

PowerSeries Neo v1.1 Standby Battery Calculation Charts

The enclosed battery calculation charts are for use with the following models: HS2016, HS2032, HS2064, HS2128
Use this document in conjunction with the PowerSeries Neo Reference Manual available online from the DSC website at www.dsc.com.

Alarm Controller Battery Capacity Calculation

To calculate the minimum battery size, perform the following steps:

1. Using Table 1-1, identify the type of installation.
2. Refer to Table 1-2.
3. Using the table calculate standby current.
4. Calculate alarm current.
5. Calculate the battery capacity required.
6. Refer to Table 1-2 again to confirm the required battery size.

Table 1-1 Agency requirements by installation type

	UL Resi Burg ULC Resi Burg	UL Com Burg	UL Resi Fire UL Home Health Care ULC Resi Fire ULC Com Burg	ULC Fire Monitoring	EN50131 2/Class II	Grade
Max. Aux Current Loading	1A	1A	0.5A	0.5A	0.5A	
Battery Capacity Requirements	7Ah	7Ah	14Ah (2x7Ah in parallel)	14Ah (2x7Ah in parallel)	7Ah	
Standby Time	4 hours	4 hours	24 hours	24 hours	12 hours	
Alarm Time	4 minutes	15 minutes	4 min (UL resi fire) 5 min (Home Health Care and ULC Resi Fire)	5 minutes (Alarm Transmission only)	N/A	
Recharging Setting* Current	low (400mA)	low (400mA)	high (700mA)	high (700mA)	high (700mA)	

* with high current battery charge option enabled: [982] bit 1.

Battery Selection Chart

Calculate the battery capacity (B) and use the following table to determine the battery required to support the main panel in standby mode for

- 4 hours (UL commercial burglary/residential burglary),
- 12 hours (EN50131),
- 24 hours (UL/ULC residential fire, ULC commercial burglary, ULC commercial fire monitoring - no bell load allowed; INCERT [Belgium]) or
- 36 hours (NFA2P [France]).

The battery size is measured in amp hours (Ah). The current values in the table denote the maximum current draw permitted to achieve the desired standby time with the listed battery types.

Table 1-2 Standby Battery Guide

Battery Size	Desired Standby Time			
	4h	12h	24h	36h
4Ah	700mA	-----	-----	-----
7Ah	700mA	500mA	250mA	-----
14Ah (use 2 x 7Ah batteries connected in parallel, UL/ULC installations only)	700mA		470mA	-----
18Ah	-----	-----	-----	350mA
26Ah	-----	-----	-----	550mA

Note: Battery capacity deteriorates with age and the number of charge/discharge cycles. Replace every 3-5 years.

Complete the following chart to find (A), complete the following formula to find the battery capacity (B) and Table 1-2.

(Total standby current _____ mA (A) x Standby time _____ hours) + (Alarm current x Alarm time _____ hours) = _____ Ah (B)

Note: CORBUS/AUX/PCLINK/PGM outputs are all shared. Total standby current must not exceed 700mA. In the following list below if x = 9 (the system operates in 912-919MHz), 4 (the system operates in 433MHz band) or 8 (the system operates in 868MHz band). This current must be added to the total Corbus current. See manufacturer's specifications for the current draw of each device.

PowerSeries Neo v1.1 Standby Battery Calculation Charts

	Item	Current (mA)		Quantity		Total Standby (mA)
Corbus	HS2016/HS2032/HS2064/HS2128	85	x	1	=	85
	HS2LCD	105	x		=	
	HS2ICN	105	x		=	
	HS2LED	105	x		=	
	HS2LCDP	105	x		=	
	HS2ICNP	105	x		=	
	HS2LCDRF9x	105	x		=	
	HS2LCDRFP9x	105	x		=	
	HS2ICNRF9x	105	x		=	
	HS2ICNRF9x	105	x		=	
	HS2TCHP	160	x		=	
	Current required for connected devices		x	1	=	
	HSM2108*	30	x		=	
	AUX output current of HSM2108 (100mA max)		x	1	=	
	HSM2208 *	40	x		=	
	AUX output current of HSM2208 (250mA max)		x	1	=	
	HSM2300/2204	40	x		=	
	HSM2HOSTx	35	x		=	
	HSM2955**		x		=	
	Aux	PGM1 (50mA max)		x	1	=
PGM2 (300mA max)			x	1	=	
PGM3 (50mA max)			x	1	=	
PGM4 (50mA max)			x	1	=	
Other Devices			x	1	=	
Communicator	3G208(R)/TL2803G(R)/TL280(R)	125 (PCLINK)	X		=	
Total Standby - 700 mA max (add above currents)						(A)

*These units draw current from the Corbus to power devices external to the module. ** For HSM2955 current draw refer to HSM2955 installation manual.

HSM2300/2204 Aux Output Calculation

To calculate the minimum battery size, complete the following table to find **(A)**, complete the following formula to find **(B)** and refer to Battery Selection Chart on page 4.

(Total current _____ mA **(A)** x Standby time _____ hours) + (Total current **(A)** x Alarm time _____ hours) = _____ Ah **(B)**

Note: In the following list below, if x = 9 (the system operates in 912-919MHz), 4 (the system operates in 433MHz band) or 8 (the system operates in 868MHz band).

Note: *These units draw current from the Corbus to power devices external to the module. This current must be added to the total Corbus current. See manufacturer's specifications for the current draw of each device.

Note: ** For HSM2955 current draw refer to HSM2955 installation manual.

	Item	Current (mA)		Quantity		Total Standby (mA)	
Aux	HSM2300/2204	40	x		=		
	HS2LCD	105					
	HS2ICN	105	x		=		
	HS2LED	105	x		=		
	HS2LCDP	105	x		=		
	HS2ICNP	105	x		=		
	HS2LCDRF9x	105	x		=		
	HS2LCDRFP9x	105	x		=		
	HS2ICNRF9x	105	x		=		
	HS2ICNRFP9x	105	x		=		
	HS2TCHP	160	x				
	Current required for connected devices			x	1	=	
	HSM2108*	30	x			=	
	AUX output current of HSM2108 (100mA max)			x	1	=	
	HSM2208 *	40	x			=	
	AUX output current of HSM2208 (250mA max)			x	1	=	
HSM2HOSTx	35	x			=		
HSM2955**			x		=		
Bell	Bells, sirens and etc..		x	1	=		
Communicator	3G208(R)/TL2803G(R)/TL280(R)	125 (PCLINK)	X		=		
Total Standby - (for max mA see following table)						(A)	

Table 2-1 HSM2300/2204 Ratings

HSM2300/2204 Current Draw 40mA	UL Resi Burg ULC Resi Burg	UL Com Burg	UL Resi Fire Care ULC Resi Burg	UL Home Health Fire ULC Com	ULC Fire Monitoring	EN50131 Grade 2/Class II
Max. Aux Current Loading	1A	1A	0.5A		0.5A	0.5A
UL/ULC Listed Enclosure	PC500C	CMC- 1 PC4050CAR	PC5003C		PC5003C (when used with a hardwired transformer in an electrical box) PC4050CR (red/transformer mounted inside)	PC5003C Power UC1

Transformer Requirements	16.5V, 40VA (plug-in type) PTC1640U (USA) PTC1640CG (CND)			FTC3716 (cUL listed) 16.5V/37VA (Hardwired type, mounted inside the enclosure or outside using electrical box)	16.5V/40VA (hardwired type, mounted inside the cabinet)
Battery capacity Requirements	7Ah	7Ah	14Ah (2x7Ah in parallel)	14Ah (2x7Ah in parallel)	7Ah
Standby Time	4 hours	4 hours	24 hours	24 hours	12 hours
Alarm Time	4 minutes	15 minutes	4 min (UL resi fire) 5 min (Home Health Care and ULC Resi Fire)	5 minutes (Alarm Transmission only)	N/A
Recharging current setting	low (400mA)	low (400mA)	high (700mA)	high (700mA)	high (700mA)

Battery Selection Chart

After calculating the battery capacity (B) for each specific installation, use the following table to determine the battery required to support the main panel in standby mode for

- 4 hours (UL commercial burglary/residential burglary),
- 12 hours (EN50131),
- 24 hours (UL/ULC residential fire, ULC commercial burglary, ULC commercial fire monitoring - no bell load allowed; INCERT [Belgium]) or
- 36 hours (NFA2P [France]).

The battery size is measured in amp hours (Ah). The current values in the table denote the maximum current draw permitted to achieve the desired standby time with the listed battery types.

Table 2-2 Standby Battery Guide

Battery Size	Desired Standby Time			
	4h	12h	24h	36h
4Ah	700mA	-----	-----	-----
7Ah	700mA	500mA	250mA	-----
14Ah (use 2 x 7Ah batteries connected in parallel, UL/ULC installations only)	700mA		470mA	-----
18Ah	-----	-----	-----	300mA*
26Ah	-----	-----	-----	500mA*

* use 2 x 7Ah batteries connected in parallel, UL/ULC installations only

Note: Battery capacity deteriorates with age and the number of charge/discharge cycles. Replace every 3-5 years.

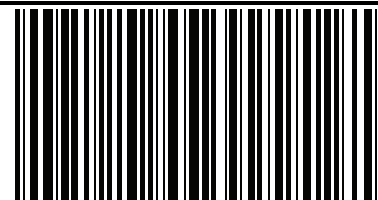
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