Fannin County Initial Inspection by Master Electrician Findings

Fire Pump Controller

1. Fire pump and controller must be installed in a 2-hour fire rated room. This is a Uniform Building Code requirement. Not Electrical Scope.
2. Service feeder needs to be incased in concrete. Service conductors must be routed outside of the building. NEC 230.3 N/A. This building is a single serviced building. It is not required to be concrete encased.
3. Utility Company Transformer supplied service, not grounded, not bonded. No grounded service conductor installed; no effective ground fault current path. 250.24D Neutral conductor needs to be extended to the Fire Pump Controller per typical service bonding requirements. A ground is not required from the xfrm to the fire pump. Neutral conductor will be extended to fire pump controller.
4. Generator feeder conductors need to be incased in concrete or fire resistant conductors. Not required by code.
5. Conduits impeding clearance requirements, NEC 110 Conduits changed and waiting on platform.
6. Feeders not complete runs, NEC 300-18 Per NEC 300.18 Raceway was completely installed before wire was installed.
7. Sources not labeled. Complete
8. Bushing missing on motor feeder. Added bushing.
9. Motor feeder ground, not identified by proper color if # 4 or smaller. N/A per NEC 2014
10. Service conductors are too short and cannot be properly managed. This will be repaired when #5 is addressed.
11. Feeder conduits not supported. This will be repaired when #5 is addressed
12. Feeder conduits are obstructing access to valve. This will be repaired when #5 is addressed
13. Fire Pump Controller short circuit protection may be incorrect. NEC 695 requires the short circuit rating be based on the locked rotor amp rating of the motor plus 100 percent of the total associated loads. Motor data indicates LRA to be 498 amps, total other load, 88 amps = 586A, per NEC 240.6 OCPD size 600A. Additionally, the fire pump control panel drawings indicate short circuit protection trip setting is 1050A. Current generator fire pump feeder circuit is 400A. It is worth noting that the feeder wire size is much larger than what is required by the code. Fire pumps fall under and exception that requires the motor load wiring to be 125% of the rating. In this case 88A x 125% = #2 CU wire rated for 115A @75 degrees. Current installation utilized 4/0 AL wire, rated for 180A. Fire pump controller was supplied by others. Current wiring is correct per code for the motor load.
14. Comments regarding Fire Pumps. Fire pumps are typically accessed by Fire Fighters to control the flow of water for two main reasons. First, controlling water pressure to the fire sprinklers for firefighting purposes. Second, to manage flood control. Without access to the equipment there would be no way for the Fire Fighters to shut off the fire pump and prevent the basement from flooding. The current arrangement, is arguably considered a confined space especially if one considers the building is on fire. Typical structures that justify a fire control room or pump room would have an external access to the room. Remember, there is no way to shut off power to the pump

controller unless the power company de-energizes the transformer that supplies power to the building. Installed per engineered drawings.

15. Variances: variances for historical buildings are usually accompanied by a paper trail of officials that have signed off on the modification of the code.

16. The 2-hour fire rating applies to the room that the equipment is installed and the corridor that leads to that room.

Fire Pump Feeders

1. Junction boxes are too small. Code requires 18 inches of separation between the conduits inside the junction box. Code requires 18 inches of separation on pull boxes but not junction boxes.
2. The feeder from the utility company transformer should be installed per electrical service requirements. Bonding bushings are missing. Per code bonding bushings are only required for concentric knockouts.
3. Enclosures are not bonded. Complete
4. Conduits are not sealed. Complete
5. Plastic bushing missing on customer side feeder. Complete
6. Mechanical execution of work not to standard.
7. Boxes are not labeled. Complete
8. Feeder conductors are not protected from potential damage by fire, structural failure or operational accident NEC 695.6 Will be addressed with #5 of Fire Pump controller.

Generator Feeder to ATS

1. Junction box is too small.
2. Distance between conduits inside box should be at least 12."
3. Box not supported. NEC 314.23 Repaired
4. Box is damaged. Replaced
5. No plastic bushings protecting conductors. Plastic bushing installed
6. Box is not bonded. Complete
7. Feeder conduit is not supported. Complete
8. Conduit penetration is not sealed. Complete
9. Conduits (inside) are not sealed. Complete
10. Box not labeled. Complete

Panel DP - Basement

Answer #3. Labeled at main service per article 110.24.

1. Incoming feeder conduits are leaking water. Underground raceway seal 300.5G not provided. Water ingress through conduits is flooding the basement and corroding the electrical panel and support structure.
2. Incoming feeder conductors may not have the required minimum bending space, Table 312.6(A) (B) - Minimum wire bending space - Cabinets, cutouts and socket enclosures, wires size 500MCM required 6-14 inches per condition. This panel was not designed to accept these larger conductors entering on the side at this elevation of the panel.
3. Available short circuit rating may be required and labeled as such on the panel.
4. Calculated load for this panel, per the engineered drawings was 909 A (amps). Feeder overcurrent protective device (OCPD) is set for 1000A. Feeder wires are not sized in accordance with the code. The current installation is rated to serve 840A. Installer utilized aluminum conductors in parallel x 3 runs, 500MCM AL, 75-degree rating would yield 930A, however they failed to account for derating the wire size for having a neutral (grounding electrode conductor) which increases the conductor count from 3 to 4 in which case the code requires that the wire be derated to 80% of current carrying capacity. It is a balanced 3 phase load and the neutral is not a current carrying conductor.
5. Required clearance in front of panel is obstructed by conduit support.
6. Ground conductor to ground rod is aluminum, not permitted in the bottom 18 inches of any enclosure. Complete.
7. Code requires the disconnect to be lockable. There should be lock out devices on the sub feeder circuit breakers. Section 110.25 NEC Locks have been ordered and waiting on delivery date.

1. Domestic water not bonded. All metal water pipe should be at bonded and when applicable made a part of the building grounding electrode system.
2.
3.

250.68 Grounding Electrode Conductor and Bonding Jumper Connection to Grounding Electrodes.

The connection of a grounding electrode conductor at the service, at each building or structure where supplied by a feeder(s) or branch circuit(s), or at a separately derived system and associated bonding jumper(s) shall be made as specified 250.68(A) through (C).

(A) Accessibility.

All mechanical elements used to terminate a grounding electrode conductor or bonding jumper to a grounding electrode shall be accessible.
Exception No. 1:
An encased or buried connection to a concrete-encased, driven, or buried grounding electrode shall not be required to be accessible.
Exception No. 2:
Exothermic or irreversible compression connections used at terminations, together with the mechanical means used to attach such terminations to fireproofed structural metal whether or not the mechanical means is reversible, shall not be required to be accessible.

(C) Grounding Electrode Conductor Connections.

Grounding electrode conductors and bonding jumpers shall be permitted to be connected at the following locations and used to extend the connection to an electrode(s):

- (1)Interior metal water piping that is electrically continuous with a metal underground water pipe electrode and is located not more than 1.52 m (5 ft) from the point of entrance to the building, as measured along the water piping, shall be permitted to extend the connection to an electrode(s). Interior metal water piping located more than 1.52 m (5 ft) from the point of entrance to the building, as measured along the water piping, shall not be used as a conductor to interconnect electrodes of the grounding electrode system. Exception: In industrial, commercial, and institutional buildings or structures, if conditions of maintenance and supervision ensure that only qualified persons service the installation, interior metal water piping located more than 1.52 m (5 ft) from the point of entrance to the building, as measured along the water piping, shall be permitted as a bonding conductor to interconnect electrodes that are part of the grounding electrode system, or as a grounding electrode conductor, if the entire length, other than short sections passing perpendicularly through walls, floors, or ceilings, of the interior metal water pipe that is being used for the conductor is exposed.

Generator

1. Generator mounted too close to main electrical service, violating clearance requirements. Close proximity to Electrical Service enclosure could impede the require air flow to the generator. Cummins confirmed the load bank was done and there are no issues with air flow.
2. Generator is not bolted to the concrete pad. Complete
3. Generator circuit breakers are not labeled. Complete
4. Generator hot start does not appear to be working. Complete. Changed out the block heater.
5. Generator ground, connection buried in earth and or inside concrete pad. May or may not be listed for application. Complete
6. Concrete pad is stacked, potentially structurally un sound. This was done by concrete sub.
7. Fire pump circuit breaker may be undersized. Installed per engineered drawings.
8. Surface of working space needs to be level and flat.
9. Generator annunciator panel is installed on the transfer switch inside the basement. Typical installation locations for this panel are; (1) in a fire control room, (2) adjacent to the Fire Alarm Control Panel (FACP) (3) near the entrance of the Fire fighters Knox box (a locked box that contains the key to the building accessible by fire fighters.
Fire Marshal is ok with the location of the annunciator.

Main Service

1. Ground electrode conductor connection to ground rod completed with aluminum wire and buried in earth. Ground changed to copper
2. Panel DP Feeder conductors are undersized. Refer to Panel DP item for calculation and photos.
3. Labeling required. Complete
4. Code requires the disconnect to be lockable. There should be lock out devices on the sub feeder circuit breakers. Section 110.25 NEC The Nema3R enclosure is lockable.
5. Surge protection is off. Surge protection is working
6. Surface of working space needs to be level and flat.

Attic Wiring

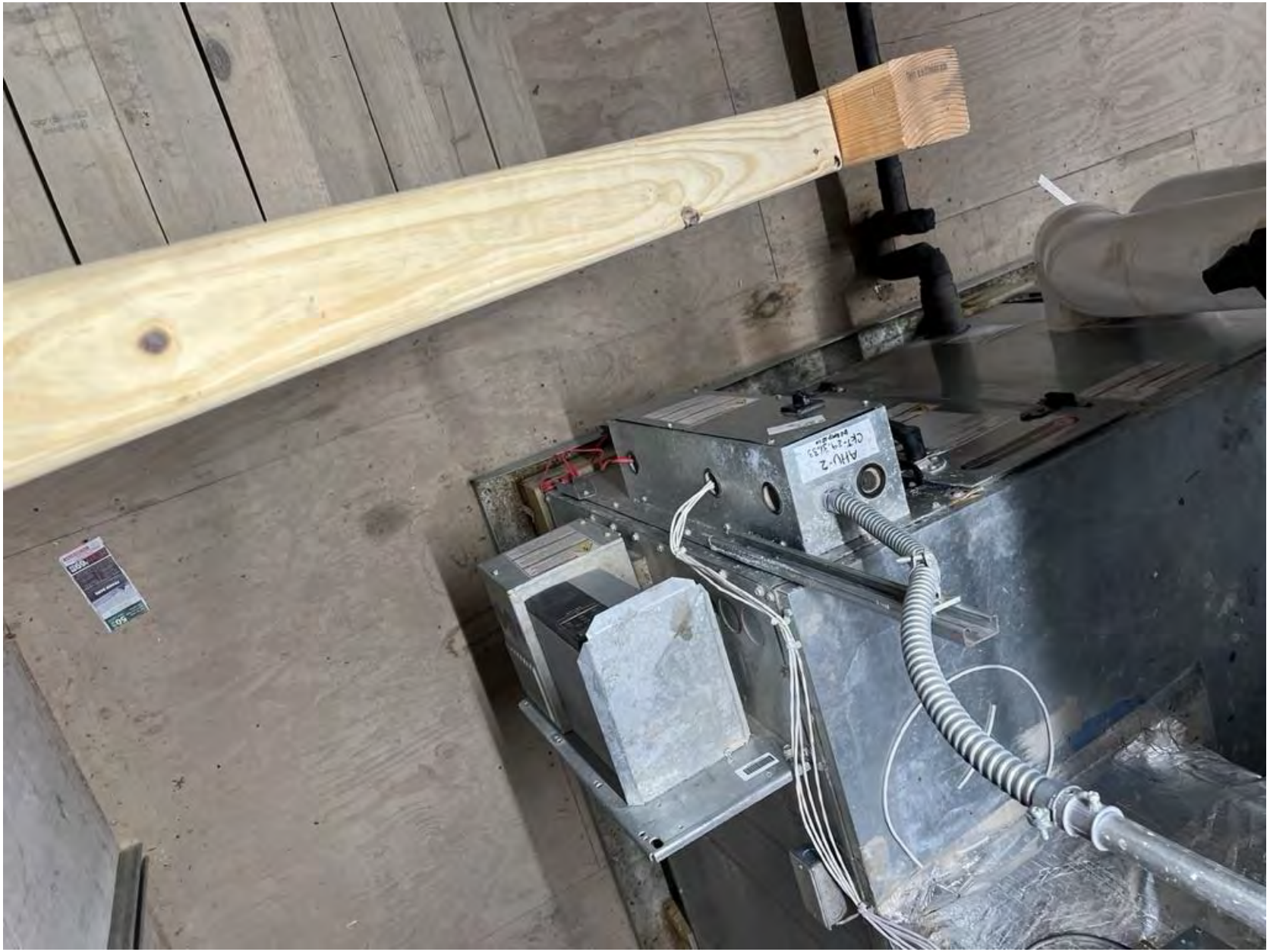
1. Improper size junction boxes.
2. Feeder conduits too close together for angle pulls. 1 and 2 will be repaired when we schedule the shutdown.
3. Branch circuits are not properly derated for the number of conductors in the conduit. Complete
4. Branch circuits are not properly derated for ambient temperature conditions. Complete

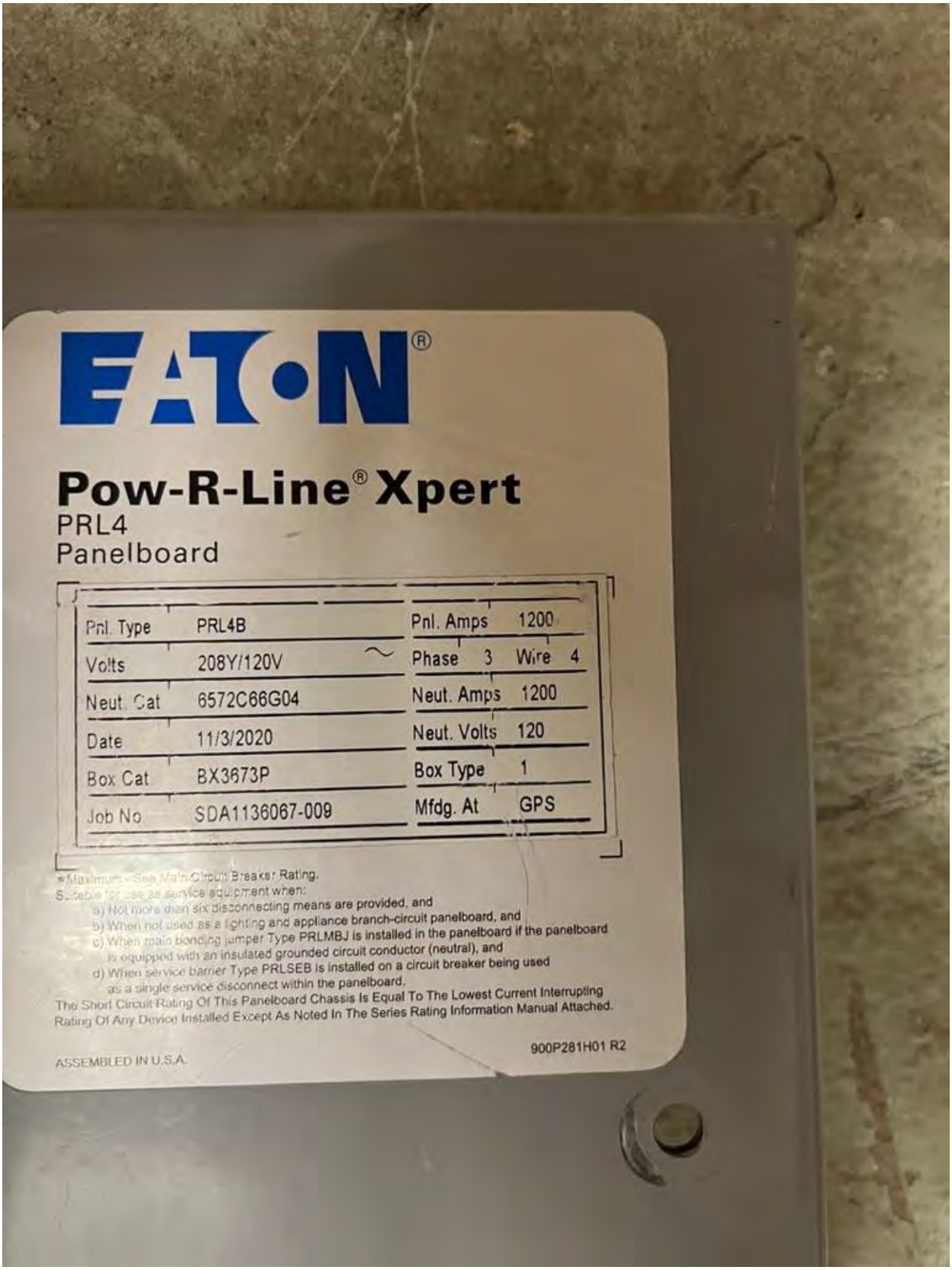
5. Too many conductors in box. 28x2= 56 current configuration based on Table 314.16(A) alone would limit the #10 conductors to 32. Box Would have to be at least 12x12x4. Complete
6. Too large of a conduit in a box. Complete
7. Using conduit to support another conduit. Complete
8. Multiple supporting violations. Complete
9. Clearance issues for air handler safety switches. The stairs will need to be moved.
10. No bonding Complete
11. Conductor calculation: (28) #10 THHN CU, ambient temperature of 122 degrees F, 20A circuit breakers and 1-1/4" EMT. 2.4 Cu/In per #10 conductor. 40A @90D C, x .45 = 18A. Ambient temperature adjustment, 114-122 Deg F .82 x 18A = 14.76A. Maximum circuit breaker allowed is 15A. Complete

Basement Panel

1. Clearance violation on panel Complete

Additional Items repaired
1. Bottom of Panel DP has been cleaned.
2. Rusted strut stand has been replaced.
3. Added a light above fire pump controller.
4. Sump pump control box was taken off the stand in the room and mounted on a strut rack from the ceiling.
5. 4 square j-box in the basement was to small. This was replaced with a 6"x6" j-box to meet code.
6. Unit heater conduits were supported correctly in the attic.
7. We are currently changing out the boxes for the lights on the second level and supporting them correctly. We are also putting the receptacle added for the Christmas wreaths on the new j-boxes.
8. The flagpole lights are not turning off during the day. Photocell was bad and we have replaced it.
9. We put the all restroom lighting on an emergency circuit.
10. Replaced sensors and added sensors where needed.


AHU-2



EATON®

Pow-R-Line® Xpert

PRL4
Panelboard

Pnl. Type	PRL4B	Pnl. Amps	1200
Volts	208Y/120V ~	Phase 3	Wire 4
Neut. Cat	6572C66G04	Neut. Amps	1200
Date	11/3/2020	Neut. Volts	120
Box Cat	BX3673P	Box Type	1
Job No	SDA1136067-009	Mfdg. At	GPS

*Maximum - See Main Circuit Breaker Rating.
Suitable for use as service equipment when:
a) Not more than six disconnecting means are provided, and
b) When not used as a lighting and appliance branch-circuit panelboard, and
c) When main bonding jumper Type PRLMBJ is installed in the panelboard if the panelboard is equipped with an insulated grounded circuit conductor (neutral), and
d) When service barrier Type PRLSEB is installed on a circuit breaker being used as a single service disconnect within the panelboard.
The Short Circuit Rating Of This Panelboard Chassis Is Equal To The Lowest Current Interrupting Rating Of Any Device Installed Except As Noted In The Series Rating Information Manual Attached.

ASSEMBLED IN U.S.A.

900P281H01 R2


EATON
SPD Series
Surge Protective Device
160kA
Protection Status
A
B
C
Neu/
Gnd
Alarm
Silence
Protected
Replace
RoHS
compliant

a. The cables do not have an overall outer jacket.

b. The number of current carrying conductors exceeds 20.

c. The cables are stacked or bundled longer that 600 mm (24 in) without spacing being maintained.

Table 310.15(B)(3)(a) Adjustment Factors for More Than Three Current-Carrying Conductors

Number of Conductors[1]	Percent of Values in Table 310.15(B)(16) through Table 310.15(B)(19) as Adjusted for Ambient Temperature if Necessary
4–6	80
7–9	70
10–20	50
21–30	45
31–40	40
41 and above	35

[1]Number of conductors is the total number of conductors in the raceway or cable, including spare conductors. The count shall be adjusted in accordance with 310.15(B)(5) and (6). The count shall not include conductors that are connected to electrical components but that cannot be simultaneously energized.

(b) *Raceway Spacing.* Spacing between raceways shall be maintained.

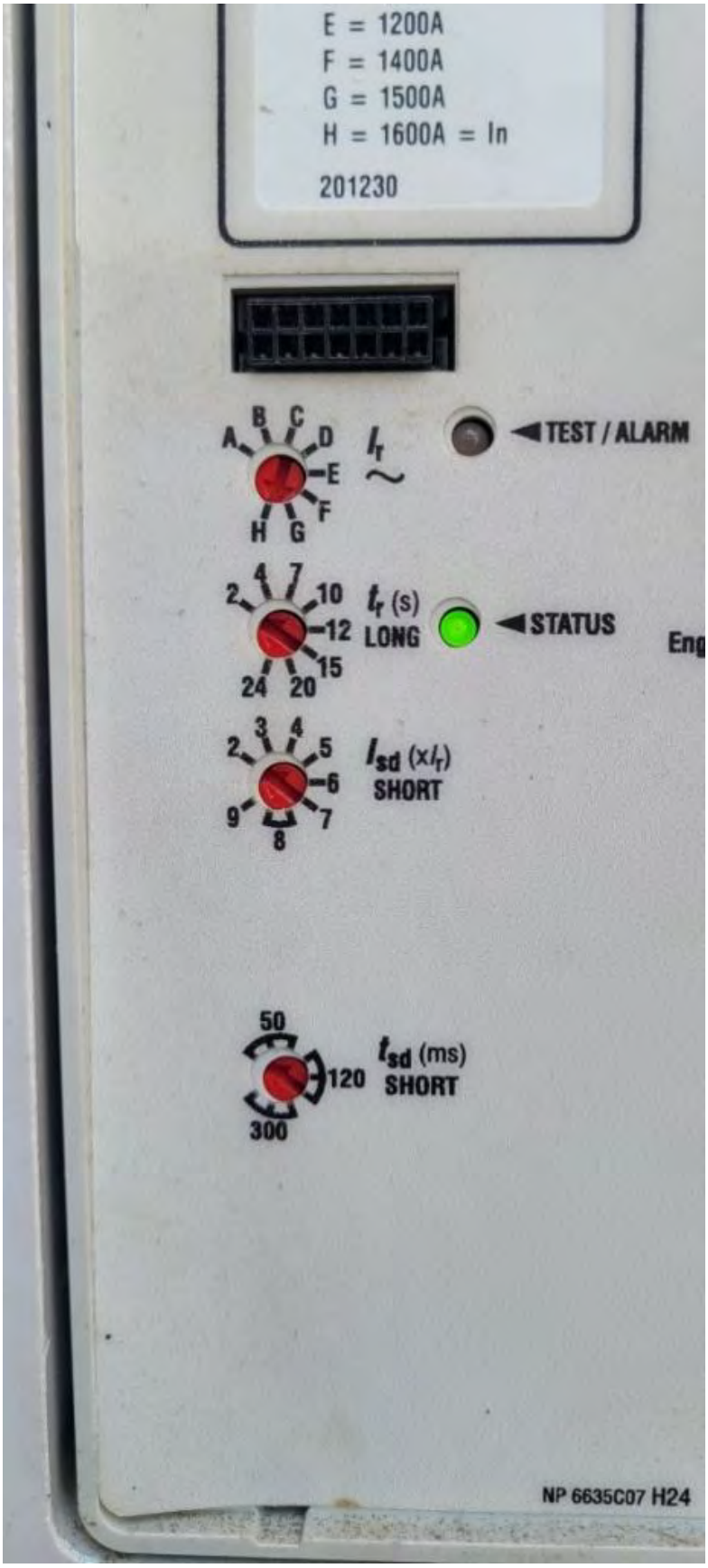
(c) *Raceways and Cables Exposed to Sunlight on Rooftops.* Where raceways or cables are exposed to direct sunlight on or above rooftops, the adjustments shown in Table 310.15(B)(3)(c) shall be added to the outdoor temperature to determine the applicable ambient temperature for application of the correction factors in Table 310.15(B)(2)(a) or Table 310.15(B)(2)(b).

Exception: Type XHHW-2 insulated conductors shall not be subject to this ampacity adjustment.

Informational Note: One source for the ambient temperatures in various locations is the ASHRAE *Handbook — Fundamentals*.


CHILLED WATER RET
CHILLED WATER SUPPLY
LOGICAL
MARK ARCHITECTURAL LIGHTING
MARK


EATON


E = 1200A
F = 1400A
G = 1500A
H = 1600A = In
201230
A B C D E F H G
I_r
TEST / ALARM
2 4 7 10 12 15 24 20
t_r (s) LONG
STATUS
2 3 4 5 6 7 8 9
I_{sd} (xI_r) SHORT
50 120 300
t_{sd} (ms) SHORT
NP 6635C07 H24


Southwest Pumps
310 N. 3rd Street, Bldg 200
Sanger, TX 76266
Authorized Fire Pump Representatives Specializing in:
Sales – Testing – Services
Motor Control Troubleshooting and Repair
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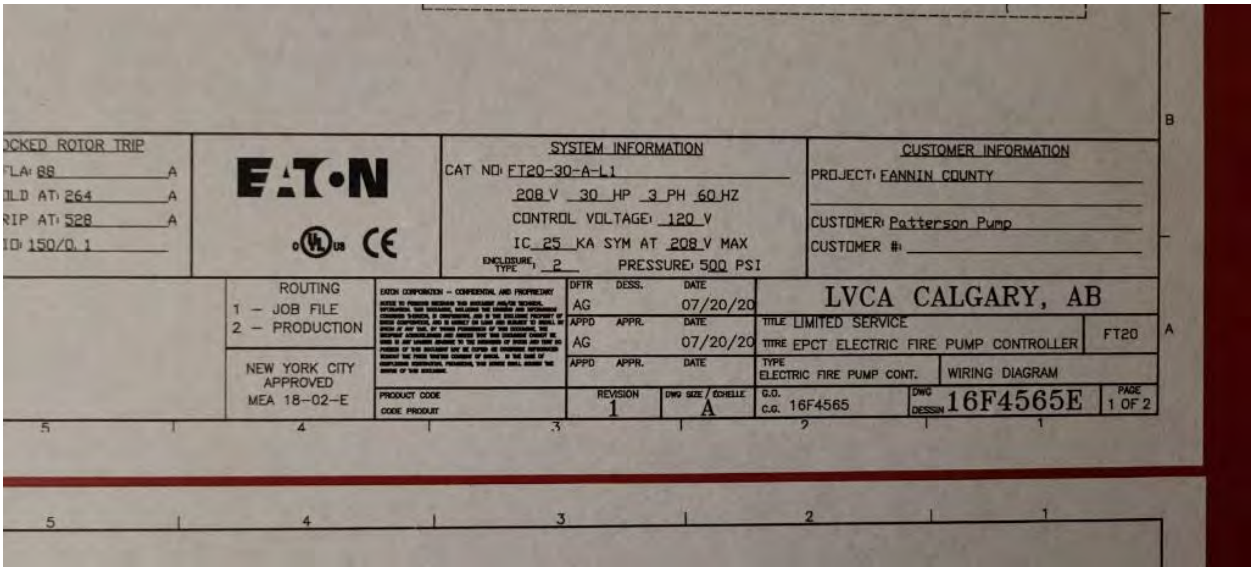
940-453-1231
EATON
16F4565E
3 x 3 = 60 =
30HP
16F4666E


EATON



CKED ROTOR TRIP
FLA: 88 A
ILD AT: 264 A
RIP AT: 528 A
ID: 150/0.1

EATON

SYSTEM INFORMATION
CAT NO: FT20-30-A-L1
208 V 30 HP 3 PH 60 HZ
CONTROL VOLTAGE: 120 V
IC 25 KA SYM AT 208 V MAX
ENCLOSURE TYPE: 2 PRESSURE: 500 PSI

CUSTOMER INFORMATION
PROJECT: FANNIN COUNTY
CUSTOMER: Patterson Pump
CUSTOMER #:

ROUTING
1 – JOB FILE
2 – PRODUCTION

NEW YORK CITY APPROVED
MEA 18-02-E

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PRODUCT CODE
CODE PRODUIT

DFTR	DESS.	DATE
AG		07/20/20
APPD	APPR.	DATE
AG		07/20/20
APPD	APPR.	DATE

REVISION: 1
DWG SIZE / ECHELLE: A

LVCA CALGARY, AB

TITLE: LIMITED SERVICE
TITRE: EPCT ELECTRIC FIRE PUMP CONTROLLER
FT20

TYPE: ELECTRIC FIRE PUMP CONT.
WIRING DIAGRAM

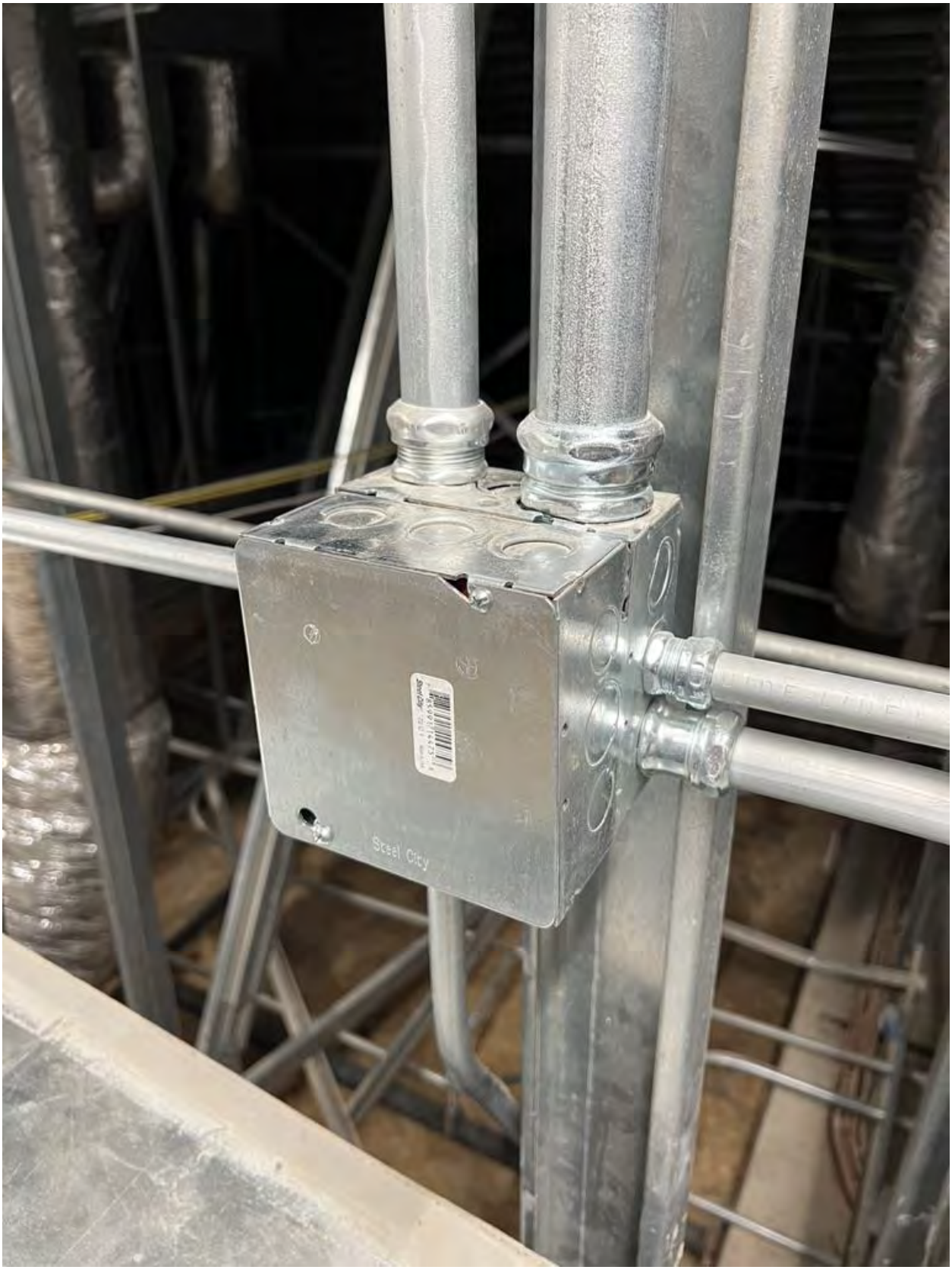
G.O. C.G. 16F4565
DWG DESSIN 16F4565E
PAGE 1 OF 2

5 4 3 2 1

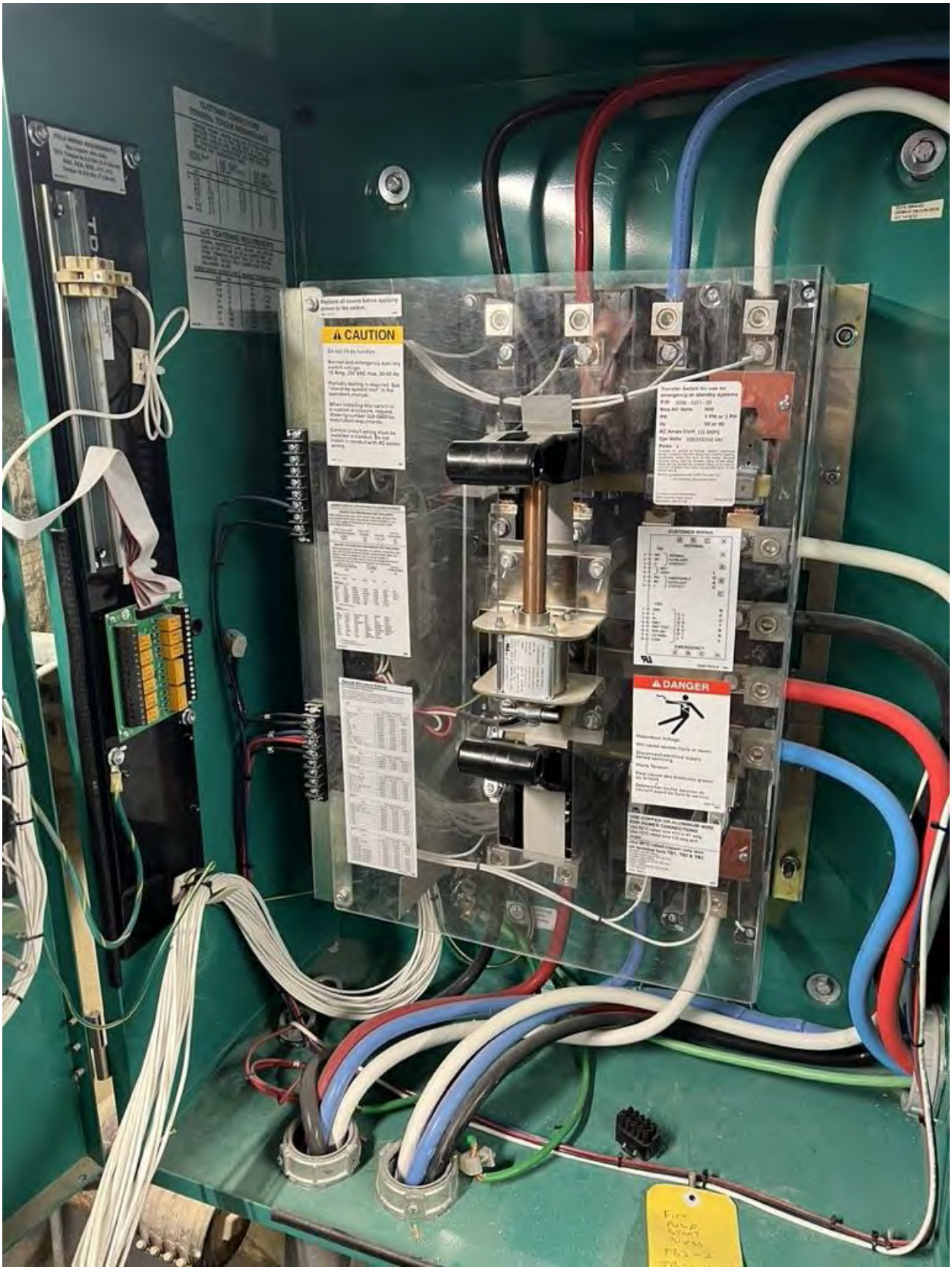
5 4 3 2 1


E·T·N
For Factory Assistance,
Renewal Parts or
24 hr Emergency Service
in the US or Canada
Call 1-800-498-2678
CEC


DAC
PA
2638533-20


Steel City

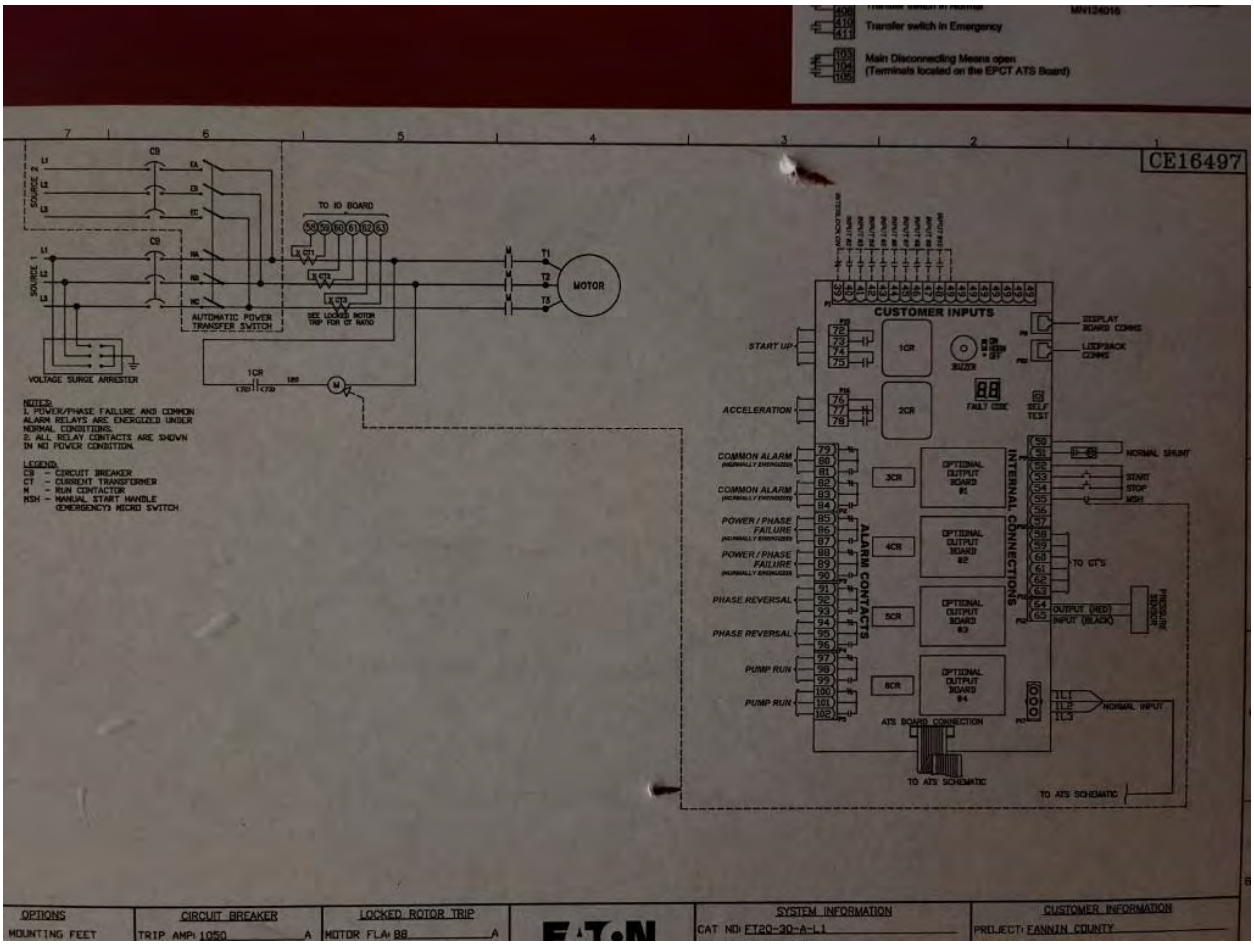

NOTICE


CAUTION
DANGER

NUCOR
CHILLED WATER RETURN
CHILLED WATER SUPPLY
CHILLED WATER SUPPLY


DURACELL
DFS


PRIORITY WIRE 4/0 AWG (107 mm2) XHHW-2 (UL) E257578 AL AA-8000 COMPACT STRAND XLPE
I/O BOARD



OPTIONS	CIRCUIT BREAKER	LOCKED ROTOR TRIP	SYSTEM INFORMATION	CUSTOMER INFORMATION
MOUNTING FEET	TRIP AMP: 1050 A	MOTOR FLA: 88 A	CAT NO: ET20-30-A-L1	PROJECT: FANNIN COUNTY


WARNING
EATON
Industrial Circuit Breaker
Frame
NGH 65k
1200 AMPS MAX
600 VAC
CAT #
STYLE #
NGH Interrupting Capacity – RMS Symmetrical Amperes
IEC 60947-2
Uimp 8 kV
Category A
Volt
kA
240 ~ 100
480 ~ 65
600 ~ 35
~ = 50/60 Hz
Off/O
Modification Code
Made in U.S.A.
Push to Trip
Maintenance Mode
LONG
SHORT
Cat. NGH312038E
Ir Settings
A = 500
B = 600
C = 630
D = 700
E = 800
F = 900
G = 1000
H = 1200
HKD 6
max. (In)
HKD3400F
1492D82G03
Wire Size
AWG/MCM
3 – 350
250 – 500
3/0 – 250
2/0 – 500
300

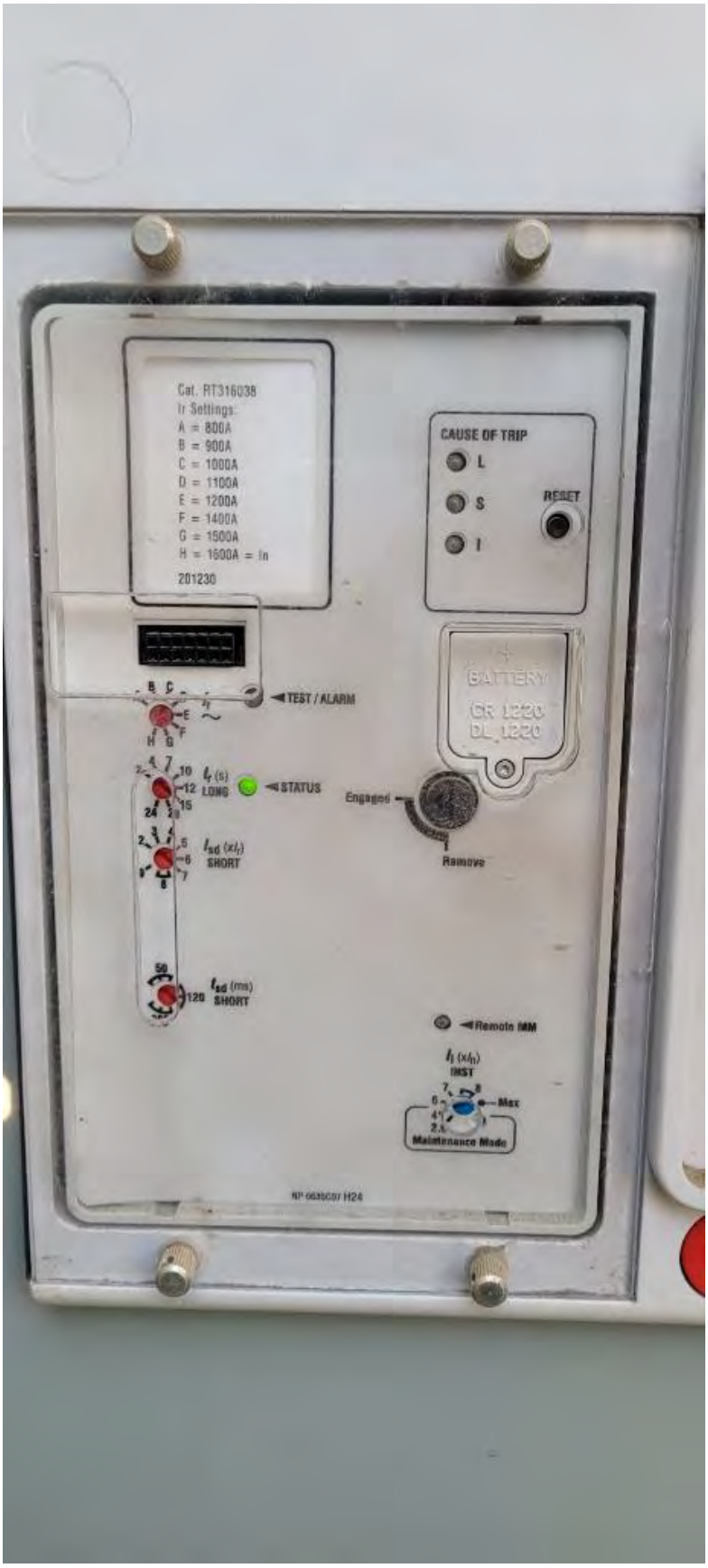

XLPE CT RATED /UL

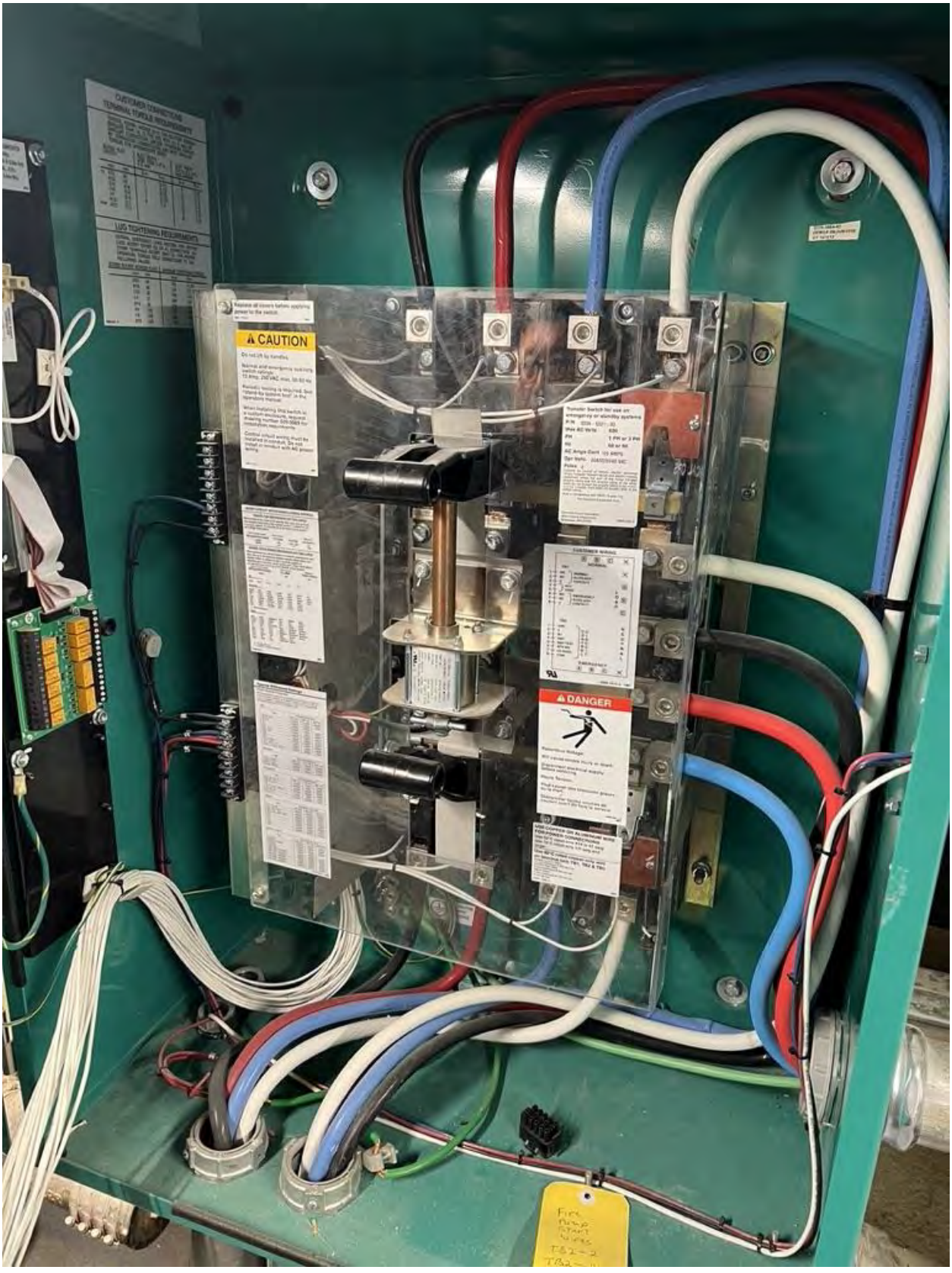

RGENCY
LINE
COMPACT AA 8000 AL 600V XLPE
LINE
L1
L2
L3
EATON
Motor Circuit Protector
Protecteur du circuit du moteur
Magnetic Trip Only
CB2
150
UTILITY #2


EATON


STOP
OK
Manual
Auto
PowerCommand
Toll Free: 866-250-8324
power.cummins.com


Type 1 Enclosure
Type 1 Enclosure


Cat. RT316038
Ir Settings:
A = 800A
B = 900A
C = 1000A
D = 1100A
E = 1200A
F = 1400A
G = 1500A
H = 1600A = In
201230
CAUSE OF TRIP
L
S
I
RESET
BATTERY
CR 1220
DL 1220
TEST / ALARM
STATUS
Engaged
Remove
LONG
SHORT
SHORT
Remote MM
INST
Max
Maintenance Mode


CAUTION
DANGER


Model No. Modele C80 D6C
Serial No. Serie G200781947
Spec. B
IMPORTANT!
Model & Serial No. Required When Ordering Parts.
Modele & No. Serie Requis Pour Commander Des Pieces.
99-2433
CUMMINS POWER GENERATION
1400 73RD AVE. N.E.
MINNEAPOLIS, MN 55432 U.S.A.
MADE IN U.S.A.
FREQUENCY 60 HZ
SERVICE RATING STANDBY PRIME
PHASE 1PH 3PH 1PH 3PH
RATED KW 0.0 80.0 0.0 0.0
POWER FACTOR 0.0 0.8 0.0 0.0
RATED KVA 0.0 100.0 0.0 0.0
I2 CAPABILITY 8pct
CONNECTION WYE
BATTERY VOLTS AMPS AMPS
12 VDC 120/ 208 277.6
ROTATING SPEED 1800RPM
NOMINAL RATED
INSUL: CLASS H
AMB 40C
FUEL: Diesel
MAX FLOW 34 L/hr (8.9 gal/hr)
WIRING DIAGRAM A054B421 A057D963
For Electrical Equipment Only
Pour Material Electrique Seulement


FIRE PUMP CONTROLLER
208V
Fed from: XFRM & Generator
EATON
LISTED
EATON
LIMITED SERVICE CONTROLLER
EATON
ELECTRIC FIRE PUMP CONTROLLER
CIRCUIT BREAKER - DISCONNECTING MEANS
OPERATION INSTRUCTIONS
TO PLACE IN SERVICE
ON


EATON
Panel DP


DANGER


POWER CONNECTION
NORMAL LINE
L1
L2
L3
EATON
Motor Circuit Protector
Protecteur du circuit du moteur
CB
150
UTILITY #1


W40
CC029A
Inverter Duty Motor
3 FR 284/6JP
HP(kW) 30.0(22.0)
V 200/400
A 80.3/40.1
NEMA NOM EFF 91.0 %
RPM 3540
ENCL ODP
DUTY CONT.
INS. CL. F
PF 0.87
DES B
CODE G
SF 1.15
SFA 92.3/46.1
MODEL 030360P3VFP284JPV-W4
MADE IN BRAZIL


DANGER
Warning
NOTICE
FA

E·T·N

DWG: 16F4565E

UNIT LOC: —

SERVICE VOLTAGE 208V

3 ø 3 W 60 HZ

MAX. RATING: 30HP

CONTROL VOLTAGE: — V

CONTROL VOLTAGE SOURCE: —

S.O.: 16F4566E

MADE AT: LVCA, AIRDRIE, CANADA

WIRED BY: EC DATE 07 / 23 / 20

TESTED BY: — DATE JUL 23/20

ATTENTION

The opening of the branch circuit productive device may be an indication that a fault has been interrupted. To reduce the risk of fire or electric shock current carrying parts and other components of the controller should be examined and replaced if damaged. If burnout of the current element of an overload occurs, the complete relay must be replaced.

Suitable for use on a circuit capable of delivering not more than — kA RMS symetrical — Volts maximum when protected by — class fuses or a circuit breaker having an interrupting rating not less than 25 kA RMS sym 208 V max

5710A07H06 Rev 012

F

E

D

C

B

SOURCE 2

SOURCE 1

VOLTAGE S

NOTES:
1. POWER/PI
ALARM RELA
NORMAL CON
2. ALL RELA
IN NO POWE

LEGEND
CB - CIRCU
CT - CURRE
M - RUN C
MSH - MANUA
GENERC

OPTIONS

1/FLOOR MOUNTING FEET


LVCA CALGARY, AB
LVCA CALGARY, AB
CONTROL CIRCUIT

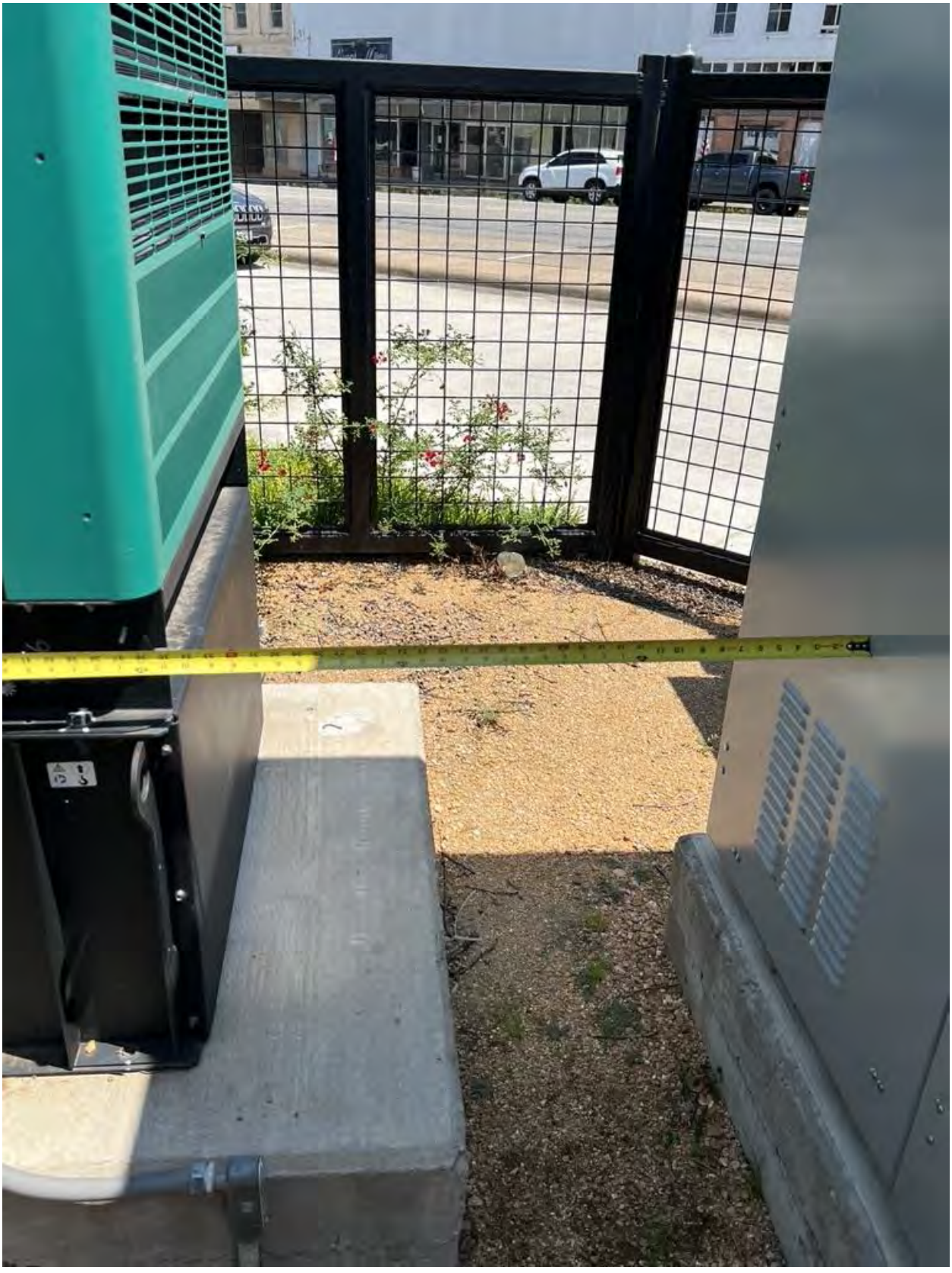

FM
APPROVED
The Pump People
Patterson
c UL us
LISTED
A GORMAN-RUPP CO., TOCCOA, GEORGIA, USA
CENTRIFUGAL FIRE PUMP IN-LINE
SIZE - TYPE
5X3 VIP
NO. STGS.
1
SERIAL NO.
FP-C000193186-01-01
G.P.M.
500
PSIG
75
R.P.M.
3545
BHP MAX.
32.900
MAX. SUCT. - PSI
137
MAX. PSIG
88
1.5 CAP PSIG
58
IMP. DIA - IN
7.125
DRIVER MANUFACTURER AND SERIAL NO.
WEG 1051382706
&
CONTROLLER MANUFACTURER AND SERIAL NO.
CUTLERHAMMER 16F4565E
Made in U.S.A. of U.S. and Imported parts


DOMESTIC COLD WATER
PowerCommand
power.cummins.com


For Units Supplied with Cause of Trip
To Enable Cause of Trip
Connect C1 to C9 on the C\D terminal block
located on the left side of the breaker.
Label may be removed after installation.
70C1881H01
EATON
Industrial Circuit Breaker
Frame
RGH 65k
1600 AMPS 690VAC 3 POLE
CAT RGH316038E
STYLE # 1485D94G21
EQUIPPED WITH
RG310+ TRIP UNIT
RT316038
Interrupting Capacity – RMS Symmetrical Ampere
Accessories Installed
Shunt Trip
Auxiliary Switch
Under V. Release
Alarm/ Lockout
Made in U.S.A.

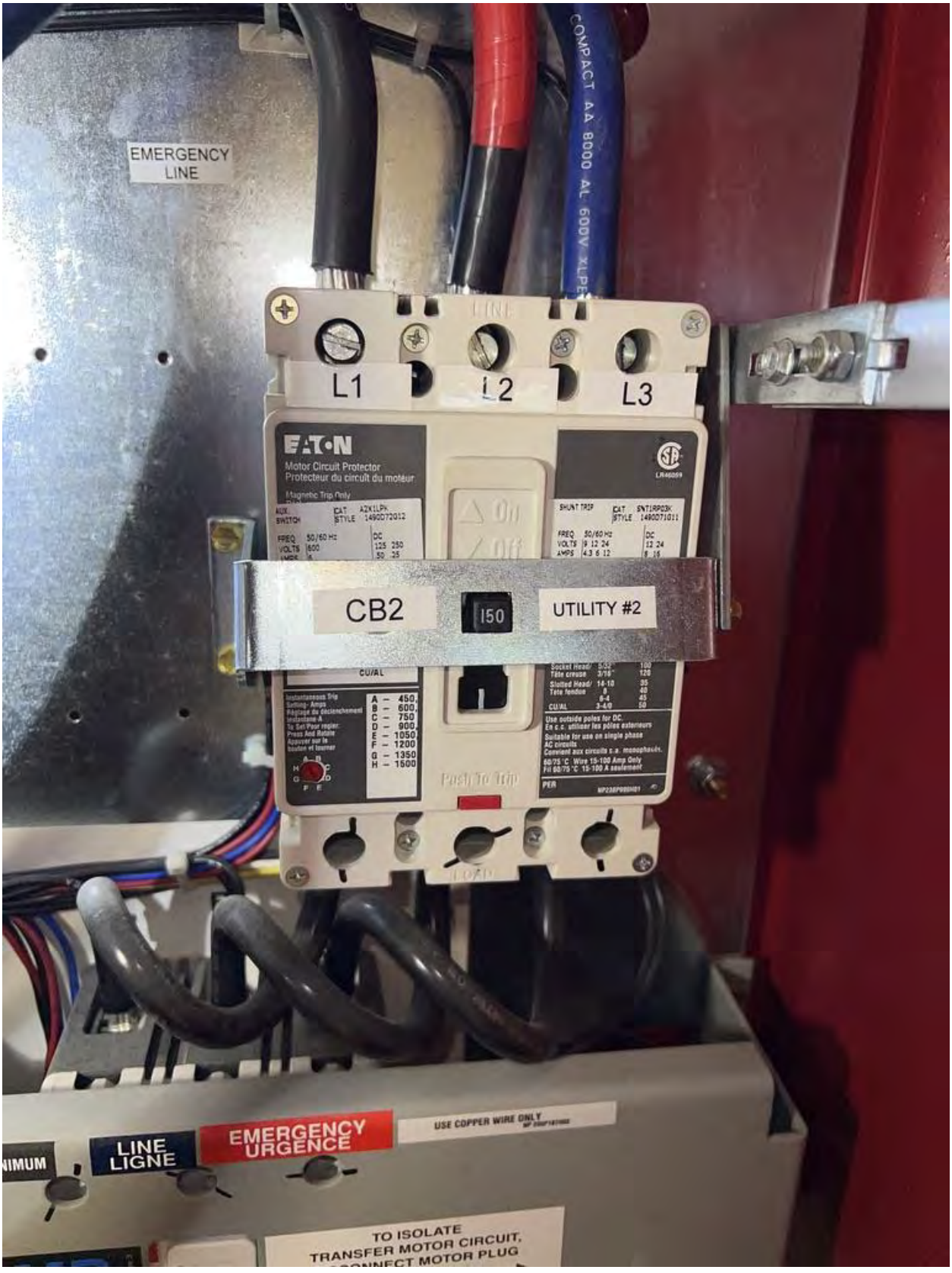

SQUARE D
by Schneider Electric
UL
CSA
NEMA
NOM
ON
In=250A
Ir
Isd
(A)
(x In)
(x In)

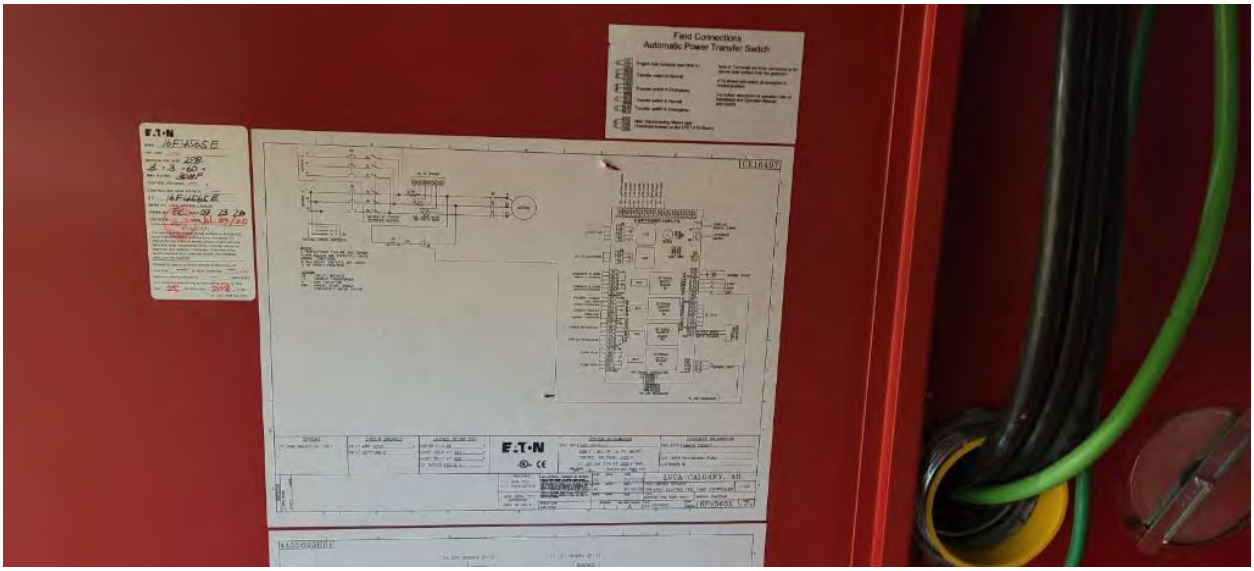

CME WIRE & CABLE
TYPE TW NYLON OR TWN 75 FT1




CAUTION!


power.cummins.com

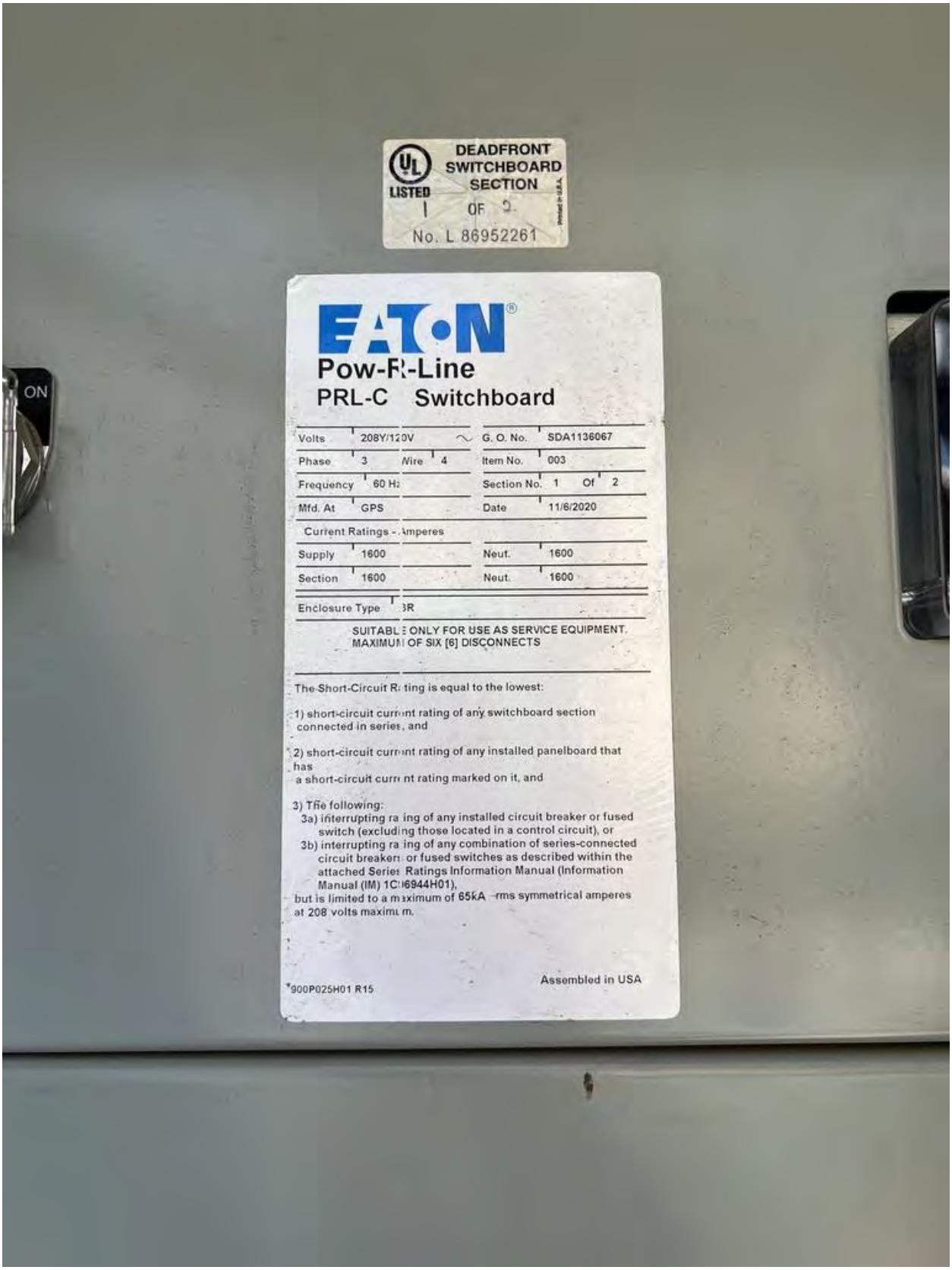

EMERGENCY
LINE
COMPACT AA 8000 AL 600V XLPE
L1
L2
L3
EATON
Motor Circuit Protector
Protecteur du circuit du moteur
CB2
150
UTILITY #2
Push To Trip
LINE
LOAD
LINE
LIGNE
EMERGENCY
URGENCE
USE COPPER WIRE ONLY
TO ISOLATE
TRANSFER MOTOR CIRCUIT,


Field Connections
Automatic Power Transfer Switch
E·T·N
E·T·N
LVCA CALGARY, AB


NOTICE


LINE
L1
L2
L3
EATON
Motor Circuit Protector
Protecteur du circuit du moteur
On
Off
UTILITY #1
CB
150

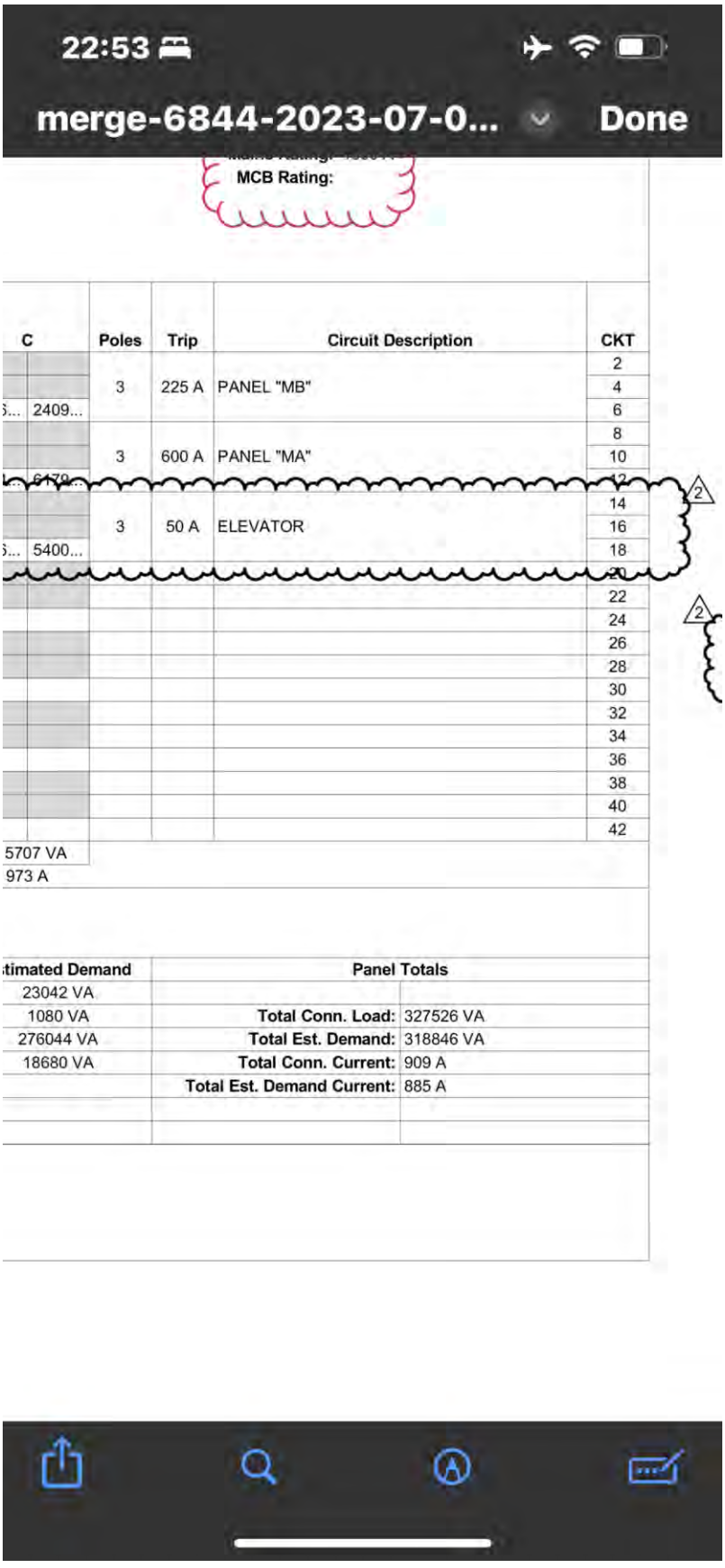

PowerCommand
Genset Supplying Load
Charger AC Failure
Low Coolant Level
Low Fuel Level
Check Genset
Not In Auto
Genset Running
High Battery Voltage
Low Battery Voltage
Weak Battery
Fail To Start
Low Coolant Temp
Pre-High Engine Temp
High Engine Temp
Pre-Low Oil Pressure
Low Oil Pressure
Overspeed
Silence/
Lamp Test
Network

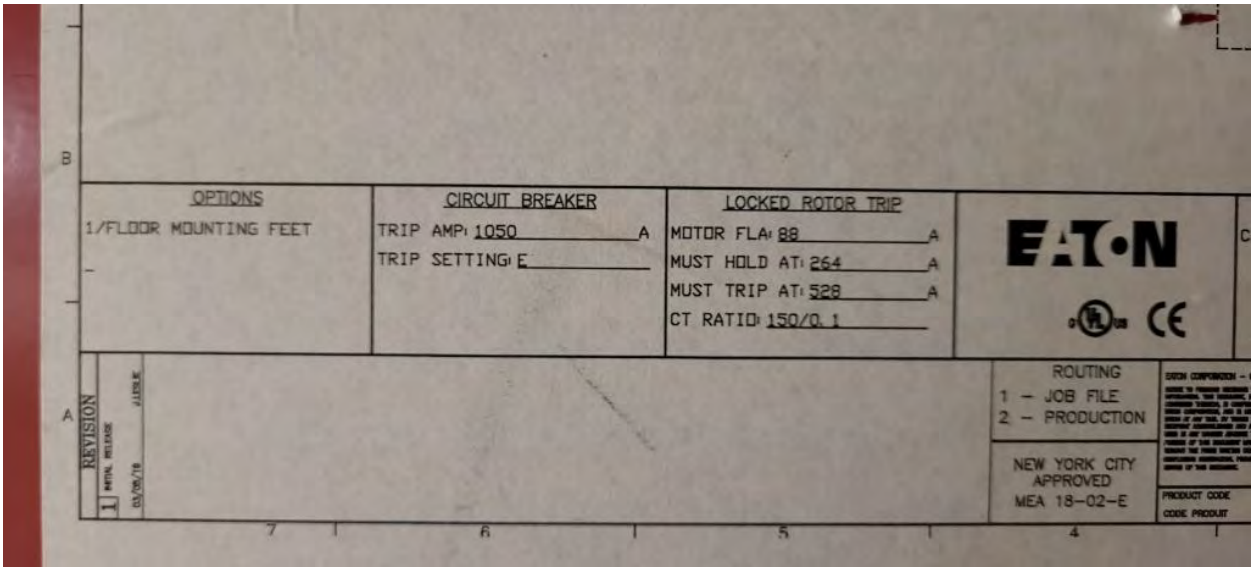

DEADFRONT
SWITCHBOARD
SECTION
LISTED
1 OF 2
No. L 86952261
EATON
Pow-R-Line
PRL-C Switchboard
Volts 208Y/120V
Phase 3 Wire 4
Frequency 60 Hz
Mfd. At GPS
G. O. No. SDA1136067
Item No. 003
Section No. 1 Of 2
Date 11/6/2020
Current Ratings - Amperes
Supply 1600
Neut. 1600
Section 1600
Neut. 1600
Enclosure Type 3R
SUITABLE ONLY FOR USE AS SERVICE EQUIPMENT.
MAXIMUM OF SIX [6] DISCONNECTS
The Short-Circuit Rating is equal to the lowest:
1) short-circuit current rating of any switchboard section connected in series, and
2) short-circuit current rating of any installed panelboard that has a short-circuit current rating marked on it, and
3) The following:
3a) interrupting rating of any installed circuit breaker or fused switch (excluding those located in a control circuit), or
3b) interrupting rating of any combination of series-connected circuit breakers or fused switches as described within the attached Series Ratings Information Manual (Information Manual (IM) 1C06944H01),
but is limited to a maximum of 65kA rms symmetrical amperes at 208 volts maximum.
Assembled in USA
*900P025H01 R15
ON


FM
Patterson
UL


MADE IN USA

123.jpg.jpeg


22:53
merge-6844-2023-07-0...
Done
MCB Rating:
C
Poles
Trip
Circuit Description
CKT
3
225 A
PANEL "MB"
2409...
3
600 A
PANEL "MA"
3
50 A
ELEVATOR
5400...
2
2
2
4
6
8
10
14
16
18
22
24
26
28
30
32
34
36
38
40
42
5707 VA
973 A
timated Demand
23042 VA
1080 VA
276044 VA
18680 VA
Panel Totals
Total Conn. Load:
327526 VA
Total Est. Demand:
318846 VA
Total Conn. Current:
909 A
Total Est. Demand Current:
885 A



OPTIONS	CIRCUIT BREAKER	LOCKED ROTOR TRIP
1/FLOOR MOUNTING FEET	TRIP AMP: 1050 A	MOTOR FLA: 88 A
-	TRIP SETTING: E	MUST HOLD AT: 264 A
		MUST TRIP AT: 528 A
		CT RATIO: 150/0.1

EATON

REVISION

1	INITIAL RELEASE	03/06/19

ROUTING
1 – JOB FILE
2 – PRODUCTION

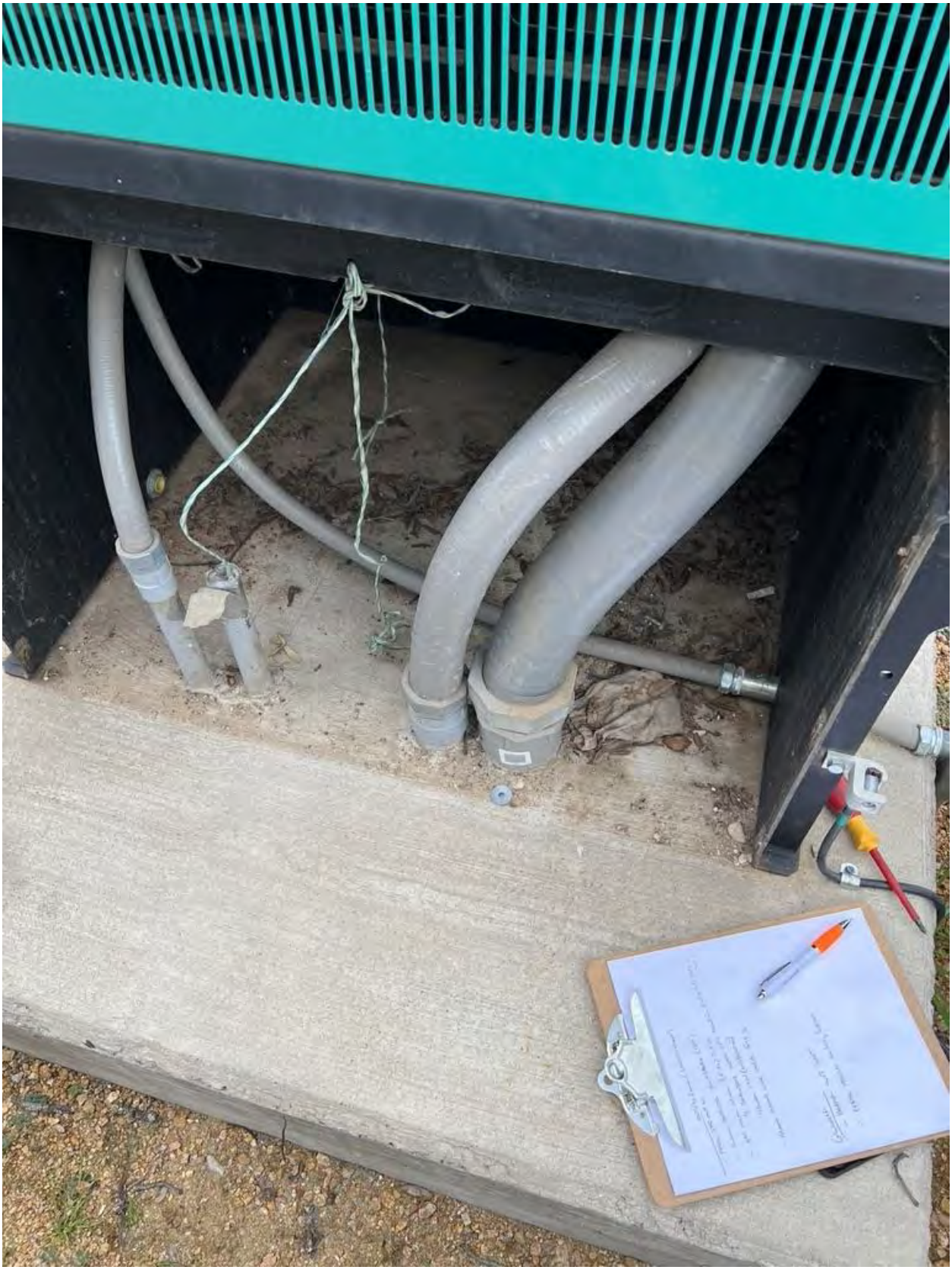
NEW YORK CITY APPROVED
MEA 18-02-E

PRODUCT CODE
CODE PRODUIT


DOMESTIC COLD WATER

AHU-2
CKT-29,31,33
60AMP


EATON
Jockey Pump
Controller
DANGER




E-471307 2019 05044FT


2X8


MAIN
SERVICE
DISCONNECT
For Units Supplied with Cause of Trip
WARNING
RGH 65k


ON
In= 400A


DOMESTIC COLD WATER


38
37
36
35
34
33
32
31
2
1
11
10
9
8
7


EMERGE
Push and turn


ARMS ON
ARMS
OFF
ON
— WARNING —
TO PREVENT DAMAGE TO GROUND FAULT CONTROL CIRCUITS, METERING CIRCUITS, OR OTHER CONTROL CIRCUITS, WHEN MEGGERING SWITCHBOARD, ISOLATE CIRCUITS FROM SWITCHBOARD SYSTEM BEFORE BEGINNING THE MEGGER OPERATION. BE SURE TO RECONNECT THOSE CIRCUITS AFTER MEGGER TESTS ARE COMPLETED.
NOTE: SOME GROUND FAULT CIRCUITS MAY
NOT BE FUSED, THEREFORE ISOLATION


WARNING
E·T·N
Industrial Circuit Breaker
Frame
NGH 65k
NGH Interrupting Capacity – RMS Symmetrical Ampere
IEC 60947-2
Uimp 8 kV
Category A
Volt kA
240 ~ 100
480 ~ 65
600 ~ 35
~ = 50/60 Hz
Off/O
Modification Code
Made in U.S.A.
Cat. NGH312038E
Ir Settings
A = 500
B = 600
C = 630
D = 700
E = 800
F = 900
G = 1000
H = 1200
HKD 6
max. (In)
HKD3400F
1492D82G03
Wire Size
AWG/MCM
3 – 350
250 – 500
& Lower Only

14
16
18


DP
Y/120V 3PH 4W
T•N
anel DP
120/208V
d from: SBD


FM
APPROVED
Patterson
VL
LISTED


AUT / CAN


DOMESTIC COLD WATER


FIRE PUMP
DANGER