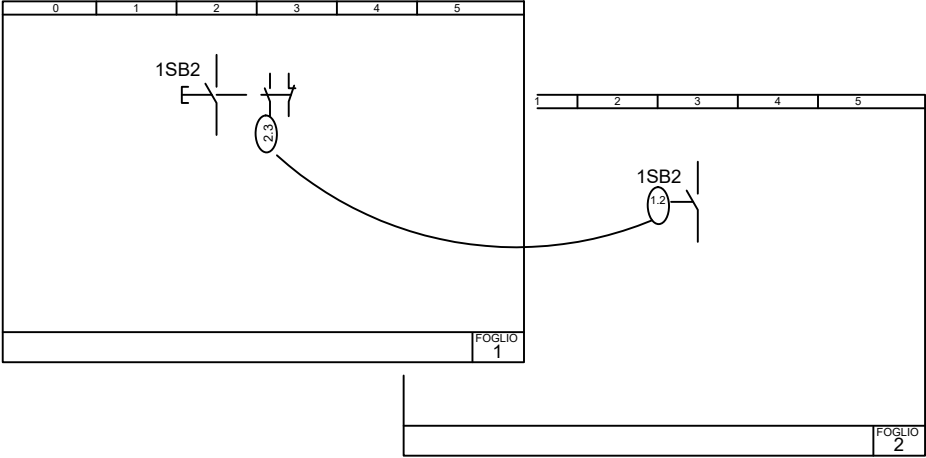
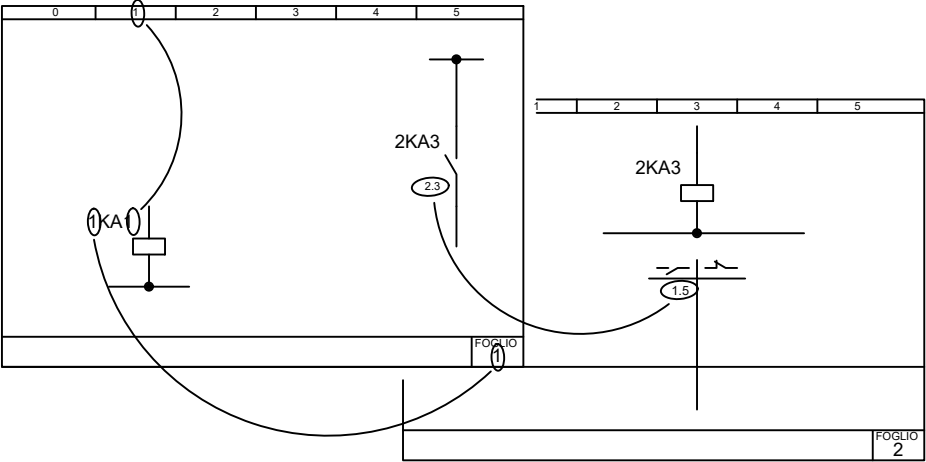


|                                                                                                                              |   |   |   |   |   |   |   |   |   |                                                                                                                                                                                                                                                              |    |    |    |    |    |    |    |    |    |
|------------------------------------------------------------------------------------------------------------------------------|---|---|---|---|---|---|---|---|---|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|----|----|----|----|----|----|----|----|
| 0                                                                                                                            | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10                                                                                                                                                                                                                                                           | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
| <div><div>AITALMAC</div><div>Heng Sheng Road , Gao Chun Economic Development Zone ,<br/>NANJING,211300 P.R.CHINA</div></div> |   |   |   |   |   |   |   |   |   | <div>LOCATION SYMBOLS</div> <div><div><input type="checkbox"/> Components on the door</div><div><input type="checkbox"/> Components inside the cubicle (usually omitted)</div><div><input type="checkbox"/> Machine components (usually omitted)</div></div> |    |    |    |    |    |    |    |    |    |

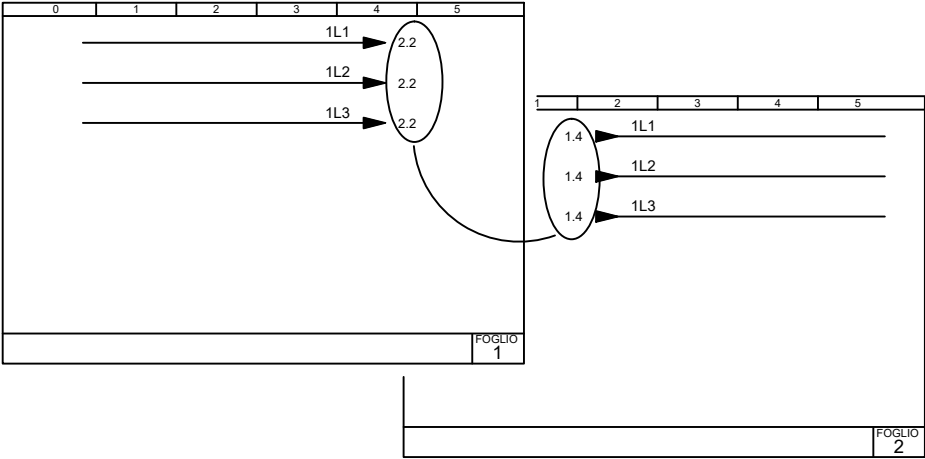
COMPONENT REFERENCE



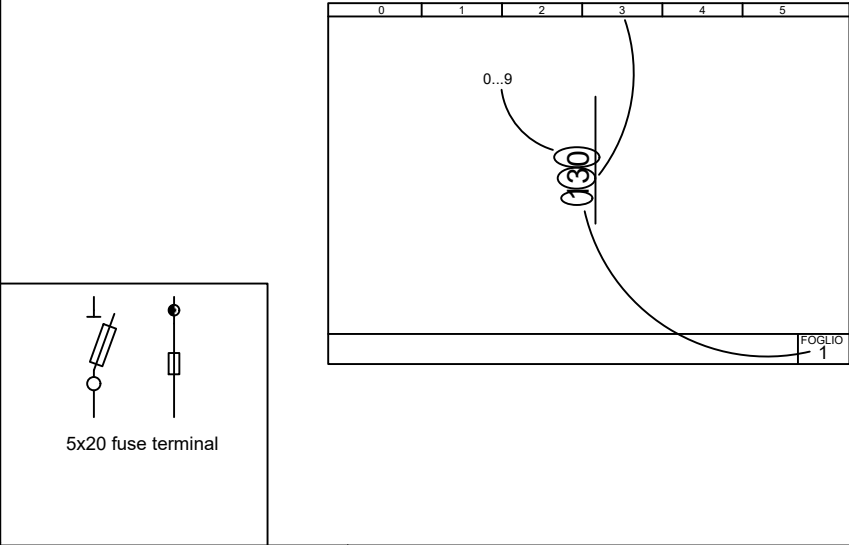
COMPONENT NAME/COIL-CONTACT POSITION

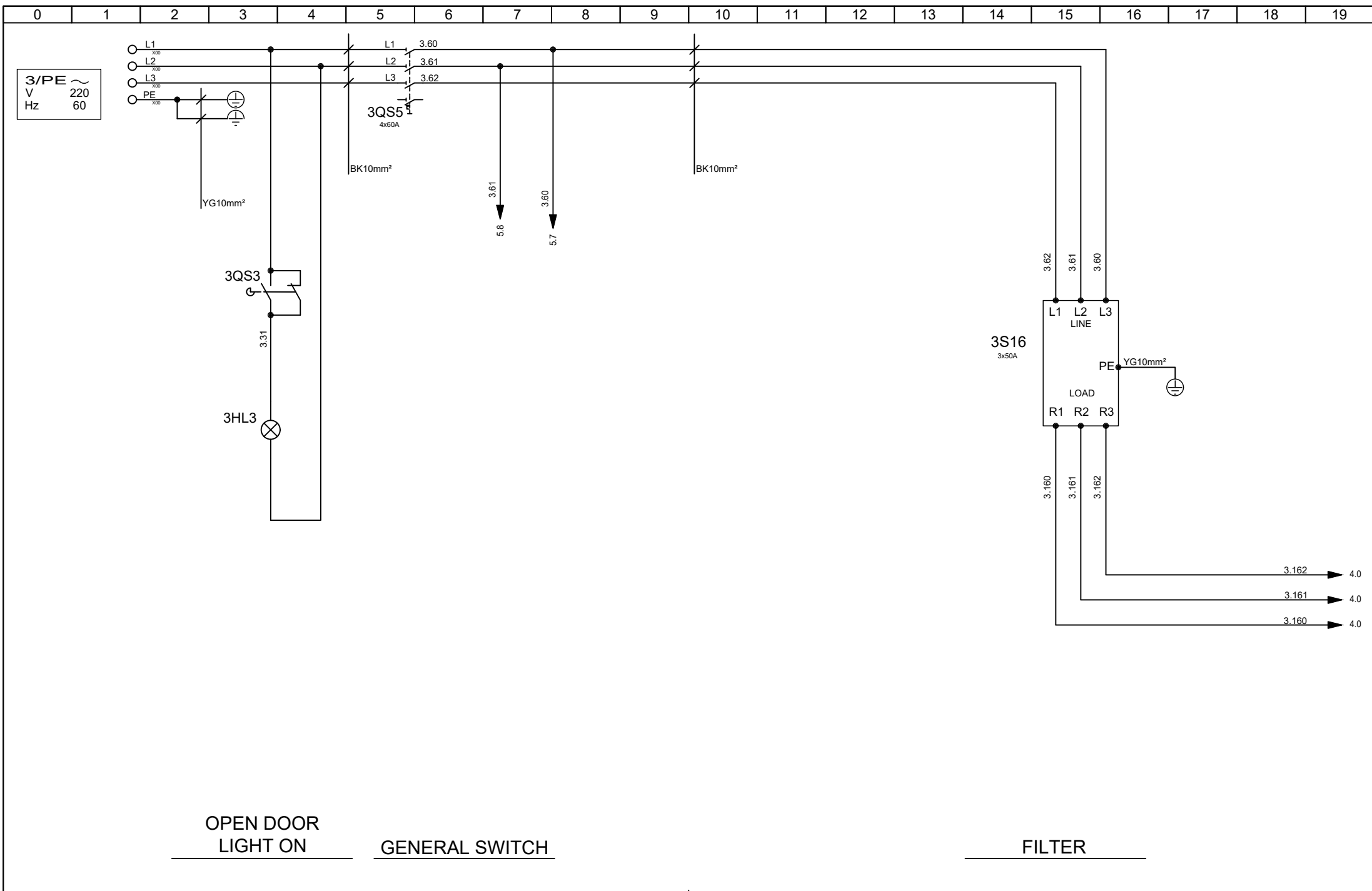


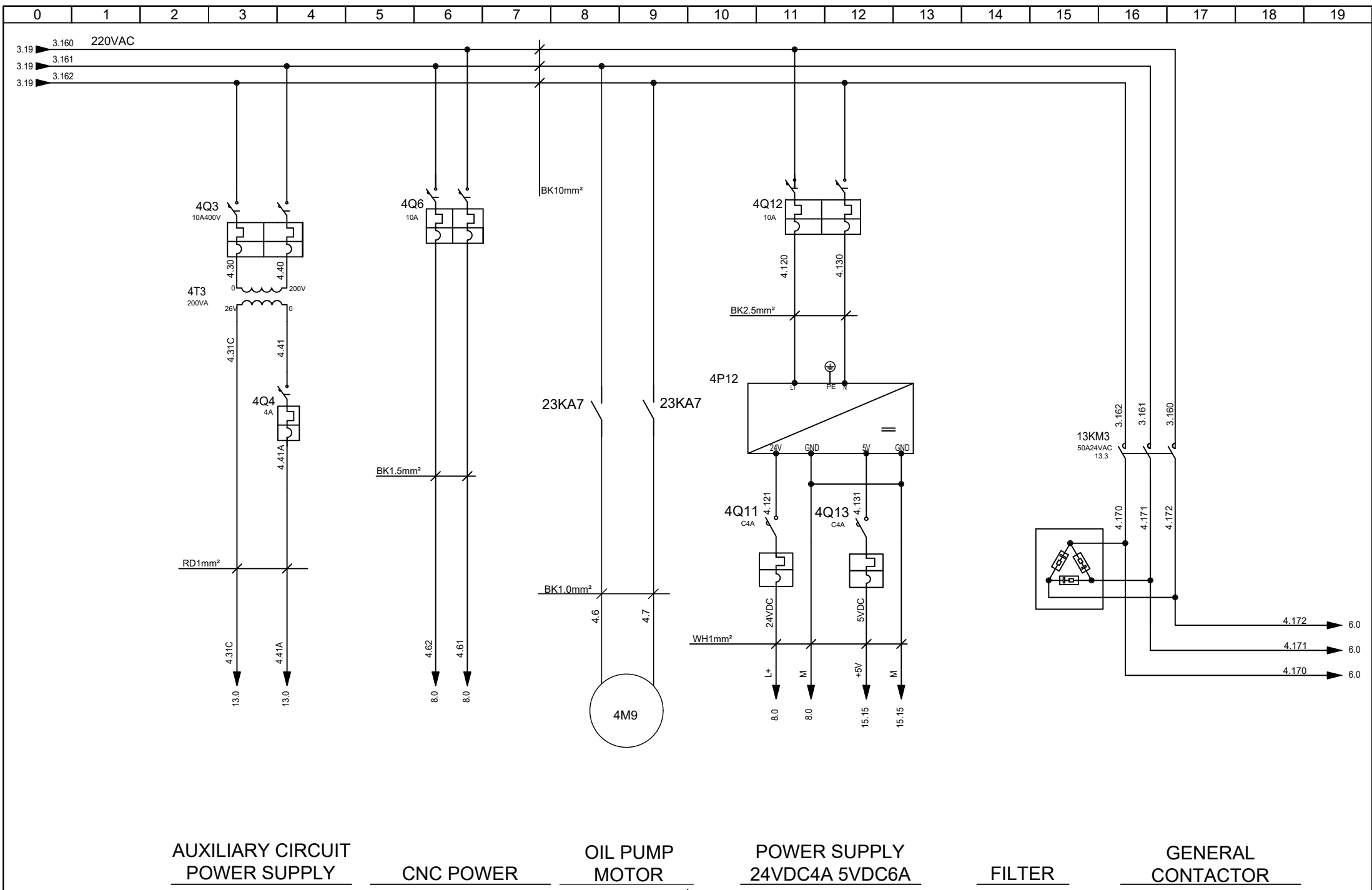
SIGNALS



WIRE NUMBER







AUXILIARY CIRCUIT  
POWER SUPPLY

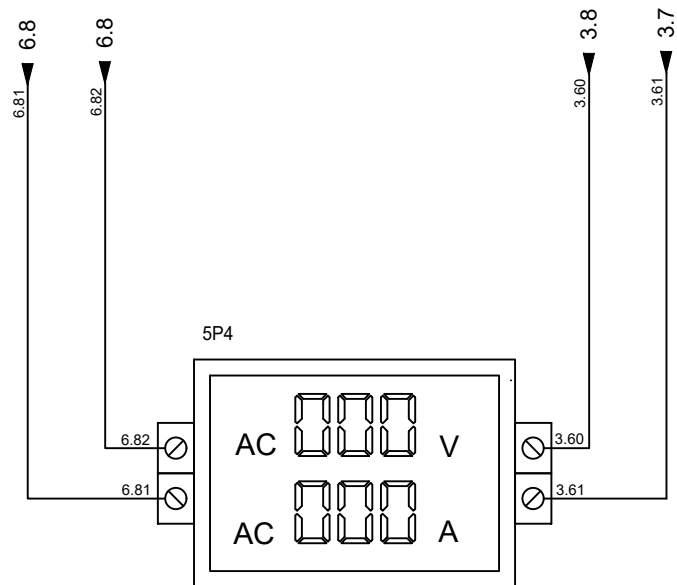
CNC POWER

OIL PUMP  
MOTOR

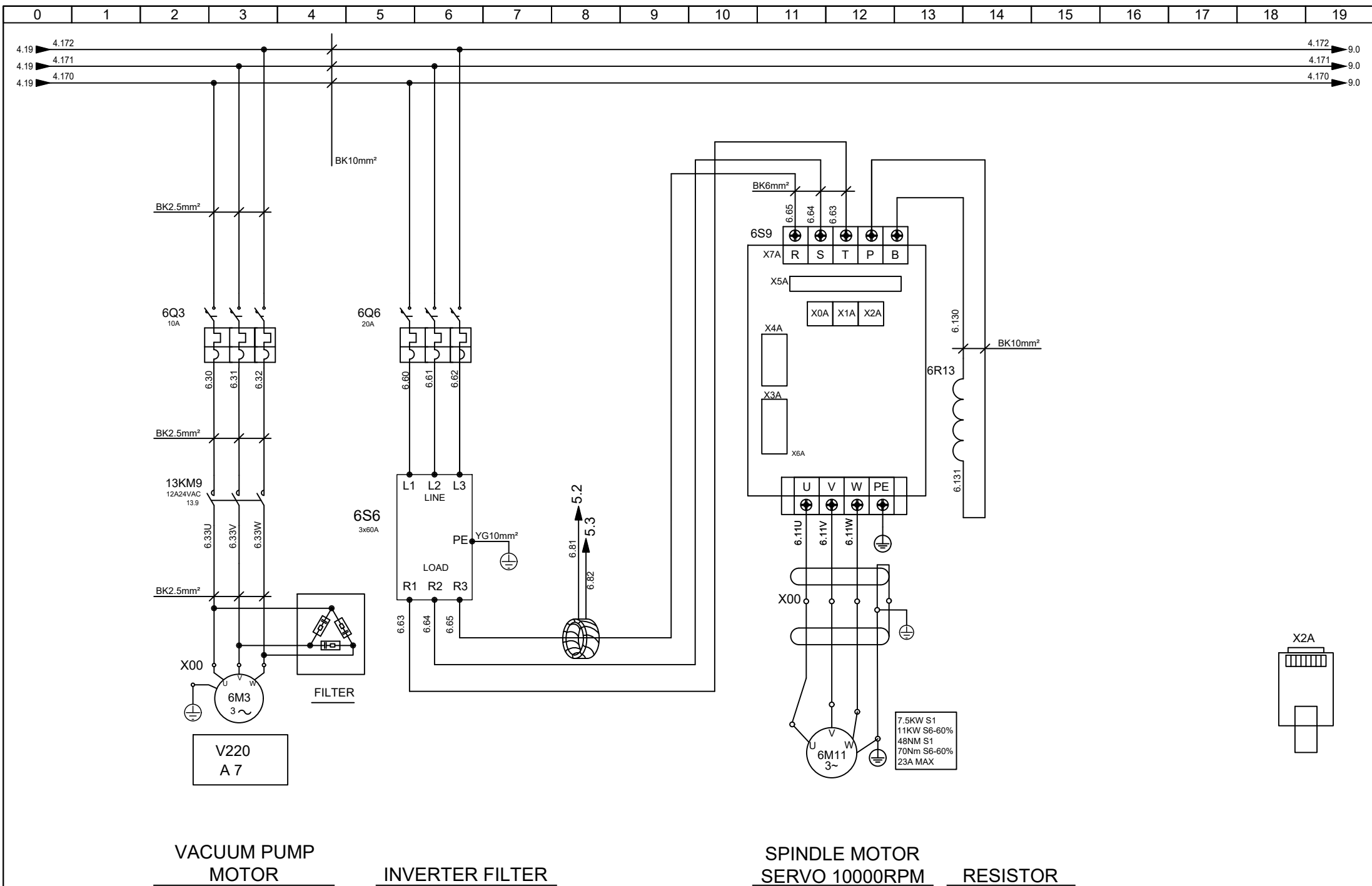
POWER SUPPLY  
24VDC4A 5VDC6A

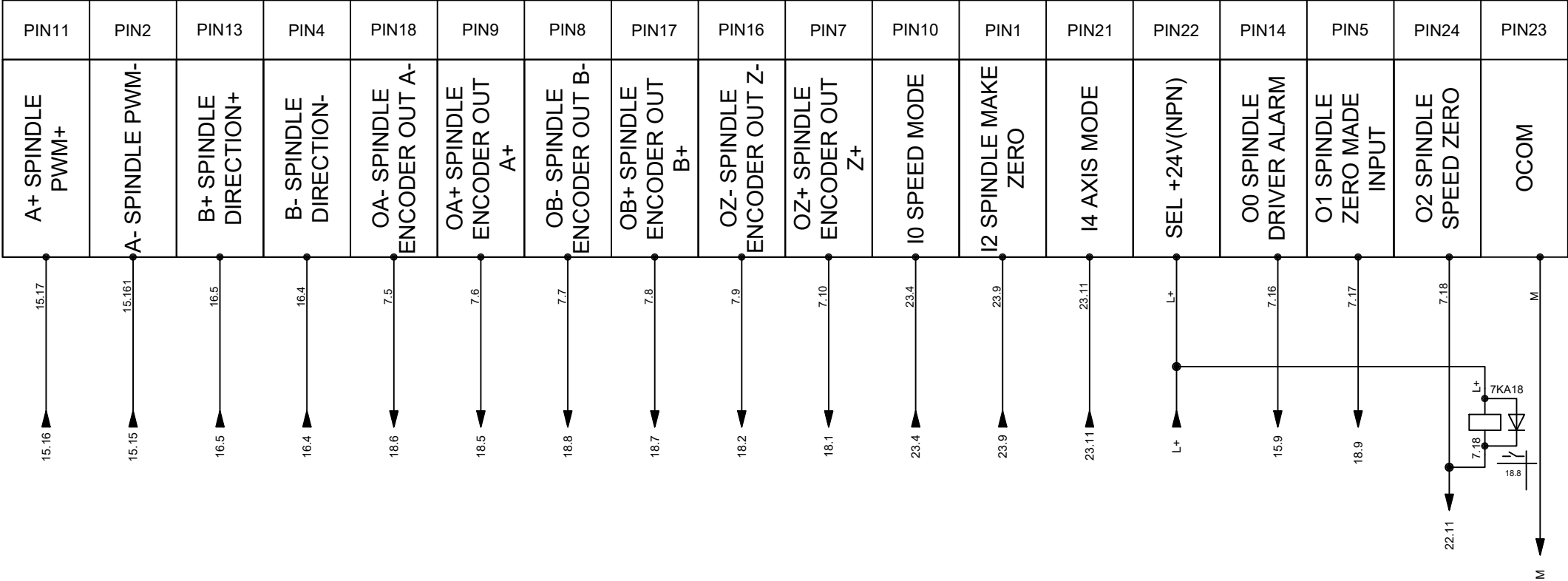
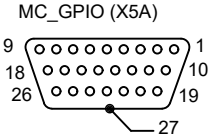
FILTER

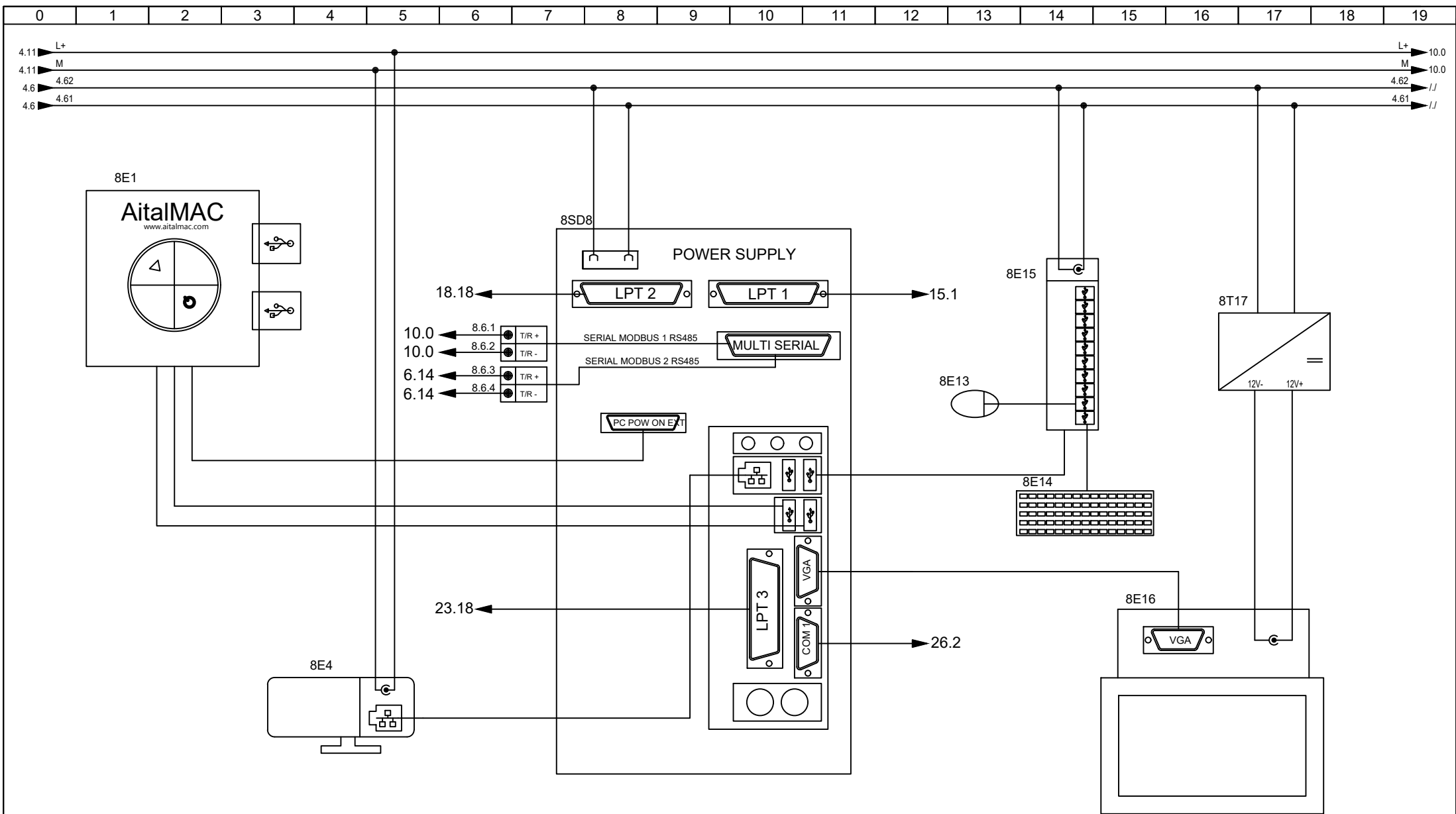
GENERAL  
CONTACTOR



VOLT-AMMETER







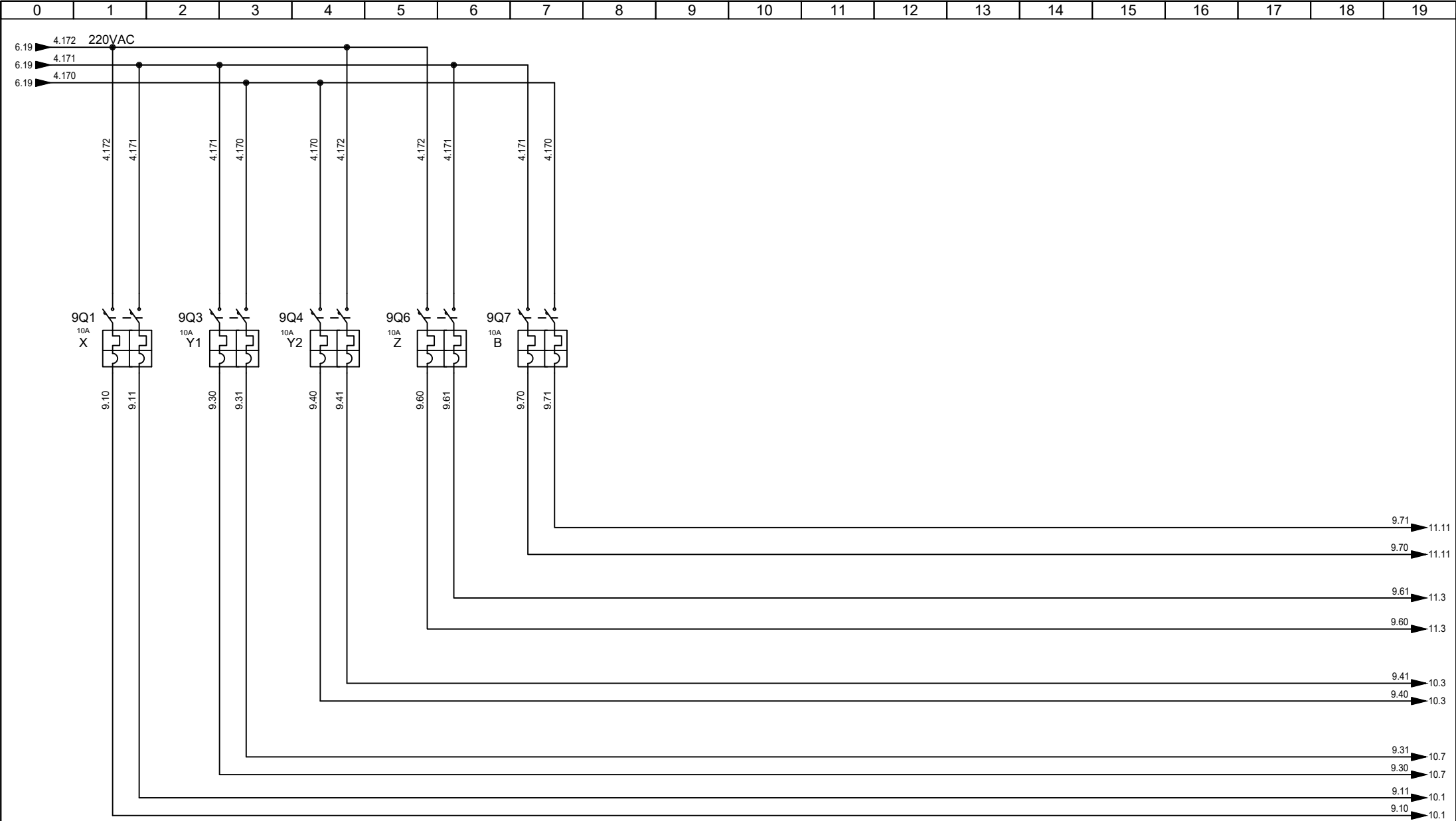
COMPUTER POWER  
ON/OFF BUTTON

WIFI ROOT

AITEK INDUSTRIAL COMPUTER  
9 AXIS CNC CONTROLLER  
ONLINE MONITORING SYSTEM

MOUSE&KEYBOARD  
&USB-HUB

MONITOR&MONITOR  
POWER SUPPLY



X

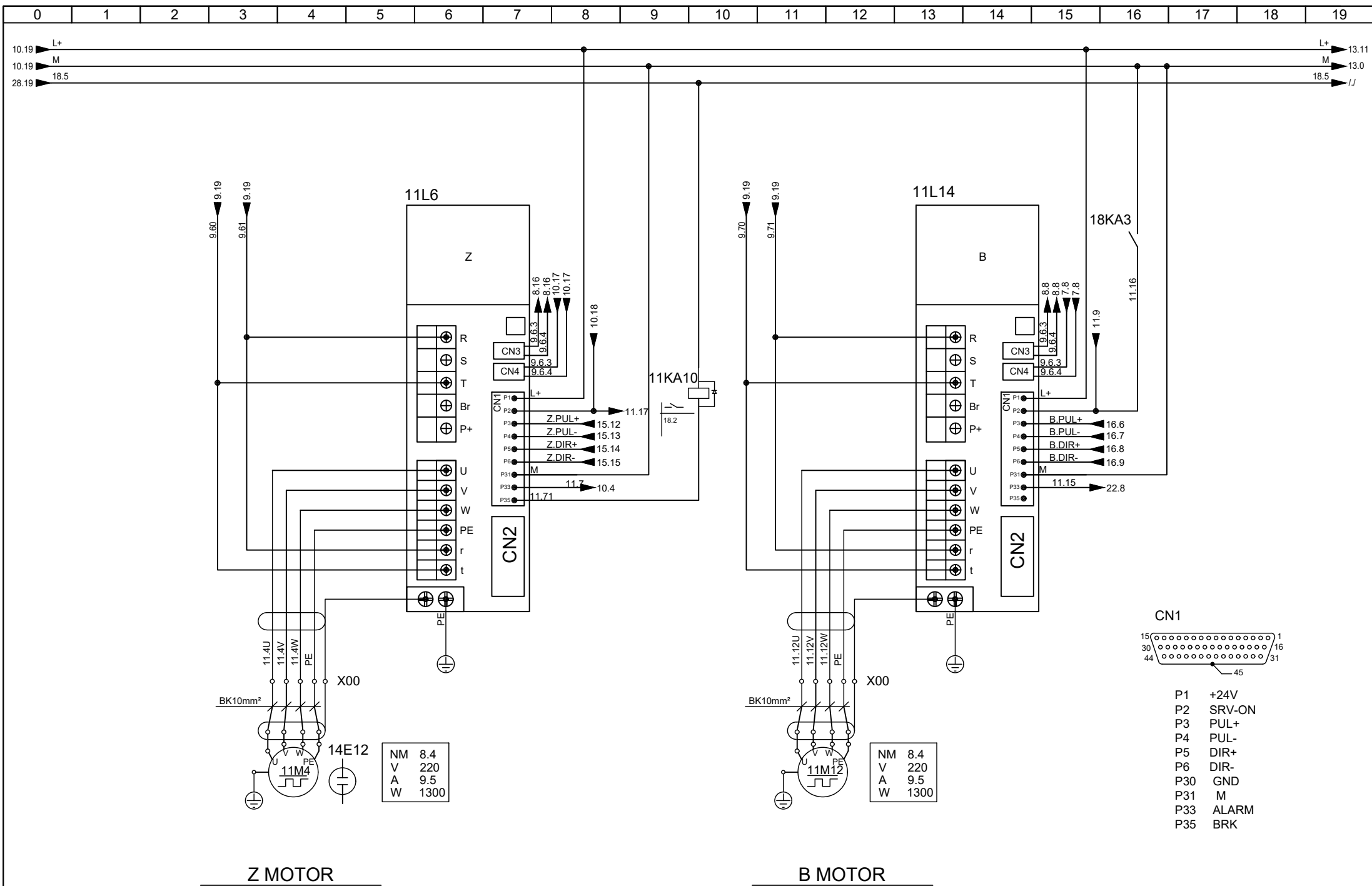
Y1

Y2

Z

B





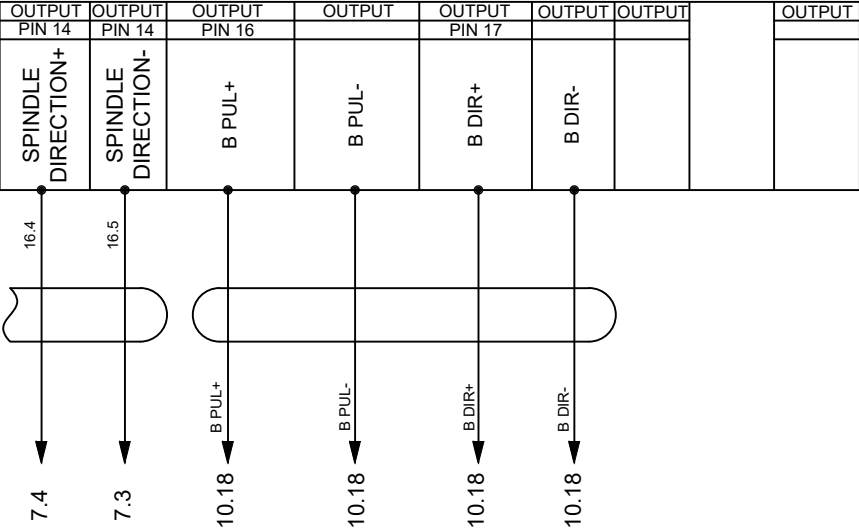
|   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |
|---|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
|   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |

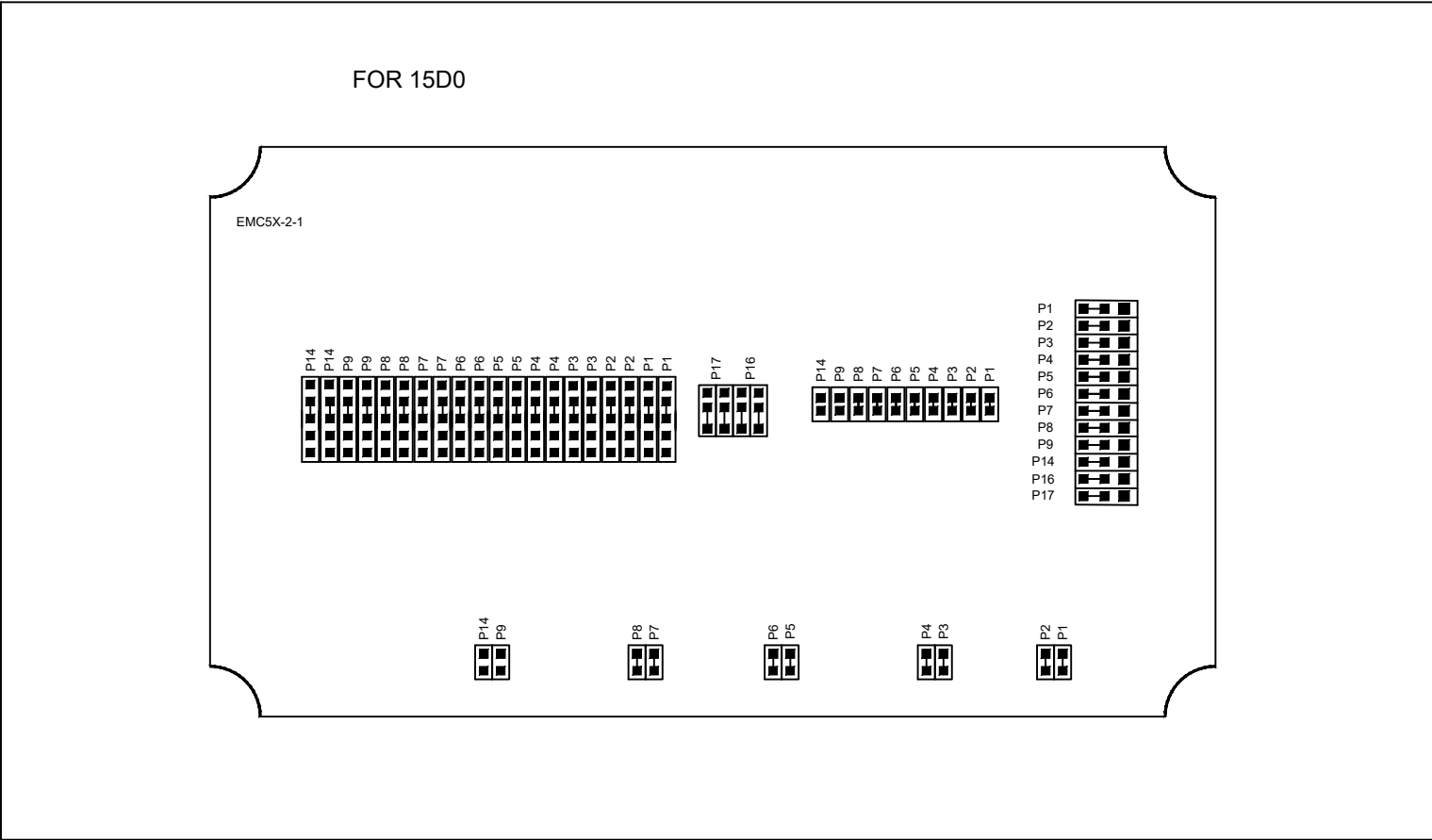


|   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |
|---|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
|   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |

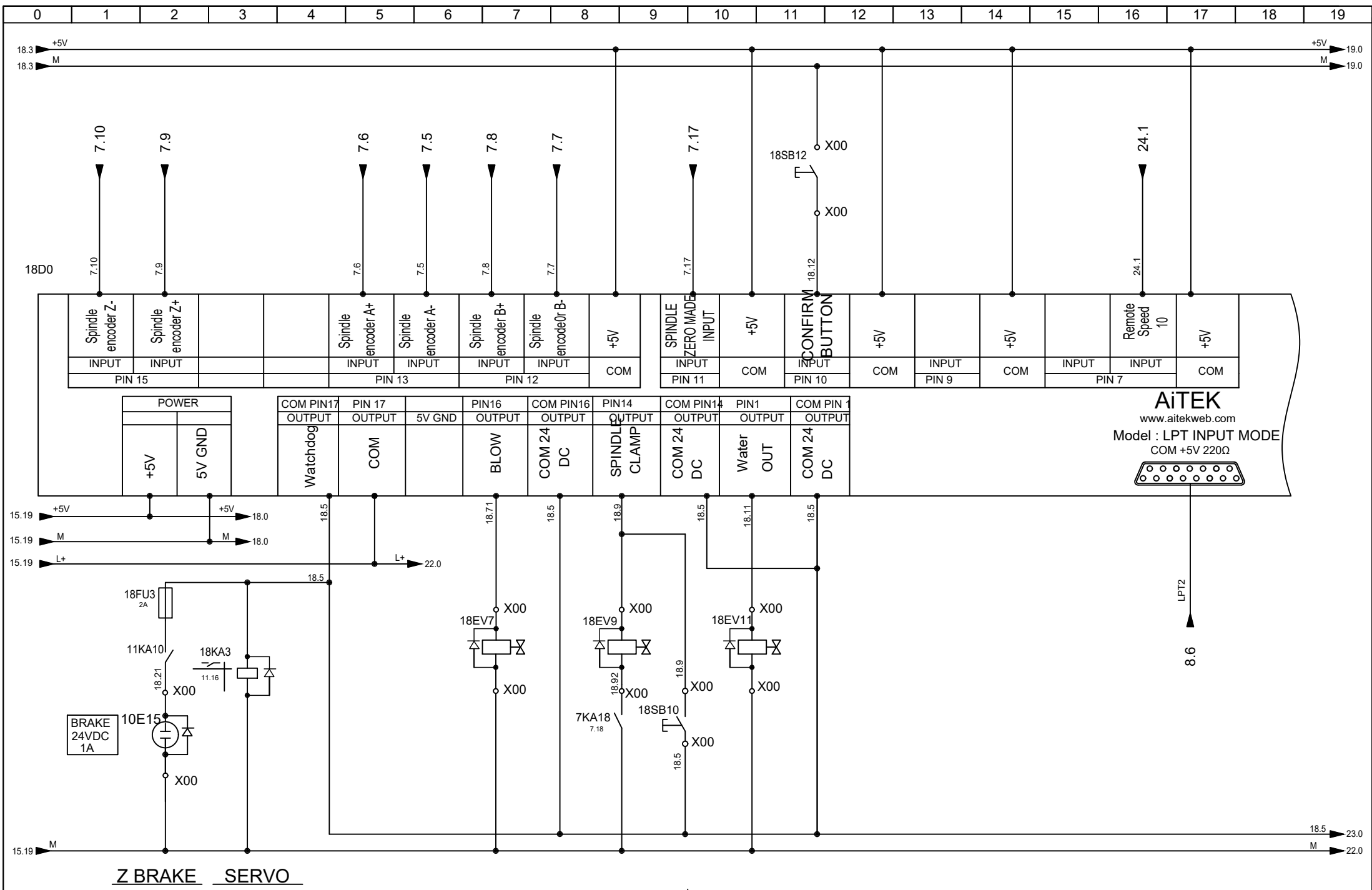


15D0

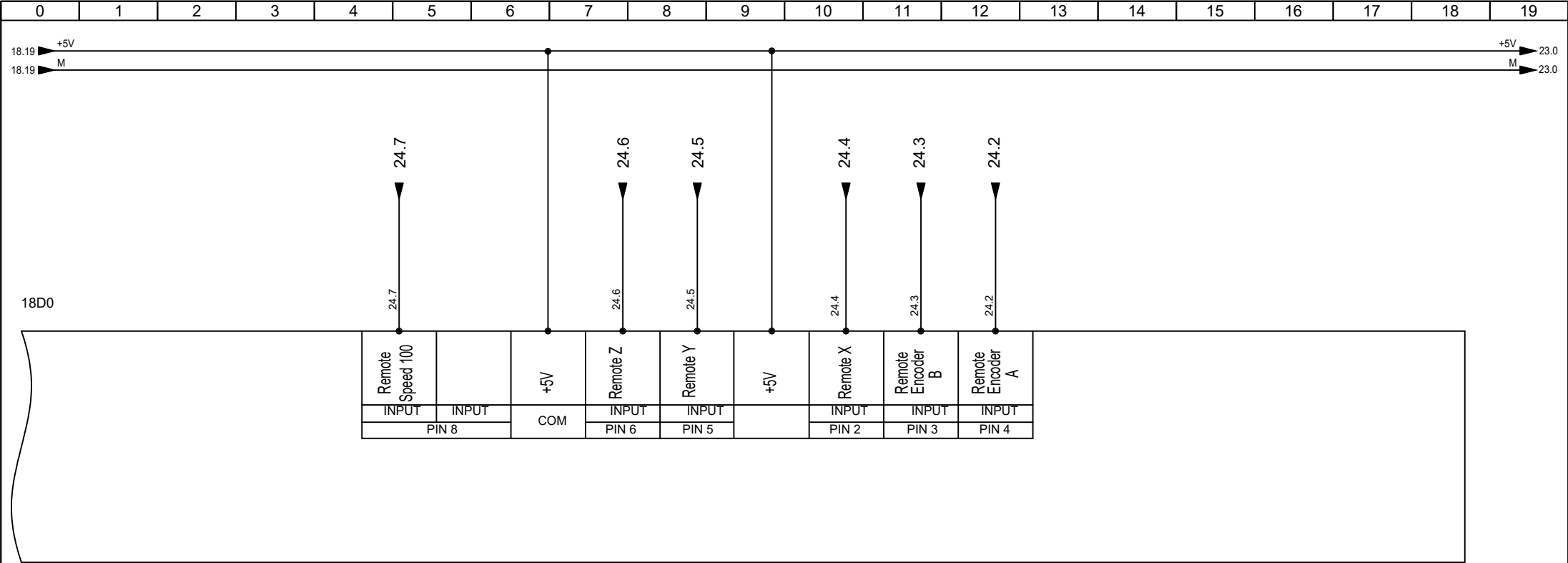




OUTPUT CONTROL CARD JUMPERS SETTINGS



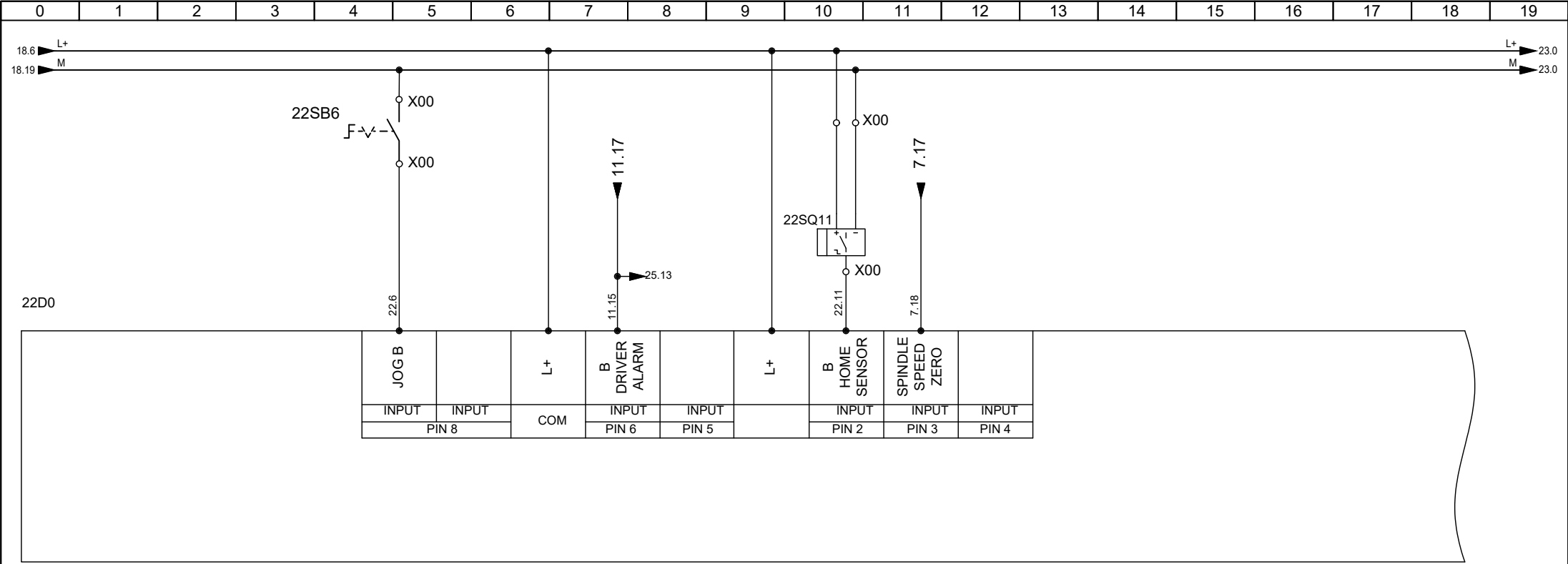
**AiTEK**  
 www.aitekweb.com  
 Model : LPT INPUT MODE  
 COM +5V 220Ω



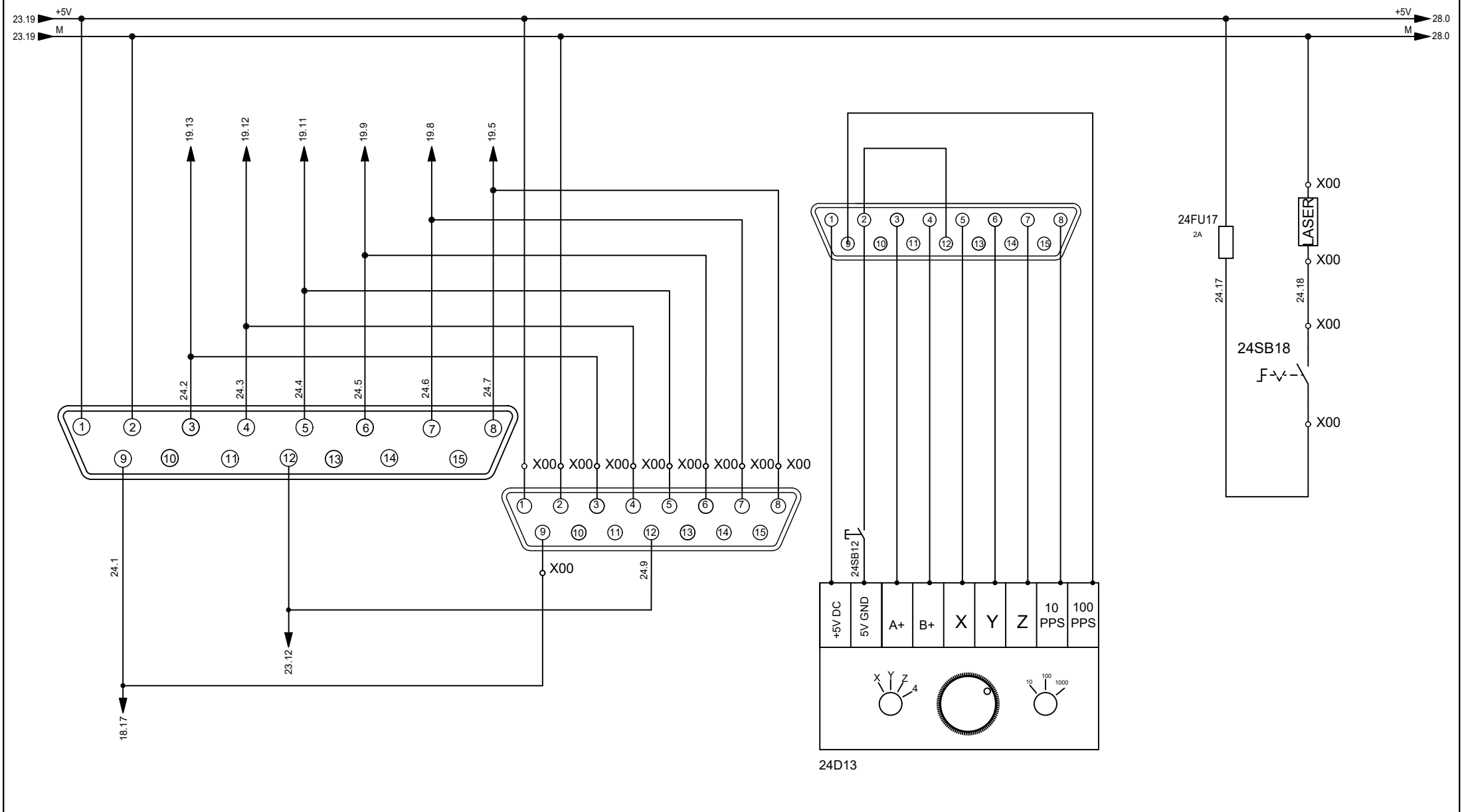
|   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |
|---|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
|   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |

|                                     |                      |                     |                          |                                      |            |             |  |  |  |
|-------------------------------------|----------------------|---------------------|--------------------------|--------------------------------------|------------|-------------|--|--|--|
| <b>AitalMac</b><br>www.aitalmac.com | Designed By :<br>ZLJ | Checked By :        | Trimness By :            | Description :<br>MACHINE INFORMATION |            |             |  |  |  |
|                                     | Machine :<br>KT38    | Date:<br>05.13.2019 | Revision:<br>KT38-190304 | Approved By :                        | Pag.<br>20 | Next.<br>21 |  |  |  |

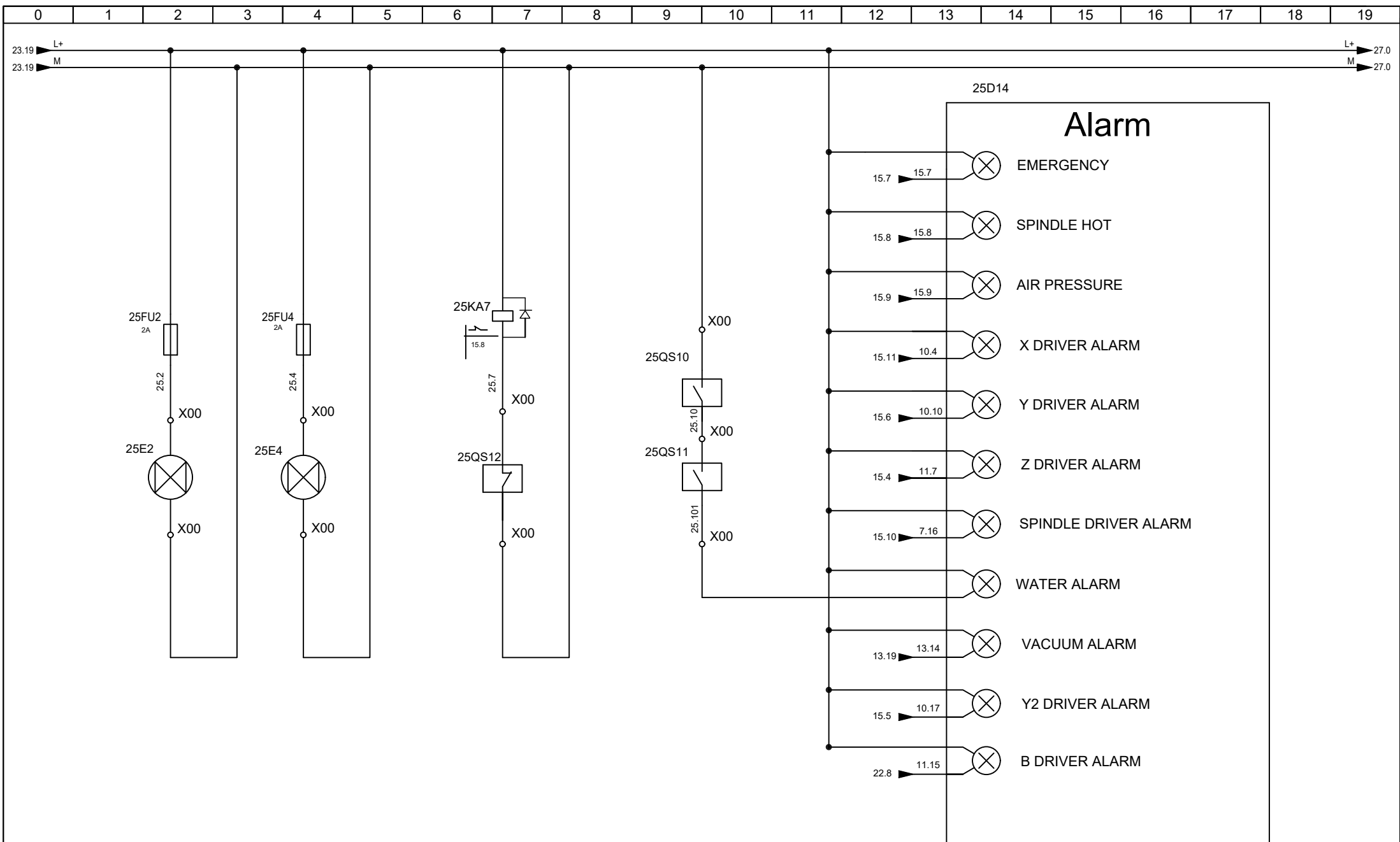
|   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |
|---|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
|   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |







|                                         |                                          |                |       |
|-----------------------------------------|------------------------------------------|----------------|-------|
| 9 PIN CONNECTOR<br>IN BOX FOR<br>REMOTE | 9 PIN CONNECTOR<br>IN HEAD FOR<br>REMOTE | REMOTE CONTROL | LASER |
|-----------------------------------------|------------------------------------------|----------------|-------|



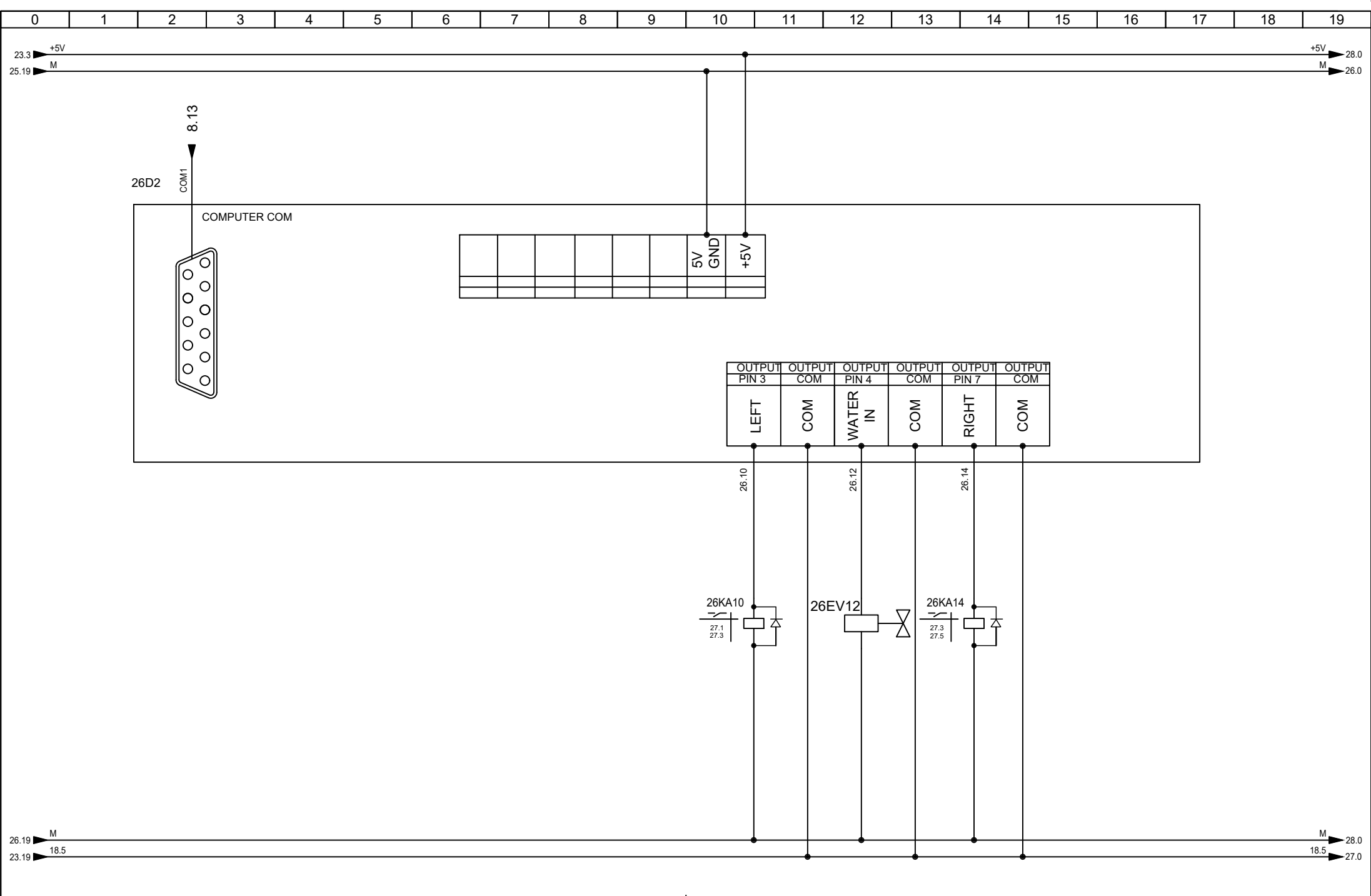
SPINDLE FAN

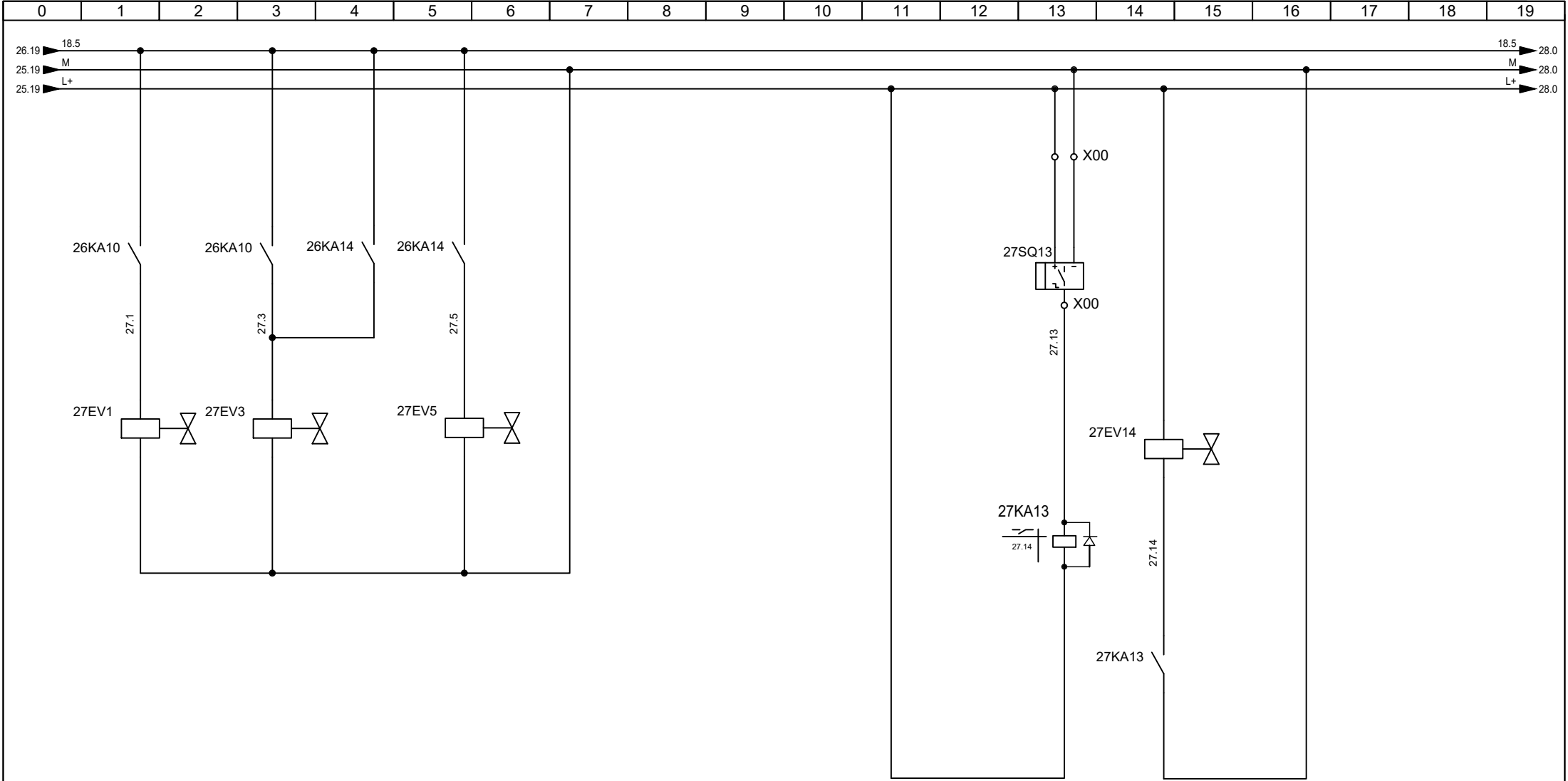
BOX FAN

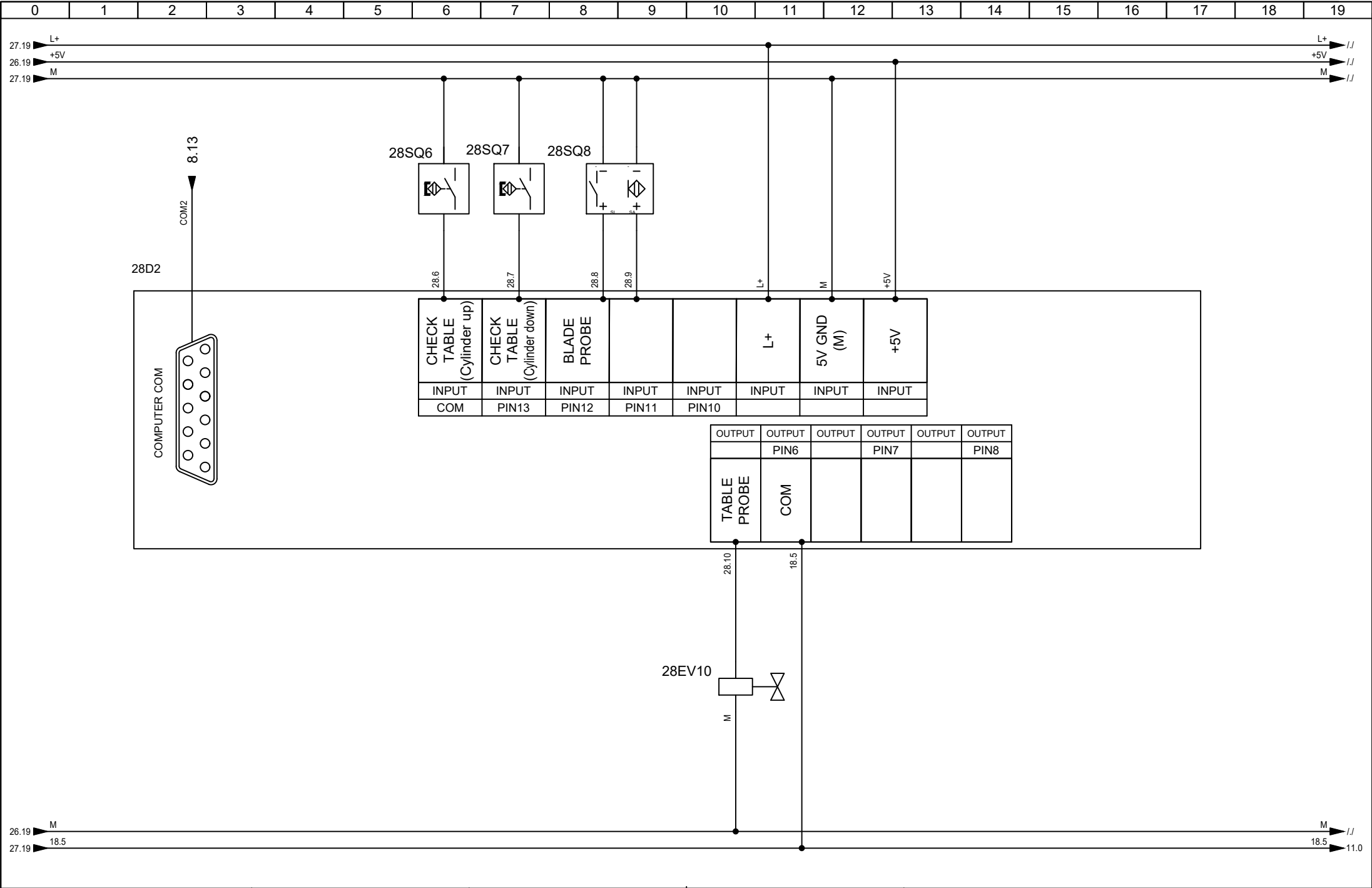
SPINDLE THERMAL  
CONTACT

WATER PRESSURE  
SWITCH

ALARM LIGHT







|   |   |   |   |   |   |   |   |   |   |    |    |    |    |
|---|---|---|---|---|---|---|---|---|---|----|----|----|----|
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
|---|---|---|---|---|---|---|---|---|---|----|----|----|----|

| Pg. | Code | Name               | Mfrs.   | Model                     |
|-----|------|--------------------|---------|---------------------------|
| 3   | 3SQ3 | Travel Switch      | SNJDQ   | XCK-P AC240VDC220V3A      |
| 3   | 3HL3 | OPEN DOOR LIGHT ON | --      | T5 12W/220V               |
| 3   | 3QS5 | General Switch     | GLELE   | GLD11-63/08 +4P           |
| 3   | 3S16 | Filter             | DOTHINK | DTT2121-50-S16-S77480V50A |
| 3   |      |                    |         |                           |
|     |      |                    |         |                           |

|   |      |                   |           |                           |
|---|------|-------------------|-----------|---------------------------|
| 4 | 4T3  | Transformers      | CHNT      | NDK(BK)-150               |
| 4 | 4Q3  | Circuit Breaker   | Schneider | IC65N D10A 2P             |
| 4 | 4Q4  | Circuit Breaker   | Schneider | IC65N D4A 1P              |
| 4 | 4Q6  | Circuit Breaker   | Schneider | IC65N D10A 2P             |
| 4 | 4M9  | Grease Pump Motor | ML        | MYK-202-200-0 15W/220V 2L |
| 4 | 4Q12 | Circuit Breaker   | Schneider | IC65N D10A 2P             |
| 4 | 4P12 | Power Supply      | WEHO      | D-120B                    |
| 4 | 4Q11 | Circuit Breaker   | Schneider | C65H-DC C4A 1P            |
| 4 | 4Q13 | Circuit Breaker   | Schneider | C65H-DC C4A 1P            |
| 4 |      |                   |           |                           |
|   |      |                   |           |                           |

|   |     |              |       |                              |
|---|-----|--------------|-------|------------------------------|
| 5 | 5P4 | Volt-ammeter | OUXIN | D85-2042A AC80-300V/200-450V |
| 5 |     |              |       |                              |
|   |     |              |       |                              |

|   |      |                     |           |                           |
|---|------|---------------------|-----------|---------------------------|
| 6 | 6Q3  | Circuit Breaker     | Schneider | IC65N D10A 3P             |
| 6 | 6M3  | Vacuum Pump Motor   | WANJING   | 2BV2061 220V 60Hz         |
| 6 | 6Q6  | Circuit Breaker     | Schneider | IC65N D20A 3P             |
| 6 | 6S6  | Filter              | DOTHINK   | DTT2121-50-S16-S77480V50A |
| 6 | 6S9  | Frequency Converter | MK        | SDC-CM-2T035-GP3R-1000    |
| 6 | 6R13 |                     |           |                           |
| 6 | 6M11 | Spindle Motor       | MK        | DHG10-3-48-7.5/11-4-1500  |
| 6 |      |                     |           |                           |
|   |      |                     |           |                           |

|   |       |                |       |                              |
|---|-------|----------------|-------|------------------------------|
| 7 | 7KA18 | Terminal Relay | OMRON | G2R-2-SND(S) DC24V+P2RF-08-E |
| 7 |       |                |       |                              |
|   |       |                |       |                              |

|   |      |                       |          |                 |
|---|------|-----------------------|----------|-----------------|
| 8 | 8E1  | Computer Power On/Off | Aitalmac | --              |
| 8 | 8E4  | WiFi Root             | LeGuang  | A305 RT3050     |
| 8 | 8SD8 | CNC Controler         | AITEK    | 9 AXIS CNC-KT38 |
| 8 | 8E13 | USB-Mouse             | Lenovo   | M300            |
| 8 | 8E14 | USB-Keybaord          | Logitech | K310            |
| 8 | 8E15 | USB-HUB               | ORICO    | A3H7-bk         |
| 8 | 8E16 | Monitor               | Anmite   | AN-170A02       |
| 8 | 8T17 | Power Supply          | --       | --              |
| 8 |      |                       |          |                 |
|   |      |                       |          |                 |

|   |        |                 |           |               |
|---|--------|-----------------|-----------|---------------|
| 9 | X 9Q1  | Circuit Breaker | Schneider | IC65N D10A 2P |
| 9 | Y1 9Q3 | Circuit Breaker | Schneider | IC65N D10A 2P |
| 9 | Y2 9Q4 | Circuit Breaker | Schneider | IC65N D10A 2P |
| 9 | Z 9Q6  | Circuit Breaker | Schneider | IC65N D10A 2P |
| 9 | B 9Q7  | Circuit Breaker | Schneider | IC65N D10A 2P |
| 9 |        |                 |           |               |
|   |        |                 |           |               |

| Pg. | Code     | Name           | Mfrs.     | Model                            |
|-----|----------|----------------|-----------|----------------------------------|
| 10  | 10M2     | X Motor        | Leadshine | ACM13013H2F-40-L 1.3KW 1500r/min |
| 10  | X 10L4   | X Servo Drive  | Leadshine | L5-1300Z                         |
| 10  | 10M8     | Y1 Motor       | Leadshine | ACM13013H2F-40-L 1.3KW 1500r/min |
| 10  | Y1 10L10 | Y1 Servo Drive | Leadshine | L5-1300Z                         |
| 10  | 10M15    | Y2 Motor       | Leadshine | ACM13013H2F-40-L 1.3KW 1500r/min |
| 10  | Y2 10L17 | Y2 Servo Drive | Leadshine | L5-1300Z                         |
|     |          |                |           |                                  |

|    |         |               |           |                                  |
|----|---------|---------------|-----------|----------------------------------|
| 11 | 11M4    | Z Motor       | Leadshine | ACM13013H2F-40-L 1.3KW 1500r/min |
| 11 | Z 11L6  | Z Servo Drive | Leadshine | L5-1300Z                         |
| 11 | 11KA10  | Fuse          | CHE       | FS-101 DC24V 2A                  |
| 11 | 11M12   | B Motor       | Leadshine | ACM13013H2F-40-L 1.3KW 1500r/min |
| 11 | B 11L14 | B Servo Drive | Leadshine | L5-1300Z                         |
| 11 |         |               |           |                                  |
|    |         |               |           |                                  |

|    |         |                        |           |                              |
|----|---------|------------------------|-----------|------------------------------|
| 13 | 13SB3   | Emergency Button       | RENY      | R2PNR4-1B-R                  |
| 13 | 13SB3.1 | Emergency Button       | RENY      | R2PNR4-1B-R                  |
| 13 | 13SB3.2 | Emergency Button       | RENY      | R2PNR4-1B-R                  |
| 13 | 13SB3.3 | Power On Button        | RENY      | R2PIF-1D-2GL                 |
| 13 | 13KM3   | Contactor              | Schneider | LC1D50AB7C-LADN11            |
| 13 | 13SB9   | Vacuum Switch          | RENY      | RBSNK-2                      |
| 13 | 13KM9   | Contactor              | Schneider | LC1D18B7C                    |
| 13 | 13QS14  | Vacuum Pressure Switch | YXC       | ZXC-100, -0.1-0MPA           |
| 13 | 13KA14  | Terminal Relay         | OMRON     | G2R-2-SND(S) DC24V+P2RF-08-E |
| 13 | 13KA15  | Terminal Relay         | OMRON     | G2R-2-SND(S) DC24V+P2RF-08-E |

|    |        |                     |       |                                      |
|----|--------|---------------------|-------|--------------------------------------|
| 15 | 15D0   | LPT1 Output Card    | AITEK | 6AXIS-Mod-V5-OUTPUT mode             |
| 15 | 15SB7  | Emergency Button    | RENY  | R2PNR4-1B-R                          |
| 15 | 15QS9  | Air Pressure Switch | SQW   | QPM11-NC                             |
| 15 | 15SQ12 | Z Limit Sensor      | IBEST | I PSI-12NO2B-L60mm(NPN NO 2mm 200mA) |
| 15 | 15SQ13 | Y2 Limit Sensor     | IBEST | I PSI-12NO2B-L60mm(NPN NO 2mm 200mA) |
| 15 | 15SQ14 | Y1 Limit Sensor     | IBEST | I PSI-12NO2B-L60mm(NPN NO 2mm 200mA) |
| 15 | 15SQ15 | X Limit Sensor      | IBEST | I PSI-12NO2B-L60mm(NPN NO 2mm 200mA) |
| 15 |        |                     |       |                                      |
|    |        |                     |       |                                      |

|    |        |                 |       |                              |
|----|--------|-----------------|-------|------------------------------|
| 18 | 18D0   | LPT2 Input Card | AITEK | 6AXIS-Mod-V5-INPUT mode      |
| 18 | 18FU3  | Fuse            | CHE   | FS-101 DC24V 2A              |
| 18 | 18KA3  | Terminal Relay  | OMRON | G2R-2-SND(S) DC24V+P2RF-08-E |
| 18 | 18EV7  | Solenoid Valve  | CNSY  | 4V210-08 G1/4 DC24V          |
| 18 | 18EV9  | Solenoid Valve  | CNSY  | 4V210-08 G1/4 DC24V          |
| 18 | 18SB10 | CLAMP Button    | RENY  | R2PIF-1D-2G                  |
| 18 | 18EV11 | Solenoid Valve  | CNSY  | 4V210-08 G1/4 DC24V          |
| 18 | 18SB12 | CONFIRM Button  | RENY  | R2PIF-1D-2G                  |
| 18 |        |                 |       |                              |
|    |        |                 |       |                              |

|    |        |                 |       |                                      |
|----|--------|-----------------|-------|--------------------------------------|
| 22 | 22D0   | LPT3 Input Card | AITEK | 6AXIS-Mod-V5-INPUT mode              |
| 22 | 22SB6  | ATC Butoon      | RENY  | R2PIF-1D-2G                          |
| 22 | 22SQ11 | B Limit Sensor  | IBEST | I PSI-12NO2B-L60mm(NPN NO 2mm 200mA) |
| 22 |        |                 |       |                                      |
|    |        |                 |       |                                      |

|                                     |                    |                    |                         |             |                                              |            |  |  |
|-------------------------------------|--------------------|--------------------|-------------------------|-------------|----------------------------------------------|------------|--|--|
| <b>Aitalmac</b><br>www.aitalmac.com | Designed By<br>ZLJ | Checked By         | Approved By             | Trimness By | Description<br><b>COMPONENTS INFORMATION</b> |            |  |  |
|                                     | Machine<br>KT38    | Date<br>05.13.2019 | Revision<br>KT38-190304 | Note        | Page<br>29                                   | Next<br>30 |  |  |

| Pg. | Code   | Name               | Mfrs.   | Model                        |
|-----|--------|--------------------|---------|------------------------------|
| 23  | 23KA7  | Terminal Relay     | OMRON   | G2R-2-SND(S) DC24V+P2RF-08-E |
| 23  |        |                    |         |                              |
|     |        |                    |         |                              |
| 24  | 24D13  | REMOTE             | AITEK   | SK-B-021-100 5V 4P           |
| 24  | 24SB12 | Remote Button      | AITEK   | --                           |
| 24  | 24FU17 | Fuse               | CHE     | FS-101 DC24V 2A              |
| 24  | 24SB18 | LASER Switch       | RENY    | RBSNK-2                      |
| 24  | LASER  | Cross Laser        | --      | Las2 Φ12mm                   |
| 24  |        |                    |         |                              |
|     |        |                    |         |                              |
| 25  | 25FU2  | Fuse               | CHE     | FS-101 DC24V 2A              |
| 25  | 25E2   | FAN                | PAPST   | TYP4114N/12MR 24V 6W 12CM    |
| 25  | 25FU4  | Fuse               | CHE     | FS-101 DC24V 2A              |
| 25  | 25E4   | FAN                | PAPST   | TYP4114N/12MR 24V 6W 12CM    |
| 25  | 25KA7  | Terminal Relay     | OMRON   | G2R-2-SND(S) DC24V+P2RF-08-E |
| 25  | 25QS10 | Water Pressure     | --      | PC-3A                        |
| 25  | 25QS11 | Water Pressure     | --      | PC-3A                        |
| 25  | 25QS12 | --                 | --      | --                           |
| 25  | 25D14  | Alarm Lab          | --      | --                           |
| 25  |        |                    |         |                              |
|     |        |                    |         |                              |
| 26  | 26D2   | COM1 COMPUTER MODE | AITEK   | RS232-Mod-V1 4IN/3OUT        |
| 26  | 26KA10 | Terminal Relay     | OMRON   | G2R-2-SND(S) DC24V+P2RF-08-E |
| 26  | 26EV12 | Solenoid Valve     | CNSY    | 4V210-08 G1/4 DC24V          |
| 26  | 26KA14 | Terminal Relay     | OMRON   | G2R-2-SND(S) DC24V+P2RF-08-E |
| 26  |        |                    |         |                              |
|     |        |                    |         |                              |
| 27  | 27EV1  | Solenoid Valve     | CNSY    | 4V210-08 G1/4 DC24V          |
| 27  | 27EV3  | Solenoid Valve     | CNSY    | 4V210-08 G1/4 DC24V          |
| 27  | 27EV5  | Solenoid Valve     | CNSY    | 4V210-08 G1/4 DC24V          |
| 27  | 27SQ13 | Cylinder Sensor    | CHVIRD  | CS1-U                        |
| 27  | 27KA13 | Terminal Relay     | OMRON   | G2R-2-SND(S) DC24V+P2RF-08-E |
| 27  | 27EV14 | Solenoid Valve     | CNSY    | 4V210-08 G1/4 DC24V          |
| 27  |        |                    |         |                              |
|     |        |                    |         |                              |
| 28  | 28D2   | COM2 COMPUTER MODE | AITEK   | RS232-Mod-V1 4IN/3OUT        |
| 28  | 28QS6  | Cylinder Sensor    | CHVIRD  | CS1-U                        |
| 28  | 28QS7  | Cylinder Sensor    | CHVIRD  | CS1-U                        |
| 28  | 28SQ8  | BLADE PROBE        | WEIHONG | MACH3 DC24V                  |
| 28  | 28EV10 | Solenoid Valve     | CNSY    | 4V210-08 G1/4 DC24V          |
| 28  |        |                    |         |                              |
|     |        |                    |         |                              |

## Inverter Parameter

| NAME   | ADDRESS | DESCRIPTION                                                                                                                                           | RANGE                             | DEFAULT | UNITS |
|--------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|---------|-------|
| P01_00 | 0x2100  | Motor type coding                                                                                                                                     | 0~999999                          | 0       | -     |
| P01_01 | 0x2102  | Motor pole number                                                                                                                                     | 0~64                              | 4       | -     |
| P01_02 | 0x2104  | Motor rated power                                                                                                                                     | 0~1000                            | 50      | Hz    |
| P01_04 | 0x2108  | Motor rated voltage                                                                                                                                   | 1~3000                            | 220     | V     |
| P01_05 | 0x210A  | Motor rated current                                                                                                                                   | 0~1000                            | 26.5    | A     |
| P01_06 | 0x210C  | Motor rated torque                                                                                                                                    | 0~5000                            | 48      | N.m   |
| P14_00 | 0x2260  | Type of motor encoder<br>0: no encoder,<br>1: photoelectric encoder,<br>2: incremental rotary transformer,<br>3: incremental magnetoresistive encoder |                                   | 1       | -     |
| P22_01 | 0x2352  | External pulse type                                                                                                                                   | 0: AB , 1: PD , 2: CW             | 2       | -     |
| P23_10 | 0x236C  | Input0:Rotation direction                                                                                                                             | 0: positive rotation, 1: reversal | 0       |       |
| P23_12 | 0x2370  | Input2:parking position                                                                                                                               | 2: parked 0 , 3: parked 1         | 2       |       |
| P23_14 | 0x2374  | Input4:control model                                                                                                                                  | 4: position control               | 4       |       |
| P24_10 | 0x23B8  | Output0:Alarm                                                                                                                                         | 0: alarm output                   | 0       |       |
| P24_11 | 0x23BA  | Output1:Speed                                                                                                                                         | 9: zero speed arrival             | 9       |       |
| P24_12 | 0x23BC  | Output2:                                                                                                                                              | 1: stop in place                  | 1       |       |
| P35_00 | 0x2594  | INERTIA COEFFICIENT OF POSITION RING                                                                                                                  | 0~2.0                             | 0.05    |       |
| P35_01 |         |                                                                                                                                                       |                                   | 0.05    |       |
| P53_02 | 0x2884  | Position instruction type<br>0:0~10V,<br>1: + 10V,<br>2: external pulse,<br>3:mBUS absolute type,<br>4:mBUS interpolation                             |                                   | 2       |       |
| P54_07 | 0x290E  | Punctual Stop Positioning Rigidity                                                                                                                    | 0.00001~0.1                       | 0.0001  | -     |
| P54_12 | 0x2918  | First quasi-stop position                                                                                                                             | 0~999999                          | 4510    | Pulse |
| P55_02 | 0x2984  | Speed instruction type<br>0:0~10V, 1: + 10V, 2: external pulse, 3:mBUS, 4:16 speed                                                                    |                                   | 2       |       |
| P55_05 | 0x298A  | Maximum Speed (Speed Control)                                                                                                                         | 0~30000                           | 10000   | rpm   |
| P55_13 | 0x299A  | Speed instruction gear ratio                                                                                                                          | 0~10000                           | 1       | -     |

## Servo Driver Parameter

| NAME  | RANGE | X    | Y1   | Y2   | Z    | B    |
|-------|-------|------|------|------|------|------|
| PA003 |       | 13   | 13   | 13   | 13   | 12   |
| PA004 |       | 750  | 750  | 750  | 750  | 1550 |
| PA006 |       | 0    | 0    | 0    | 0    | 0    |
| PA008 |       | 5000 | 5000 | 5000 | 5000 | 5000 |
| PA222 |       | 100  | 100  | 100  | 100  | 1250 |
| PA410 |       | 181  | 181  | 181  | 181  | 181  |
| PA529 |       | 53   | 53   | 53   | 53   | 53   |
| PA531 |       | 1    | 2    | 3    | 4    | 5    |

