

VOLTAGE DROP CALCULATION

FACP #	0	DGP / XPDR #	0
POWER SUPPLY #	1	CIRCUIT #	1

NOMINAL VOLTAGE:	20.4
MINIMUM VOLTAGE:	16

		GAUGE	OHM'S
DISTANCE FROM SOURCE TO 1ST DEVICE:	50	14	3.07
WIRE GAUGE FOR BALANCE OF CIRCUIT:		14	3.07

DUNN OPERATIONS CENTER - MOBILE SUBSTATION STORAGE

1269 JONESBORO ROAD
 HARNETT COUNTY, N.C. 28334

END OF LINE AND LOAD CENTERING METHODS USE ONLY THE WIRE GAUGE FOR THE FIRST DEVICE TO SOURCE

18 - 14 AWG = SOLID CONDUCTORS / 12 - 10 AWG = STRANDED CONDUCTORS

STANDARD WIRE RESISTANCE IN OHMS PER 1000 FEET				
18 = 7.77	16 = 4.89	14 = 3.07	12 = 1.98	10 = 1.24

DEVICE NUMBER	DEVICE DESCRIPTION	DEVICE MFR.	MODEL NUMBER	DEVICE CURRENT	DISTANCE FROM LAST DEVICIE	VOLTAGE AT DEVICIE	VL TG. DROP FROM SOURCE	VOLTAGE % DROP
1	HORN STROBE [CEILING MOUNTED] [110CD]	SIEMENS	SL2HSC(W/R)-F	0.102	50	20.09	0.313	1.54%
2	HORN STROBE [CEILING MOUNTED] [110CD]	SIEMENS	SL2HSC(W/R)-F	0.102	35	19.89	0.510	2.50%
3	HORN STROBE [CEILING MOUNTED] [110CD]	SIEMENS	SL2HSC(W/R)-F	0.102	35	19.71	0.686	3.36%
4	HORN STROBE [CEILING MOUNTED] [110CD]	SIEMENS	SL2HSC(W/R)-F	0.102	35	19.56	0.839	4.11%
5	HORN STROBE [CEILING MOUNTED] [110CD]	SIEMENS	SL2HSC(W/R)-F	0.102	35	19.43	0.971	4.76%
6	HORN STROBE [CEILING MOUNTED] [110CD]	SIEMENS	SL2HSC(W/R)-F	0.102	35	19.32	1.080	5.30%
7	HORN STROBE [CEILING MOUNTED] [110CD]	SIEMENS	SL2HSC(W/R)-F	0.102	35	19.23	1.168	5.73%
8	HORN STROBE [CEILING MOUNTED] [110CD]	SIEMENS	SL2HSC(W/R)-F	0.102	35	19.17	1.234	6.05%
9	HORN STROBE [CEILING MOUNTED] [110CD]	SIEMENS	SL2HSC(W/R)-F	0.102	35	19.12	1.278	6.26%
10	HORN STROBE [CEILING MOUNTED] [110CD]	SIEMENS	SL2HSC(W/R)-F	0.102	35	19.10	1.300	6.37%
TOTAL:				1.020	365	END OF LINE VOLTAGE:		19.10

POINT TO POINT METHOD

CURRENT	DISTANCE	VOLTAGE DROP	END OF LINE VOLTAGE	PERCENTAGE DROP	CIRCUIT WITHIN LIMITS
1.020	365	1.300	19.10	6.37%	YES

END OF LINE METHOD

CURRENT	DISTANCE	VOLTAGE DROP	END OF LINE VOLTAGE	PERCENTAGE DROP	CIRCUIT WITHIN LIMITS
1.020	365	2.286	18.11	11.21%	YES

VOLTAGE DROP CALCULATION

FACP #	0	DGP / XPDR #	0
POWER SUPPLY #	1	CIRCUIT #	2

NOMINAL VOLTAGE:	20.4
MINIMUM VOLTAGE:	16

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END OF LINE AND LOAD CENTERING METHODS USE ONLY THE WIRE GAUGE FOR THE FIRST DEVICE TO SOURCE
 18 - 14 AWG = SOLID CONDUCTORS / 12 - 10 AWG = STRANDED CONDUCTORS

		GAUGE	OHM'S
DISTANCE FROM SOURCE TO 1ST DEVICE:	50	14	3.07
WIRE GAUGE FOR BALANCE OF CIRCUIT:		14	3.07

STANDARD WIRE RESISTANCE IN OHMS PER 1000 FEET				
18 = 7.77	16 = 4.89	14 = 3.07	12 = 1.98	10 = 1.24

DEVICE NUMBER	DEVICE DESCRIPTION	DEVICE MFR.	MODEL NUMBER	DEVICE CURRENT	DISTANCE FROM LAST DEVICIE	VOLTAGE AT DEVICIE	VL TG. DROP FROM SOURCE	VOLTAGE % DROP
1	HORN STROBE [CEILING MOUNTED] [110CD]	SIEMENS	SL2HSC(W/R)-F	0.102	50	20.09	0.313	1.54%
2	HORN STROBE [CEILING MOUNTED] [110CD]	SIEMENS	SL2HSC(W/R)-F	0.102	35	19.89	0.510	2.50%
3	HORN STROBE [CEILING MOUNTED] [110CD]	SIEMENS	SL2HSC(W/R)-F	0.102	35	19.71	0.686	3.36%
4	HORN STROBE [CEILING MOUNTED] [110CD]	SIEMENS	SL2HSC(W/R)-F	0.102	35	19.56	0.839	4.11%
5	HORN STROBE [CEILING MOUNTED] [110CD]	SIEMENS	SL2HSC(W/R)-F	0.102	35	19.43	0.971	4.76%
6	HORN STROBE [CEILING MOUNTED] [110CD]	SIEMENS	SL2HSC(W/R)-F	0.102	35	19.32	1.080	5.30%
7	HORN STROBE [CEILING MOUNTED] [110CD]	SIEMENS	SL2HSC(W/R)-F	0.102	35	19.23	1.168	5.73%
8	HORN STROBE [CEILING MOUNTED] [110CD]	SIEMENS	SL2HSC(W/R)-F	0.102	35	19.17	1.234	6.05%
9	HORN STROBE [CEILING MOUNTED] [110CD]	SIEMENS	SL2HSC(W/R)-F	0.102	35	19.12	1.278	6.26%
10	HORN STROBE [CEILING MOUNTED] [110CD]	SIEMENS	SL2HSC(W/R)-F	0.102	35	19.10	1.300	6.37%
TOTAL:				1.020	365	END OF LINE VOLTAGE:		19.10

POINT TO POINT METHOD					
CURRENT	DISTANCE	VOLTAGE DROP	END OF LINE VOLTAGE	PERCENTAGE DROP	CIRCUIT WITHIN LIMITS
1.020	365	1.300	19.10	6.37%	YES

END OF LINE METHOD					
CURRENT	DISTANCE	VOLTAGE DROP	END OF LINE VOLTAGE	PERCENTAGE DROP	CIRCUIT WITHIN LIMITS
1.020	365	2.286	18.11	11.21%	YES

VOLTAGE DROP CALCULATION

FACP #	0	DGP / XPDR #	0
POWER SUPPLY #	1	CIRCUIT #	3

NOMINAL VOLTAGE:	20.4
MINIMUM VOLTAGE:	16

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 18 - 14 AWG = SOLID CONDUCTORS / 12 - 10 AWG = STRANDED CONDUCTORS

		GAUGE	OHM'S
DISTANCE FROM SOURCE TO 1ST DEVICE:	75	14	3.07
WIRE GAUGE FOR BALANCE OF CIRCUIT:		14	3.07

STANDARD WIRE RESISTANCE IN OHMS PER 1000 FEET				
18 = 7.77	16 = 4.89	14 = 3.07	12 = 1.98	10 = 1.24

DEVICE NUMBER	DEVICE DESCRIPTION	DEVICE MFR.	MODEL NUMBER	DEVICE CURRENT	DISTANCE FROM LAST DEVICIE	VOLTAGE AT DEVICIE	VL TG. DROP FROM SOURCE	VOLTAGE % DROP
1	HORN STROBE [CEILING MOUNTED] [110CD]	SIEMENS	SL2HSC(W/R)-F	0.102	75	19.93	0.470	2.30%
2	HORN STROBE [CEILING MOUNTED] [110CD]	SIEMENS	SL2HSC(W/R)-F	0.102	35	19.73	0.667	3.27%
3	HORN STROBE [CEILING MOUNTED] [110CD]	SIEMENS	SL2HSC(W/R)-F	0.102	35	19.56	0.842	4.13%
4	HORN STROBE [CEILING MOUNTED] [110CD]	SIEMENS	SL2HSC(W/R)-F	0.102	35	19.40	0.996	4.88%
5	HORN STROBE [CEILING MOUNTED] [110CD]	SIEMENS	SL2HSC(W/R)-F	0.102	35	19.27	1.127	5.53%
6	HORN STROBE [CEILING MOUNTED] [110CD]	SIEMENS	SL2HSC(W/R)-F	0.102	35	19.16	1.237	6.06%
7	HORN STROBE [CEILING MOUNTED] [110CD]	SIEMENS	SL2HSC(W/R)-F	0.102	35	19.08	1.325	6.49%
8	HORN STROBE [CEILING MOUNTED] [110CD]	SIEMENS	SL2HSC(W/R)-F	0.102	35	19.01	1.390	6.82%
9	HORN STROBE [CEILING MOUNTED] [110CD]	SIEMENS	SL2HSC(W/R)-F	0.102	35	18.97	1.434	7.03%
10	HORN STROBE [CEILING MOUNTED] [110CD]	SIEMENS	SL2HSC(W/R)-F	0.102	35	18.94	1.456	7.14%
TOTAL:				1.020	390	END OF LINE VOLTAGE:		18.94

POINT TO POINT METHOD					
CURRENT	DISTANCE	VOLTAGE DROP	END OF LINE VOLTAGE	PERCENTAGE DROP	CIRCUIT WITHIN LIMITS
1.020	390	1.456	18.94	7.14%	YES

END OF LINE METHOD					
CURRENT	DISTANCE	VOLTAGE DROP	END OF LINE VOLTAGE	PERCENTAGE DROP	CIRCUIT WITHIN LIMITS
1.020	390	2.442	17.96	11.97%	YES

VOLTAGE DROP CALCULATION

FACP #	0	DGP / XPDR #	0
POWER SUPPLY #	1	CIRCUIT #	4

NOMINAL VOLTAGE:	20.4
MINIMUM VOLTAGE:	16

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 18 - 14 AWG = SOLID CONDUCTORS / 12 - 10 AWG = STRANDED CONDUCTORS

		GAUGE	OHM'S
DISTANCE FROM SOURCE TO 1ST DEVICE:	100	14	3.07
WIRE GAUGE FOR BALANCE OF CIRCUIT:		14	3.07

STANDARD WIRE RESISTANCE IN OHMS PER 1000 FEET				
18 = 7.77	16 = 4.89	14 = 3.07	12 = 1.98	10 = 1.24

DEVICE NUMBER	DEVICE DESCRIPTION	DEVICE MFR.	MODEL NUMBER	DEVICE CURRENT	DISTANCE FROM LAST DEVICIE	VOLTAGE AT DEVICIE	VL TG. DROP FROM SOURCE	VOLTAGE % DROP
1	HORN STROBE [CEILING MOUNTED] [110CD]	SIEMENS	SL2HSC(W/R)-F	0.102	100	19.77	0.626	3.07%
2	HORN STROBE [CEILING MOUNTED] [110CD]	SIEMENS	SL2HSC(W/R)-F	0.102	35	19.58	0.824	4.04%
3	HORN STROBE [CEILING MOUNTED] [110CD]	SIEMENS	SL2HSC(W/R)-F	0.102	35	19.40	0.999	4.90%
4	HORN STROBE [CEILING MOUNTED] [110CD]	SIEMENS	SL2HSC(W/R)-F	0.102	35	19.25	1.152	5.65%
5	HORN STROBE [CEILING MOUNTED] [110CD]	SIEMENS	SL2HSC(W/R)-F	0.102	35	19.12	1.284	6.29%
6	HORN STROBE [CEILING MOUNTED] [110CD]	SIEMENS	SL2HSC(W/R)-F	0.102	35	19.01	1.393	6.83%
7	HORN STROBE [CEILING MOUNTED] [110CD]	SIEMENS	SL2HSC(W/R)-F	0.102	35	18.92	1.481	7.26%
8	HORN STROBE [CEILING MOUNTED] [110CD]	SIEMENS	SL2HSC(W/R)-F	0.102	35	18.85	1.547	7.58%
9	HORN STROBE [CEILING MOUNTED] [110CD]	SIEMENS	SL2HSC(W/R)-F	0.102	35	18.81	1.591	7.80%
10	HORN STROBE [CEILING MOUNTED] [110CD]	SIEMENS	SL2HSC(W/R)-F	0.102	35	18.79	1.613	7.91%
TOTAL:				1.020	415	END OF LINE VOLTAGE:		18.79

POINT TO POINT METHOD					
CURRENT	DISTANCE	VOLTAGE DROP	END OF LINE VOLTAGE	PERCENTAGE DROP	CIRCUIT WITHIN LIMITS
1.020	415	1.613	18.79	7.91%	YES

END OF LINE METHOD					
CURRENT	DISTANCE	VOLTAGE DROP	END OF LINE VOLTAGE	PERCENTAGE DROP	CIRCUIT WITHIN LIMITS
1.020	415	2.599	17.80	12.74%	YES