

MS-5210UD Battery Calculation

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

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Device Type	Number of Devices		Current (Amps)		Total Current (Amps)
Main Circuit Board	1	X	0.138	=	0.138
LED-10IM (maximum one)		X	0.017	=	0
LED-10		X	0.023	=	0
CAC-10F (maximum one)		X	0.004	=	0
NAC-REM		X	0.002	=	0
4-Wire Smoke Detectors		X		=	0
Power Supervision Relays		X	0.025	=	0
Programmable Relays		X		=	0
2-Wire Smoke Detectors		X		=	0
Additional Current drawn from TB2 (standby)		X		=	
SUM COLUMN FOR STANDBY LOAD			0.138	=	AMPS

Note:

- 1) Refer to the Device Compatibility Document for 2-wire smoke detector standby current.
- 2) Must use compatible listed Power Supervision Relay.

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Regulated Load in ALARM

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Device Type	Number of Devices		Current (Amps)		Total Current (Amps)
Main Circuit Board	1	X	0.245	=	0.245
LED-10IM (maximum One)	0	X	0.017	=	0

LED-10	0	X	0.04	=	0
CAC-10F (maximum one)	0	X	0.02	=	0
4-Wire Smoke Detectors	0	X		=	0
Power Supervision Relays	0	X	0.025	=	0
Programmable Relays	0	X		=	0
2-Wire Smoke Detectors	0	X		=	0
Notification Appliances (note 5)		X		=	0
Additional Current drawn from TB2 (alarm current)		X		=	0
SUM COLUMN FOR LOAD IN ALARM			0.245	=	AMPS

Notes:

1) Current limitations of terminals:

- TB2, Terminals 1 and 2 = 0.500 amp, regulated filtered, 24VDC +/- 5%, 120HZ ripple @ 10 mVRMS.

Nonresettable Power.

- TB2, Terminals 3 and 4 = 0.500 amp, regulated filtered, 24VDC +/- 5%, 120HZ ripple @ 10 mVRMS.

Resettable Power.

2) Total current draw listed above cannot exceed:

- 3.6 amps with standard transformer installed (only).
- 6.6 amps with both the standard and optional transformers installed.

3) Must use compatible listed Power Supervision Relay.

4) The current shown represents one zone on the Main Circuit Board in alarm. For all ten zones in alarm, the current draw increases to 0.590 amps with communicator off and 0.610 amps with communicator on.

5) Current draw on NAC's 1,2,3 or 4 **cannot** exceed 3 amps (NAC's 3&4 only available with optional NAC-RI

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Calculation in Total Sheet

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

Standby Load Current (Amps)	0.138	X	Required Standby Time in Hours (24 or 60 Hrs.)	
			24	= 3.312
Alarm Load Current (Amps)	0.245	X	Required Alarm Time in Hours (5 minutes = 0.084)	
			0.084	= 0.02058
Add Standby and Alarm Load for Required Ampere Hour Battery				3.33258
Multiply by the Derating Factor of 1.2				
Total Ampere Hours Required				= 3.999096

Battery Check

The batteries can be housed in the panel cabinet
 The panel is capable of charging the required batteries

Current Draw Check

MS 5210UD without XRM-24	The total NAC output current is within the limitations of the panel
MS 5210UD with XRM-24	The total NAC output current is within the limitations of the panel

EM module)