

PANEL F1 (IPA-4000) BATTERY CALCULATION (SECONDARY POWER SOURCE REQUIREMENTS)							
PANEL COMPONENTS		STANDBY CURRENT		SECONDARY ALARM CURRENT			
		QTY	PART NO.	DESCRIPTION	CURRENT DRAW (A)	TOTAL (A)	TOTAL (A)
		1	IPA-4000 MAIN BOARD	MAIN BOARD FOR IPA-4000 FIRE ALARM CONTROL PANEL	0.13	0.13	0.22
		1	UD-2000	UD-2000 PFC SERIES DIGITAL ALARM COMMUNICATOR TRANSMITTER	0.016	0.016	0.023
CIRCUIT	SYMBOL	QTY	PART NO.	DESCRIPTION	CURRENT DRAW (A)	TOTAL (A)	TOTAL (A)
F1-L1		1	PAD100-DIM	DUAL INPUT MODULE	0.00024	0.00024	0.00024
		3	PAD100-SIM	SINGLE INPUT MODULE	0.00024	0.00072	0.00072
		4	PAD300-HD WIPAD300-6DB	HEAT DETECTOR WITH 6" STANDARD BASE	0.0003	0.0012	0.0012
		1	PAD300-PD WIPAD300-6DB	PHOTOELECTRIC SMOKE DETECTOR WITH 6" STANDARD BASE	0.0003	0.0003	0.0003
F1-N1		1	HS-24WR-WP	OUTDOOR HORN STROBE, FIXED 75 CANDELA, STANDARD ENCLOSURE, RED 75CD	0	0	0.140
F1-N2		3	HS-24WR-WP	OUTDOOR HORN STROBE, FIXED 75 CANDELA, STANDARD ENCLOSURE, RED 75CD	0	0	0.420
F1-N3		6	PE-LFHSW	LED LOW PROFILE HORN STROBE, LOW FREQUENCY, 177 CANDELA, WHITE 177CD	0	0	0.256
		4	PE-STW	LED STROBE, 24 VDC, WHITE 15CD	0	0	0.088
F1-N4		12	PE-LFHNV	LOW PROFILE HORN, LOW FREQUENCY, WHITE	0	0	0.098
F1-N5		12	PE-LFHNV	LOW PROFILE HORN, LOW FREQUENCY, WHITE	0	0	0.098
F1-OACT		1	INTELLICOM-5GV	5G LTE-M DUAL PATH COMMERCIAL FIRE ALARM COMMUNICATOR (VERIZON)	0	0	0
					TOTAL STANDBY (A)	0.14846	TOTAL ALARM (A)
					REQUIRED STANDBY TIME (HOURS)		24
					REQUIRED ALARM TIME (MINUTES)		5
					SECONDARY STANDBY LOAD (A)	0.14846	24
					SECONDARY ALARM LOAD (A)		3.56
					STANDBY AND ALARM SUBTOTAL (AMP HOURS)	4.78	0.398
					DERATING FACTOR		1.25
					SECONDARY LOAD REQUIREMENTS (AMP HOURS)		4.95
PROVIDE (2) 12V 8AH BATTERIES							

LUMP SUM REPORT SUMMARY																			
SOURCE	CIRCUIT	PART NO	MAX. CARD CURRENT (A)	TOTAL CARD CURRENT (A)	SPARE CARD CURRENT (A)	SPARE CARD CURRENT %	MAX. CIRCUIT CURRENT (A)	TOTAL CIRCUIT CURRENT (A)	SPARE CIRCUIT CURRENT (A)	SPARE CIRCUIT CURRENT %	WIRE GAUGE	WIRE RESISTANCE (OHM/FT)	TOTAL CIRCUIT LENGTH (FT)	TOTAL CIRCUIT RESISTANCE (Ω)	STARTING CALCULATION VOLTAGE	MIN. OPERATIONAL VOLTAGE	MAX. VOLTAGE DROP	END OF LINE VOLTAGE	VOLTAGE DROP
F1 (IPA-4000)	N1	IPA-4000 MAIN BOARD	10	4.44	5.56	55.59 %	3	0.112	2.89	96.27 %	14	2.60	47	0.24474	20.40	16	0.03	20.37	0.13 %
	N2						3	0.336	2.66	88.80 %	14	2.60	129	0.669	20.40	16	0.22	20.18	1.10 %
	N3						3	1.82	1.38	45.87 %	14	2.60	183	0.949	20.40	16	1.54	18.86	7.56 %
	N4						3	1.18	1.82	60.80 %	14	2.60	297	1.54	20.40	16	1.82	18.58	8.91 %
	N5						3	1.18	1.82	60.80 %	14	2.60	346	1.80	20.40	16	2.12	18.28	10.28 %
CALCULATION METHODS:																			
TOTAL RESISTANCE (Ω) = WIRE RESISTANCE (Ω/FT) X 2 X TOTAL CIRCUIT LENGTH (FT)																			
TOTAL VOLTAGE DROP = TOTAL RESISTANCE (Ω) X TOTAL CIRCUIT CURRENT (A)																			

KEY NOTES	
1	JUNCTION BOXES IN BATHROOMS ARE FOR FUTURE ADA ADAPTABILITY.

