MS 2 / MS 4 Battery Calculation Chart

Since the current draws listed here can be edited, the user is fully responsible for verifying these calculations.

Entries only to be made in the Yellow cell locations

Regulated Load in Standby

	Device Type		Qty	X	[Current Draw]	=	Total	
	Main Circuit Board							
	MS 2 (1 MAX)			X	0.080	=	0.000	
	MS 4 (1 MAX)		1	X	0.085	=	0.085	
	CAC-4 (1 MAX)			X	0.001	=	0.000	
	4XTMF (1 MAX)			X	0.005	=	0.000	
	4XZMF (1 MAX)			X	0.004	=	0.000	
	4XLMF/RZA-4XF (1 PAIR MAX)		1	X	0.004	=	0.004	
(note 3)	2 wire Detector Heads		1	X	.050	=	0.050	
(note 4)	4 wire Detector Heads			X		=	0.000	
(note 5)	Power Supervision Relays			X		=	0.000	
(note 6)	NAC #1							
	NAC#2							
(note 7)	Current Draw from TB1 (non-alarm)			X	.109	=	0.109	
	Total Regulated Standby Load					=	**0.248**	

	Entries only to be made in the Yellow cell locations							
	Regulated Load in Alarm							
	Device Type		**Qty**	**X**	**[Current Draw]**	**=**	**Total**	
	Main Circuit Board							
(note 1)	MS 2 (1 MAX)		0	X	0.112	=	0.000	
(note 1)	MS 4 (1 MAX)		1	X	0.175	=	0.175	
	CAC-4 (1 MAX)		0	X	0.001	=	0.000	
(note 2)	4XTMF (1 MAX)		0	X	0.011	=	0.000	
	4XZMF (1 MAX)		0	X	0.008	=	0.000	
	4XLMF/RZA-4XF (1 PAIR MAX)		1	X	0.019	=	0.019	
(note 3)	2 wire Detector Heads		1	X	0.130	=	0.130	
(note 4)	4 wire Detector Heads		0	X		=	0.000	
(note 5)	Power Supervision Relays		0	X		=	0.000	
(note 6)	NAC #1		3	X	0.121	=	0.363	
	NAC#2		4	X	0.121	=	0.484	
(note 7)	Current Draw from TB1 (non-alarm)			X	0.161	=	0.161	
	Total Regulated Alarm Load					=	**1.332**	

Total Secondary Power Requirements at 24 DC						
				Required Standby Time (24 or 60 hours)		
Total Regulated Standby Load	0.248	X		24	=	5.95 AH
				Required Alarm Time for 5 min enter .084, for 10 mins, enter 0.168		
Total Regulated Alarm Load	1.332	X		.084	=	0.112 AH
Sum of Standby and Alarm Ampere Hours						6.064 AH
Muiltiply by the Derating Factor					X	1.200 AH
Battery Size/Total Amperes Required						**7.277** AH

Battery Check		
	The panel is capable of charging the selected batteries.	
	You can house your batteries in the fire panel.	

Current Draw Check	Total System Current (Alarm + Standby)	1.580
If using the MS-2, your total current output is:		Within the current limitations of the panel
If using the MS-4 without optional transformer, your total current output is:		Within the current limitations of the panel
If using the MS-4 **WITH** the optional transformer, your total current output is:		Within the current limitations of the panel

Footnotes

Note 1 The current shown represents one zone on the main circuit board in alarm.

Note 2 If using the Reverse Polarity Alarm output, add 0.005 amps; if using the Reverse Polarity Trouble output add another 0.005 amps.

Note 3 Refer to the Device Compatibility Document for standby and alarm current.

Note 4 Refer to the Device Compatibility Document for standby and alarm current.

Note 5 Must use compatible listed Power Supervision Relay.

Note 6 Current limitations of Terminal TB2 circuits is 2.50 amps per NAC (MS 4 requires optional tranformer for max current of 5 amps.)

Note 7 The total standby current must include both the resettable (TB1 Terminals 3&4) and non-resettable for MS-4 only (TB1 Terminals 1&2 power. Caution must be taken to ensure that current drawn from these outputs during alarm does not exceed maximum ratings specified. Current Limitations of TB1, Terminals 1&2 = 0.500 amps, filtered 24 VDC +/- 5%, 120 Hz ripple @ 10mVRMS, non-resettable power and TB1 Terminals 3&4 = 0.500 amps, filtered 24VDC+/- 5%, 120Hz ripple @10mVRMS, resettable power.

Note 8 Total current draw for the MS-2 or MS-4(without optional transformer cannot exceed 3.0 amps. Total current draw for the MS-4 with standard, and optional transformer cannot exceed 6.0 amps.