Panel FACP

Total Used Current: (All Circuits)	0.1680A

Point-To-Point Voltage Drop Calculation for Panel FACP Circuit NAC1

Starting Calculation Voltage: 20.4000v Minimum Operational Voltage: 16.0000v
Total Circuit Current: 0.1680A Total Distance: 114.3662'
Voltage Drop: 0.1180v End Of Line Voltage: 20.2820v
Percent Drop: 0.58 % Wire GA=#14 AWG
Distance measured using drawn segment lengths with 10.00 % additional length calculated

Device Label	Part No.	Description	Device Current	Distance From Previous Device	Voltage At Device	Voltage Drop From Source	Voltage Drop Percent
NAC1•01 EOL	P2RK	2-Wire Horn/Strobe outdoor red 75cd	0.1680A	114.3662'	20.2820v	0.1180v	0.58 %

Panel East

Total Used Current: (All Circuits)	3.1640A

Point-To-Point Voltage Drop Calculation for Panel East Circuit AUX

Starting Calculation Voltage: 20.4000v Minimum Operational Voltage: 16.0000v
Total Circuit Current: 0.1200A Total Distance: 1,153.9231'
Voltage Drop: 0.0581v End Of Line Voltage: 20.3419v
Percent Drop: 0.28 % Wire GA=#14 AWG
Distance measured using drawn segment lengths with 10.00 % additional length calculated

Device Label	Part No.	Description	Device Current	Distance From Previous Device	Voltage At Device	Voltage Drop From Source	Voltage Drop Percent
AUX•01	IDP-CONTROL.	Addressable Supervised Control Module	0.0200A	334.4538'	20.3832v	0.0168v	0.08 %
East•AUX•02	IDP-CONTROL.	Addressable Supervised Control Module	0.0200A	258.0536'	20.3702v	0.0298v	0.15 %
East•AUX•03	IDP-CONTROL.	Addressable Supervised Control Module	0.0200A	158.8181'	20.3620v	0.0378v	0.18%
East•AUX•04	IDP-CONTROL.	Addressable Supervised Control Module	0.0200A	120.2203'	20.3560v	0.0439v	0.22 %
East•AUX•05	IDP-CONTROL.	Addressable Supervised Control Module	0.0200A	119.5926'	20.33501v	0.0499v	0.24 %
East•AUX•06	IDP-CONTROL.	Addressable Supervised Control Module	0.0200A	162.7846'	20.3419v	0.0581v	0.28 %

Point-To-Point Voltage Drop Calculation for Panel East Circuit N1

Starting Calculation Voltage: 20.4000v Minimum Operational Voltage: 16.0000v
Total Circuit Current: 1.6400A Total Distance: 505.6977'
Voltage Drop: 3.2132v End Of Line Voltage: 17.1868v
Percent Drop: 15.75 % Wire GA=#14 AWG
Distance measured using drawn segment lengths with 10.00 % additional length calculated

Device Label	Part No.	Description	Device Current	Distance From Previous Device	Voltage At Device	Voltage Drop From Source	Voltage Drop Percent
East•N1•01	P2R	2-Wire Horn/Strobe red 30cd	0.1160A	108.0000'	19.3125v	1.0875v	5.33 %
East•N1•02	PC2RL	2-Wire, Horn Strobe, Red 177cd	0.2540A	56.6199'	18.7827v	1.6173v	7.93 %
East•N1•03	PC2RL	2-Wire, Horn Strobe, Red 177cd	0.2540A	68.2714'	18.2503v	2.1497v	10.54 %
East•N1•04	PC2RL	2-Wire, Horn Strobe, Red 177cd	0.2540A	68.1597'	17.8251v	2.5749v	12.62 %
East•N1•05	PC2RL	2-Wire, Horn Strobe, Red 177cd	0.2540A	68.2156'	17.5059v	2.8941v	14.19 %
East•N1•06	PC2RL	2-Wire, Horn Strobe, Red 177cd	0.2540A	68.2156'	17.2932v	3.1068v	15.23 %
East•N1•07 EOL	PC2RL	2-Wire, Horn Strobe, Red 177cd	0.2540A	68.2156'	17.1868v	3.2132v	15.75 %

Point-To-Point Voltage Drop Calculation for Panel East Circuit N2

Starting Calculation Voltage: 20.4000v Minimum Operational Voltage: 16.0000v
Total Circuit Current: 1.5240A Total Distance: 366.8454'
Voltage Drop: 1.8369v End Of Line Voltage: 18.5631v
Percent Drop: 9.00 % Wire GA=#14 AWG
Distance measured using drawn segment lengths with 10.00 % additional length calculated

Device Label	Part No.	Description	Device Current	Distance From Previous Device	Voltage At Device	Voltage Drop From Source	Voltage Drop Percent
East•N2•01	PC2RL	2-Wire, Horn Strobe, Red 177cd	0.2540A	25.7676'	20.1589v	0.2411v	1.18 %
East•N2•02	PC2RL	2-Wire, Horn Strobe, Red 177cd	0.2540A	68.2156'	19.6270v	0.7730v	3.79 %
East•N2•03	PC2RL	2-Wire, Horn Strobe, Red 177cd	0.2540A	68.2156'	19.2014v	1.1986v	5.88 %
East•N2•04	PC2RL	2-Wire, Horn Strobe, Red 177cd	0.2540A	68.2156'	18.8822v	1.5178v	7.44 %
East•N2•05	PC2RL	2-Wire, Horn Strobe, Red 177cd	0.2540A	68.2156'	18.6695v	1.7305v	8.48 %
East•N2•06 EOL	PC2RL	2-Wire, Horn Strobe, Red 177cd	0.2540A	68.2156'	18.5631v	1.8369v	9.00 %

Panel Middle

Total Used Current: (All Circuits)	6.6030A

Point-To-Point Voltage Drop Calculation for Panel Middle Circuit AUX

Starting Calculation Voltage: 20.4000v Minimum Operational Voltage: 16.0000v
Total Circuit Current: 0.5070A Total Distance: 527.0651'
Voltage Drop: 0.1515v End Of Line Voltage: 20.2000v
Percent Drop: 0.74 % Wire GA=#14 AWG
Distance measured using drawn segment lengths with 10.00 % additional length calculated

Device Label	Part No.	Description	Device Current	Distance From Previous Device	Voltage At Device	Voltage Drop From Source	Voltage Drop Percent
AUX•01	IDP-CONTROL.	Addressable Supervised Control Module	0.0200A	45'-0.0000"	20.3980v	0.0020v	0.01 %
Middle•AUX•02	IDP-CONTROL.	Addressable Supervised Control Module	0.0870A	2'-0.6432"	20.3970v	0.0024v	0.01 %
Middle•AUX•03	FVA-IP	FIKE Video Analytics Camera	0.2000A	180'-0.0000"	20.3091v	0.0909v	0.45 %
Middle•AUX•04	FVA-IP	FIKE Video Analytics Camera	0.2000A	300'-0.0000"	20.2485v	0.1515v	0.74 %

Point-To-Point Voltage Drop Calculation for Panel Middle Circuit N1

Starting Calculation Voltage: 20.4000v Minimum Operational Voltage: 16.0000v
Total Circuit Current: 1.7780A Total Distance: 452.2367'
Voltage Drop: 2.7092v End Of Line Voltage: 17.6908v
Percent Drop: 13.28 % Wire GA=#14 AWG
Distance measured using drawn segment lengths with 10.00 % additional length calculated

Device Label	Part No.	Description	Device Current	Distance From Previous Device	Voltage At Device	Voltage Drop From Source	Voltage Drop Percent
Middle-AUX-01	IDP-CONTROL	Addressable Supervised Control Module					
Middle•N1•01	PC2RL	2-Wire, Horn Strobe, Red 177cd	0.2540A	46.9528'	19.8874v	0.5126v	2.51 %
Middle•N1•02	PC2RL	2-Wire, Horn Strobe, Red 177cd	0.2540A	64.2061'	19.2866v	1.1134v	5.46 %
Middle•N1•03	PC2RL	2-Wire, Horn Strobe, Red 177cd	0.2540A	68.2156'	18.7547v	1.6453v	8.07 %
Middle•N1•04	PC2RL	2-Wire, Horn Strobe, Red 177cd	0.2540A	68.2156'	18.3291v	2.0709v	10.15 %
Middle•N1•05	PC2RL	2-Wire, Horn Strobe, Red 177cd	0.2540A	68.2156'	18.0100v	2.3900v	11.72 %
Middle•N1•06	PC2RL	2-Wire, Horn Strobe, Red 177cd	0.2540A	68.2156'	17.7972v	2.6028v	12.76 %
Middle•N1•07 EOL	PC2RL	2-Wire, Horn Strobe, Red 177cd	0.2540A	68.2156'	17.6908v	2.7092v	13.28 %

Point-To-Point Voltage Drop Calculation for Panel Middle Circuit N2

Starting Calculation Voltage: 20.4000v Minimum Operational Voltage: 16.0000v
Total Circuit Current: 1.2700A Total Distance: 400.5969'
Voltage Drop: 2.0599v End Of Line Voltage: 18.3401v
Percent Drop: 10.10 % Wire GA=#14 AWG
Distance measured using drawn segment lengths with 10.00 % additional length calculated

Device Label	Part No.	Description	Device Current	Distance From Previous Device	Voltage At Device	Voltage Drop From Source	Voltage Drop Percent
Middle•N2•01	PC2RL	2-Wire, Horn Strobe, Red 177cd	0.2540A	127.7347'	19.4040v	0.9960v	4.88 %
Middle•N2•02	PC2RL	2-Wire, Horn Strobe, Red 177cd	0.2540A	68.2156'	18.9784v	1.4216v	6.97 %
Middle•N2•03	PC2RL	2-Wire, Horn Strobe, Red 177cd	0.2540A	68.2156'	18.6592v	1.7408v	8.53 %
Middle•N2•04	PC2RL	2-Wire, Horn Strobe, Red 177cd	0.2540A	68.2156'	18.4465v	1.9535v	9.58 %
Middle•N2•05 EOL	PC2RL	2-Wire, Horn Strobe, Red 177cd	0.2540A	68.2156'	18.3401v	2.0599v	10.10 %

Point-To-Point Voltage Drop Calculation for Panel Middle Circuit N3

Starting Calculation Voltage: 20.4000v Minimum Operational Voltage: 16.0000v
Total Circuit Current: 1.5240A Total Distance: 388.6770'
Voltage Drop: 2.0412v End Of Line Voltage: 18.3588v
Percent Drop: 10.01 % Wire GA=#14 AWG
Distance measured using drawn segment lengths with 10.00 % additional length calculated

Device Label	Part No.	Description	Device Current	Distance From Previous Device	Voltage At Device	Voltage Drop From Source	Voltage Drop Percent
Middle•N3•01	PC2RL	2-Wire, Horn Strobe, Red 177cd	0.2540A	47.5992'	19.9546v	0.4454v	2.18 %
Middle•N3•02	PC2RL	2-Wire, Horn Strobe, Red 177cd	0.2540A	68.2156'	19.4227v	0.9773v	4.79 %
Middle•N3•03	PC2RL	2-Wire, Horn Strobe, Red 177cd	0.2540A	68.2156'	18.9971v	1.4029v	6.88 %
Middle•N3•04	PC2RL	2-Wire, Horn Strobe, Red 177cd	0.2540A	68.2156'	18.6780v	1.7220v	8.44 %
Middle•N3•05	PC2RL	2-Wire, Horn Strobe, Red 177cd	0.2540A	68.2156'	18.4652v	1.9348v	9.48 %
Middle•N3•06 EOL	PC2RL	2-Wire, Horn Strobe, Red 177cd	0.2540A	68.2156'	18.3588v	2.0412v	10.01 %

Point-To-Point Voltage Drop Calculation for Panel Middle Circuit N4

Starting Calculation Voltage: 20.4000v Minimum Operational Voltage: 16.0000v
Total Circuit Current: 1.5240A Total Distance: 461.0438'
Voltage Drop: 2.7184v End Of Line Voltage: 17.6816v
Percent Drop: 13.33 % Wire GA=#14 AWG
Distance measured using drawn segment lengths with 10.00 % additional length calculated

Device Label	Part No.	Description	Device Current	Distance From Previous Device	Voltage At Device	Voltage Drop From Source	Voltage Drop Percent
Middle•N4•01	PC2RL	2-Wire, Horn Strobe, Red 177cd	0.2540A	119.9660'	19.2774v	1.1226v	5.50 %
Middle•N4•02	PC2RL	2-Wire, Horn Strobe, Red 177cd	0.2540A	68.2156'	18.7455v	1.6545v	8.11 %
Middle•N4•03	PC2RL	2-Wire, Horn Strobe, Red 177cd	0.2540A	68.2156'	18.3200v	2.0800v	10.20 %
Middle•N4•04	PC2RL	2-Wire, Horn Strobe, Red 177cd	0.2540A	68.2156'	18.0008v	2.3992v	11.76 %
Middle•N4•05	PC2RL	2-Wire, Horn Strobe, Red 177cd	0.2540A	68.2156'	17.7880v	2.6120v	12.80 %
Middle•N4•06 EOL	PC2RL	2-Wire, Horn Strobe, Red 177cd	0.2540A	68.2156'	17.6816v	2.7184v	13.33 %

Panel West

Total Used Current: (All Circuits)	4.8600A

Point-To-Point Voltage Drop Calculation for Panel West Circuit N1

Starting Calculation Voltage: 20.4000v Minimum Operational Voltage: 16.0000v
Total Circuit Current: 1.3560A Total Distance: 506.4464'
Voltage Drop: 2.8420v End Of Line Voltage: 17.5580v
Percent Drop: 13.93 % Wire GA=#14 AWG
Distance measured using drawn segment lengths with 10.00 % additional length calculated

Device Label	Part No.	Description	Device Current	Distance From Previous Device	Voltage At Device	Voltage Drop From Source	Voltage Drop Percent
West•N1•01	PC2RL	2-Wire, Horn Strobe, Red 177cd	0.2540A	194.4665'	18.7809v	1.6191v	7.94 %
West•N1•02	PC2RL	2-Wire, Horn Strobe, Red 177cd	0.2540A	68.2156'	18.3193v	2.0807v	10.20 %
West•N1•03	PC2RL	2-Wire, Horn Strobe, Red 177cd	0.2540A	68.2156'	17.9642v	2.4358v	11.94 %
West•N1•04	PC2RL	2-Wire, Horn Strobe, Red 177cd	0.2540A	68.2156'	17.7154v	2.6846v	13.16 %
West•N1•05	PC2RL	2-Wire, Horn Strobe, Red 177cd	0.2540A	68.2156'	17.5730v	2.8270v	13.86 %
West•N1•06	SRL	Strobe, Red 15cd	0.0430A	17.4783'	17.5637v	2.8363v	13.90 %
West•N1•07 EOL	SRL	Strobe, Red 15cd	0.0430A	21.6393'	17.5580v	2.8420v	13.93 %

Point-To-Point Voltage Drop Calculation for Panel West Circuit N2

Starting Calculation Voltage: 20.4000v Minimum Operational Voltage: 16.0000v
Total Circuit Current: 0.7100A Total Distance: 173.5281'
Voltage Drop: 0.4297v End Of Line Voltage: 19.9703v
Percent Drop: 2.11 % Wire GA=#14 AWG
Distance measured using drawn segment lengths with 10.00 % additional length calculated

Device Label	Part No.	Description	Device Current	Distance From Previous Device	Voltage At Device	Voltage Drop From Source	Voltage Drop Percent
West•N2•01	P2RL	2-Wire, Horn Strobe, Red 75cd	0.1560A	43.5702'	20.2101v	0.1899v	0.93 %
West•N2•02	SRL	Strobe, Red 15cd	0.0430A	7.5999'	20.1842v	0.2158v	1.06 %
West•N2•03	SRL	Strobe, Red 15cd	0.0430A	10.0457'	20.1527v	0.2473v	1.21 %
West•N2•04	P2RL	2-Wire, Horn Strobe, Red 75cd	0.1560A	18.9863'	20.0981v	0.3019v	1.48 %
West•N2•05	P2RL	2-Wire, Horn Strobe, Red 75cd	0.1560A	40.1748'	20.0212v	0.3788v	1.86 %
West•N2•06 EOL	P2RL	2-Wire, Horn Strobe, Red 75cd	0.1560A	53.1512'	19.9703v	0.4297v	2.11 %

Point-To-Point Voltage Drop Calculation for Panel West Circuit N3

Starting Calculation Voltage: 20.4000v Minimum Operational Voltage: 16.0000v
Total Circuit Current: 1.5240A Total Distance: 470.9421'
Voltage Drop: 2.6959v End Of Line Voltage: 17.7041v
Percent Drop: 13.22 % Wire GA=#14 AWG
Distance measured using drawn segment lengths with 10.00 % additional length calculated

Device Label	Part No.	Description	Device Current	Distance From Previous Device	Voltage At Device	Voltage Drop From Source	Voltage Drop Percent
West•N3•01	PC2RL	2-Wire, Horn Strobe, Red 177cd	0.2540A	56.6208'	19.8702v	0.5298v	2.60 %
West•N3•02	PC2RL	2-Wire, Horn Strobe, Red 177cd	0.2540A	141.4591'	18.7671v	1.6329v	8.00 %
West•N3•03	PC2RL	2-Wire, Horn Strobe, Red 177cd	0.2540A	68.2156'	18.3416v	2.0584v	10.09 %
West•N3•04	PC2RL	2-Wire, Horn Strobe, Red 177cd	0.2540A	67.6627'	18.0250v	2.3750v	11.64 %
West•N3•05	PC2RL	2-Wire, Horn Strobe, Red 177cd	0.2540A	68.7684'	17.8105v	2.5895v	12.69 %
West•N3•06 EOL	PC2RL	2-Wire, Horn Strobe, Red 177cd	0.2540A	68.2156'	17.7041v	2.6959v	13.22 %

Point-To-Point Voltage Drop Calculation for Panel West Circuit N4

Starting Calculation Voltage: 20.4000v Minimum Operational Voltage: 16.0000v
Total Circuit Current: 1.2700A Total Distance: 403.0856'
Voltage Drop: 2.0793v End Of Line Voltage: 18.3207v
Percent Drop: 10.19 % Wire GA=#14 AWG
Distance measured using drawn segment lengths with 10.00 % additional length calculated

Device Label	Part No.	Description	Device Current	Distance From Previous Device	Voltage At Device	Voltage Drop From Source	Voltage Drop Percent
West•N4•01	PC2RL	2-Wire, Horn Strobe, Red 177cd	0.2540A	130.2233'	19.3845v	1.0155v	4.98 %
West•N4•02	PC2RL	2-Wire, Horn Strobe, Red 177cd	0.2540A	68.2156'	18.9590v	1.4410v	7.06 %
West•N4•03	PC2RL	2-Wire, Horn Strobe, Red 177cd	0.2540A	68.2156'	18.6398v	1.7602v	8.63 %
West•N4•04	PC2RL	2-Wire, Horn Strobe, Red 177cd	0.2540A	68.2156'	18.4271v	1.9729v	9.67 %
West•N4•05 EOL	PC2RL	2-Wire, Horn Strobe, Red 177cd	0.2540A	68.2156'	18.3207v	2.0793v	10.19 %

PANEL FACP (IFP-300 (IDP).) BATTERY CALCULATION

SECONDARY POWER SOURCE REQUIREMENTS

PANEL COMPONENTS	QTY	PART NO	DESCRIPTION	STANDBY CURRENT (AMPS) CURRENT DRAW (A)	STANDBY CURRENT (AMPS) TOTAL (A)	SECONDARY ALARM CURRENT (AMPS) CURRENT DRAW (A)	SECONDARY ALARM CURRENT (AMPS) TOTAL
	1	IFP-300 MAIN BOARD.	FIRE ALARM CONTROL PANEL MAIN BOARD IDP PROTOCOL	1 x 0.19	= 0.19	1 x 0.25	= 0.25

CIRCUIT	SYMBOL	QTY	PART NO	DESCRIPTION	CURRENT DRAW (A)	TOTAL (A)	CURRENT DRAW (A)	TOTAL (A)
FACP•ANN	FAA	3	RA-1000	IntelliKnight Remote Annunciator	3 x 0.02	= 0.06	3 x 0.025	= 0.075
FACP-M33	D	28	DNR w/IDP-PHOTOR W	Duct Detector No Relay	28 x 0.0003	= 0.0084	28 x 0.0065	= 0.182
	IC	9	IDP-CONTROL.	Addressable Supervised Control Module	9 x 0.00055	= 0.00495	9 x 0.00055	= 0.00495
	MM	5	IDP-MINIMON	Mini Contact Modules for Monitoring Dry Contacts	5 x 0.00035	= 0.00175	5 x 0.00035	= 0.00175
	MM	9	IDP-MONITOR-10	ADDRESSABLE 10 Point MONITOR MODULE	9 x 0.00	= 0.00	9 x 0.00	= 0.00
	MM 10	1	IDP-MONITOR-10	ADDRESSABLE 10 Point MONITOR MODULE	1 x 0.0035	= 0.0035	1 x 0.0035	= 0.0035
	MM	24	IDP-MONITOR-2	ADDRESSABLE DUAL MONITOR MODULE	24 x 0.00	= 0.00	24 x 0.00	= 0.00
	MM	24	IDP-MONITOR-2	ADDRESSABLE DUAL MONITOR MODULE	24 x 0.0003	= 0.0072	24 x 0.0003	= 0.0072
	P	8	IDP-PHOTO w/B300-6 W Base	Analog Smoke Detectors	8 x 0.0003	= 0.0024	8 x 0.0003	= 0.0024
	F	6	IDP-PULL-DA w/IDP-MINIMON	Pull Station, Addressable, Dual Action	6 x 0.00035	= 0.0021	6 x 0.00035	= 0.0021
	R	17	IDP-RELAY	Addressable Relay Output Module	17 x 0.00025	= 0.00425	17 x 0.00025	= 0.00425
	CELL	1	SLE/LTE-CFB-PS	Wireless Commercial Fire Alarm Communicator w/Minimon	1 x 0.00035	= 0.00035	1 x 0.00035	= 0.00035
FACP•NAC1	WP	1	P2RK	2-Wire Horn/Strobe outdoor red 75cd	1 x 0.00	= 0.00	1 x 0.168	= 0.168
					TOTAL STANDBY (A)	0.2849	TOTAL ALARM (A)	0.7015

		REQUIRED STANDBY TIME = 24.00 HOURS	
		REQUIRED ALARM TIME = 5 MINUTES	
SECONDARY STANDBY LOAD	0.2849	x 24.00	= 6.8376 AH
SECONDARY ALARM LOAD	0.7015	x 0.0833	= 0.0585 AH
STANDBY AND ALARM LOAD SUBTOTAL		6.8961 AH	
DERATING FACTOR		x 1.20	
SECONDARY LOAD REQUIREMENTS (AMP HOURS)		8.2753 AH	
PROVIDE (2) 12V 12AH BATTERIES @ 24VDC			

PANEL EAST (5495) BATTERY CALCULATION

SECONDARY POWER SOURCE REQUIREMENTS

PANEL COMPONENTS	QTY	PART NO	DESCRIPTION	STANDBY CURRENT (AMPS) CURRENT DRAW (A)	STANDBY CURRENT (AMPS) TOTAL (A)	SECONDARY ALARM CURRENT (AMPS) CURRENT DRAW (A)	SECONDARY ALARM CURRENT (AMPS) TOTAL
	1	5495 MAIN BOARD	5495 6A Distributed Power Module Main Board	1 x 0.075	= 0.075	1 x 0.205	= 0.205

CIRCUIT	SYMBOL	QTY	PART NO	DESCRIPTION	CURRENT DRAW (A)	TOTAL (A)	CURRENT DRAW (A)	TOTAL (A)
East•AUX	IC	6	IDP-CONTROL.	Addressable Supervised Control Module	6 x 0.00	= 0.00	6 x 0.02	= 0.12
East•N1		1	P2R	2-Wire Horn/Strobe red 30cd	1 x 0.00	= 0.00	1 x 0.116	= 0.116
		6	PC2RL	2-Wire, Horn Strobe, Red 177cd	6 x 0.00	= 0.00	6 x 0.254	= 1.524
East•N2		6	PC2RL	2-Wire, Horn Strobe, Red 177cd	6 x 0.00	= 0.00	6 x 0.254	= 1.524
					TOTAL STANDBY (A)	0.075	TOTAL ALARM (A)	3.4890

		REQUIRED STANDBY TIME = 24.00 HOURS	
		REQUIRED ALARM TIME = 5 MINUTES	
SECONDARY STANDBY LOAD	0.075	x 24.00	= 1.80 AH
SECONDARY ALARM LOAD	3.4890	x 0.0833	= 0.2906 AH
STANDBY AND ALARM LOAD SUBTOTAL		2.0906 AH	
DERATING FACTOR		x 1.20	
SECONDARY LOAD REQUIREMENTS (AMP HOURS)		2.5087 AH	
PROVIDE (2) 12V 7AH BATTERIES @ 24VDC			

PANEL MIDDLE (5495) BATTERY CALCULATION

SECONDARY POWER SOURCE REQUIREMENTS

PANEL COMPONENTS	QTY	PART NO	DESCRIPTION	STANDBY CURRENT (AMPS) CURRENT DRAW (A)	STANDBY CURRENT (AMPS) TOTAL (A)	SECONDARY ALARM CURRENT (AMPS) CURRENT DRAW (A)	SECONDARY ALARM CURRENT (AMPS) TOTAL
	1	5495 MAIN BOARD	5495 6A Distributed Power Module Main Board	1 x 0.075	= 0.075	1 x 0.205	= 0.205

CIRCUIT	SYMBOL	QTY	PART NO	DESCRIPTION	CURRENT DRAW (A)	TOTAL (A)	CURRENT DRAW (A)	TOTAL (A)
Middle AUX		4	MULTI	IDP Control/FIKE Cameras	2 x 0.20	= 0.40	4 x .1268	= 0.5070
Middle•N1		7	PC2RL	2-Wire, Horn Strobe, Red 177cd	7 x 0.00	= 0.00	7 x 0.254	= 1.778
Middle•N2		5	PC2RL	2-Wire, Horn Strobe, Red 177cd	5 x 0.00	= 0.00	5 x 0.254	= 1.27
Middle•N3		6	PC2RL	2-Wire, Horn Strobe, Red 177cd	6 x 0.00	= 0.00	6 x 0.254	= 1.524
Middle•N4		6	PC2RL	2-Wire, Horn Strobe, Red 177cd	6 x 0.00	= 0.00	6 x 0.254	= 1.524
					TOTAL STANDBY (A)	0.4750	TOTAL ALARM (A)	6.8080

		REQUIRED STANDBY TIME = 24.00 HOURS	
		REQUIRED ALARM TIME = 5 MINUTES	
SECONDARY STANDBY LOAD	0.4750	x 24.00	= 11.40 AH
SECONDARY ALARM LOAD	6.8080	x 0.0833	= 0.5671 AH
STANDBY AND ALARM LOAD SUBTOTAL		11.9671 AH	
DERATING FACTOR		x 1.20	
SECONDARY LOAD REQUIREMENTS (AMP HOURS)		14.3605 AH	
PROVIDE (2) 12V 18AH BATTERIES @ 24VDC			

PANEL WEST (5495) BATTERY CALCULATION

SECONDARY POWER SOURCE REQUIREMENTS

PANEL COMPONENTS	QTY	PART NO	DESCRIPTION	STANDBY CURRENT (AMPS) CURRENT DRAW (A)	STANDBY CURRENT (AMPS) TOTAL (A)	SECONDARY ALARM CURRENT (AMPS) CURRENT DRAW (A)	SECONDARY ALARM CURRENT (AMPS) TOTAL
	1	5495 MAIN BOARD	5495 6A Distributed Power Module Main Board	1 x 0.075	= 0.075	1 x 0.205	= 0.205

CIRCUIT	SYMBOL	QTY	PART NO	DESCRIPTION	CURRENT DRAW (A)	TOTAL (A)	CURRENT DRAW (A)	TOTAL (A)
West•N1		5	PC2RL	2-Wire, Horn Strobe, Red 177cd	5 x 0.00	= 0.00	5 x 0.254	= 1.27
		2	SRL	Strobe, Red 15cd	2 x 0.00	= 0.00	2 x 0.043	= 0.086
West•N2		4	P2RL	2-Wire, Horn Strobe, Red 75cd	4 x 0.00	= 0.00	4 x 0.156	= 0.624
		2	SRL	Strobe, Red 15cd	2 x 0.00	= 0.00	2 x 0.043	= 0.086
West•N3		6	PC2RL	2-Wire, Horn Strobe, Red 177cd	6 x 0.00	= 0.00	6 x 0.254	= 1.524
West•N4		5	PC2RL	2-Wire, Horn Strobe, Red 177cd	5 x 0.00	= 0.00	5 x 0.254	= 1.27
					TOTAL STANDBY (A)	0.075	TOTAL ALARM (A)	5.065

		REQUIRED STANDBY TIME = 24.00 HOURS	
		REQUIRED ALARM TIME = 5 MINUTES	
SECONDARY STANDBY LOAD	0.075	x 24.00	= 1.80 AH
SECONDARY ALARM LOAD	5.065	x 0.0833	= 0.4221 AH
STANDBY AND ALARM LOAD SUBTOTAL		2.2221 AH	
DERATING FACTOR		x 1.20	
SECONDARY LOAD REQUIREMENTS (AMP HOURS)		2.6665 AH	
PROVIDE (2) 12V 7AH BATTERIES @ 24VDC			

CABLE AND WIRE LEGEND

LABEL	PART NO	AWG	RESISTANCE (Ω/Mft)	DESCRIPTION	TOTAL LENGTH
14/2	994	14	3.07	2 COND. SOLID COPPER FPLR ANALOG UNSHIELDED	5,422.8346'
16/2	990	16	4.89	2 COND. SOLID COPPER FPLR ANALOG UNSHIELDED	7,395.7531'
16/4	992	16	4.89	4 COND. SOLID COPPER FPLR ANALOG UNSHIELDED	1,572.1550'

TITLE: FIRE ALARM SYSTEM PLAN

SYSTEMS INC
SPECIALISTS
432 US Hwy 72 Suite 3, Collierville, TN 38017
(901)854-0510
TN-C1472/QA-0358

This Fire Alarm System shall be installed in compliance with: NFPA72, 2013 ed, and all wiring shall comply with NFPA70, Article 760.

LAST REVISION: 2/18/2021
BY: RGG
CHECKED BY: PEH

FA-4
Sheet 4 of 7