FIRE-LITE ALARMS

MS-9050UD Battery Calculation

Regulated Load in Standby

Device Type	Number of Devices		Current (Amps)		Total Current (Amps)
Main Circuit Board	1	x	0.120000	=	0.120000
4XTMF	0	x	0.005000	=	
IPDACT-2	0	x	0.093000	=	
IPDACT-2/2UD	0	x	0.098000	=	
4-Wire Smoke Detectors [1]	0	x	0.000000	=	
Power Supervision Relays [2]	0	x	0.025000	=	
ANN-80 (-W)	1	x	0.015000	=	0.015000
ANN-(R)LED	0	x	0.028000	=	
ANN-I/O	0	x	0.035000	=	
ANN-I/O LEDs	0	x	0.000000	=	
ANN-S/PG	0	x	0.045000	=	
ANN-RLY	0	x	0.015000	=	
Addressable Devices					
BEAM355 and BEAM355S	0	x	0.002000	=	
BEAM 1224	0	x	0.017000	=	
CP355	0	x	0.000300	=	
SD355	8	x	0.000300	=	0.002400
SD355T	0	x	0.000300	=	
AD355	0	x	0.000300	=	
H355	0	x	0.000300	=	
H355R	2	x	0.000300	=	0.000600
H355HT	0	x	0.000300	=	
D350P	0	x	0.000300	=	
D350RP	0	x	0.000300	=	
D355PL	0	x	0.000300	=	
MMF-300	0	x	0.000400	=	
MMF-300-10	0	x	0.003500	=	
MDF-300	0	x	0.000750	=	
MMF-301	0	x	0.000375	=	
MMF-302	0	x	0.000270	=	
MMF-302-6	0	x	0.002000	=	
BG-12LX	2	x	0.000230	=	0.000460
CMF-300	0	x	0.000390	=	
CMF-300-6	0	x	0.002250	=	
CRF-300	0	x	0.000270	=	
CRF-300-6	0	x	0.001450	=	
I300	0	x	0.000400	=	
B501BH & B501BHT [3]	0	x	0.001000	=	
B224RB Relay Base	0	x	0.000500	=	
B224BI Isolator Base	0	x	0.000450	=	
B200SR Sounder Base	0	x	0.000500	=	
CDRM-300	0	x	0.001300	=	
Current Draw from TB3 - EIA-485			0.000000		
			[4] Total Standby Load		**0.138460**

Notes:

1) Refer to the Device Compatibility Document for standby current

2) Must use compatible listed Power Supervision Relay

3) Maximum alarm current for each sounder base is 0.015 amps which must be supplied by aux. 24VDC source.

4) Total current draw listed cannot exceed 2.7 amps

FIRE-LITE ALARMS

MS-9050UD Battery Calculation

Regulated Load in ALARM

Device Type	Number of Devices		Current (Amps)		Total Current (Amps)
Main Circuit Board	1	x	0.200000	=	0.200000
4XTMF [1]	0	x	0.011000	=	
IPDACT-2	0	x	0.136000	=	
IPDACT-2/2UD	0	x	0.155000	=	
4-Wire Smoke Detectors	0	x	0.000000	=	
Power Supervision Relays	0	x	0.000000	=	
ANN-80 (-W)	1	x	0.040000	=	0.040000
ANN-(R)LED	0	x	0.068000	=	
ANN-I/O	0	x	0.200000	=	
ANN-I/O LEDs	0	x	0.010000	=	
ANN-S/PG	0	x	0.045000	=	
ANN-RLY	0	x	0.075000		
ALL Addressable Devices - Maximum draw	1	x	0.400000	=	0.400000
NAC #1 [2]	1	x	0.140000	=	0.140000
NAC #2	1	x	0.247000	=	0.247000
Current Draw from TB3 - EIA-485			0.000000	=	
				[3]Total Alarm Load	**1.027000**

Notes:

1) If using the Reverse Polarity Alarm output, add 0.005 amps; if using the Reverse Polarity Trouble output, add another 0.005 amps.

2) Current limitations for NAC circuits TB1 is 2.5 amps per circuit

3) Total alarm current cannot exceed 2.7 amps

FIRE-LITE ALARMS

MS-9050UD Battery Calculation

Note 1: You can edit all current draws and are **fully responsible for verifying these calculations.**
Note 2: You only need to make entries in the **yellow** cells

Calculation in Total Sheet

Use the total standby and alarm load currents calculated in tables A-2A and A-2B for the following battery calculations

			Required Standby Time in Hours (24 or 60 Hrs.)		
Standby Load Current (Amps)	0.138460	x	24	=	3.323 AH
			Required Alarm Time in Hours (5 minutes = 0.084)		
Alarm Load Current (Amps)	1.027000	x	0.084	=	0.086 AH
			Total Current Load		**3.409 AH**
		Multiply by the Derating Factor	1.2	=	x 1.20
			Total Ampere Hours Required		**4.091 AH**

Battery Check
The MS-9050UD can charge this size battery
The batteries can be stored in the cabinet

Current Draw Check
NAC#1 current is within the limitations of the circuit.
NAC#2 current is within the limitations of the circuit.
MS-9050UD current draw: The required output current is within the panel's limitations

Job Name: Cumberland County Washl...

Cumberland County Federa...

1345 Washington Avenue

Portland, ME 04103

AHJ: City of Portland Fire Department

Prepared By:

Circuit Information

Panel Name: MS9050 Fire Lite Addre...

Circuit Name: NAC #1

Starting Voltage: Starting Voltage = 20.4

(1) amp circuit

Class B @ 14 AWG

DC 24 - volt Supply

Type and Model	Candela	Current (Amps)	Tone and Volume	Dist from last device	Dist from source (ft)	12	14	16	18
Strobe SCR	15	0.066		20	20	20.370	20.352	20.324	20.279
Strobe SCR	15	0.066		20	40	20.345	20.313	20.261	20.180
Strobe SCR	15	0.066		20	60	20.326	20.282	20.212	20.101
Horn/Strobe P2R	75	0.176	Temporal, High	20	80	20.312	20.260	20.176	20.044
Total current/amps 0.374	Total Dist:80				voltage drop	0.088	0.140	0.224	0.356

SYSTEM SENSOR

Circuit Information

Panel Name: MS9050 Fire Lite Addre...
Circuit Name: NAC #2
Starting Voltage: Starting Voltage = 20.4

(1) amp circuit
Class B @ 14 AWG
DC 24 - volt Supply

Type and Model	Candela	Current (Amps)	Tone and Volume	Dist from last device	Dist from source (ft)	12	14	16	18
Horn/Strobe P2R	75	0.176	Temporal, High	25	25	20.340	20.305	20.249	20.160
Horn/Strobe P2R	75	0.176	Temporal, High	25	50	20.298	20.239	20.143	19.991
Horn/Strobe P2R	75	0.176	Temporal, High	50	100	20.250	20.161	20.020	19.796
Strobe SR	15	0.066		20	120	20.244	20.153	20.007	19.774
Total current/amps 0.594	Total Dist:120				voltage drop	0.156	0.247	0.393	0.626