PROJECT NOTES

1. SCOPE: FURNISH ALL LABOR, EQUIPMENT AND MATERIALS NECESSARY FOR THE INSTALLATION OF THE COMPLETE ELECTRICAL AND CONTROLS SYSTEM AS SPECIFIED HEREIN AND SHOWN ON THE CONTRACT DRAWINGS.
2. APPLICABLE CODES: ALL WIRING, MATERIALS AND INSTALLATIONS, UNLESS OTHERWISE NOTED, SHALL BE SUPPLIED BY THE CONTRACTOR, AND SHALL COMPLY WITH NATIONAL ELECTRICAL CODE, NFPA, AND APPLICABLE STATE AND LOCAL CODES.
3. PERMITS: THE CONTRACTOR SHALL INCLUDE IN HIS BID PRICE THE PAYMENT OF ALL NECESSARY PERMITS. HE SHALL FURNISH THE OWNER PRIOR TO THE FINAL PAYMENT A CERTIFICATE FROM THE ELECTRICAL INSPECTION DEPARTMENT HAVING JURISDICTION CERTIFYING THAT THE ELECTRICAL WORK MEETS ALL REQUIREMENTS OF THE LOCAL INSPECTION AUTHORITIES AND/OR THE NATIONAL BOARD OF FIRE UNDERWRITERS.
4. MATERIALS AND SUBSTITUTIONS: THE CONTRACTOR SHALL SUBMIT A LIST OF ELECTRICAL MATERIAL MANUFACTURERS TO THE ENGINEER FOR APPROVAL. NO SUBSTITUTIONS WILL BE ALLOWED WITHOUT PERMISSION OF THE OWNER IN WRITING. ALL FURNISHED MATERIALS AND EQUIPMENT SHALL BE NEW AND UNUSED FIRST-QUALITY PRODUCTS OF REPUTABLE MANUFACTURES REGULARLY ENGAGED IN THE MANUFACTURE OF SUCH PRODUCTS.
5. SCHEDULING: THE CONTRACTOR SHALL COORDINATE WITH THE OWNER FOR ALL SCHEDULING OF WORK.
6. ALL WORK SHALL BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER.
7. GROUNDING: ALL SYSTEMS SHALL BE GROUNDED IN ACCORDANCE WITH THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE, ANY AND ALL STATE AND LOCAL CODES, THE UTILITY, AND SPECIAL SYSTEMS AND EQUIPMENT AS REQUIRED.
8. THE CONTRACTOR SHALL VISIT THE SITE AND CAREFULLY EXAMINE ALL EXISTING CONDITIONS THAT MAY AFFECT HIS BID.
9. WHEN MOUNTING ELECTRICAL WORK IN AREAS SUBJECT TO PEDESTRIAN TRAFFIC, CONTRACTOR SHALL MAINTAIN EXISTING HEADROOM CLEARANCES.
10. ALL ELECTRICAL MATERIALS AND EQUIPMENT SHALL BE UL LISTED AND SHALL CONFORM TO FACTORY MUTUAL STANDARDS AS APPLICABLE.
11. EQUIPMENT LOCATIONS: LOCATIONS OF ALL ELECTRICAL EQUIPMENT & CONDUIT ARE SHOWN DIAGRAMMATICALLY. EXACT LOCATIONS TO BE DETERMINED IN FIELD BY CONTRACTOR.
12. GUARANTEE: THE ENTIRE ELECTRICAL INSTALLATION, MATERIAL AND WORKMANSHIP SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR FROM DATE OF SYSTEM ACCEPTANCE.
13. CONTRACTOR SHALL ADHERE TO ALL SAFETY REGULATIONS AND PROCEDURES REQUIRED BY THE PROJECT FACILITY.
14. THE OWNER OR HIS REPRESENTATIVE SHALL HAVE THE FINAL DETERMINATION IN CLARIFICATIONS AND INTERPRETATIONS REGARDING THE REQUIREMENTS OF THE CONTRACT DRAWINGS. ANY DEVIATIONS FROM THE DRAWINGS MUST BE APPROVED IN WRITING BY THE OWNER OR HIS REPRESENTATIVE.
15. THE CONTRACTOR SHALL KEEP THE WORK SITE AND SURROUNDING AREA FREE FROM ACCUMULATION OF WASTE MATERIALS GENERATED BY WORK PERFORMED UNDER THIS CONTRACT. SUCH DEBRIS SHALL BE REMOVED FROM THE WORK SITE, HAULED OFF THE PREMISES, AND DISPOSED OF IN A LEGAL MANNER ON A DAILY BASIS.
16. ANY DAMAGE DONE BY THE CONTRACTOR TO WORK ALREADY IN PLACE SHALL BE REPAIRED TO THE OWNER'S SATISFACTION AT THE EXPENSE OF THE CONTRACTOR
17. CONTRACTOR SHALL PROVIDE MAN-LIFTS AS REQUIRED TO PERFORM HIS WORK.
18. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TAGGING ALL EQUIPMENT AND CONDUCTORS IN ACCORDANCE WITH PLANT STANDARDS. MOTORS SHALL BE TAGGED AT BOTH THE MOTOR AND DISCONNECT SWITCH LOCATIONS.
19. CONTRACTOR SHALL NOT DISCONNECT ANY EXISTING MECHANICAL OR ELECTRICAL SYSTEMS AND SHALL NOT CUT ANY EXISTING STRUCTURAL MEMBERS WITHOUT WRITTEN APPROVAL FROM THE OWNER OR HIS REPRESENTATIVE.
20. NORMAL OPERATIONS WILL BE CONDUCTED BY THE OWNER'S PERSONNEL IN WORK AREAS INVOLVING CONTRACT WORK DURING THE EXECUTION OF THIS CONTRACT. CONTRACTOR SHALL COORDINATE ALL CONSTRUCTION ACTIVITY WITH THE OWNER OR HIS REPRESENTATIVE TO MINIMIZE OPERATIONAL DISRUPTIONS.
21. CONTRACTOR SHALL WORK WITH PROJECT ENGINEER TO ENSURE ALL I/O POINTS ARE CONFIRMED TO WORK PROPERLY DURING I/O CHECKOUT. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE ALL DEVICES OPERATE AS INTENDED DURING I/O CHECKOUT.
22. CONTRACTOR SHALL VERIFY THAT CONDUIT FILL MAXIMUMS ARE NOT EXCEEDED WHEN EXISTING CONDUIT SYSTEMS ARE RE-UTILIZED FOR NEW WORK. EXISTING CONDUITS MUST BE IN GOOD CONDITION IN ORDER TO BE RE-UTILIZED.
23. THE CONTRACTOR IS RESPONSIBLE FOR ASSURING PROPER OPERATION OF ALL DOWNSTREAM, PASS-THRU SERVICE UPON START-UP.
24. CONTRACTOR SHALL COORDINATE WITH PROJECT ENGINEER BEFORE TIE-INS OR SHUT-DOWN FOR LOCK-OUT OF POWER AND CONTROL CIRCUITS.
25. CONTRACTOR SHALL INSTALL WIRING, CONDUIT AND DEVICES IN CONJUNCTION WITH PROJECT DRAWINGS AND MANUFACTURERS' RECOMMENDATIONS.
26. ALL WIRING TERMINATIONS AT CONTROL PANELS, INSTRUMENTS AND FIELD DEVICES SHALL BE BY CONTRACTOR IN ACCORDANCE WITH MANUFACTURERS' DOCUMENTS AND PROJECT DRAWINGS.
27. ALL CONDUIT BODIES, FITTINGS, AND BOXES USED IN WET LOCATIONS ARE REQUIRED TO BE THREADED AND OF THE RAINTIGHT TYPE. CONDUITS EXPOSED TO WEATHER ARE REQUIRED TO HAVE RAINTIGHT FITTINGS AND DRAINHOLES. THERE IS TO BE NO CONDUITS ENTERING THE TOP OF EQUIPMENT, REGARDLESS OF LOCATION.
28. ALL BOLT HOLES REQUIRED IN NEW OR EXISTING STRUCTURAL STEEL SHALL BE DRILLED.
29. CONTRACTOR SHALL PROVIDE ALL CABLE LUGS AS REQUIRED FOR CABLE CONNECTIONS TO SWITCHGEAR, SWITCHBOARDS, PANELBOARDS, MOTOR CONTROL CENTERS, MOTOR STARTER PANELS, TRANSFORMERS AND DISCONNECT SWITCHES.

ELECTRICAL LEGEND

(7)	SEE NOTE OF SAME NUMBER
———	NEW WORK
———	EXISTING TO REMAIN
— —	EXISTING TO BE REMOVED (AS NOTED)
MCC TF-A2	MOTOR CONTROL CENTER BRANCH CIRCUIT BUCKET DESIGNATION
	CIRCUIT BREAKER
	FUSE
J	JUNCTION BOX
5HP	MOTOR, HORSEPOWER AS INDICATED
	MOTOR CONTACTOR AND OVERLOAD PROTECTION
F	DISCONNECT SWITCH, FUSED, NEMA 12 ENCLOSURE (OR AS NOTED)
	EXISTING CONTROL PANEL
	NEW CONTROL PANEL
LSH 1	INSTRUMENT OR FIELD DEVICE

IDENTIFICATION LETTERS

	FIRST-LETTER		SUCCEEDING-LETTERS		
	MEASURED OR INITIATING VARIABLE	FUNCTION	READOUT OR PASSIVE FUNCTION	OUTPUT / ACTIVE FUNCTION	MODIFIER
A	ANALYSIS		ALARM		
B	BURNER, COMBUSTION		USER'S CHOICE	USER'S CHOICE	USER'S CHOICE
C	CONDUCTIVITY			CONTROLLER	CLOSE
D	DENSITY	DIFFERENTIAL			DEVIATION
E	VOLTAGE		SENSOR (PRIMARY ELEMENT)		
F	FLOW, FLOW RATE	RATIO (FRACTION)			
G	USER'S RATE		GLASS, VIEWING DEVICE		
H	HAND				HIGH
I	CURRENT (ELECTRICAL)		INDICATE		
J	POWER	SCAN			
K	TIME, TIME SCHEDULE	TIME RATE OF CHANGE			
L	LEVEL		LIGHT		LOW
M	USER'S CHOICE	MOMENTARY			MIDDLE, INTERMEDIATE
N	USER'S CHOICE		USER'S CHOICE	USER'S CHOICE	USER'S CHOICE
O	USER'S CHOICE		ORIFICE, RESTRICTION		OPEN
P	PRESSURE, VACUUM		POINT (TEST) CONNECTION		
Q	QUANTITY	INTEGRATE, TOTALIZE (4)			
R	RADIATION		RECORD		RUN
S	SPEED, FREQUENCY	SAFETY		SWITCH	
T	TEMPERATURE			TRANSMIT	
U	MULTIVARIABLE		MULTIFUNCTION	MULTIFUNCTION	MULTIFUNCTION
V	VIBRATION, MECHANICAL ANALYSIS			VALVE, DAMPER, LOUVER	
W	WEIGHT, FORCE	W AXIS	WELL		
X	UNCLASSIFIED	X AXIS	UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED
Y	EVENT, STATE OR PRESENCE	Y AXIS		RELAY, CONVERT	
Z	POSITION, DIMENSION	Z AXIS		DRIVER, ACTUATOR	FINAL CONTROL ELEMENT

GENERAL NOTES

1. INSTRUMENTS TO BE INSTALLED INTO PROCESS LINES OR ON PROCESS VESSELS WILL BE INSTALLED BY CONTRACTOR. CONTRACTOR SHALL BE RESPONSIBLE FOR ELECTRICAL FIELD DEVICE MOUNTING, AS DEFINED ON THESE CONTRACT DRAWINGS.
2. SUGGESTED CONDUIT ROUTINGS ARE SHOWN ON THE CONDUIT AND CABLE BLOCK DIAGRAM IF PART OF THE DRAWING PACKAGE. CONTRACTOR SHOULD SURVEY AREA FOR MOST DESIRABLE ROUTINGS. CONTRACTOR SHALL BE RESPONSIBLE FOR MOST EFFICIENT ROUTING INSTALLATION.
3. ALL CONDUIT AND FITTINGS SHALL BE GALVANIZED RIGID STEEL. MINIMUM CONDUIT SIZE FOR ALL CONDUITS SHALL BE 3/4".
4. ROUTE CONDUITS IN GROUPS WHERE POSSIBLE IN A NEAT AND WORKMANLIKE MANNER, PARALLEL AND PERPENDICULAR TO THE STRUCTURE.
5. CONTRACTOR TO ADHERE TO THE FOLLOWING CODE REGARDING AC WIRING: BLACK – POWER HOT; RED – SIGNAL HOT & SIGNAL INPUT; WHITE – NEUTRAL; GREEN – GROUND. FOR EXTERNAL SOURCE VOLTAGE WIRING, YELLOW CONDUCTORS SHALL BE USED.
6. CONTRACTOR TO ADHERE TO THE FOLLOWING CODE REGARDING DC WIRING: BLUE – POSITIVE, DC HOT; WHITE WITH BLUE TRACER – NEGATIVE, DC COMMON.
7. FINAL CONDUIT CONNECTIONS AT INSTRUMENTS AND FIELD DEVICES TO BE LIQUID-TIGHT FLEXIBLE CONDUIT WITH MINIMUM AND MAXIMUM LENGTHS OF 18" AND 36" RESPECTIVELY.
8. ALL WIRES SHALL BE DELIVERED DIRECTLY BETWEEN TERMINATING ENTITIES. INTERMEDIATE SPLICING OF WIRES IS NOT PERMITTED.
9. ALL INSTRUMENTS TO WHICH SHIELDED CABLE SHALL BE ROUTED SHALL HAVE THE SHIELD GROUNDED AT THE SOURCE CONTROL PANEL. THE SHIELD SHALL NOT BE CONNECTED AT THE INSTRUMENT, BUT SHALL BE ELECTRICALLY TAPED BACK AT THE INSTRUMENT TO ENSURE NO CONNECTION WITH INSTRUMENT WIRES OR INSTRUMENT ENCASEMENT.
10. ALL CONDUITS SHALL ENTER FIELD CONTROL PANELS AND JUNCTION BOXES FROM THE BOTTOM OR SIDE WHEREVER POSSIBLE. ANY EXCEPTIONS MUST BE APPROVED BY THE PROJECT MANAGER.
11. PULL BOXES AND JUNCTION BOXES FURNISHED BY CONTRACTOR SHALL BE NEMA 12 UNLESS OTHERWISE NOTED.
12. FOR ALL WIRING TERMINATIONS, NO MORE THAN TWO WIRES SHALL BE CONNECTED TO ONE TERMINAL. FOR ALL WIRING, A PERMANENT WIRE MARKER ENGRAVED WITH A MACHINE PRINTED WIRE NUMBER SHALL BE PERMANENTLY AFFIXED TO EACH WIRE AT BOTH ENDS. EACH TERMINAL BLOCK SHALL BE CLEARLY IDENTIFIED.
13. EACH INSTRUMENT AND FIELD DEVICE SHALL BE PERMANENTLY LABELED BY CONTRACTOR USING 1in x 2in PHENOLIC TAGS, BLACK LETTERING ON WHITE BACKGROUND.
14. QUANTITIES OF WIRES/CABLES SHOWN ON CONDUIT BLOCK DIAGRAMS REPRESENT A MINIMUM. SPARE CABLES SHALL BE ROUTED WHEREVER POSSIBLE. ALL SPARES SHALL BE CLEARLY MARKED. AT A MINIMUM, 4 SPARE WIRES/CABLES SHALL BE ROUTED TO FURTHEST TEE IN CONDUIT RUN.
15. WIRING WITHIN PANELS SHALL BE INSTALLED IN A NEAT AND ORGANIZED MANNER, UTILIZING TIE-WRAPS WHERE APPROPRIATE.
16. ALL CABLE LENGTHS FROM FIELD TO PANELS SHALL BE LONG ENOUGH TO PERMIT WIRING TO REACH ANY TERMINAL BLOCK WITHIN PANEL. ASSOCIATED FIELD CABLES SHALL BE ROUTED ALONG BOTTOM OF PANEL INTERIOR AND UP INTO WIRE DUCT OR TERMINAL BLOCKS FROM BOTTOM OF PANEL.
17. ALL COMPONENTS MOUNTED BY CONTRACTOR IN EXISTING PANELS AND NEW PANELS SHALL BE PERMANENTLY LABELED.
18. WIRE AND CABLE: STRANDED TYPE THHN INSULATION, 600 VOLT, COPPER CONDUCTORS COLOR CODED, MINIMUM SIZE #14 AWG FOR INDIVIDUAL CONDUCTORS; 300 VOLT, #18 AWG FOR SHIELDED PAIRS. MULTI-CONDUCTOR CABLES SHALL BE UL LISTED FOR CABLE TRAY USE. ALL WIRING LEAVING POWER OR CONTROL CABINETS SHALL BE UL LISTED FOR CABLE TRAY USE.
19. FINAL CONNECTIONS: FLEXIBLE LIQUID-TIGHT GALVANIZED STEEL CONDUIT SHALL BE USED FOR ALL CONNECTIONS TO MOTORS AND FIELD DEVICES (MAXIMUM 3 FT, SAME SIZE AS BRANCH CIRCUIT CONDUIT).
20. FIELD BENDS IN CONDUIT SHALL HAVE RADIUS NO LESS THAN THAT OF MANUFACTURED ELBOW OF SAME SIZE OR THE ALLOWABLE BENDING RADIUS OF THE INSTALLED CONDUCTOR. HEATING SHALL NOT BE UTILIZED TO MAKE BENDS.
21. ALL CONDUIT BODIES, FITTINGS, AND BOXES USED IN WET LOCATIONS ARE REQUIRED TO BE PROVIDED WITH THREADED HUBS OR OTHER APPROVED MEANS, AND OF THE RAIN TIGHT TYPE. CONDUITS EXPOSED TO WEATHER ARE REQUIRED TO HAVE RAIN TIGHT FITTINGS AND DRAINHOLES.
22. SEALING FITTINGS AND APPROVED SEALING COMPOUND SHALL BE INSTALLED IN ALL UNDERGROUND CONDUITS AND FOR ALL WIRING IN CLASSIFIED AREAS IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE.
23. CONDUIT, FITTINGS, AND JUNCTION BOXES SHALL BE SUITABLE FOR THE AREA CLASSIFICATION IN WHICH THEY ARE TO BE INSTALLED. ELECTRICAL INSTALLATIONS SHALL CONFORM TO AREA CLASSIFICATIONS DESIGNATED. ALL AREAS ARE ASSUMED TO BE CLASSIFIED AS NON-HAZARDOUS.

INSTRUMENTATION SYMBOLS

- EMERGENCY STOP PUSHBUTTON
- LOCAL FIELD MOUNTED INSTRUMENT
- LIC — LEVEL INDICATING CONTROLLER
- FV — SOLENOID VALVE
- AV — PNEUMATIC OR HYDRAULIC OPER. VALVE
- PDT — DIFFERENTIAL PRESSURE TRANSMITTER
- FT — FLOW TRANSMITTER
- LT — LEVEL TRANSMITTER
- PT — PRESSURE TRANSMITTER
- TT — TEMPERATURE TRANSMITTER
- WT — WEIGHT TRANSMITTER
- VT — VIBRATION TRANSMITTER
- ZSO — VALVE OPEN LIMIT SWITCH
- ZSC — VALVE CLOSED LIMIT SWITCH
- FSH — FLOW SWITCH (H-HIGH, L-LOW)
- PSH — PRESSURE SWITCH (H-HIGH, L-LOW)
- LSH — LEVEL SWITCH (H-HIGH, L-LOW)
- ZSS — ZERO SPEED SWITCH
- ZS — POSITION LIMIT SWITCH
- TSH — TEMPERATURE SWITCH (H-HIGH, L-LOW)
- TE — TEMPERATURE ELEMENT

I & C PROJECT SHEET INDEX

		BY:
		BY:
		BY:
A	RELEASED FOR CONSTRUCTION	BY: BMS 05-11-20

SCALE	NTS		
DRAWN	05-05-20	BMS	
CHECK			
APPR	05-05-20	CAL	

FOR MERIT FUNCTIONAL FOODS WINNIPEG, MB

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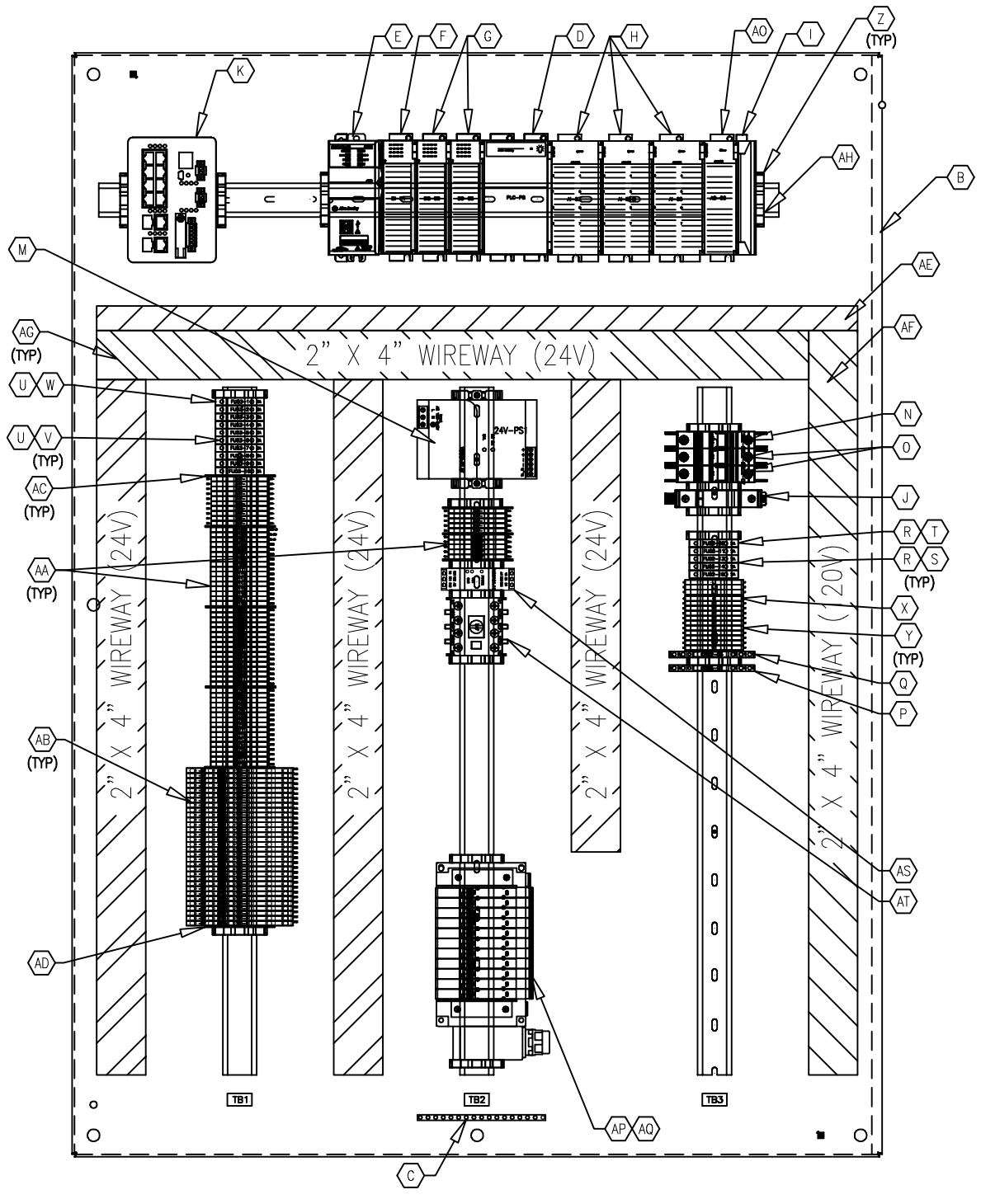
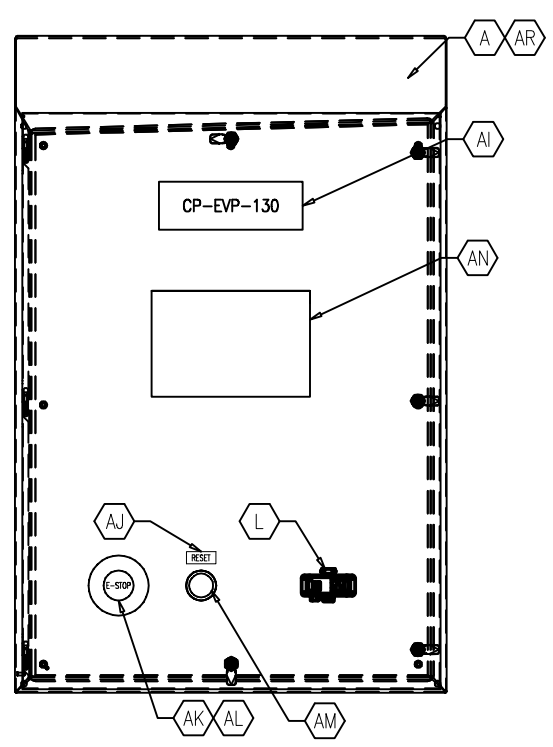
TITLE PAGE
NOTES AND SYMBOLS

DWG # E877-101

REV A



MCP SUB PANEL LAYOUT



MCP FRONT PANEL LAYOUT

GENERAL NOTES

1. REFER TO SHEET 101 FOR GENERAL NOTES AND LEGENDS.
2. THE PLC PANEL DISPLAYED ON THIS DRAWING AND ALL OF ITS CONTENTS SHALL BE FURNISHED BY THE PANEL BUILDER UNLESS OTHERWISE NOTED.
3. PANEL BUILDER SHALL INSTALL ALL PANEL INTERIOR AND EXTERIOR DEVICES AS SHOWN ON DRAWING. PANEL BUILDER SHALL BE RESPONSIBLE FOR ALL INTERNAL PANEL WIRING AS DETAILED ON DRAWINGS.
4. 480 VAC WIRING, 120 VAC & 24VDC WIRING SHALL BE ROUTED IN SEPARATE WIRE DUCTS. IF WIRING MUST CROSS OTHER VOLTAGE WIRING, IT SHOULD DO SO AT RIGHT ANGLES. WHITE WIRE DUCT SHALL BE USED FOR 120 VAC WIRING. DARK GRAY DUCT SHALL BE USED FOR 480 VAC WIRING. LIGHT GRAY DUCT SHALL BE USED FOR 24 VDC WIRING.
5. ALL INTERNAL 120 VAC PANEL WIRING SHALL BE #16 AWG – BLACK FOR POWER HOT, RED FOR SIGNAL, WHITE FOR NEUTRAL, GREEN FOR GROUND. YELLOW WIRING SHALL BE USED FOR ALL INTERNAL PANEL WIRING CARRYING POWER FROM SOURCES EXTERNAL TO PANEL. REFER TO PANEL WIRING SCHEMATICS FOR SPECIFIC WIRING FOR WHICH YELLOW CONDUCTORS ARE REQUIRED. ALL 480 VAC PANEL WIRING SHALL BE BLACK, APPROPRIATELY SIZED FOR THE LOAD IT SERVICES.
6. CONTRACTOR SHALL ADHERE TO THE FOLLOWING CODE REGARDING 24VDC WIRING: INDIVIDUAL CONDUCTORS SHALL BE BLUE FOR 24VDC+, BLUE WITH WHITE TRACER FOR 24VDC–; SHIELDED SIGNAL PAIRS SHALL BE RED FOR 24VDC+, BLACK FOR 24VDC–.
7. EACH COMPONENT SHOWN ON BACK PANEL SHALL BE PERMANENTLY LABELED.
8. BACK PANEL COMPONENT LOCATION DIMENSIONS ARE APPROXIMATE. PANEL BUILDER MAY ALTER PLACEMENT OF COMPONENTS PENDING APPROVAL BY PROJECT ENGINEER.
9. EACH TERMINAL BLOCK NUMBER SHALL BE CLEARLY IDENTIFIED.
10. CONTRACTOR SHALL PROVIDE A MINIMUM OF 20% SPARE TERMINAL BLOCKS OF EACH TYPE USED IN PANEL.
11. ALL WIRES SHALL BE DELIVERED DIRECTLY BETWEEN TERMINATING ENTITIES. INTERMEDIATE SPLICING OF WIRES IS NOT PERMITTED.
12. WIRING WITHIN PANEL SHALL BE INSTALLED IN A NEAT AND ORGANIZED MANNER, UTILIZING TIE-WRAPS WHERE APPROPRIATE.
13. NO MORE THAN TWO WIRES SHALL BE CONNECTED TO ONE TERMINAL. A PERMANENT WIRE MARKER ENGRAVED WITH A MACHINE PRINTED WIRE NUMBER SHALL BE PERMANENTLY AFFIXED TO EACH WIRE AT BOTH ENDS.
14. ALL INTERNAL AND FIELD CABLES SHALL BE PERMANENTLY AND CLEARLY LABELED WITH LOOP AND CHANNEL DESIGNATIONS AT BOTH ENDS.
15. ALL CABLE LENGTHS FROM FIELD SHALL BE LONG ENOUGH TO REACH ANY TERMINAL BLOCK WITHIN THE PANEL.

DRAWING NOTES

(1) TO BE SUPPLIED BY OTHERS.

BILL OF MATERIAL - PLC PANEL

ITEM	QTY	CATALOG	MFG	DESCRIPTION
A	1	WS483616SS	HOFFMAN	WALL-MOUNT ENCLOSURE
B	1	A48P36	HOFFMAN	BACK PLATE
C	1	PK15GTA	SQUARED	GROUND BAR 15 POSITIONS
D	1	1769-PA4	AB	1769 COMPACT LOGIX POWER SUPPLY
E	1	1769-L33ER	AB	COMPACT LOGIX PROCESSOR
F	1	1769-IQ16	AB	COMPACT LOGIX SERIES DC INPUT MODULE
G	2	1769-OB16	AB	COMPACT LOGIX SERIES DC OUTPUT MODULE
H	3	1769-IF8	AB	COMPACT LOGIX SERIES ANALOG INPUT MODULE
I	1	1769-ECR	AB	RIGHT END CAP
J	1	4983-DC120-05	AB	FILTER AND SURGE PROTECTIVE DEVICE 120V 5AMP
K	1	1783-BMS10CGN	AB	ETHERNET 8 PORT MANAGED SWITCH
L	1	P-R0-F2R0	GRACEPORT	RECEPTACLE & ETHERNET PORT
M	1	1606-XLE480E	AB	POWER SUPPLY 24VDC480W
N	1	1489-M1C150	AB	CIRCUIT BREAKER, BULLETIN 1489 SERIES, 15A
O	2	1489-M1C060	AB	CIRCUIT BREAKER, BULLETIN 1489 SERIES, 6A
P	2	700-HLT1Z24	AB	HL TYPE TERMINAL BLOCK RELAY
Q	1	700-HLT1U1	AB	HL TYPE TERMINAL BLOCK RELAY
R	5	1492-WFB4250	AB	SCREW CONNECTION TERMINAL BLOCK
S	4	GMA2A	BUSSMANN	FUSE – CLASS GMA
T	1	GMA5A	BUSSMANN	FUSE – CLASS GMA
U	10	1492-WFB424	AB	SCREW CONNECTION TERMINAL BLOCK
V	9	GMA2A	BUSSMANN	FUSE – CLASS GMA
W	1	GMA4A	BUSSMANN	FUSE – CLASS GMA
X	1	1492-J3-G	AB	SCREW CONNECTION TERMINAL BLOCK
Y	13	1492-J3	AB	SCREW CONNECTION TERMINAL BLOCK
Z	AS REQ.	1492-EAJ35	AB	END ANCHOR
AA	68	1492-JD3	AB	SCREW CONNECTION TWO TIER TERMINAL BLOCK
AB	32	1492-WTF3	AB	SCREW CONNECTION THREE TIER TERMINAL BLOCK
AC	8	1492-EBJD3	AB	END BARRIER, TWO TIER
AD	1	1492-EBTF3	AB	END BARRIER, THREE TIER
AE	AS REQ.	PANEL SHOP	–	WIREWAY, 1" x 4" WHITE
AF	AS REQ.	PANEL SHOP	–	WIREWAY, 2" x 4" WHITE
AG	AS REQ.	PANEL SHOP	–	WIREWAY, 2" x 4" LIGHT GRAY
AH	AS REQ.	PANEL SHOP	–	DIN RAIL
AI	1	PANEL SHOP	–	NAME PLATE,(SEE DETAIL "A")
AJ	1	PANEL SHOP	–	NAME PLATE,(SEE DETAIL "B")
AK	1	800HC-FRXT6A5	AB	E-STOP, PUSH BUTTON
AL	1	800H-W690	AB	E-STOP, 30 MM 800H YELLOW RING
AM	1	800HC-AR2D1	AB	E-STOP, RESET BUTTON
AN	1	2711P-T10C22A9P	AB	HMI, 10" PANELVIEW (SEE DETAIL "C")
AO	1	1769-OF8C	C	COMPACT LOGIX SERIES ANALOG OUTPUT MODULE
AP	1	SS5Y3-10L12-10U-N7A	SMC	BASE, SOLENOID VALVE
AQ	10	SY3A00-5UF1	SMC	VALVE, SOLENOID
AR	1	CMFKSS	HOFFMAN	FOOT KIT
AS	1	440R-N23119	AB	SAFETY RELAY
AT	1	100S-C12EJ404C	AB	SAFETY CONTACTOR

CP-EVP-130

MATERIAL:
4"H x 12W" LAMINATED PHENOLIC NAMEPLATE.
1" HIGH BLACK LETTERING ON WHITE BACKGROUND.
ALL EDGES TO BE BEVELED.

DETAIL "A" - PLC DOOR NAMEPLATE

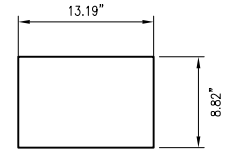
NOT TO SCALE

RESET

MATERIAL:
1"H x 2.5" LAMINATED PHENOLIC NAMEPLATE.
1/2" HIGH BLACK LETTERING ON WHITE BACKGROUND.
ALL EDGES TO BE BEVELED.

DETAIL "B" - E-STOP RESET

NOT TO SCALE



DETAIL "C" - HMI CUT OUT

NOT TO SCALE

CONVENTIONS

WIRE DUCT FOR 24 VDC WIRING (LIGHT GRAY WIRING DUCT)

WIRE DUCT FOR 120 VAC WIRING (WHITE WIRING DUCT)

(A) ITEM NUMBER ON PARTS LIST

(1) DRAWING NOTE

		BY:
		BY:
B	RELEASED FOR WIRING	BY: BMS 05-14-20
A	RELEASED FOR CONSTRUCTION	BY: BMS 05-11-20

SCALE	NTS		
DRAWN	05-05-20	BMS	
CHECK			
APPR	05-05-20	CAL	

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MERIT
FUNCTIONAL FOODS
WINNIPEG, MB

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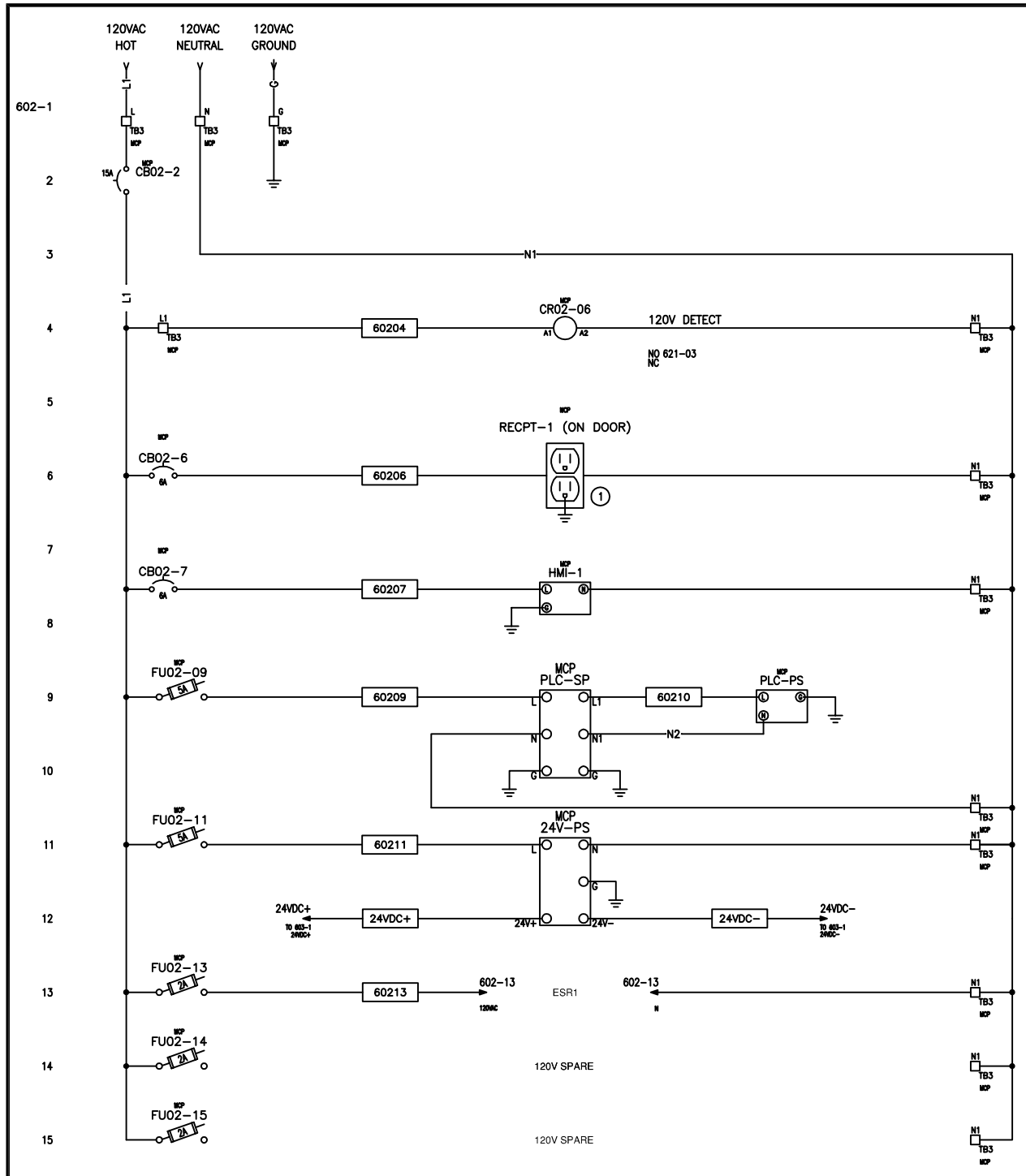
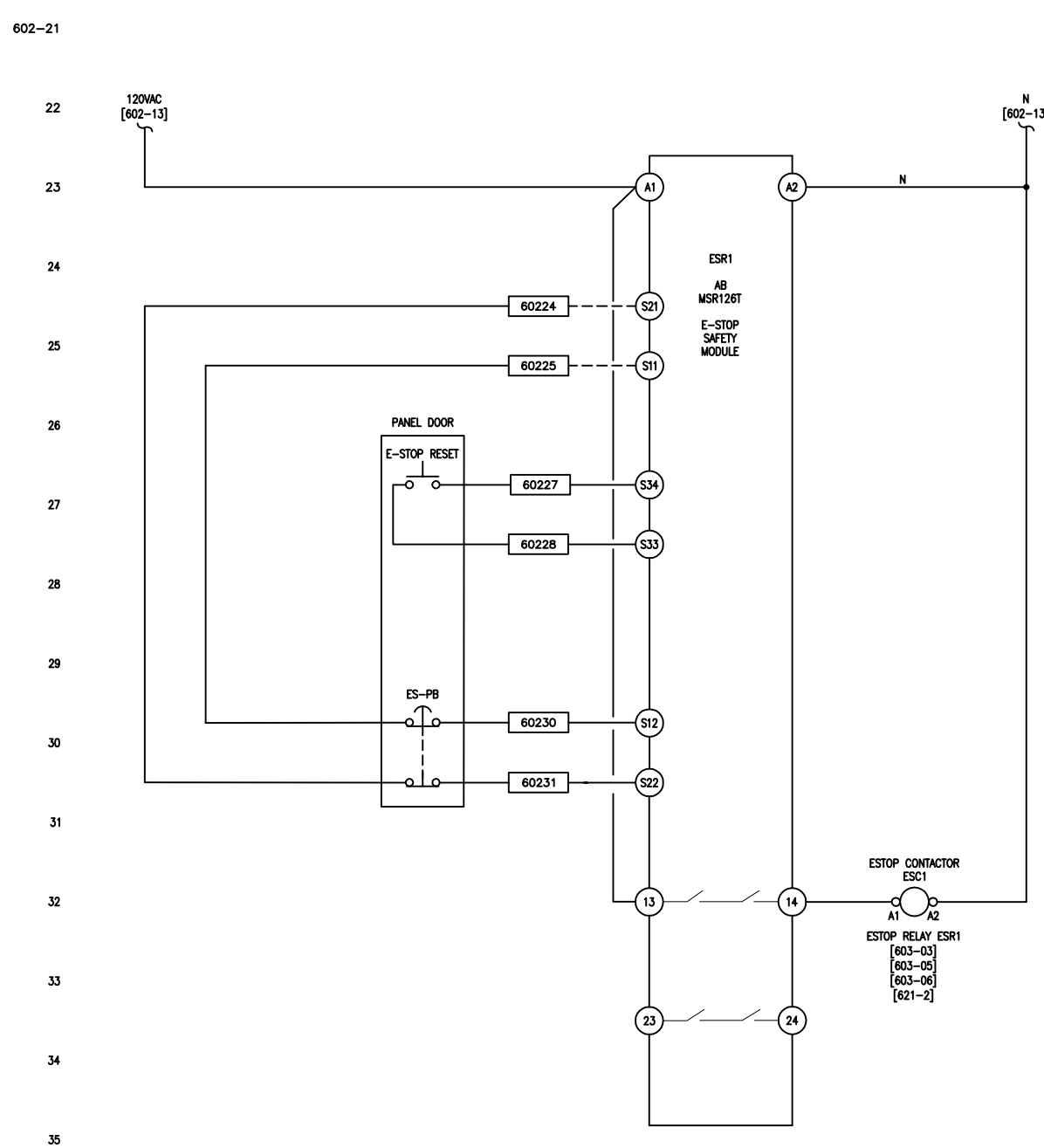
MAIN CONTROL PANEL LAYOUT & BOM

DWG # E877-601

REV B





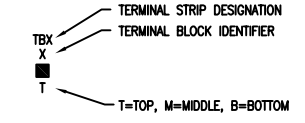
GENERAL NOTES

1. REFER TO SHEET 101 FOR ASSOCIATED PROJECT NOTES AND SYMBOLS.

DRAWING NOTES

(1) RECEPTACLE TO BE LABELED "FOR COMPUTER USE ONLY".

CONVENTIONS



(1)	DRAWING NOTE REFERENCE
[XXXX-XX]	LINE NUMBER REFERENCE
———	INTERNAL PANEL WIRING
- - - -	EXTERNAL FIELD WIRING
M101.1	FIELD WIRING NUMBER

		BY:
		BY:
B	RELEASED FOR WIRING	BY: BMS 05-14-20
A	RELEASED FOR CONSTRUCTION	BY: BMS 05-11-20

SCALE	NTS		FOR MERIT FUNCTIONAL FOODS WINNIPEG, MB
DRAWN	05-05-20	BMS	
CHECK			
APPR	05-05-20	CAL	

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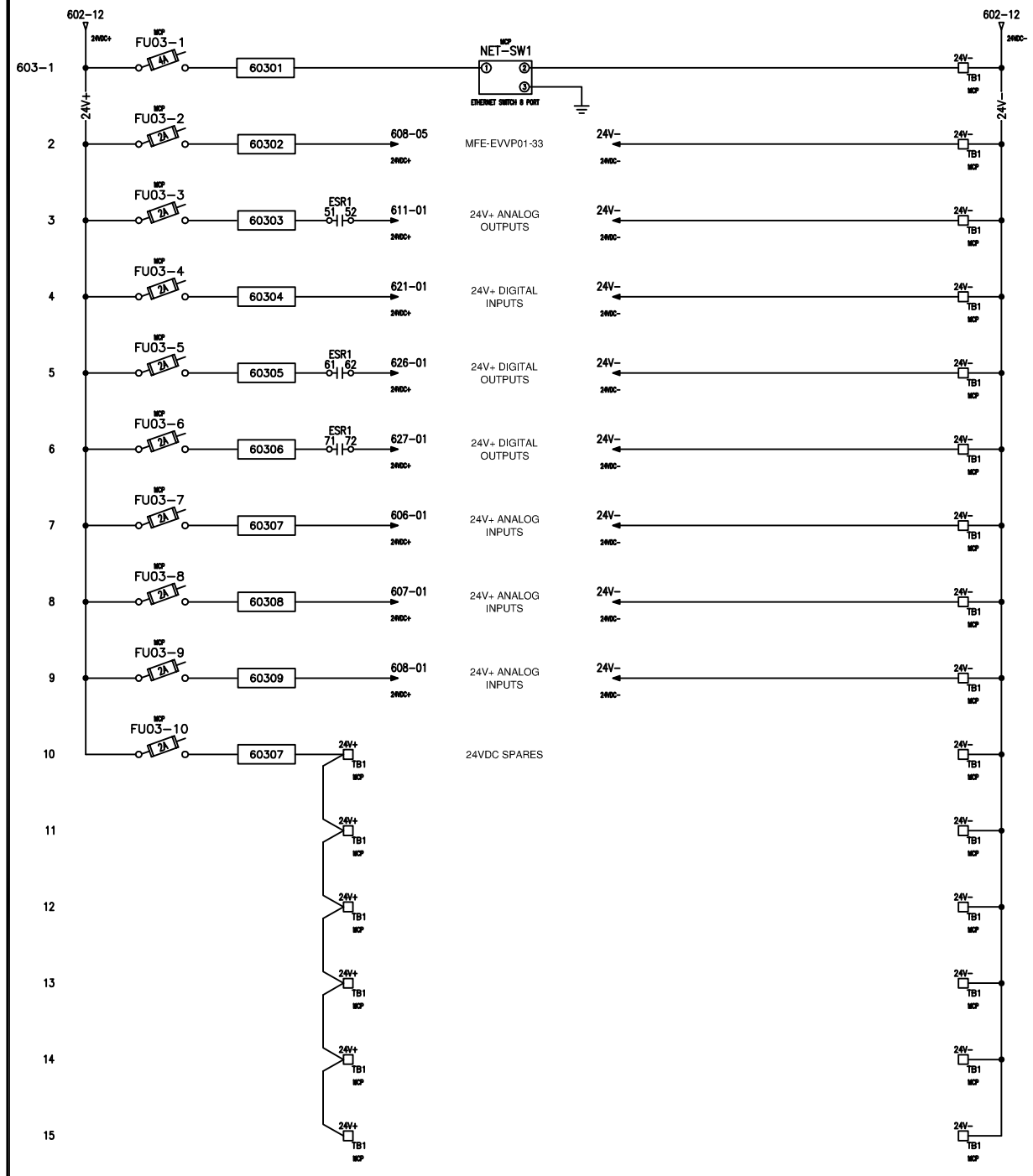
MAIN CONTROL PANEL SCHEMATICS PAGE 1 OF 2

DWG # E877-602 REV B



GENERAL NOTES

1. REFER TO SHEET 101 FOR ASSOCIATED PROJECT NOTES AND SYMBOLS.
2. REFER TO SHEET 601 FOR GENERAL PANEL INSTALLATION NOTES.

DRAWING NOTES

(1)

CONVENTIONS

TBX
X
T

TERMINAL STRIP DESIGNATION
TERMINAL BLOCK IDENTIFIER
T=TOP, M=MIDDLE, B=BOTTOM

(1) DRAWING NOTE REFERENCE

[XXXX-XX] LINE NUMBER REFERENCE

INTERNAL PANEL WIRING

EXTERNAL FIELD WIRING

M101.1 FIELD WIRING NUMBER

		BY:
		BY:
B	RELEASED FOR WIRING	BY: BMS 05-14-20
A	RELEASED FOR CONSTRUCTION	BY: BMS 05-11-20

SCALE	NTS	
DRAWN	05-05-20	BMS
CHECK		
APPR	05-05-20	CAL

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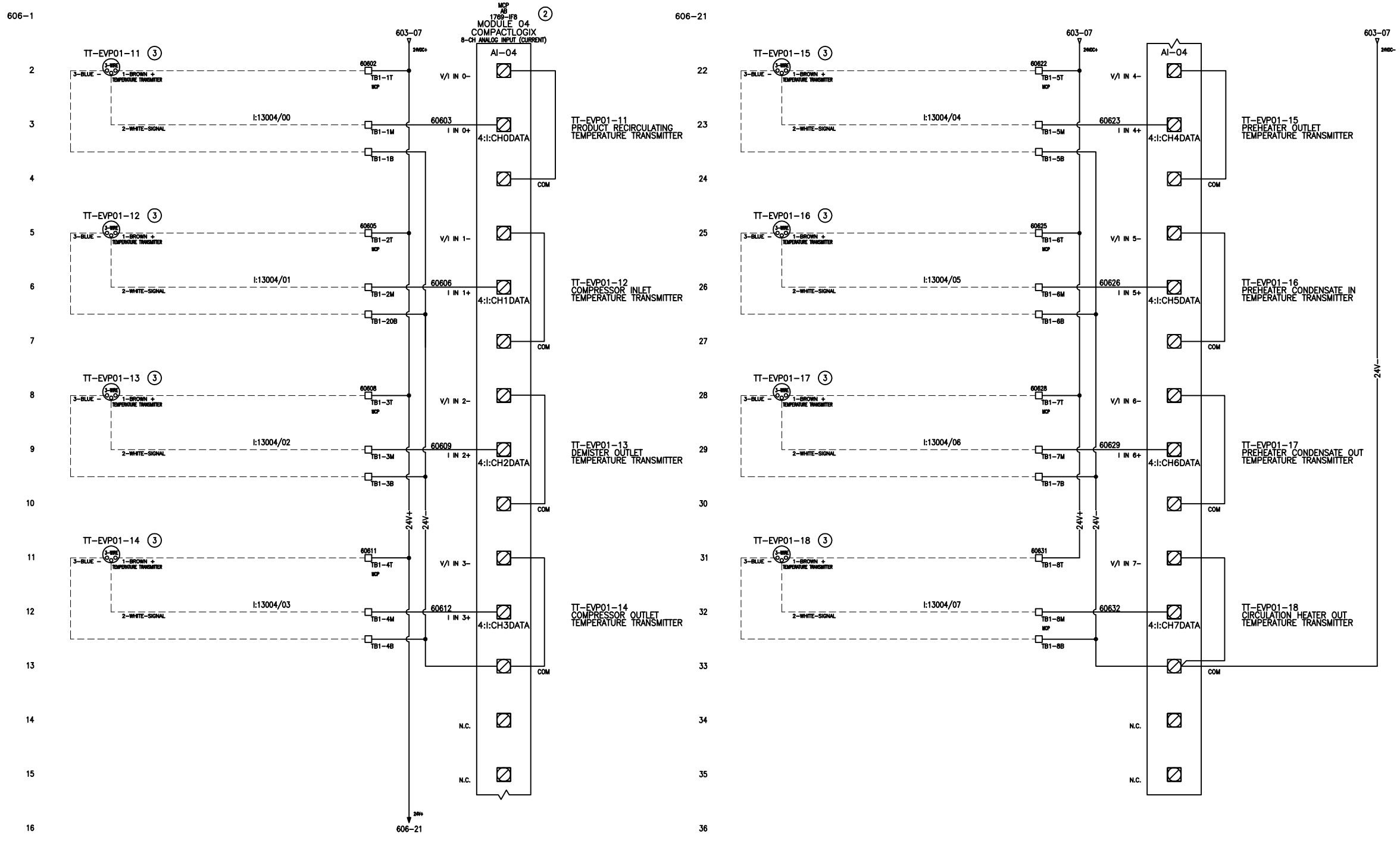
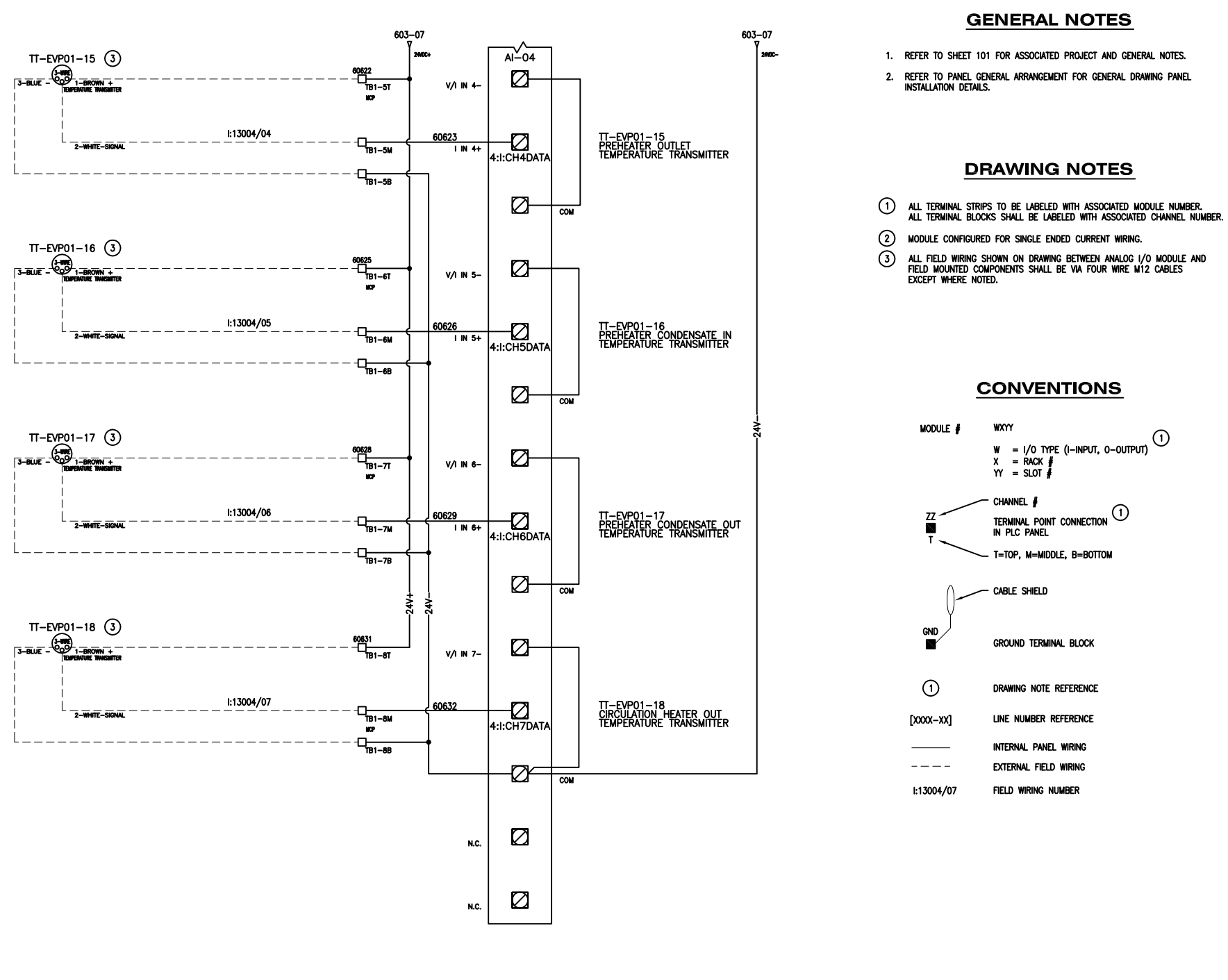
MAIN CONTROL PANEL
SCHEMATICS
PAGE 2 OF 2

DWG # E877-603

REV B





GENERAL NOTES

1. REFER TO SHEET 101 FOR ASSOCIATED PROJECT AND GENERAL NOTES.
2. REFER TO PANEL GENERAL ARRANGEMENT FOR GENERAL DRAWING PANEL INSTALLATION DETAILS.

DRAWING NOTES

(1) ALL TERMINAL STRIPS TO BE LABELED WITH ASSOCIATED MODULE NUMBER. ALL TERMINAL BLOCKS SHALL BE LABELED WITH ASSOCIATED CHANNEL NUMBER.

(2) MODULE CONFIGURED FOR SINGLE ENDED CURRENT WIRING.

(3) ALL FIELD WIRING SHOWN ON DRAWING BETWEEN ANALOG I/O MODULE AND FIELD MOUNTED COMPONENTS SHALL BE VIA FOUR WIRE M12 CABLES EXCEPT WHERE NOTED.

CONVENTIONS

MODULE # — WXYY

W = I/O TYPE (I=INPUT, O=OUTPUT) (1)
X = RACK #
YY = SLOT #

ZZ — CHANNEL #
T — TERMINAL POINT CONNECTION IN PLC PANEL (1)
T=TOP, M=MIDDLE, B=BOTTOM

CABLE SHIELD
GND — GROUND TERMINAL BLOCK
(1) — DRAWING NOTE REFERENCE
[XXXX-XX] — LINE NUMBER REFERENCE
——— INTERNAL PANEL WIRING
- - - - EXTERNAL FIELD WIRING
I:13004/07 — FIELD WIRING NUMBER

		BY:
		BY:
B	RELEASED FOR WIRING	BY: BMS 05-14-20
A	RELEASED FOR CONSTRUCTION	BY: BMS 05-11-20

SCALE	NTS	
DRAWN	05-05-20	BMS
CHECK		
APPR	05-05-20	CAL

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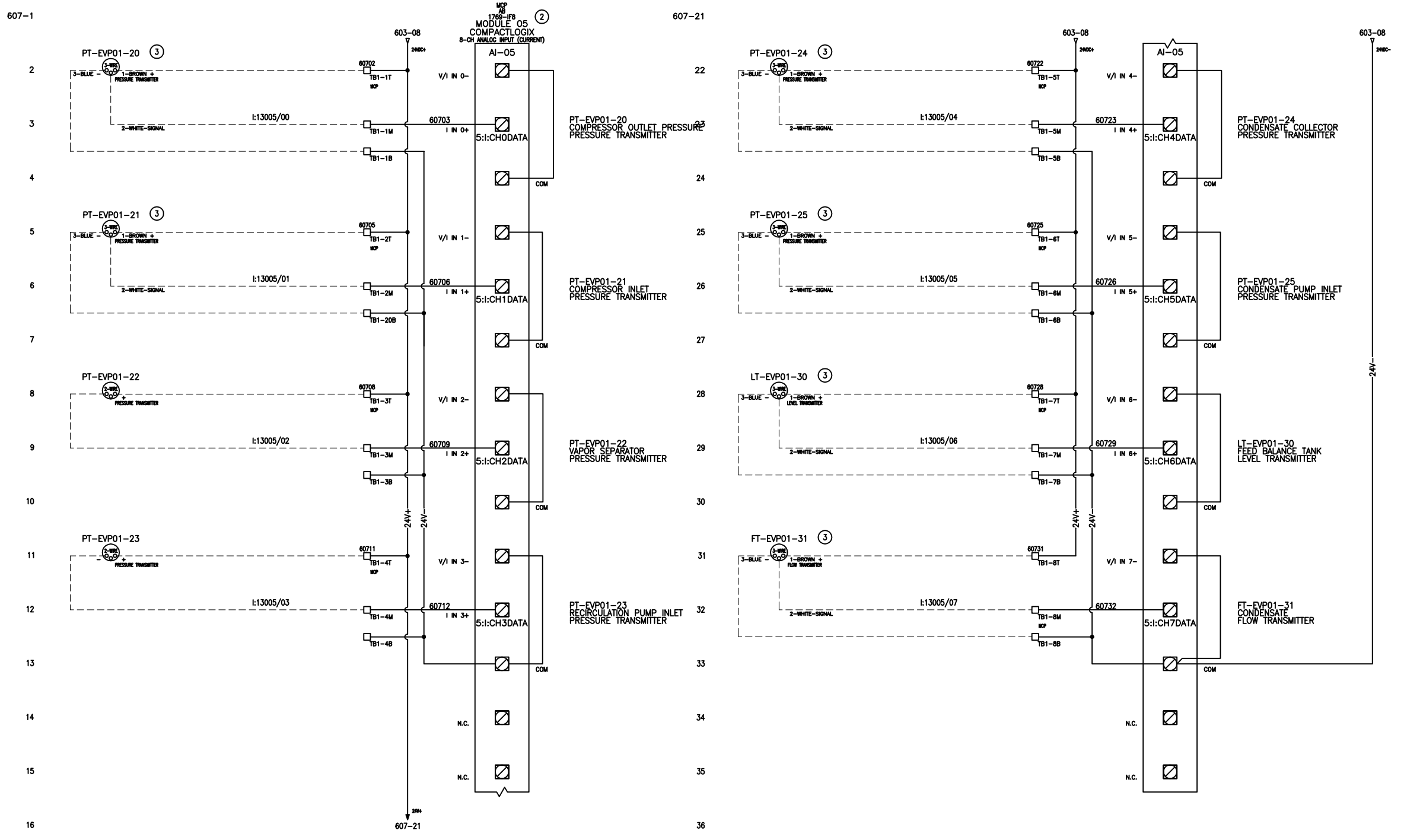
MAIN CONTROL PANEL
ANALOG INPUTS
PAGE 1 OF 3

DWG # E877-606 | REV B



GENERAL NOTES

1. REFER TO SHEET 101 FOR ASSOCIATED PROJECT AND GENERAL NOTES.
2. REFER TO PANEL GENERAL ARRANGEMENT FOR GENERAL DRAWING PANEL INSTALLATION DETAILS.

DRAWING NOTES

(1) ALL TERMINAL STRIPS TO BE LABELED WITH ASSOCIATED MODULE NUMBER. ALL TERMINAL BLOCKS SHALL BE LABELED WITH ASSOCIATED CHANNEL NUMBER.

(2) MODULE CONFIGURED FOR SINGLE ENDED CURRENT WIRING.

(3) ALL FIELD WIRING SHOWN ON DRAWING BETWEEN ANALOG I/O MODULE AND FIELD MOUNTED COMPONENTS SHALL BE VIA FOUR WIRE M12 CABLES EXCEPT WHERE NOTED.

CONVENTIONS

MODULE # — WXYY

W = I/O TYPE (I=INPUT, O=OUTPUT) (1)
X = RACK #
YY = SLOT #

ZZ — CHANNEL #
T — TERMINAL POINT CONNECTION IN PLC PANEL (1)
T=TOP, M=MIDDLE, B=BOTTOM

CABLE SHIELD
GND — GROUND TERMINAL BLOCK
(1) — DRAWING NOTE REFERENCE
[XXXX-XX] — LINE NUMBER REFERENCE
——— INTERNAL PANEL WIRING
- - - EXTERNAL FIELD WIRING
I:13005/07 — FIELD WIRING NUMBER

		BY:
		BY:
B	RELEASED FOR WIRING	BY: BMS 05-14-20
A	RELEASED FOR CONSTRUCTION	BY: BMS 05-11-20

SCALE	NTS	
DRAWN	05-05-20	BMS
CHECK		
APPR	05-05-20	CAL

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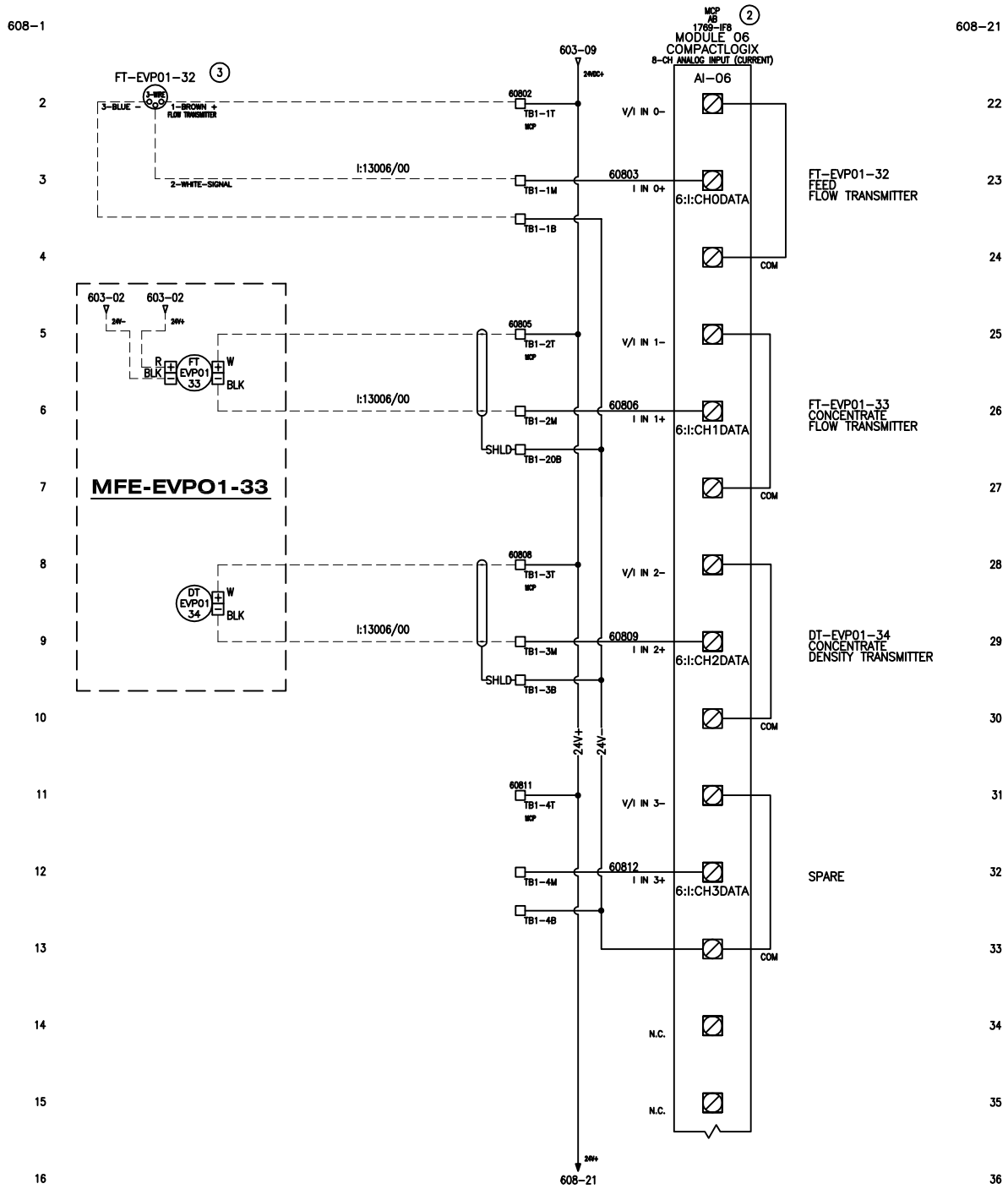
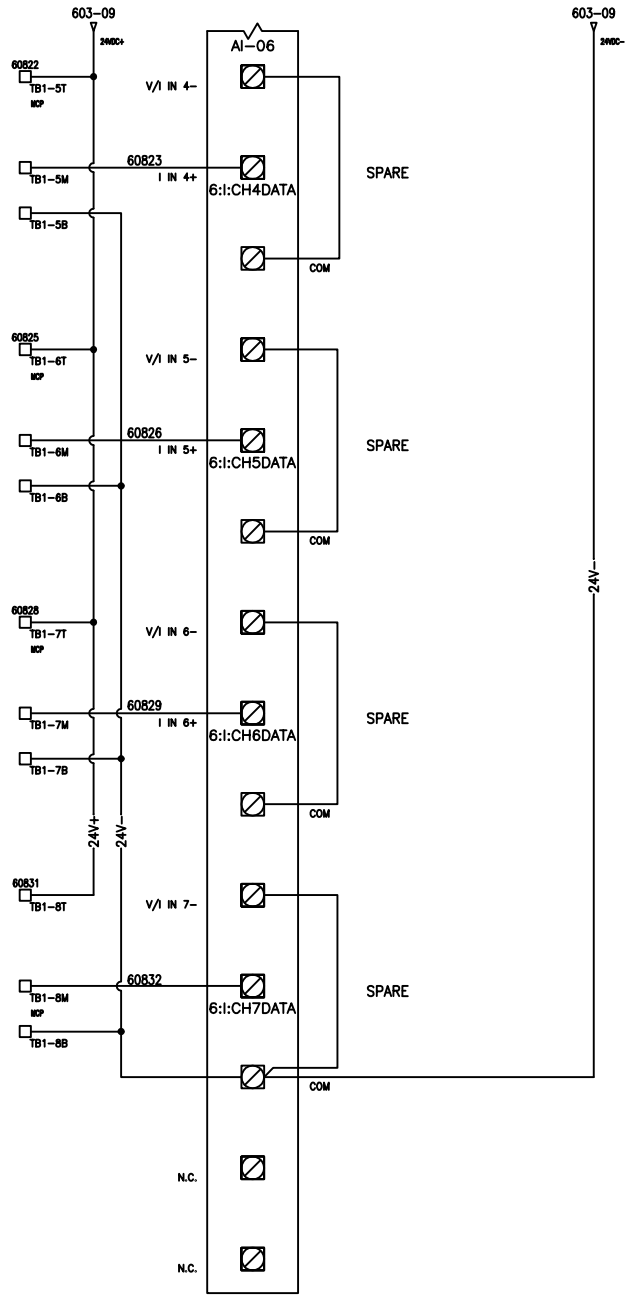
MAIN CONTROL PANEL
ANALOG INPUTS
PAGE 2 OF 3

DWG # E877-607 | REV B





GENERAL NOTES

1. REFER TO SHEET 101 FOR ASSOCIATED PROJECT AND GENERAL NOTES.
2. REFER TO PANEL GENERAL ARRANGEMENT FOR GENERAL DRAWING PANEL INSTALLATION DETAILS.

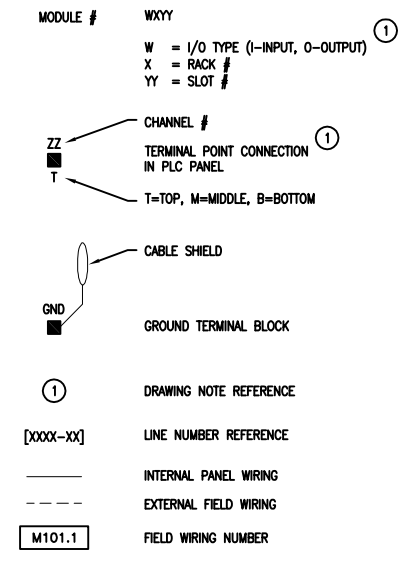
DRAWING NOTES

(1) ALL TERMINAL STRIPS TO BE LABELED WITH ASSOCIATED MODULE NUMBER. ALL TERMINAL BLOCKS SHALL BE LABELED WITH ASSOCIATED CHANNEL NUMBER.

(2) MODULE CONFIGURED FOR SINGLE ENDED CURRENT WIRING.

(3) ALL FIELD WIRING SHOWN ON DRAWING BETWEEN ANALOG I/O MODULE AND FIELD MOUNTED COMPONENTS SHALL BE VIA FOUR WIRE M12 CABLES EXCEPT WHERE NOTED.

CONVENTIONS



		BY:
		BY:
B	RELEASED FOR WIRING	BY: BMS 05-14-20
A	RELEASED FOR CONSTRUCTION	BY: BMS 05-11-20

SCALE	NTS	
DRAWN	05-05-20	BMS
CHECK		
APPR	05-05-20	CAL

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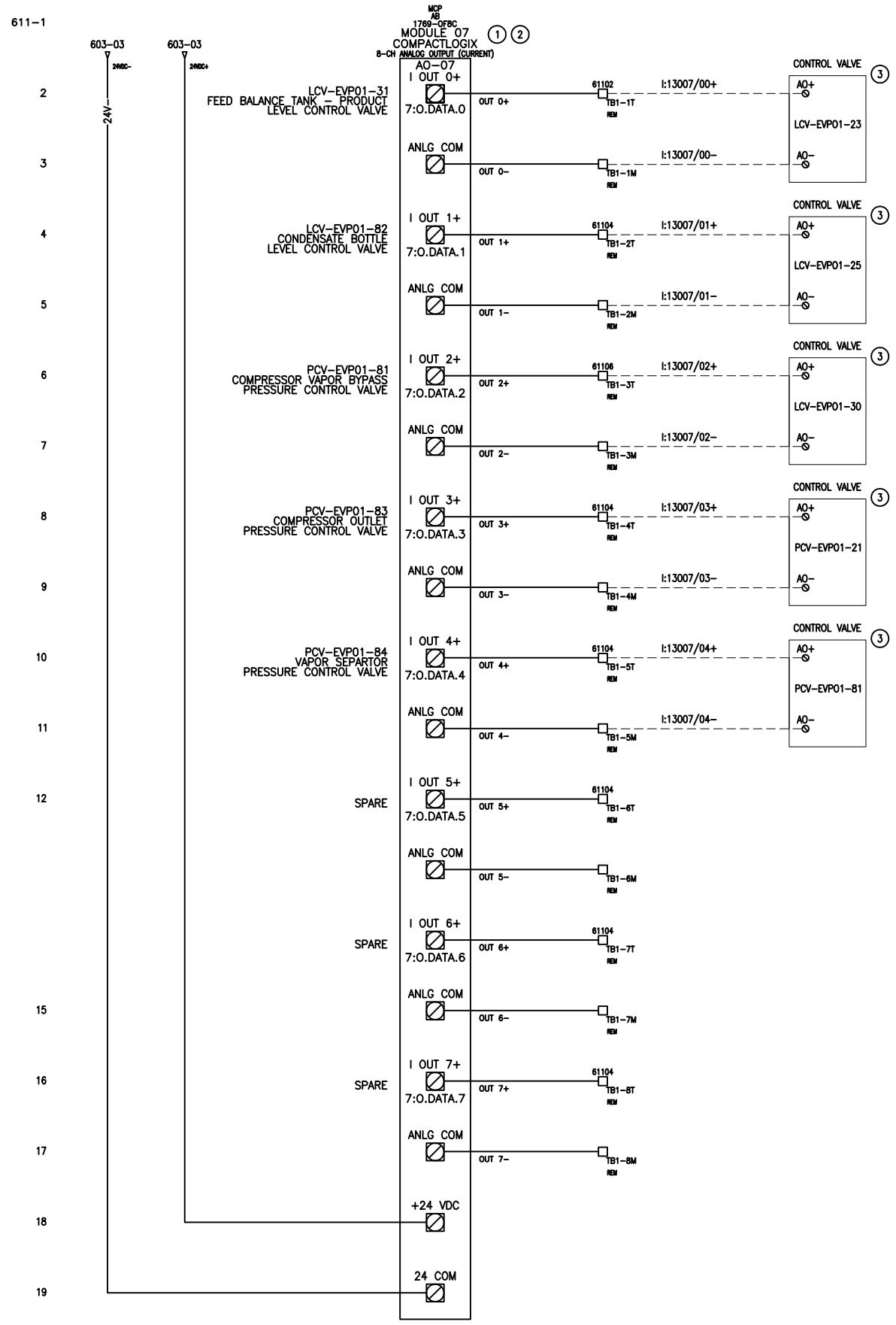
MAIN CONTROL PANEL
ANALOG INPUTS
PAGE 3 OF 3

DWG # E877-608

REV B



GENERAL NOTES

1. REFER TO SHEET 101 FOR ASSOCIATED PROJECT AND GENERAL NOTES.
2. REFER TO PANEL GENERAL ARRANGEMENT FOR GENERAL DRAWING PANEL INSTALLATION DETAILS.

DRAWING NOTES

(1) ALL TERMINAL STRIPS TO BE LABELED WITH ASSOCIATED MODULE NUMBER. ALL TERMINAL BLOCKS SHALL BE LABELED WITH ASSOCIATED CHANNEL NUMBER.

(2) MODULE CONFIGURED FOR CURRENT OUTPUT WIRING.

(3) ALL WIRING SHOWN ON DRAWING BETWEEN ANALOG I/O MODULE AND FIELD MOUNTED COMPONENTS SHALL BE #18 AWG SHIELDED TWISTED PAIRS. SHIELD GROUNDED AT TERMINAL BLOCK END ONLY, TAPED BACK AND FLOATING AT COMPONENT END.

CONVENTIONS

MODULE # — WXYY (1)

W = I/O TYPE (I=INPUT, O=OUTPUT)
X = RACK #
YY = SLOT #

ZZ
■
T

CHANNEL # (1)

TERMINAL POINT CONNECTION IN PLC PANEL

T=TOP, M=MIDDLE, B=BOTTOM

GND ■ — CABLE SHIELD

GROUND TERMINAL BLOCK

(1) — DRAWING NOTE REFERENCE

[XXXX-XX] — LINE NUMBER REFERENCE

——— INTERNAL PANEL WIRING

- - - - EXTERNAL FIELD WIRING

I:13007/05- — FIELD WIRING NUMBER

		BY:
B	RELEASED FOR WIRING	BY: BMS 05-14-20
A	RELEASED FOR CONSTRUCTION	BY: BMS 05-11-20

SCALE	NTS	
DRAWN	05-05-20	BMS
CHECK		
APPR	05-05-20	CAL

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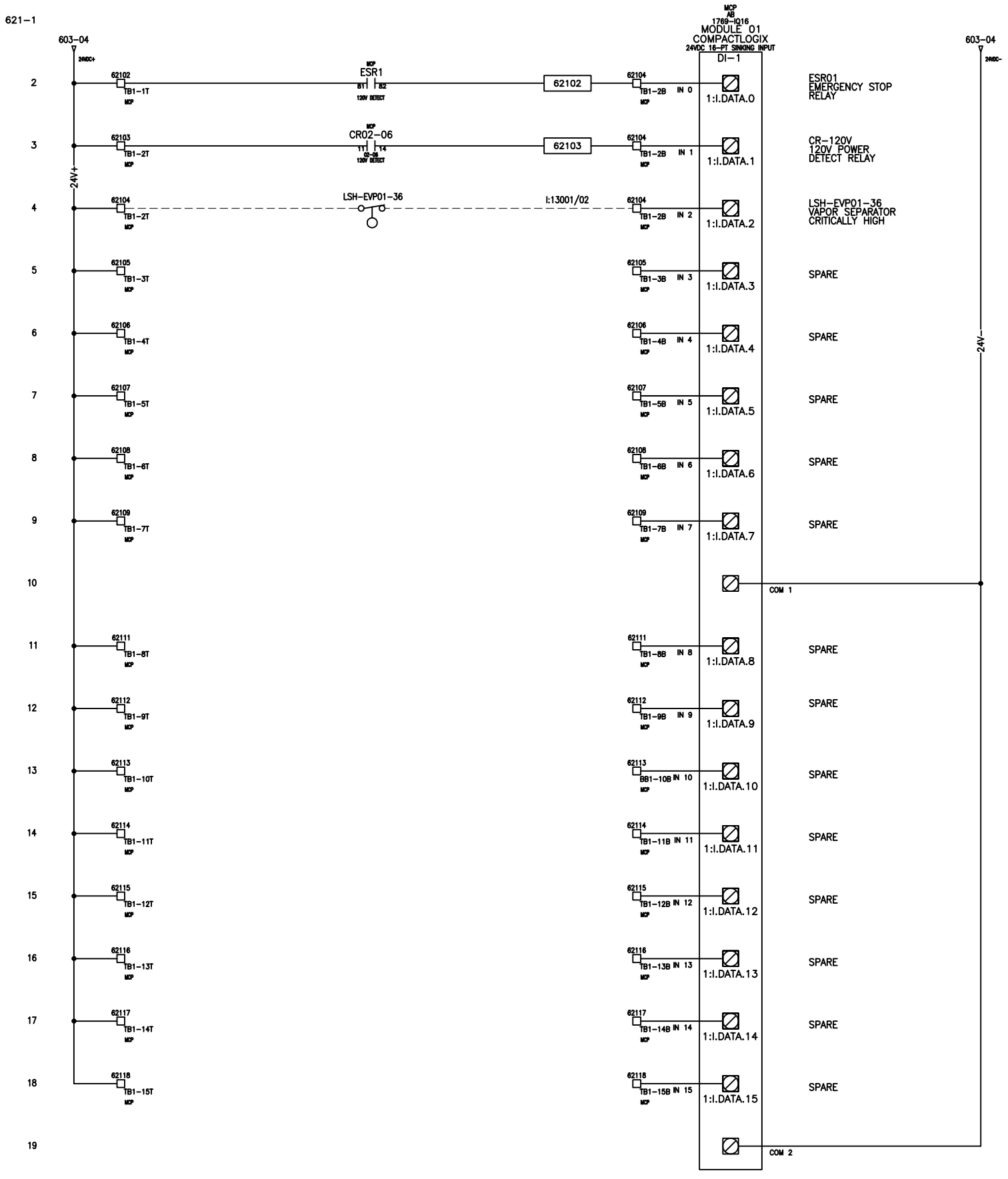
MAIN CONTROL PANEL
ANALOG OUTPUTS
PAGE 1 OF 1

DWG # E877-611 REV B



GENERAL NOTES

1. REFER TO SHEET 101 FOR ASSOCIATED PROJECT AND GENERAL NOTES.
2. REFER TO PANEL GENERAL ARRANGEMENT FOR GENERAL DRAWING PANEL INSTALLATION DETAILS.

DRAWING NOTES

(1) ALL TERMINAL STRIPS TO BE LABELED WITH ASSOCIATED MODULE NUMBER. ALL TERMINAL BLOCKS SHALL BE LABELED WITH ASSOCIATED CHANNEL NUMBER.

(2) MODULE CONFIGURED FOR 24VDC SINK WIRING.

CONVENTIONS

MODULE # — WXYY

W = I/O TYPE (I-INPUT, O-OUTPUT) (1)
X = RACK #
YY = SLOT #

ZZ — CHANNEL #
T — TERMINAL POINT CONNECTION IN PLC PANEL (1)
T=TOP, M=MIDDLE, B=BOTTOM

GND — CABLE SHIELD
GROUND TERMINAL BLOCK

(1) — DRAWING NOTE REFERENCE
[XXXX-XX] — LINE NUMBER REFERENCE
——— INTERNAL PANEL WIRING
– – – – EXTERNAL FIELD WIRING
I:13001/02 — FIELD WIRING NUMBER

		BY:
B	RELEASED FOR WIRING	BY: BMS 05-14-20
A	RELEASED FOR REVIEW	BY: BMS 05-11-20

SCALE	NTS		
DRAWN	05-05-20	BMS	
CHECK			
APPR	05-05-20	CAL	

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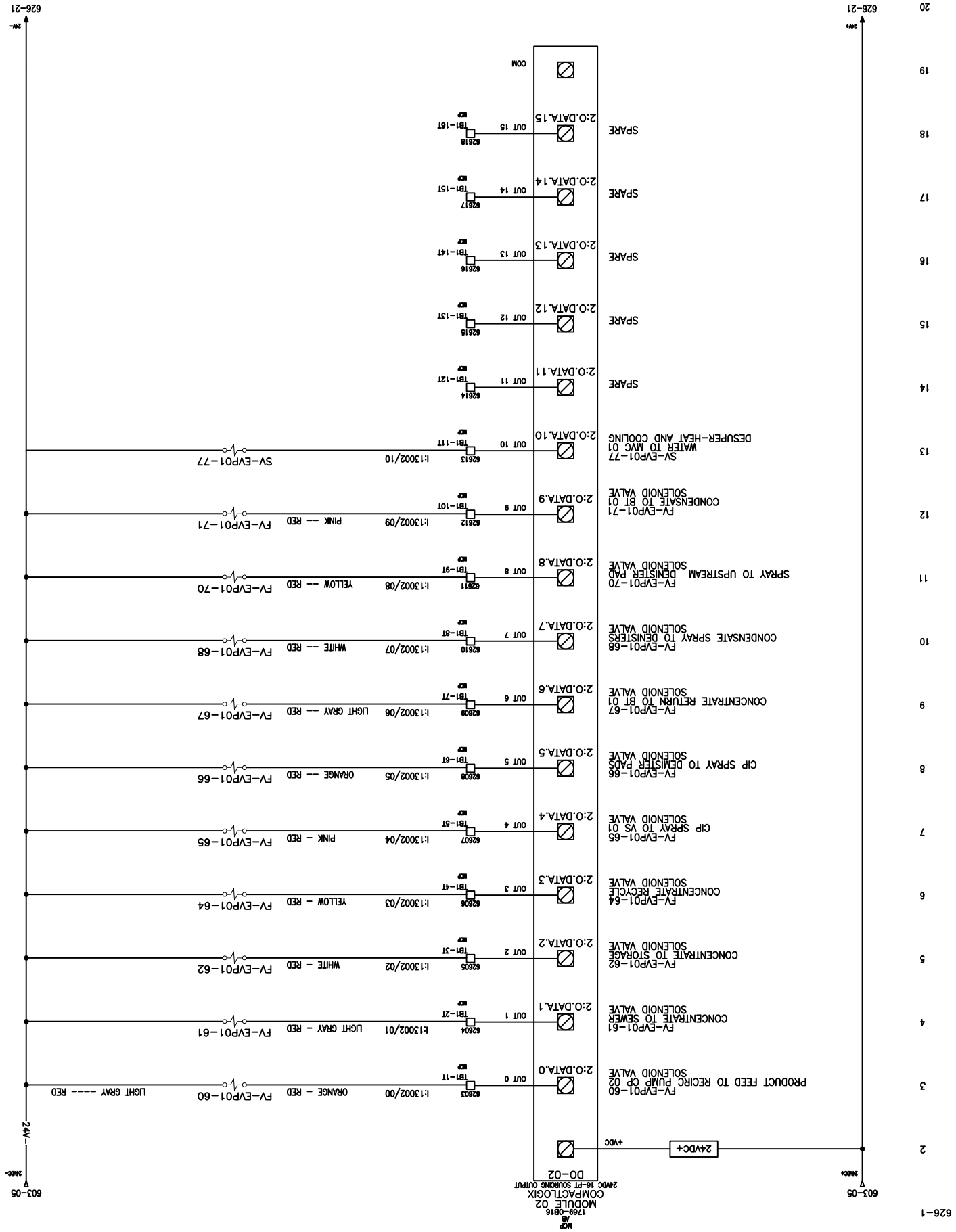
MAIN CONTROL PANEL DIGITAL INPUTS PAGE 1 OF 1

DWG # E877-621

REV B



GENERAL NOTES

1. REFER TO SHEET 101 FOR ASSOCIATED PROJECT AND GENERAL NOTES.
2. REFER TO PANEL GENERAL ARRANGEMENT FOR GENERAL DRAWING PANEL INSTALLATION DETAILS.

DRAWING NOTES

① ALL TERMINAL STRIPS TO BE LABELED WITH ASSOCIATED MODULE NUMBER. ALL TERMINAL BLOCKS SHALL BE LABELED WITH ASSOCIATED CHANNEL NUMBER.

CONVENTIONS

MODULE # WXYY

① W = I/O TYPE (I-INPUT, O-OUTPUT)
X = RACK #
YY = SLOT #

ZZ CHANNEL #
T TERMINAL POINT CONNECTION IN PLC PANEL ①
T=TOP, M=MIDDLE, B=BOTTOM

CABLE SHIELD
GND GROUND TERMINAL BLOCK
① DRAWING NOTE REFERENCE
[XXXX-XX] LINE NUMBER REFERENCE
INTERNAL PANEL WIRING
EXTERNAL FIELD WIRING
XXXX FIELD WIRING NUMBER

A	CONSTRUCTION	BY: BMS	05-11-20
B	RELEASED FOR WIRING	BY: BMS	05-14-20
	RELEASED FOR	BY: BMS	
		BY:	
		BY:	

SCALE	NTS		
DRAWN	05-05-20	BMS	
CHECK			
APPR.	05-05-20	CAL	

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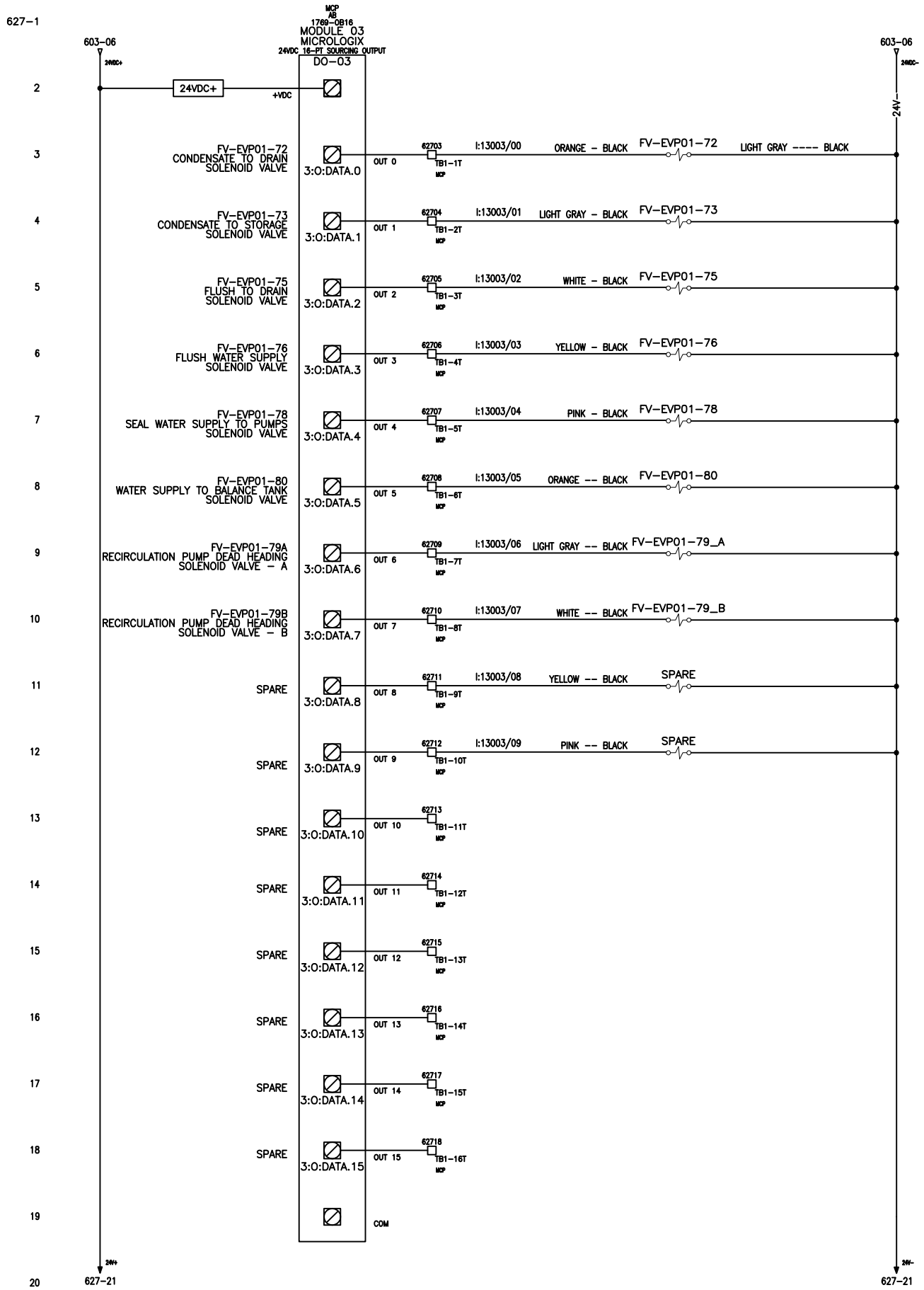
MAIN CONTROL PANEL DIGITAL OUTPUTS PAGE 1 OF 2

DWG # E877-626 REV B



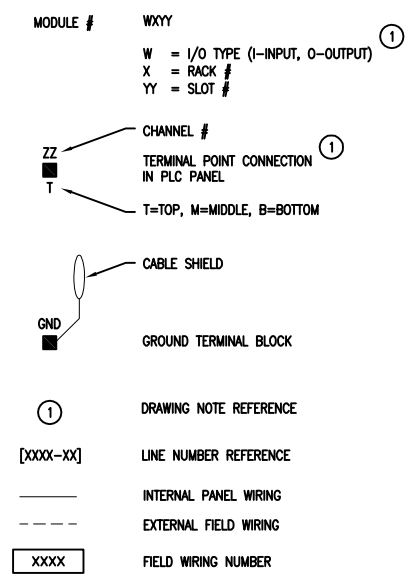
GENERAL NOTES

1. REFER TO SHEET 101 FOR ASSOCIATED PROJECT AND GENERAL NOTES.
2. REFER TO PANEL GENERAL ARRANGEMENT FOR GENERAL DRAWING PANEL INSTALLATION DETAILS.

DRAWING NOTES

(1) ALL TERMINAL STRIPS TO BE LABELED WITH ASSOCIATED MODULE NUMBER. ALL TERMINAL BLOCKS SHALL BE LABELED WITH ASSOCIATED CHANNEL NUMBER.

CONVENTIONS



		BY:	SCALE	NTS	
			DRAWN	05-05-20	BMS
		BY:	CHECK		
			APPR	05-05-20	CAL
B	RELEASED FOR WIRING	BY: BMS	05-14-20		
A	RELEASED FOR CONSTRUCTION	BY: BMS	05-11-20		

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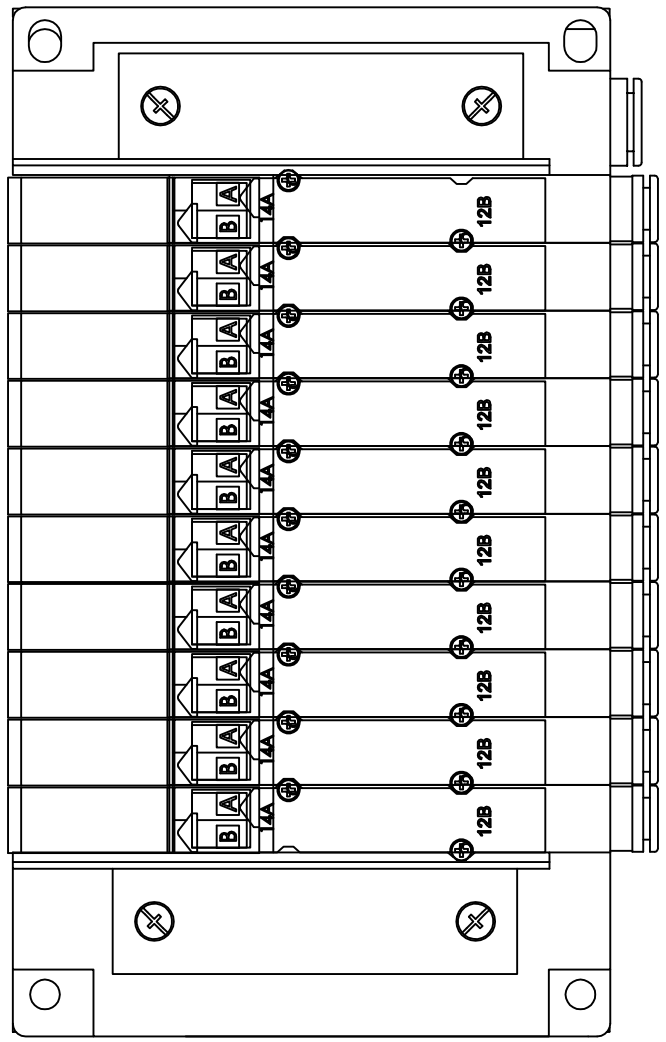
MAIN CONTROL PANEL
DIGITAL OUTPUTS
PAGE 2 OF 2

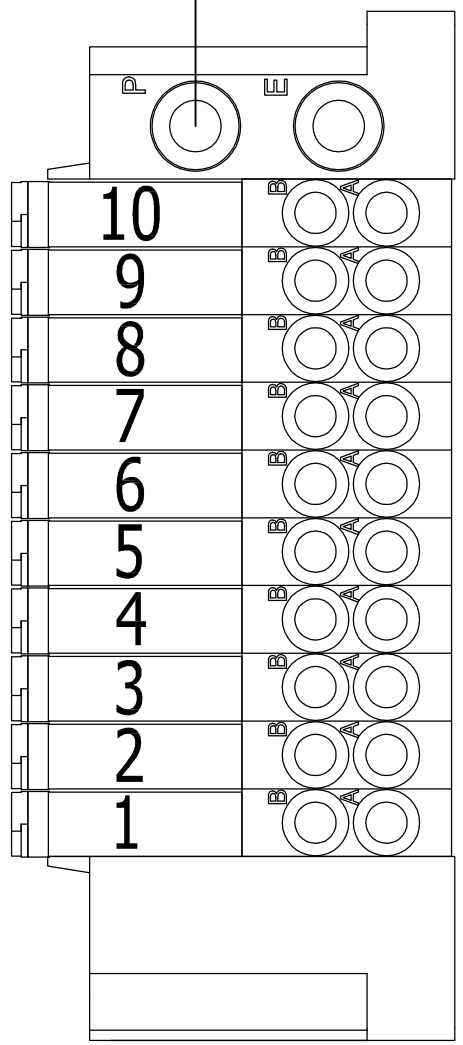
DWG # E877-627

REV B

GENERAL NOTES

1. REFER TO SHEET 101 FOR GENERAL NOTES AND LEGENDS.





1A FV-EVP01-60	1B FV-EVP01-72
2A FV-EVP01-61	2B FV-EVP01-73
3A FV-EVP01-62	3B FV-EVP01-75
4A FV-EVP01-64	4B FV-EVP01-76
5A FV-EVP01-65	5B FV-EVP01-78
6A FV-EVP01-66	6B FV-EVP01-80
7A FV-EVP01-67	7B FV-EVP01-79A
8A FV-EVP01-68	8B FV-EVP01-79B
9A FV-EVP01-70	9B SPARE
10A FV-EVP01-71	10B SPARE

		BY:
		BY:
		BY:
A	RELEASED FOR CONSTRUCTION	BY: BMS 05-11-20

SCALE	NTS		
DRAWN	05-05-20	BMS	
CHECK			
APPR	05-05-20	CAL	

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MAIN CONTROL PANEL
PNEUMATICS DETAIL

DWG # E877-631

REV A

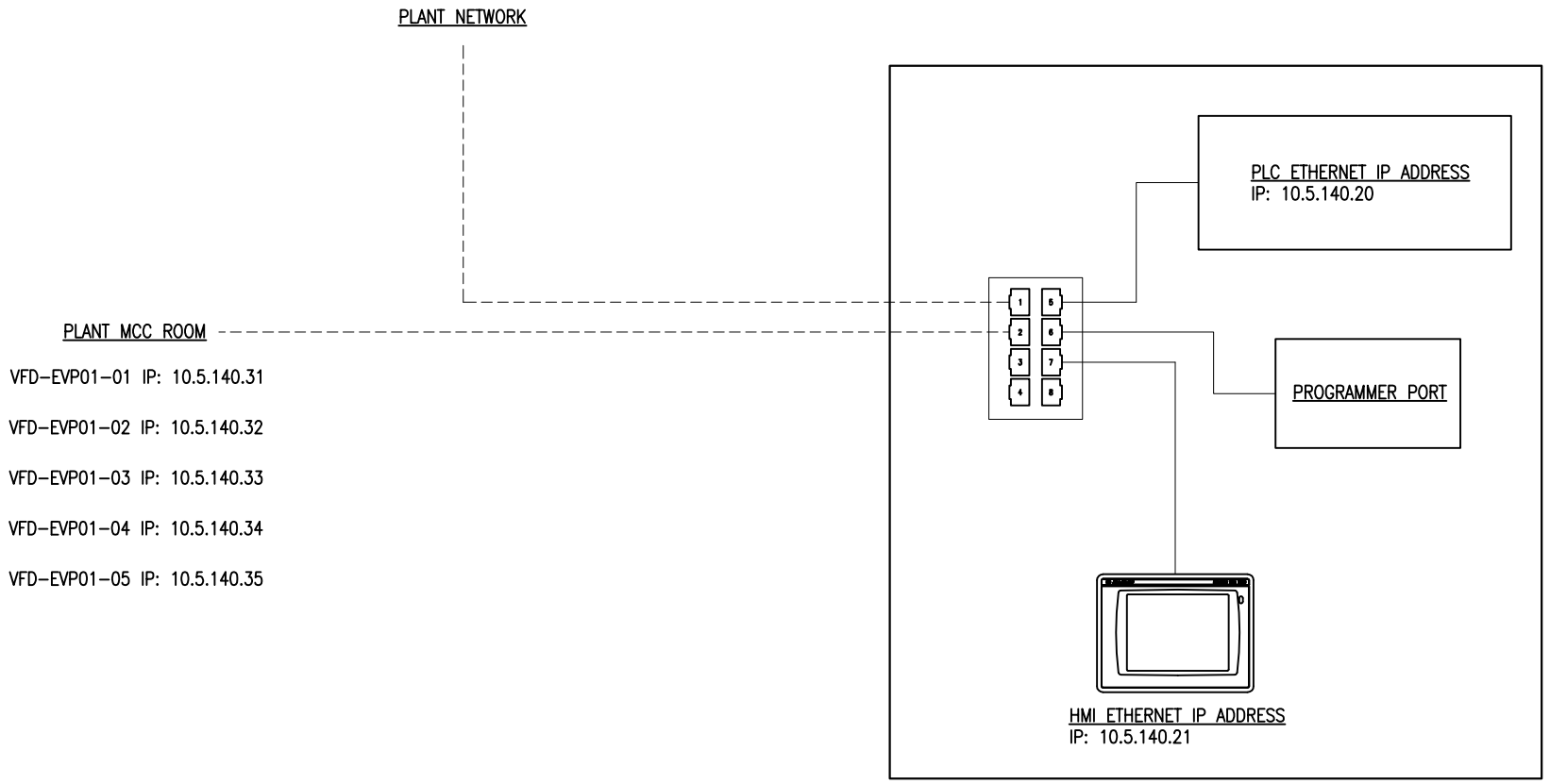
GENERAL NOTES

1. REFER TO SHEET 101 FOR ASSOCIATED PROJECT NOTES AND SYMBOLS.

DRAWING NOTES

CONVENTIONS

(1)	DRAWING NOTE REFERENCE
[XXXX-XX]	LINE NUMBER REFERENCE
———	INTERNAL PANEL WIRING
- - - -	EXTERNAL FIELD WIRING
M101.1	FIELD WIRING NUMBER



EVAP01 - MAIN CONTROL PANEL

ETHERNET NETWORK DIAGRAM

		BY:
		BY:
		BY:
A	RELEASED FOR CONSTRUCTION	BY: BMS 05-11-20

SCALE	NTS	
DRAWN	05-05-20	BMS
CHECK		
APPR	05-05-20	CAL

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NETWORK DIAGRAM

DWG # E877-801

REV A