Series C

Typical F-Frame Breaker F-Frame Breaker with Electronic Trip Unit





F-Frame (10–225 Amperes)

Product Description

- All Eaton's F-Frame circuit breakers are HACR rated
- All circuit breakers 10 through 30 amperes are suitable for HID (high intensity discharge) use
- All F-Frame circuit breakers are suitable for reverse feed use

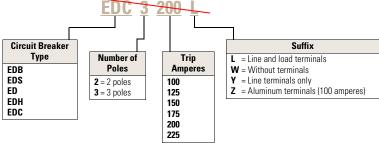
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Catalog Number Selection

This information is presented only as an aid to understanding catalog numbers. It is not to be used to build catalog numbers for circuit breakers or trip units.

Example see below for Catalog numbers FD-Frame Circuit Breakers with Thermal-Magnetic Trip Unit Technology Circuit Breaker Suffix **E** = 100% protected (four-pole only) neutral pole **EH** = 50% protected (four-pole only) Type Number of **Trip Amperes** Poles EHD 010 FDB **1** = 1 pole 015 **K** = High magnetic molded case switch FD L = Line and load terminals **2** = 2 poles 020 HFD **3** = 3 poles 025 \$ = Stainless steel terminals V = 50 °C calibration **FDC 4** = 4 poles 030 W = Without terminals 035 040 Y = Line terminals only **Z** = Aluminum terminals (≤100 amperes) 045 050 070 090 100 110 125 175 (FD, HFD, FDC, two-, three-, four-pole only) 200 (FD, HFD, FDC, two-, three-, four-pole only) 225 (FD, HFD, FDC, two-, three-, four-pole only)



QTY:1 - FD3030L (for K39 in Kitchen see attached Drawing with this Submittal)

QTY:1 - FD3060L (for K41 in Kitchen see attached Drawing with this Submittal)

Type FD Thermal-Magnetic Circuit Breakers with Non-Interchangeable Trip Units (Includes Terminals on Load End Only)

	277 Vac Maximum, 125 Vdc 35 kAIC at 277 Vac	600 Vac Maximum, 250 Vdc 35 kAIC at 480 Vac							
	Single-Pole	Two-Pole	Three-Pole	Four-Pole					
Maximum Continuous Ampere Rating at 40 °C	Catalog Number	Catalog Number	Catalog Number	Catalog Number					
10 ①	FD1010	_	_	_					
15	FD1015 @	FD2015	FD3015	FD4015					
20	FD1020 ②	FD2020	FD3020	FD4020					
25	FD1025	FD2025	FD3025	FD4025					
30	FD1030	FD2030	FD3030	FD4030					
35	FD1035	FD2035	FD3035	FD4035					
40	FD1040	FD2040	FD3040	FD4040					
45	FD1045	FD2045	FD3045	FD4045					
50	FD1050	FD2050	FD3050	FD4050					
60	FD1060	FD2060	FD3060	FD4060					
70	FD1070	FD2070	FD3070	FD4070					
80	FD1080	FD2080	FD3080	FD4080					
90	FD1090	FD2090	FD3090	FD4090					
100	FD1100	FD2100	FD3100	FD4100					
110	FD1110	FD2110	FD3110	FD4110					
125	FD1125	FD2125	FD3125	FD4125					
150	FD1150	FD2150	FD3150	FD4150					
175	_	FD2175	FD3175	FD4175					
200	_	FD2200	FD3200	FD4200					
225	_	FD2225	FD3225	FD4225					

Notes

 $^{^{\}scriptsize \textcircled{\tiny 1}}$ Not UL listed. 5 kAIC interrupting rating.

 $[\]ensuremath{^{\circ}}$ UL listed for SWD applications, see NEC Article 240.83(d).

Enclosed Circuit Breakers



Contents

Description	Page
Features, Benefits and Functions	V2-T1-106
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Flex Center	V2-T1-113
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Product Description

- 15-1200A
- Enclosed device used to open and close a circuit

Application Description NEMA 1 General Purpose

Surface or Flush Mounting 15-1200A, 600 Vac, 500 Vdc

NEMA 1 enclosed breakers are designed for indoor use in commercial buildings, apartment buildings and other areas where a general purpose enclosure is applicable. The breaker is front operable and is capable of being padlocked in the OFF position, Ratings through 1200A are listed with Underwriters Laboratories as suitable for service entrance application. Both surface and flush mounted enclosures are available.



NEMA 1 General Purpose

NEMA 3R Rainproof Surface Mounting ©

Interchangeable Hubs (through 400 V) 15–1200A, 600 Vac, 500 Vdc

This general purpose outdoor service center employs a circuit breaker inside a weatherphoof sheet steel enclosure to serve as a main disconnect and protective device for feeder circuits. The breaker is front operable and is capable of being padlocked in the ONF position. Ratings through 1200A are listed by Underwriters Laboratories as suitable for service entrance application.



NEMA 3R Rainproof Surface Mounting

NEMA 4/4X, 5 Water and Dustproof

Stainless Steel—Type 304 Surface Mounting 15–1200A, 600 Vac, 500 Vdc

This enclosure meets NEMA 4/4X and 5 requirements for water and dustproof applications and has no knockouts or other openings. It is particularly well suited for use in dairies, borax mines, breweries, paper mills and other process industries. The operating handle can be padlocked in the OFF position, and is interlocked to prevent the door from opening when the breaker is ON. Ratings through 1200A are Underwriters Laboratories listed as suitable for service entrance application.



NEMA 4/4X Water and Dustploof

Note

① SFDN enclosed breakers do not have a door interlock to prevent door from being opened when breaker is "ON."

Product Selection

- 1. Use the data on **Page V2- T1-120** to determine type of enclosure required.
- Use the data on Page V2-T1-114 and V2-T1-115 to determine circuit breaker required.
- 3. Pages V2-T1-116 through V2-T1-122 include rough-in dimensional information.

TOTAL QTY: 2 1 for K39 1 for K41

Enclosure Only

Breaker Frame	Breaker Ampere Range	Enclosure NEMA Class	Catalog Number	
Series C Breakers				
GHC, GD (two-and three-pole only)	15–100	1 surface	SGDN100 ^①	
GHCGFEP (single-pole only)		3R	RGDN100	
		40	JGDN100	
		12K	DCDN100	_ /
		4/4X, 5 stainless steel	WGDN100	- /
EHD, FD, FDB, HFD	15–100	1 surface	SFDN100	_/.
		1 flush	FFDN100 ←	<u></u>
		SR	RFDN100	
		12	JFDN100	
		12K	DFDN100	
		4/4X, 5 stainless steel	WFDN100	
END FD, FDB	15–50	7/9 cast aluminum	XFDN050B	
HFD, FDC	60-225 ^②	7/9 cast aluminum	XFDN225B	
FD, FDB, HFD, ED, EDH, EDC, FDC (15–225A)	125–225	1 surface	SFDN225	
		1 flush	FFDN225	
		3R	RFDN225	
		12	JFDN225	
		12K	DFDN225	
		4/4X, 5 stainless steel	WFDN225	
JD, JDB, HJD, JDC	125–250	1 surface	SJDN250	
		l-flush	FJDN250	
		3R	RJDN250	
		12	JJDN250	
		12K	DJDN250	
		4/4X, 5 stainless steel	WJDN250	
JD, JDB, HJD, JDC	125–250	7/9 cast aluminum	XJDN250B	_

Notes

- ① Suitable for use with single-pole breaker. Base mounting plate kit. QCCBP required.
- ② Maximum wire size: 4/0.
- ^③ Can be field converted to NEMA Type 3R.

Technical Data and Specifications

Industrial Circuit Breaker Selection

Circuit Breaker	Continuous Ampere Rating	Number of		Type of Spec.	Type of	Federal Spec.	UL Listed Interrupting Rating rms Symmetrical Amperes Vac Ratings Vdc Ratings								
Туре	at 40°C	Poles	Vac		W-C-375b	120	120/240	240	277	480	600	125	250	125/250	
G-Frame)														
GHC	15-100	1	120	125	N.I.T.U.	12c, 13a	65,000	_	_	_	_	_	14,000	_	_
GHC	15–100	2, 3	240	125/250	N.I.T.U.	13b	_	_	65,000	_	_	_	_	_	14,000
GHC	15–100	1	277	125	N.I.T.U.	12c, 13a	_	_	_	14,000	_	_	14,000	_	_
GHC	15–100	2, 3	277/480	215/250	N.I.T.U.	13b	_	_	_	14,000	14,000	_	_	_	14,000
GD	15–100	3	480	250	N.I.T.U.	13b	_	_	65,000	_	22,000	_	_	10,000	_
F-Frame	\leftarrow														
ED	100-225	2, 3	240	125	N.I.T.U.	12b	_	_	65,000	_	_	_	10,000	_	_
EDH	100-225	2, 3	240	125	N.I.T.U.	14b	_	_	100,000	_	_	_	10,000	_	_
EDC	100-225	2, 3	240	125	N.I.T.U.	1	_	_	200,000	_	_	_	10,000	_	_
EHD	15–100	1	277	125	N.I.T.U.	13a	_	_	_	14,000	_	_	10,000	_	_
EHD	15-100	2, 3	480	250	N.I.T.U.	13b	_	_	18,000	_	14,000	_	_	10,000	_
FDB	15-150	2, 3	600	250	N.I.T.U.	18a	_	_	18,000	_	14,000	14,000	_	10,000	_
FDB	15-150	4	600	250	N.I.T.U.	3	_	_	18,000	_	14,000	14,000	_	10,000	_
FD	15-225	1	277	125	N.I.T.U.	13a	_	_	_	25,000	_	_	10,000	_	_
FD	15-225	2, 3	600	250	N.I.T.U.	22a	_	_	65,000	_	25,000	18,000	_	10,000	_
FD	15-225	4	600	250	N.I.T.U.	3	_	_	65,000	_	25,000	18,000	_	10,000	_
HFD	15-225	1	277	125	N.I.T.U.	13a	_	_	_	65,000	_	_	10,000	_	_
HFD	15-225	2, 3	600	250	N.I.T.U.	22a	_	_	100,000	_	65,000	25,000	_	20,000	_
HFD	15-225	4	600	250	N.I.T.U.	3	_	_	100,000	_	65,000	25,000	_	20,000	_
FDC	15-225 4	2, 3	600	250	N.I.T.U.	24a	_	_	200,000	_	100,000	35,000	_	20,000	_
FDC	15-225	4	600	250	N.I.T.U.	3	_	_	200,000	_	100,000	35,000	_	20,000	_
J-Frame															
JDB	70-250	2, 3	600	250	N.I.T.U.	22a	_	_	65,000	_	35,000	18,000	_	10,000	_
JD	70-250	2, 3, 4	600	250	I.T.U.	22a	_	_	65,000	_	35,000	18,000	_	10,000	_
HJD	70-250	2, 3, 4	600	250	I.T.U.	22a	_	_	100,000	_	65,000	25,000	_	22,000	_
JDC	70-250	2, 3, 4	600	250	I.T.U.	22a	_	_	200,000	_	100,000	35,000	_	22,000	_
K-Frame)														
DK	250-400	2, 3	240	250	N.I.T.U.	14b	_	_	65,000	_	_	_	_	10,000	_
KDB	100-400	2, 3	600	250	N.I.T.U.	23a	_	_	65,000	_	35,000	25,000	_	10,000	_
KD	100-400	2, 3, 4	600	250	I.T.U.	23a	_	_	65,000	_	35,000	25,000	_	10,000	_
HKD	100-400	2, 3, 4	600	250	I.T.U.	23a	_	_	100,000	_	65,000	35,000	_	22,000	_
KDC	100-400	2, 3, 4	600	250	I.T.U.	23a	_	_	200,000	_	100,000	50,000	_	22,000	_
LG-Fram	ne														
LGE	250-600	3, 4	600	250	I.T.U.	23a	_	_	65,000	_	35,000	18,000	_	22,000	_
LGS	250-600	3, 4	600	250	I.T.U.	23a	_	_	85,000	_	50,000	25,000	_	22,000	_
LGH	250-600	3, 4	600	250	I.T.U.	23a	_	_	100,000	_	65,000	35,000	_	42,000	_

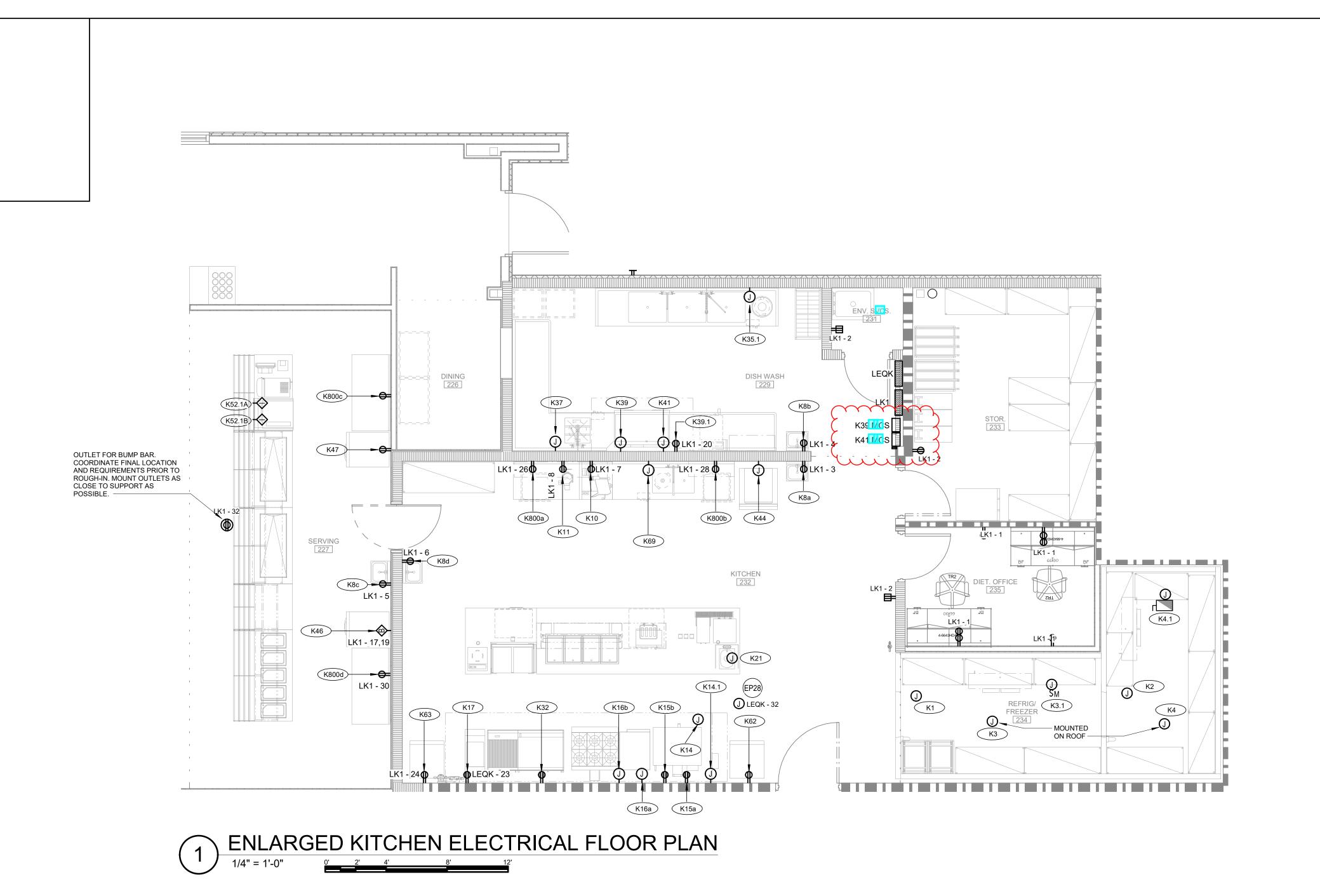
Notes

① N.I.T.U. is non-interchangeable trip unit and I.T.U. is interchangeable trip unit.

 $^{\ ^{\}circ}$ Two-pole circuit breaker, or two poles of three-pole circuit breaker at 250 Vdc.

③ Not defined in W-C-375b.

⁴ Not suitable for use with 100A enclosures.



GENERAL NOTES:

ALL DEVICES UNDER HOOD SHALL BE SHUNT TRIP PROTECTED BY ACTIVATION OF FIRE SUPRESSION SYSTEM. COORDINATE WITH THE KITCHEN EQUIPMENT VENDOR ON LOCATION OF THE FIRE SUPPRESSION PANEL. PROVIDE WIRE AND CONDUIT AS REQUIRED TO MONITOR BY THE FIRE ALARM SYSTEM AND RELEASE OF THE SHUNT TRIP BREAKERS. PROVIDE SHUNT TRIP POWER FROM SAME

RECEPTACLES WITHIN THE KITCHEN SHALL BE 'GFCI' TYPE

ON THE SAME WALL, THE TOP OF THE ENCLOSURES SHALL

- PANEL AS BREAKER. PROVIDE SET OF CONTROL ZAM AND RELAY FOR EACH SHUNT TRIP DEVICE.
- COORDINATE FINAL CONNECTIONS AND LOCATIONS WITH THE KITCHEN VENDOR PRIOR TO ROUGH-IN. ALL BRANCH CIRCUITS CALLED FOR IN THE KITCHEN
- EQUIPMENT SCHEDULE SHALL BE CONCEALED EITHER ABOVE CEILING AND/OR BELOW SLAB AND/OR IN WALLS. ALL 125V SINGLE-PHASE AND 208Y/120 THREE-PHASE
- OUTLETS AND READILY ACCESSIBLE PER NEC OR PROVIDE GFI BREAKERS PER NEC 210.8(B)(2). SEE PANEL SCHEDULES. HE 'MCS' MOLDED CASE SWITCHES SHOWN SHALL BE FLUSH MOUNT, NEMA 1 ENCLOSURES WITH A STAINLESS STEEL COVERS. MOUNT AT 60"H. WHERE 2 OR MORE ARE
- ALL 120V CIRCUITS USED TO PROVIDE POWER FOR SHUNT TRIP BREAKERS SHALL HAVE LOCKING TABS ON THEIR BREAKERS AND SHALL BE MONITORED BY THE FIRE ALARM

MATCH IN HEIGHT.

MOBILE EQUIPMENT.

- SYSTEM AS A SUPERVISORY, AS PER NFPA 96, SECTION 10. CONTRACTOR SHALL REFER TO FOOD EQUIPMENT VENDOR ELECTRICAL ROUGH-IN PLAN FOR KITCHEN EQUIPMENT
- REQUIREMENT DETAILS. CONTRACTOR SHALL INTERWIRE FREEZER AND COOLER ALARM, DOOR LIGHTS, AND LIGHTS PROVIDED LOOSE BY VENDOR. PROVIDE CONNECTIONS FOR DOOR FRAME HEATER BRANCH TO HEAT TRACE FOR CONDENSATE LINE.

VERIFY WITH VENDOR SHOP DRAWINGS.

- PROVIDE CONNECTION BETWEEN FREEZER COMPRESSOR (K4) AND FREEZER EVAPORATOR COIL (K4.1). COIL IS POWERED FROM COMPRESSOR. COORDINATE WORK WITH
- SINGER EQUIPMENT COMPANY. COORDINATE RECEPTACLE HEIGHT WITH KITCHEN EQUIPMENT VENDOR SO AS NOT TO INTERFERE WITH
- COORDINATE LOCATION OF POINT OF SALE DATA AND RECEPTACLE OUTLETS WITHIN KITCHEN EQUIPMENT VENDOR AND ENCOMPASS ITG PRIOR TO ROUGH-IN.

PLAN NOTES:

Kitchen Equipment Connection Schedule

18,20,22

Manual Motor Starter

Integral to Controller

Integral to Controller

30/3, IMC S

60/3, MCS

14-50R

14-50R

5-20R

5-20R

WP, 30/3, F-25

5-15R

5-15R

5-15R

120 V/1-600 VA

120 V/1-600 VA

208 V/3-5404 VA 20 V/1-504 VA

208 V/3-7098 VA

208 V/2-1810 VA

120 V/1-180 VA

120 V/1-180 VA

120 V/1-180 VA

120 V/1-180 VA

120 V/1-1176 VA

120 V/1-840 VA

20 V/1-600 VA

120 V/1-1920 VA

120 V/1-1176 VA

120 V/1-1176 VA 208 V/3-8000 VA 30/3

208 V/3-8000 VA

120 V/1-732 VA

120 V/1-972 VA 208 V/3-1296 VA

208 V/2-1500 VA

120 V/1-696 VA

120 V/1-1176 VA

208 V/3-1296 VA

120 V/1-180 VA

120 V/1-180 VA

120 V/1-180 VA

120 V/1-180 VA 2

120 V/1-1020 VA

208 V/2-5824 VA 50/2

|208 V/2-8196 VA |50/2

480 V/3-23196 VA 30/3

4<mark>80</mark> V/3-36000 VA 60/3

Chefs Counter (Load Center) 208 V/3-28000 VA

Cooler Compressor

Freezer Compressor

Cooler Coil

Freezer Coil

Hand Sink

Hand Sink

Hand Sink

Hand Sink

Food Processor

Convection Oven Convection Oven

Electric Steamer

Electric Steamer

Exhaust Hood Lights

Fire Supression System

Electric Booster Heater

Reach-in Refrigerator

Reach-in Refrigerator

Buffet Utility Unit

Buffet Utility Unit

Reach-in Freezer

Convenience Outlet

Convenience Outlet

Convenience Outlet

Convenience Outlet

EP28 SHUNT TRIP POWER FOR CONTACTOR 'CTLEQK', REFER TO CONTACTOR DETAIL ON THIS SHEET.

Comments

FIELD LOCATE WALL SWITCH FOR LIGHTS

SEAL ON THIS DOCUMENT AUTHORIZED BY: Professional Certification: I hereby certify that these documents were prepared or approved by me, and that I am duly licensed professional engineer under the laws of the State of Maryland, License No. 53779, Expiration Date: 01-10-2023 PROJECT INFORMATION: CLIENT INFORMATION:

Birmingham, AL 35243 42002 CLIENT PROJECT NO: DRAWING TITLE:

%500[®]

CONSULTANTS:

Prince George's County Maryland The Department of Permitting, Inspections and Enforcement

by Holbert Apple Associates, Inc. Holbert Apple Represenative: Gregory E. Baldwin, P.E.

Third Party Permit Review

Maryland License #

Discipline: Electrical Date: 03/11/2021

Encompass Health Rehab

Project Name

4900-2021-00

Prince George's County Maryland

The Department of Permitting, Inspections and Enforcement Third Party Permit Review by Holbert Apple Associates, Inc.

Holbert Apple Represenative: Andrew M. Schneider, P.E.

Maryland License # 26153

Discipline: Fire/Life Safety Date: 3 / 11 / 2021

Project Name Encompass Health Rehabilitation Facility of Southern Maryland

Case #: 4900-2021-00

9001 Liberty Parkway

CLIE	NT PROJE	ECT NO:	42002		
1	03/08/21	ISSUED	FOR PERMIT		
NO.	DATE	SUBJE	CT		
REV	ISION OR	ISSUE			
SSOE, Inc. 3504 7th Avenue South Birmingham, AL 35222 T. (205) 323-2373					
PROJECT NO:			020-01128-00		
PROJECT MANAGER:			Scott Bruner		
DESIGNED:			Darren Simpson		
CHE	CKED:		Justin Butts		

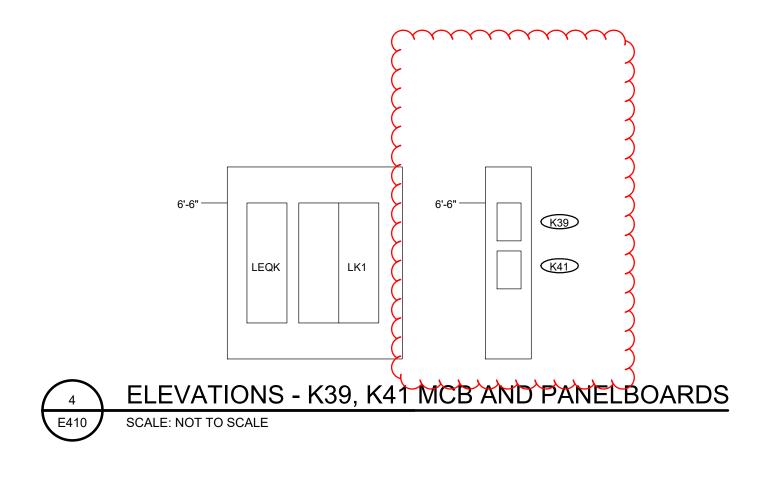
ENLARGED KITCHEN

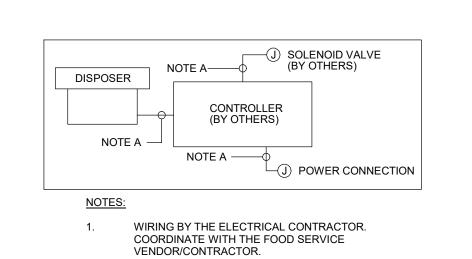
ELECTRICAL FLOOR

PLAN

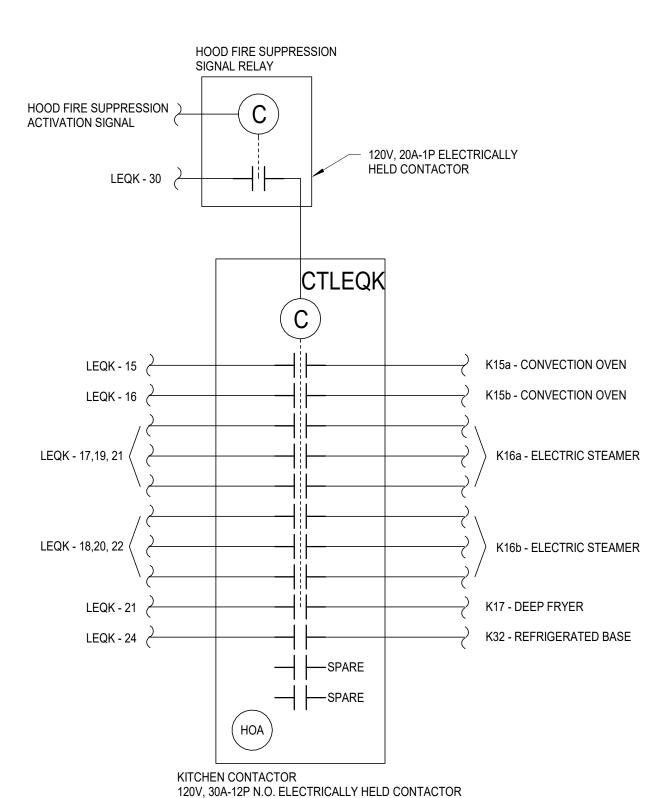
DRAWING NO:

E410





WIRING DIAGRAM - DISPOSER CONTROLLER



1. PROVIDE N.O. FIRE SUPPRESSION SIGNAL RELAY OF REQUIRED

RELAY SIGNAL CIRCUIT WILL CAUSE SHUT-DOWN.

VOLTAGE OF FIRE SUPPRESSION SIGNAL WITH TRADES PROVIDING FIRE SUPPRESSION SYSTEM. 2. FIELD LOCATE CONTACTOR AND RELAY. DEVICE LOCATIONS ARE NOT INDICATED ON PLANS. 3. INSTALLATION SHALL BE FAIL-SAFE IN THAT LOSS OF COIL OR

COIL VOLTAGE LOCATED NEAR KITCHEN CONTACTOR. VERIFY

KITCHEN CONTACTOR DETAIL

SCALE: NOT TO SCALE