#### GENERATOR DATA:

MODEL: 1500 DOGAB
DIMS INCHES: 224.5L X 78.7W X 111.8T
WET WEIGHT Liss: 29.262
FUEL CONSUMPTION
GPH @ 100% LOAD: 109.4
COMBUSTION AND
COLING CFM: 65.045
GEN DRAWING: A062-R947

#### GENERAL DESCRIPTION:

SUB BASE FUEL SUPPLY TANK
UL 142 LISTED DOUBLE WALL
NORMAL & EMERGENCY VENTS NORMAL & EMERGENCY VENTS LOW LEVEL, HIGH LEVEL, CRITICAL HIGH LEVEL, & LEAK DETECTION FLOAT SWITCHES LOCKABLE FILL WITH 5 GALLON SPILL CONTAINER ROCHESTER 6540 FUEL LEVEL GAUGE

LEVEL 2 SOUND ATTENUATED ENCLOSURE

14GA GALVANEAL CONSTRUCTION
FIXED VANE INTAKE SOUND LOUVERS
GRAVITY EXHAUST DAMPERS IN A SOUND DIRECTIONAL
EXHAUST PLENUM
ACCESS DOOR OPENINGS: 72" X 36" TYP. SINGLE DOOR 72" X 72" TYP. DOUBLE DOOR

ELECTRICAL PACKAGE

3Ø 120/208 200A M.L.O. LOAD CENTER WITH 100A M.C.B.
(2) GFCI DUPLEX OUTLETS INCLUDING (1) GFCI PER
CIRCUIT, (2) INTERIOR LIGHTS, BATTERY CHARGER & BLOCK HEATER(S) WIRED IN STEEL EMT WITH COMPRESSION FITTINGS & LIQUIDTIGHT FLEXIBLE CONDUIT

AP-4 TANK STATUS ALARM PANEL

ACCESSORIES
INTERIOR MOUNTED SILENCER, FLEX CONNECTION, TAILPIPE WITH RAIN LID & RAIN CAP ASSEMBLY

\*\* INTERIOR & EXTERIOR EQUIPMENT MOUNTING MAY VARY IN LOCATION DUE TO MANUFACTURING DESIGN REQUIREMENTS

#### PAINT COLORS:

ENCLOSURE COLOR: ..... CUMMINS GREEN

FUEL TANK COLOR: ..... BLACK

#### ESTIMATED WEIGHTS: (lbs)

ENCLOSURE WEIGHT: 13,986 TOTAL SHIPPING WEIGHT: ..... 56,000

#### TOTAL SYSTEM WET WEIGHT: ...... 76,650

#### TANK DATA & NOTES:

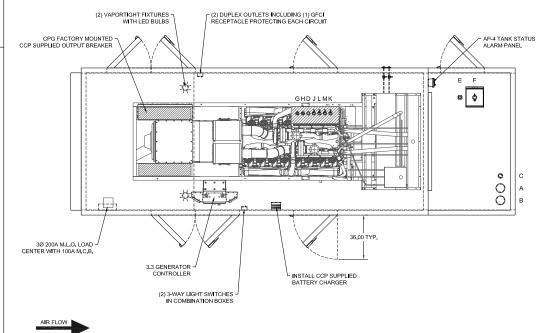
CAPACITY GALLONS: GALLONS PER IN OF DEPTH: 2,800 122.9 24.5 12,000 32,650 TYPE A (STRAIGHT) RUN TIME @FULL LOAD Hrs: TANK WEIGHT DRY lbs: TANK WEIGHT WET: lbs: CONDUIT STUB AREA:

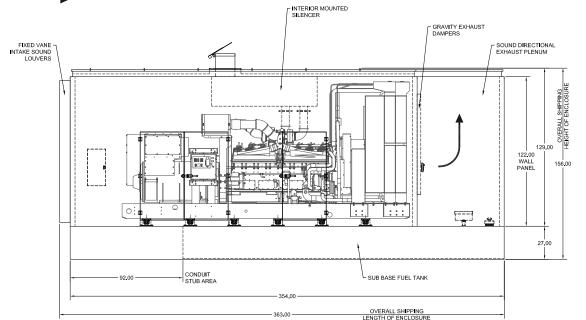
- EMERGENCY VENT SIZING BASED ON UL142 TABLE 8.1
- PORTS PER UL 142 SECTION 10 NORMAL VENTING PER UL 142 SECTION 8.11, TABLE 8.2 WELDS & JOINTS PER UL SECTION 6 FIGURE 6.1, 6.2

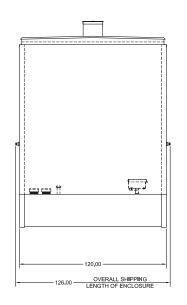
#### TANK PORTS\*\*

- A = 6" EMERGENCY TANK VENT B = 6" EMERGENCY BASIN VENT C = 2" NORMAL TANK VENT D = 2" TANK SPARE PORT (FNPT) E = ROCHESTER 6540 FUEL LEVEL GAUGE F = LOCKABLE FILL WITH 5 GALLON SPILL CONTAINER
- F = LOCKABLE FILL WITH 5 GAL G = ENGINE SUPPLY H = ENGINE RETURN J = LOW LEVEL FLOAT SWITCH K = LEAK FLOAT SWITCH L = HIGH LEVEL FLOAT SWITCH

- M= CRITICAL HIGH LEVEL FLOAT SWITCH
- \*\* TANK PORTS MAY VARY IN LOCATION DUE TO INNER CONSTRUCTION OF FUEL TANK & LOCATION(S) OF EQUIPMENT







UL SPEC	DESCRIPTION	CLASS	FILE#
UL 142	SECONDARY CONTAINMENT DOUBLE WALL TANK	EVFT	MH47836
N/A			
N/A			



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Drawing Number	S3	84969	GA		
Designed by	Salesperson	Date	Scale	She	
	ST	04/20/21	N.T.S.	1	

**CSDG** 



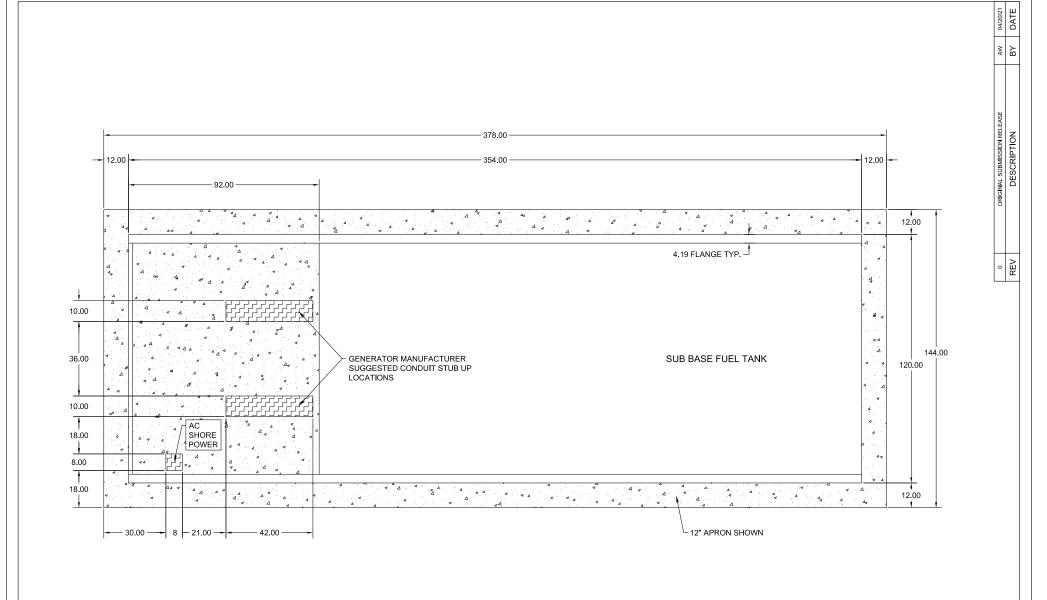
Quote Reference

Edition

₩ B

DESCRIPTION

o KE



PAD LAYOUT

#### GENERAL NOTES:

A MINIUM OF (4) 7/8" MOUNT HOLES WILL BE PROVIDED IN THE BOTTOM FLANGE FOR MOUNTING PURPOSES

 ANCHOR BOLTS ARE NOT PROVIDED BY TANK MANUFACTURER

 DRILL PAD FOR ANCHORS AFTER INSTALLATION OF TANKS A ACCESSORIES

 POUR PAD FLAT & LEVEL

\*\*PAD DIMENSIONS ARE PROVIDED ONLY AS A SUGGESTION. CONSULT AN ENGINEER FOR DESIGN ASSISTANCE\*\*

TOTAL SYSTEM WET WEIGHT: ..... 76,650 (lbs)

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ALL DIMENSIONS ARE IN INCHES UNLESS SPECIFIED.

**CSDG** S384969 PL

Scale

04/20/21 N.T.S.

Drawing Number

Designed by AW

Quote Reference 27409 R0



# **CRITICAL GRADE SILENCER**

20 to 35 dB(A)

1" Thermal Acoustical Insulated

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#### **OVERVIEW**

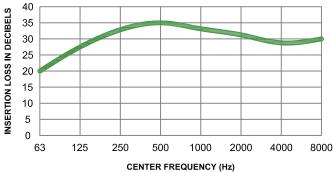
Freeman silencers are custom designed for each application and are optimized for use where ambient noise levels are relatively low and space is limited. Our features allow for excellent attenuation and surface temperature control while maintaining appropriate exhaust flow back pressure.

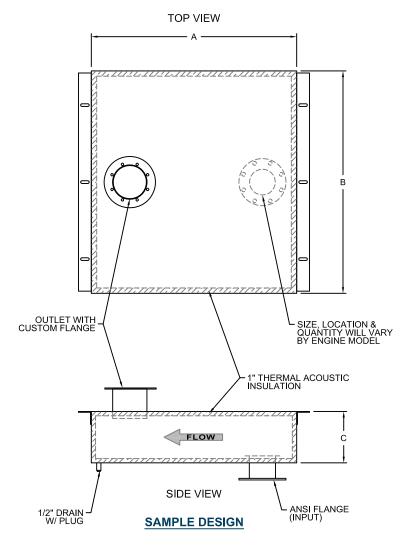
#### **CONSTRUCTION**

Unique internal baffle layout and perforated chimney. 1" thick E-glass insulation packed shell with high temperature interior liner. Heavy duty carbon steel outer shell, mounting brackets, piping and flanges with high temperature painted black finish.

# (values are estimated)

REPRESENTATIVE ATTENUATION CURVE





OUTLET SIZE	DIM-"A"	DIM-"B"	DIM "C"
4"	26.0	26.0	9.0
6"	36.0	31.0	11.0
8"	45.0	52.0	12.0
10"	54.0	54.0	14.0
12"	60.0	60.0	19.0
14"	68.0	60.0	21.0
16"	86.0	84.0	24.0
18"	88.0	88.0	28.0
20"	96.0	92.0	32.0
THIS CHART	IS FOR REFERENCE ONLY	- ACTUAL SIZING & DESIGN	I MAY VARY







#### 778 STAINLESS STEEL SAFEGUARD® LATCH

#### **CORROSION RESISTANT SAFETY LATCH**

- New radial tongue makes for effortless door closure when combined with Kason door closers.
- The walk-in latch unsurpassed for reliability, is now available for the most challenging applications.
- No. 778 features unequalled strength and corrosionresistance.
- Tamper-resistant locking mechanism and mounting are built in.
- Patented, adjustable roller strike assures precise adjustment.
- Padlocking provision standard on all models.
- Accepts Kason inside release lever to prevent accidental entrapment in locked walk-ins. Inside lever releases cylinder locked or padlocked door.

#### **SPECIFICATIONS**

MATERIAL:

Satin Finish, #316 stainless steel body and strike housing with #304 stainless steel roller.

MOUNTING: Holes drilled and countersunk for 1/4" (6mm) screws.

**INSIDE RELEASE:** Accepts No. 481SC, shown below. Order separately.

1.7/8
[47.8] [299.3]
29/32 [23,0] 2 [50,8] 33/8 [85,7] - 5/16 [7,9]
3.5/16 29/32 33/8
[84,4] 29/32 21/8 [85.7]
2.9/16 [57,9] + [54,0] 2.1/2 [63,5] [63,5]
3-13/19 [97,0]
→ [77,0] → APPROXIMATE

Model No.	Description
0778CL6020	Cylinder Latch Body, Light Spring
0778L06020	Padlocking Latch Body, Light Spring
0778006002	Strike, -1/8" to 3/4" (-3 - 19mm)
0778006003	Strike, 3/4" to 1-5/8" (19 - 41mm)
PACKAGING	6 per Carton

#### 481SC STAINLESS STEEL **INSIDE RELEASE**

Opens padlocked or cylinder locked No. 778 latch from inside of walk-in. Clearly visible Safety-Glow  $^{\text{TM}}$  knob for added safety.

#### **SPECIFICATIONS**

**MATERIAL:** Stainless steel rod and flange, glow-in-the-dark plastic knob.

**MOUNTING:** 

Holes drilled for No. 10 (5mm) screws.



Model No.	Description			
0481SC0400	Inside Release for 4" (102mm) Thick Door			
0481SC0600	Inside Release for 6" (152mm) Thick Door*			
PACKAGING	24 per Carton			
*Available special order.				





### **EM-30 Series**

#### Vertical Mount/Horizontal Airflow Extruded Backdraft Damper

#### **Application and Design**

The EM-30 series is a vertical mounted backdraft damper that is designed to allow horizontal airflow and prevent reverse airflow. The damper is opened by air pressure differential and closed by gravity.

Ratings (See page 2 for specific limitations)

**Pressure:** Up to 10.0 in. wg (2.5 kPa)

differential pressure. For pressures over 10 in. wg, (2.5 kPa), consult factory

**Velocity:** 2,500 to 3,500 fpm (13 m/s - 18 m/s)

Temperature: 180°F (82°C)

	Standard
Frame Material	6063T5 Extruded Aluminum
Frame Thickness	.125 in. (3.2mm)
Blade Material	6063T5 Extruded Aluminum
Blade Thickness	.070 in. (1.8mm)
Axle Linkage	⅓ in. (3mm) plated steel
Bearings	Synthetic (acetal) sleeve type
Blade Seals	Vinyl





\*W & H dimensions furnished approximately 1/4 in. (6mm) under size.

	Minimu	ım Size	Maximum Single	Maximum Multi
WxH	With Weights	Without Weights	Section Size	Section Size
Inches	8 x 11	8 x 8	48 x 74	144 x 148
mm	203 x 279	203 x 203	1219 x 1880	3657 x 3759

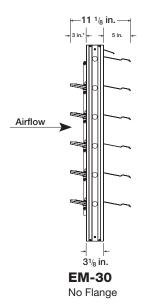
Sizes larger than maximum shown will be supplied as two or more equal size smaller dampers required to make up the size specified. These larger multiple damper assemblies require field assembly and may require additional reinforcement (not supplied by factory) to support the assembly.

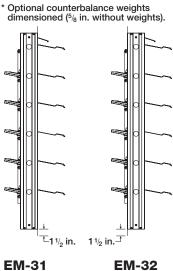
- Counterbalance Weights
- 1½ in. (38mm) flange on discharge: EM-31
- 1½ in. (38mm) flange on intake: EM-32
- Sleeves

### **APC (Adjustable Pressure Controller)**

Allows field setting of relief pressure on all EM dampers. Use one per panel. Maximum recommended pressure set limitations are as follows:

Area ft <sup>2</sup> (m <sup>2</sup> )	Maximum Set Pressure in. wg (Pa)
4 (.37)	.75 (187)
6 (.56)	.50 (125)
8 (100)	.40 (100)
10 (.93)	.30 (75)
15 (1.39)	.20 (50)
20 (1.86)	.15 (37)
24 (2.23)	.125 (31)





EM-31 Flange On Discharge

**EM-32** Flange On Intake



Greenheck Fan Corporation certifies that the models EM-30, EM-31 and EM-32 shown herein is licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 511 and comply with the requirements of the AMCA Certified Ratings Program. The AMCA Certified Ratings Seal applies to Air Leakage and Air Performance Ratings.

#### **Test Information**

- Air leakage is based on operation between 32°F and 120°F (0°C and 48°C)
- Tests for air leakage were conducted in accordance with ANSI/AMCA Standard 500-D Figure 5.5, in the intake direction
- Air performance testing conducted in accordance with ANSI/AMCA Standard 500-D, Figure 5.5

#### Air Leakage

Model EM-30 series dampers with a width and height 24 in. (610mm) or greater leak a maximum of:

• 8.9 cfm/ft<sup>2</sup> or less at 1.0 inches w.g.

Model EM-30 series dampers with a width or height less than 24 in. (610mm) leak a maximum of:

• 35 cfm/ft<sup>2</sup> or less at 1.0 inches w.g.

\*Note: This model complies with the International Energy Conservation Code (IECC) and ASHRAE 90.1 leakage requirements for non-motorized dampers.

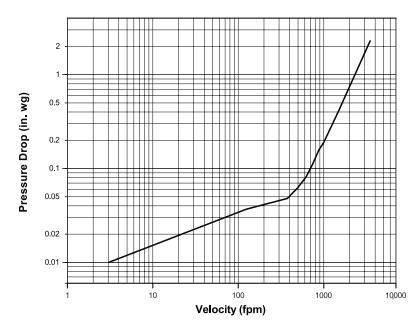
#### **Air Performance**

Performance data results from testing a 24 in. x 24 in. damper in accordance with AMCA Standard 500-D using Figure 5.5. All data has been corrected to represent standard air at 0.075 lb/ft<sup>3</sup> (1.201 kg/m<sup>3</sup>).

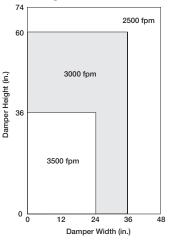
#### **Pressure Drop**

24 in. x 24 in. Damper (610mm x 610mm)

#### **VELOCITY VS. PRESSURE DROP**



#### **Velocity Limitations**



Operational Data (AMCA Figure 5.3)	ΔP in. wg (Pa)				
	Without Weights	With Weights			
Blades Start to Open	0.03 (7.5)	0.01 (2.5)			
Blades Fully Open	0.25 (62)	0.055 (13.7)			

Operational Data (AMCA Figure 5.5)	ΔP in. wg (Pa)				
	Without Weights	With Weights			
Blades Start to Open	0.025 (6.2)	0.01 (3)			
Blades Fully Open	0.32 (8)	0.08 (20)			

#### **Specifications**

Backdraft dampers meeting the following specifications shall be furnished and installed where shown on plans and/or as described in schedules.

Dampers shall consist of: heavy gauge 6063T5 extruded aluminum channel frame (0.125 in. [3.2mm] thick) with 31/8 in. (79mm) depth; blades from 0.070 in. (1.8mm) 6063T5 extruded aluminum; synthetic acetal axle bearings; damper shall be equipped with extruded vinyl blade seals; and internal 1/8 in. (3mm) plated steel

blade-to-blade linkage. Damper manufacturer's printed application and performance data including pressure, velocity and temperature limitations shall be submitted for approval showing damper suitable for pressures to 10 in. wg (2.5 kPa), velocities to 3500 fpm (18 m/s) and temperatures to 180°F (82°C). Testing and ratings to be in accordance with AMCA Standard 500-D.

Basis of design is model EM-30.



#### PANEL SCHEDULE CSDG - #27409 R0

200 AMP, 120/208 VOLT, THREE PHASE, FOUR WIRE, M.L.O., 10000 AMPS MINIMUM A.I.C. BRACING, SURFACE MOUNTED, TYPE NEMA 3R ENCLOSURE

	DIV.D.		WIRE AND	ND CONDUIT								T		WIRE AND CONDUIT								
##	BKR.	COND.	NEUTRAL	  GND	С.	KEYS	LOAD DESCRIPT:	KIBIIN   NEO	NEUI.   	LINE A	LINE B	LINE C	LOAD DESCRIPTION 	KEYS	C.	GND	NEUTRAL	COND.	BKR.	##		
1 3   5	100/3					    CTAL	MAIN CIRCUIT BF	REAKER	0 0 0 0	2413 	     0   2413	   	BLOCK HEATER	CTAL	1/2	#10		#10	30/2	2   4		
   7 	20/1	#12	#12	#12	1/2	CTAL	(2) GFCI DUPLE)	( DUTLETS		720			İ	BLOCK HEATER	  CTAL 	   1/2 	#10	   	   #10 	  30/2 	6     8	
<u> </u>	15/1 15/1	#14	<del> </del>	<u> </u>		<del> </del> —	(2) INTERIOR L:	GHTS 72   72   0   800	   	0	j	SPACE							10			
   13			<u> </u> 			<del> </del>	SPACE		0	 	i	ļ	<u> </u>			<u> </u>			12			
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19							SPACE			ACE		j 0	 	j	<u> </u>	-		-	-			18
21							SPACE		0	!	1		<u> </u>			-				20		
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25							SPACE		0	0	 			-		+		 		26		
27							SPACE		0	:	j o		<u> </u>	<del> </del>	İ	<del> </del>		 		28		
29	j		İ			İ	SPACE		0	!	 			<del> </del>		$\dagger$	<del> </del>			30		
123      	:4 └─TEMP ──C⊡NDU	RATING	C-CU WIF				  CONDUIT TYPE  A-EMT 	  TEMP RATING  L-78-86 Deg   			11,24	4	PEAK PHASE (C) UNBALANCE NON DIVERSIFIED LOAD AT	208 VI								
		NG TYPE											ROGRAM SERIAL NUMBER 2001 E FREEMAN	. 4083								

PANEL CSDS - # DIVERSIFICATION CALCULATIONS RECEPTACLES (4) - 720 VA TOTAL FIRST 10 KVA AT 100% - 720 LIGHTING -72 X 125% -MISC NON-CONTINUOUS LOADS AT 100% - 10450 TOTAL DIVERSIFIED PANEL LOAD LDAD AT 120/208V/3-PHASE/4-WIRE - 31.3A

# PANEL SCHEDULE

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Drawing Number Designed by CSDG

S384969 PS

27409 R0

Quote Reference Edition

**FREEMAN** Scale Sheet # ST 04/20/21 N.T.S. 1/1

### Product data sheet Characteristics

# QO330L200GRB LOAD Center QO MLO 240V 200A 3PH 30SP

Product availability: Stock - Normally stocked in distribution facility





#### Main

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Product or component type	Load Center
Range of product	QO
Load center type	Main lugs
Line Rated Current	200 A
Number of spaces	30
Short-circuit current	65 kA
Number of circuits	30
Number of tandem circuit breakers	0
Phase	3 phases
System Voltage	208Y/120 V AC 240/120 V delta AC 240 V delta AC

#### Complementary

Main		
Product or component type	Load Center	
Range of product	QO	
Load center type	Main lugs	
Line Rated Current	200 A	<u>+</u>
Number of spaces	30	
Short-circuit current	65 kA	<u>.</u>
Number of circuits	30	
Number of tandem circuit breakers	0	
Phase	3 phases	
System Voltage	208Y/120 V AC 240/120 V delta AC 240 V delta AC	, respectively.
Complementary  AWG gauge	AWG 6300 kcmil (aluminium/copper)	
NEMA degree of protection	NEMA 3R outdoor	
Cover type	Surface cover	
Electrical connection	Lugs	
Device composition	Grounding bar included (not installed)	
Electrical connection	Lugs	 र (
Wiring configuration	3-wire 4-wire	
Material	Tin plated copper busbar	<u>.c</u>
Enclosure material	Welded galvannealed steel	
Surface finish	Baked enamel grey	
Box number	6R	
Product certifications	UL listed	F
Height	29.84 in (758 mm)	<u>.</u>
May 02, 2047		

Width	14.76 in (375 mm)
-------	-------------------

### Ordering and shipping details

Category	00017 - QO 3PH LOAD CENTER,OUTDOOR
Discount Schedule	DE3
GTIN	00785901295525
Nbr. of units in pkg.	1
Package weight(Lbs)	32.5
Returnability	Υ
Country of origin	US

#### Offer Sustainability

Sustainable offer status	Not Green Premium product	
RoHS (date code: YYWW)	Compliant - since 1248 - Schneider Electric declaration of conformity	
	Schneider Electric declaration of conformity	
REACh	Reference not containing SVHC above the threshold	
	Reference not containing SVHC above the threshold	
Product end of life instructions	Need no specific recycling operations	

#### Contractual warranty

Warranty period	18 months

# Product data sheet Characteristics

# QO3100 MINIATURE CIRCUIT BREAKER 240V 100A

Product availability: Stock - Normally stocked in distribution facility







#### Main

Product or component type	Miniature circuit-breaker	
Range of product	QO	
Line Rated Current	100 A	
System Voltage	240 V AC	
Mounting mode	Plug-in	
Poles description	3P	
Circuit breaker type	Standard	
Circuit breaker application	HACR rated	
Electrical connection	Box lugs	
Accessory / separate part type	None,	

#### Complementary

Breaking capacity	10 kA at: 120/240 V AC	
Number of spaces required	3	
AWG gauge	AWG 4AWG 2/0 (copper or aluminium)	
Height	3.5 in	
Depth	2.91 in	
Width	2.25 in	

#### Environment

Product certifications	CSA UL listed
Ambient air temperature for operation	104 °F (40 °C)

#### Ordering and shipping details

Category	00012 - QO 3 POLE CIRCUIT BREAKER	<u>ē</u>
	333.12	
Discount Schedule	DE2A	<u>a</u>
Discount Schedule	DEZA	<u>8</u> .

GTIN	00785901004417
Nbr. of units in pkg.	1
Package weight(Lbs)	1.070000000000001
Returnability	Υ
Country of origin	MX

#### Offer Sustainability

Sustainable offer status	Green Premium product
RoHS (date code: YYWW)	Compliant - since 1323 - Schneider Electric declaration of conformity
	Schneider Electric declaration of conformity
REACh	Reference not containing SVHC above the threshold
	Reference not containing SVHC above the threshold
Product environmental profile	Available
Product end of life instructions	Need no specific recycling operations

#### Contractual warranty

Warranty period 18 months
---------------------------

# VX100DG

Box mount, die cast aluminum with built-in junction box and sturdy mounting lugs. Medium base socket, 1/2" or 3/4" NPS hub size and a variety of globes. incandescent lamp A21 for 100 Series, PS25 for 200 Series. Lamp not supplied. CFL: 13 & 22 watt lamp supplied.

Lamp Info		Ballast Info
T	A 4 0	<b>T</b>

0 Type: A19 Type: Watts: 150W 120V: N/A Shape/Size: N/A 208V: 0 Base: N/A 240V: N/A ANSI: N/A 277\/· N/A Hours: 0 Input Watts: 0W Lamp Lumens: 0 Efficiency: N/A Efficacy: N/A



#### **UL Listing:**

Suitable for wet locations. Suitable for use in dwellings. Suitable for use with 90°C supply wiring. Complies with UL Standard 1598. For non-hazardous locations where the lamp, socket and wiring require protection from rain, corrosive fumes, non-combustible dusts, moisture, non-explosive vapors and gases. For lamp base up installation only when outdoors.

#### Globes:

Supplied with clear thermal shock resistant soda lime glass unless otherwise stated. Colored and white glass globes available. Unbreakable Permaglobes available in clear and in color.

#### Die Cast Guard:

Supplied with one piece die cast guard with set screw

#### **Maximum Watts:**

150 watts

#### **Colored Globe Maximum Watts:**

100 watts

#### Patents:

RAB sensor and fixture designs are protected under U.S. and International Intellectual Property laws.

#### **Country of Origin:**

Designed by RAB in New Jersey and assembled in Taiwan

#### **Trade Agreements Act Compliant:**

This product is a product of Taiwan and a "designated country" end product that complies with the Trade Agreements Act.

#### **GSA Schedule:**

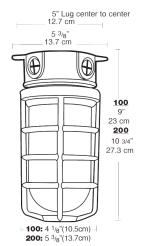
Suitable in accordance with FAR Subpart 25.4

# RAB

Color: Natural



Weight: 2.8 lbs







# LED A-Lamps

#### OMNI-DIRECTIONAL · ALL-PURPOSE · 3-WAY

TCP's LED A-lamps provide the lighting you need at a cost you will love. Advanced factory techniques and rigorous testing ensure each lamp is perfect from day one. Install a LED A-lamp wherever you would a traditional lamp and see the improvement.

#### LIMITLESS OPTIONS FOR THE FOLLOWING APPLICATIONS

- General lighting
- Floor lamps
- Ceiling fixtures

- Tal

ble	lamps	•	Sconc
-----	-------	---	-------

FEATURES	BENEFITS
Up to 85% less energy than halogen alternatives	Instant energy savings
Long life	Minimizes replacement and maintenance costs
Very low heat generation	Perfect for sensitive display lighting such as art galleries
Excellent color consistency and CRI	Enhances colors of focal point while maintaining uniformity throughout lighting installation from lamp to lamp
UL approved for damp location	Can be used outdoors when protected from elements—withstands humidity indoors/outdoors
Durable plastic housing	Lower the risk of injury and breakage
ANSI construction compliant	Fits all A-lamp installations

Dims to  $\leq 10\%$  of full light level when applicable

#### **SPECIFICATIONS**

Input Line Voltage	
Input Line Frequency	
Lamp Life (Rated) 10,000, 15,000, 20,000 or 25,000 hour options	ò
Minimum Starting Temp30°C	
Maximum Operating Temp40°C	-
CRI	)
Suitable for use in totally enclosed fixtures.	
(Vapor tight or jelly jar applications may reduce life)	

YEAR
WARRANTY \*
10,000 HOUR LAMPS





Do not use more than 2 bulbs in an enclosed fixture. If fixture is manufactured for incandescent bulbs, use no higher than the LED equivalent wattage, as shown on this spec sheet





<sup>\*</sup>Based on 12 hours use per day





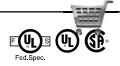
### OMNI-DIRECTIONAL • ALL-PURPOSE • 3-WAY

ITEM #	DESCRIPTION	ENERGY STAR	VOLTAG	II E WATTS	NCANDESEN WATTS	IT LPW	LUMENS	ССТ	HOURS	CRI	MOL (inches)	DIA (inches)	BASE	WARRANT YEARS	Y CASE QUANTITY
LED 75W Equivo	lent Options														
13.5W A19 A-Lamp	• Non-Dimmable • 15,000 Ho	ur													
L11A19N1527K L11A19N1530K	LED 13.5W A19 ND 2700K LED 13.5W A19 ND 3000K	* *	120 120	13.5 13.5	75 75	81.5 81.5	1100 1100	2700K 3000K	15,000 15,000	80 80	4.4 4.4	2.4 2.4	E26 E26	3	12 12
L11A19N1541K L11A19N1550K	LED 13.5W A19 ND 4100K LED 13.5W A19 ND 5000K	*	120 120	13.5 13.5	75 75	81.5 81.5	1100 1100	4100K 5000K	15,000 15,000	80 80	4.4 4.4	2.4	E26 E26	3	12 12
13.5W A19 A-Lamp	• Dimmable • 25,000 Hour														
L11A19D2527K L11A19D2530K L11A19D2541K L11A19D2550K	LED 13.5W A19 DIM 2700K LED 13.5W A19 DIM 3000K LED 13.5W A19 DIM 4100K LED 13.5W A19 DIM 5000K	* * *	120 120 120 120	13.5 13.5 13.5 13.5	75 75 75 75	81.5 81.5 81.5 81.5	1100 1100 1100 1100	2700K 3000K 4100K 5000K	25,000 25,000 25,000 25,000	80 80 80 80	4.4 4.4 4.4 4.4	2.4 2.4 2.4 2.4	E26 E26 E26 E26	5 5 5 5	12 12 12 12
LED 100W Equiv	alent Options														
14W A19 A-Lamp •	Non-Dimmable • 10,000 Hour														
L16A19N1027K4 L16A19N1041K4	LED 14W A19 ND 2700K 4PK LED 14W A19 ND 4100K 4PK		120 120	14 14	100 100	107.1 107.1	1500 1500	2700K 4100K	10,000	80 80	4.7 4.7	2.6 2.6	E26 E26	1	12 12
15.5W A19 A-Lamp	• Non-Dimmable • 15,000 Ho	ur													
L16A19N1527K L16A19N1530K	LED 15.5W A19 ND 2700K LED 15.5W A19 ND 3000K	*	120 120	15.5 15.5	100 100	103.2 103.2	1600 1600	2700K 3000K	15,000 15,000	80 80	4.7 4.7	2.6 2.6	E26 E26	3	12 12
(116A19N1541K) L16A19N1550K	LED 15.5W A19 ND 4100K LED 15.5W A19 ND 5000K	*	120	15.5	100	103.2	1600	4100K 5000K	15,000	80	4.7	2.6	E26 E26	3	12
	Dimmable • 15,000 Hour		120	15.5	100	100.2	1000	3000K	13,000		4.7	2.0	LZU		
L15A21D1527K L15A21D1530K L15A21D1541K L15A21D1550K	LED 15W A19 DIM 2700K LED 15W A19 DIM 3000K LED 15W A19 DIM 4100K LED 15W A19 DIM 5000K	* * *	120 120 120 120	15 15 15	100 100 100 100	106.7 106.7 106.7 106.7	1600 1600 1600	2700K 3000K 4100K 5000K	15,000 15,000 15,000 15,000	80 80 80	4.7 4.7 4.7 4.7	2.6 2.6 2.6 2.6	E26 E26 E26 E26	3 3 3	12 12 12
15W A19 A-Lamp •	Dimmable • 25,000 Hour								,						
L15A19D2527K L15A19D2530K L15A19D2541K L15A19D2550K	LED 15W A19 DIM 2700K LED 15W A19 DIM 3000K LED 15W A19 DIM 4100K LED 15W A19 DIM 5000K	* * *	120 120 120 120	15 15 15	100 100 100 100	106.7 106.7 106.7 106.7	1600 1600 1600	2700K 3000K 4100K 5000K	25,000 25,000 25,000 25,000	80 80 80 80	4.7 4.7 4.7 4.7	2.6 2.6 2.6 2.6	E26 E26 E26	5 5 5 5	12 12 12 12
LED 40/60/100	O 3-Way Equivalent Opti	ons													
4/8/16W A21 3-W	ay A-Lamp • Dimmable • 25,00	00 Hour													
LED16A21D3WAY27K LED16A21D3WAY30K LED16A21D3WAY41K LED16A21D3WAY50K	LED 16W A21 DIM 2700K 3WAY LED 16W A21 DIM 3000K 3WAY LED 16W A21 DIM 4100K 3WAY LED 16W A21 DIM 5000K 3WAY	* * *	120 120 120 120	4/8/16 4/8/16	40/60/100 40/60/100	120/100/100 120/100/100	480/800/1600 480/800/1600 480/800/1600 480/800/1600	3000K 4100K	25,000 25,000	80 80	4.9 4.9 4.9 4.9	2.6 2.6 2.6 2.6	E26 E26 E26 E26	5 5 5 5	12 12 12 12
LED 60W Wet L	ocation Equivalent Optio	ns													
	ectional Wet Location A-Lamp		able •	25,000	Hour										
LED10A19DOD27KW LED10A19DOD30KW	LED 9.5W A19 DIM OMNI 27K W LED 9.5W A19 DIM OMNI 30K W	ŒT ★	120 120	9.5 9.5	60 60	84.2 86.8	800 825		25,000 25,000	80 80	4.6 4.6	2.5 2.5	E26 E26	5 5	12 12
LED10A19DOD41KW LED10A19DOD50KW	LED 9.5W A19 DIM OMNI 41K W LED 9.5W A19 DIM OMNI 50K W		120 120	9.5 9.5	60 60	89.5 89.5	850 850		25,000 25,000		4.6 4.6	2.5 2.5	E26 E26	5 5	12 12

#### **Switches**

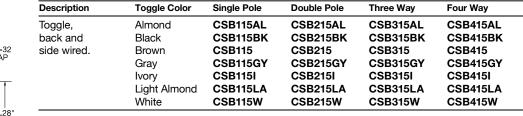
### 15 and 20 Ampere, 120-277 Volts AC

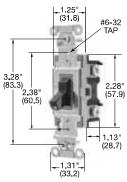
Specification Grade Commercial Series



# Specification Grade Commercial Series, 15A, 120-277V AC

**Specification Grade Commercial Series,** 





CSB120

# 20A, 120-277V AC Description Tog

Description	Toggle Color	Single Pole	Double Pole	Three Way	Four Way
Toggle,	Almond	CSB120AL	CSB220AL	CSB320AL	CSB420AL
back and	Black	CSB120BK	CSB220BK	CSB320BK	CSB420BK
side wired.	Brown	CSB120	CSB220	CSB320	CSB420
	Gray	CSB120GY	CSB220GY	CSB320GY	CSB420GY
	Ivory	CSB120I	CSB220I	CSB320I	CSB420I
	Light Almond	CSB120LA	CSB220LA	CSB320LA	CSB420LA
	Red	CSB120R	CSB220R	CSB320R	CSB420R
	White	CSB120W	CSB220W	CSB320W	CSB420W

# 3.28" #6-32 TAP 3.28" (83.3) 2.28" (57.9) -1.31" (28.7)

CS115I

# Specification Grade Commercial Series, 15A, 120-277V AC

Description	Toggle Color	Single Pole	Double Pole	Three Way	Four Way
Toggle,	Almond	CS115AL	_	CS315AL	_
side wired only.	Black	CS115BK	_	CS315BK	_
	Brown	CS115	_	CS315	_
	Gray	CS115GY	_	CS315GY	_
	Ivory	CS115I	_	CS315I	_
	Light Almond	CS115LA	_	CS315LA	_
	White	CS115W	_	CS315W	_

# Specification Grade Commercial Series, 20A, 120-277V AC

Description	Toggle Color	Single Pole	Double Pole	Three Way	Four Way
Toggle,	Almond	CS120AL	_	CS320AL	_
side wired only.	Black	CS120BK	_	CS320BK	_
	Brown	CS120	_	CS320	_
	Gray	CS120GY	_	CS320GY	_
	Ivory	CS120I	_	CS320I	_
	Light Almond	CS120LA	_	CS320LA	_
	White	CS120W	_	CS320W	_

Note: See page C-11 for pre-wired/leaded devices.

See page C-15 for accessories. See page C-16 for wallplates.

See page C-18 for wiring diagrams.

For pre-wired/leaded devices see page C-11.

www.hubbell-wiring.com

 HP Conversion Chart

 120V
 208V
 240V
 277V AC

 15A
 .5HP
 1.5HP
 2HP
 2HP

 20A
 1HP
 2HP
 2HP
 2HP

C-12

# Ground Fault Products Commercial Standard GFCI Receptacles

# HUBBELL

#### **Features**

- Patented AUTOGUARD® self test technology
- Internal back wiring clamp and guide for quick and secure termination
- Triple wipe construction

#### **Ordering Information**

Description 20A, 125V, Style Line®, AUTOGUARD® self test GFCI receptacle, flush face, back and side wired, multiple drive screws Color Ivory

UPC 883778122118 Catalog Number GFRST20I

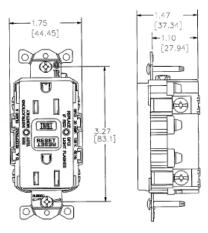
#### Listings

UL Listed - Canadian and U.S. Meets ADA Standards Meets all NEC® requirements CSA Certified NEMA® WD-6 Compliant

#### **Specifications**

Face	Nylon	
Base	Nylon	
Power Contacts	Brass	
Ground Contacts	Brass	
Mounting Strap	Zinc plated steel	
Mounting Screws	Zinc plated steel	





#### **Online Resources**

Customer Use Drawing eCatalog Installation Instructions



### Straight Blade Devices 20A, 125V, 2 Pole, 3 Wire Grounding **Commercial Specification Grade Duplex** Receptacles

# HUBBELL

#### **Features**

- Easy access split circuit tab
- Nylon face and base
- Wrap-around galvanized steel strap
- Triple wipe contacts

#### **Ordering Information**

Description **Device Color UPC** Catalog Number Smooth face, back and 783585834887 Ivory BR20I side wired.

#### Listings

UL Listed to UL498 File No. E2186 Certified to CSA 22.2. No. 42 Fed. Spec. W-C-596 **NEMA® WD-6 Compliant** 

#### **Specifications**

Face Nylon Base Nylon

**Power Contacts** .030 in. (.8) Brass

**Ground Contacts Brass** 

Wire Clamp .062 in. (1.6) Nickel plated steel

**Terminal Screws** Plated steel

Mounting Strap Stainless steel

Automatic Self-grounding

Staple

Mounting Screws Galvanized Steel

#### **Performance**

#### **Electrical**

**Current Interrupting** Certified for current interrupting at full rated current

.040 in. (1) Galvanized steel

Withstands 2,000V minimum Dielectric Voltage

Mechanical

Product Identification Ratings are a permanent part of the device

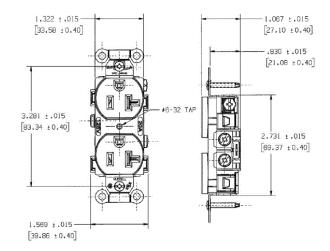
**Terminal Accommodation** #12-#10 AWG copper stranded or solid conductor only Terminal Identification Terminals identified in accordance with UL 498 and CSA

**Environmental** 

UL 94 V-2 Flammability

Operating Temperatures Maximum continuous 75°C; minimum -40°C (w/o impact)





#### Accessories

Wallplate or Weatherproof Cover Duplex Opening

#### Resources

**Customer Use Drawing** eCatalog



# **Galvanized Mushroom Vent Caps**

Corrosion resistant vent caps are constructed of ultra durable rust resistant galvanized cast iron. Vent caps are designed with a 30 mesh screen, to prevent debris from entering the vent pipe.

- Popular style is used in the majority of installations in the United States, Alaska, and Canada
- Rust-resistant zinc-plated cast iron design is available in female NPT sizes from ¾ to 4
- Each cap is designed with a 30 mesh screen, to prevent debris from entering the vent pipe

SMP#	SIZE	OD
02-075M	3/4	2-3/16
02-100M	1/2	2-5/8
02-125M	1-1/4	2-3/4
02-150M	1-1/2	3-1/8
02-200M	2	3-15/16
02-300M	3	5-1/8
02-400M	4	6-1/2



# **Emergency Vents**

Model 100





PART#	SIZE	UL LISTED FLOW CAPACITY AT 2.5 PSIG (CFH)
1002	2"	24,058
1003	3"	63,633
1004	4"	125,343
1005	5"	195,347
1006	6"	284,968
1008	8"	541,014
10010*	10"	807,803

\*Non UL

- Improved design with increased airflow
- Spring loaded pressure relief set at .5 PSI, full open by 2.5 PSI
- Buna-N-Gasket provides a vapor-tight seal
- Black painted steel construction custom colors available
- Private labeling available
- NPT connections standard all thread type connections available

• Male NPT: 2", 3", 4", 5", 6", 8"

• Female NPT: 3", 4", 5", 6", 8"

Warning: Emergency Vents are designed for "Emergency Venting" and must be used in conjunction with other venting devices. Emergency vents must be sized per UL requirements.

Global Tank Components Emergency Vents comply with UL Codes UL-2583, UL-142, UL-2085, UL-2244.

3765 Creamery Road, Bldg. 96 #5, DePere, WI 54115

Phone: 920.264.8457 • Fax: 847.239.7776 Email: sales@globaltankcomponents.net

www.globaltankcomponents.net







# Suspendible/Submersible **Leak Detection Switch**

Madison Company offers a standard model M3782 liquid level switch that can be fully submerged with 20' of 22 AWG HALAR® jacketed 2-conductor wire. This model is weighted for suspension in non-magnetic tanks and can be used in conjunction with a still pipe. Its materials are suitable for water, hydrocarbons and certain chemicals. Contact Madison Company to check on material compatibility.

This low-cost switch is ideally suited for sumps, dispenser pans, monitoring wells and double-wall tanks where monitoring for leaks is required. The depth of the vertical mount can be easily adjusted by cutting the cable length as required.

This standard model can also be customized to meet your specific application needs. Simply complete the M Series Specification Worksheet and send it to Madison Company for a quotation.

# **Features**

- Affordable
- Easy installation; compact size
- · Highly reliable; long service life
- No calibration required
- Suitable for water and hydrocarbons

HALAR® is a registered trademark of Ausimont USA, Inc.

# **Specifications**

#### **Materials**

Stem and Extension - Brass

Float - Buna-N

Slosh Shield - PBT

Cable - 20' 22 AWG, HALAR jacketed

### **Operation**

Normally Closed (NC), open on liquid rising

### **Options**

- Wire lengths
- Wetted materials

# 4.06" (103.1) Ø1.44" (36.6)

M3782

#### **Current and Voltage Ratings**

Current Amps (Resistive)	Voltage			
0.14 0.28	220 AC 110 AC			
0.07	120 DC			
0.28	24 DC			

All specifications are subject to change without notice.



Sensor solutions for today and the future™



## Madison Company 800-466-5383 www.madisonco.com

27 Business Park Drive, Branford, CT 06405 • 203-488-4477 • Fax: 203-481-5036 • E-mail: info@madisonco.com **Madison Europe** – Phone: + 31 (0) 548 659 034 • Fax: + 31 (0) 548 659 010 • E-mail: madison@eurodev.com



4160 HALF ACRE RD. BATAVIA, OH 45103 513-488-8600

# FUEL TANK LEVEL INDICATING SYSTEM STANDARD MODEL- 4LAP3\_24VDC

### **CONTROLLER DESCRIPTION:**

ENCLOSURE: FIBERGLASS 6" X 6" X 4"

POWER 24VDC

4 PILOT LIGHTS

3 RELAYS

ALARM HORN

ALARM SILENCE SWITCH

PUSH TO TEST FUNCTION

TERMINALS FOR ALL FIELD CONNECTIONS

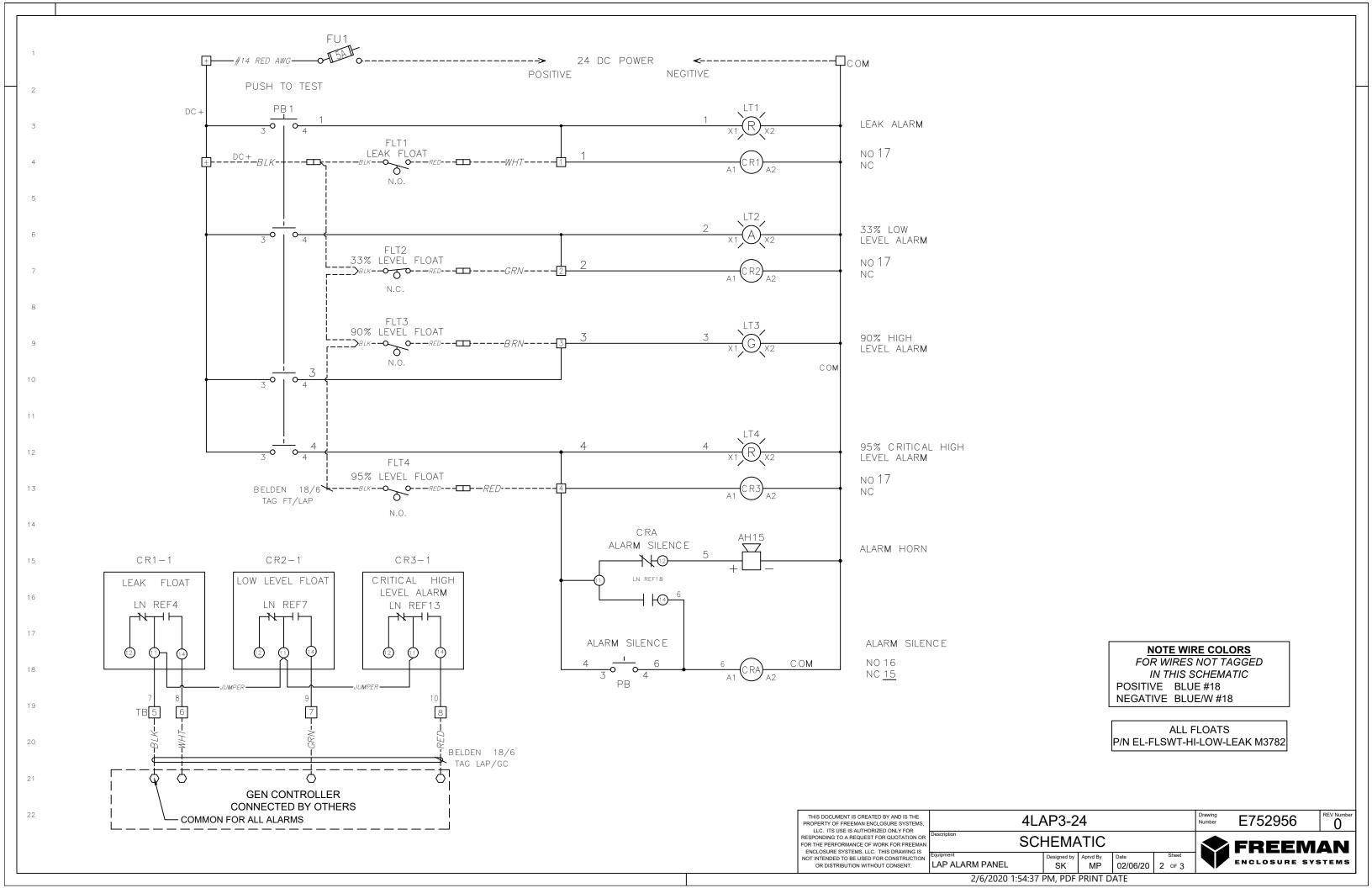
#### **TANK LEVELS**

TANK LEAK
33% LOW LEVEL
90% HIGH LEVEL
95% CRITICAL HIGH LEVEL (WITH ALARM HORN)

RELAYS ARE DPDT FORM C
WITH DRY ISOLATED OUTPUTS FOR
GENERATOR CONTROL & CUSTOMER CONNECTION

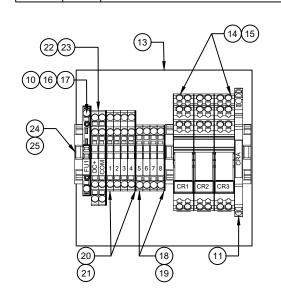
			DDAMINO & DEVICION HICTORY						
			DRAWING & REVISION HISTORY	THIS DOCUMENT IS CREATED BY AND IS THE PROPERTY OF FREEMAN ENCLOSURE SYSTEMS,	4L	_AP3-24	Drawing Number	E752956	REV Number
DATE	INITIALS	REV No.	DESCRIPTION	LLC. ITS USE IS AUTHORIZED ONLY FOR RESPONDING TO A REQUEST FOR QUOTATION OR FOR THE PERFORMANCE OF WORK FOR FREEMAN	Description	VER SHEET		FREEM	IAN
02/06/20	SK	0	DRAWING CONSTRUCTION SET	ENCLOSURE SYSTEMS, LLC. THIS DRAWING IS NOT INTENDED TO BE USED FOR CONSTRUCTION OR DISTRIBUTION WITHOUT CONSENT.	Equipment LAP ALARM PANEL	Designed by   Aprvd By   Date   Sheet   Sheet   Sheet   Designed by   Date   Sheet   Sheet   Designed by   Designed by   Date   Sheet   Designed by   Date   Sheet   Designed by   Date   Sheet   Designed by   Date   Date   Designed by   Date   Date   Designed by   Date   Date   Designed by   Designed by   Date   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed by   Designed			

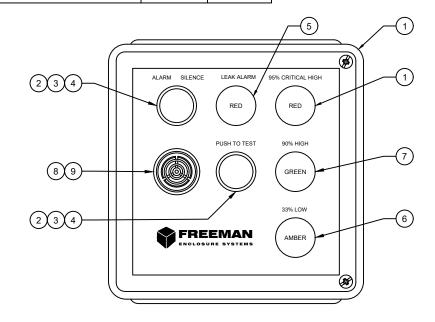
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### 4LAP3 24 ENCLOSURE & BACK PLATE LAYOUT

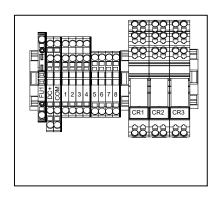
4LAP3- 24 VDC BOM						
ITEM#	QTY	DESCRIPTION	PART# MFG		SUPPLIER	
1	1	ENCLOSURE 6X6X4	EL-LAB-HOFF-6X6X4 FG SCRCVR 4R	HOFFMANN	KENDALL	
2	2	PUSH BUTTON MOMENTARY RED	EL-LAB-SQD ZB5AA4	SCHNEIDER	KENDALL	
3	2	MOUNTING COLLAR	EL-LAB-SQD ZB5AZ009	SCHNEIDER	KENDALL	
4	5	CONTACT BLOCK NO	EL-LAB-SQD ZBE101	SCHNEIDER	KENDALL	
5	2	PILOT LIGHT RED	EL-LAB-IDEC HW1P-2FQD-R-24V	IDEC	KENDALL	
6	1	PILOT LIGHT AMBER	EL-LAB-IDEC HW1P-2FQD-A-24V	IDEC	KENDALL	
7	1	PILOT LIGHT GREEN	EL-LAB-IDEC HW1P-2FQD-G-24V	IDEC	KENDALL	
8	1	HORN	EL-LAB-MALLORY SC628NR	SONALERT	KENDALL	
9	1	HORN GASKET	EL-LAB-MALLORY ACC03	SONALERT	KENDALL	
10	1	FUSE 5A	EL-LAB-WAGO 51220026	WAGO	KENDALL	
11	1	RELAY SPST 24VDC	EL-LAB-WAGO 857-304	WAGO	KENDALL	
12	1	BACK PLATE ASSEMBLY	EL-LAB-WAGO 51220029	WAGO	KENDALL	





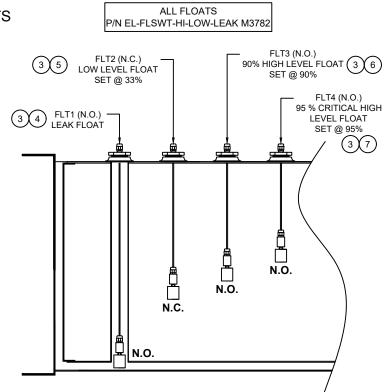
# BACK PLATE ASSEMBLY KIT P/N EL-LAB-WAGO 60251174

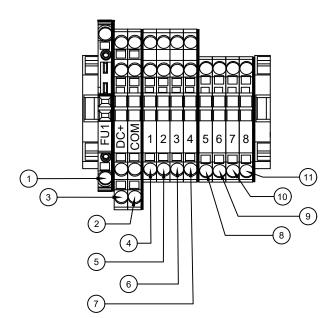
BACK PLATE ASSEMBLY KIT BOM (FOR REFERENCE ONLY)						
ITEM#	QTY	DESCRIPTION	PART#	MFG	SUPPLIER	
13	1	ENCLOSURE BACK PLATE	EL-LAB-HOFFMAN 6X6 PANEL	HOFFMANN	KENDALL	
14	3	RELAY DPDT 24VDC	EL-LAB-WAGO 788-312	WAGO	KENDALL	
15	3	RELAY 788 JUMPER BAR	EL-LAB-WAGO 788-113	WAGO	KENDALL	
16	1	FUSE TERMINAL BLOCK	EL-LAB-WAGO 2002-1681	WAGO	KENDALL	
17	1	FUSE BLOCK END PLATE	EL-LAB-WAGO 2002-1692	WAGO	KENDALL	
18	4	TERMINAL 2 POLE 22-12 AWG	EL-LAB-WAGO 2002-1201	WAGO	KENDALL	
19	1	TERMINAL END PLATE 2 POLE 22-12 AWG	EL-LAB-WAGO 2002-1292	WAGO	KENDALL	
20	4	TERMINAL 3 POLE 22-12 AWG	EL-LAB-WAGO 2002-1301	WAGO	KENDALL	
21	1	TERMINAL END PLATE 3 POLE 22-12 AWG	EL-LAB-WAGO 2002-1392	WAGO	KENDALL	
22	2	TERMINAL 4 POLE 22-12 AWG	EL-LAB-WAGO 2002-1401	WAGO	KENDALL	
23	1	TERMINAL END PLATE 4POLE 22-12 AWG	EL-LAB-WAGO 2002-1492	WAGO	KENDALL	
24	2	DIN RAIL CLAMPS	EL-LAB-WAGO 249-116	WAGO	KENDALL	
25	5"	DIN RAIL	EL-LAB-WAGO 210-112	WAGO	KENDALL	



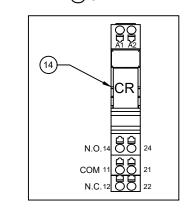
#### **FUEL TANK FLOATS**

4LAP3-24 CONNECTIONS: POWER INPUT / TANK FLOATS TO LAP / LAP ALARMS TO GEN CONTROLLER							
ITEM#	TERMINALS	DESCRIPTION	WIRE COLOR	CABLE TYPE			
	24 VDC POWER INPUT AND DISTRIBUTION						
1	FU1	POWER INPUT 24 VDC POSITIVE	RED	16/2			
2	ТВ СОМ	POWER INPUT 24 VDC NEGATIVE & POWER DISTRIBUTION	BLACK	RED/BLACK CABLE			
	TB DC+	24 VDC POSITIVE POWER DISTRIBUTION					
3	3 FUEL TANK FLOATS TO ALARM ENCLOSURE						
	TB DC+	24 VDC POSITIVE SUPPLY TO FLOATS	BLACK				
4	TB 1	FLOAT FLT1 TANK LEAK INPUT	WHITE	BELDEN 18/6			
5	TB 2	FLOAT FLT2 LOW LEVEL INPUT 33%	GREEN	CABLE TAG:			
6	TB 3	FLOAT FLT3 HIGH LEVEL INPUT 90%	BROWN	FT/LAP			
7	TB 4	FLOAT FLT4 CRITICAL HIGH LEVEL INPUT 95%	RED				
	TANK LEVEL ALARMS TO GEN ENCLOSURE						
8	TB 5	ALARM COMMON INPUT TO GEN CONTROL	BLACK				
9	TB 6	TANK LEAK ALARM INPUT TO GEN CONTROL	WHITE	BELDEN 18/6 CABLE TAG:			
10	TB 7	LOW LEVEL ALARM INPUT TO GEN CONTROL	GREEN	LAP/GC			
11	TB 8	CRITICAL HIGH LEVEL ALARM INPUT TO GEN CONTROL	RED				





**CONTROL RELAY** DPDT @ 8 AMPS MAX



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4LAP3-24

**ENCLOSURE LAYOUT/BOM** 

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