

208Y120V 3PH 4W Full size neutral w/copper ground bus (Fed from DP1)

PANEL "L2M"

Copper Bus Rating: 100 AMP
Mains Rating (M.C.B.): 100 AMP
1 unit of 483, 1 #8 G, 1 1/2" C.
Feeder Ampacity = 100A

X MCB
MLO
Feed Thru Lugs
Shunt-Trip MCB

New Panel
Isolated Ground Bus
Location
Mounting
Enclosure (NEMA)

LOAD DESCRIPTION	TYPE	LOAD KVA	LOAD AMP	WIRE CONDUIT SIZE (Note 1)	TRIPPOLE (Note 2)	OKT #	PH #	TRIPPOLE (Note 2)	WIRE CONDUIT SIZE (Note 1)	LOAD AMP	LOAD KVA	LOAD TYPE	LOAD DESCRIPTION
SPARE					20 / 1	1	A	2	20 / 1	2	0.36	R	2 D.R. GFI WIP
4 D.R. Hallway Recept.	R	0.72	6.0	2#12,1#12G,1/2" C	20 / 1	3	B	4	20 / 1	10.0	1.20	MIS	Emergency Outside
3 D.R. GFCI WIP	R	0.54	4.5	2#12,1#12G,1/2" C	20 / 1	5	C	6	20 / 1	4.5	0.54	R	3 D.R. Hallway Recept
TV Recept (Rm. 145)	MIS	0.40	3.3	2#12,1#12G,1/2" C	20 / 1	7	A	8	20 / 1	3.0	0.36	R	2 D.R. Bath GFCI
4 D.R. Great Room Recept	R	0.72	6.0	2#12,1#12G,1/2" C	20 / 1	9	B	10	20 / 1	14.2	1.70	MT	Furnace Hallway #1 (FCU-1)
3 D.R. Great Room Recept	R	0.54	4.5	2#12,1#12G,1/2" C	20 / 1	11	C	12	20 / 1	14.2	1.70	MT	Furnace Hallway #2 (FCU-4)
Emergency Hallway	L	0.29	2.4	2#12,1#12G,1/2" C	20 / 1	13	A	14	20 / 1	3.0	0.36	R	2 D.R. GFCI WIP
SPARE					20 / 1	15	B	16	20 / 1				SPARE
SPARE					20 / 1	17	C	18	20 / 1				SPARE
6 D.R. Great Room Recept	R	1.08	9.0	2#12,1#12G,1/2" C	20 / 1	19	A	20	20 / 1	3.6	0.43	L	Attic Lighting
5 D.R. Great Room Recept	R	0.90	7.5	2#12,1#12G,1/2" C	20 / 1	21	B	22	25 / 2	16.8	1.7	C	A/C Hallway #2 (CU-4)
Wall Pack	L	0.26	2.1	2#12,1#12G,1/2" C	20 / 1	23	C	24		16.8	1.7	C	"16.8 FLA,3.5 KVA-Disc3A(2P)240V/NFNR
Jazzz	MIS	0.50	4.2	2#12,1#12G,1/2" C	20 / 1	25	A	26	40 / 2	23.5	2.4	C	A/C Hallway #1 (CU-1)
DRYER	MIS	2.5	24.0	3#10,1#10G,3/4" C	30 / 2	27	B	28		23.5	2.4	C	"23.5 FLA,4.9 KVA-Disc3A(2P)240V/NFNR
****Nema4-3R 30A-125250V-3P-4W-G	MIS	2.5	24.0		29	C	30	20 / 1	2#12,1#12G,1/2" C	1.5	0.18	R	1 D.R. Fountain
					31	A	32	20 / 1					
					33	B	34	20 / 1					
					35	C	36	20 / 1					
					37	A	38	20 / 1					
					39	B	40	20 / 1					
					41	C	42	20 / 1					

PANEL "L2M" LOAD ANALYSIS

LOAD DESCRIPTION	TYPE	DEMAND FACTOR	CONNECTED	LOAD (KVA)	NEC CALCULATION
LIGHTING	L	1.25	1.0	1.2	125% of connected loads
RECEPTACLES	R	1	6.3	6.3	
COOLING LOADS - HVAC	C	1	8.4	8.4	Cooling loads larger than heating
HEATING LOADS - HVAC (non-coincident woodstg)	H				
MOTOR	MT	1	3.4	3.4	
MISC. NON-CONTINUOUS LOADS	MIS	1	7.1	7.1	
25% LARGEST MOTOR (1.7 KVA)		0.25		0.4	
TOTAL LOAD (KVA)			26.2 KVA	26.8 KVA	
TOTAL LOAD (AMP AVG)			72.6 AMP	74.5 AMP	Calc'd Amps: PHA=68A, PHB=108A, PHC=174A, NEUR=12A

208Y120V 3PH 4W Full size neutral w/copper ground bus

PANEL "L5T"

Copper Bus Rating: 100 AMP
Mains Rating (M.C.B.): 100 AMP
1 unit of 483, 1 #8 G, 1 1/2" C.
Feeder Ampacity = 100A

X MCB
MLO
Feed Thru Lugs
Shunt-Trip MCB

New Panel
Isolated Ground Bus
Location
Mounting
Enclosure (NEMA)

LOAD DESCRIPTION	TYPE	LOAD KVA	LOAD AMP	WIRE CONDUIT SIZE (Note 1)	TRIPPOLE (Note 2)	OKT #	PH #	TRIPPOLE (Note 2)	WIRE CONDUIT SIZE (Note 1)	LOAD AMP	LOAD KVA	LOAD TYPE	LOAD DESCRIPTION
Recept 102	R	0.36	3.0	2#12,1#12G,1/2" C	20 / 1	1	A	2	20 / 1	10.0	1.20	MIS	Micro 108
Recept GFCI 108-107	R	0.36	3.0	2#12,1#12G,1/2" C	20 / 1	3	B	4	20 / 1	1.5	0.18	R	GFCI 104
GFCI WIP	R	0.36	3.0	2#12,1#12G,1/2" C	20 / 1	5	C	6	20 / 1	2.9	0.35	MIS	Ice Maker 108
Recept 102	R	0.36	3.0	2#12,1#12G,1/2" C	20 / 1	7	A	8	20 / 1	1.5	0.18	R	Recept 104
Lighting 101,104,108	L	0.85	7.1	2#12,1#12G,1/2" C	20 / 1	9	B	10	20 / 1	3.0	0.36	R	Recept 108
A/C (CU-6)	L	1.7	16.8	3#10,1#10G,1/2" (Note 3)	25 / 2	11	C	12	20 / 1	6.7	0.80	MIS	Coffee Maker GFCI
"16.8 FLA,3.5 KVA-Disc3A(2P)240V/NFNR		1.7	16.8		13	A	14	20 / 1	2#12,1#12G,1/2" C	1.5	0.18	R	GFCI 104
Recept 101	R	0.72	6.0	2#12,1#12G,1/2" C	20 / 1	15	B	16	20 / 1	4.5	0.54	R	Recept 108
Exterior Lighting	L	0.19	1.6	2#12,1#12G,1/2" C	20 / 1	17	C	18	20 / 1	10.0	1.20	L	Fans
Furnace (FCU-5)	MT	1.70	14.2	2#12,1#12G,1/2" C	20 / 1	19	A	20	20 / 1	10.0	1.20	MT	Disposal 108
Gas Water Heater	MIS	0.20	1.7	2#12,1#12G,1/2" C	20 / 1	21	B	22	20 / 1	5.4	0.65	MIS	Refrigerator 108
Lighting 100,103,108	L	0.58	4.8	2#12,1#12G,1/2" C	20 / 1	23	C	24	20 / 1	5.4	0.65	MIS	Freezer 108
Mains Rating (M.C.B.)					100 / 3	25	A	26	20 / 1				SPACE
*** Disc3A(2P)240V/NFNR					27	B	28	20 / 1					SPACE
					29	C	30	20 / 1					SPACE
SPACE					31	A	32	20 / 1					SPACE
SPACE					33	B	34	20 / 1					SPACE
SPACE					35	C	36	20 / 1					SPACE
SPACE					37	A	38	20 / 1					SPACE
SPACE					39	B	40	20 / 1					SPACE
SPACE					41	C	42	20 / 1					SPACE

PANEL "L5T" LOAD ANALYSIS

LOAD DESCRIPTION	TYPE	DEMAND FACTOR	CONNECTED	LOAD (KVA)	NEC CALCULATION
RECEPTACLES	R	1	3.6	3.6	
MISC. NON-CONTINUOUS LOADS	MIS	1	3.9	3.9	
			3.5	3.5	
TOTAL LOAD (KVA)			16.7 KVA	17.8 KVA	
TOTAL LOAD (AMP AVG)			49.2 AMP	49.4 AMP	Calc'd Amps: PHA=13A, PHB=35A, PHC=12A, NEUR=15A

208Y120V 3PH 4W Full size neutral w/copper ground bus Egrt & Service Entrance Rated
OPTIMUM CARE, SUGAR LAND, TX

DIST. PANELBOARD - "DP1"

Copper Bus Rating: 600 Amp
Mains Rating (MCB w/Ground Fault Protection): 600 Amp
3 units of 4800 KCM, 1 #30 G, 3 5/8" condit
Feeder Ampacity = 1140A

X MCB
MLO
Circuit Breaker (CB)
Fused Switch (FS)
Shunt-trip MCB

Status: NEW
Isolated Ground Bus
Enclosure (NEMA): 3R
A.I.C. (KA): 22 KA
Mounting: Concrete Pad

OKT	LOAD DESCRIPTIONS	Load Type	CONN. KVA	CONN. AMP	Load Type	O.C. AMP	BRK	POLES	Phase	PHASE WIRES, NEUTRAL & GRD & CONDUIT AMPACITY	FEEDER AMPACITY	
1	SPD (Externally Mounted Surge-Protective Device)	MIS	---	---	CB	100	3P	A B C	1	run 4#3, 1#8G, 1 1/2" C	100 Amp	
2	Dist Pnl "DP1"	---	137.3	381.1	---	CB	400	3P	A B C	1	run 4#600 KCM, 1 #3 G, 3" conduit	420 Amp
3	Panel "L2A"	---	19.4	54.0	---	CB	150	3P	A B C	1	run 4#10, 1 #6 G, 3/4" C	150 Amp
4	Panel "L2M"	---	47.8	132.8	---	CB	225	3P	A B C	1	run 4#40, 1 #4 G, 1 1/2" C	230 Amp
5	Panel "GAR"	---	4.8	13.2	---	CB	100	3P	A B C	1	run 4#20, 1 #6 G, 3/4" C	175 Amp
6	SPARE				Y	CB	225	3P	A B C			
7	SPARE				Y	CB	225	3P	A B C			
8	SPARE				Y	CB	100	3P	A B C			
9	SPARE				Y	CB	100	3P	A B C			
10	SPARE				Y	CB	100	3P	A B C			
11	SPARE				Y	CB	100	3P	A B C			
12	SPARE				Y	CB	100	3P	A B C			

DIST. PANELBOARD - "DP1" LOAD ANALYSIS

LOAD DESCRIPTION	Load Type	DEMAND FACTOR	CONNECTED	LOAD (KVA)	NEC CALCULATION
LIGHTING	L	1.25	10.5	13.1	125% of connected loads
RECEPTACLES	R	---	25.7	17.9	NEC2011 Art. 220.44
COOLING LOADS	C	1	64.0	64.0	Cooling loads larger than heating
HEATING LOADS (non-coincident woodstg)	H				
MOTOR	MT	1	31.8	31.8	
MISC. NON-CONTINUOUS LOADS	MIS	1	65.2	65.2	
KITCHEN LOADS	K	0.65	14.8	9.6	NEC2011 Art. 220.56
OUTSIDE LIGHTING	OL	1.25	1.1	1.4	
NON-COINCIDENT LOADS	NC				
TOTAL LOAD (KVA)			213.2 KVA	231.1 KVA	
TOTAL LOAD (AMP AVG)			591.7 AMP	563.8 AMP	PHA=692A, PHB=358A, PHC=458A, NEUR=93A

208Y120V 3PH 4W Full size neutral w/copper ground bus (Fed from DPE)

PANEL "L2A"

Copper Bus Rating: 100 AMP
Mains Rating (M.C.B.): 100 AMP
1 unit of 483, 1 #8 G, 1 1/2" C.
Feeder Ampacity = 100A

X MCB
MLO
Feed Thru Lugs
Shunt-Trip MCB

New Panel
Isolated Ground Bus
Location
Mounting
Enclosure (NEMA)

LOAD DESCRIPTION	TYPE	LOAD KVA	LOAD AMP	WIRE CONDUIT SIZE (Note 1)	TRIPPOLE (Note 2)	OKT #	PH #	TRIPPOLE (Note 2)	WIRE CONDUIT SIZE (Note 1)	LOAD AMP	LOAD KVA	LOAD TYPE	LOAD DESCRIPTION	
4 D.R. Bedroom #5 Recept (Rm 147)	R	0.72	6.0	2#12,1#12G,1/2" C	20 / 1	1	A	2	20 / 1	14.2	1.70	MIS	Furnace Bedroom #2 (FCU-2) (Rm. 142-144, 156-158, 161)	
4 D.R. Bedroom #2 Recept (Rm 155)	R	0.72	6.0	2#12,1#12G,1/2" C	20 / 1	3	B	4	20 / 1	14.2	1.70	MIS	Furnace Bedroom #1 (FCU-3) (Rm. 147-148, 151-155)	
Bedroom #5 Lighting (Rm 147,148,150-151)	L	0.96	8.0	2#12,1#12G,1/2" C	20 / 1	5	C	6	20 / 1	6.0	0.72	R	4 D.R. Bedroom #1 Recept. (Rm. 152)	
4 D.R. Office Recept. - W/H (Rm 161,163)	L	0.72	6.0	2#12,1#12G,1/2" C	20 / 1	7	A	8	20 / 1	3.7	0.45	L	Hallway Lighting (Rm 141,146)	
4 D.R. Bedroom #6 Recept (Rm 144)	R	0.72	6.0	2#12,1#12G,1/2" C	20 / 1	9	B	10	20 / 1	4.5	0.54	R	3 D.R. Bathroom GFCI (Rm 148,153-154)	
4 D.R. Bedroom #4 Recept (Rm 158)	R	0.72	6.0	2#12,1#12G,1/2" C	20 / 1	11	C	12	20 / 1				L	Step Lights
4 D.R. Bedroom #3 Recept (Rm 156-158)	R	0.72	6.0	2#12,1#12G,1/2" C	20 / 1	13	A	14	20 / 1	1.6	0.19	L	Great Room Lighting (Rm. 145)	
Bedrooms #6/7 Lighting (142-144)	L	0.45	3.7	2#12,1#12G,1/2" C	20 / 1	15	B	16	40 / 2	26.2	2.7	C	A/C Bedroom #2 (CU-3)	
4 D.R. Bedroom #7 Recept (Rm 142)	R	0.72	6.0	2#12,1#12G,1/2" C	20 / 1	17	C	18	20 / 1	26.2	2.7	C	"26.2 FLA,4.9 KVA-Disc3A(2P)240V/NFNR	
Bedrooms #3/4 Lighting (Rm 156-158, 161-163)	L	0.64	5.3	2#12,1#12G,1/2" C	20 / 1	19	A	20	40 / 2	368,1#10G,1" C (Note 3)	23.5	2.4	C	A/C Bedroom #1 (CU-3)
Dining Room Lighting (Rm 138)	L	0.58	3.2	2#12,1#12G,1/2" C	20 / 1	21	B	22		23.5	2.4	C	"23.5 FLA,4.9 KVA-Disc3A(2P)240V/NFNR	
Ceiling Fan Chandelier (Rm 145)	L	0.90	7.5	2#12,1#12G,1/2" C	20 / 1	23	C	24	20 / 1	2#12,1#12G,1/2" C	1.6	0.19	L	Great Room Lighting (Rm. 145)
Washer	MIS	1.20	10.0	2#12,1#12G,1/2" C	20 / 1	25	A	26	20 / 1				SPACE	
SPARE					20 / 1	27	B	28	20 / 1				SPACE	
SPARE					20 / 1	29	C	30	20 / 1				SPACE	
SPARE					20 / 1	31	A	32	20 / 1				SPACE	
SPARE					20 / 1	33	B	34	20 / 1				SPACE	
SPARE					20 / 1	35	C	36	20 / 1				SPACE	
SPARE					20 / 1	37	A	38	20 / 1				SPACE	
SPARE					20 / 1	39	B	40	20 / 1				SPACE	
SPARE					20 / 1	41	C	42	20 / 1				SPACE	

PANEL "L2A" LOAD ANALYSIS

LOAD DESCRIPTION	TYPE	DEMAND FACTOR	CONNECTED	LOAD (KVA)	NEC CALCULATION
LIGHTING	L	1.25	4.9	6.1	125% of connected loads
RECEPTACLES	R	1	5.6	5.6	
COOLING LOADS - HVAC	C	1	10.3	10.3	Cooling loads larger than heating
HEATING LOADS - HVAC (non-coincident woodstg)	H				
MISC. NON-CONTINUOUS LOADS	MIS	1	4.6	4.6	
TOTAL LOAD (KVA)			25.4 KVA	26.6 KVA	
TOTAL LOAD (AMP AVG)			70.5 AMP	73.9 AMP	Calc'd Amps: PHA=81A, PHB=48A, PHC=66A, NEUR=17A

208Y120V 3PH 4W Full size neutral w/copper ground bus (Fed from DPE)

PANEL "L5A"

Copper Bus Rating: 100 AMP
Mains Rating (M.C.B.): 100 AMP
1 unit of 483, 1 #8 G, 1 1/2" C.
Feeder Ampacity = 100A

X MCB
MLO
Feed Thru Lugs