

HUSSMANN[®] Excel

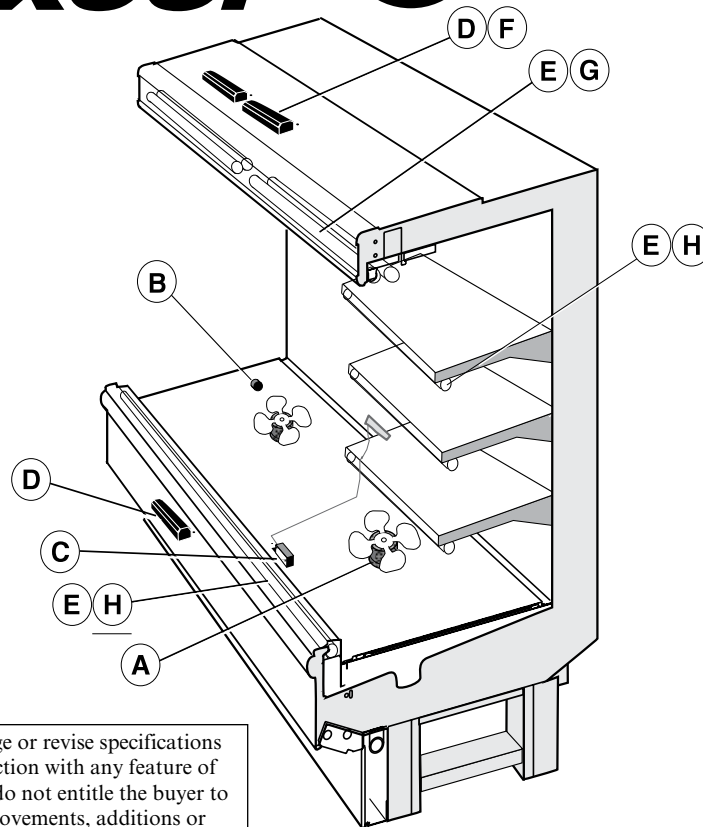


M4X-E

Technical Data Sheet
P/N 0463865_M

NSF[®] Certified

October 2016



We reserve the right to change or revise specifications and product design in connection with any feature of our products. Such changes do not entitle the buyer to corresponding changes, improvements, additions or replacements for equipment previously sold or shipped.

Item	Part #	Description	Wiring Item #	Item	Part #	Description	Wiring Item #
FAN ASSEMBLIES				FLUORESCENT LAMPS AND BALLASTS			
8 Ft & 12 Ft				D.		Ballast, Electronic	(4)
A.	25W Standard Energy Efficient Fan Assembly	(1)		0480130		2 lamps (BA.4481676)	
	0501485	Fan Motor, Evaporator (MO.4410701)		0480131		3 lamps (BA.4481654)	
	0501484	Fan Blade (FB.4780657)		0480132		4 lamps (BA.4481677)	
6 Ft Only				E.		Fluorescent Lamp	(5)
A.	7W Standard Energy Efficient Fan Assembly	(1)				<i>Replace with like fixtures</i>	
	0477654	Fan Motor, Evaporator (MO.4410545)		LED FIXTURES AND POWER SUPPLY			
	0142780	Fan Blade (FB.0142780)		F.	0501213	Power Supply (EP.4481861)	(6)
THERMOSTATS				G.		LED Canopy Fixture	(7)
B.	0411744	Standard Non-adjustable Defrost Thermostat (CT.0411744)	(2)			<i>Replace with like fixtures</i>	
C.		Optional Adjustable Refrigeration Thermostat	(3)	H.		LED Shelf Fixture	(8)
						<i>Replace with like fixtures</i>	

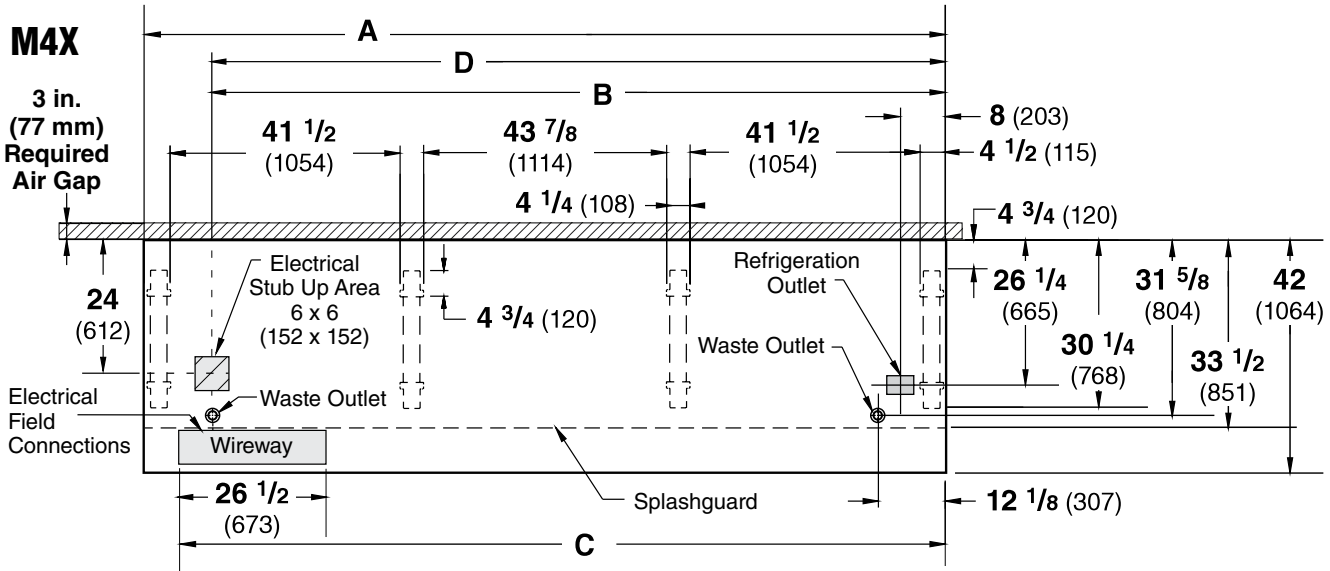
Note: Revision M: Added high glide refrigerant note. Other changes marked by bar, underline or circle.

Engineering Plan Views

PHYSICAL DATA	
Merchandiser Drip Pipe (in.)	1 1/4
Merchandiser Liquid Line (in.)	3/8
Merchandiser Suction Line (in.)	7/8

Meat and Produce
10-2004

Dimensions shown as inches and (mm).

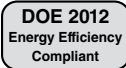


NOTE: Case-to-Case Electrical Connections are made IN FRONT OF SPLASHGUARD.

FRONT

	6 ft	8 ft	12 ft
General			
(A) Case Length (<i>without ends or partitions</i>) (Each end and insulated partition adds 1 1/2 in. (38 mm) to case line up.) Maximum O/S dimension of case back to front (includes bumper)	72 3/8 (1838)	96 3/8 (2448)	144 1/2 (3670)
Back of case to front of splashguard	42 (1064)	42 (1064)	42 (1064)
Back of case to O/S edge of front leg	33 1/2 (851)	33 1/2 (851)	33 1/2 (851)
Distance between edges of external legs and center legs	29 1/2 (750)	41 1/2 (1054)	41 1/2 (1054)
Distance between edges of center legs	NA	NA	43 7/8 (1114)
Distance between front legs and splashguard	2 3/4 (70)	2 3/4 (70)	2 3/4 (70)
Electrical Service (<i>Electrical Field Wiring connection point</i>)			
(B) RH End of case to center of stub up area	60 1/4 (1530)	84 1/4 (2140)	132 3/8 (3363)
Back of case to center of stub up area	24 (612)	24 (612)	24 (612)
Length of electrical wireway	26 1/2 (673)	26 1/2 (673)	26 1/2 (673)
(C) RH End of case to LH end of wireway	66 1/8 (1680)	90 1/8 (2289)	138 1/4 (3511)
Waste Outlets (<i>One each end</i>)			
(D) RH End of case to the center of LH waste outlet	60 1/4 (1530)	84 1/4 (2140)	132 3/8 (3363)
RH End of case to the center of RH waste outlet	12 1/8 (307)	12 1/8 (307)	12 1/8 (307)
Back O/S of case to center of waste outlets	31 5/8 (804)	31 5/8 (804)	31 5/8 (804)
Schedule 40 PVC drip pipe	1 1/4 (32)	1 1/4 (32)	1 1/4 (32)
Refrigeration Outlet			
Back of case to center of refrigeration outlet	26 1/4 (665)	26 1/4 (665)	26 1/4 (665)
RH end of case to center of refrigeration outlet	8 (203)	8 (203)	8 (203)

Multi-deck, 4 Display Levels



Hussmann refrigerated merchandisers configured for sale for use in the United States meet or surpass the requirements of the DOE 2012 energy efficiency standards.

Excel M4X-E
Meat & Delicatessen

REFRIGERATION DATA

Note: This data is based on store temperature and humidity that does not exceed 75°F and 55% R.H.

	M4X-E§
Discharge Air °F	29
Evaporator °F	21
Unit Sizing °F	19

§ Average evaporator temperature shown. Use dew point for high glide refrigerants for unit sizing. Care should be taken to use the dew point in PT tables for measuring and adjusting superheat. Adjust evaporator pressure as needed to maintain discharge air temperature shown.

Btu/hr/ft — Unlit Shelves ‡

M4X-E	Parallel	Conventional
UNLIT	1224	1304

‡ Add 10 Btu/hr/ft *per shelf row* for LED fixtures.
Add 20 Btu/hr/ft *per shelf row* for fluorescent lamps.

DEFROST DATA

Frequency Hr	6
Defrost Water (lb/ft/day)	8

(± 15% based on case configuration and product loading).

	M4X-E
OFFTIME	
Temp Term °F	48
Failsafe Minutes	30

ELECTRIC OR GAS Not Recommended

Standard Defrost Thermostat

Close on rise: close 48°F — open 33°F

CONVENTIONAL CONTROLS

Low Pressure Backup Control

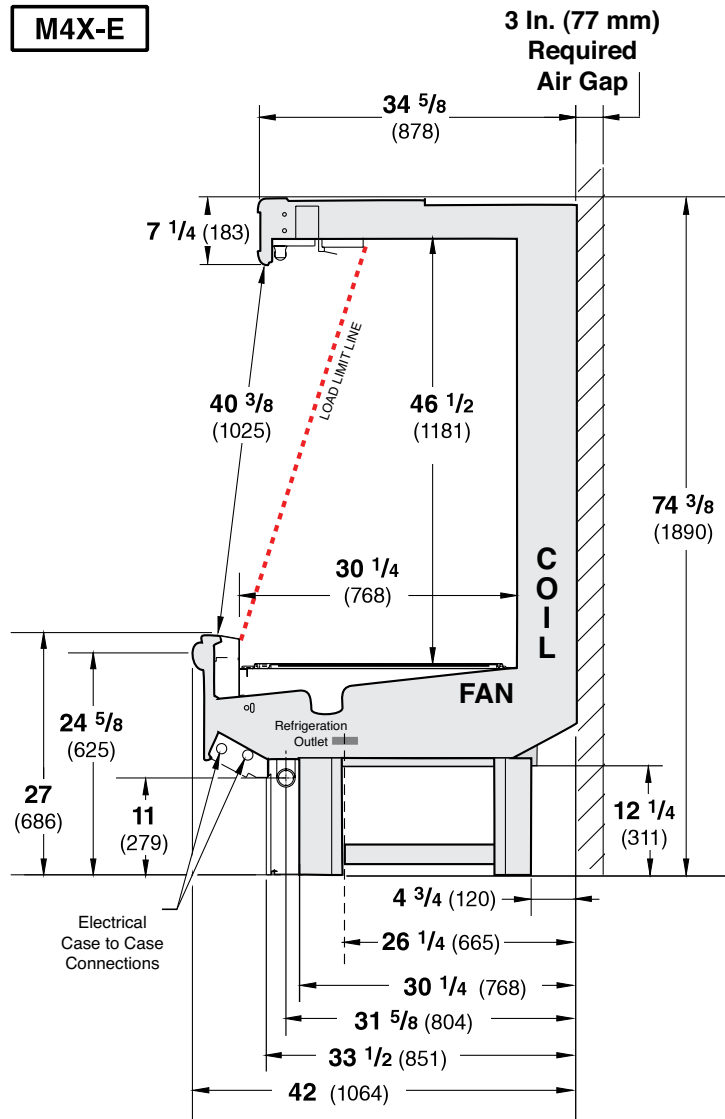
CICO*	M4X-E
	14°F / 4°F

Indoor Unit Only,

Pressure Defrost Termination* 48°F

*Use a Temperature Pressure Chart to determine PSIG conversions.

Dimensions shown as inches and (mm).



Estimated Charge **		M4X-E	
6 ft	1.9 lb	30 oz	0.9 kg
8 ft	2.7 lb	43 oz	1.2 kg
12 ft	3.9 lb	62 oz	1.8 kg

**This is an average for all refrigerant types. Actual refrigerant charge may vary by approximately half a pound (8 oz/0.2 kg).

NSF Certification

This merchandiser model is manufactured to meet NSF/ANSI (National Sanitation Foundation) Standard #7 requirements for construction, materials & cleanability.

Excel M4X-E

Meat & Delicatessen

Electrical Data

	6 ft	8 ft	12 ft			
Number of Fans—25W	—	2	3			
Number of Fans—7W	4	—	—			
	Amperes			Watts		
	6 ft	8 ft	12 ft	6 ft	8 ft	12 ft
Evaporator Fan						
120V 50/60Hz Standard Energy Efficient	0.76	1.20	1.80	56	72	108
230V 50/60Hz Standard Energy Efficient	0.40	0.60	0.90	56	72	108
230V 60Hz Export	1.00	1.32	1.98	156	200	300
230V 50Hz Export	1.12	1.52	2.28	168	228	342
Minimum Circuit Ampacity						
120V 50/60Hz Standard Energy Efficient	0.96	1.40	2.00			
230V 50/60Hz Standard Energy Efficient	0.60	0.80	1.10			
230V 60Hz Export	1.20	1.52	2.18			
230V 50Hz Export	1.32	1.72	2.48			
Maximum Over Current Protection 120V	20	20	20			
Maximum Over Current Protection 230V	15	15	15			
Standard Lighting (T-8 Fluorescent)						
1 Row Canopy	0.51	0.51	0.77	59	59	85
ONLY LIGHTING CONFIGURATIONS THAT ARE COMPLIANT WITH THE U.S. DEPT. OF ENERGY (DOE) 2012 REGULATION ARE AVAILABLE FOR SALE FOR USE IN THE U.S.A.						
Optional T-8 Fluorescent Lighting						
Additional 1 Row Canopy	0.51	0.51	0.77	59	59	85
Additional 2 Row Canopy	1.02	1.02	1.54	118	118	170
Additional 3 Row Canopy	1.53	1.53	2.31	177	177	255
1 Row Rail Light	0.51	0.51	0.77	59	59	85
3 Rows of Shelves	1.53	1.53	2.31	177	177	255
4 Rows of Shelves	2.04	2.04	3.08	236	236	340
EcoShine II Canopy						
EcoShine II	0.37	0.51	0.77	44.2	61.6	92.4
EcoShine II HO	0.42	0.56	0.84	50.5	67.2	100.8
EcoShine II Rail Light —1 Row	0.13	0.17	0.26	15.3	20.5	30.7
EcoShine II Shelves						
3 Rows of Shelves	0.38	0.51	0.77	46.0	61.4	92.1
4 Rows of Shelves	0.51	0.68	1.02	61.4	81.9	122.8

120V Lighting Circuit Total = Standard Lighting + Total Optional Lighting + Optional Shelf Lighting

120V LED Lighting Circuit Total = Canopy Lighting + Shelf Lighting + Optional Rail Lighting

230V Lighting Circuit Total = Multiply 120V Lighting Circuit Total by 0.52

Product Data

<i>Recommended Usable Cube</i> ¹ (Cu Ft/Ft)	6.08 ft ³ /ft (0.56 m ³ /m)
<i>AHRI Total Display Area</i> ² (Sq Ft/Ft)	3.36 ft ² /ft (1.02 m ² /m)
<i>Shelf Area</i> ³ (Sq Ft/Ft)	6.71 ft ² /ft (2.05 m ² /m)

- ¹ AHRI Refrigerated Volume less shelving and other unusable space: Refrigerated Volume/Unit of Length, ft³/ft [m³/m]
- ² Computed using AHRI 1200 standard methodology: Total Display Area, ft² [m²]/Unit of Length, ft [m]
- ³ Shelf surface area is composed of bottom deck plus standard shelf complement, as shown in the Hussmann *Product Reference Guide*. The standard shelf complement for this model is (2) rows of 16-inch shelves and (1) row of 18-inch shelf.

ESTIMATED SHIPPING WEIGHT ⁴				
Case	<i>6 ft</i>	<i>8 ft</i>	<i>12 ft</i>	Solid End
				<i>(each)</i>
lb (kg)	900 (408)	1000 (454)	1400 (635)	100 (45)

⁴ Actual weights will vary according to optional kits included.

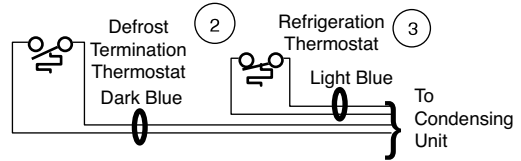
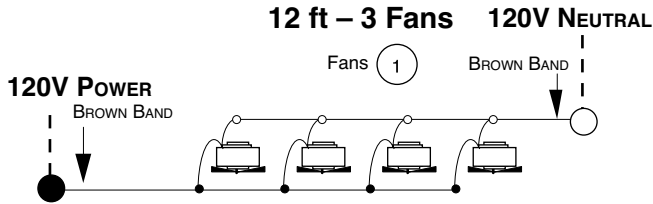
Fan Wiring Offtime Defrost

2, 3 & 4 Fans

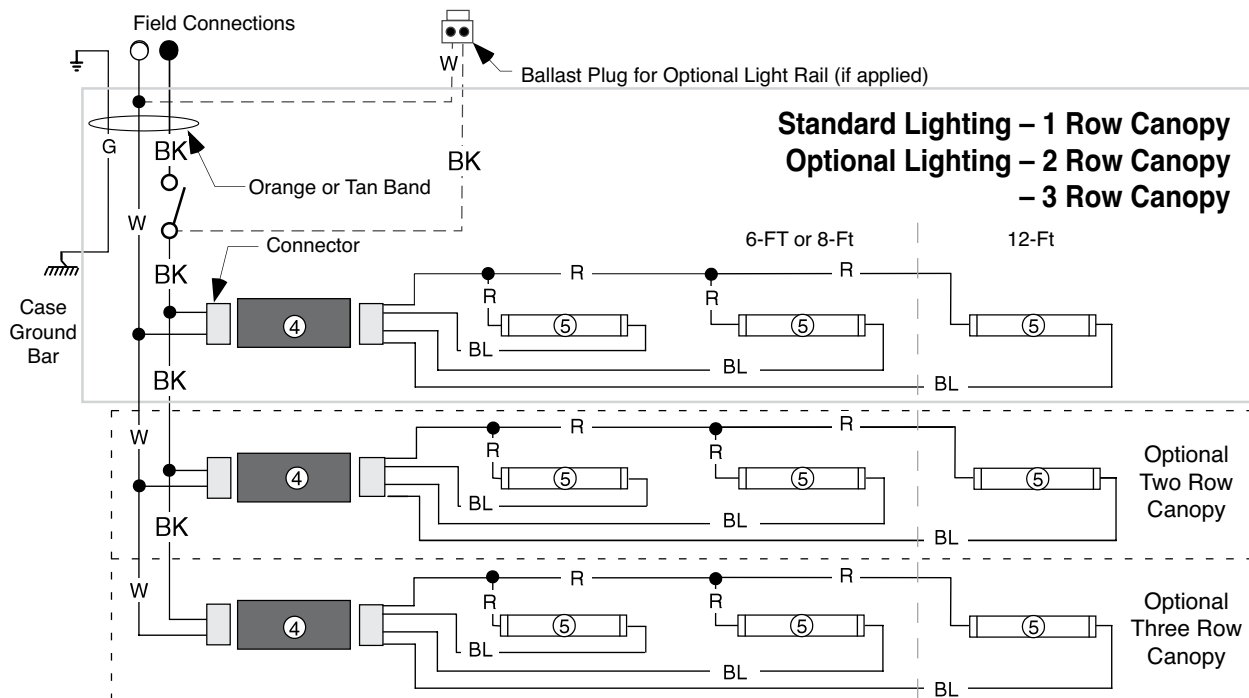
6 ft – 4 Fans

8 ft – 2 Fans

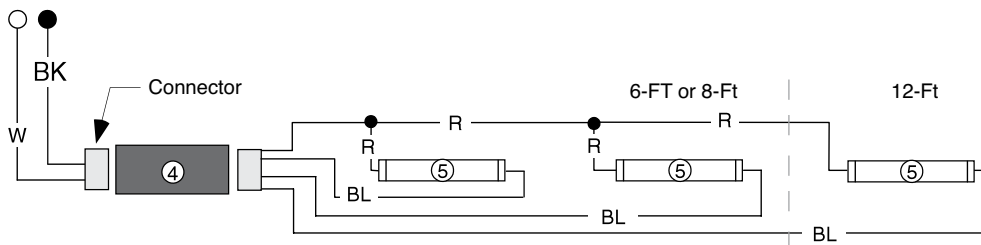
12 ft – 3 Fans



Light Circuits — Fluorescent Fixtures



Optional Lighting – 1 Row Rail



WARNING

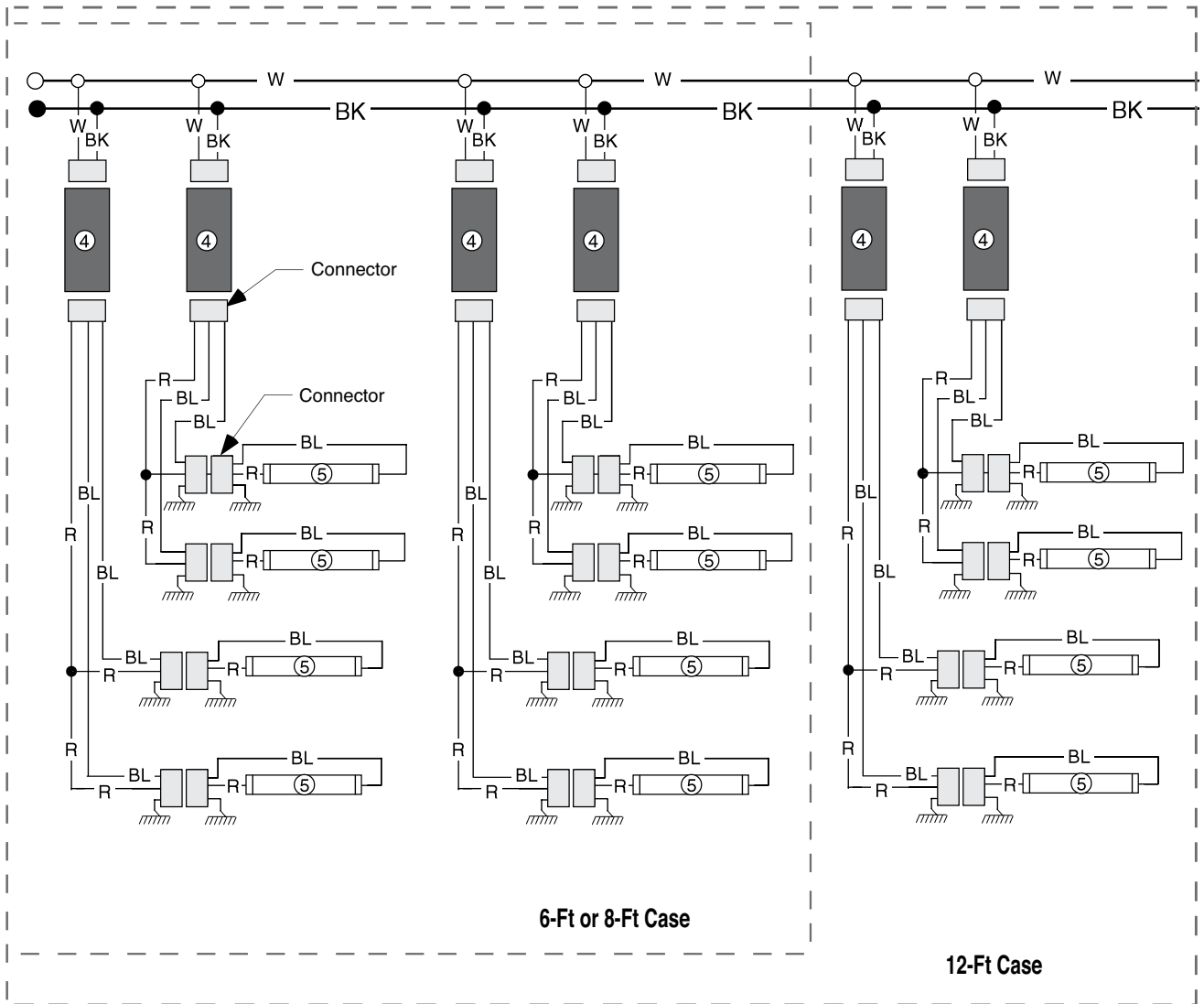
All components must have mechanical ground, and the merchandiser must be grounded.

CIRCLED NUMBERS = PARTS LIST ITEM NUMBERS

R = Red Y = Yellow G = Green BL = Blue BK = Black W = White
 ● = 120V POWER ○ = 120V NEUTRAL ⊥ = FIELD GROUND mmm = CASE GROUND

Optional Shelf Lighting Fluorescent Fixtures

Optional Shelf Harness and Light Circuits for Four Rows of Shelves



WARNING

All components must have mechanical ground, and the merchandiser must be grounded.

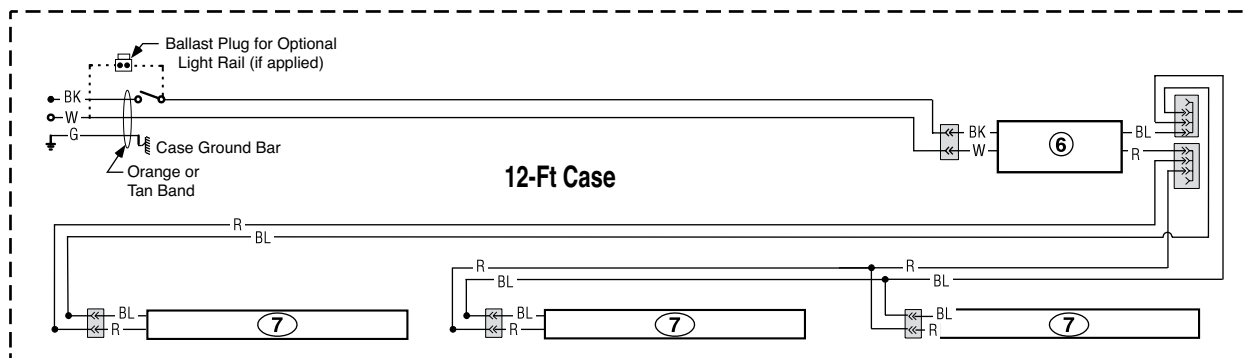
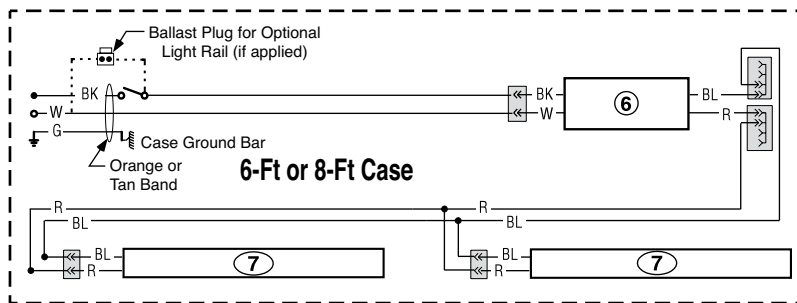
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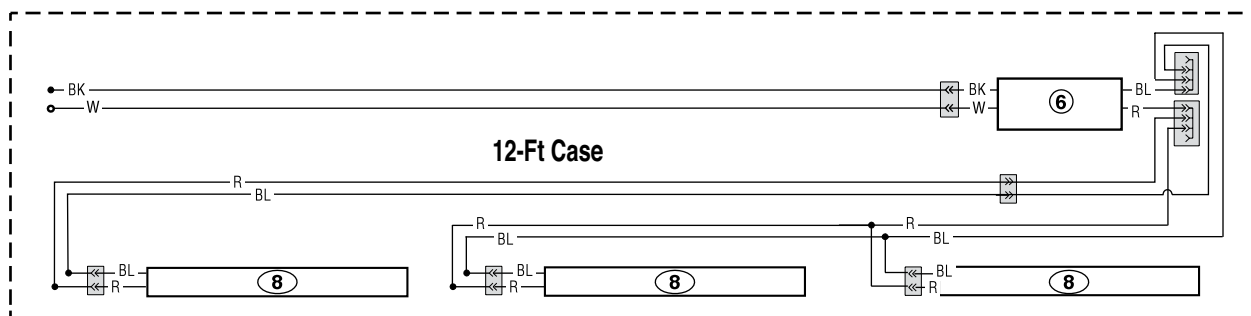
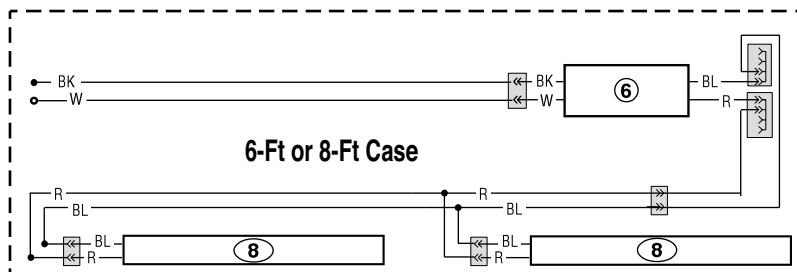
● = 120V POWER ○ = 120V NEUTRAL ⚡ = FIELD GROUND ≡ = CASE GROUND

Optional Canopy and Rail Light Circuits — LED Fixtures

EcoShine II LED Canopy Lighting – 1 Row



EcoShine II LED Rail Lighting – 1 Row



WARNING

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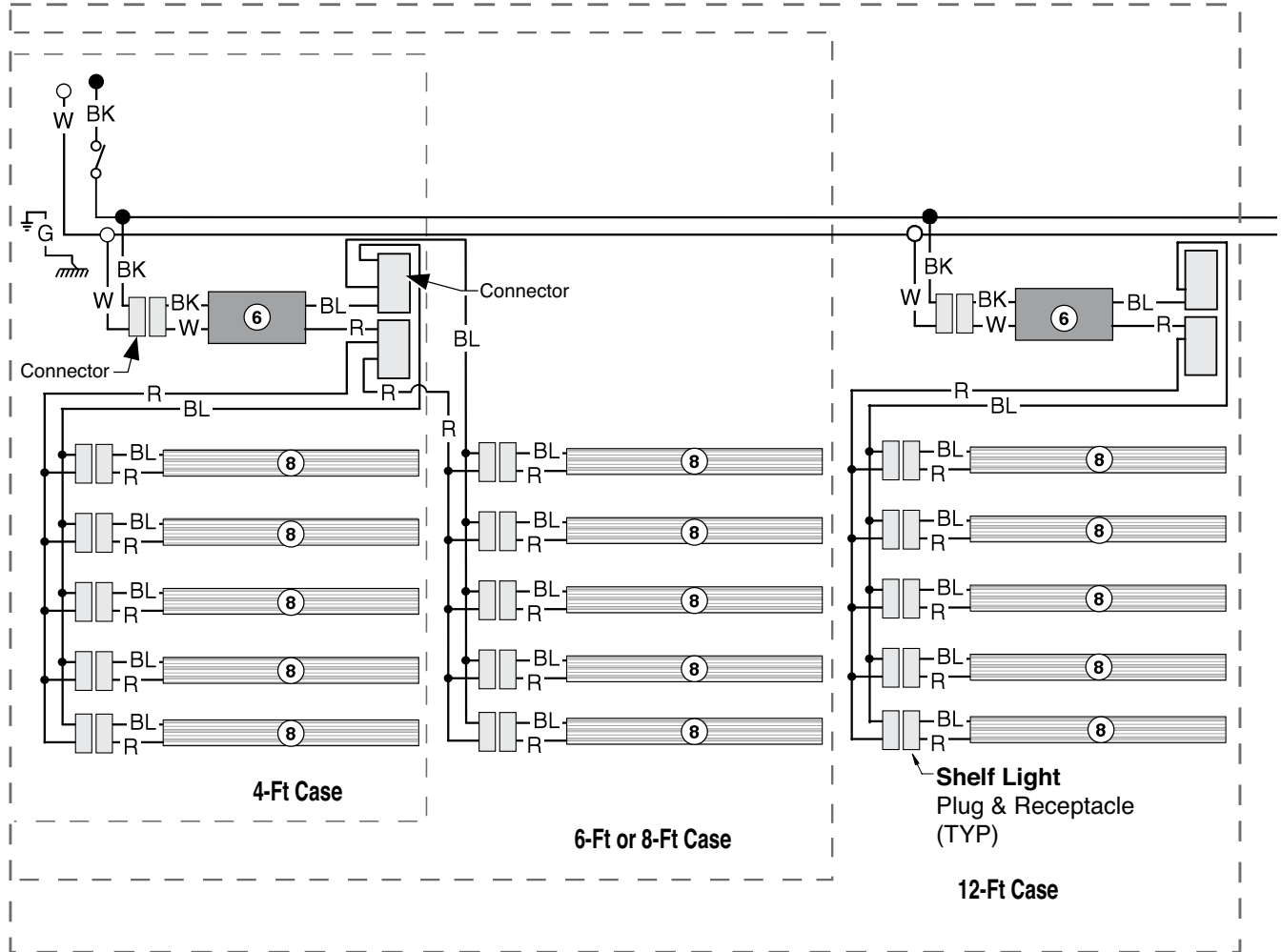
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Optional Shelf Lighting LED Fixtures

Optional Shelf Harness and LED Light Circuits for 4 or 5 Rows of Shelves



WARNING

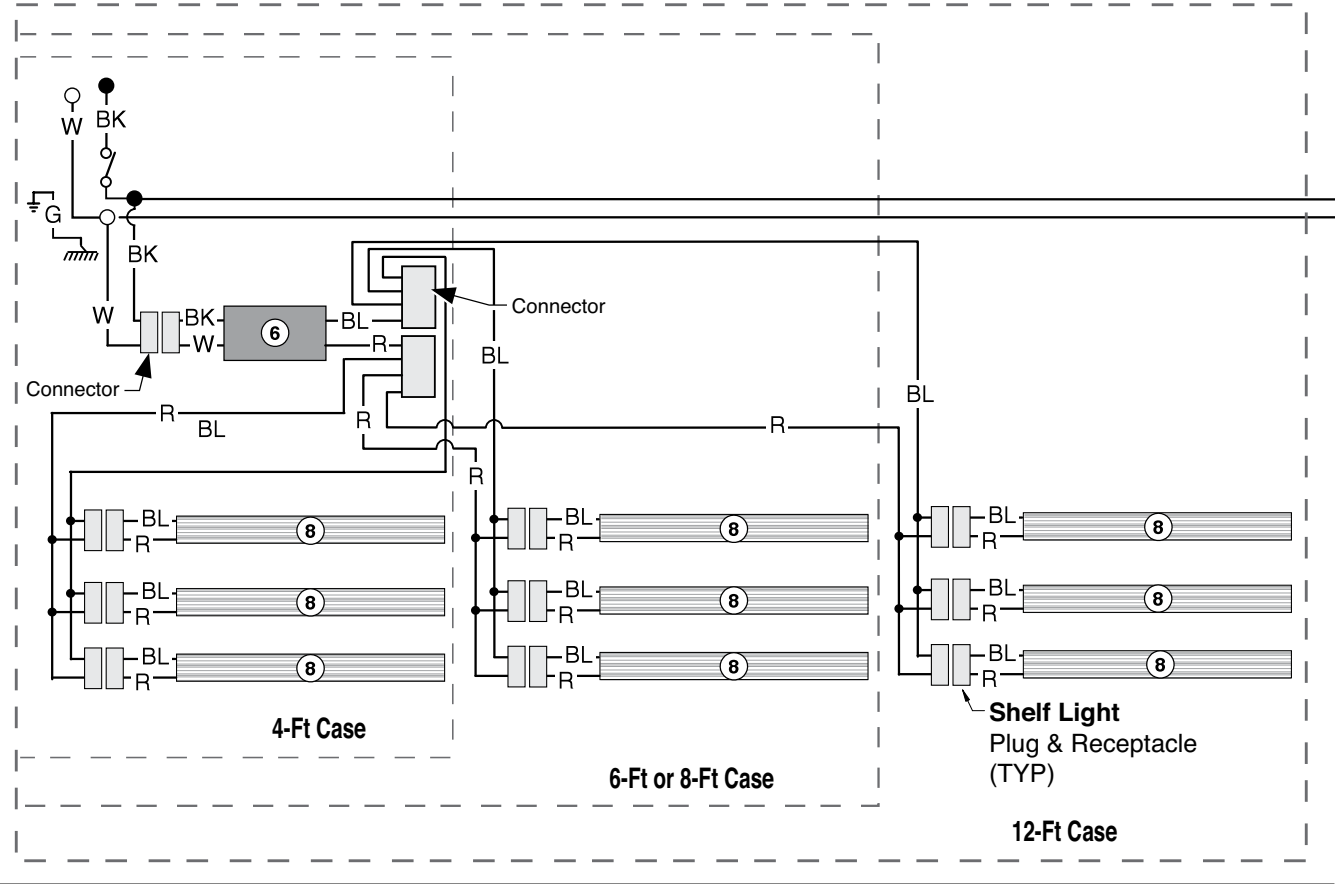
All components must have mechanical ground, and the merchandiser must be grounded.

CIRCLED NUMBERS = PARTS LIST ITEM NUMBERS

R = Red G = Green BL = Blue BK = Black W = White
 ● = 80V POWER ○ = 80V NEUTRAL ⚡ = FIELD GROUND ⏏ = CASE GROUND

Optional Shelf Lighting LED Fixtures

Optional Shelf Harness and LED Light Circuits for 2 or 3 Rows of Shelves



WARNING

All components must have mechanical ground, and the merchandiser must be grounded.

CIRCLED NUMBERS = PARTS LIST ITEM NUMBERS

R = Red G = Green BL = Blue BK = Black W = White

● = 80V POWER ○ = 80V NEUTRAL ⚡ = FIELD GROUND mmm = CASE GROUND