



IPA-60
Battery & Voltage Drop
Calculations

Project Name: Standby Hours:
 Alarm Mins:
 Installed By: Batt Efficiency:
 Designed By: SLC Type:
 Date: NAC Source Voltage:

Model #: IPA-60

Max Panel Current (amps): 5

Panel ID:

User assumes all responsibility to ensure the quantities and current draw values in this worksheet are accurate prior to submittal.

Location:

Qty	FACP Part #	Description	Standby (amps)		Alarm (amps)	
			Each	Total	Each	Total
1	IPA-60	Analog Addressable FACP	0.130	0.130	0.220	0.220
			Panel Standby:	0.130	Panel Alarm:	0.220

P-LINK (RS-485)			Standby		Alarm	
	MC-1000	Multi-Connect Expander	0.010		0.010	
1	UD-1000	DACT Card	0.016	0.016	0.023	0.023
	RA-6075R	LCD Annunciator	0.020		0.025	
1	RA-6500R(F)	Flush Mount LCD Annunciator	0.020	0.020	0.050	0.050
	LED-16(F)	Flush Mount LED Annunciator	0.025		0.025	
	LED-16	LED Annunciator LED Power*	0.015		0.210	
	CA-6075	Class A Module	0.012		0.044	
	PSN-1000(E)	Power Expander	0.015		0.015	
	PAD100-SLCE-127	SLC Expander	0.060		0.060	
	NOHMI-SLCE-127*	SLC Expander	0.060		0.060	
	RLY-5	Relay Expander	0.025		0.035	
	RLY-5	Relay Expander Power*	0.010		0.135	
	DRV-50	LED Driver Module	0.025		0.025	
	DRV-50	LED Driver Module LED Power*	0.010		0.215	
	FCB-1000	Fire Communications Bridge	0.025		0.025	
	FIB-1000	Fiber Interface Board	0.030		0.030	
	SPG-1000	Serial Parallel Gateway	0.040		0.040	

* REQUIRED IF USING NOHMI PROTOCOL SLC DEVICES

(Maximum current draw on P-Link limited to 1 Amp)

P-LINK Standby: 0.036 P-LINK Alarm: 0.073

*Only enter quantity if PLINK power is being used to power devices

SLC Devices			Standby		Alarm	
15	PAD100-PD	Analog Photo Smoke	0.000300	0.004500	0.000300	0.004500
	PAD100-PHD	Analog Photo Smoke/Heat	0.000300		0.000300	
	PAD100-HD	Analog Fixed Temp Heat	0.000300		0.000300	
5	PAD100-CD	Analog Carbon Monoxide Detector	0.000300	0.001500	0.000300	0.001500
	PAD100-DUCT	Addressable Duct Detector	0.000300		0.000300	
	PAD100-DRTS	Duct Remote Test Switch	0.010000		0.015000	
	PAD100-DUCTR*	Addressable Duct Detector w/Relay	0.000500		0.000500	
10	PAD100-PSSA/PSDA	Addressable Pull Station Single/Dual Action	0.000200	0.002000	0.000200	0.002000
15	PAD100-MIM	Micro Input Module	0.000200	0.003000	0.000200	0.003000
	PAD100-SIM	Single Input Module	0.000240		0.000240	
2	PAD100-DIM	Dual Input Module	0.000240	0.000480	0.000240	0.000480
	PAD100-RM	Relay Module	0.000240		0.000240	
	PAD100-OROI	One Relay One Input Module	0.000240		0.000240	
	PAD100-TRTI	Two Relay Two Input Module	0.000240		0.000240	
	PAD100-ZM*	Conventional Zone Module	0.000240		0.000240	
	PAD100-NAC*	Notification Appliance Circuit	0.000200		0.000200	
	PAD100-SM	Speaker Module	0.000240		0.000240	
	PAD100-IM	Isolator Module	0.000150		0.000150	
	PAD100-LED	LED Module	0.000240		0.000240	
	PAD100-LEDK	Addressable LED w/ Key Switch	0.000200		0.000200	
	PAD100-SB*	Addressable Sounder Base	0.000200		0.000200	
	PAD100-RB	Addressable Relay Base	0.000200		0.000200	
	PAD100-IB	Addressable Isolator Base	0.000150		0.000150	
	PSA	Analog Photo Smoke	0.000325		0.000325	
	PSHA	Analog Photo Smoke/Heat	0.000325		0.000325	
	RHA	Analog Rate of Rise Heat	0.000325		0.000325	
	FHA	Analog Fixed Temp Heat	0.000325		0.000325	
	DDA	Addressable Duct Detector	0.000325		0.000325	
	APS-SA/APS-DA	Addressable Pull Station Single/Dual Action	0.000325		0.000325	
	MCM	Mini Contact Input Module	0.000325		0.000325	
	SCM-4	Single Contact Input Module	0.000325		0.001000	
	DCM-4	Dual Contact Input Module	0.000325		0.001000	
	TRM-4	Twin Relay Output Module	0.000325		0.001000	
	CIZM-4 *	Conventional Zone Input Mod	0.000325		0.001000	
	MOM-4 *	Monitored Output Module	0.000325		0.001000	
	ARB *	Detector Base w/Relay	0.000325		0.000325	
	ASB *	Detector Base w/Sounder	0.000325		0.000325	
	SCI **	Short Circuit Isolator (Class A)	0.000325		0.002340	
	AIB **	Detector Base w/Isolator (Class A)	0.000325		0.002340	
	IM/IB/SCI/AIB Class B **	Current Draw from Install Manual	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

	SLC Loop Alarm LED Current	0.000000	0.000000	0.036000	0.036000
*	Requires Aux Power (Configure Below)	SLC Standby:	0.011480	SLC Alarm:	0.047480
**	See the installation manual for special considerations when installing AIB, SCI devices on Class B loops.				

NAC Circuits (See NAC Configuration below)			Standby (amps)	Alarm (amps)
Ckt	Use	Description	Total	Total
1			0.00000	2.00000
2			0.00000	3.00000
			NAC Standby: 0.00000	NAC Alarm: 5.00000

I/O Circuits (See I/O Configuration below)			Standby (amps)	Alarm (amps)
Ckt	Use	Description	Total	Total
1			0.00000	0.00000
2			0.00000	0.00000
			I/O Standby: 0.00000	I/O Alarm: 0.00000

Battery Calculation Summary			Standby (amps)	Alarm (amps)
Panel Current:			0.13000	0.22000
P-Link Current:			0.03600	0.07300
SLC Device Current:			0.01148	0.04748
NAC Circuit Current:			0.00000	5.00000
I/O Circuit Current:			0.00000	0.00000
Total Standby:			0.177480	Total Alarm: 5.34048
Standby Hours:			24	Alarm Mins: 5
AH Required:			4.26	AH Required: 0.45
Total Combined Standby & Alarm AmpHours Required:			4.71	
Efficiency Factor:			80%	
Required Battery AmpHours:			5.89	
Battery AmpHours Provided:				

Note: The cabinet will house two 8 AH or 18 AH batteries. The charging circuit is rated for up to two 55 AH batteries.

SLC Loop Type: Class B
 Device Addresses Used: 47
 Device Addresses Available: 60

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