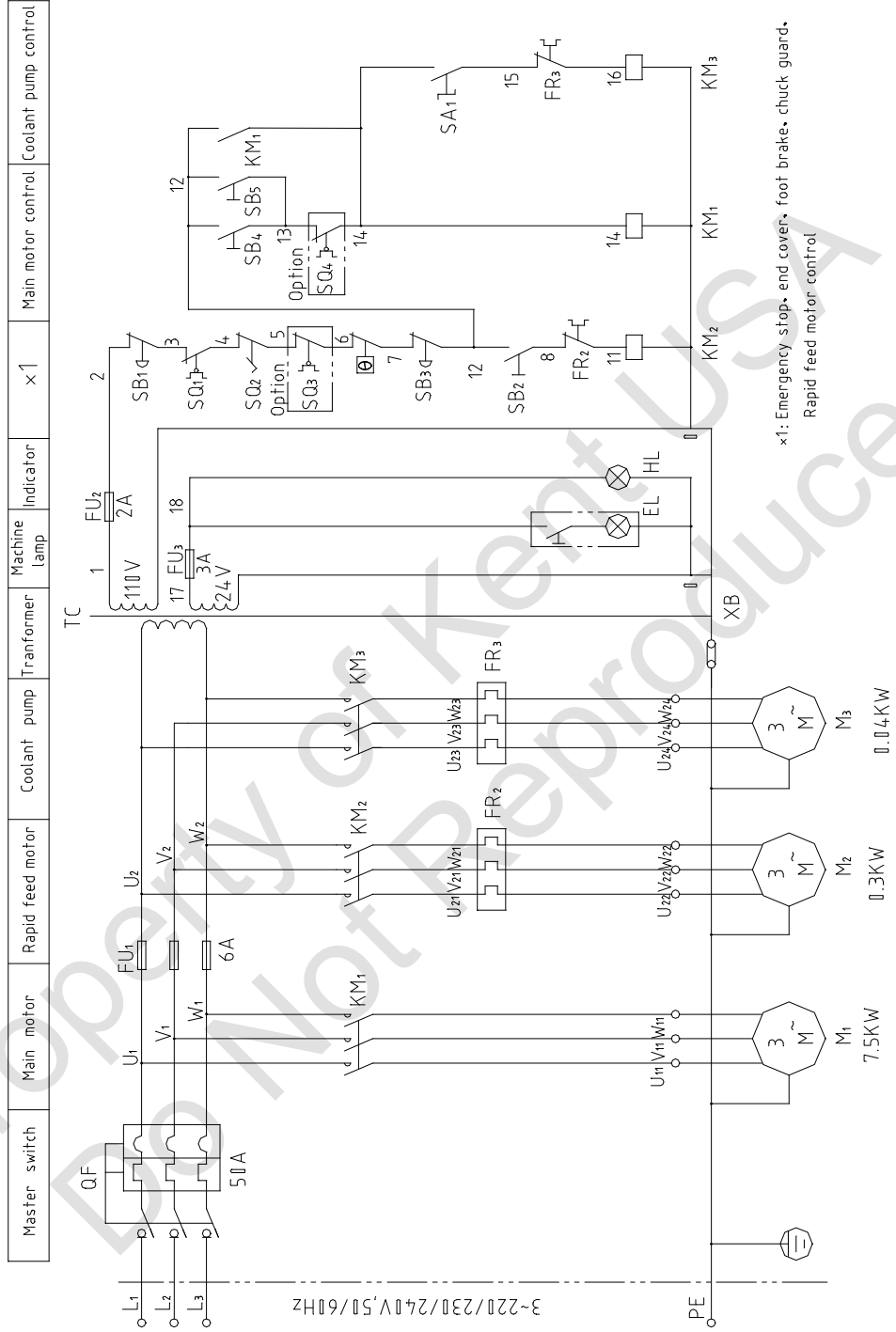
List of electric elements				
Code	Description	Model	Specifications	Qty
			3~220/230/240V 50/60HZ	
M1	Main motor	Y160M-6-TH	7.5KW, 1160r/min	1
M2	Coolnat pump	AB-12TH	40W	1
M3	Rapid feed motor	YSS5634	300W, 1400r/min	1
QF	Automatic switch	DZ15-40/3902	3 poles, 50A	1
TC	Control transformer	JBK5-160TH	220V. 230V. 240V/110V、 24V	1
FR1	Thermal relay	3UA59	0.25-0.4A	1
FR2	Thermal relay	3UA59	2-3.2A&2.5-4A	1
KM1	a. c. contactor	3TB44	Coil voltage 110V, 32A	1
KM2、 KM3	a. c. contactor	3TB40	Coil voltage 110V, 9A	2
	Blow fuse	RT18-32		5
FU1	Fuse wire	RT14	6A	3
FU2	Fuse wire	RT14	2A	1
FU3	Fuse wire	RT14	3A	1
θ	Temperature relay	JW6-125°C	Working temperature 125°C	1
SQ1	Door switch	LXW3		1
SQ2	Limit switch	JW2-11H/W1		1
SQ3	Micro switch	LXW5-11Q1		1
SB1	Button	LAY3-01ZS/1	Red	1
SB2	Button	LA9	Green	1
SB3	Button	LAY3-01	Red	1
SB4、 SB5	Button	LAY3-11	Green	2
SA1	Turning switch	LAY3-11X/2	Black	1
EL	Machine lamp	JC11-1		1
	Bulb		24V, 40W	1
HL	Indictor light	XB2EV163	24V, Green	1

Note: The machine power is 220V, If fit with 380V, the connect of main motor, coolant pump, rapid feed motor, transformer should be changed, The connect drawing of rapid feed motor stick into the slide box.

Master switch	Main motor	Rapid feed motor	Coolant pump	Transformer	Machine lamp	Indicator	x1	Main motor control	Coolant pump control
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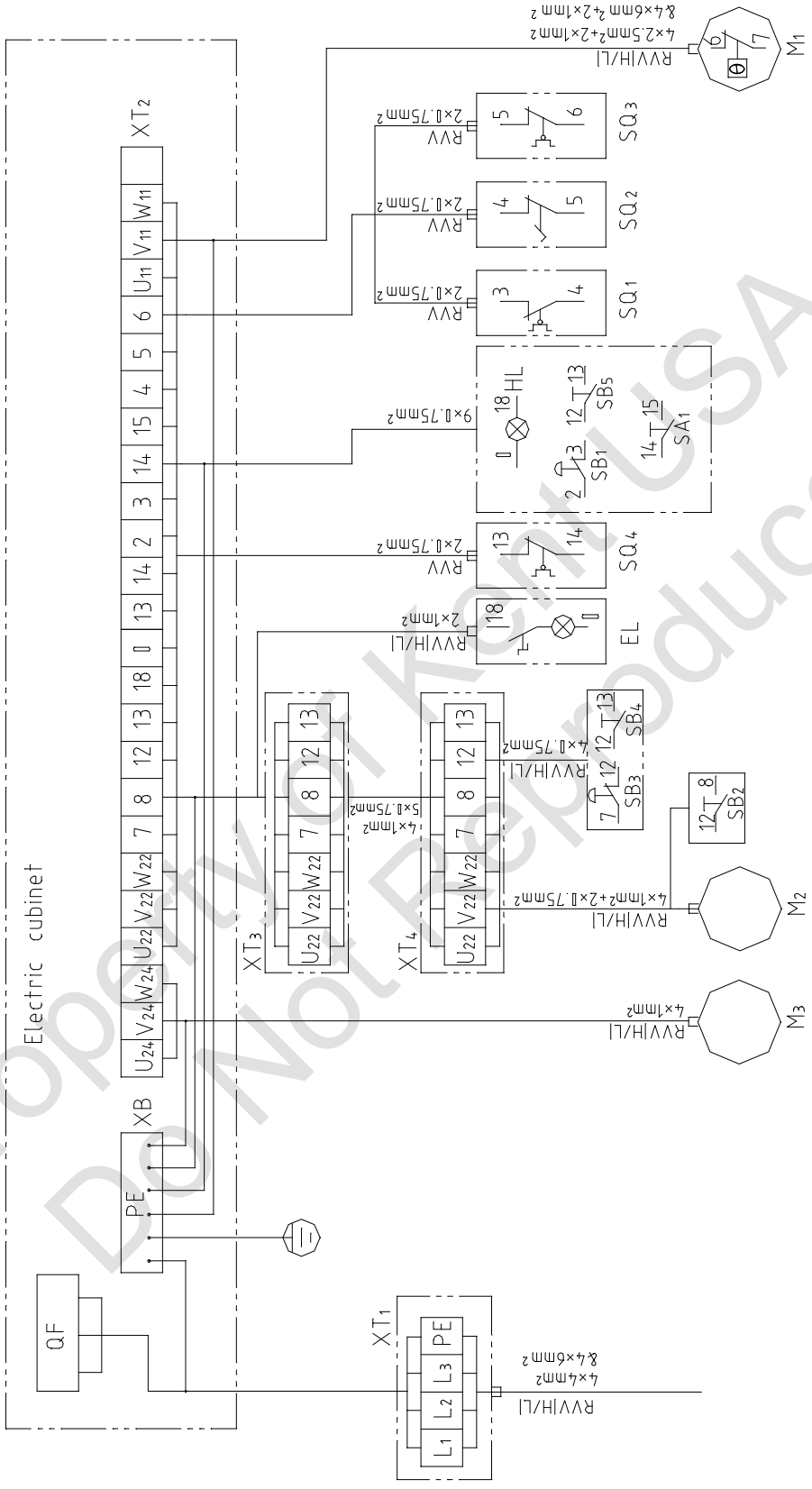
Principle layout of electric apparatus.



Master switch	Main motor	Rapid feed motor	Coolant pump	Transformer	Machine lamp	Indicator	x1	Main motor control	Coolant pump control
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x1: Emergency stop, end cover, foot brake, chuck guard, Rapid feed motor control

Principle layout of electric apparatus.



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