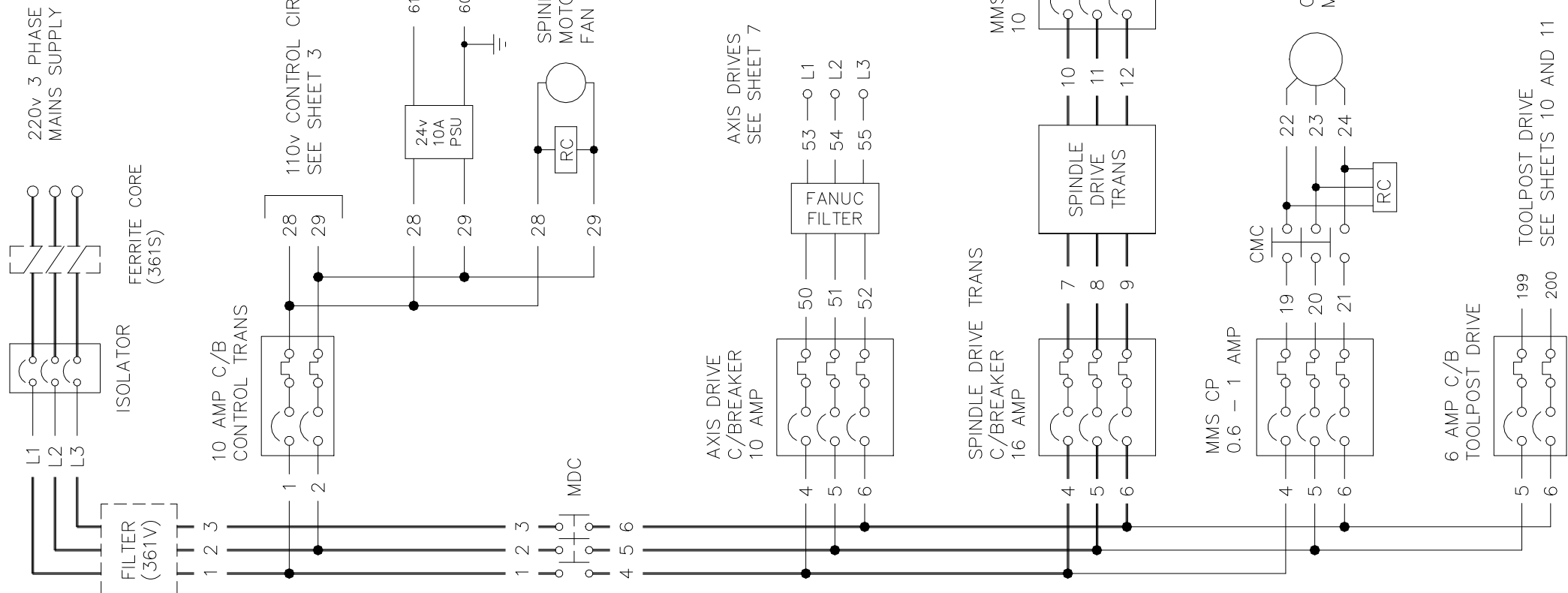


CYCLONE 21i TRUNKING AND DIN RAIL LAYOUT





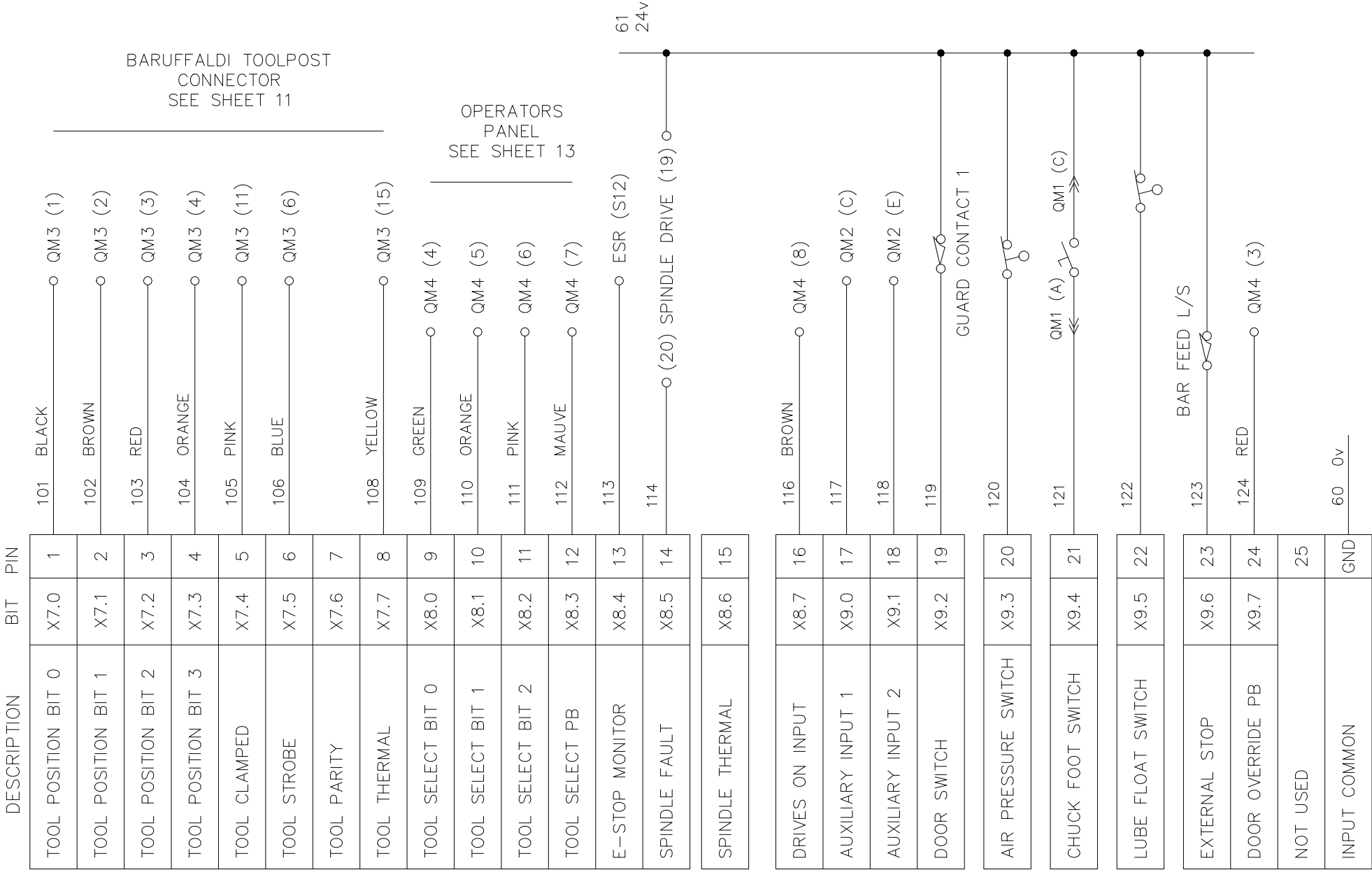
NOTE : 2.5mm BLACK FROM
MAINS TERMINAL TO SPINDLE DRIVE UNIT
1.5mm BLACK FOR REST

RC

SPINDLE MOTOR SUPPRESSOR (430D)
COOLANT MOTOR SUPPRESSOR (430C)
SPINDLE MOTOR FAN SUPPRESSOR (RS 210-364)

CYCLONE 21i MAIN POWER SCHEMATIC	SHEET 1
	CYCLONE
	21i

INPUT MODULE



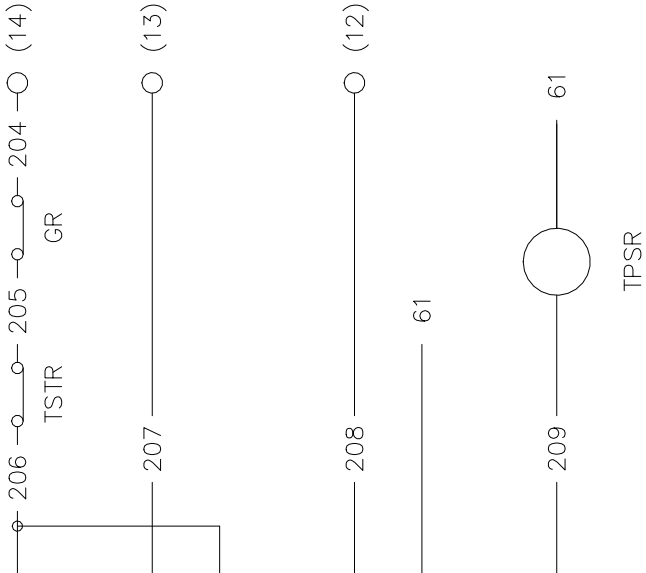
QM1 8 WAY CONNECTOR (CHUCK FOOT SWITCH)
QM2 8 WAY CONNECTOR (AUXILIARIES)
QM3 24 WAY CONNECTOR (BARUFFALDI TOE80 TURRET)
QM4 24 WAY CONNECTOR (OPERATORS PANEL)

OUTPUT MODULE

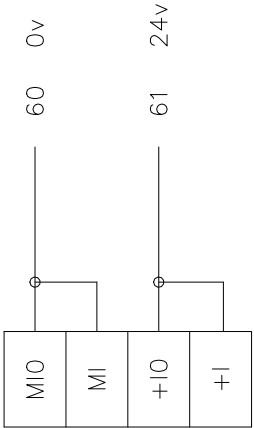
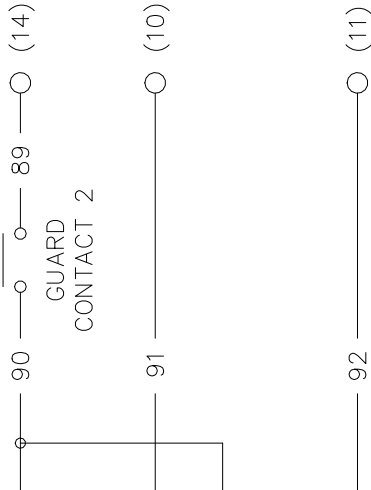
DESCRIPTION TERMINAL

TURRET FORWARD OUTPUT Y 7.0	101
	102
	104
TURRET REVERSE OUTPUT Y 7.1	111
	112
	114
TURRET SHOT PIN OUTPUT Y 7.2	121
	122
	124
OUTPUT Y 7.3	131
	132
	134
SPINDLE FORWARD OUTPUT Y 7.4	141
	142
	144
SPINDLE REVERSE OUTPUT Y 7.5	151
	152
	154
OUTPUT Y 7.6	161
	162
	164
LOAD NEW BAR OUTPUT Y 7.7	171
	172
	174

TOOLPOST DRIVE TERMINALS
SEE SHEET 10



SPINDLE DRIVE TERMINALS
SEE SHEET 9



NOTE
RELAY CONTACTS
ON OUTPUT MODULE
1 AND 4 N/O
1 AND 2 N/C

CYCLONE 21i
OUTPUT MODULE
OUTPUTS 0 - 7

SHEET 5

CYCLONE

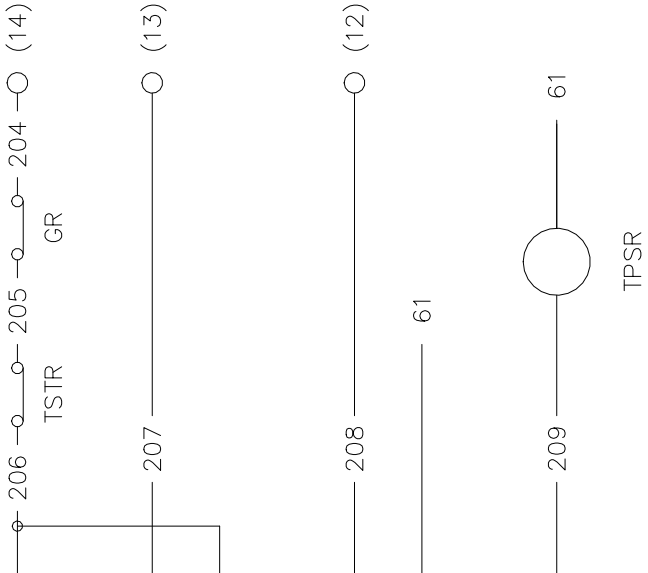
21i

OUTPUT MODULE

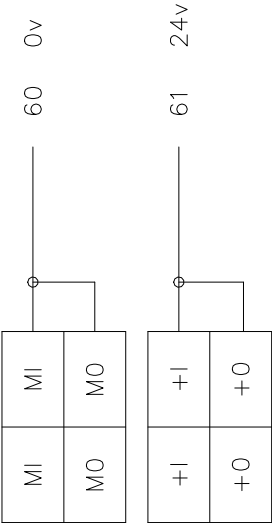
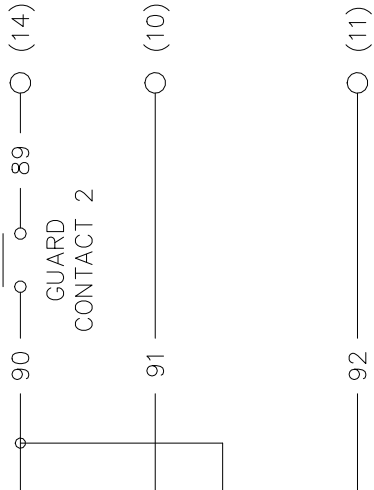
DESCRIPTION TERMINAL

TURRET FORWARD OUTPUT Y 7.0	101
TURRET REVERSE OUTPUT Y 7.1	104
	111
TURRET SHOT PIN OUTPUT Y 7.2	114
	121
OUTPUT Y 7.3	124
	131
SPINDLE FORWARD OUTPUT Y 7.4	141
	144
SPINDLE REVERSE OUTPUT Y 7.5	151
	154
OUTPUT Y 7.6	161
	164
LOAD NEW BAR OUTPUT Y 7.7	171
	174

TOOLPOST DRIVE TERMINALS
SEE SHEET 10



SPINDLE DRIVE TERMINALS
SEE SHEET 9



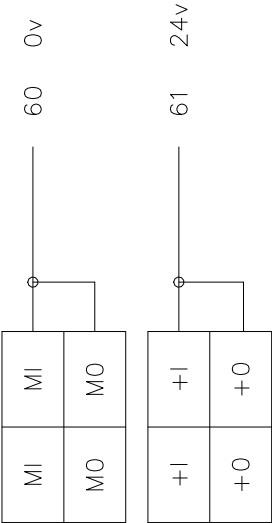
OUTPUT MODULE

DESCRIPTION TERMINAL

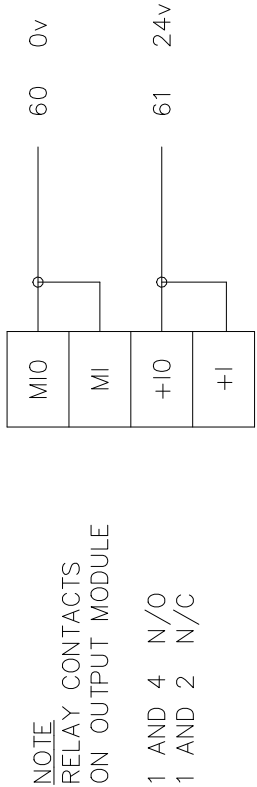
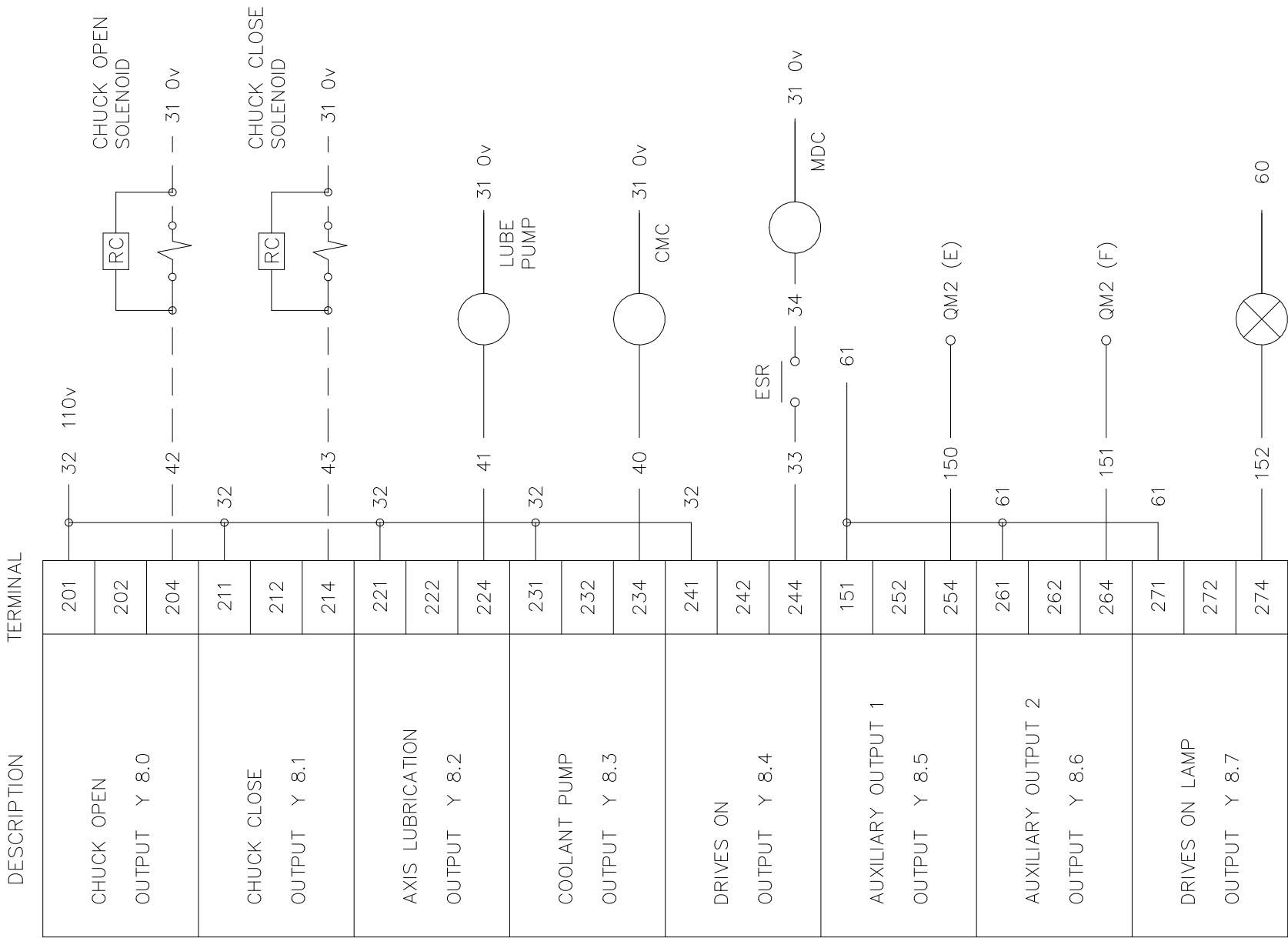
TURRET FORWARD OUTPUT Y 7.0	101	206 —○— 205 —○— 204 —○— (SC) TSTR GR
	104	207 —○— (S1)
TURRET REVERSE OUTPUT Y 7.1	111	208 —○— (S2)
	114	
TURRET SHOT PIN OUTPUT Y 7.2	121	61
	124	
OUTPUT Y 7.3	131	209 —○— 61 TPSR
	134	
SPINDLE FORWARD OUTPUT Y 7.4	141	90 —○— 89 —○— (11) GUARD CONTACT 2
	144	
SPINDLE REVERSE OUTPUT Y 7.5	151	91 —○— (1)
	154	
OUTPUT Y 7.6	161	92 —○— (2)
	164	
LOAD NEW BAR OUTPUT Y 7.7	171	
	174	

TOOLPOST DRIVE TERMINALS
SEE SHEET 10

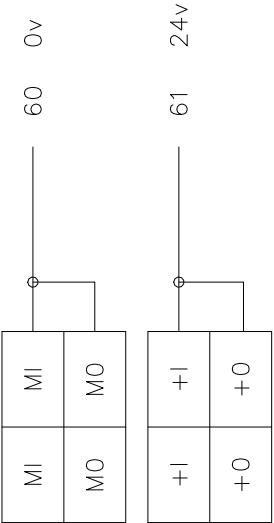
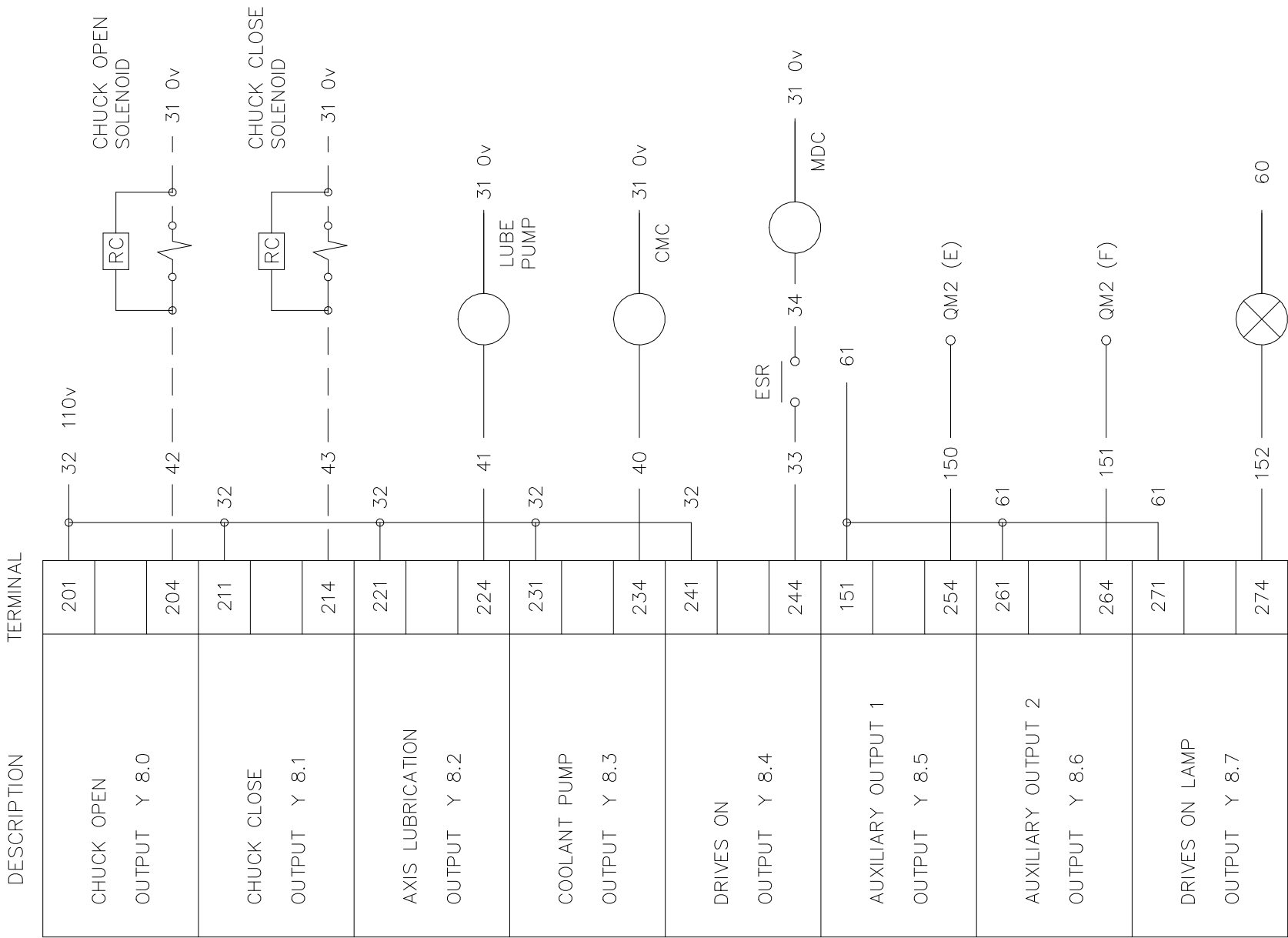
SPINDLE DRIVE TERMINALS
SEE SHEET 9



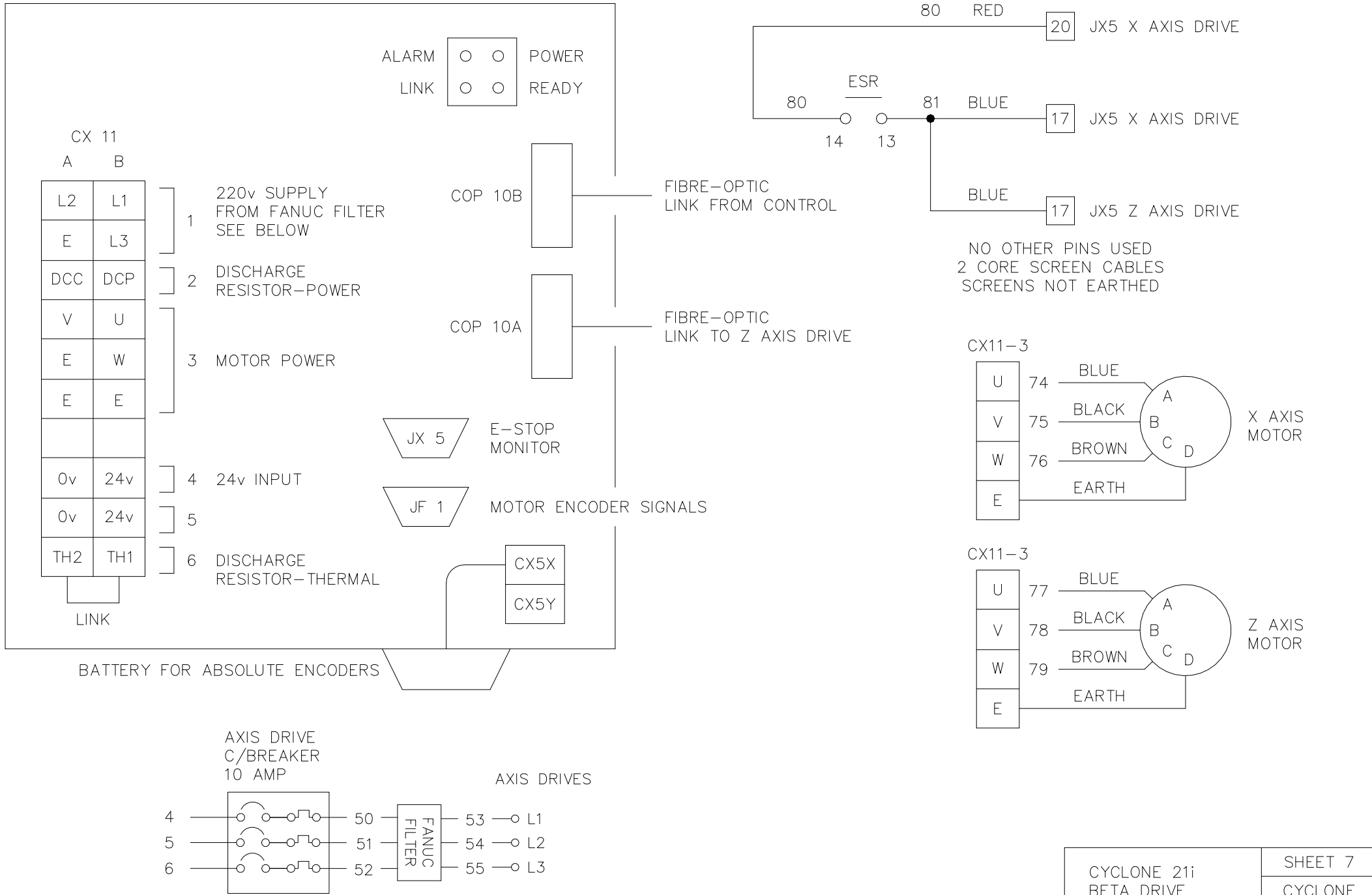
OUTPUT MODULE



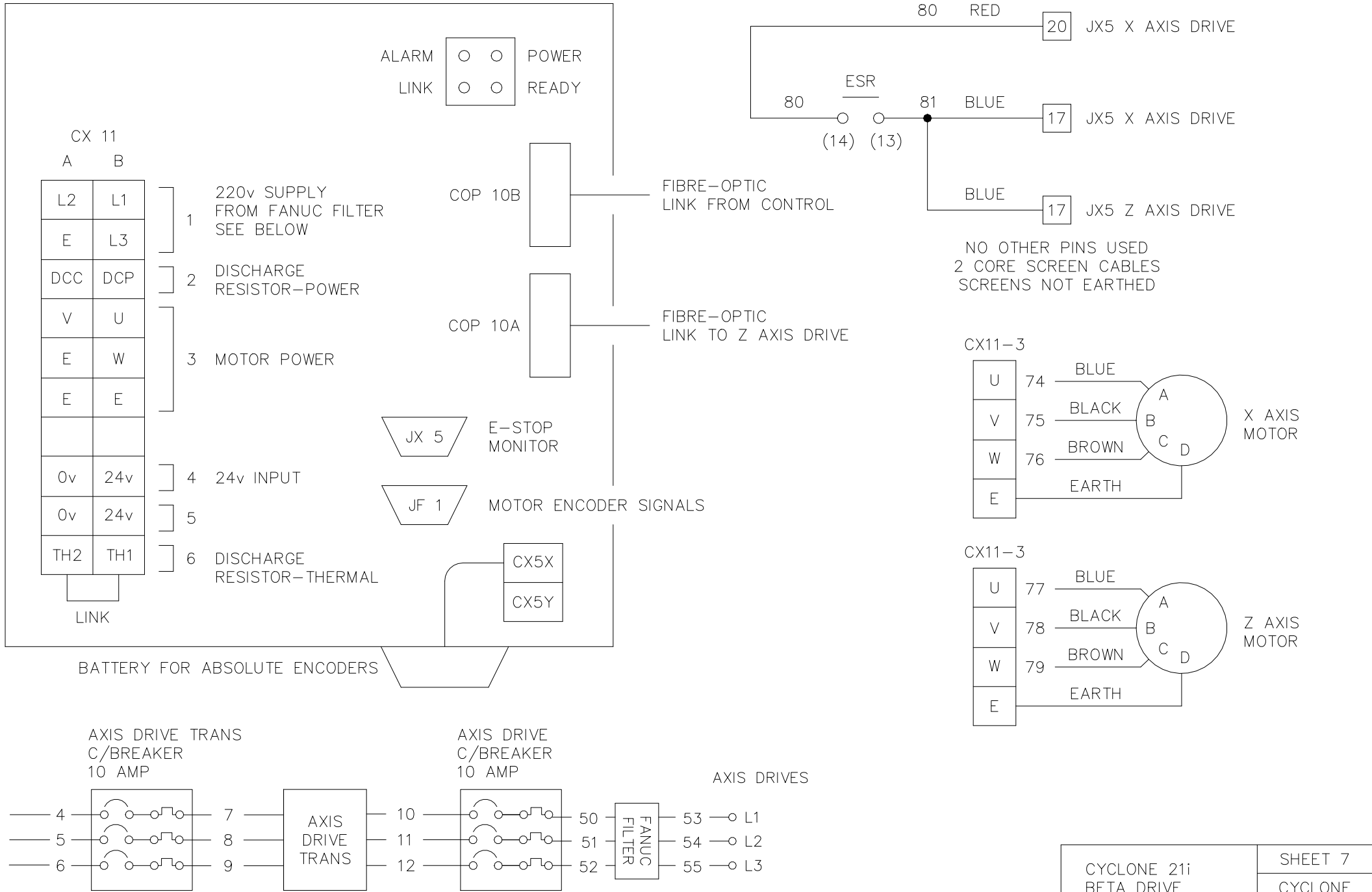
OUTPUT MODULE



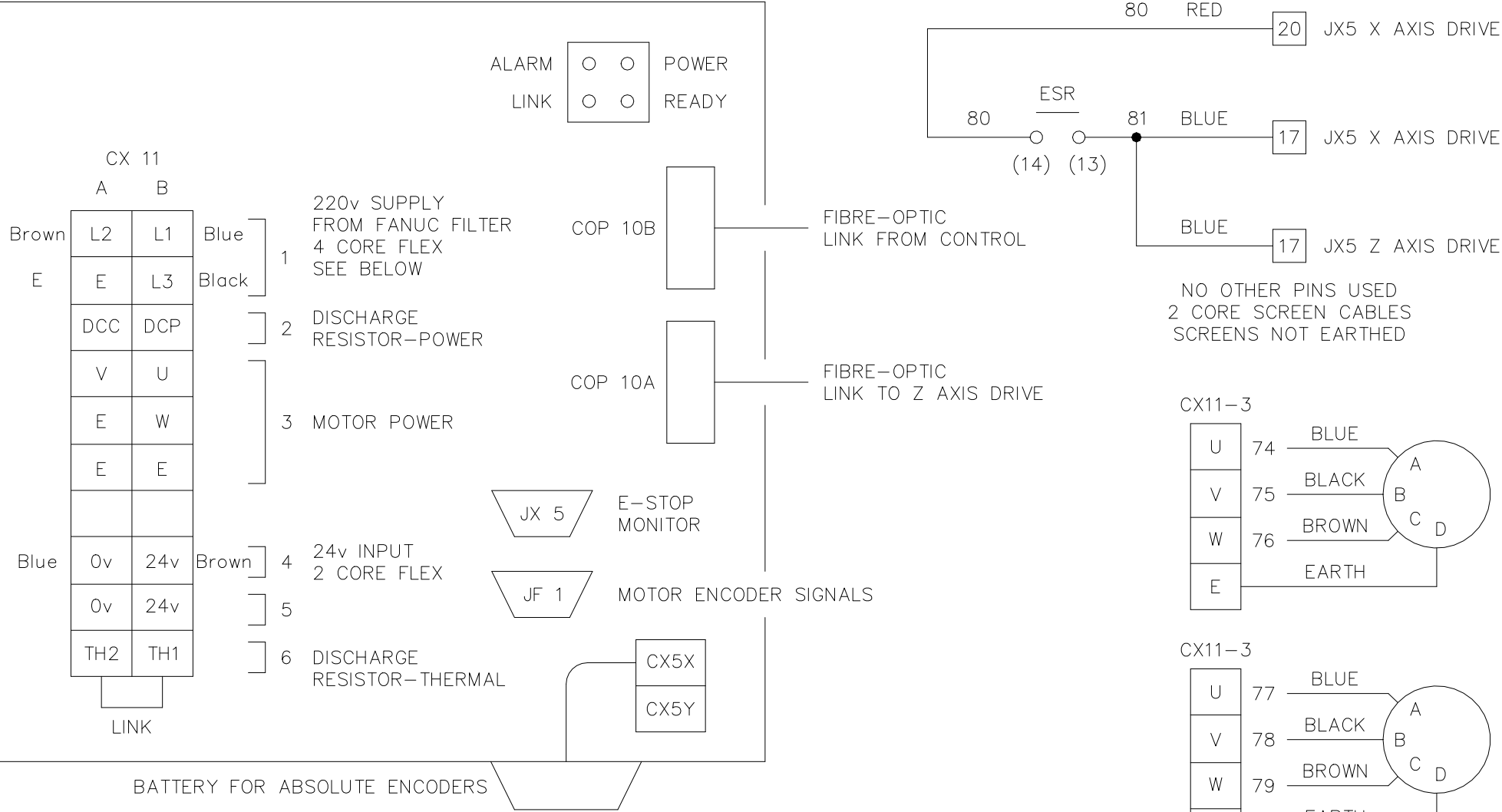
AXIS DRIVE CONNECTOR LAYOUT



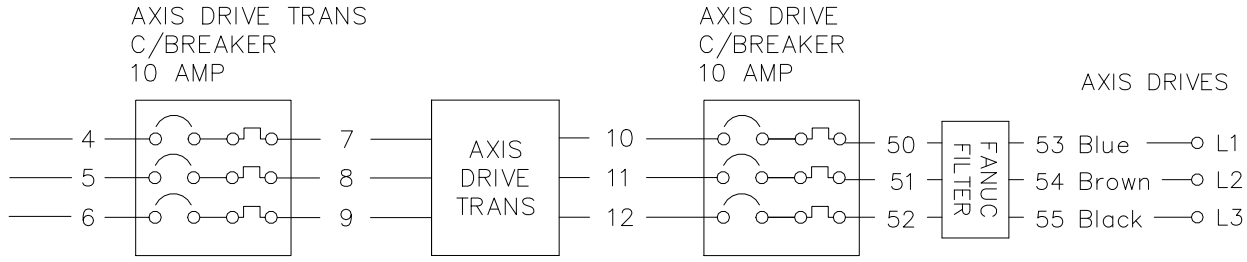
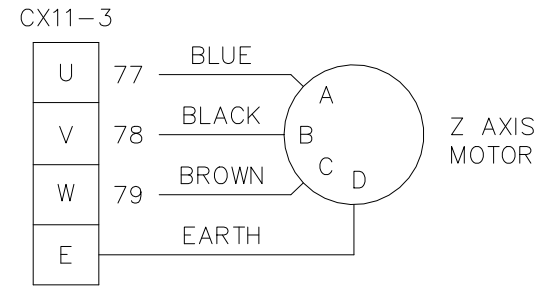
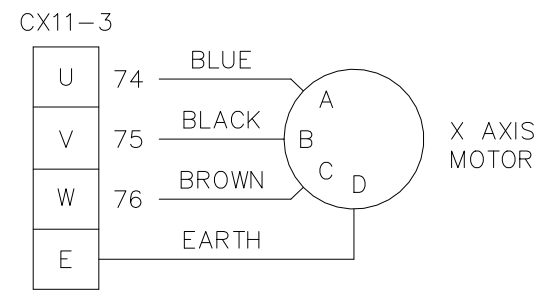
AXIS DRIVE CONNECTOR LAYOUT

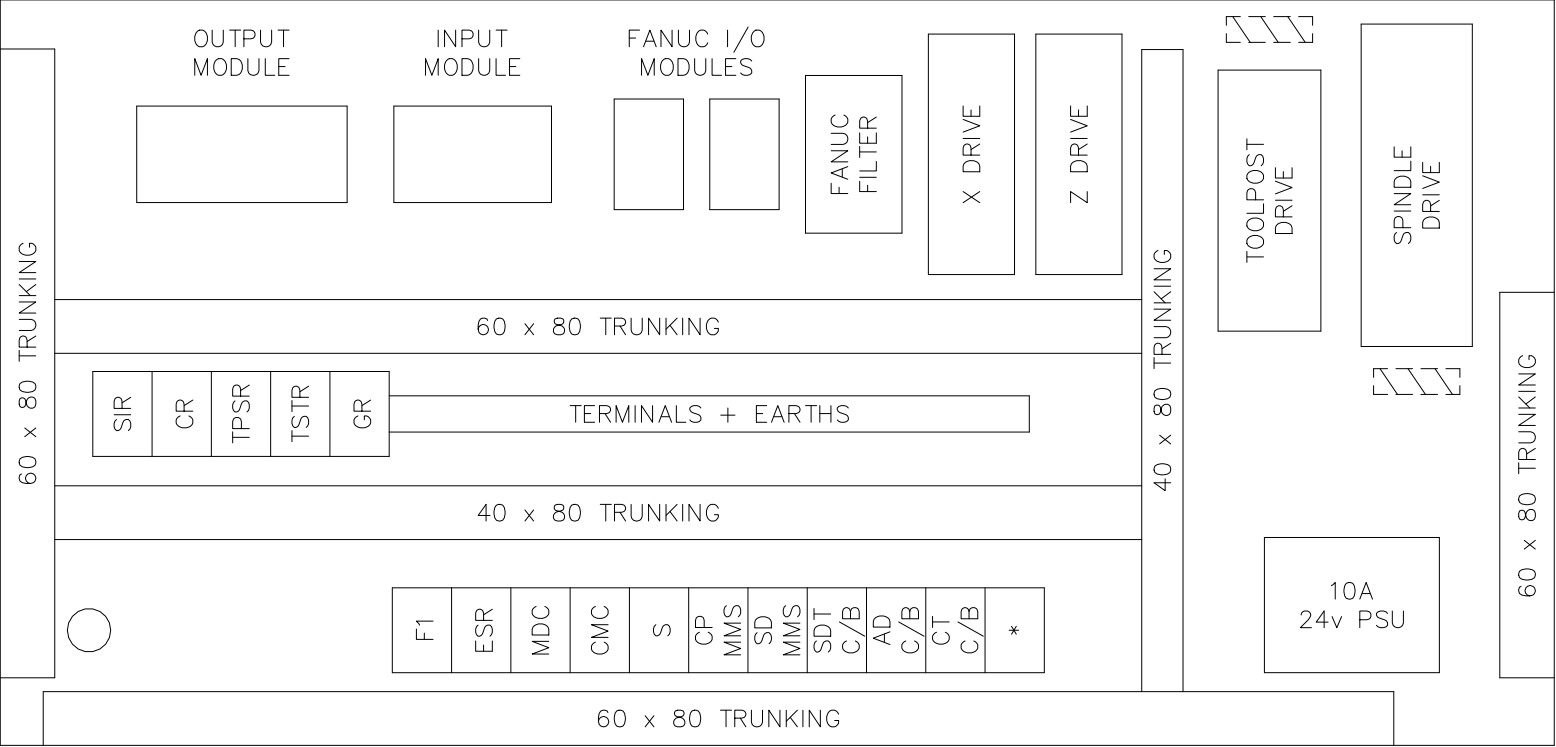


AXIS DRIVE CONNECTOR LAYOUT



NO OTHER PINS USED
2 CORE SCREEN CABLES
SCREENS NOT EARTHED





- INPUT MODULE
SEE SHEET 4
- OUTPUT MODULE
SEE SHEETS 5 AND 6
- AXIS DRIVES
SEE SHEET 7
- SPINDLE DRIVE
SEE SHEET 9
- TOOLPOST DRIVE
SEE SHEET 10
- TERMINAL WIRING
SEE SHEET 14
- MMS AND C/B
SEE SHEET 15
- TRANSFORMER PLATE
SEE SHEET 18
- ADDITIONAL I/O UNITS
SEE SHEET 19

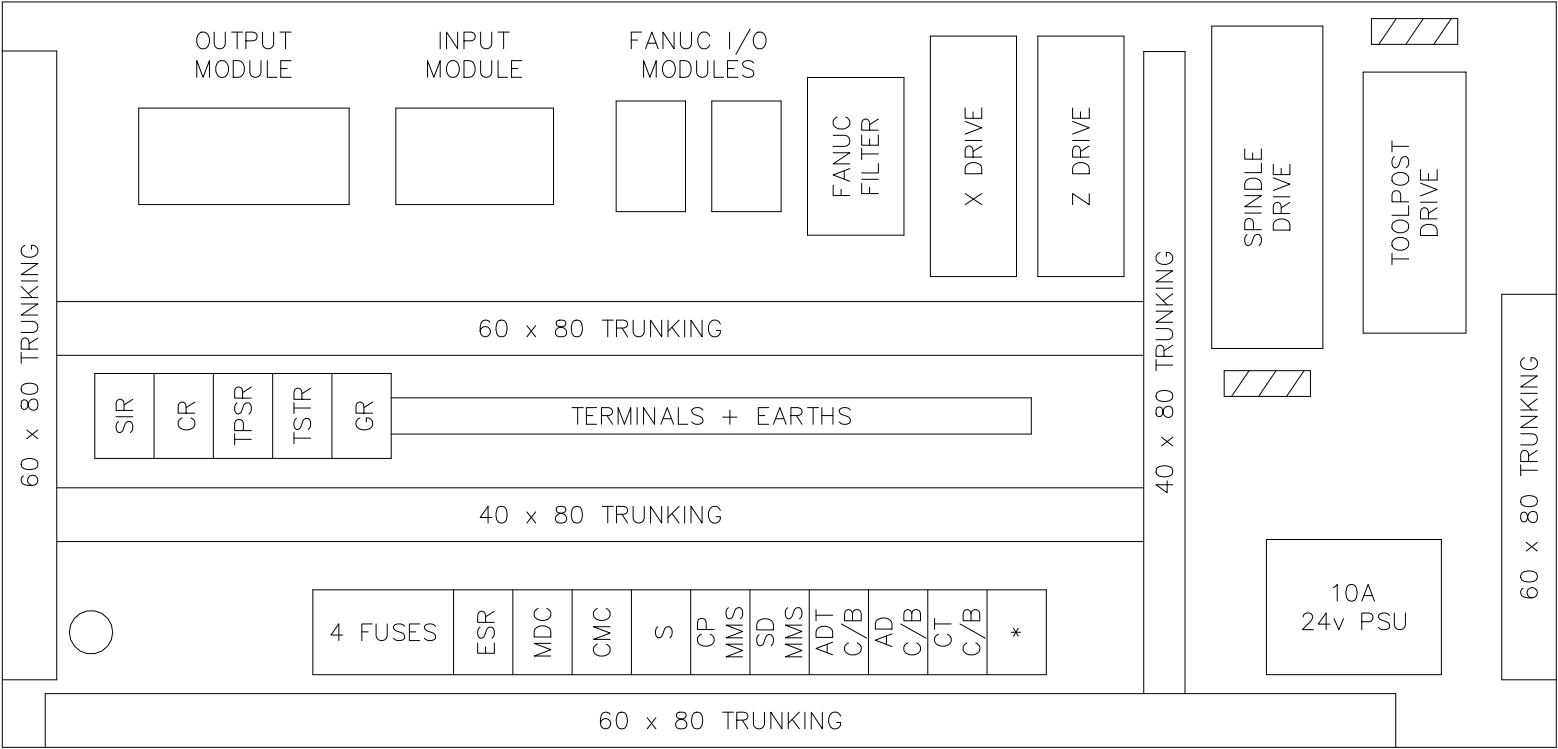
* THERMAL
CUT-OUT

WORKLIGHT
CHOKE

MAIN
FILTER

MAINS
TERMINALS
220v 3 PHASE

CYCLONE 21i PANEL LAYOUT	SHEET 8
	CYCLONE
	21i



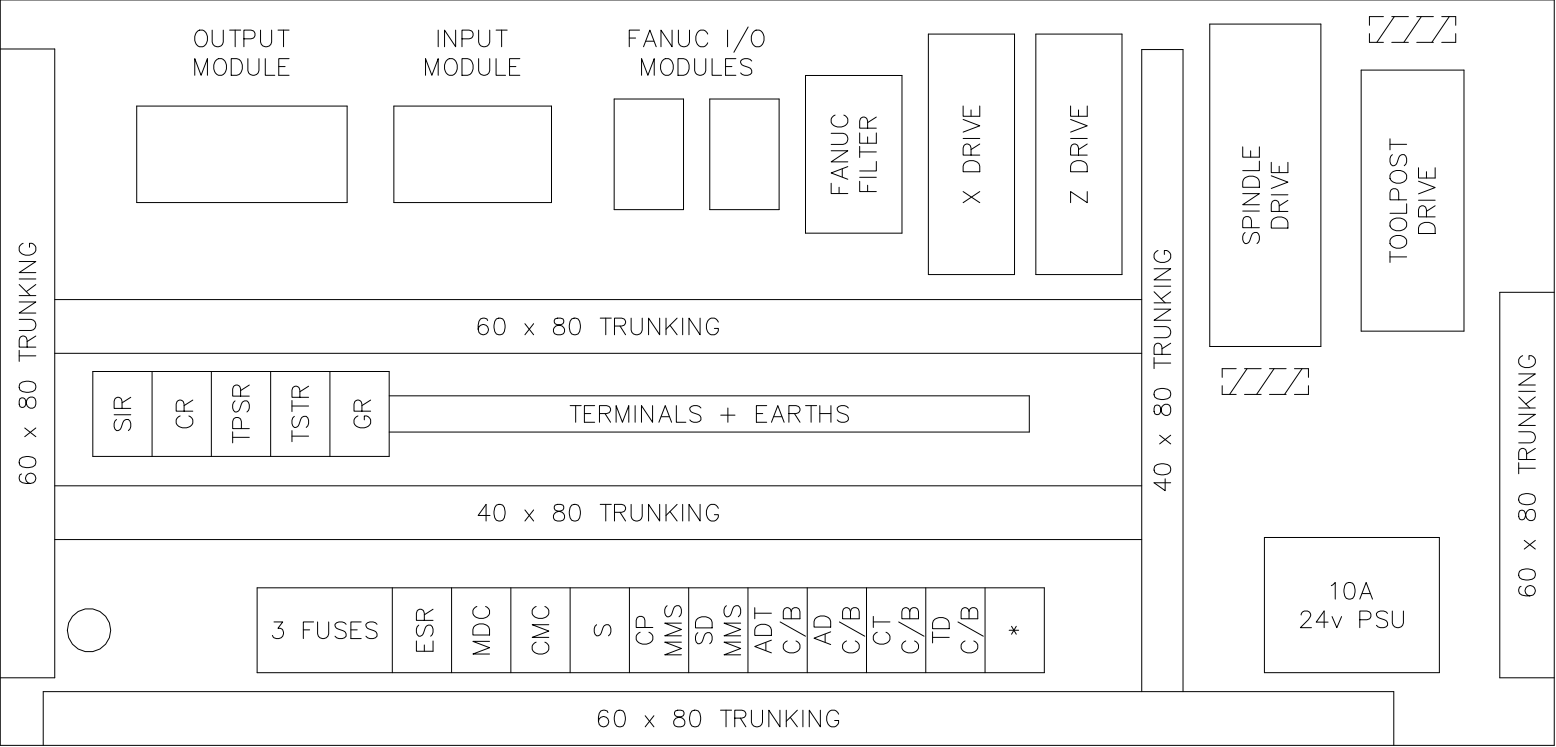
- INPUT MODULE
SEE SHEET 4
- OUTPUT MODULE
SEE SHEETS 5 AND 6
- AXIS DRIVES
SEE SHEET 7
- SPINDLE DRIVE
SEE SHEET 9
- TOOLPOST DRIVE
SEE SHEET 10
- TERMINAL WIRING
SEE SHEET 14
- MMS AND C/B
SEE SHEET 15
- TRANSFORMER PLATE
SEE SHEET 18
- ADDITIONAL I/O UNITS
SEE SHEET 19

* THERMAL
CUT-OUT

WORKLIGHT
CHOKE

MAIN
FILTER

MAINS
TERMINALS
415v 3 PHASE + N



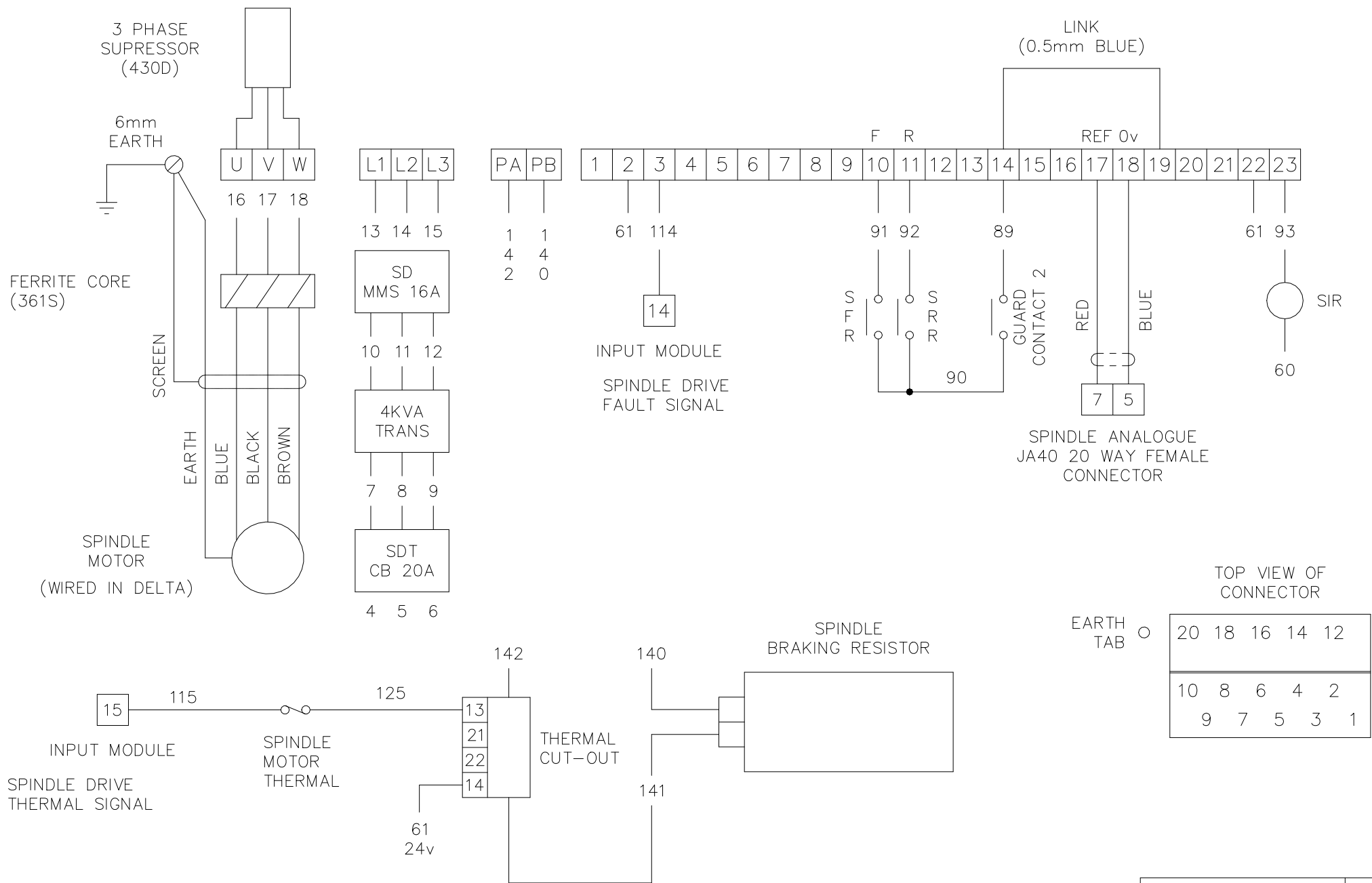
- INPUT MODULE
SEE SHEET 4
- OUTPUT MODULE
SEE SHEETS 5 AND 6
- AXIS DRIVES
SEE SHEET 7
- SPINDLE DRIVE
SEE SHEET 9
- TOOLPOST DRIVE
SEE SHEET 10
- TERMINAL WIRING
SEE SHEET 14
- MMS AND C/B
SEE SHEET 15
- TRANSFORMER PLATE
SEE SHEET 18
- ADDITIONAL I/O UNITS
SEE SHEET 19

* THERMAL
CUT-OUT

WORKLIGHT
CHOKE

MAIN
FILTER

MAINS
TERMINALS
415v 3 PHASE

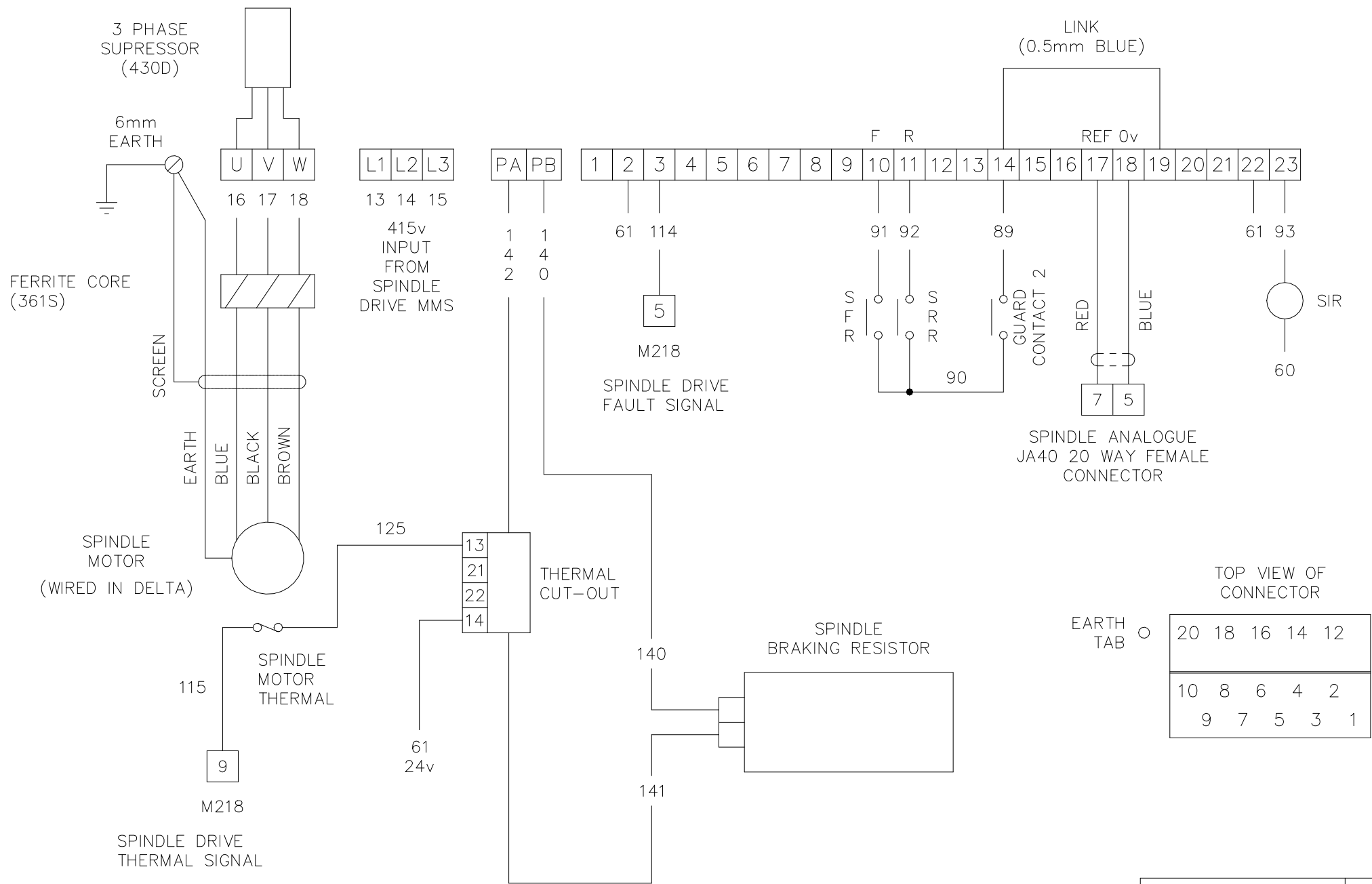


CYCLONE 21i
SPINDLE DRIVE
DETAILS

SHEET 9

CYCLONE

21i

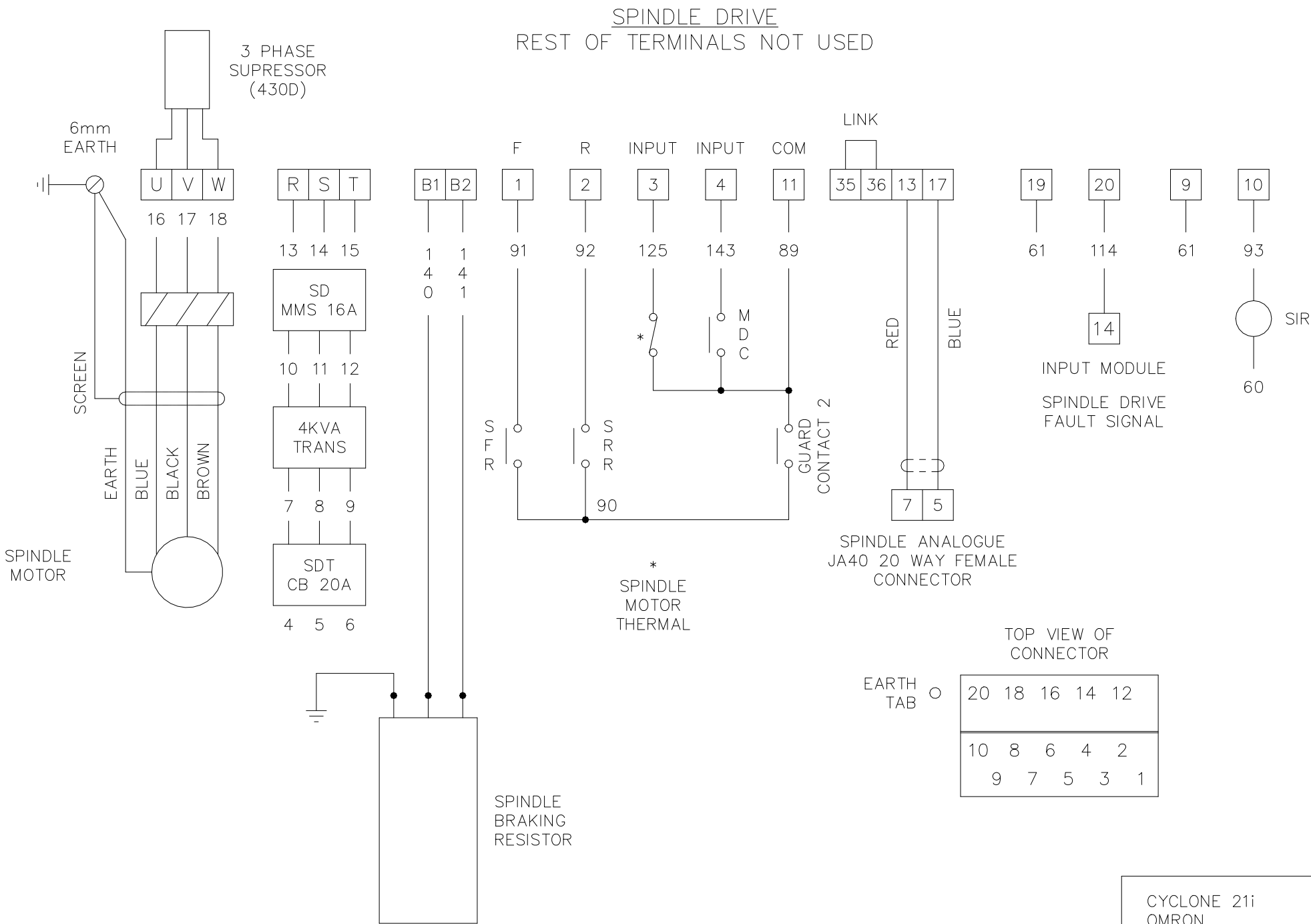


CYCLONE 21i
SPINDLE DRIVE
DETAILS

SHEET 9A

CYCLONE

21i

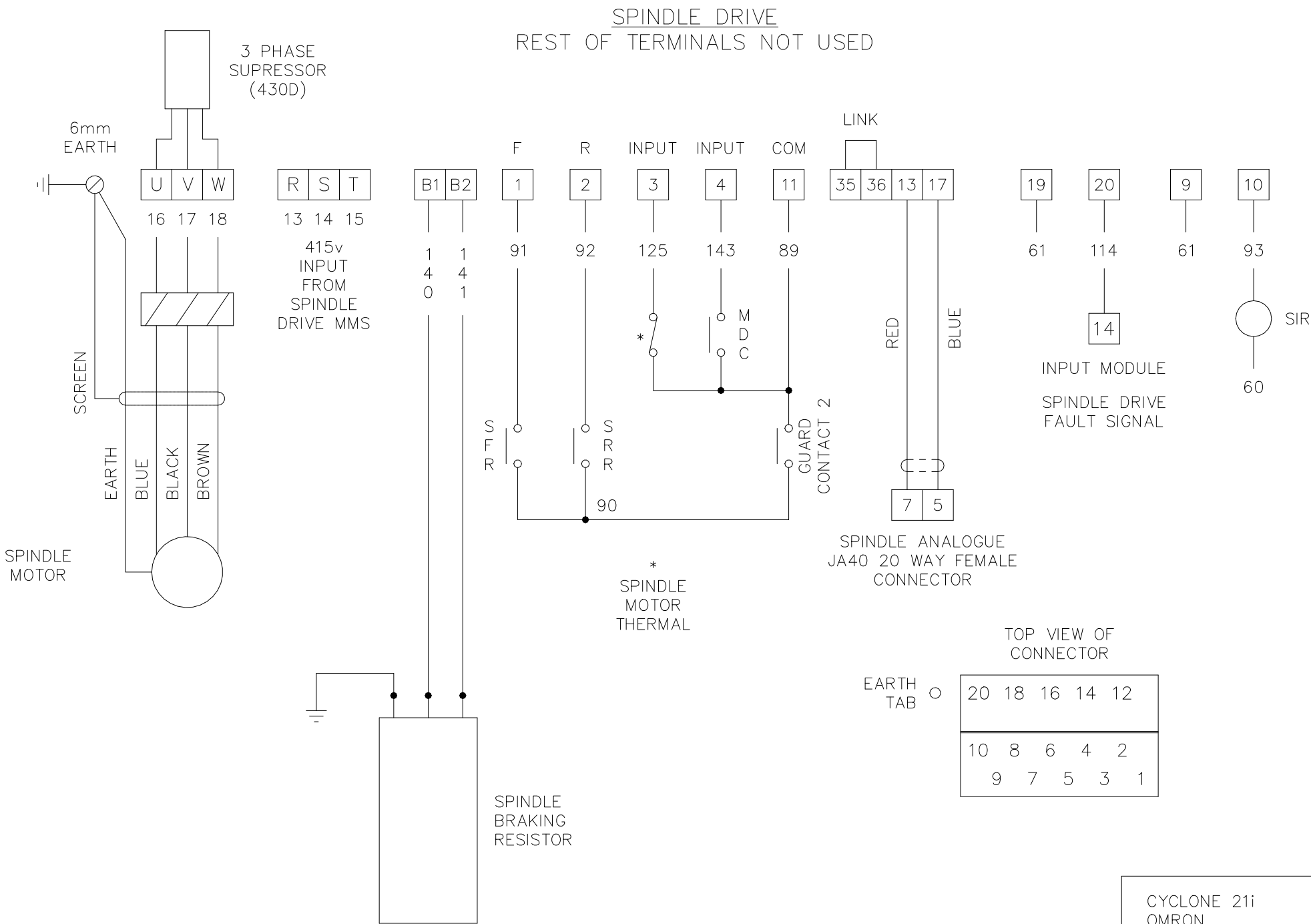


CYCLONE 21i
OMRON
SPINDLE DRIVE

SHEET 9

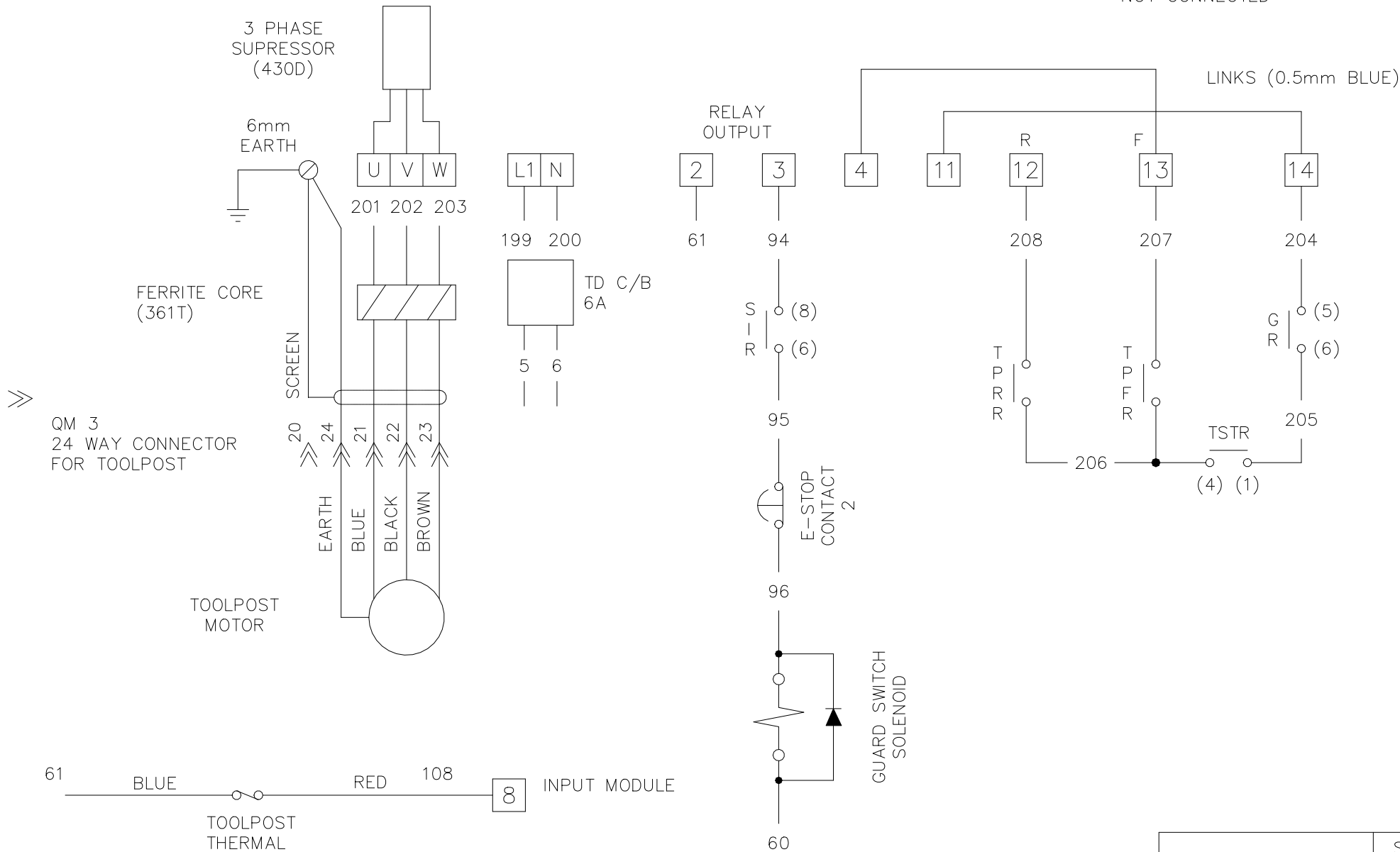
CYCLONE

21i

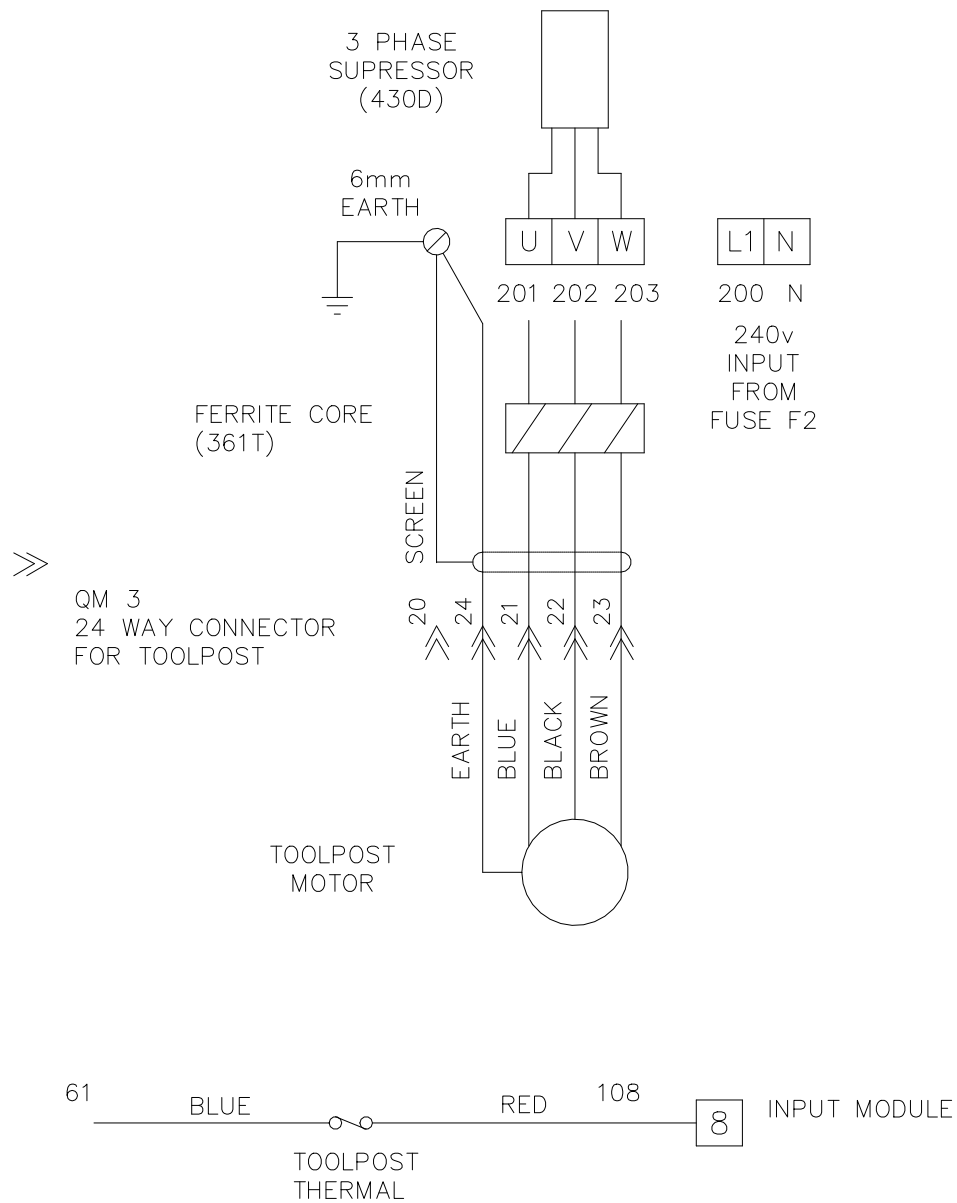


TOOLPOST DRIVE

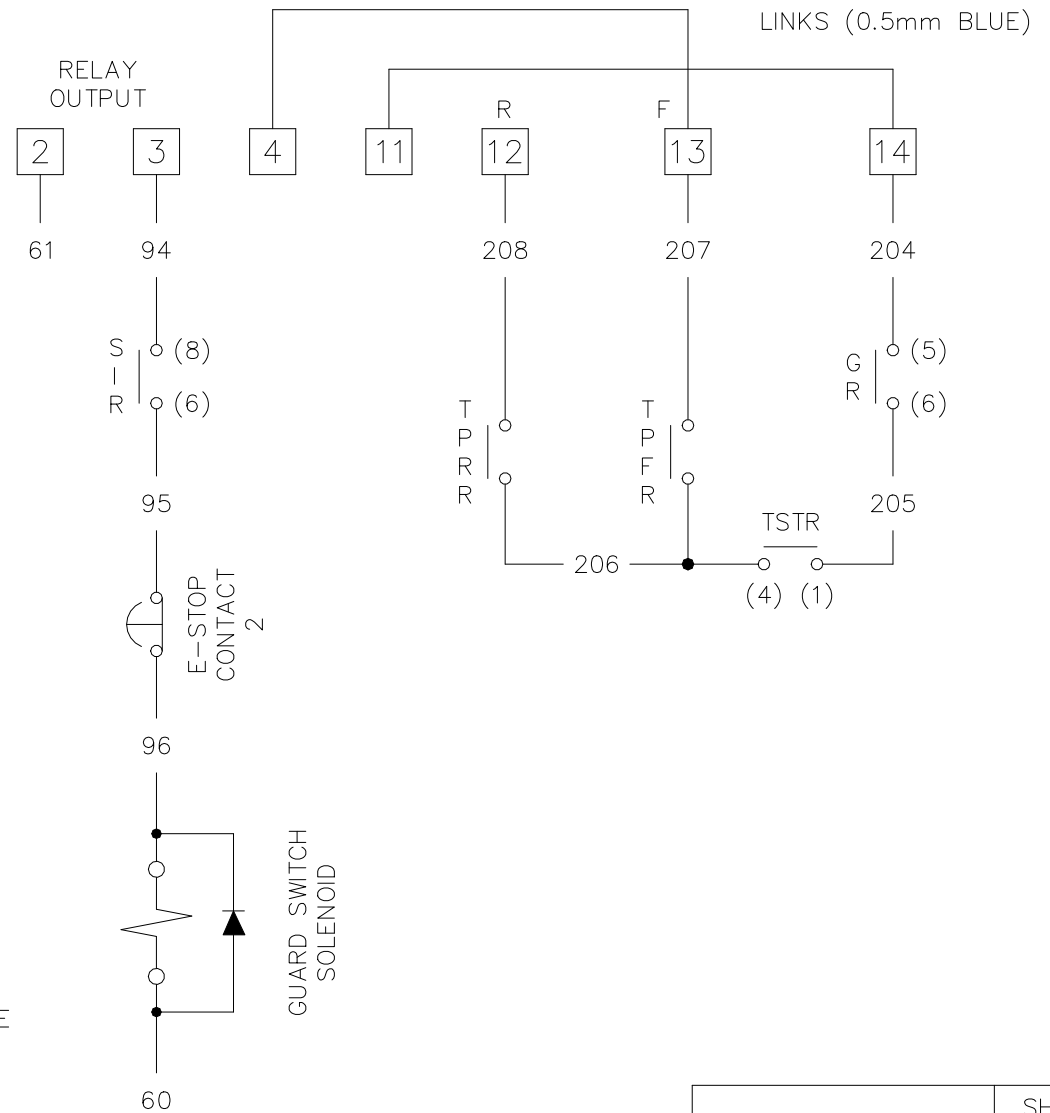
REST OF TERMINALS
NOT CONNECTED



CYCLONE 21i
TOOLPOST DRIVE
DETAILS



TOOLPOST DRIVE



CYCLONE 21i
TOOLPOST DRIVE
DETAILS

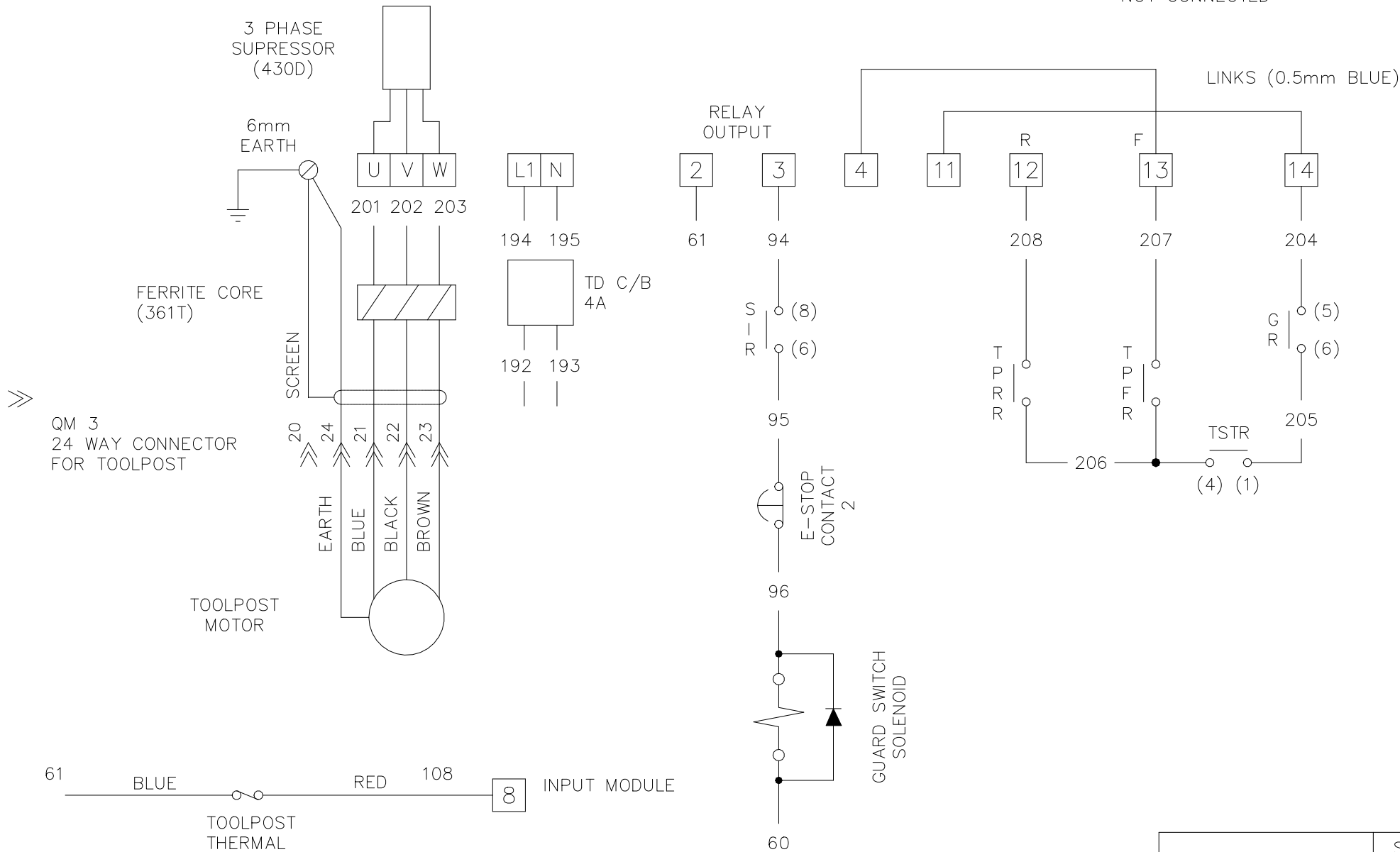
SHEET 10

CYCLONE

21i

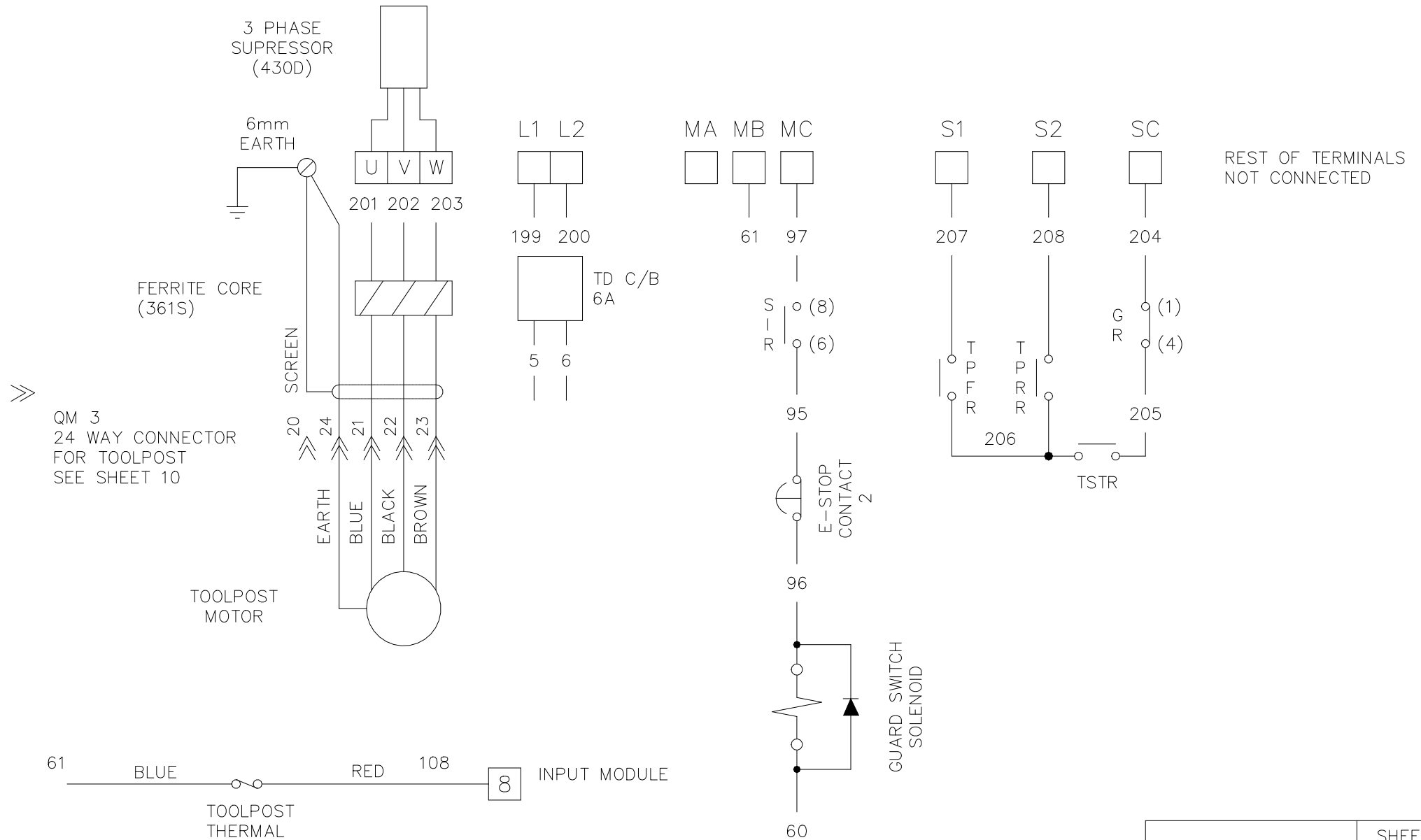
TOOLPOST DRIVE

REST OF TERMINALS
NOT CONNECTED

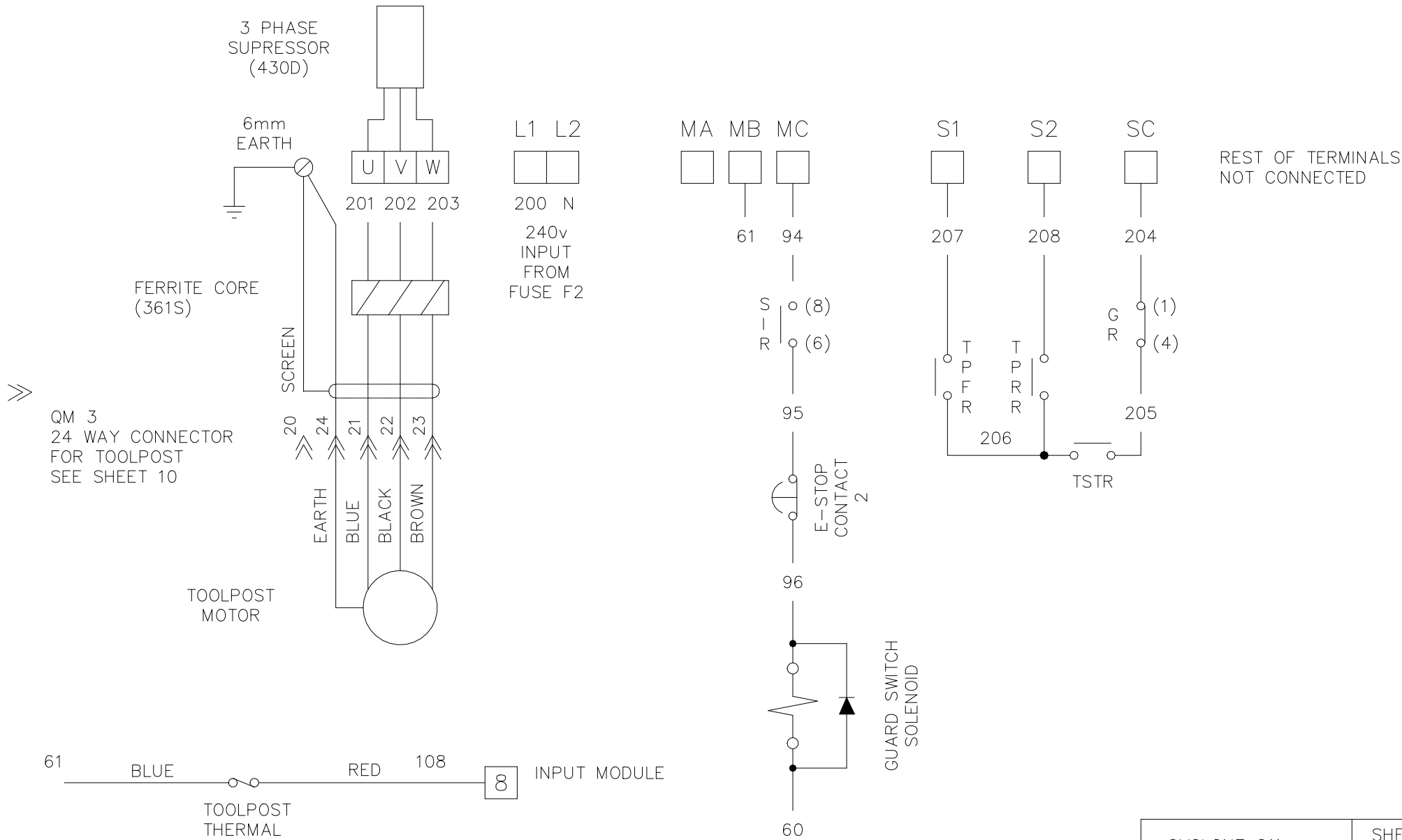


CYCLONE 21i TOOLPOST DRIVE DETAILS	SHEET 10
	CYCLONE
	21i

TOOLPOST DRIVE

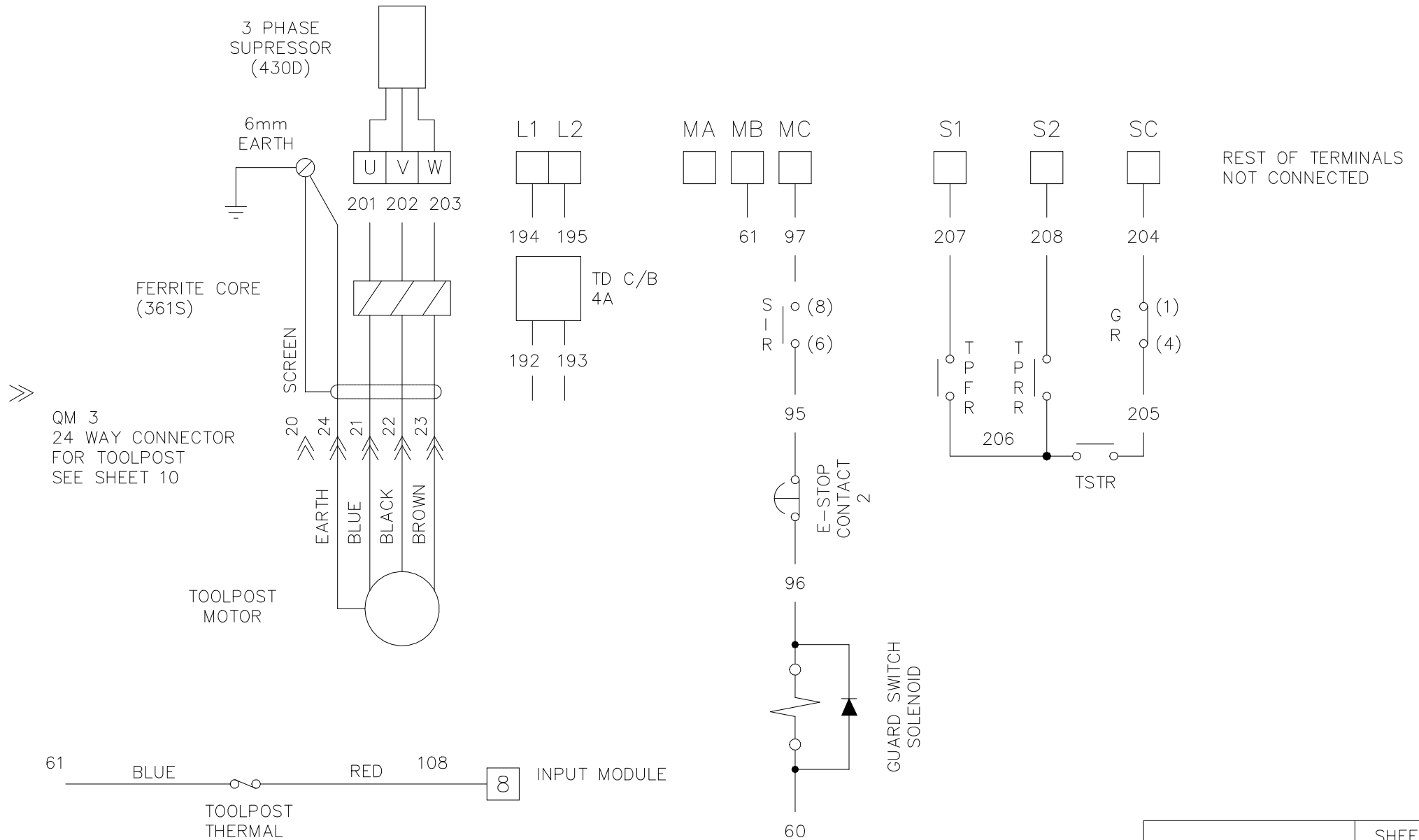


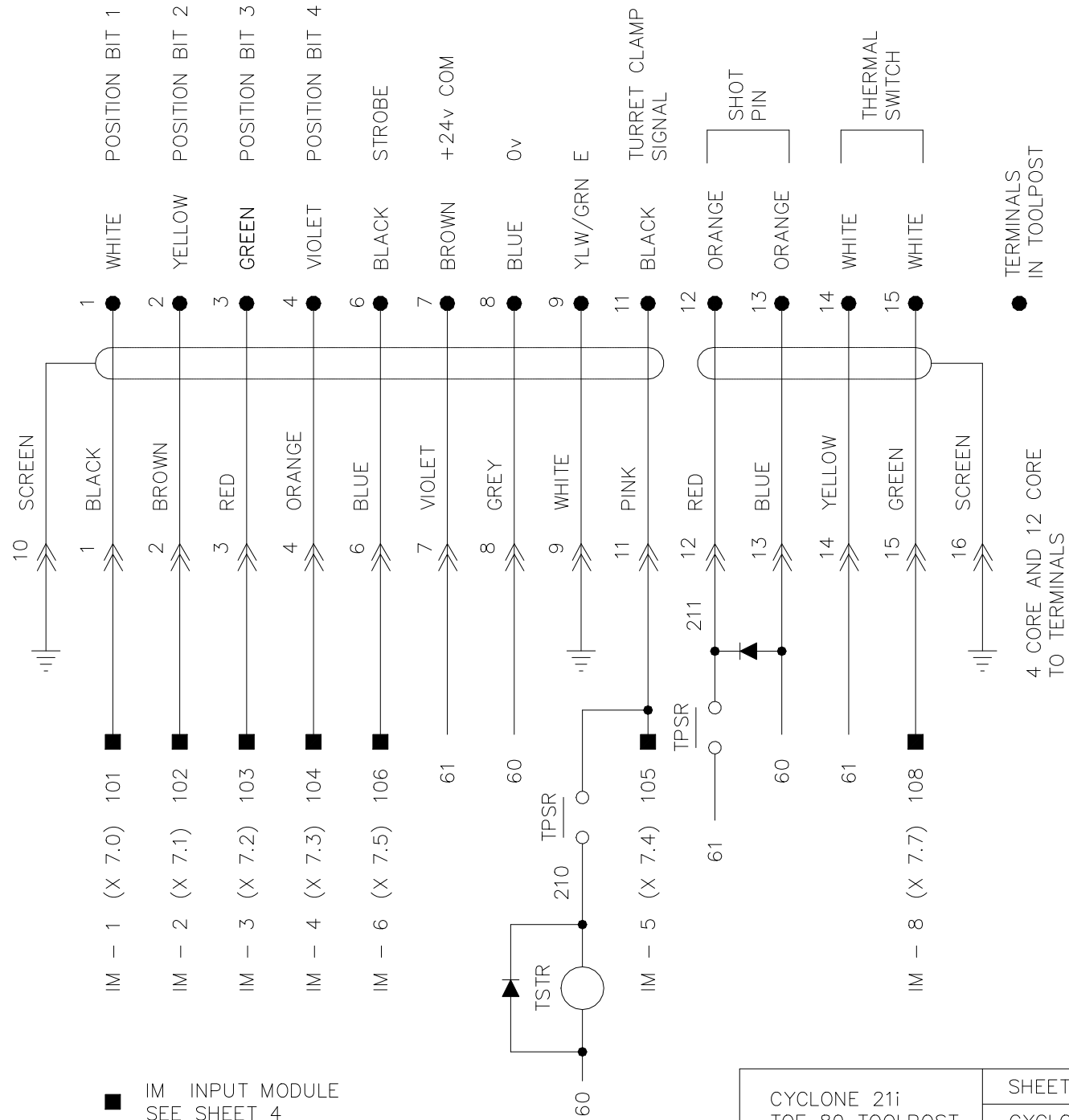
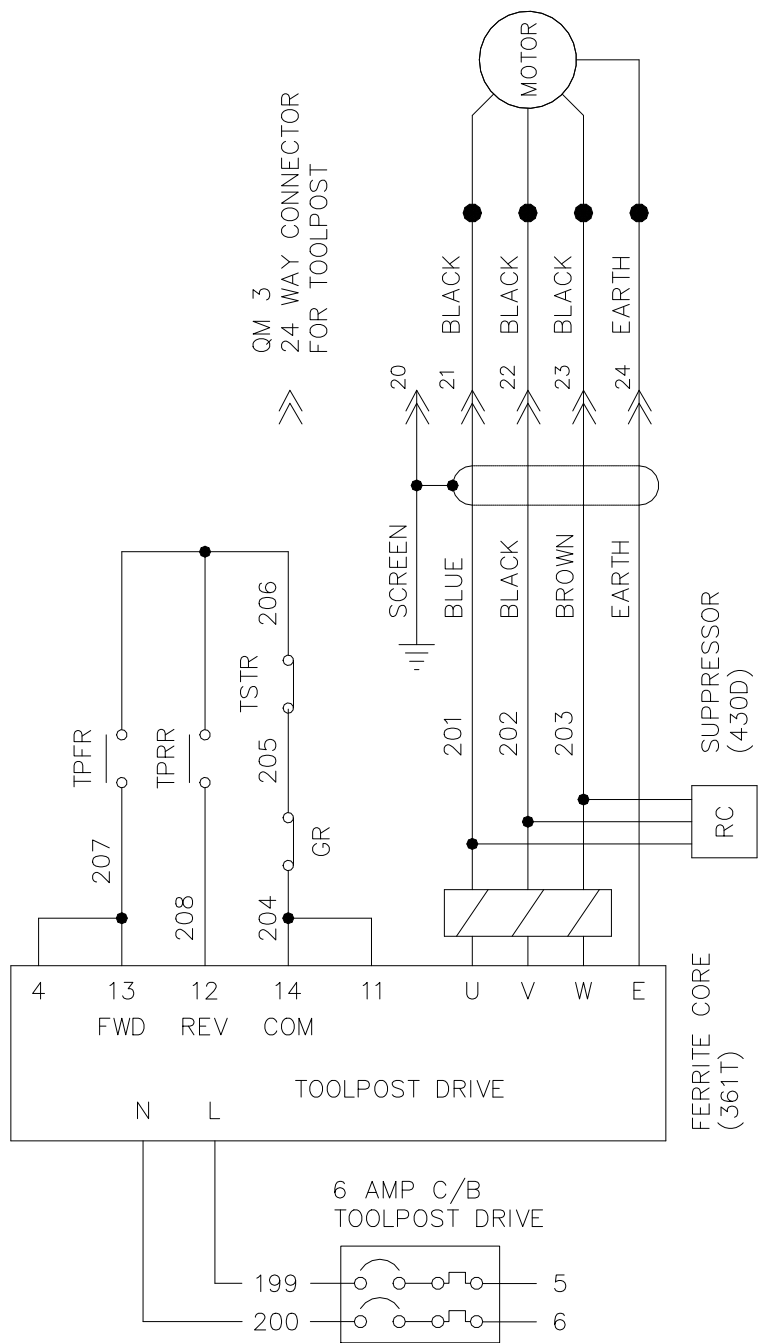
TOOLPOST DRIVE



CYCLONE 21i OMRON TOOLPOST DRIVE	SHEET 10
	CYCLONE
	21i

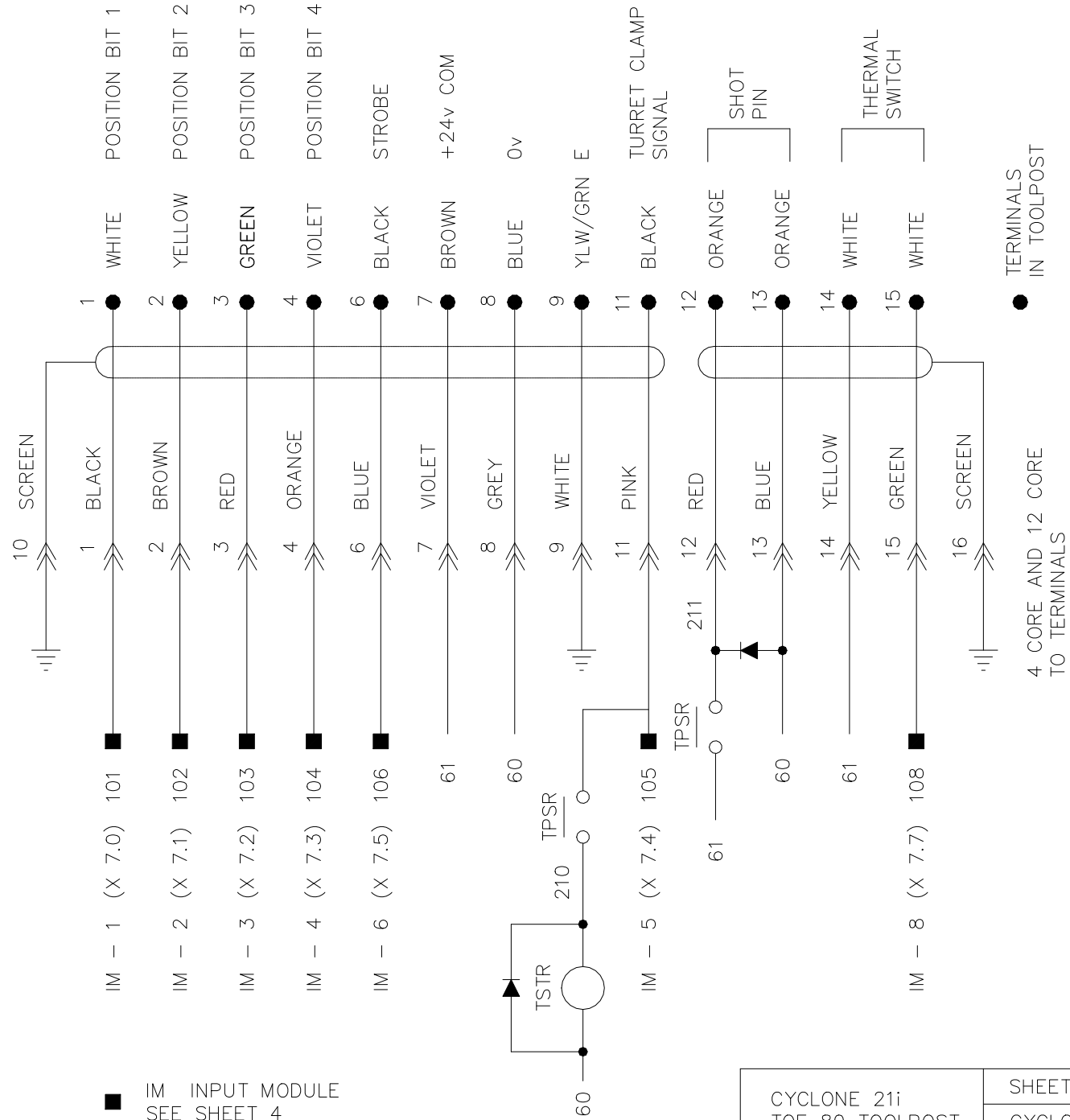
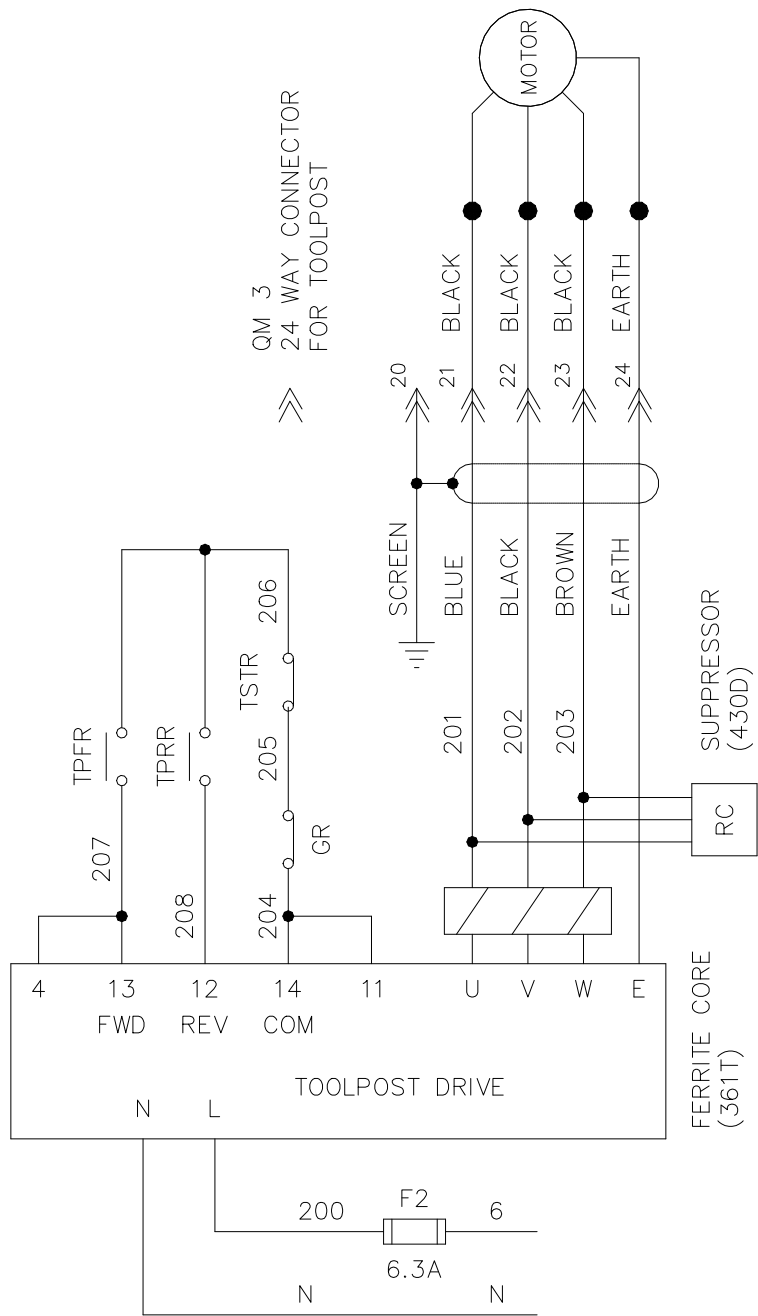
TOOLPOST DRIVE





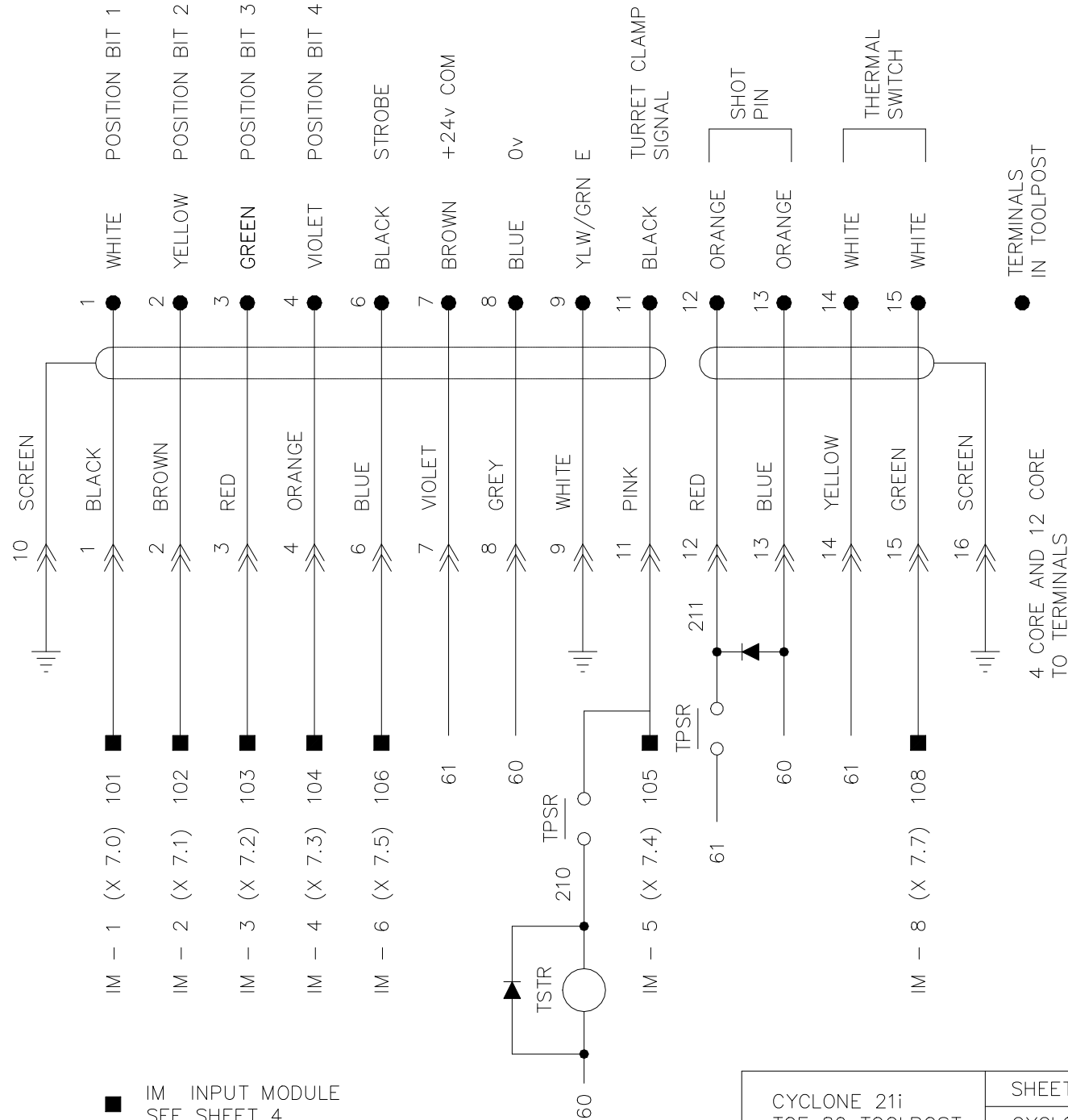
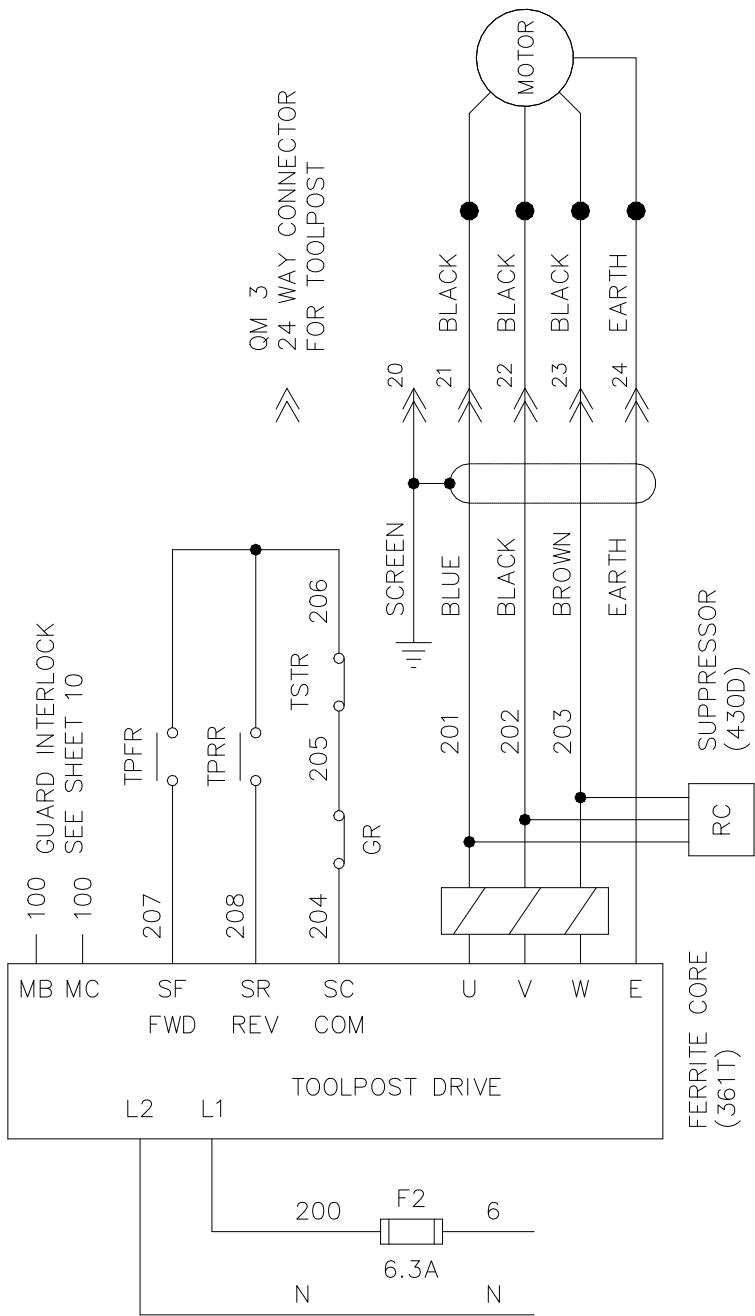
CYCLONE 21i
TOE 80 TOOLPOST
WIRING DETAILS

SHEET 11
CYCLONE
21i



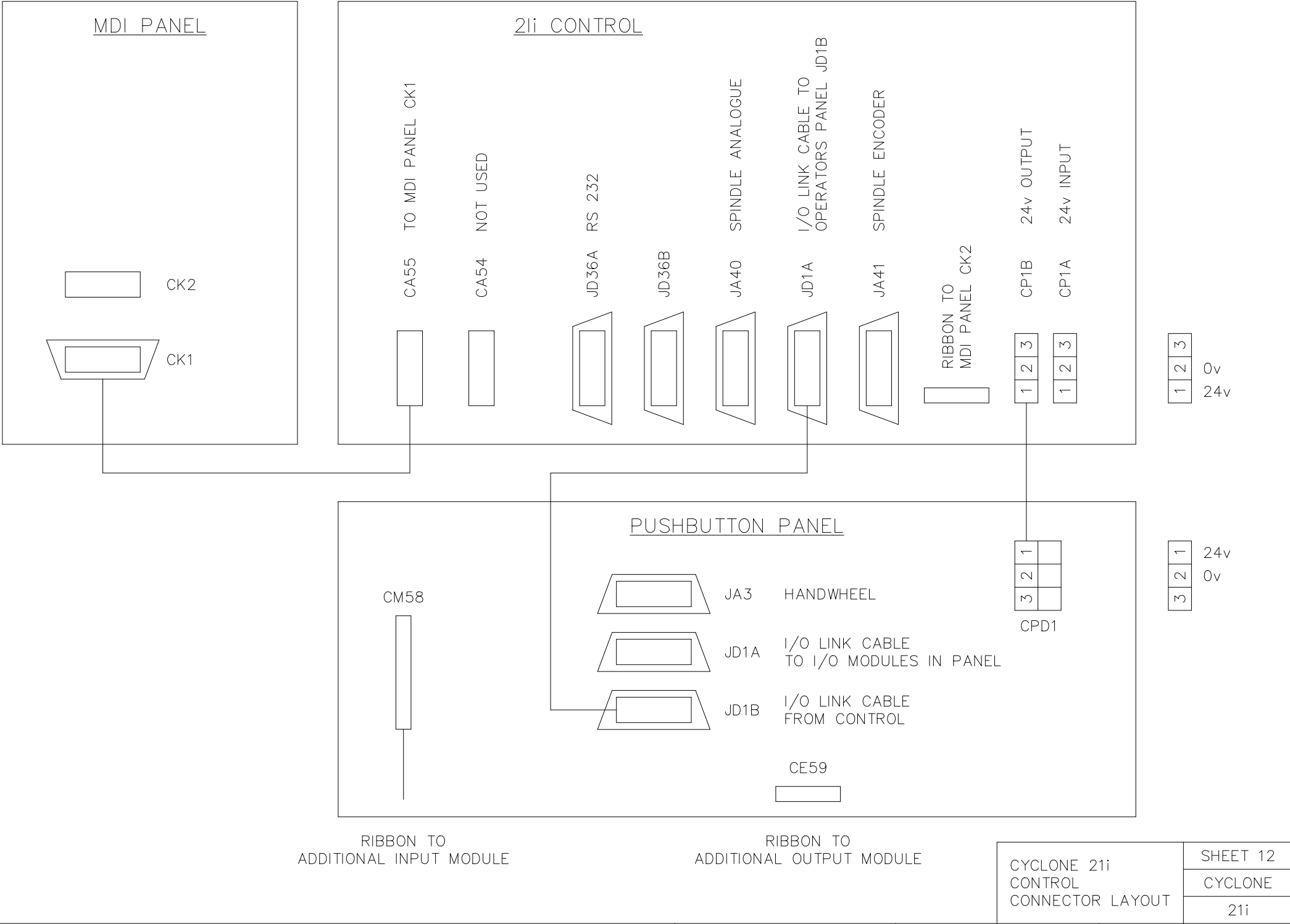
CYCLONE 21i
TOE 80 TOOLPOST
WIRING DETAILS

SHEET 11
CYCLONE
21i



■ IM INPUT MODULE
SEE SHEET 4

CYCLONE 21i TOE 80 TOOLPOST WIRING DETAILS	SHEET 11
	CYCLONE
	21i



24 WAY QM

1	BLUE	61
2	YELLOW	60
3	RED	124
4	GREEN	109
5	ORANGE	110
6	PINK	111
7	MAUVE	112
8	BROWN	116
9	BLACK	70
10	WHITE	71
11	GREY	152
12	RED	113
13	BLUE	133
14	RED	95
15	BLUE	96
16	BROWN	72
17	BLUE	60
18	WHT/BLK	153
19	WHT/RED	154
20	YLW/RED	126
21	BLUE	60
22	BLUE	61

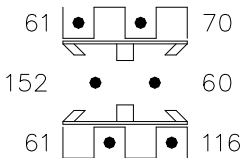
E-STOP CONTACT 1 SEE SHEET 2

E-STOP CONTACT 2 SEE SHEET 10

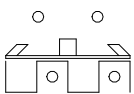
DOOR OPEN RELAY
DOOR CLOSE RELAY
DOOR FULLY OPEN INPUT
0v
24v

ADDITIONAL I/O
SIGNALS
SEE SHEET 19

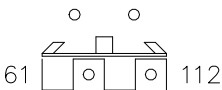
CONTROL ON P/B
(GREEN LENS)



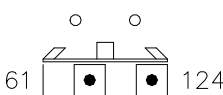
TAILSTOCK EXTEND P/B
(WHITE LENS)



TOOL SELECT P/B
(GREEN LENS)



DOOR OVERRIDE P/B
(WHITE LENS)

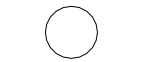


HANDWHEEL

3	4	5	6

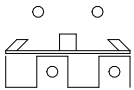
RED
BLUE
GREEN
YELLOW

4 CORE TO JA3
SEE SHEET 16

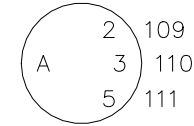
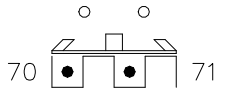


AIR
PRESSURE
REGULATOR

TAILSTOCK RETRACT P/B
(WHITE LENS)



CONTROL OFF P/B
(RED LENS)



TOOL SELECT
ROTARY
SWITCH

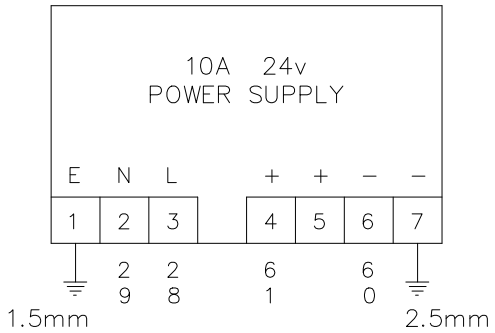
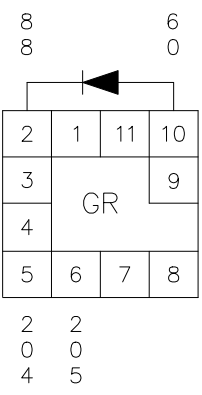
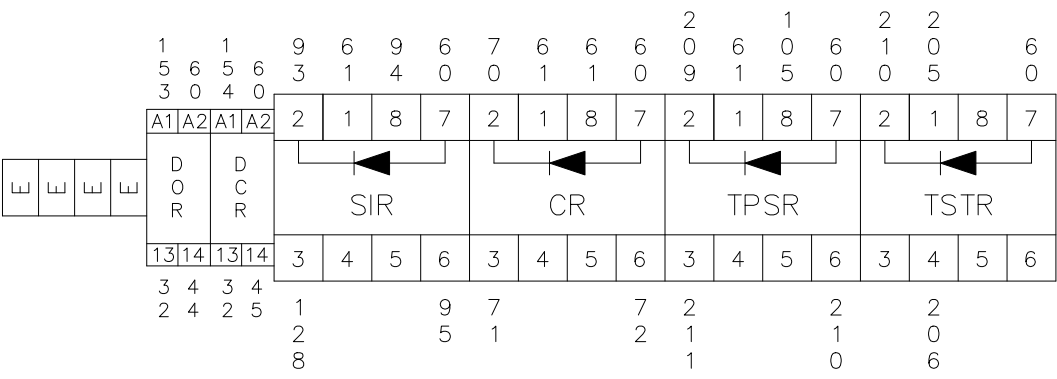
TAILSTOCK WIRE NUMBERS
TO BE ASSIGNED

CYCLONE 21i
OPERATORS PANEL
WIRING

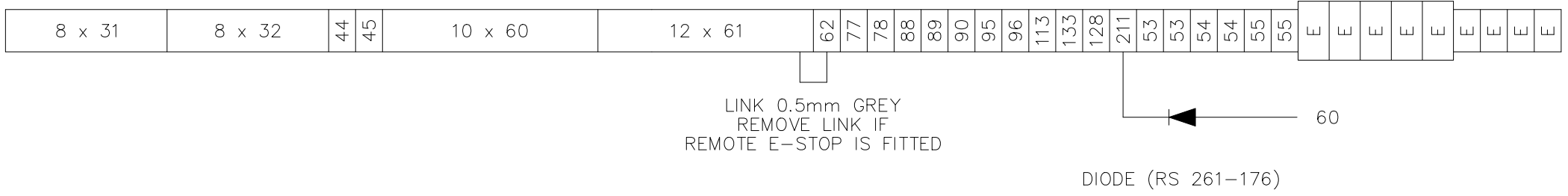
SHEET 13

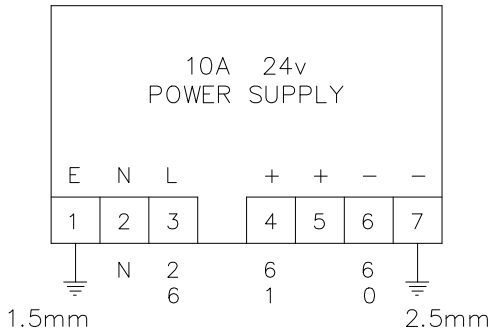
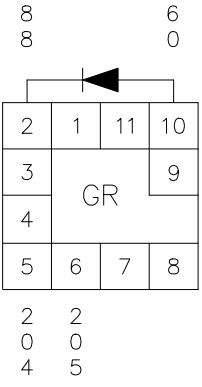
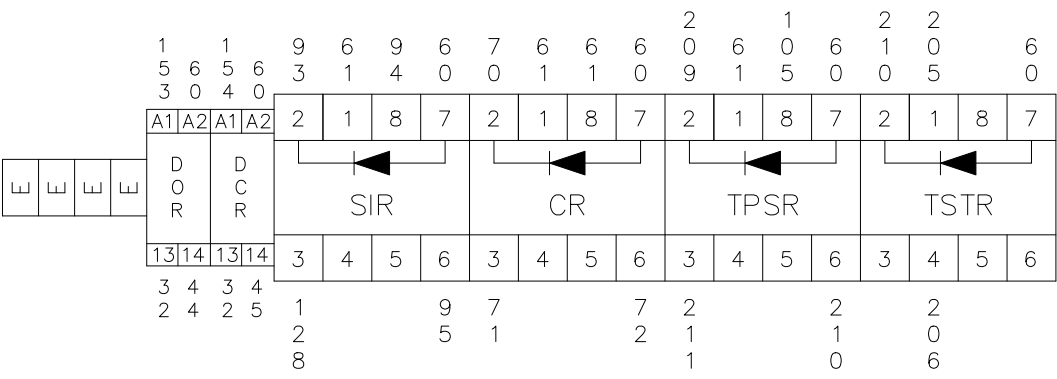
CYCLONE

21i



58 TERMINALS AND 9 EARTHS

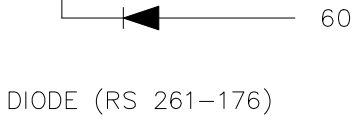


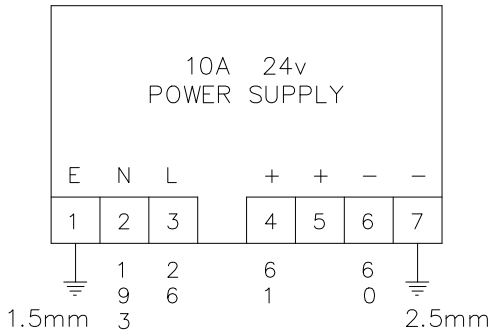
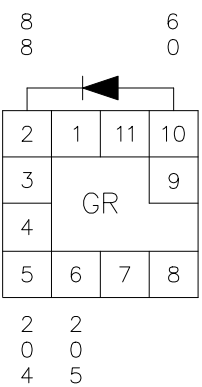
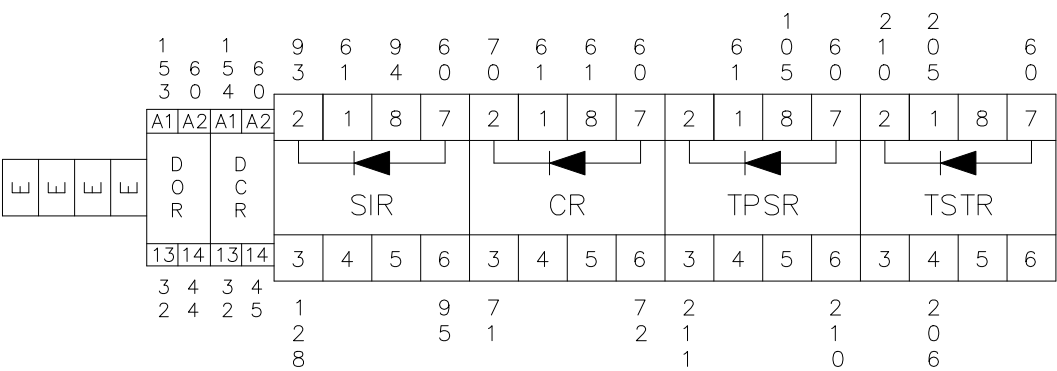


62 TERMINALS AND 9 EARTHS

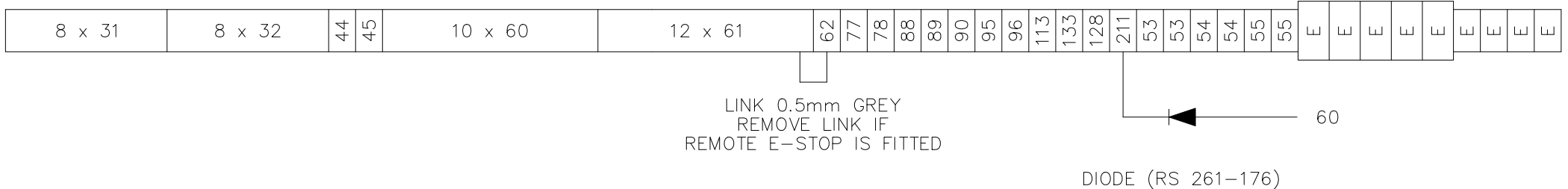


LINK 0.5mm GREY
REMOVE LINK IF
REMOTE E-STOP IS FITTED



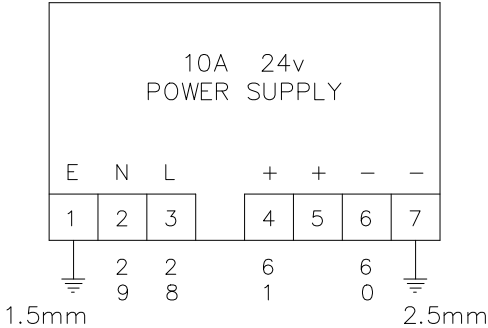
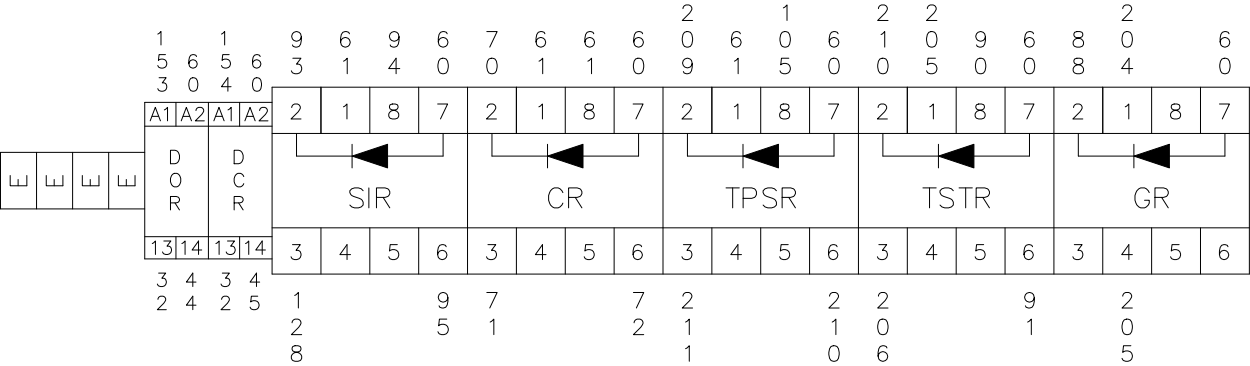


58 TERMINALS AND 9 EARTHS

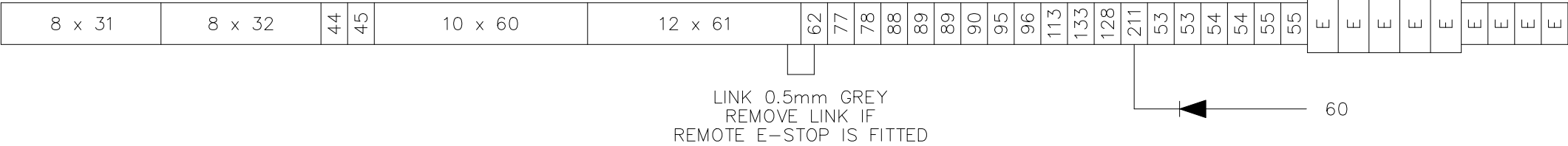


LINK 0.5mm GREY
REMOVE LINK IF
REMOTE E-STOP IS FITTED

DIODE (RS 261-176)

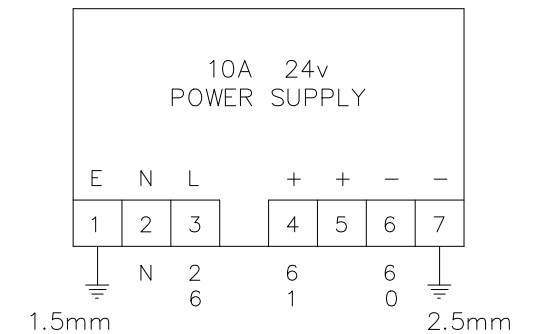


58 TERMINALS AND 9 EARTHS



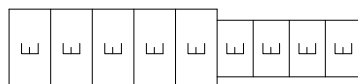
LINK 0.5mm GREY
REMOVE LINK IF
REMOTE E-STOP IS FITTED

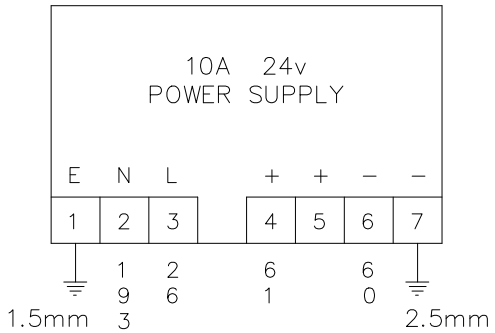
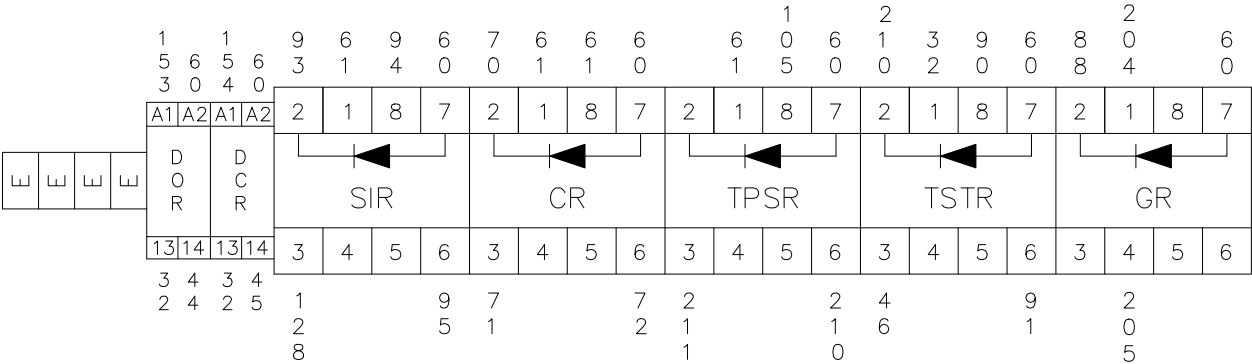
DIODE (RS 261-176)



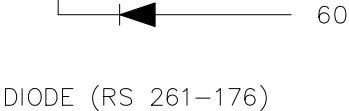
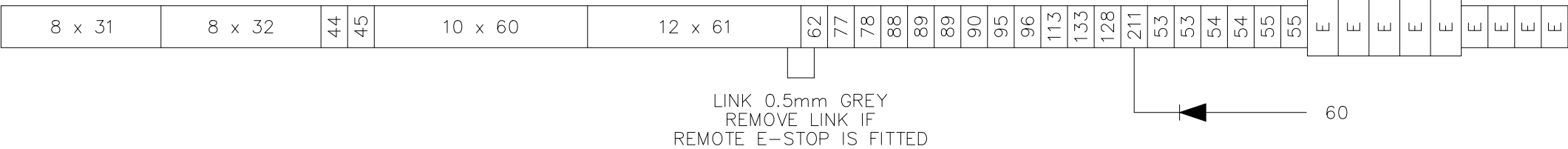
N	N	N	N	8 x 31	8 x 32	44	45	10 x 60	12 x 61	62	77	78	88	89	89	90	95	96	113	113	133	128	211	53	53	54	54	55	55
---	---	---	---	--------	--------	----	----	---------	---------	----	----	----	----	----	----	----	----	----	-----	-----	-----	-----	-----	----	----	----	----	----	----

DIODE (RS 261-176)



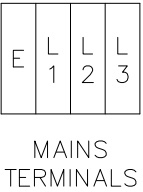
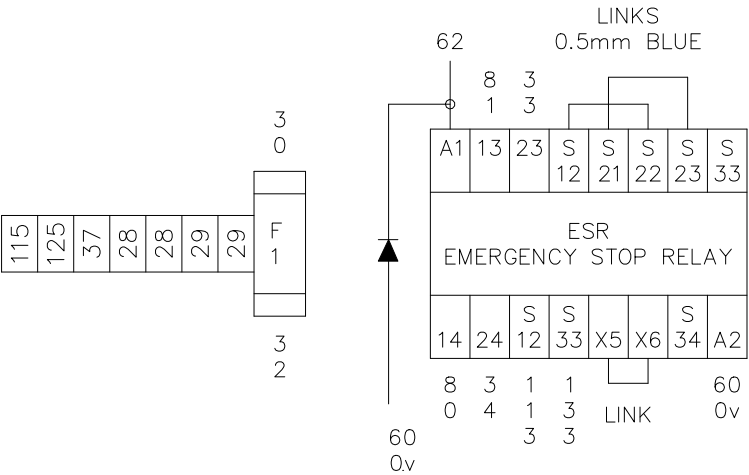
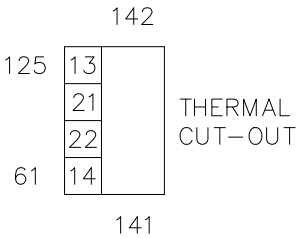
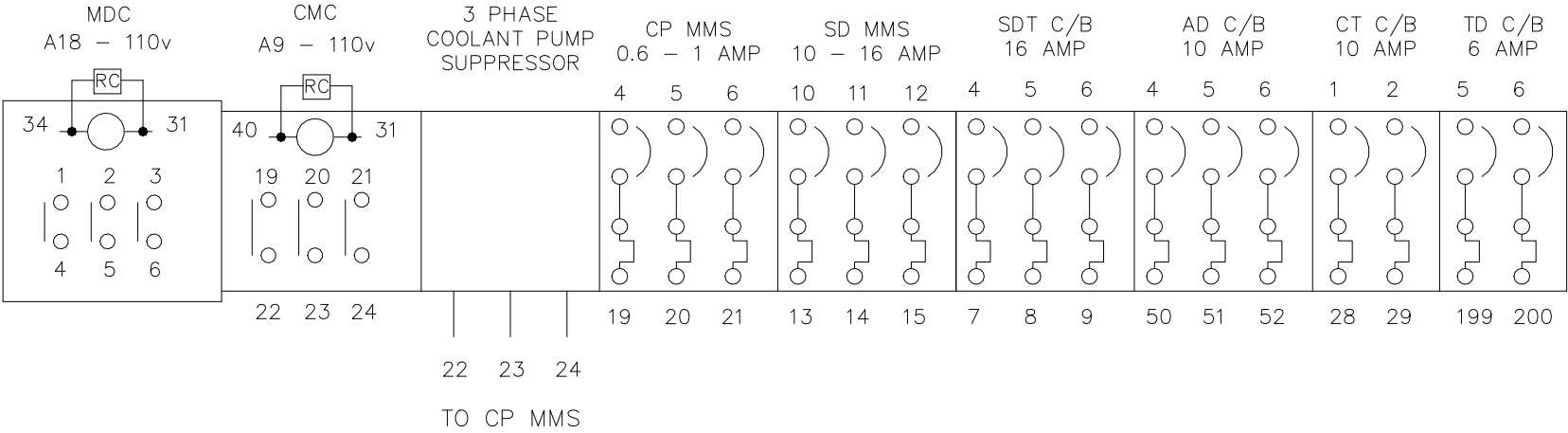


58 TERMINALS AND 9 EARTHS



FANUC
FILTER

53	54	55
2	4	6
1	3	5
50	51	52



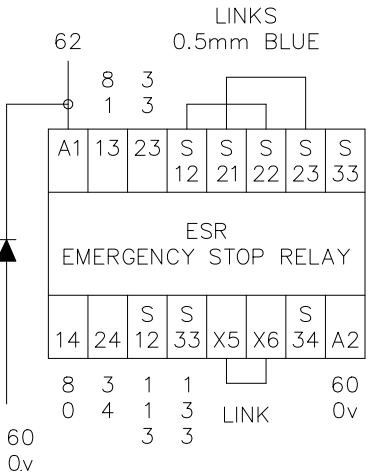
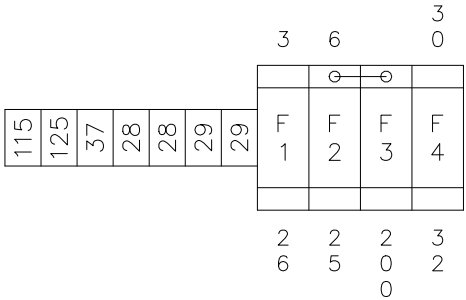
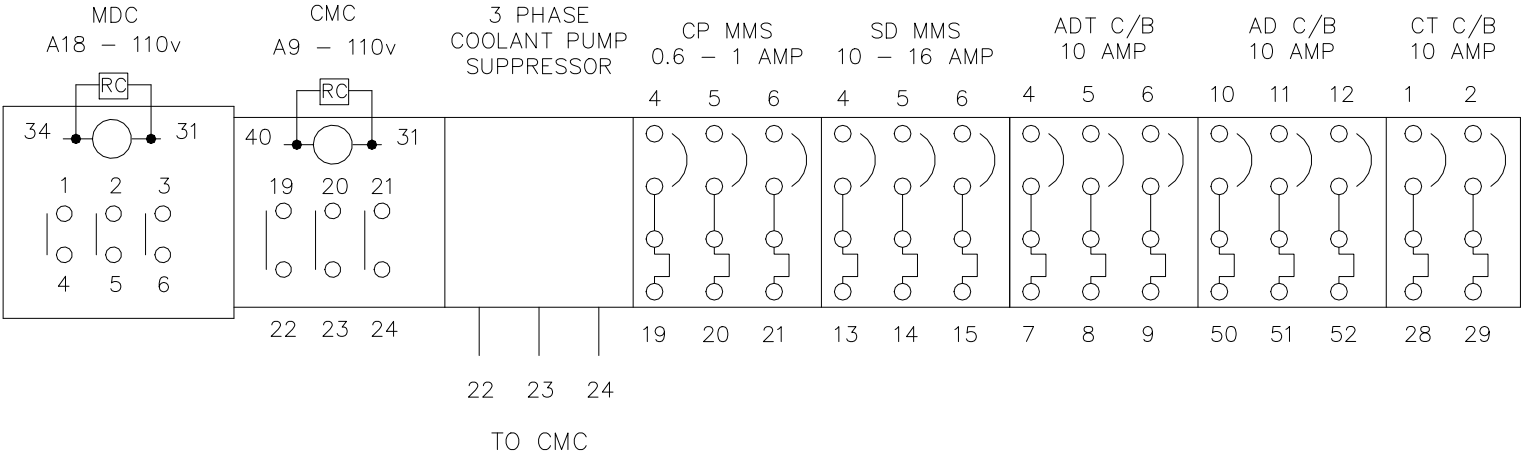
FUSE 1
3.15A
110v CONTROL

CYCLONE 21i
CONTACTOR AND
MMS WIRING

SHEET 15
CYCLONE
21i

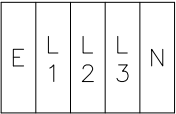
FANUC
FILTER

53	54	55
2	4	6
1	3	5
50	51	52



FUSES

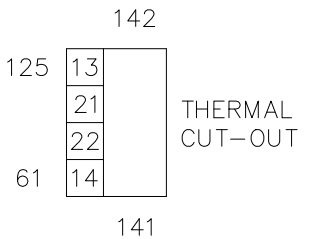
F1 3.15A	24v POWER SUPPLY
F2 3.15A	SPINDLE MOTOR FAN
F3 6.3A	TOOLPOST DRIVE
F4 3.15A	11v CONTROL



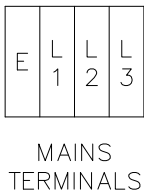
MAINS
TERMINALS

THERMAL
CUT-OUT

53	54	55
2	4	6
1	3	5
50	51	52

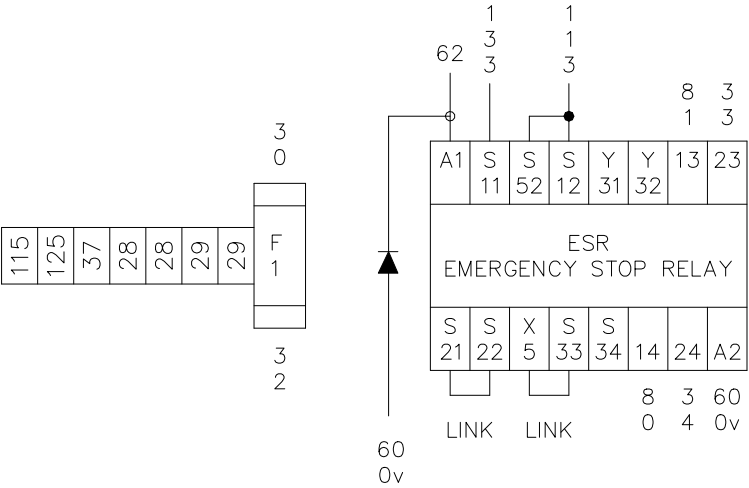
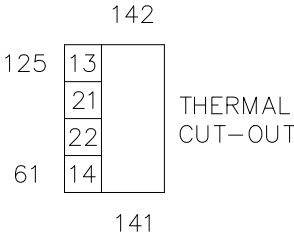
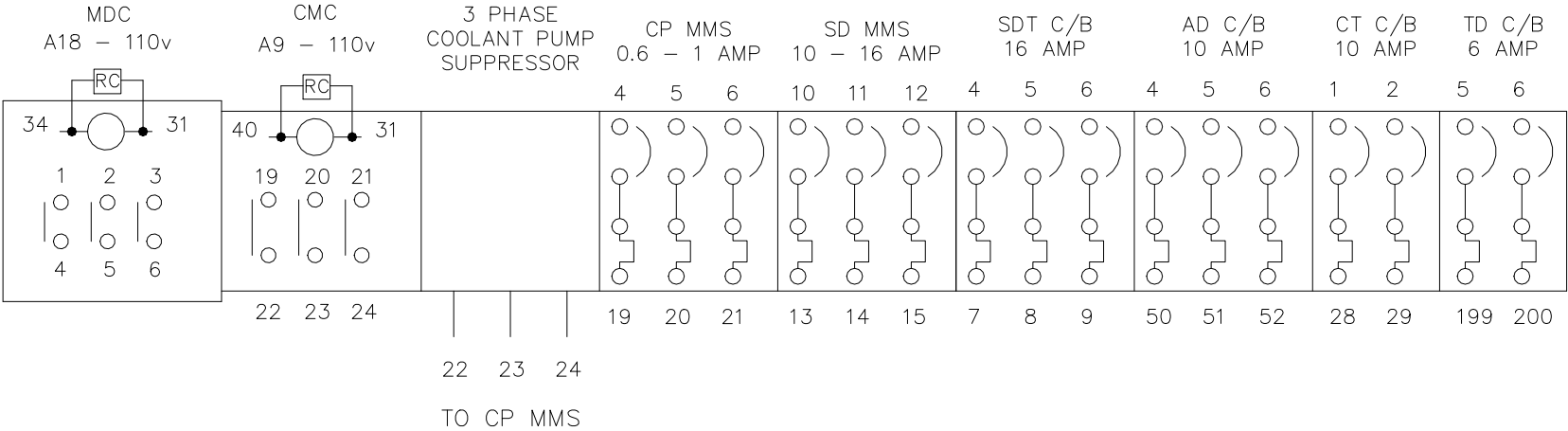


115	1	1
125	9	9
37	2	2
28	0	0
28	F	F
29	1	2
29	3	3
	2	2
	6	5
		2

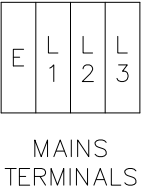


FANUC
FILTER

53	54	55
2	4	6
1	3	5
50	51	52



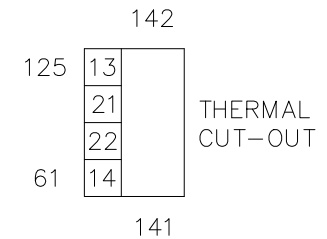
FUSE 1
3.15A
110v CONTROL



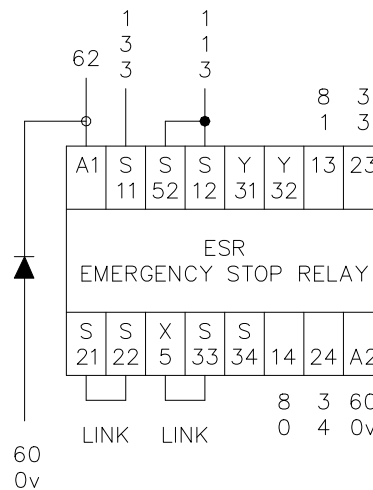
CYCLONE 21i
CONTACTOR AND
MMS WIRING

SHEET 15
CYCLONE
21i

53	54	55
2	4	6
1	3	5
50	51	52



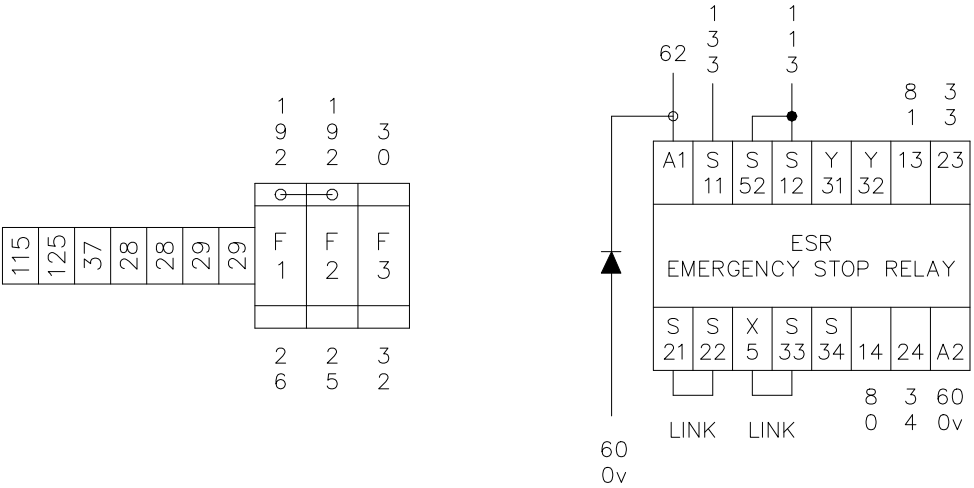
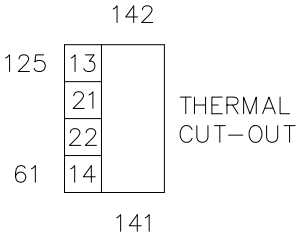
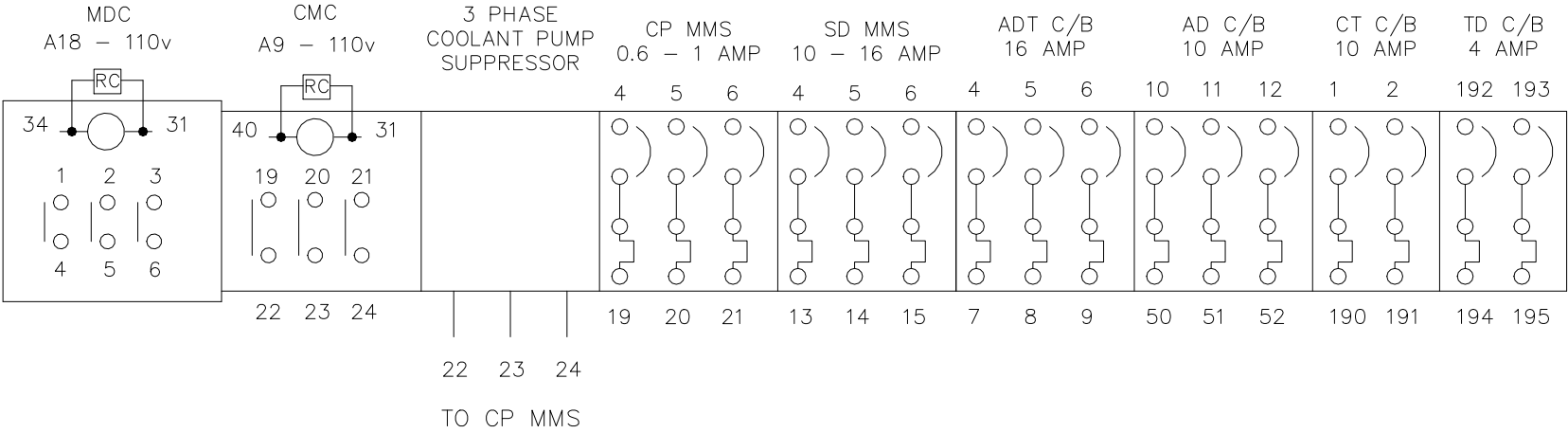
F1	3.15A	24v POWER SUPPLY
F2	3.15A	SPINDLE MOTOR FAN
F3	6.3A	TOOLPOST DRIVE
F4	3.15A	11v CONTROL



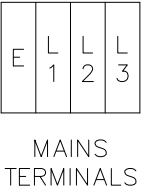
SHEET 15
CYCLONE
21i

FANUC
FILTER

53	54	55
2	4	6
1	3	5
50	51	52



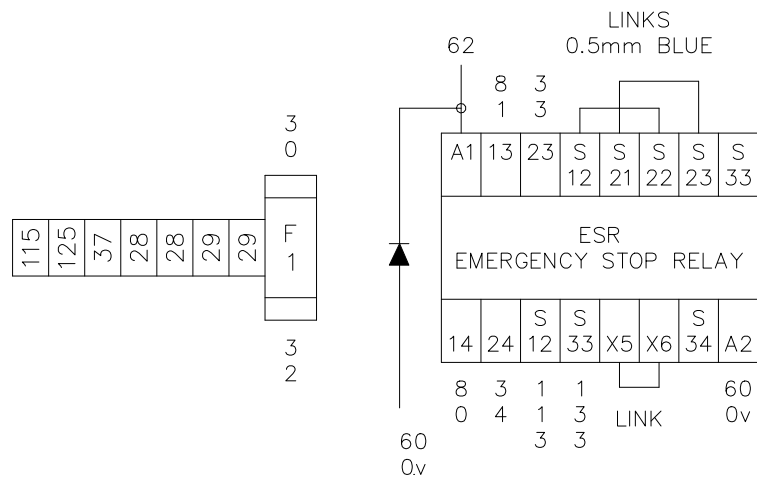
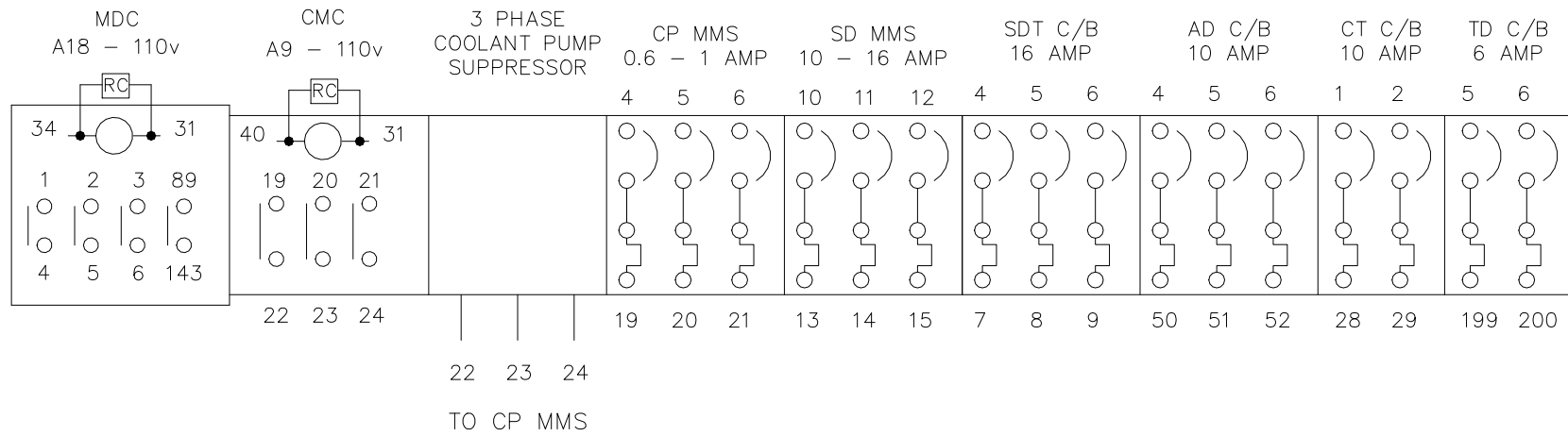
FUSES
F1 3.15A 24v POWER SUPPLY
F2 3.15A SPINDLE MOTOR FAN
F3 6.3A 11v CONTROL



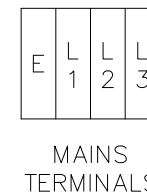
CYCLONE 21i
CONTACTOR AND
MMS WIRING

SHEET 15
CYCLONE
21i

53	54	55
2	4	6
1	3	5
50	51	52

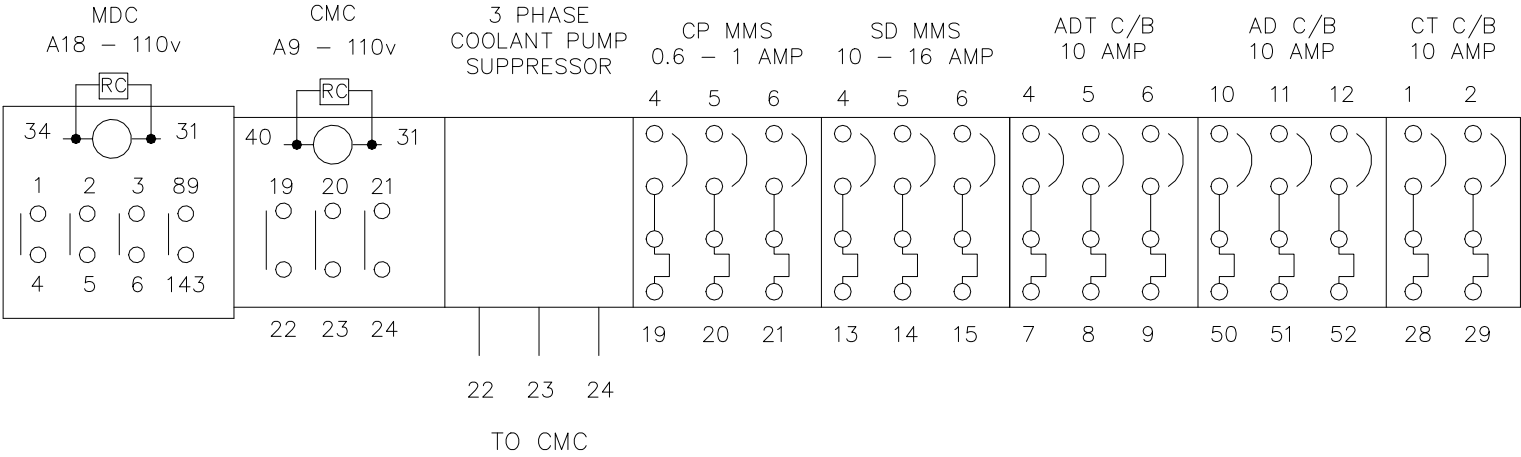


FUSE 1
3.15A
110v CONTROL

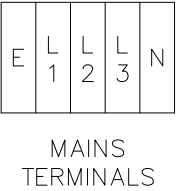
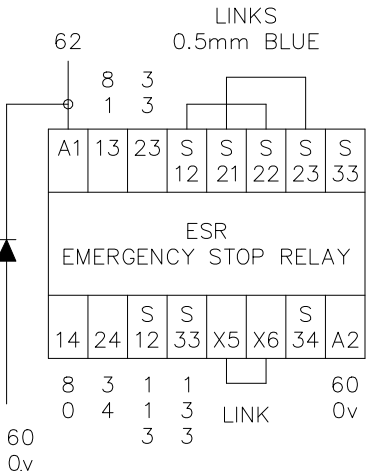
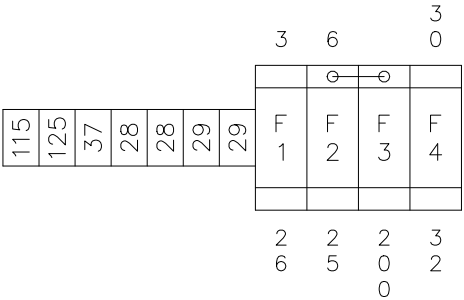


FANUC
FILTER

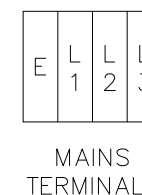
53	54	55
2	4	6
1	3	5
50	51	52



FUSES
F1 3.15A 24v POWER SUPPLY
F2 3.15A SPINDLE MOTOR FAN
F3 6.3A TOOLPOST DRIVE
F4 3.15A 11v CONTROL



53	54	55
2	4	6
1	3	5
50	51	52



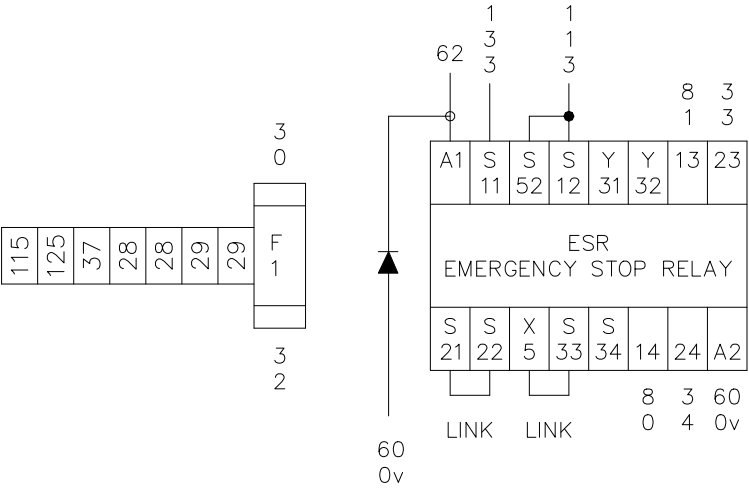
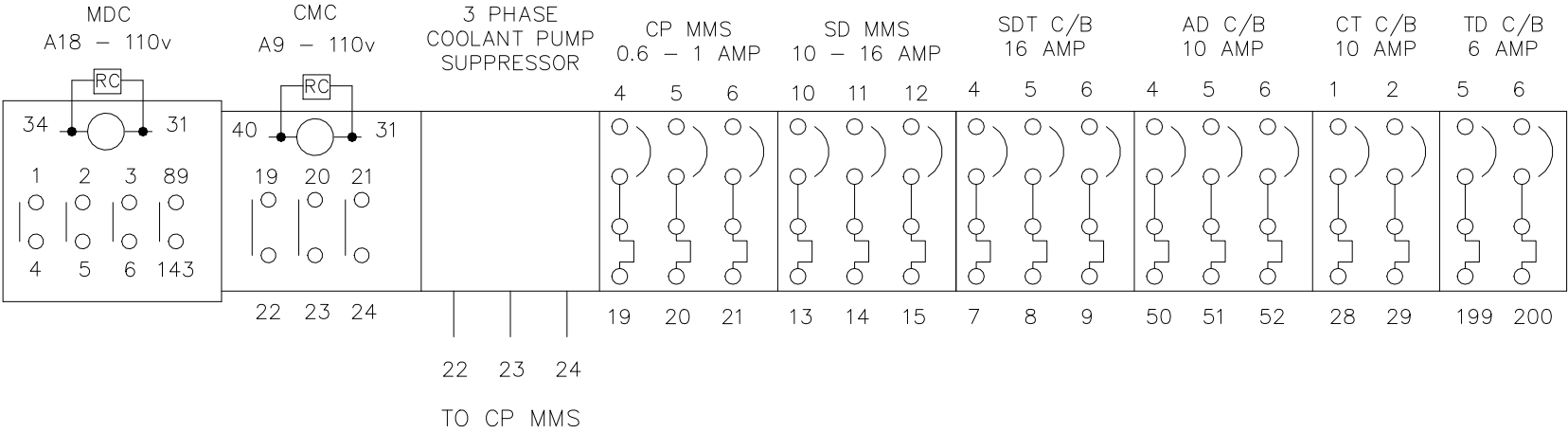
SHEET 15

CYCLONE

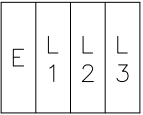
21i

FANUC
FILTER

53	54	55
2	4	6
1	3	5
50	51	52



FUSE 1
3.15A
110v CONTROL



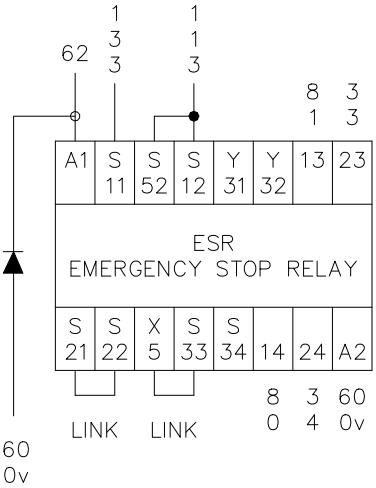
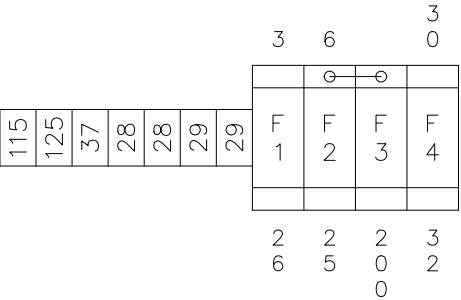
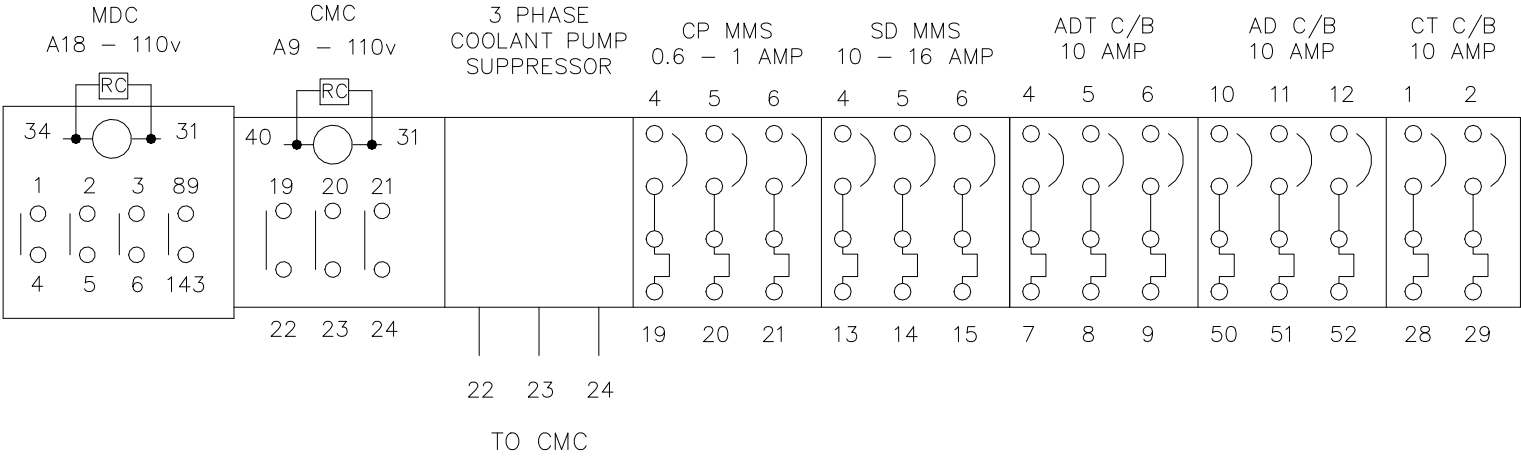
MAINS
TERMINALS

CYCLONE 21i
CONTACTOR AND
MMS WIRING

SHEET 15
CYCLONE
21i

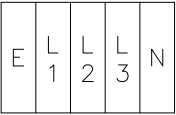
FANUC
FILTER

53	54	55
2	4	6
1	3	5
50	51	52



FUSES

F1 3.15A	24v POWER SUPPLY
F2 3.15A	SPINDLE MOTOR FAN
F3 6.3A	TOOLPOST DRIVE
F4 3.15A	11v CONTROL



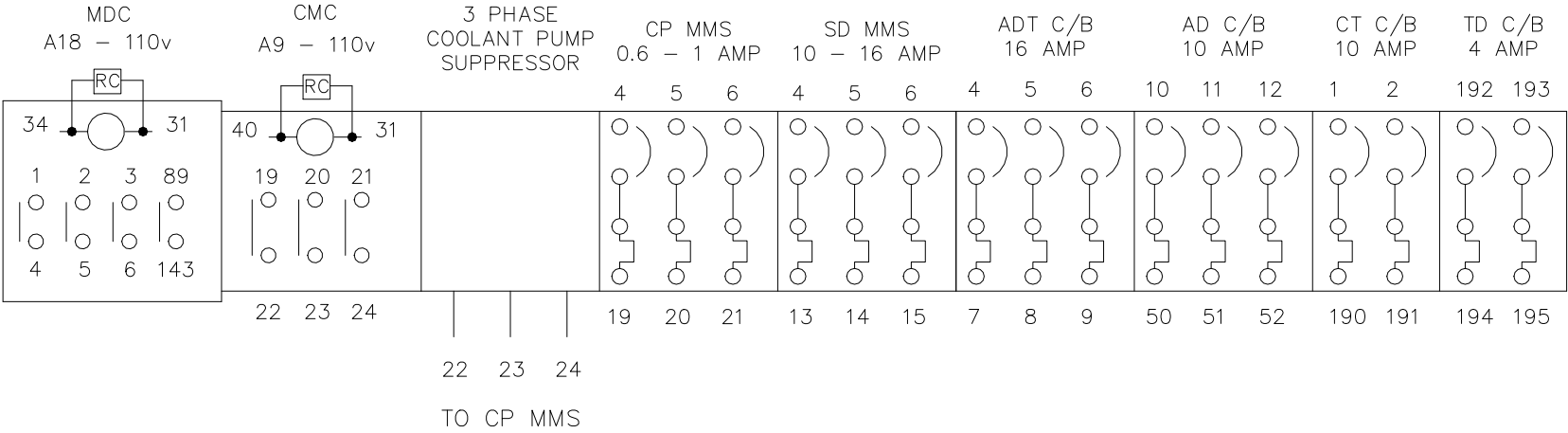
MAINS
TERMINALS

CYCLONE 21i
CONTACTOR AND
MMS WIRING

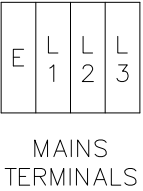
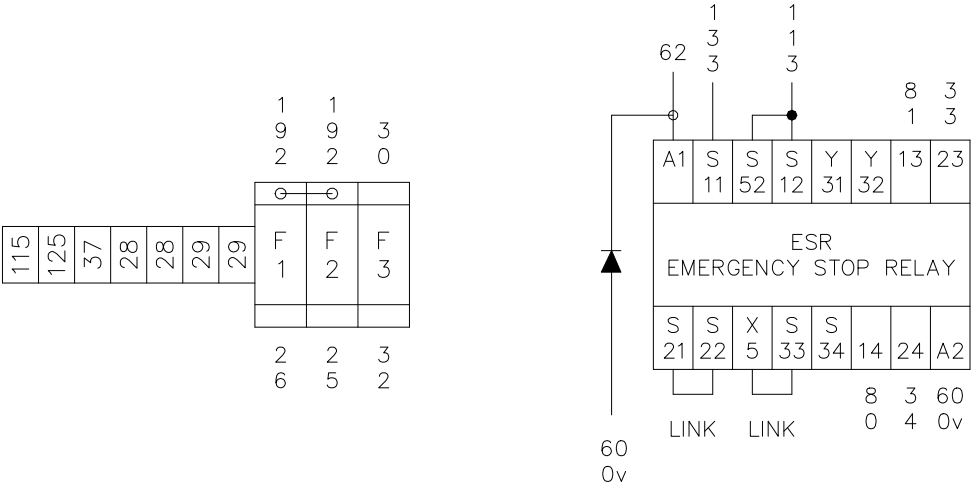
SHEET 15
CYCLONE
21i

FANUC
FILTER

53	54	55
2	4	6
1	3	5
50	51	52

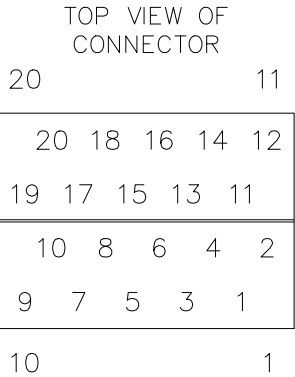
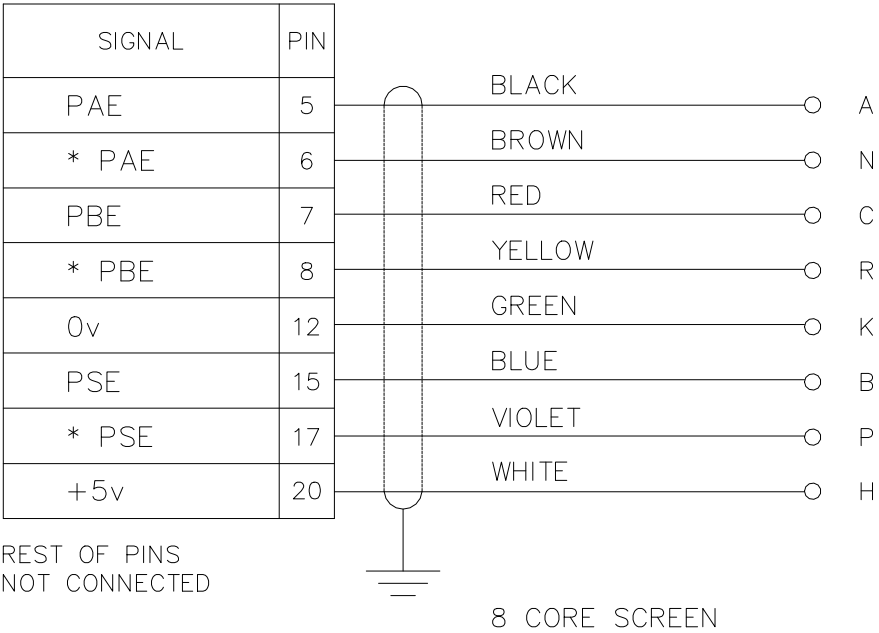


FUSES
F1 3.15A 24v POWER SUPPLY
F2 3.15A SPINDLE MOTOR FAN
F3 6.3A 11v CONTROL

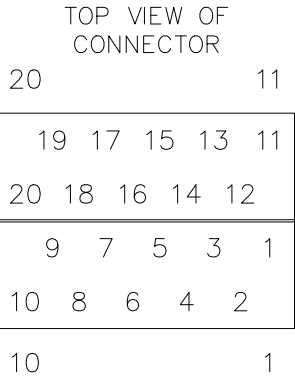


CONTROL
JA41 20 WAY FEMALE

SPINDLE ENCODER



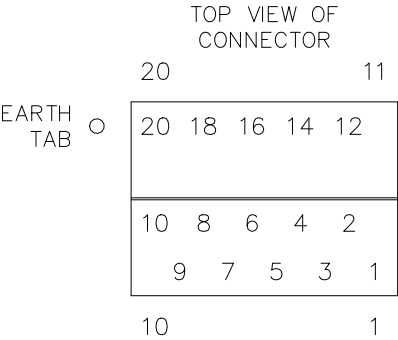
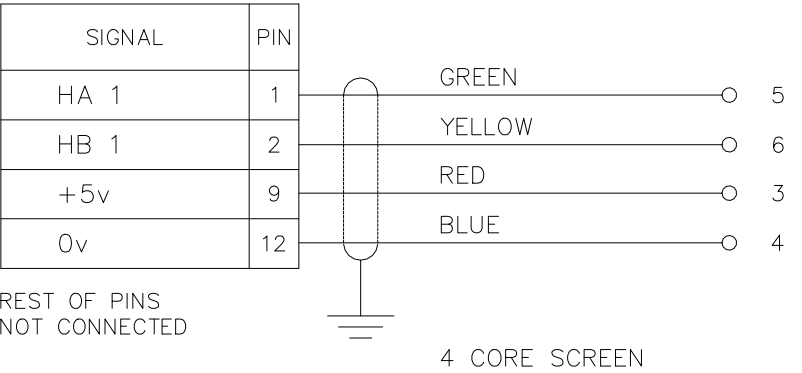
4 ROW BLACK
CONNECTOR
(LONG PINS)



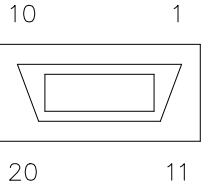
4 ROW BLACK
CONNECTOR
(SHORT PINS)

OPERATORS PANEL
JA3 20 WAY FEMALE

HANDWHEEL



3 ROW BROWN
CONNECTOR



HEADSTOCK
CONNECTION BOX

EARTH	E	GREEN	GUARD FULLY OPEN SWITCH
BROWN	61	RED	
BLUE	126	BLUE	
BLACK	61	RED	GUARD SWITCH
BLUE	119	BLUE	

IF GUARD MASTER IS NOT FITTED
WIRE GUARD SWITCH AS SHOWN ABOVE

COOLANT PUMP

BLUE 22
BLACK 23
BROWN 24
EARTH E
1mm FLEX
(WIRE IN DELTA)

WORKLIGHT

BLACK 37
BLACK 31
EARTH E
0.5mm SINGLES

LUBE PUMP

BLACK 41
BLACK 31
EARTH E
1mm FLEX

LUBE FLOAT SWITCH

RED 61
BLUE 122
2 CORE SCREEN

SPINDLE MOTOR (WIRE IN DELTA)
1mm BLACK 4 CORE SCREEN

SPINDLE MOTOR FAN (SINGLE PHASE)
1mm 3 CORE FLEX

ADD SUPPRESSOR (RS 210–364)

SPINDLE MOTOR THERMAL
2 CORE SCREEN

INTERLOCK GUARD SWITCH
WITH SOLENOID

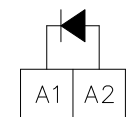
(REMOVE LINK 12 – 41)

GUARD
SWITCH
CONTACTS

61	BLACK	11	12	BROWN	119
89	RED	21	22	YELLOW	90
61	GREEN	33	34	BLUE	88

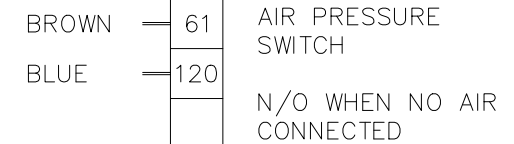
8 CORE TO
TERMINALS

GUARD
SOLENOID



96 60

WHITE VIOLET



CYCLONE 21i
MACHINE WIRING
DIAGRAM

SHEET 17

CYCLONE

21i

HEADSTOCK
CONNECTION BOX

EARTH	E	GREEN	GUARD FULLY OPEN SWITCH
BROWN	61	RED	
BLUE	126	BLUE	
BLACK	61	RED	GUARD SWITCH
BLUE	119	BLUE	

IF GUARD MASTER IS NOT FITTED
WIRE GUARD SWITCH AS SHOWN ABOVE

INTERLOCK GUARD SWITCH
WITH SOLENOID

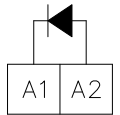
(REMOVE LINK 12 – 41)

GUARD
SWITCH
CONTACTS

61	BLACK	11	12	BROWN	119
89	RED	21	22	YELLOW	90
61	GREEN	33	34	BLUE	88

8 CORE TO
TERMINALS

GUARD
SOLENOID



96 60

WHITE VIOLET

COOLANT PUMP

BLUE 22
BLACK 23
BROWN 24
EARTH E
1mm FLEX
(WIRE IN STAR)

WORKLIGHT

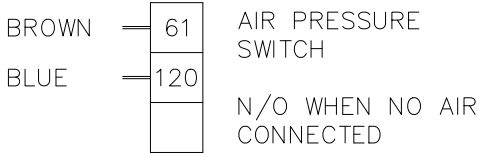
BLACK 37
BLACK 31
EARTH E
0.5mm SINGLES

LUBE PUMP

BLACK 41
BLACK 31
EARTH E
1mm FLEX

LUBE FLOAT SWITCH

RED 61
BLUE 122
2 CORE SCREEN



SPINDLE MOTOR (WIRE IN DELTA)
1mm BLACK 4 CORE SCREEN

SPINDLE MOTOR FAN (SINGLE PHASE)
1mm 3 CORE FLEX

ADD SUPPRESSOR (RS 210–364)

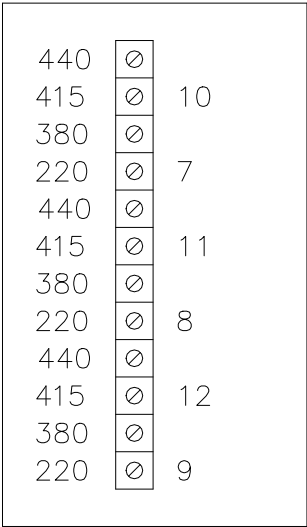
SPINDLE MOTOR THERMAL
2 CORE SCREEN

CYCLONE 21i
MACHINE WIRING
DIAGRAM

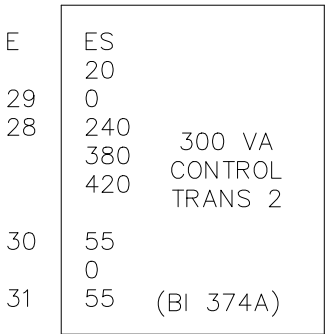
SHEET 17

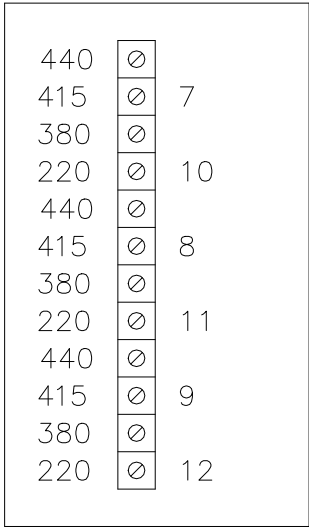
CYCLONE

21i

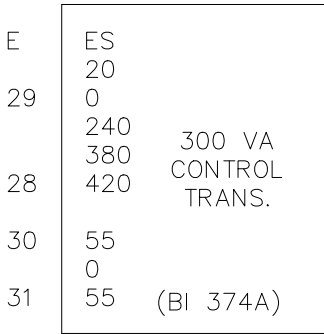


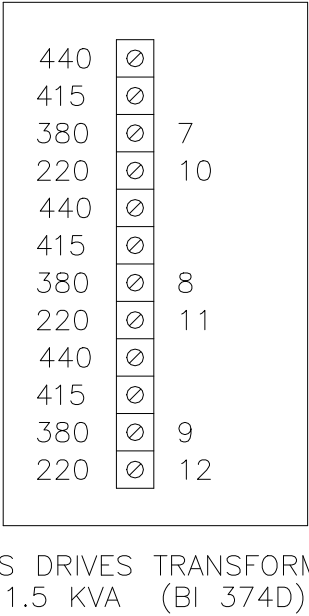
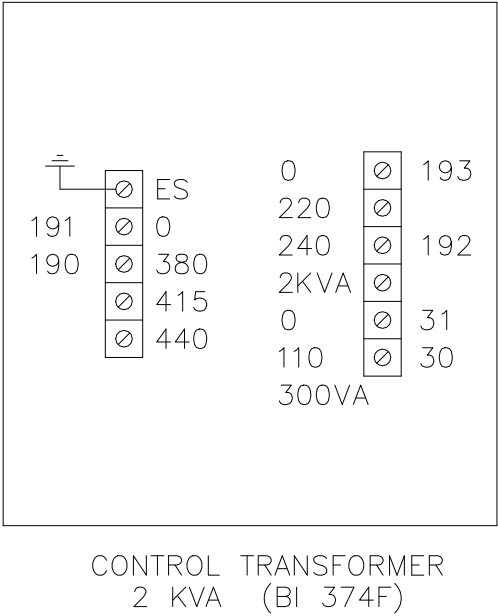
SPINDLE DRIVE TRANSFORMER
4 KVA (BI 374B)

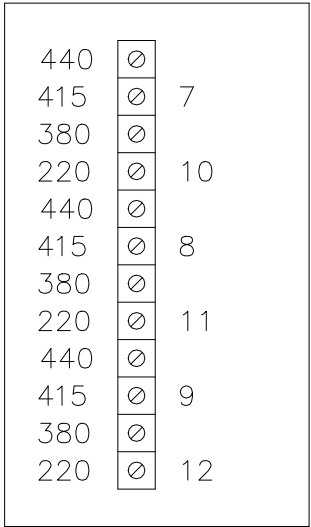




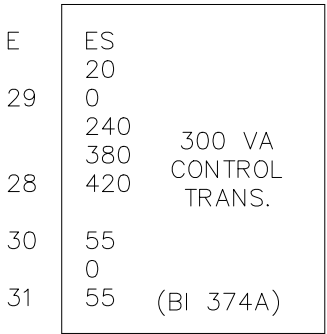
AXIS DRIVES TRANSFORMER
1.5 KVA (BI 374D)





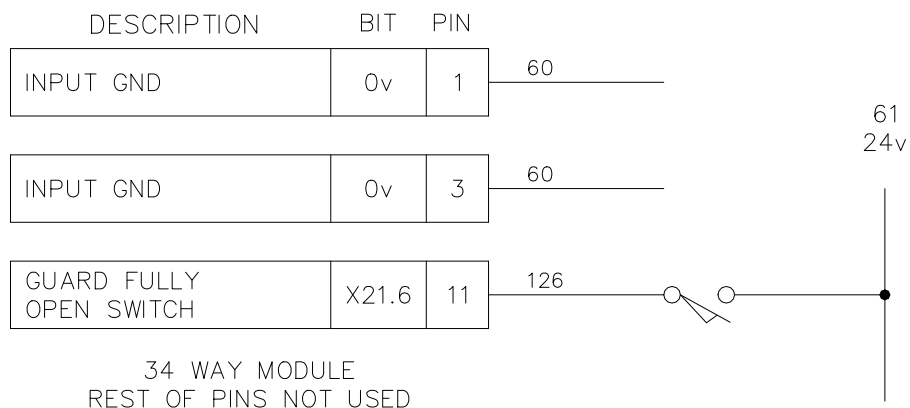


AXIS DRIVES TRANSFORMER
1.5 KVA (BI 374D)

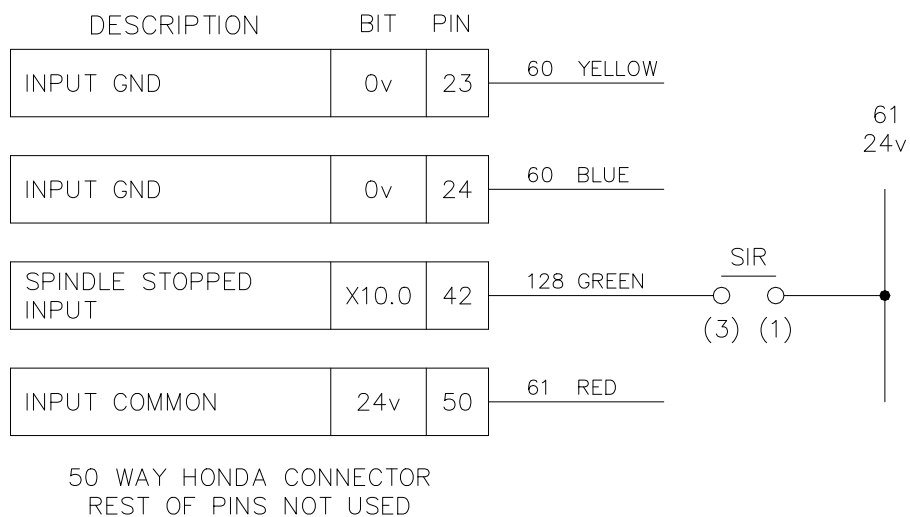


RIBBON FROM
FANUC PUSHBUTTON PANEL
CM58
SEE SHEET 12

ADDITIONAL INPUT MODULE
(MURRELEKTRONIK)

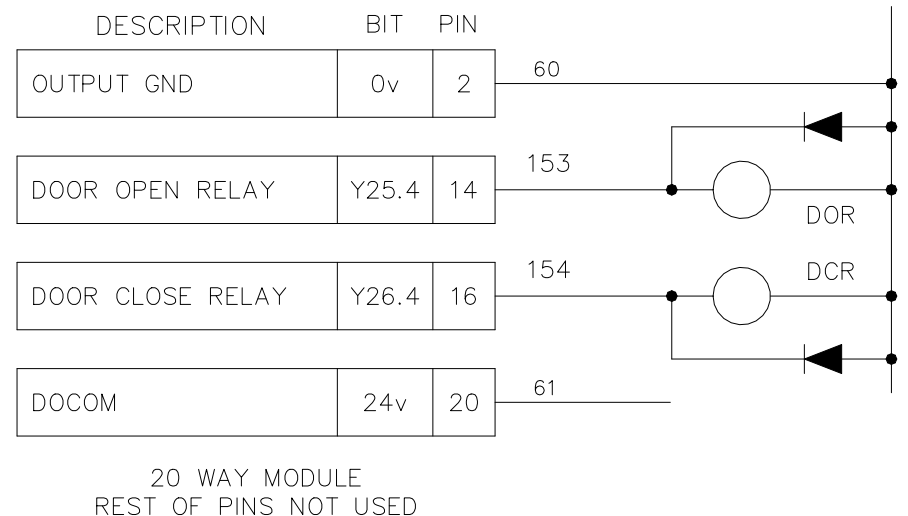


SECOND I/O MODULE
(FANUC)



RIBBON FROM
FANUC PUSHBUTTON PANEL
CE59
SEE SHEET 12

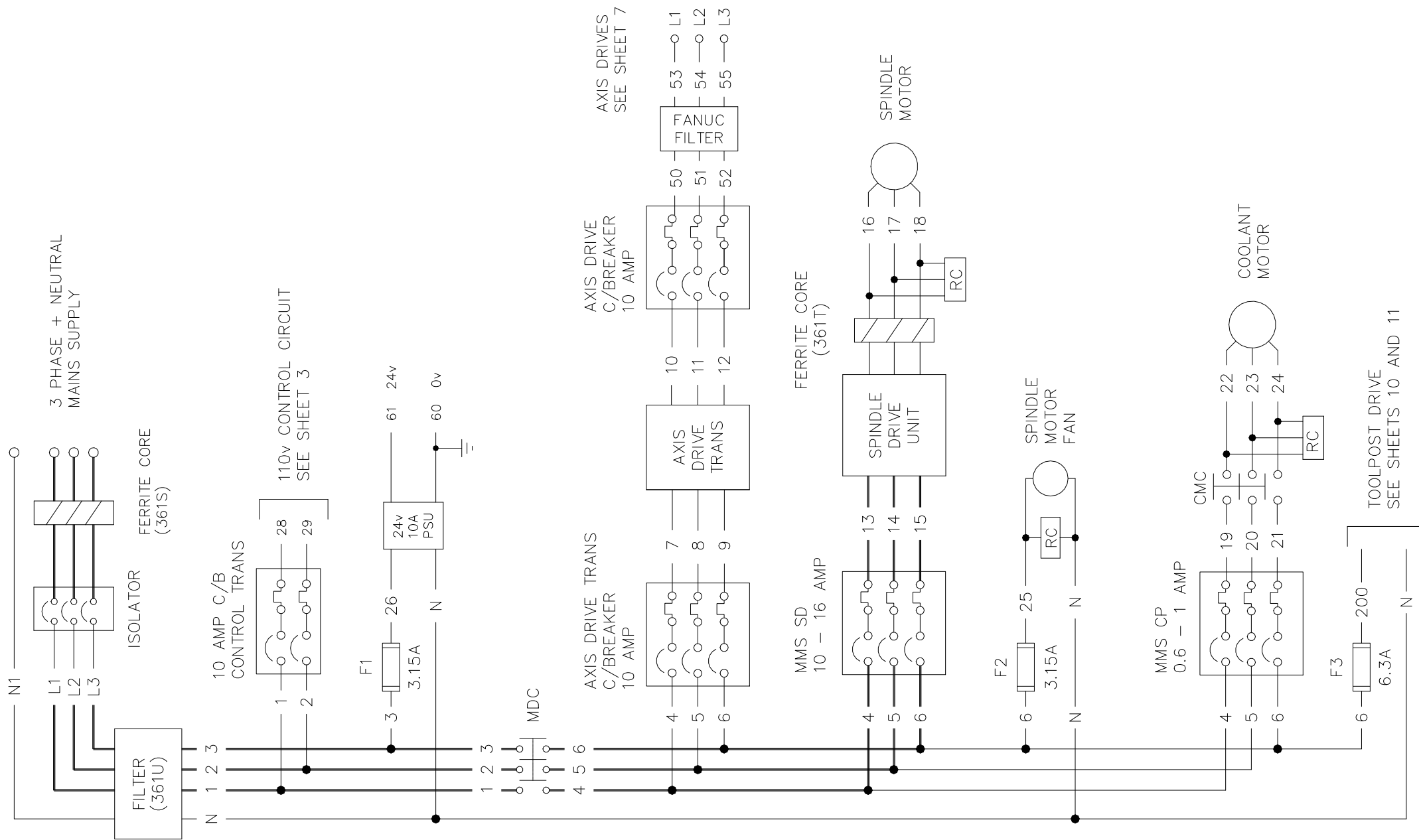
ADDITIONAL OUTPUT MODULE
(MURRELEKTRONIK)



CYCLONE 21i
ADDITIONAL I/O
MODULE WIRING

SHEET 19

CYCLONE



NOTE : 2.5mm BLACK FROM
MAINS TERMINAL TO SPINDLE DRIVE UNIT
1.5mm BLACK FOR REST

RC

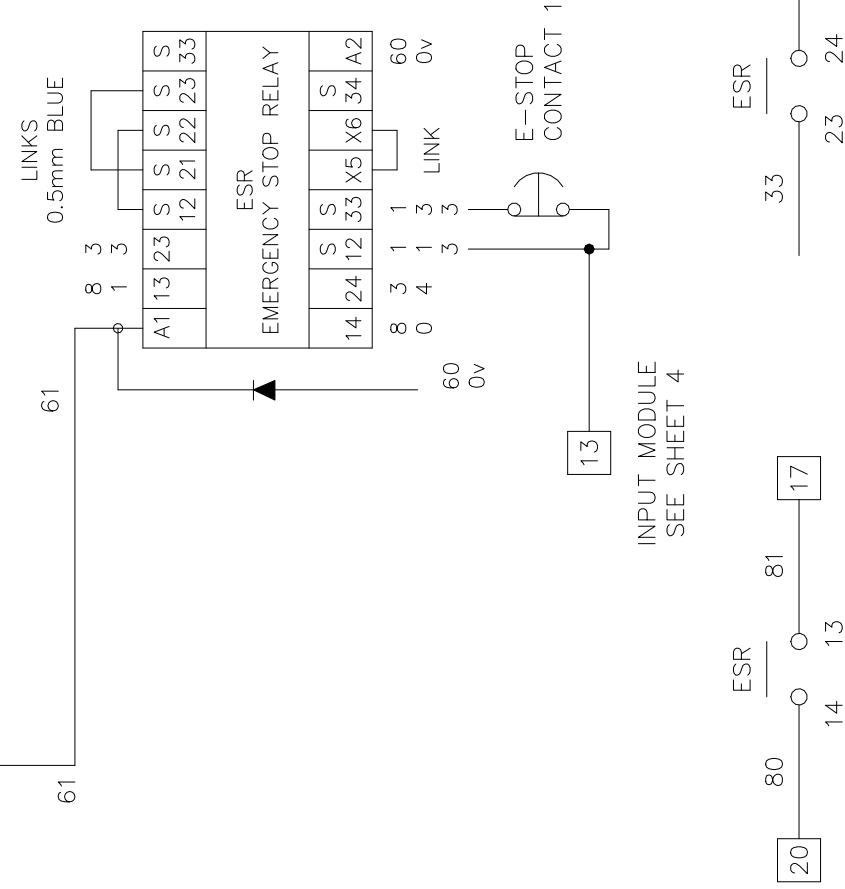
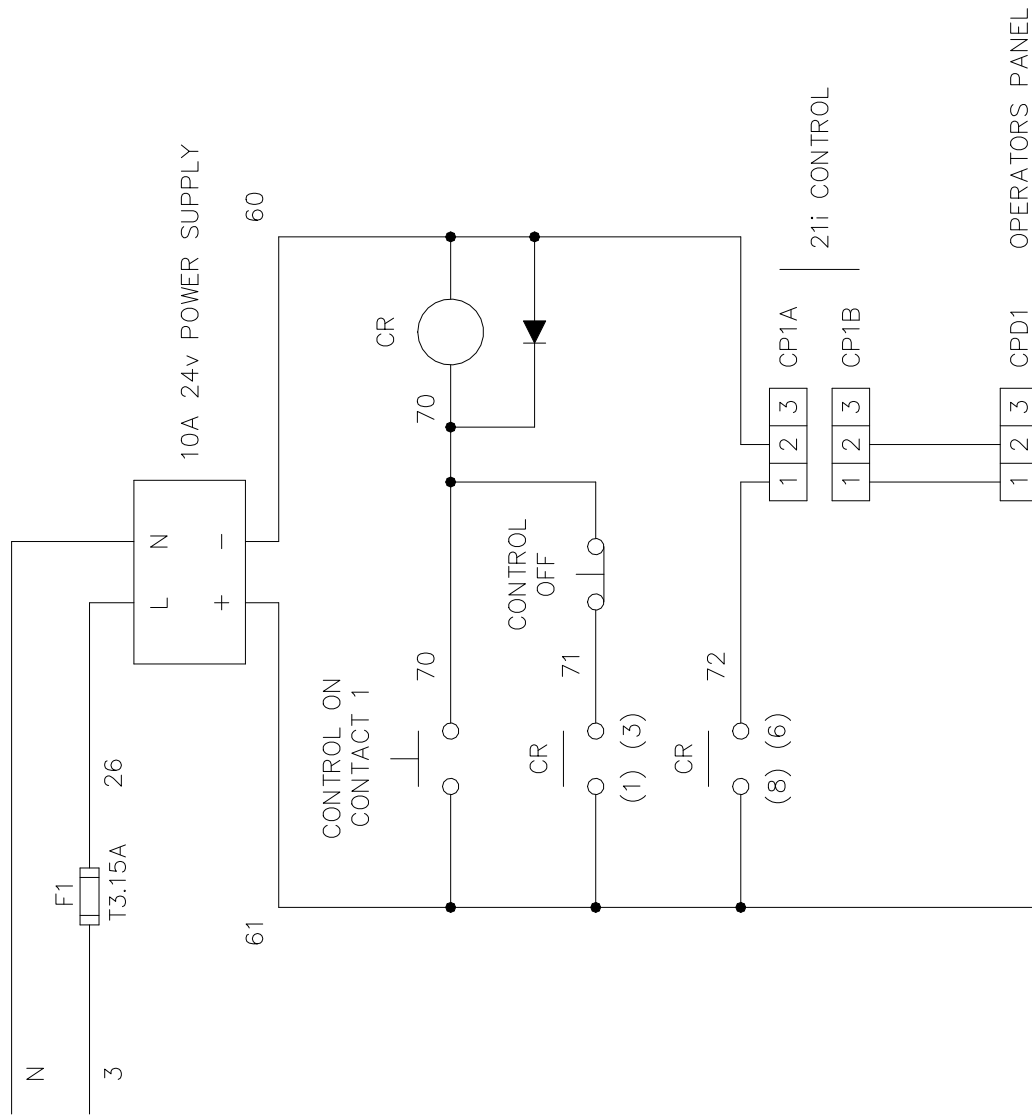
SPINDLE MOTOR SUPPRESSOR (430D)
COOLANT MOTOR SUPPRESSOR (430C)
SPINDLE MOTOR FAN SUPPRESSOR (RS 210-364)

CYCLONE 21i
MAIN POWER
SCHEMATIC

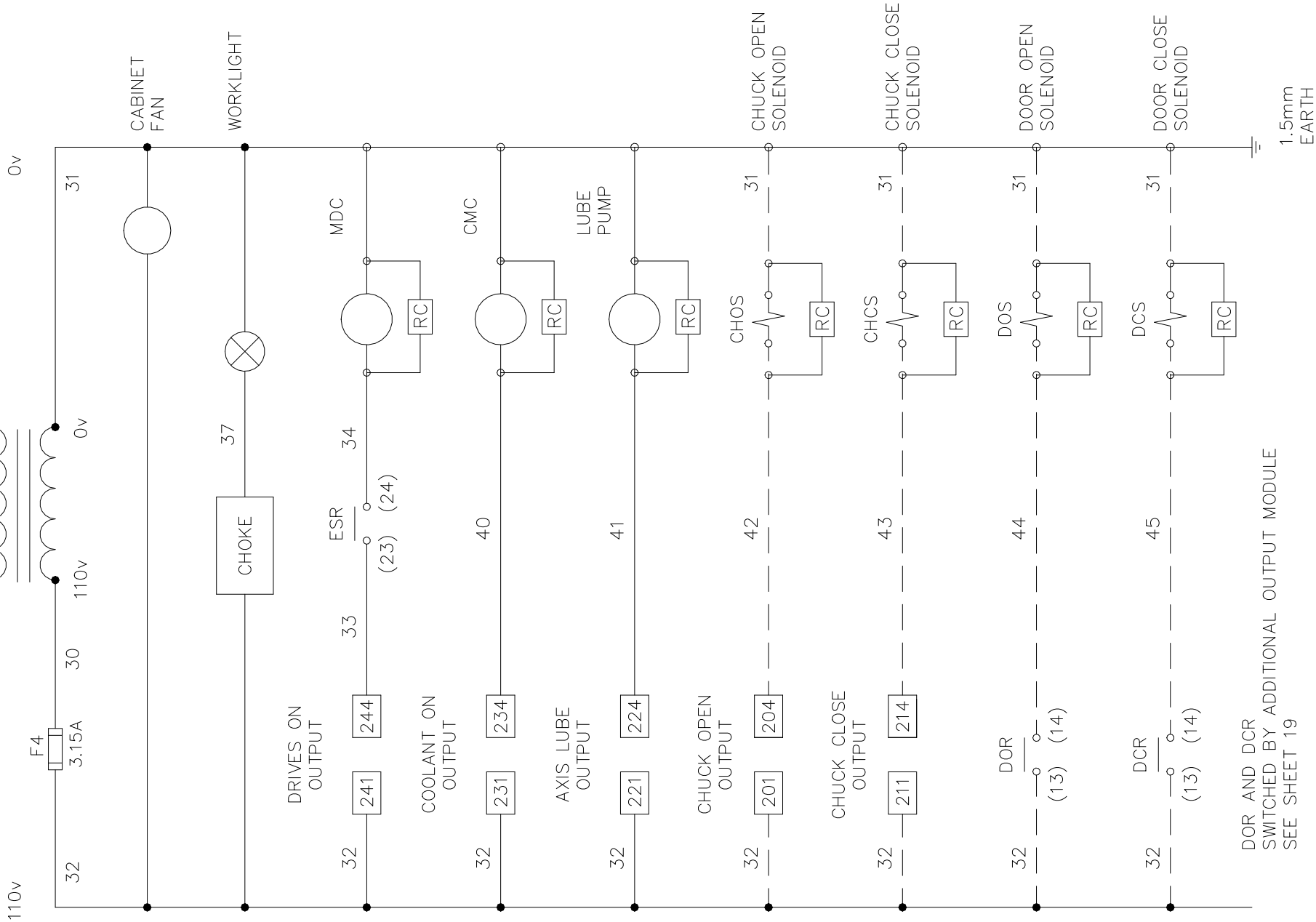
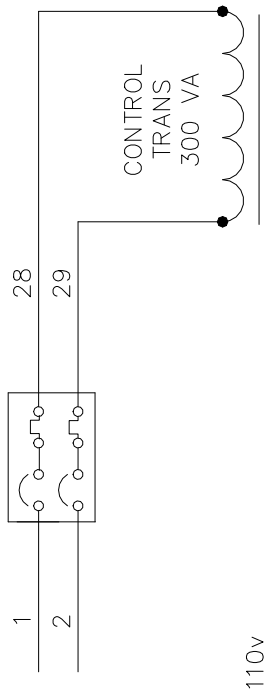
SHEET 1

CYCLONE

21i



10 AMP C/B
CONTROL TRANS



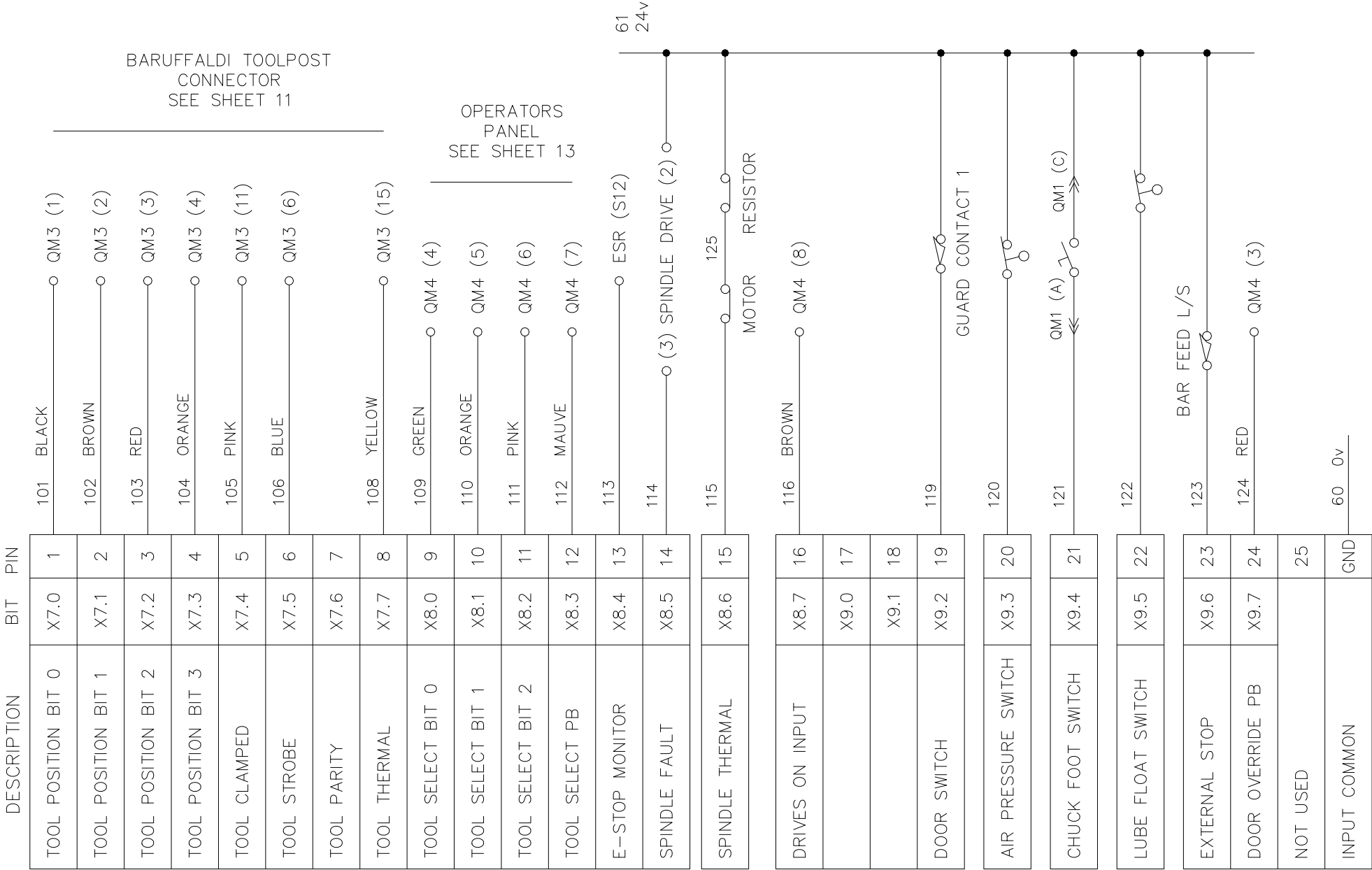
DOR AND DCR
SWITCHED BY ADDITIONAL OUTPUT MODULE
SEE SHEET 19

1.5mm
EARTH

OUTPUT MODULE DETAILS
SEE PAGES 5 AND 6

CYCLONE 21i 110v SCHEMATIC	SHEET 3
	CYCLONE
	21i

INPUT MODULE



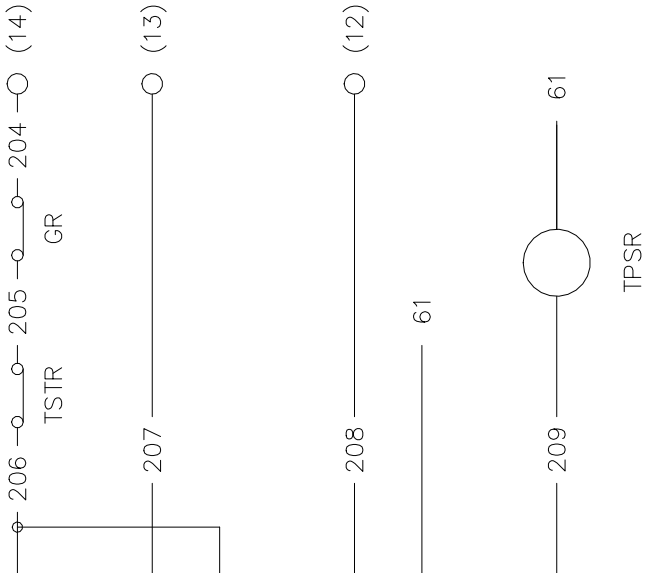
QM1 8 WAY CONNECTOR (CHUCK FOOT SWITCH)
QM2 8 WAY CONNECTOR (AUXILIARIES)
QM3 24 WAY CONNECTOR (BARUFFALDI TOE80 TURRET)
QM4 24 WAY CONNECTOR (OPERATORS PANEL)

OUTPUT MODULE

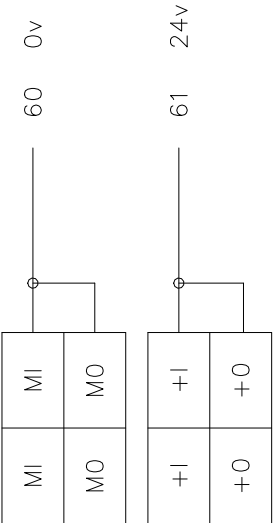
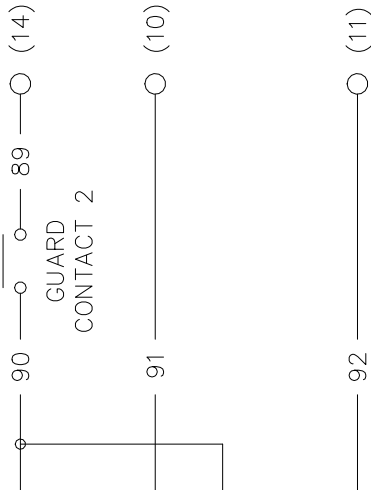
DESCRIPTION TERMINAL

TURRET FORWARD OUTPUT Y 7.0	101
TURRET REVERSE OUTPUT Y 7.1	104
	111
TURRET SHOT PIN OUTPUT Y 7.2	114
	121
OUTPUT Y 7.3	124
	131
SPINDLE FORWARD OUTPUT Y 7.4	134
	141
SPINDLE REVERSE OUTPUT Y 7.5	144
	151
OUTPUT Y 7.6	154
	161
LOAD NEW BAR OUTPUT Y 7.7	164
	171
	174

TOOLPOST DRIVE TERMINALS
SEE SHEET 10



SPINDLE DRIVE TERMINALS
SEE SHEET 9



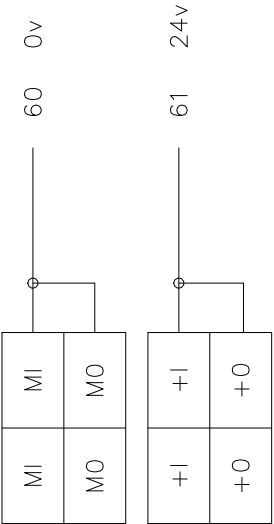
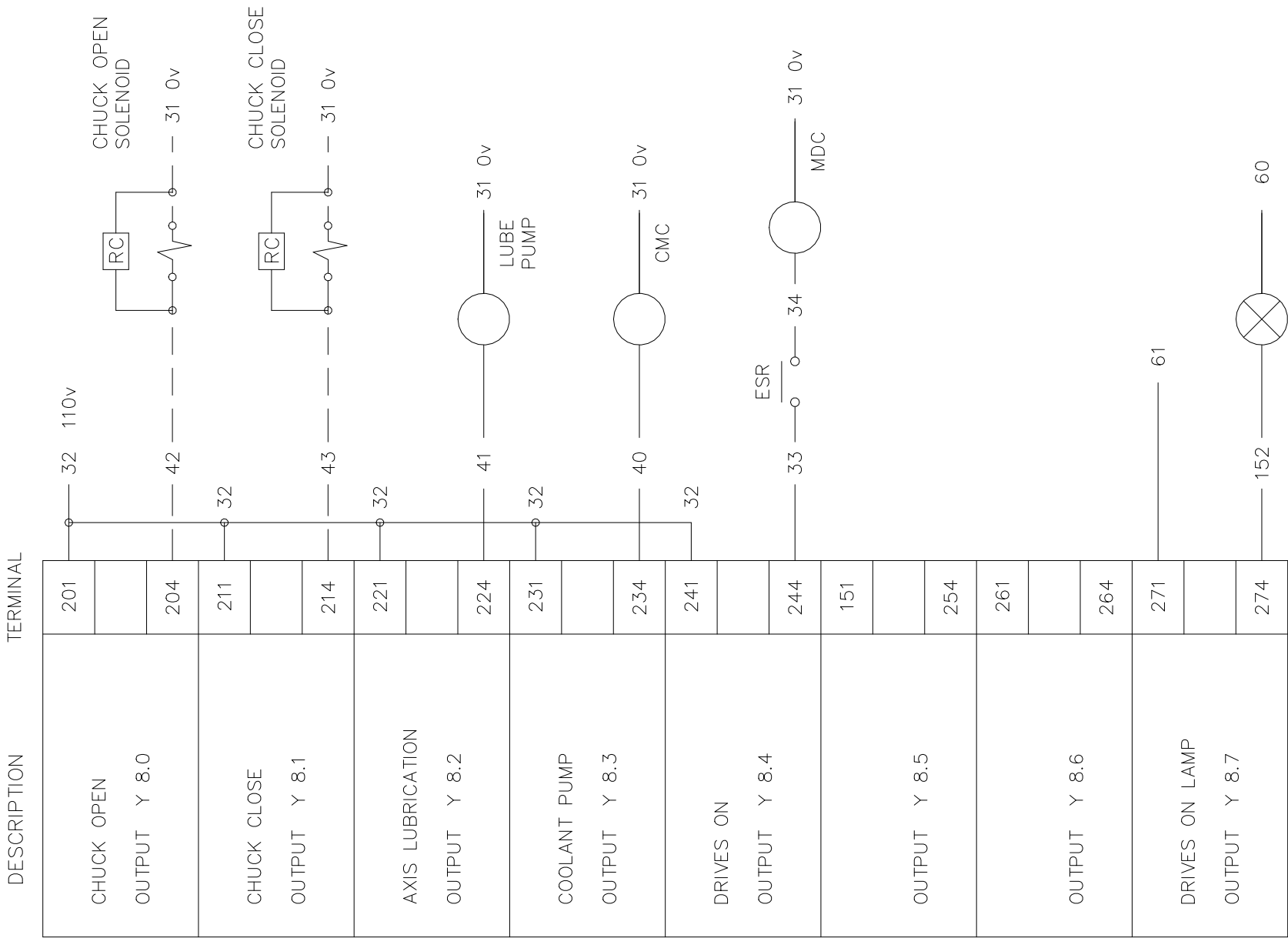
CYCLONE 21i
OUTPUT MODULE
OUTPUTS 0 - 7

SHEET 5

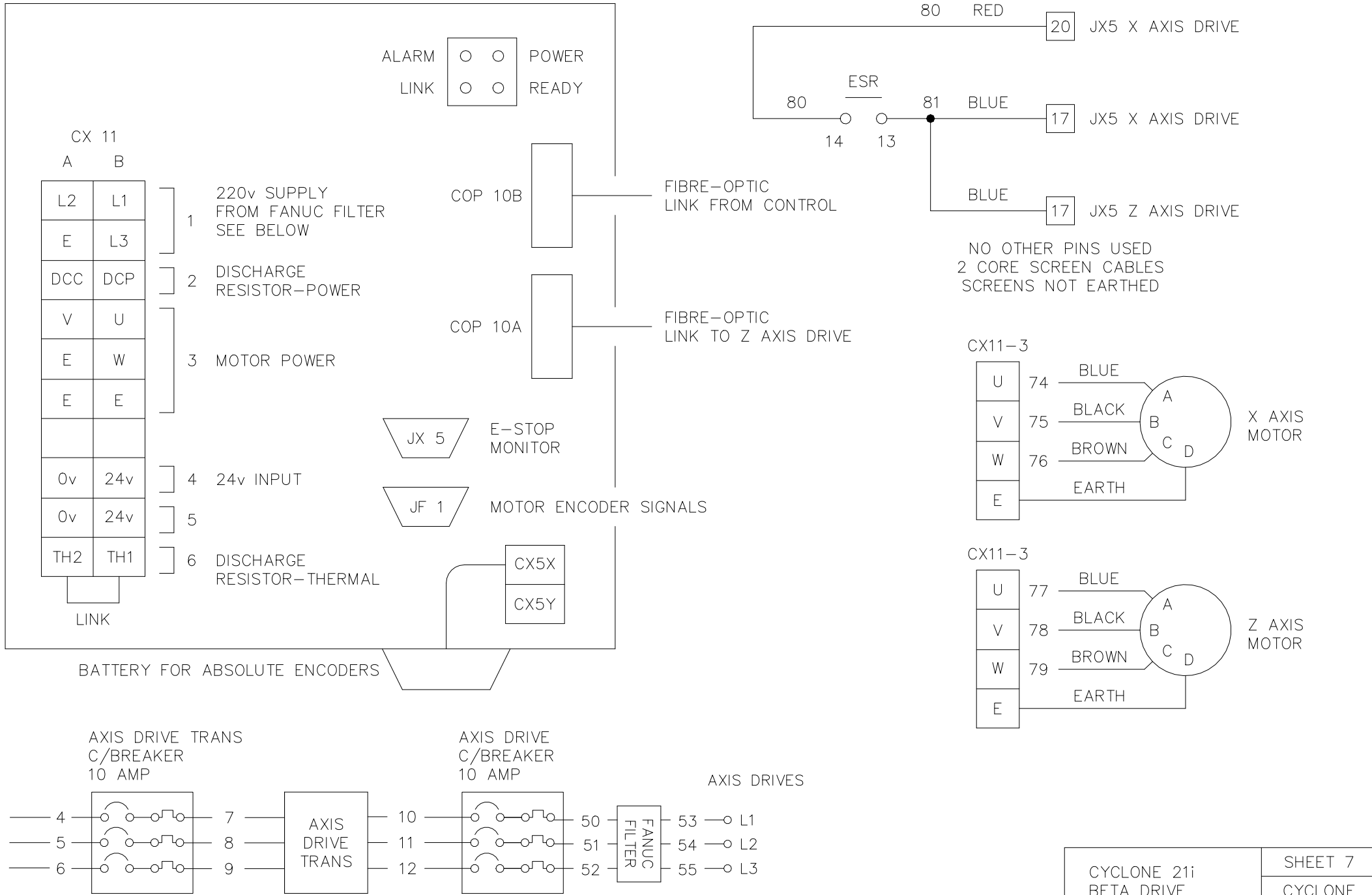
CYCLONE

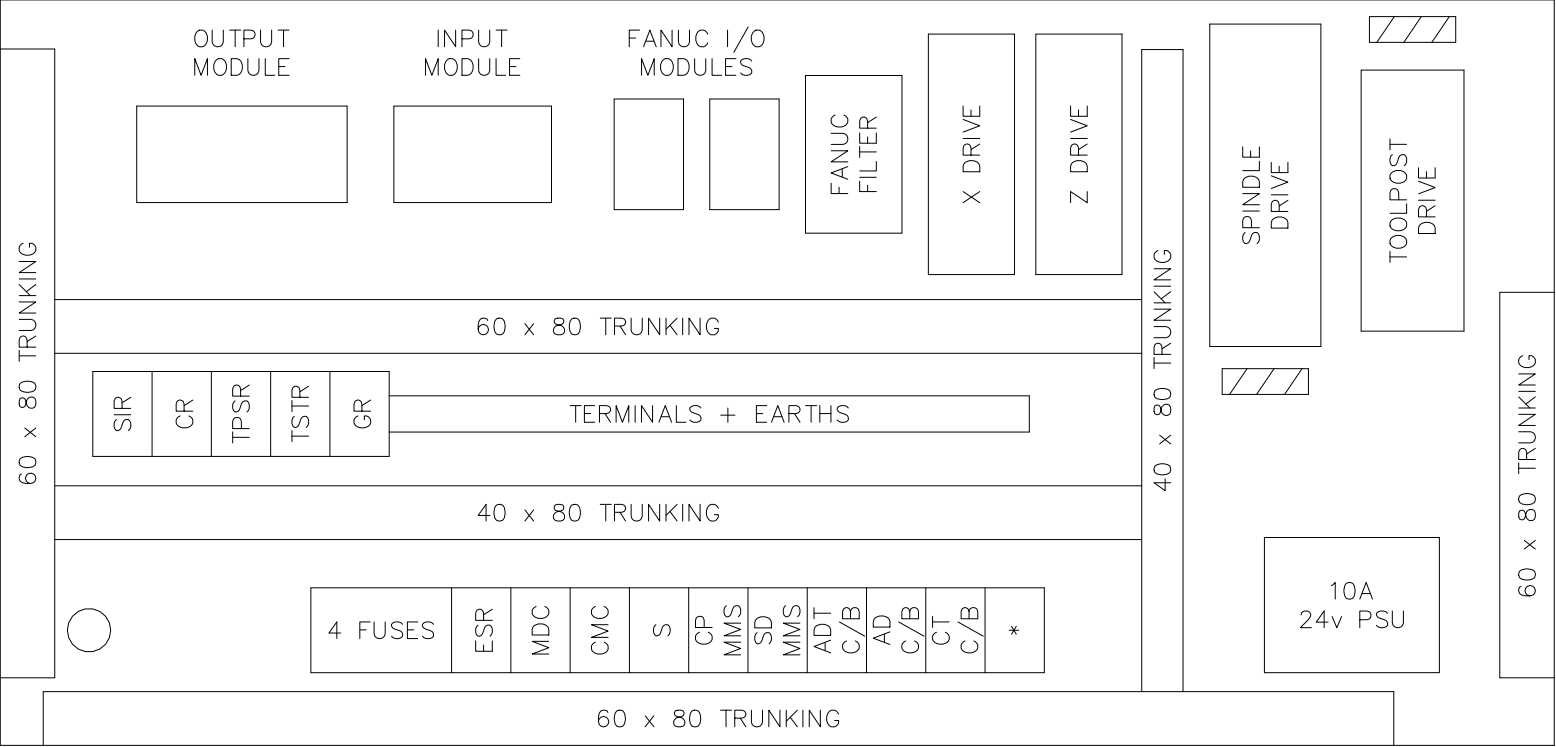
21i

OUTPUT MODULE



AXIS DRIVE CONNECTOR LAYOUT





- INPUT MODULE
SEE SHEET 4
- OUTPUT MODULE
SEE SHEETS 5 AND 6
- AXIS DRIVES
SEE SHEET 7
- SPINDLE DRIVE
SEE SHEET 9
- TOOLPOST DRIVE
SEE SHEET 10
- TERMINAL WIRING
SEE SHEET 14
- MMS AND C/B
SEE SHEET 15
- TRANSFORMER PLATE
SEE SHEET 18
- ADDITIONAL I/O UNITS
SEE SHEET 19

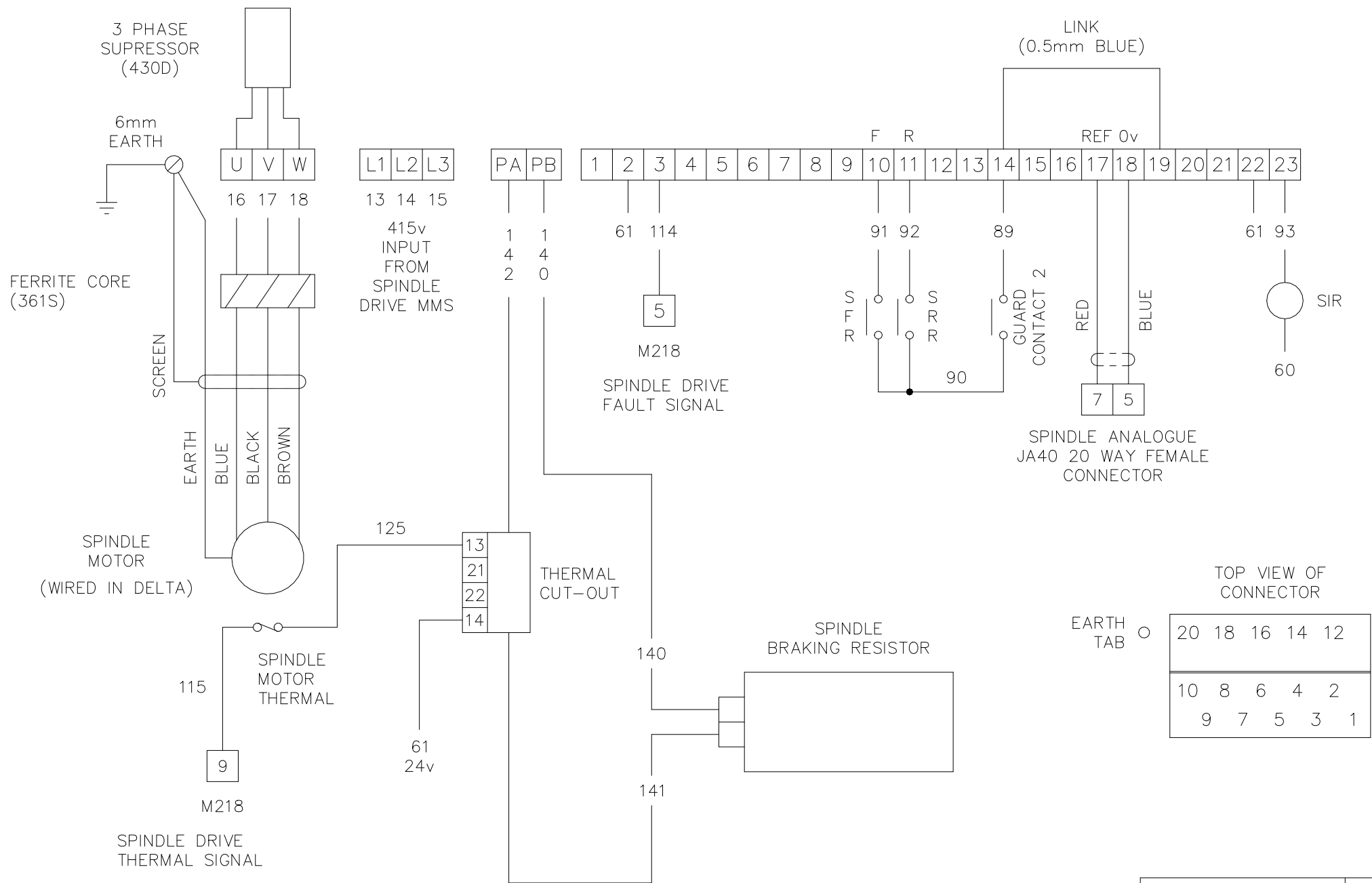
* THERMAL
CUT-OUT

WORKLIGHT
CHOKE

MAIN
FILTER

E	L 1	L 2	L 3	N
---	--------	--------	--------	---

MAINS
TERMINALS
415v 3 PHASE + N

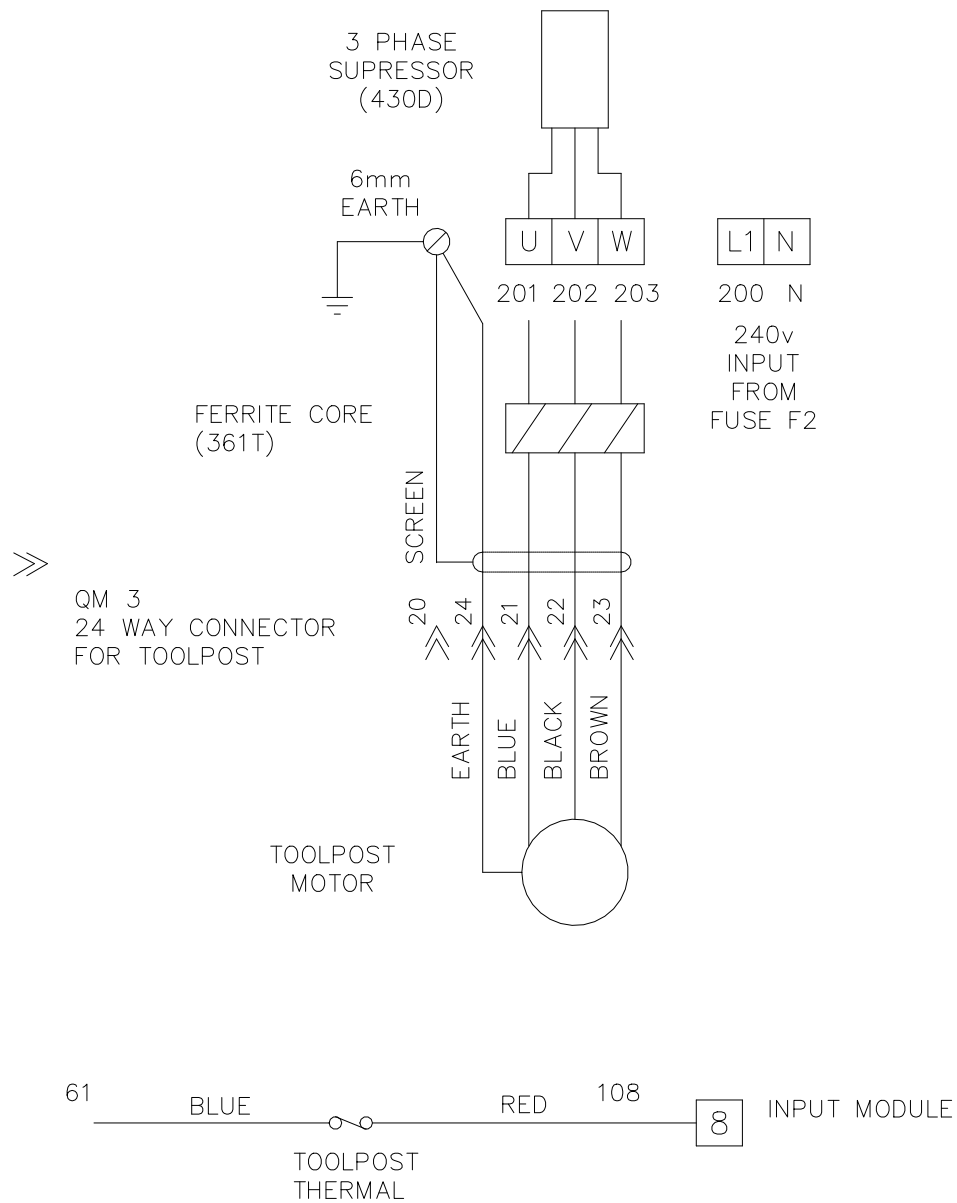


CYCLONE 21i
SPINDLE DRIVE
DETAILS

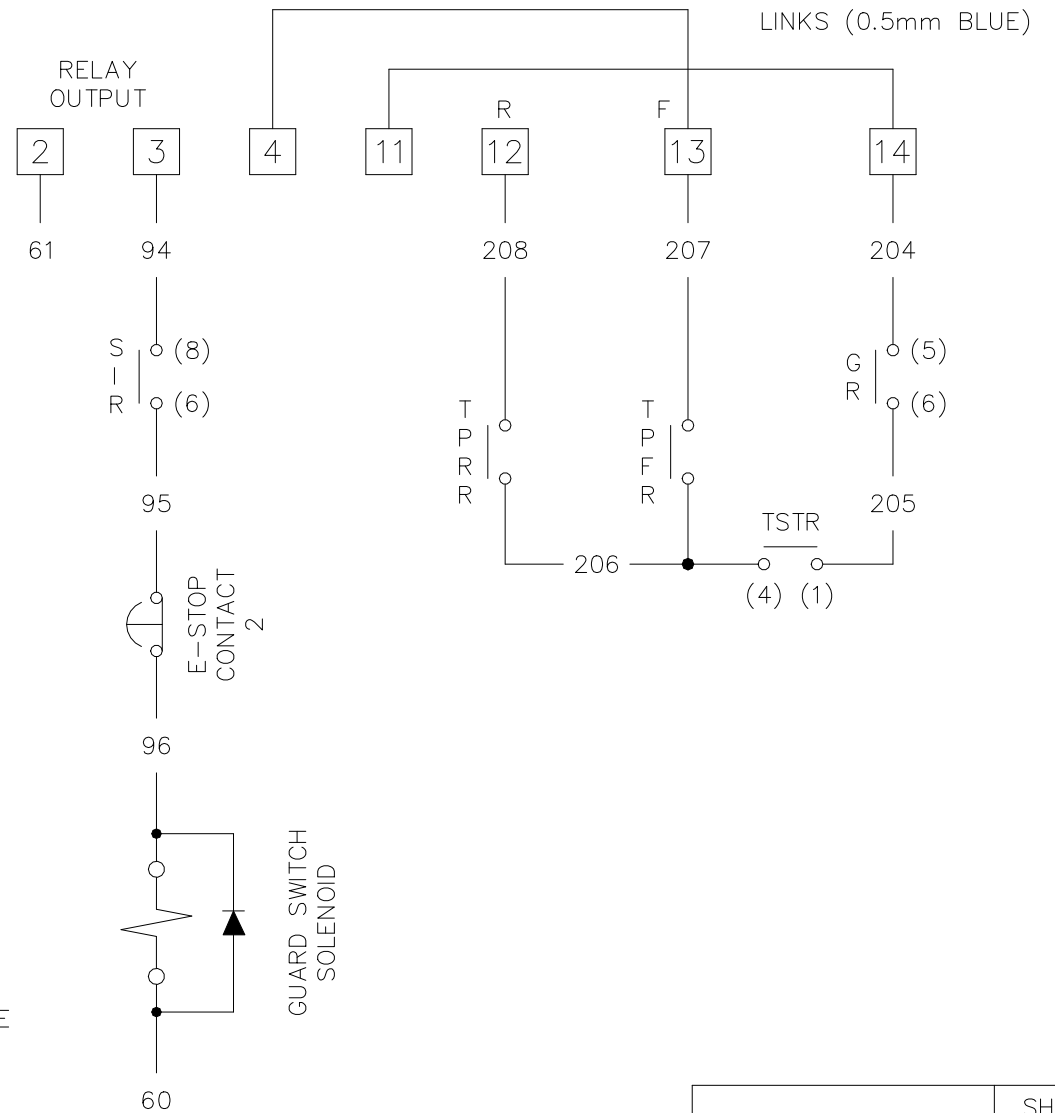
SHEET 9A

CYCLONE

21i



TOOLPOST DRIVE



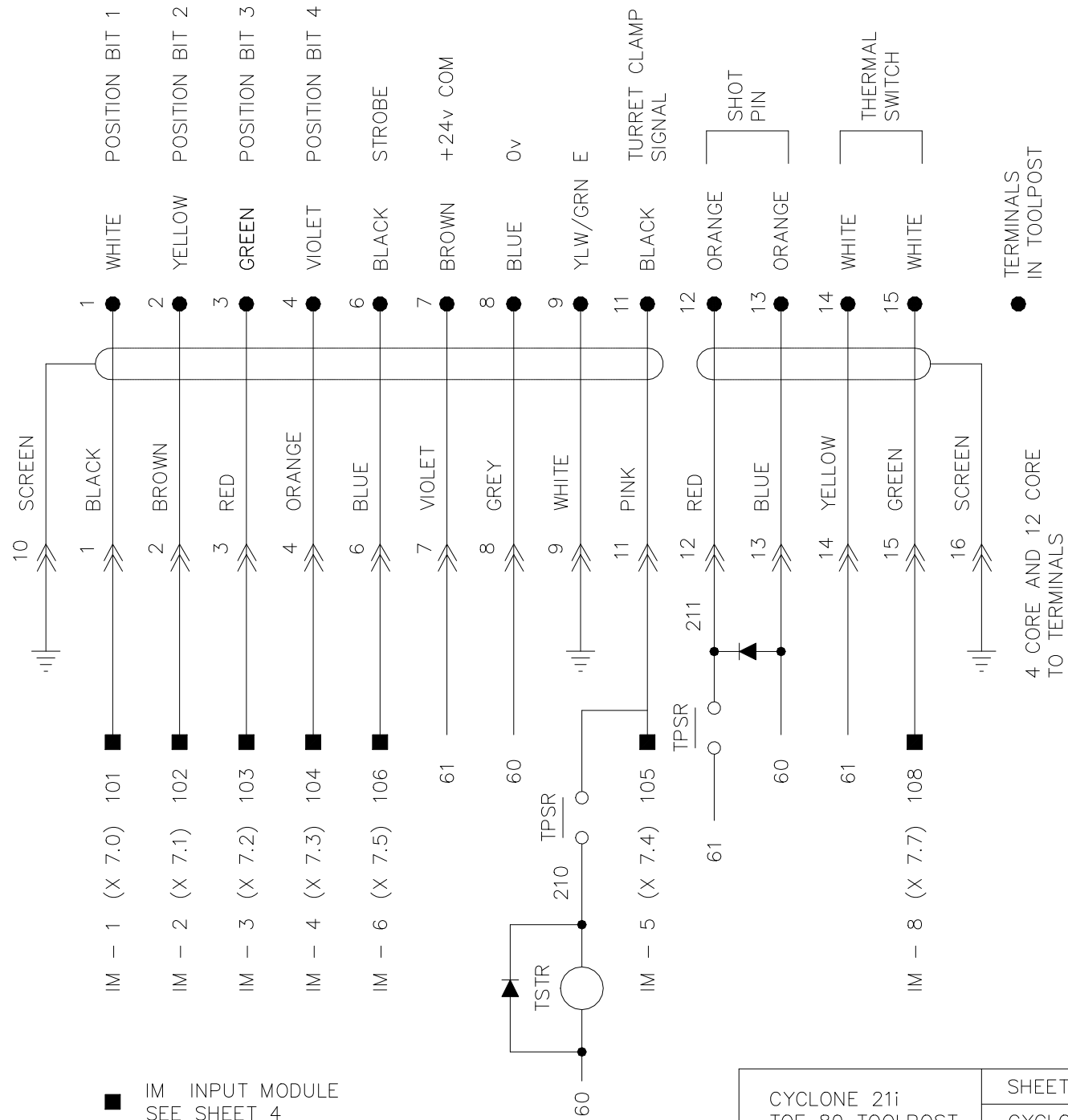
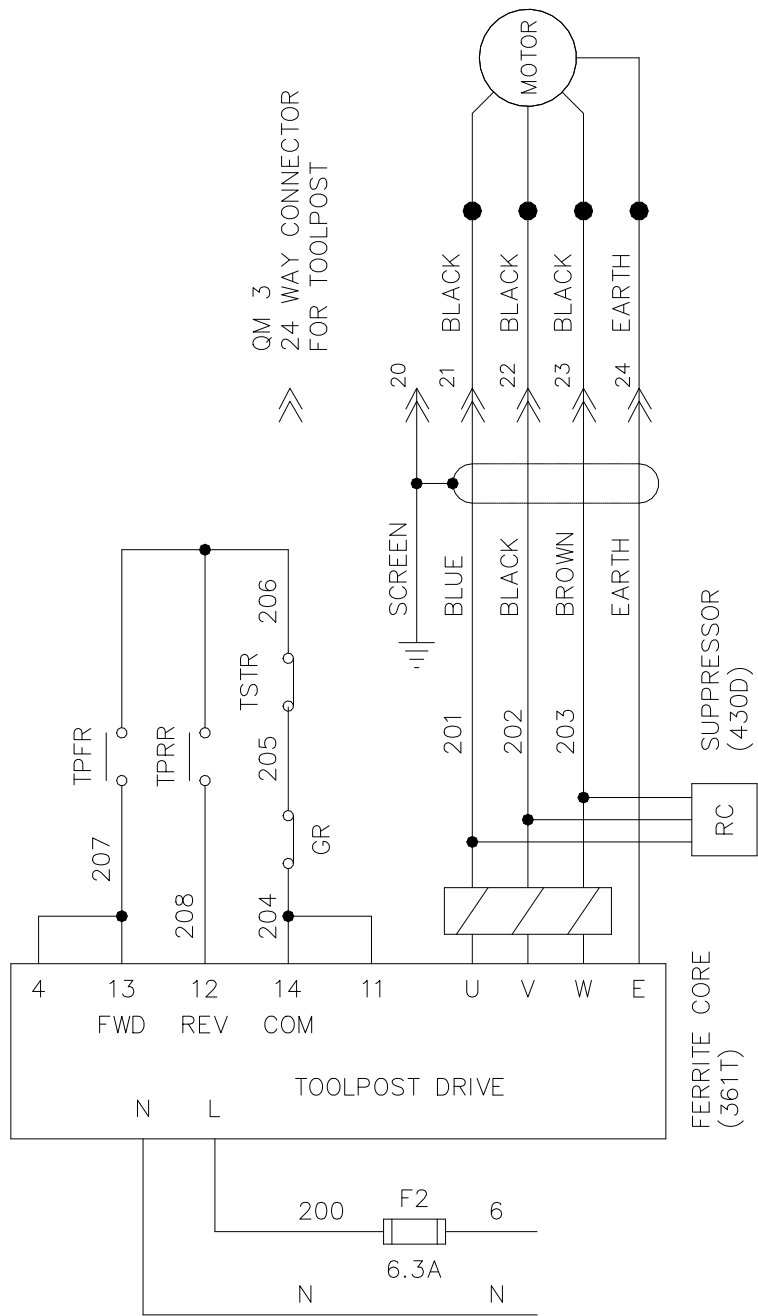
REST OF TERMINALS
NOT CONNECTED

CYCLONE 21i
TOOLPOST DRIVE
DETAILS

SHEET 10

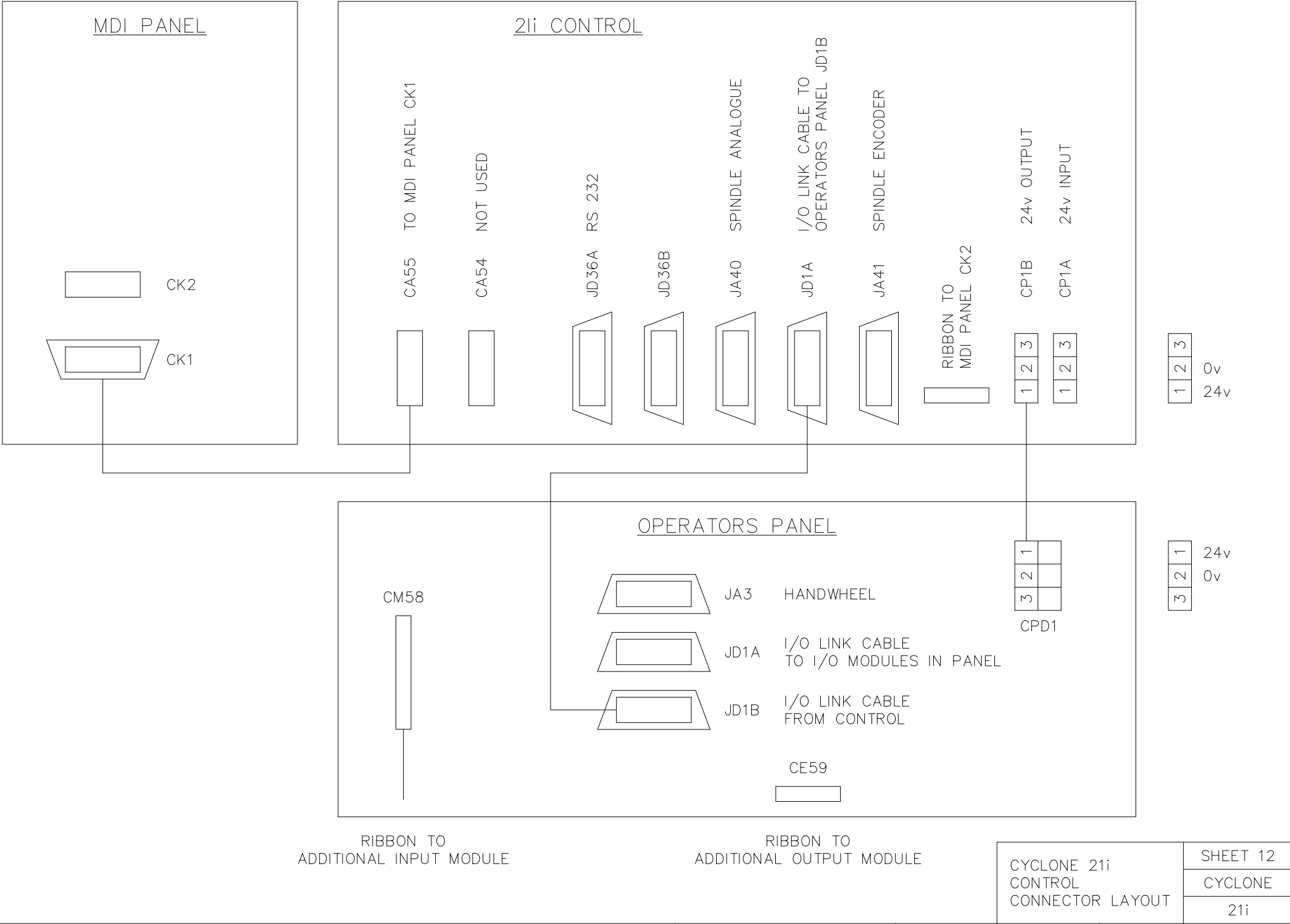
CYCLONE

21i



CYCLONE 21i
TOE 80 TOOLPOST
WIRING DETAILS

SHEET 11
CYCLONE
21i



24 WAY QM

1	BLUE	61
2	YELLOW	60
3	RED	124
4	GREEN	109
5	ORANGE	110
6	PINK	111
7	MAUVE	112
8	BROWN	116
9	BLACK	70
10	WHITE	71
11	GREY	152
12	RED	113
13	BLUE	133
14	RED	95
15	BLUE	96
16	BROWN	72
17	BLUE	60
18	WHT/BLK	153
19	WHT/RED	154
20	YLW/RED	126
21	BLUE	60
22	BLUE	61

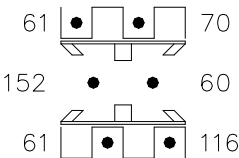
E-STOP CONTACT 1 SEE SHEET 2

E-STOP CONTACT 2 SEE SHEET 10

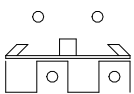
DOOR OPEN RELAY
DOOR CLOSE RELAY
DOOR FULLY OPEN INPUT
0v
24v

ADDITIONAL I/O
SIGNALS
SEE SHEET 19

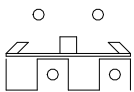
CONTROL ON P/B
(GREEN LENS)



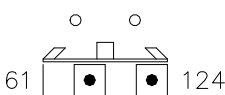
TAILSTOCK EXTEND P/B
(WHITE LENS)



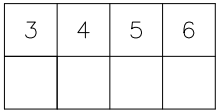
TOOL SELECT P/B
(GREEN LENS)



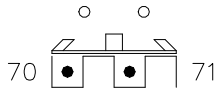
DOOR OVERRIDE P/B
(WHITE LENS)



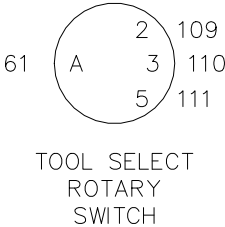
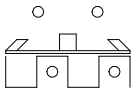
HANDWHEEL



CONTROL OFF P/B
(RED LENS)

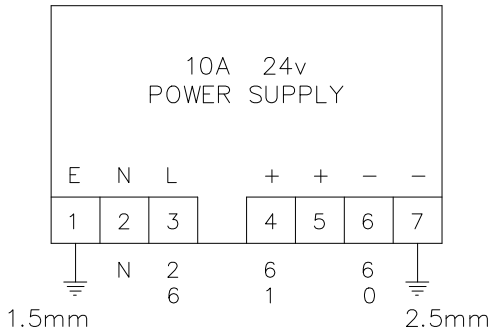
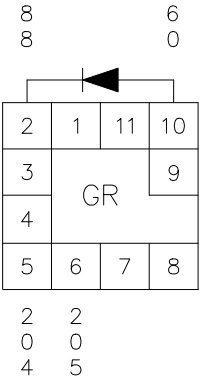
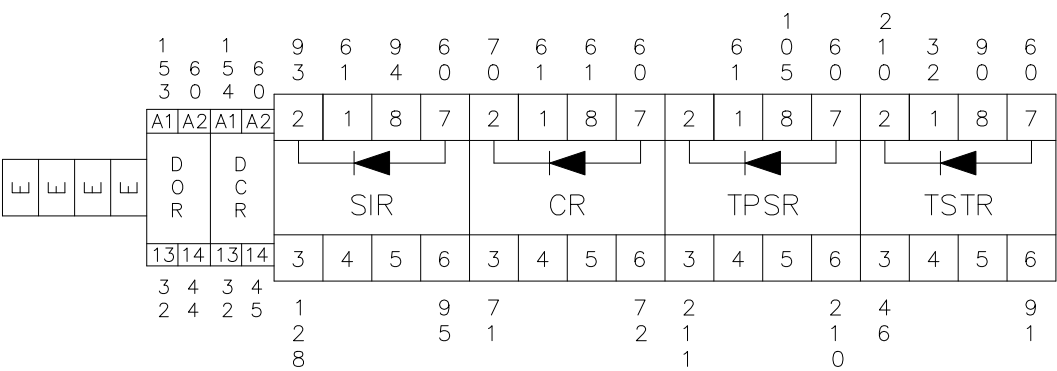


TAILSTOCK RETRACT P/B
(WHITE LENS)



RED
BLUE
GREEN
YELLOW

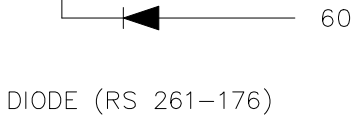
4 CORE TO JA3
SEE SHEET 16



62 TERMINALS AND 9 EARTHS

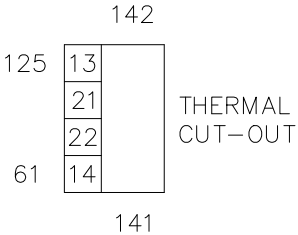
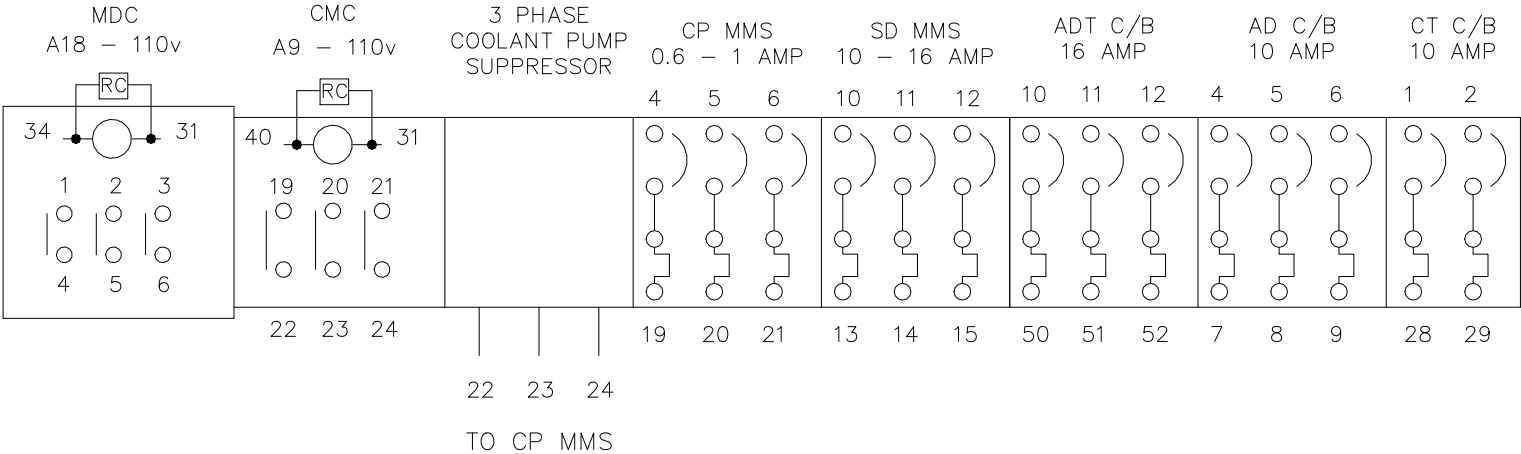


LINK 0.5mm GREY
REMOVE LINK IF
REMOTE E-STOP IS FITTED

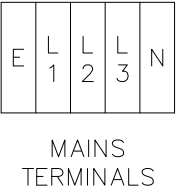
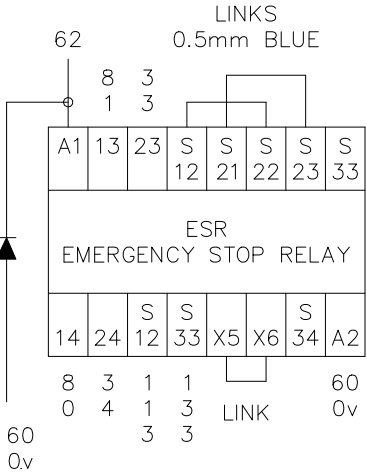
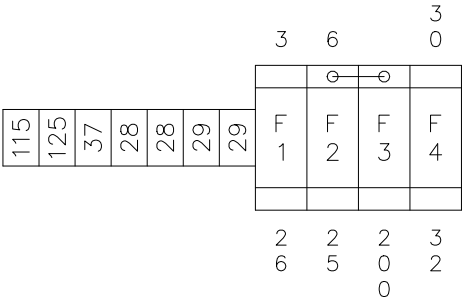


FANUC
FILTER

53	54	55
2	4	6
1	3	5
50	51	52

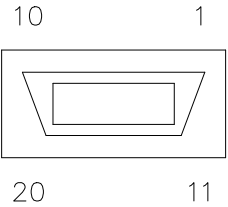
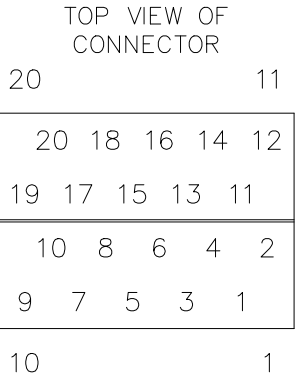
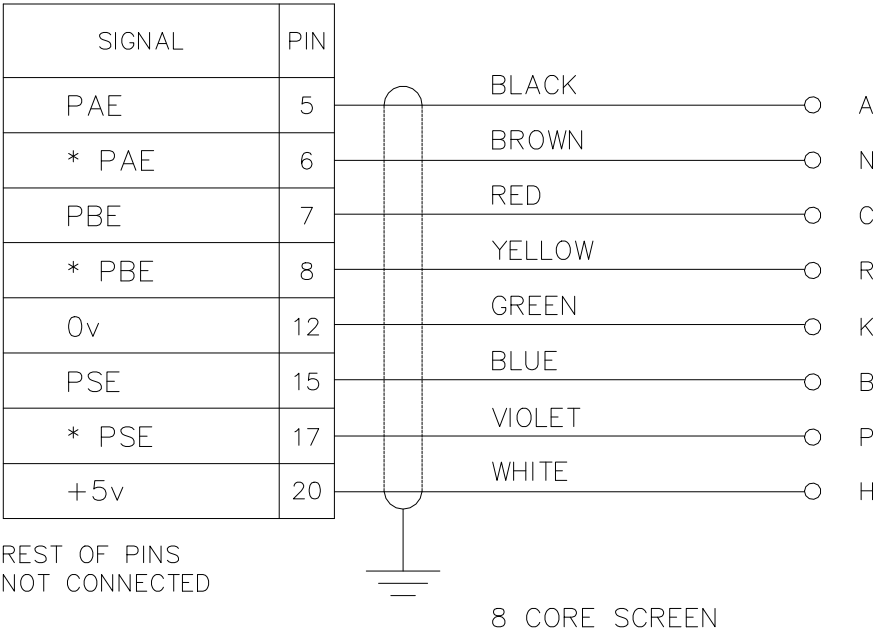


- FUSES
- | | |
|----------|-------------------|
| F1 3.15A | 24v POWER SUPPLY |
| F2 3.15A | SPINDLE MOTOR FAN |
| F3 6.3A | TOOLPOST DRIVE |
| F4 3.15A | 11v CONTROL |



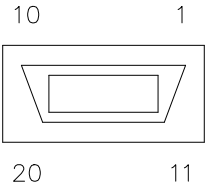
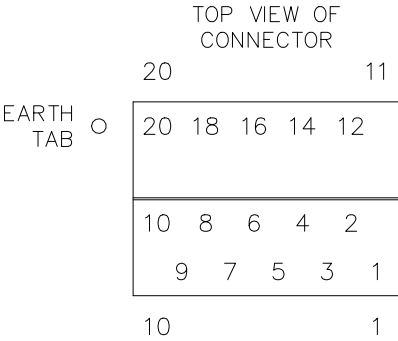
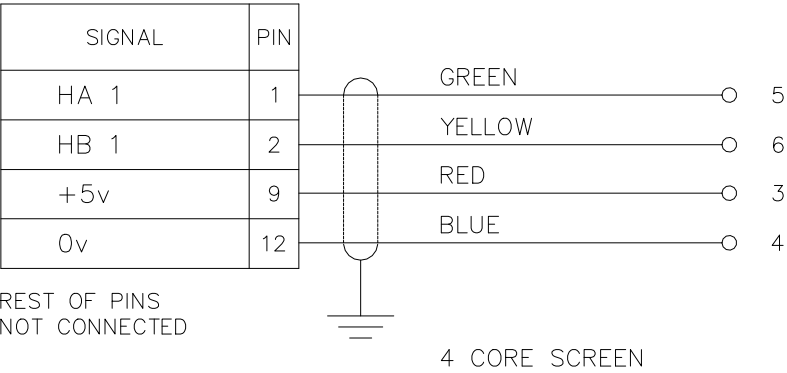
CONTROL
JA41 20 WAY FEMALE

SPINDLE ENCODER



OPERATORS PANEL
JA3 20 WAY FEMALE

HANDWHEEL



HEADSTOCK
CONNECTION BOX

EARTH	E	GREEN	GUARD FULLY OPEN SWITCH
BROWN	61	RED	
BLUE	126	BLUE	
BLACK	61	RED	GUARD SWITCH
BLUE	119	BLUE	

IF GUARD MASTER IS NOT FITTED
WIRE GUARD SWITCH AS SHOWN ABOVE

INTERLOCK GUARD SWITCH
WITH SOLENOID

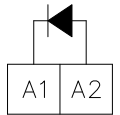
(REMOVE LINK 12 – 41)

GUARD
SWITCH
CONTACTS

61	BLACK	11	12	BROWN	119
89	RED	21	22	YELLOW	90
61	GREEN	33	34	BLUE	88

8 CORE TO
TERMINALS

GUARD
SOLENOID



96 60

WHITE VIOLET

COOLANT PUMP

BLUE 22
BLACK 23
BROWN 24
EARTH E
1mm FLEX
(WIRE IN STAR)

WORKLIGHT

BLACK 37
BLACK 31
EARTH E
0.5mm SINGLES

LUBE PUMP

BLACK 41
BLACK 31
EARTH E
1mm FLEX

LUBE FLOAT SWITCH

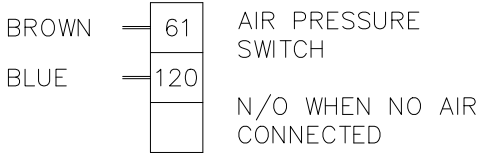
RED 61
BLUE 122
2 CORE SCREEN

SPINDLE MOTOR (WIRE IN DELTA)
1mm BLACK 4 CORE SCREEN

SPINDLE MOTOR FAN (SINGLE PHASE)
1mm 3 CORE FLEX

ADD SUPPRESSOR (RS 210–364)

SPINDLE MOTOR THERMAL
2 CORE SCREEN

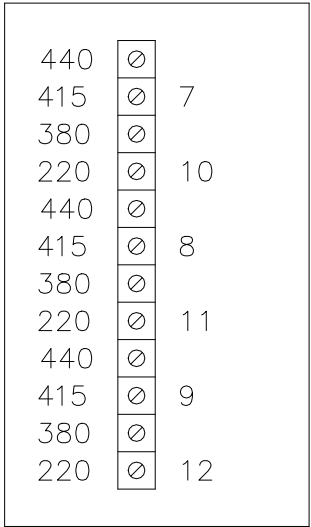


CYCLONE 21i
MACHINE WIRING
DIAGRAM

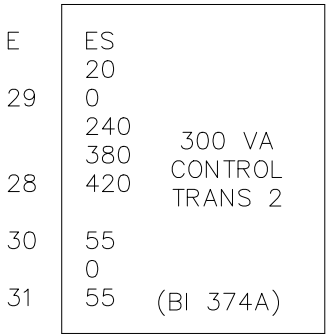
SHEET 17

CYCLONE

21i

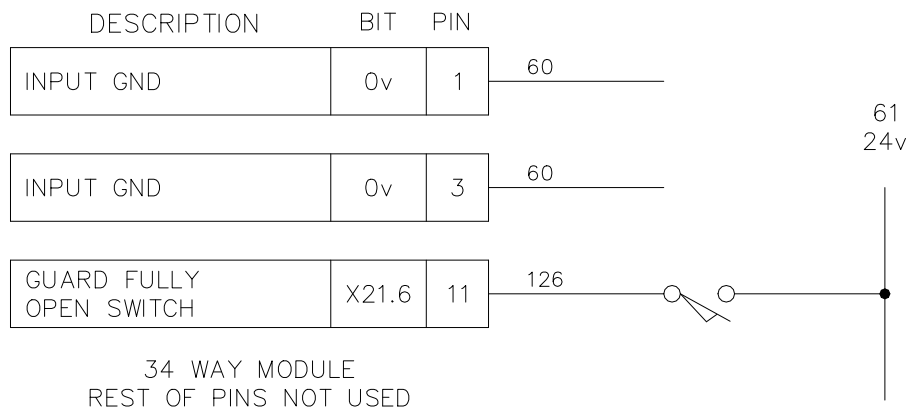


AXIS DRIVES TRANSFORMER
1.5 KVA (BI 374D)

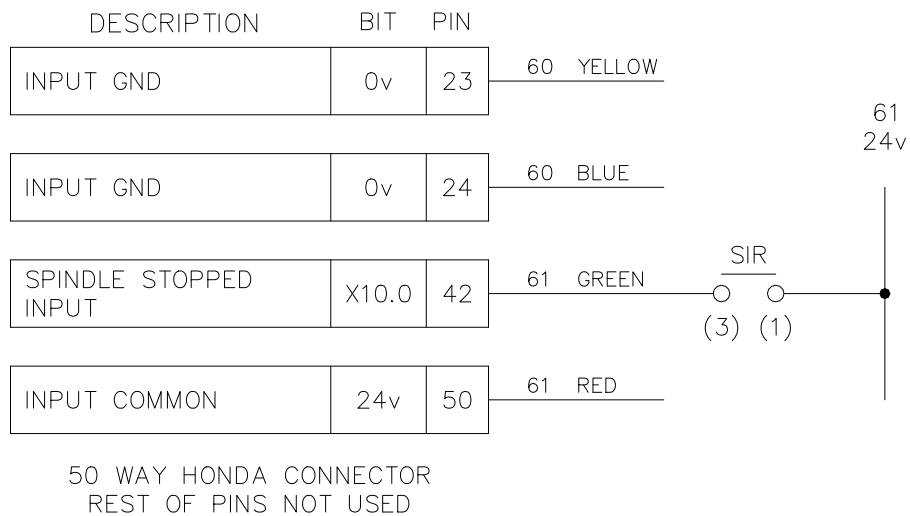


RIBBON FROM
FANUC PUSHBUTTON PANEL
CM58
SEE SHEET 12

ADDITIONAL INPUT MODULE

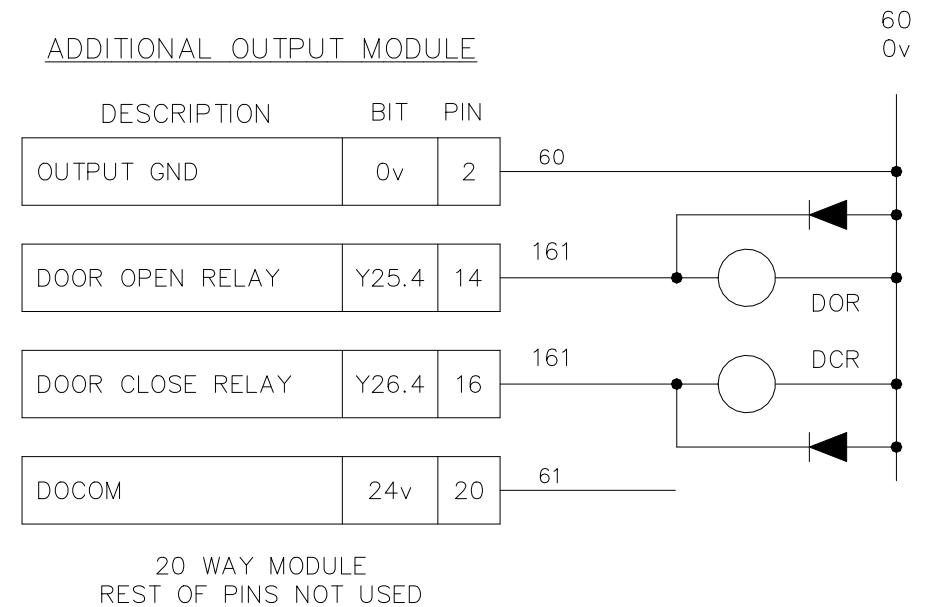


SECOND INPUT MODULE



RIBBON FROM
FANUC PUSHBUTTON PANEL
CE59
SEE SHEET 12

ADDITIONAL OUTPUT MODULE



CYCLONE 21i
ADDITIONAL I/O
MODULE WIRING

SHEET 19

CYCLONE