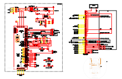
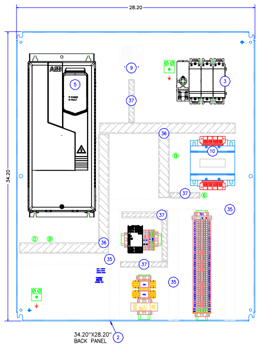
For Demonstration Purposes Only
Tailor Made Software, Ltd

wire bending space:
28.04 x 1.25 = 35.05A or 8AWG (table 28.1, (use 60c Wire at 100A and under)
Line wire size 8AWG = 1.5'' min bending space (table 25.1)

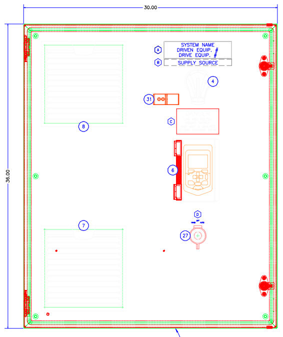
Load wire size 8AWG (ISG Standards book pg 19-B rev 8-21-21) = 1.5'' min bending space (Table 25.1)

02/21/22				
DESCRIPTION	WEIGHT (LBS.)	WATTS LOSS	FLA	NOTES
VFD	26	386	27	20HP VFD, 27FLA
FILTER				
XFMR	20		1.04	
DISCONNECT	4			(1)6AWG-10AWG
ENCL.	89			CSD363012
PANEL	34			CP3630
MISC				
FAN				
TOTAL	173	386	28.0400	
FROM DIM WEIGHT	171			

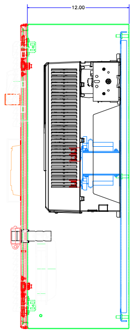


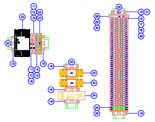


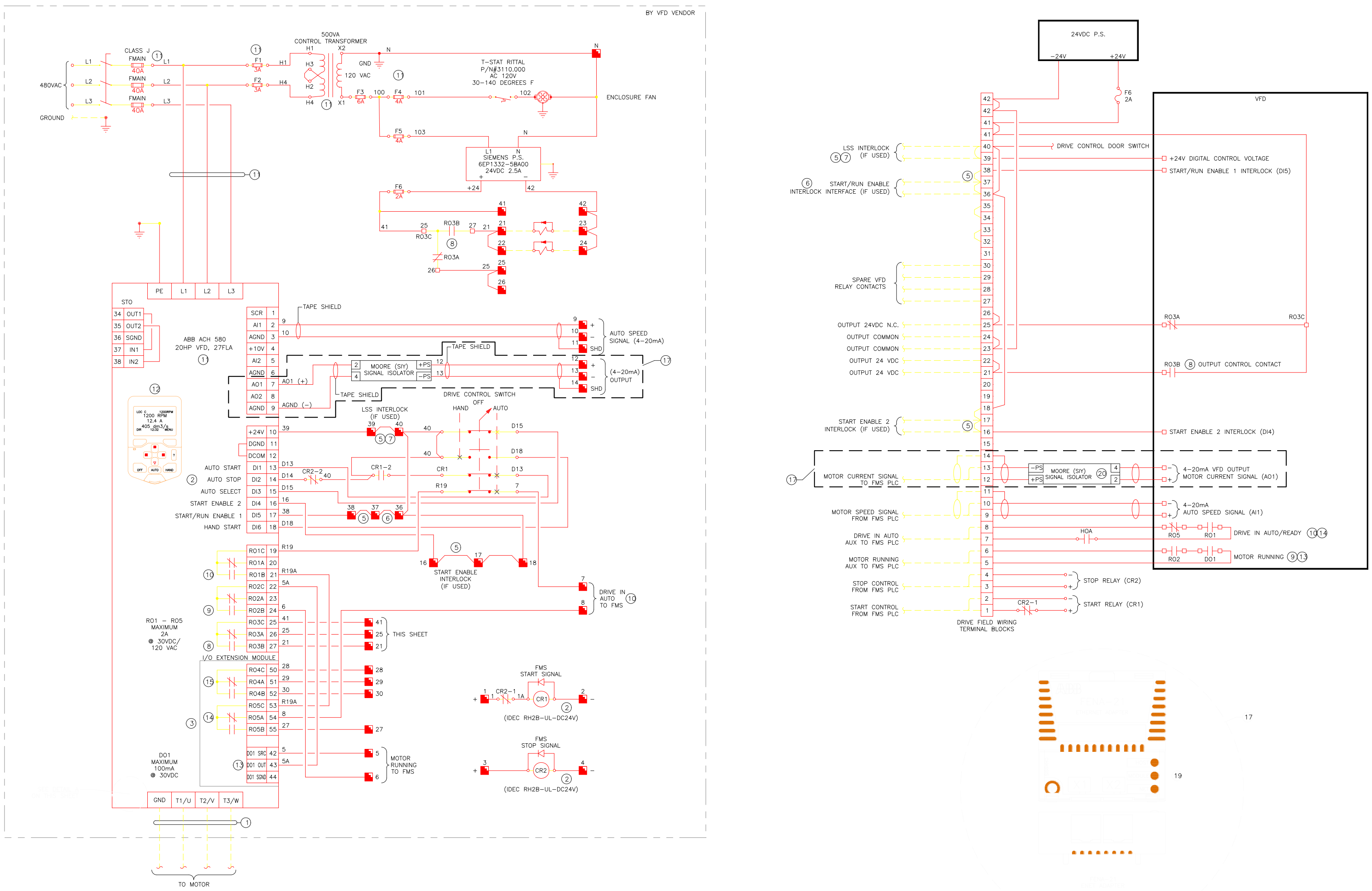
34.20''X28.20''
BACK PANEL



36''X30''X12''
ENCLOSURE






BY VFD VENDOR
480VAC
GROUND
L1
L2
L3
CLASS J FMAIN 40A
FMAIN 40A
FMAIN 40A
500VA CONTROL TRANSFORMER
H1 H3 H2 H4 X2 X1
F1 3A
F2 3A
120 VAC
GND
N
F3 6A
F4 4A
F5 4A
100
101
102
103
T-STAT RITTAL P/N#3110.000 AC 120V 30-140 DEGREES F
ENCLOSURE FAN
SIEMENS P.S. 6EP1332-5BA00 24VDC 2.5A
F6 2A
+24
42
41
R03C
R03B
R03A
25 27 21 22 23 24 26
PE L1 L2 L3
STO
34 OUT1
35 OUT2
36 SGND
37 IN1
38 IN2
ABB ACH 580 20HP VFD, 27FLA
SCR AI1 AGND +10V AI2 AGND AO1 AO2 AGND
+24V DGND DCOM DI1 DI2 DI3 DI4 DI5 DI6
TAPE SHIELD
AUTO SPEED SIGNAL (4-20mA)
SHD
MOORE (SIY) SIGNAL ISOLATOR
+PS -PS
(4-20mA) OUTPUT
AO1 (+)
AGND (-)
LSS INTERLOCK (IF USED)
DRIVE CONTROL SWITCH
HAND OFF AUTO
AUTO START
AUTO STOP
AUTO SELECT
START ENABLE 2
START/RUN ENABLE 1
HAND START
CR2-2
CR1-2
CR1
R19
D13 D14 D15 D18
START ENABLE INTERLOCK (IF USED)
DRIVE IN AUTO TO FMS
RO1C RO1A RO1B RO2C RO2A RO2B RO3C RO3A RO3B
RO1 – RO5 MAXIMUM 2A @ 30VDC/120 VAC
I/O EXTENSION MODULE
RO4C RO4A RO4B RO5C RO5A RO5B
DO1 SRC DO1 OUT DO1 SGND
DO1 MAXIMUM 100mA @ 30VDC
THIS SHEET
MOTOR RUNNING TO FMS
FMS START SIGNAL
CR2-1
(IDEC RH2B-UL-DC24V)
FMS STOP SIGNAL
CR2
GND T1/U T2/V T3/W
TO MOTOR
24VDC P.S.
-24V +24V
F6 2A
VFD
LSS INTERLOCK (IF USED)
START/RUN ENABLE INTERLOCK INTERFACE (IF USED)
SPARE VFD RELAY CONTACTS
OUTPUT 24VDC N.C.
OUTPUT COMMON
OUTPUT COMMON
OUTPUT 24 VDC
OUTPUT 24 VDC
START ENABLE 2 INTERLOCK (IF USED)
MOTOR CURRENT SIGNAL TO FMS PLC
MOTOR SPEED SIGNAL FROM FMS PLC
DRIVE IN AUTO AUX TO FMS PLC
MOTOR RUNNING AUX TO FMS PLC
STOP CONTROL FROM FMS PLC
START CONTROL FROM FMS PLC
DRIVE FIELD WIRING TERMINAL BLOCKS
DRIVE CONTROL DOOR SWITCH
+24V DIGITAL CONTROL VOLTAGE
START/RUN ENABLE 1 INTERLOCK (DI5)
R03A R03C
R03B OUTPUT CONTROL CONTACT
START ENABLE 2 INTERLOCK (DI4)
4-20mA VFD OUTPUT MOTOR CURRENT SIGNAL (AO1)
4-20mA AUTO SPEED SIGNAL (AI1)
HOA
R05 R01
DRIVE IN AUTO/READY
R02 DO1
MOTOR RUNNING
STOP RELAY (CR2)
START RELAY (CR1)

GENERAL NOTES

A. THIS DRAWING IS ISSUED FOR TYPICAL ELEMENTARY INFORMATION FOR MANUFACTURE OF VFD.

B. PANELS TO BE PROVIDED BY ISG ONLY, PER PART NUMBER MATRIX. ISG CONTACT INFORMATION IS AS FOLLOWS:
- AFTER HOURS EMERGENCY: (503) 535-2646
- MAIN OFFICE: 1-866-541-2800

KEYED NOTES

1. MOTOR CONDUCTOR SIZES SHOWN ON ELECTRICAL ONE-LINE DRAWINGS.

2. DEFAULT PROGRAMMING OF DRIVE IS THREE-WIRE PULSED (START/STOP) CONTROL. FOR TWO-WIRE CONTROL, PROGRAM DRIVE TO RUN ONLY WHEN THE START INPUT IS MAINTAINED, AND CONNECT REMOTE RUN COMMAND TO THE START SIGNAL RELAY (CR1). FOR ETHERNET CONTROL, LOAD USER SET 4.

3. CMOD-01 I/O EXTENSION MODULE.

4. NOT USED.

5. FACTORY INSTALLED JUMPER. REMOVE WHEN USING THE REMOTE INTERLOCKS SHOWN.

6. MOTOR/EQUIPMENT START/RUN ENABLE INTERLOCK IS USED WITH DAMPER CONTROL TOWER FAN VIBRATION SWITCHES, CONDENSER WATER PUMP LEVEL SWITCH, MOTOR OVERTEMPERATURE (SNAP-ACTION) SWITCH, ETC. INTERLOCK MAY BE OVERRIDDEN (BY PROGRAMMING) WHEN THE DRIVE IS PLACED IN THE HAND POSITION FOR TESTING PURPOSES.

7. LSS INTERLOCK WILL IMMEDIATELY STOP THE DRIVE IN ALL MODES WHEN INTERRUPTED. INTERLOCK SHALL NOT BE OVERRIDDEN BY DRIVE PROGRAMMING.

8. PROGRAM SOLENOID CONTROL RELAY R03B AS FOLLOWS:
   FAN BRAKE OPERATION
   - CLOSE CONTACT R03B 5 SECONDS AFTER MOTOR HAS BEEN DETERMINED TO BE STOPPED.
   - IMMEDIATELY OPEN CONTACT R03B UPON MOTOR START COMMAND.

   MAH DAMPER OPERATION
   - CLOSE CONTACT R03B IMMEDIATELY AFTER MOTOR RUN COMMAND.
   - OPEN CONTACT R03B IMMEDIATELY UPON MOTOR STOP COMMAND OR LSS OR EMO INTERLOCK.

   AHU DAMPER OPERATION
   - CLOSE CONTACT R03B IMMEDIATELY AFTER MOTOR RUN.
   - OPEN CONTACT R03B 5 SECONDS AFTER MOTOR STOP COMMAND.
   - OPEN CONTACT R03B IMMEDIATELY UPON LSS OR EMO INTERLOCK.

   COOLING ONLY CHILLER OPERATION
   - CLOSE CONTACT R03B WHEN THE MOTOR IS RUNNING AND DRAWING CURRENT ABOVE THE PROGRAMMABLE MINIMUM (UNDERLOAD) SETPOINT.
   - OPEN CONTACT R03B 30 SECONDS AFTER MOTOR STOP COMMAND.

9. PROGRAM RELAY CONTACT R02B TO CLOSE WHEN THE MOTOR IS RUNNING AND DRAWING CURRENT ABOVE THE PROGRAMMABLE MINIMUM (UNDERLOAD) SETPOINT.

10. DRIVE IN AUTO CONTROL RELAY R01B SHALL BE PROGRAMMED TO CLOSE ONLY WHEN DRIVE POWER IS AVAILABLE, THE RUN ENABLE INTERLOCK IS CLOSED, THE H/O/A SWITCH IS DETECTED IN THE AUTO POSITION, DRIVE IS NOT FAULTED/LOCKED OUT, AND VFD IS WITHIN PROGRAMMED INTERNAL HEATSINK TEMPERATURE SUPERVISION SET-POINTS.

11. DRIVE MANUFACTURER IS RESPONSIBLE FOR SIZING PROTECTIVE FUSES, POWER WIRING, AND DRIVE FRAME SIZE BASED ON THE MOTOR SERVED AND APPLICATION CHARACTERISTICS. DRIVE WIRING AND PROTECTIVE ELEMENTS SHALL CONFORM TO NFPA 70 (NEC).

12. PROGRAM DRIVE TO PREVENT LOCAL PUSHBUTTON CONTROL OPERATION UNLESS DRIVE IS IN "HAND" MODE.

13. PROGRAM D01 TO OPEN WHEN THE DRIVE HAS FAULTED, INCLUDING THE PERIOD DURING AUTOMATIC RESTART ATTEMPTS.

14. PROGRAM RELAY CONTACT R05A TO OPEN WHEN AN ALARM OR FAULT IS PRESENT FOR 180 SECONDS.

15. IF A LSS SHUTDOWN CONFIRMATION IS REQUIRED CONNECT TO TERMINALS 28 AND 29 AND PROGRAM RELAY R04.

16. NOT USED

17. ITEMS AS REQUIRED ON A PER APPLICATION BASIS & TO BE ORDERED AS OPTIONS PER PART NUMBER ORDERING MATRIX.

18. NOT USED.

19. PROVIDE PANEL FRONT WINDOW SO THAT STATUS LIGHTS ARE VISIBLE WITH VFD COVER INSTALLED.

20. MOORE INDUSTRIES P/N: SIY/PRG/4-20MA/10-42VDC/-VTD [DIN]

○ DEVICE TERMINAL
☐ DRIVE TERMINAL BLOCK
🟥 DRIVE FIELD WIRING TERMINAL BLOCK
– – – FIELD WIRING BY CONTRACTOR
—— DRIVE WIRING BY MANUFACTURER

③ INTEL – ABB VFD CONTROL PANEL WIRING
SCALE: NTS

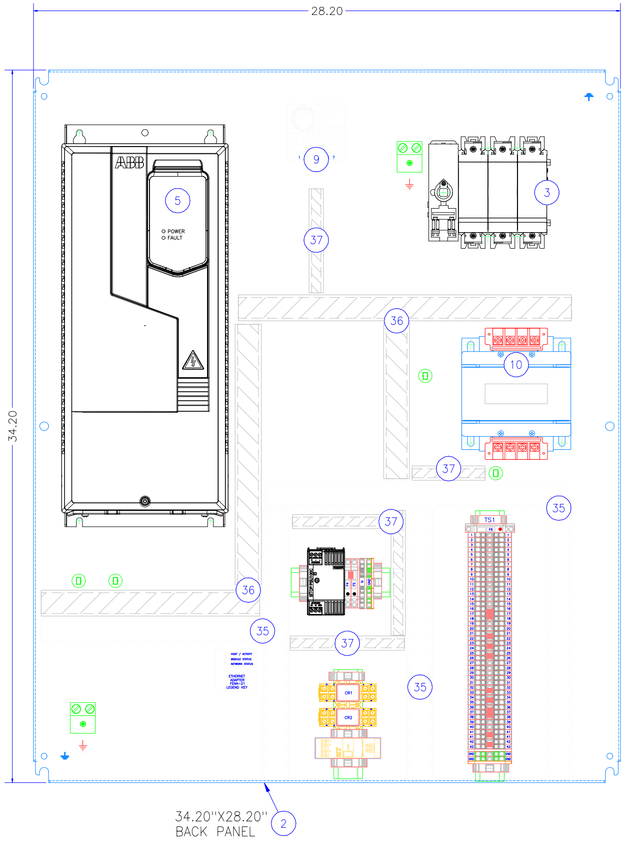
NO.	DATE	REVISION	BY	APPR.
0	XX/XX/XX	FOR REFERENCE ONLY	XX	XX

• 3601 S.E. COLUMBIA WAY, BLDG 51, STE. 260 •
• VANCOUVER, WA 98661-8008 •
• (866) 541-2800 • www.isgpcm.com •

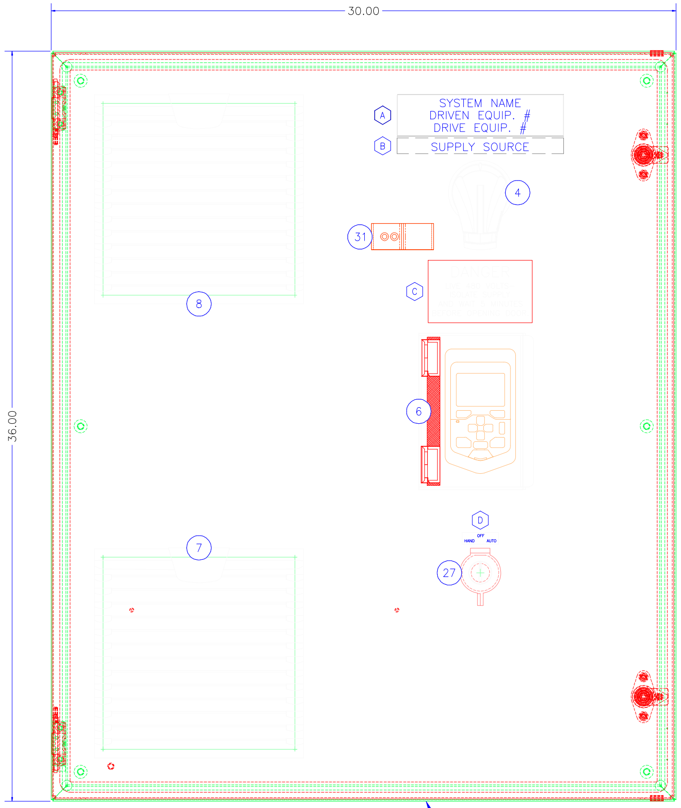
SCALE NTS
DATE 02/06/22
DRAWN B.OLSEN
CHK.-APPR. S.GWINN

INTEL – XXX
XXX-20-TYP1B-N12-E-I-PS
CONTROL PANEL WIRING

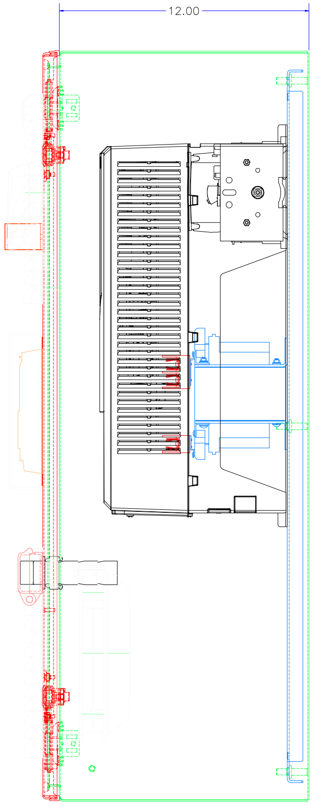
PROJECT/DRAWING NUMBER XXXXXX
SHEET 3 OF 3
REV. 0

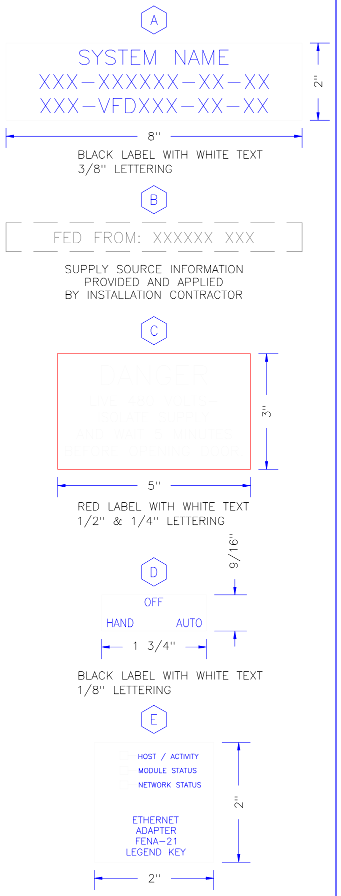


34.20"X28.20"
BACK PANEL ②



① 36"X30"X12"
ENCLOSURE





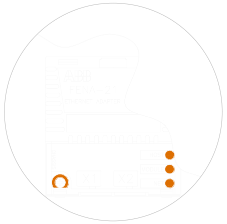
BLACK LABEL WITH WHITE TEXT
3/8" LETTERING

SUPPLY SOURCE INFORMATION
PROVIDED AND APPLIED
BY INSTALLATION CONTRACTOR

RED LABEL WITH WHITE TEXT
1/2" & 1/4" LETTERING

BLACK LABEL WITH WHITE TEXT
1/8" LETTERING

WHITE LABEL WITH BLACK TEXT
1/8" & 1/4" LETTERING



NO#	TAG NAME
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2	
3	
4	
5	
6	
7	
8	
9	
10	

1 INTEL – ABB VFD CONTROL PANEL LAYOUT

SCALE: NTS

FLA: 28.04A WEIGHT: 171 LBS.

NO.	DATE	REVISION	BY	APPR.
0	XX/XX/XX	FOR REFERENCE ONLY	XX	XX

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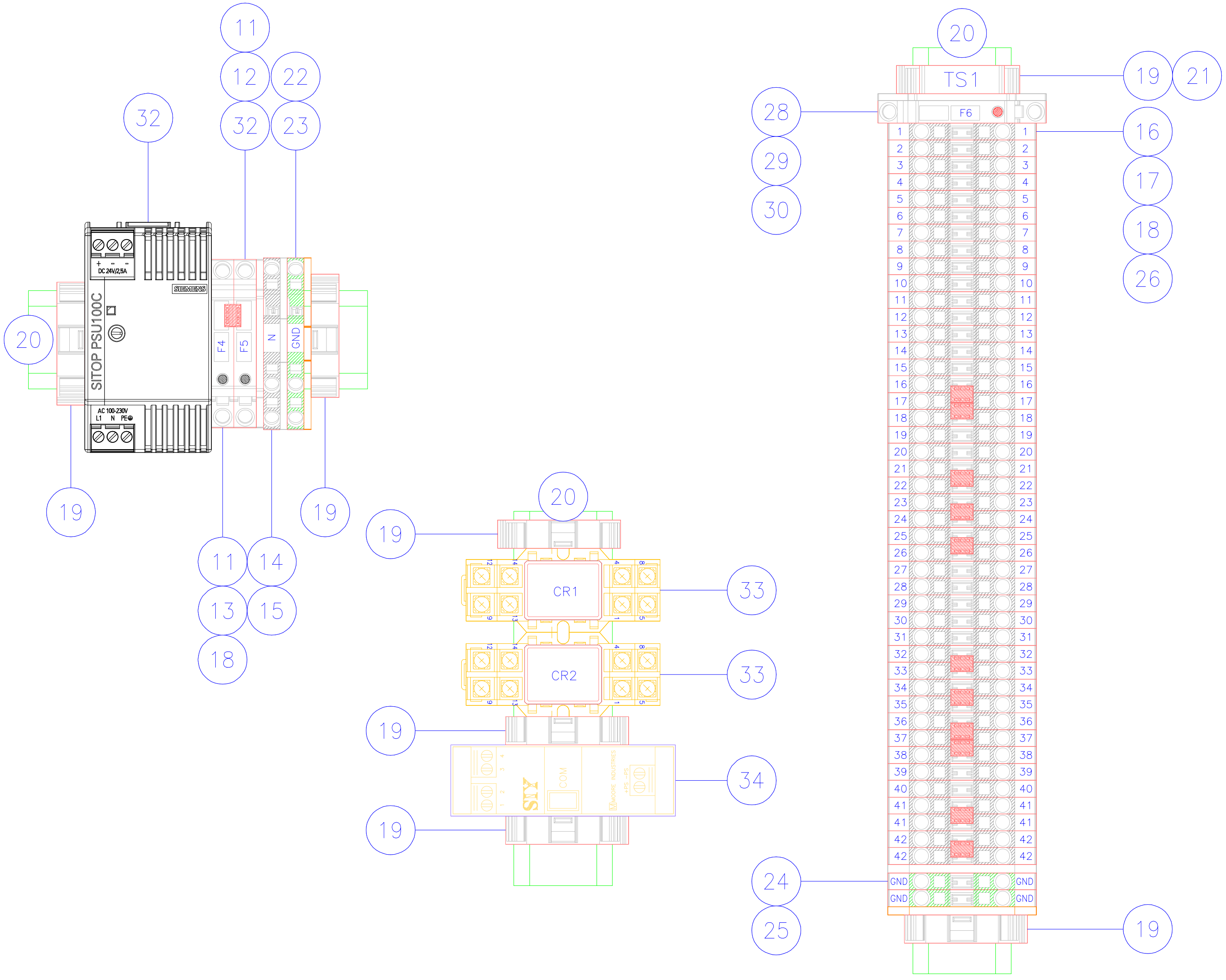
• VANCOUVER, WA 98661-8008 •
• (866) 541-2800 • www.isgpcm.com •

SCALE: NTS
DATE: 02/06/22
DRAWN: B.OLSEN
CHK.-APPR.: S.GWINN

INTEL – XXX

XXX-20-TYP1B-N12-E-I-PS
CONTROL PANEL LAYOUT

PROJECT/DRAWING NUMBER: XXXXXX
SHEET: 1 OF 3
REV.: 0



2
INTEL – ABB VFD CONTROL PANEL TS DETAIL

SCALE: NTS

NO.	DATE	REVISION	BY	APPR.
0	XX/XX/XX	FOR REFERENCE ONLY	XX	XX

• 3601 S.E. COLUMBIA WAY, BLDG 51, STE. 260 •
• VANCOUVER, WA 98661–8008 •
• (866) 541–2800 • www.isgpcm.com •

SCALE NTS
DATE 02/06/22
DRAWN B.OLSEN
CHK.–APPR. S.GWINN

INTEL – XXX

XXX–20–TYP1B–N12–E–I–PS
CONTROL PANEL TS DETAIL

PROJECT/DRAWING NUMBER XXXXXX
SHEET 2 OF 3
REV. 0