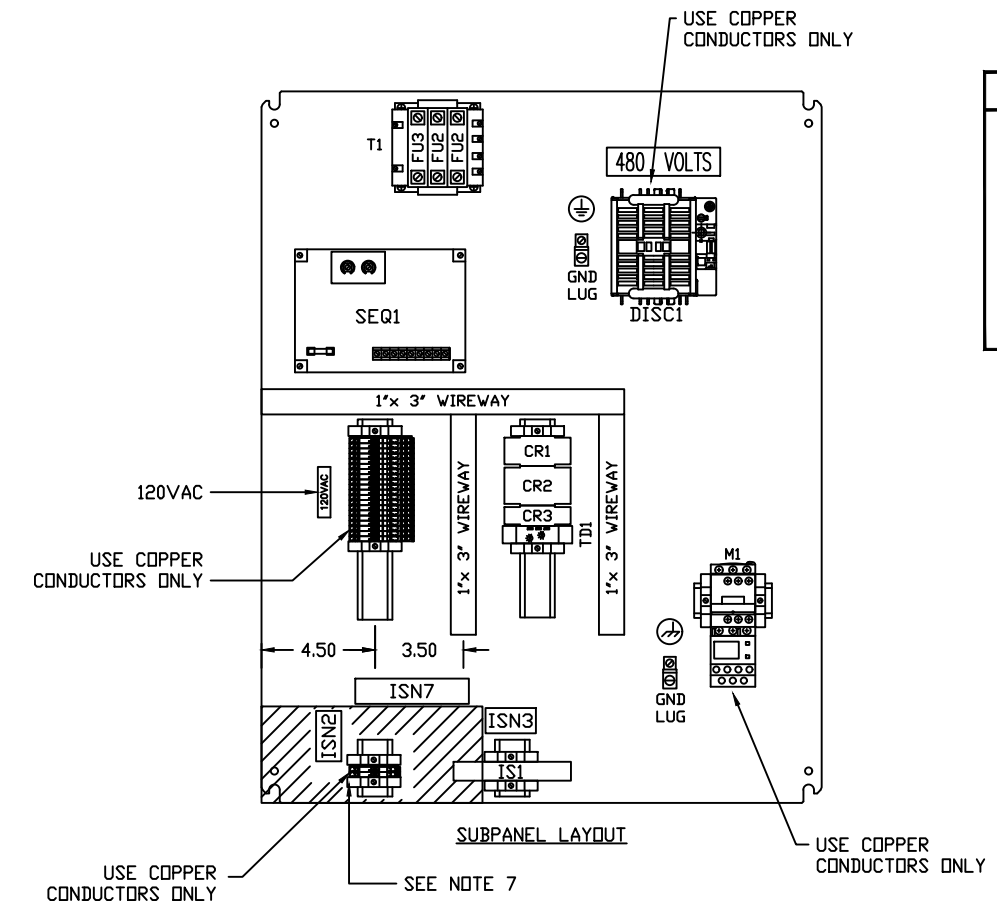


ENCLOSURE:
 30.00"H x 24.00"W x 8.00"D
 NEMA 12 CONSTRUCTION
 WITH ONE 28.2"H x 22.2"W SUBPANEL

FINISH:
 EXTERIOR - ASA 61 GRAY



APPROVAL

DATE SENT: 9-17-20

APPROVED AS IS

APPROVED AS NOTED

NOT APPROVED

BY: _____

DATE: _____

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** INTRINSICALLY SAFE WIRING ONLY! **
 = 2 INCH MINIMUM REQUIRED TO SEPARATE INTRINSICALLY SAFE WIRING FROM NON-INTRINSICALLY SAFE WIRING.

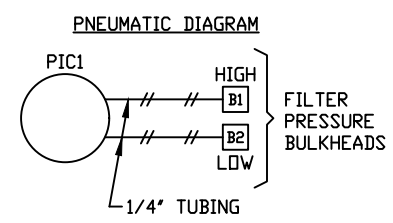
NOTES:

- SILICONE BASED PRODUCTS SHALL NOT BE USED ANYWHERE IN THIS ASSEMBLY.
- ALL FIELD CONTROL WIRE TO BE MINIMUM 14 AWG COPPER, UNLESS OTHERWISE NOTED.
- ALL CONDUIT HUB RATINGS MUST BE EQUAL TO OR SURPASS THE ASSEMBLY ENVIRONMENTAL RATING.
- WHEN ORDERING REPLACEMENT PARTS, PLEASE SUPPLY THE JOB NUMBER AS SHOWN INSIDE THE CONTROL PANEL DOOR.
- MANUFACTURERS OF COMPONENTS USED IN THIS ASSEMBLY ARE SUBJECT TO CHANGE WITHOUT NOTICE.
- THIS DOCUMENT IS TO REMAIN IN THIS ELECTRICAL CONTROL ENCLOSURE. PLEASE DO NOT REMOVE.
- INSTALL IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE (NEC) OR CANADIAN ELECTRIC CODE (CEC), AND ANY APPLICABLE LOCAL CODES BASED ON THE INSTALLATION LOCATION.
- SEE THE CONTROL DRAWING FOR EACH INTRINSIC SAFETY BARRIER FOR PERMITTED CONNECTIONS AND IDENTIFICATION OF THE ELECTRICAL (ENTITY) PARAMETERS OF EACH BARRIER, ALONG WITH OTHER INFORMATION FOR SAFE INTERCONNECTION.

NAMEPLATE SPECIFICATIONS :

MATERIAL :
 GRAVOPL Y II, WHT W/BLK LETTERS
 LETTER SIZE : .156
 A = .75"H x 3.00"W

NAMEPLATE SCHEDULE		
NP#	SIZE	DESCRIPTION
1	A	FILTER PRESSURE
2		SEE SHEET 2
3	A	FILTER PRESSURE B1 HIGH B2 LOW
ISN1-7		SEE SHEET 3



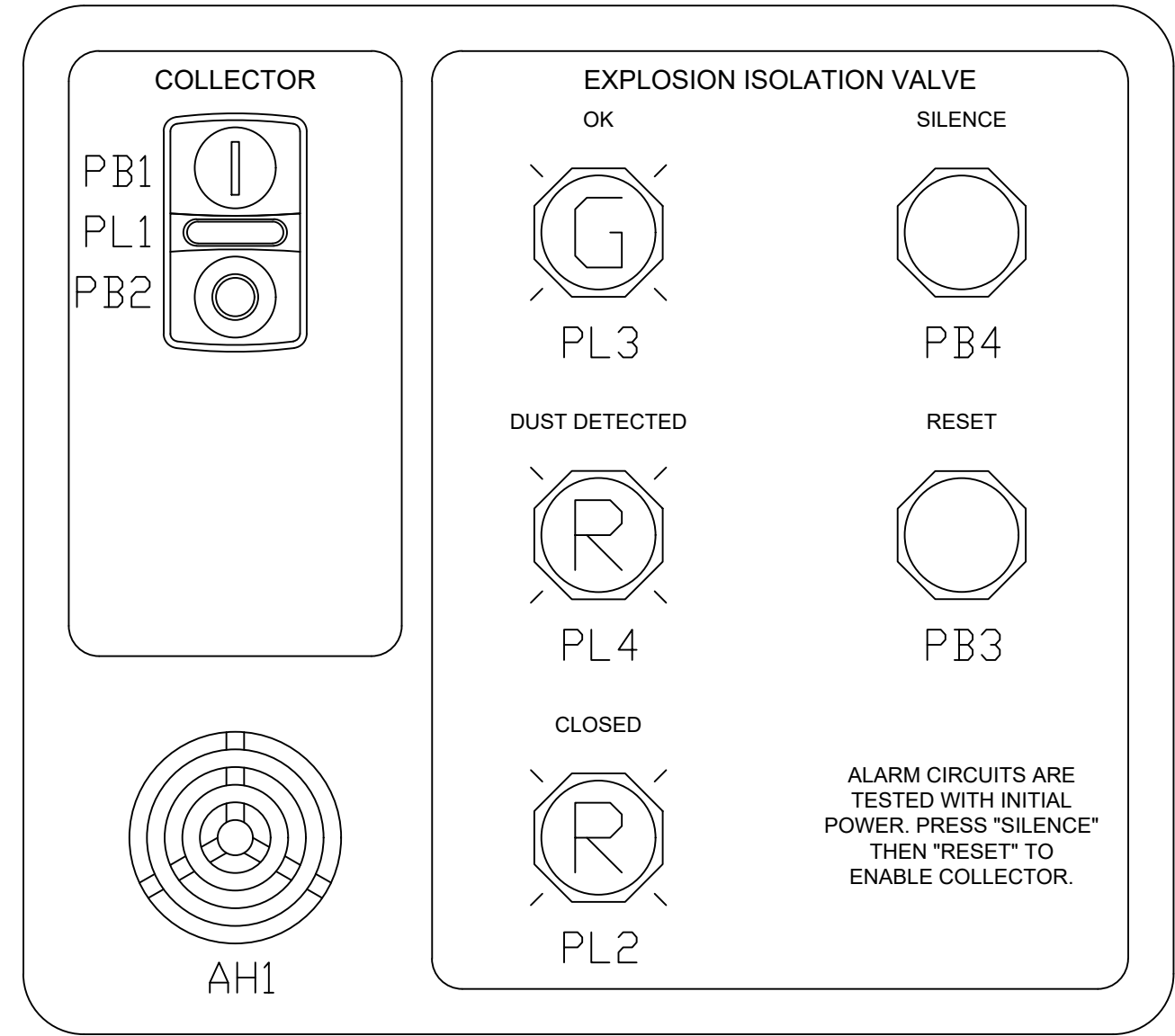
MATERIAL		RELEASE NO.	TITLE ELECTRIC CONTROL PANEL FOR DONALDSON COLLECTOR	
DATE		DATE	EXP DATE	
DWN T. THOMPSON		NUMBER	XICAABA00000M00100-0	
DATE 9-17-20		CHK H. PIERE	SCALE 1/4	SHEET 1 OF 6
DATE 9-17-20		APVD	C/C CACD	ACAD
DO NOT SCALE	TOLERANCES UNLESS OTHERWISE SPECIFIED	2 PL ±	3 PL ±	ANGLES ±
THIRD ANGLE PROJECTION		DATE	DESIGN CONTROL A004	DWG LOCATION A101
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REV	ZONE	REVISION DESCRIPTION	APPROVAL/DATE

APPROVAL	
DATE SENT:	9-17-20
<input type="checkbox"/>	APPROVED AS IS
<input type="checkbox"/>	APPROVED AS NOTED
<input type="checkbox"/>	NOT APPROVED
BY:	_____
DATE:	_____
RETURN ONE SIGNED COPY	

NAMEPLATE 2



GRAVOPLY II
 WHITE W/ BLACK TEXT
 8.50"H X 9.50"W

MATERIAL		RELEASE NO.		TITLE ELECTRIC CONTROL PANEL FOR DONALDSON COLLECTOR		 Donaldson Industrial Group Minneapolis, MN IAF
		DATE		NUMBER		
		EXP DATE		XICAABA00000M00100-0		
		DWN T. THOMPSON		SCALE NA SHEET 2 OF 6 REVISION 0		
REFERENCE		DATE 9-17-20		C/C CACD ACAD		
		CHK H. PIERE		SECTIONAL SIZE OUTLINE SIZE		
		DATE 9-17-20		DESIGN CONTROL A004 DWG LOCATION A101 VERSION A		
PREVIOUS DRAWING NO.		APVD		THIRD ANGLE PROJECTION		
DO NOT SCALE	TOLERANCES UNLESS OTHERWISE SPECIFIED	2 PL ±	3 PL ±	ANGLES ±		

REV	ZONE	REVISION DESCRIPTION	APPROVAL/DATE

I.S. NAMEPLATE 1

PROVIDES INTRINSICALLY SAFE CIRCUIT EXTENSIONS FOR USE IN CLASS I, GROUPS A, B, C, & D, CLASS II, GROUPS E, F, & G, CLASS III, HAZARDOUS (CLASSIFIED) LOCATIONS WHEN CONNECTED PER INSTALLATION (MANUAL INSTRUCTIONS) NO. IS-1.301.

LIGHT BLUE WITH WHITE LETTERS
1.50"H X 4.00"W

I.S. NAMEPLATE 2

INTRINSICALLY SAFE
FIELD WIRING
TERMINALS

LIGHT BLUE WITH WHITE LETTERS
1.00"H X 2.00"W

I.S. NAMEPLATE 3

WARNING
EXPLOSION HAZARD
SUBSTITUTION OF
COMPONENTS MAY
IMPAIR INTRINSIC SAFETY

ORANGE WITH BLACK LETTERS
1.00"H X 2.00"W

I.S. NAMEPLATE 4

INTRINSICALLY SAFE
CIRCUITS

LIGHT BLUE WITH WHITE LETTERS
1.00"H X 2.00"W

I.S. NAMEPLATE 5

WARNING
EXPLOSION HAZARD
TO PREVENT IGNITION OF
FLAMMABLE OR COMBUSTIBLE
ATMOSPHERES, DISCONNECT
POWER BEFORE SERVICING.

ORANGE WITH BLACK LETTERS
1.50"H X 3.00"W

I.S. NAMEPLATE 6

CAUTION
THIS ENCLOSURE CONTAINS
INTRINSICALLY SAFE WIRING

SEE THE PLANT I.S. COORDINATOR
FOR PROPER PROCEDURES BEFORE
MAKING ANY CHANGES


YELLOW WITH BLACK LETTERS
2.00"H X 3.00"W

I.S. NAMEPLATE 7

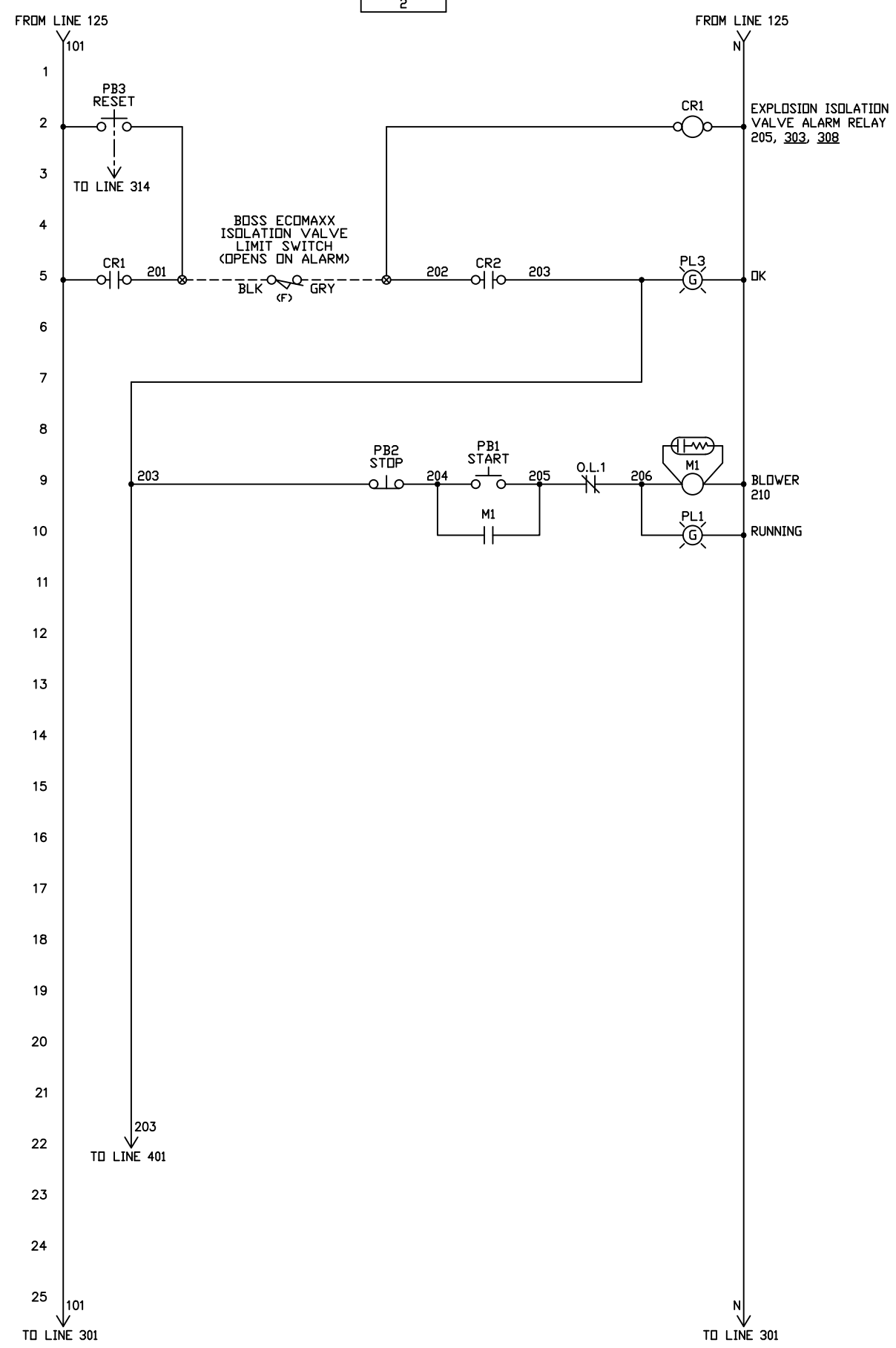
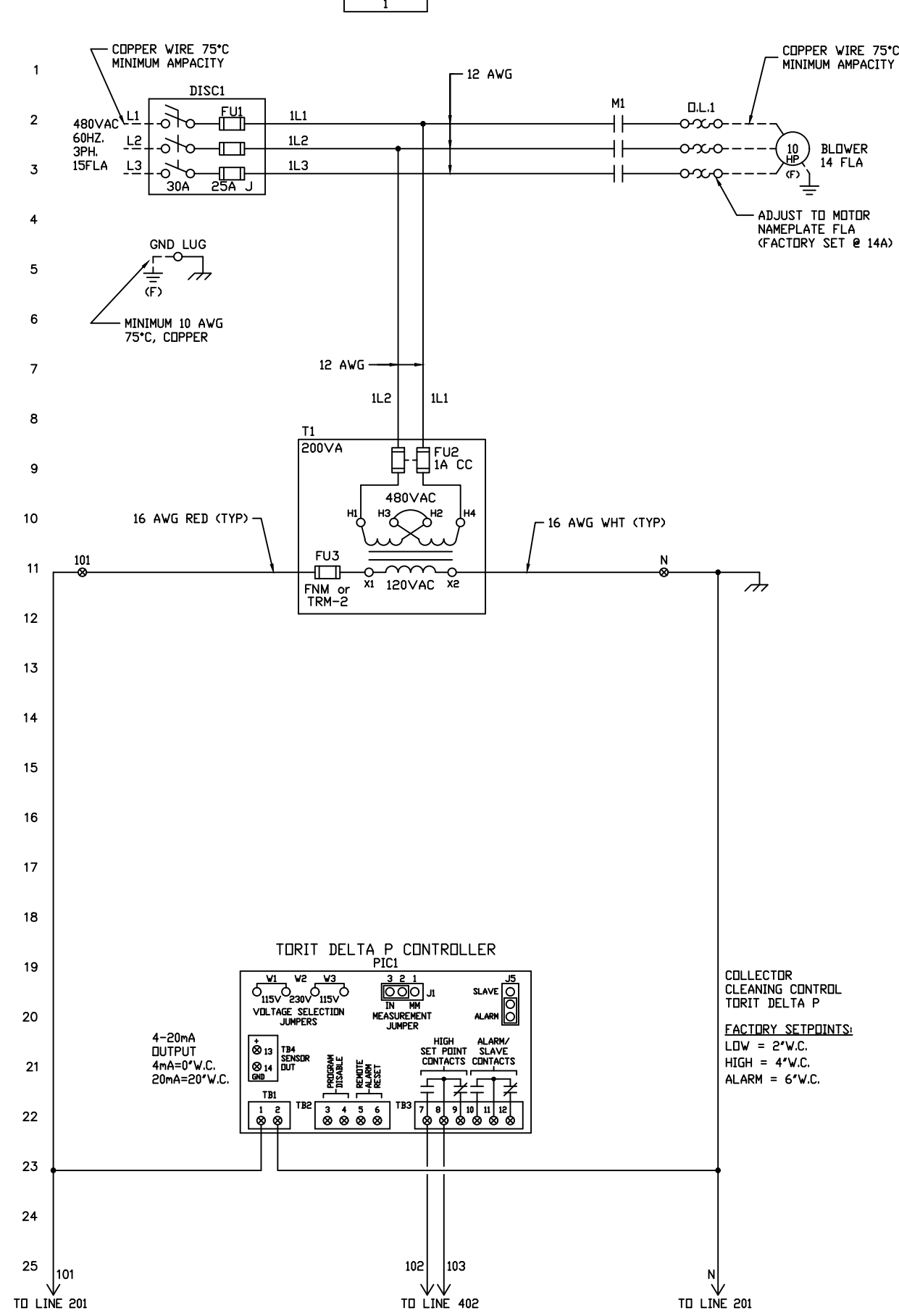
 INTRINSIC SAFETY WIRING

LIGHT BLUE WITH WHITE LETTERS
1.00"H X 4.50"W

APPROVAL	
DATE SENT:	9-17-20
<input type="checkbox"/>	APPROVED AS IS
<input type="checkbox"/>	APPROVED AS NOTED
<input type="checkbox"/>	NOT APPROVED
BY:	_____
DATE:	_____
RETURN ONE SIGNED COPY	

MATERIAL		RELEASE NO.		TITLE ELECTRIC CONTROL PANEL FOR DONALDSON COLLECTOR		 Donaldson Industrial Group Minneapolis, MN IAF
REFERENCE		DATE		NUMBER		
PREVIOUS DRAWING NO.		EXP DATE		XICAABA00000M00100-0		
DO NOT SCALE		DWN T. THOMPSON		SCALE NA SHEET 3 OF 6 REVISION 0		
TOLERANCES UNLESS OTHERWISE SPECIFIED		DATE 9-17-20		SECTIONAL SIZE		DESIGN CONTROL A004 DWG LOCATION A101 VERSION A <small>All rights to manufacture, copy, reproduce, or dispose of this drawing or its contents are reserved unless otherwise specified in writing by Donaldson Company, Inc.</small>
2 PL ± 3 PL ± ANGLES ±		CHK H. PIERE		OUTLINE SIZE		
THIRD ANGLE PROJECTION		DATE 9-17-20		DATE		

REV	ZONE	REVISION DESCRIPTION	APPROVAL/DATE



APPROVAL

DATE SENT: 9-17-20

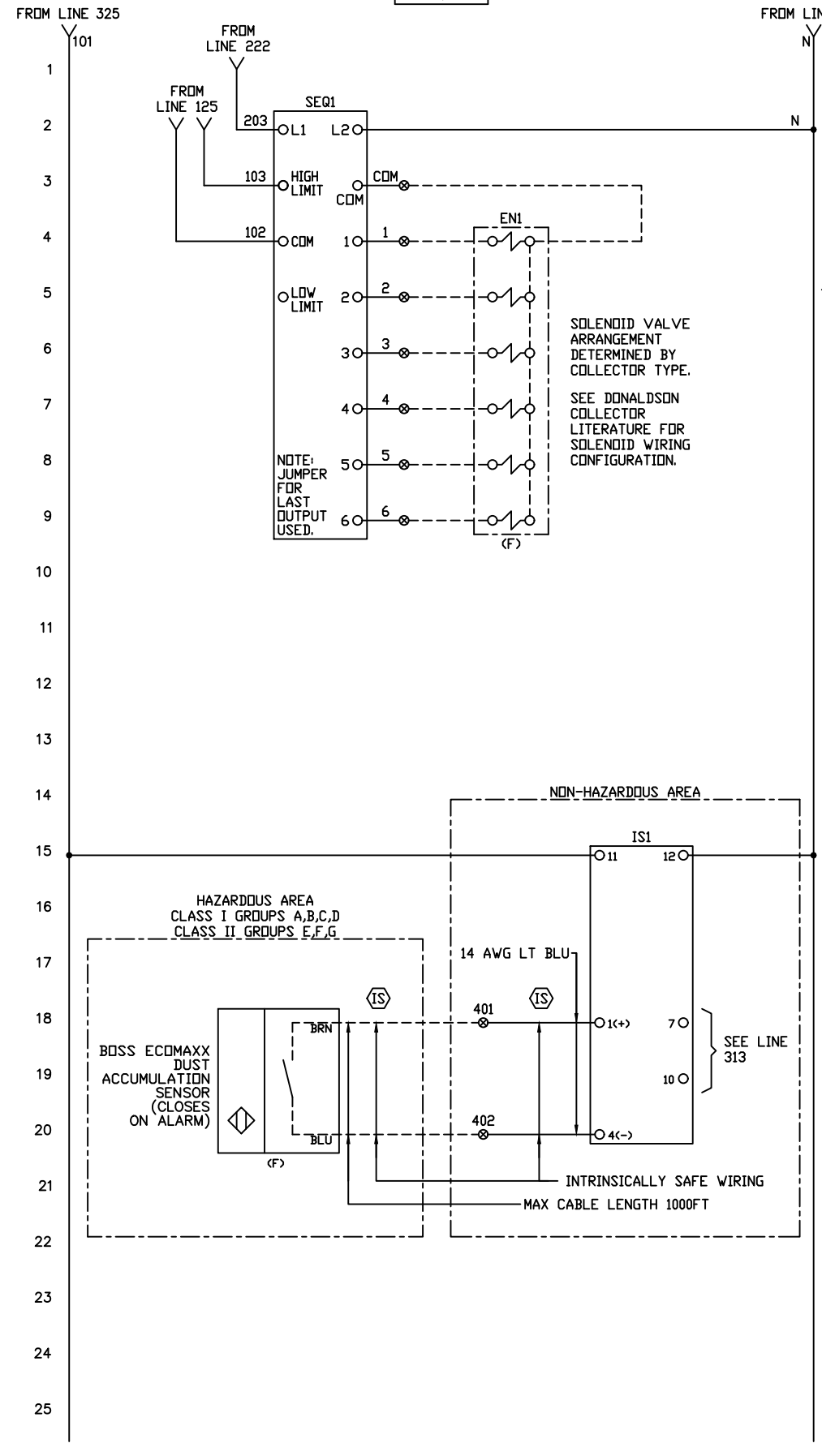
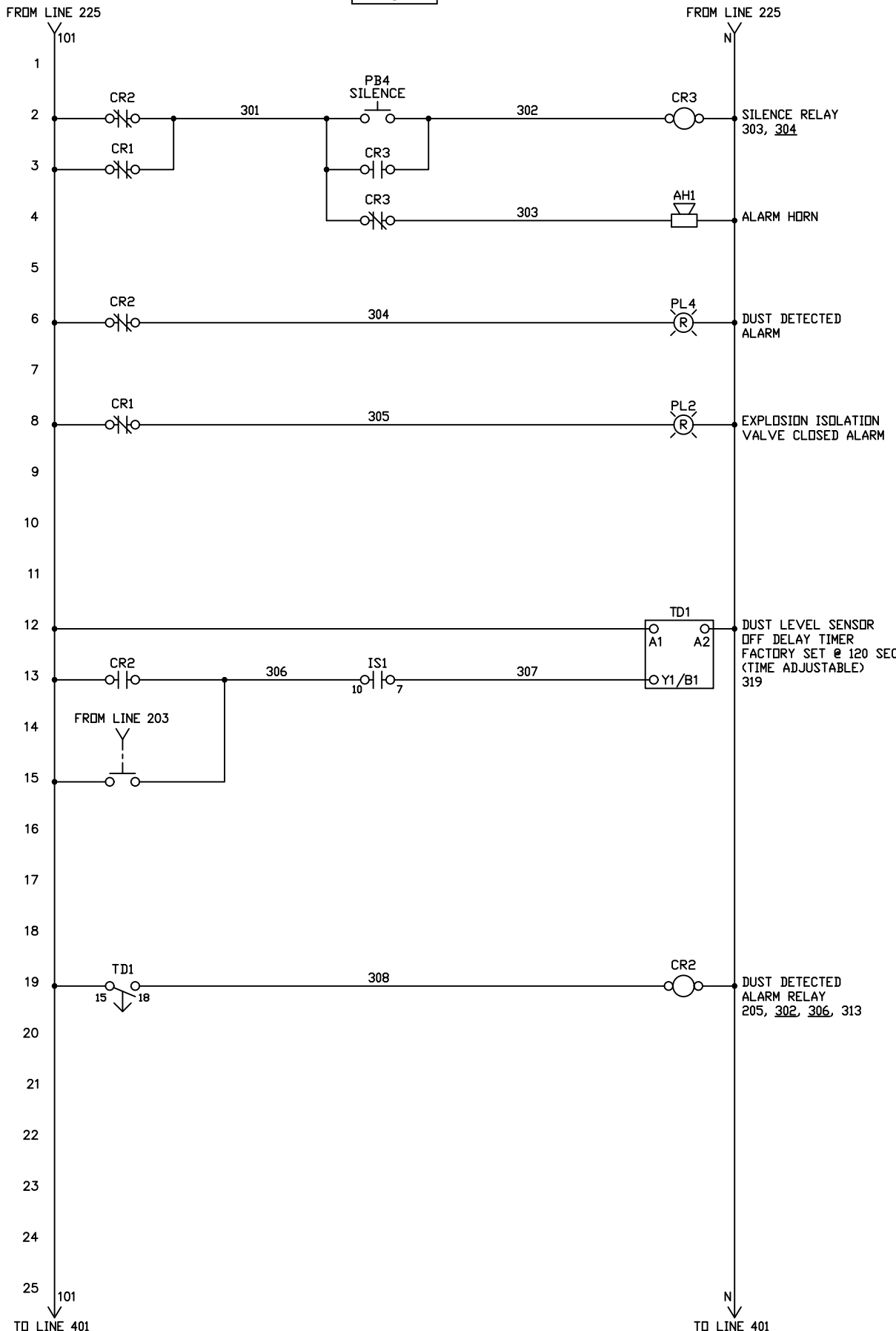
APPROVED AS IS
 APPROVED AS NOTED
 NOT APPROVED

BY: _____
DATE: _____
RETURN ONE SIGNED COPY

- LOCATION CODE:**
- (F) DEVICE LOCATED IN THE FIELD
 - ⊗ - TERMINAL IN CONTROL PANEL
 - INDICATES FIELD WIRING
 - (IS) - INTRINSICALLY SAFE WIRING
SEE WIRING RULES ON SHEET 6
- NOTES:**
- SILICONE BASED PRODUCTS SHALL NOT BE USED ANYWHERE IN THIS ASSEMBLY.
 - ALL FIELD CONTROL WIRE TO BE MINIMUM 14 AWG COPPER, UNLESS OTHERWISE NOTED.
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 - SEE THE CONTROL DRAWING FOR EACH INTRINSIC SAFETY BARRIER FOR PERMITTED CONNECTIONS AND IDENTIFICATION OF THE ELECTRICAL (ENTITY) PARAMETERS OF EACH BARRIER, ALONG WITH OTHER INFORMATION FOR SAFE INTERCONNECTION.

MATERIAL		RELEASE NO.	TITLE ELECTRIC CONTROL PANEL FOR DONALDSON COLLECTOR	
REFERENCE		DATE	NUMBER	
PREVIOUS DRAWING NO.		EXP DATE	XICAABA00000M00100-0	
DO NOT SCALE	TOLERANCES UNLESS OTHERWISE SPECIFIED	DWN T. THOMPSON	SCALE NA	SHEET 4 OF 6
2 PL ±	3 PL ±	DATE 9-17-20	REVISION 0	REVISION
ANGLES ±		CHK H. PIERE	C/C CACD	ACAD
THIRD ANGLE PROJECTION		DATE 9-17-20	SECTIONAL SIZE	OUTLINE SIZE
DESIGN CONTROL A004		APVD	DESIGN CONTROL A004	DWG LOCATION A101
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REV	ZONE	REVISION DESCRIPTION	APPROVAL/DATE
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APPROVAL

DATE SENT: 9-17-20

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BY: _____

DATE: _____

RETURN ONE SIGNED COPY

- LOCATION CODE:**
- (F) DEVICE LOCATED IN THE FIELD
 - ⊗ - TERMINAL IN CONTROL PANEL
 - INDICATES FIELD WIRING
 - (IS) - INTRINSICALLY SAFE WIRING SEE WIRING RULES ON SHEET 6

- NOTES:**
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MATERIAL		RELEASE NO.	TITLE ELECTRIC CONTROL PANEL FOR DONALDSON COLLECTOR	
		DATE		
		EXP DATE		
		DWN T. THOMPSON	NUMBER	XICAABA00000M00100-0
		DATE 9-17-20		
		CHK H. PIERE	SCALE NA	SHEET 5 OF 6
		DATE 9-17-20	REVISION	0
PREVIOUS DRAWING NO.		APVD	C/C CACD	ACAD
DO NOT SCALE	TOLERANCES UNLESS OTHERWISE SPECIFIED	2 PL ±	SECTIONAL SIZE	OUTLINE SIZE
		3 PL ±	DATE	THIRD ANGLE PROJECTION
		ANGLES ±	DESIGN CONTROL A004	DWG LOCATION A101
			VERSION A	



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Ⓢ WIRING RULES

I.S. WIRING RULES

- INSTALL IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE (NEC) OR CANADIAN ELECTRIC CODE (CEC), AND ANY APPLICABLE LOCAL CODES BASED ON THE INSTALLATION LOCATION.
 - LIGHT BLUE COLORED CABLES SHALL BE USED TO IDENTIFY INTRINSICALLY SAFE CIRCUITS. NO OTHER CABLES ARE TO BE COLORED LIGHT BLUE.
 - ALL INTRINSICALLY SAFE CIRCUIT TERMINALS SHALL BE COLORED LIGHT BLUE.
 - SEPARATION OF INTRINSICALLY SAFE CONDUCTORS
 - FROM NONINTRINSICALLY SAFE CIRCUIT CONDUCTORS
 - OPEN WIRING - CONDUCTORS AND CABLES OF INTRINSICALLY SAFE CIRCUITS NOT IN RACEWAYS OR CABLE TRAYS SHALL BE SEPARATED AT LEAST 2 INCHES AND SECURED FROM CONDUCTORS AND CABLES OF ANY NONINTRINSICALLY SAFE CIRCUITS.
 - IN RACEWAYS, CABLE TRAYS, AND CABLES - CONDUCTORS OF INTRINSICALLY SAFE CIRCUITS SHALL NOT BE PLACED IN ANY RACEWAY, CABLE TRAY, OR CABLE WITH CONDUCTORS OF ANY NONINTRINSICALLY SAFE CIRCUIT.

EXCEPTION: WHERE CONDUCTORS OF INTRINSICALLY SAFE CIRCUITS ARE SEPARATED FROM CONDUCTORS OF NON-INTRINSICALLY SAFE CIRCUITS BY A DISTANCE OF AT LEAST 2 INCHES AND SECURED, OR BY A GROUNDED METAL PARTITION OR AN APPROVED INSULATING PARTITION.
 - WITHIN ENCLOSURES
 - CONDUCTORS OF INTRINSICALLY SAFE CIRCUITS SHALL BE SEPARATED AT LEAST 2 INCHES FROM CONDUCTORS OF ANY NONINTRINSICALLY SAFE CIRCUITS.
 - ALL CONDUCTORS SHALL BE SECURED SO THAT ANY CONDUCTOR THAT MIGHT COME LOOSE FROM A TERMINAL CANNOT COME IN CONTACT WITH ANOTHER TERMINAL.

(FPN NO. 1): THE USE OF SEPARATE WIRING COMPARTMENTS FOR THE INTRINSICALLY SAFE AND NONINTRINSICALLY SAFE TERMINALS IS THE PREFERRED METHOD OF COMPLYING WITH THIS REQUIREMENT.

(FPN NO. 2): PHYSICAL BARRIERS SUCH AS GROUNDED METAL PARTITIONS OR APPROVED INSULATING PARTITIONS CAN BE USED TO HELP ASSURE THE REQUIRED SEPARATION OF THE WIRING.
- CABLE SEALING - CABLES WITH A GAS/VAPOR-TIGHT CONTINUOUS SHEATH CAPABLE OF TRANSMITTING GASES OR VAPORS THROUGH THE CABLE CORE SHALL BE SEALED FROM BOTH ENDS AFTER REMOVING THE JACKET AND ANY OTHER COVERINGS SO THAT THE SEALING COMPOUND WILL SURROUND EACH INDIVIDUAL INSULATED CONDUCTOR AND THE OUTER JACKET FOR A GAS TIGHT SEAL.
- INTRINSICALLY SAFE EQUIPMENT FOR FIELD CONNECTION TO THE INTRINSIC SAFETY BARRIERS WITHIN THE PANEL MUST HAVE INTRINSICALLY SAFE ENTITY PARAMETERS CONFORMING WITH THE TABLE BELOW:

REQUIRED RELATIONSHIP BETWEEN
I.S. EQUIPMENT AND I.S. BARRIER ENTITY PARAMETERS

3RD-PARTY LISTED I.S. EQUIPMENT ENTITY PARAMETERS	REQUIRED RELATIONSHIP BETWEEN ENTITY PARAMETERS	UL LISTED I.S. BARRIER ENTITY PARAMETERS
V max (or Ui)	≥	Voc or Vt (or Uo)
I max (or Ii)	≥	Isc or It (or Io)
P max, Pi	≥	Po
Ci + Ccable	≤	Ca (or Co)
Li + Lcable	≤	La (or Lo)

REFERENCE: TURCK USA WEBSITE
CONTROL DRAWING: IS-1.301

Ⓢ CABLES

I.S. LABELS

- RACEWAYS, CABLE TRAYS, AND OPEN WIRING LABEL - RACEWAYS, CABLE TRAYS, AND OPEN WIRING FOR INTRINSICALLY SAFE SYSTEM WIRING SHALL BE IDENTIFIED WITH PERMANENTLY AFFIXED LABELS. THE LABELS SHALL BE SO LOCATED AS TO BE VISIBLE AFTER INSTALLATION AND PLACED SO THAT THEY MAY BE READILY TRACED THROUGH THE ENTIRE LENGTH OF THE INSTALLATION. SPACING BETWEEN LABELS SHALL NOT BE MORE THAN 25 FEET.

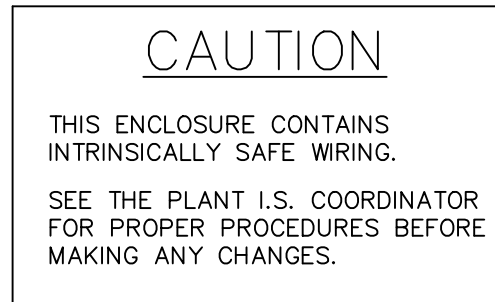
LABEL MATERIAL: VINYL CLOTH ADHESIVE BACKED, LIGHT BLUE WITH WHITE LETTERS.
(BY CUSTOMER)



- ENCLOSURE LABEL:

EACH ENCLOSURE CONTAINING I.S. CIRCUITS SHALL BE LABELLED.

MATERIAL: YELLOW PLASTIC WITH BLACK LETTERS.



APPROVAL

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 BY: _____
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NOTES:

- VOC - BARRIER OPEN CIRC. VOLTAGE
- ISC - SHORT CIRCUIT CURRENT
- CA - ALLOWABLE CAPACITANCE
- LA - ALLOWABLE INDUCTANCE

HAZARDOUS AREA WIRE
 LIGHT BLUE THERMO-PLASTIC INSULATED
 FOR 600 VAC SERVICE, 14 AWG MIN. WIRE
 MUST BE USED TO IDENTIFY I.S. CIRCUITS.

MATERIAL		RELEASE NO.	TITLE ELECTRIC CONTROL PANEL FOR DONALDSON COLLECTOR		 Donaldson Industrial Group Minneapolis, MN IAF
REFERENCE		DATE	NUMBER	XICAABA00000M00100-0	
		EXP DATE	DATE		
		DWN T. THOMPSON	CHK H. PIERE		
PREVIOUS DRAWING NO.		DATE	SCALE NA	SHEET 6 OF 6	REVISION 0
DO NOT SCALE	TOLERANCES UNLESS OTHERWISE SPECIFIED	2 PL ± 3 PL ± ANGLES ±	DATE	C/C CACD	ACAD
		THIRD ANGLE PROJECTION	DESIGN CONTROL A004	DWG LOCATION A101	VERSION A
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