TALKAPHONE

NFPA 72 (2022 Edition) Battery Calculations
AOR-5 and AOR-10
Area of Refuge Systems

ITEM	DESCRIPTION	STANDBY CURRENT PER UNIT (AMPS)		QUANTITY		STANDBY CURRENT PER UNIT (AMPS)	ALARM CURRENT PER UNIT (AMPS)		QUANTITY		ALARM CURRENT PER UNIT (AMPS)
A	AOR-10	0.192	x	1		0.192	0.585	x	1		0.585
B	AOR-CS Station *	none **	x	10		none **		x	10		0
		TOTAL SYSTEM STANDBY CURRENT (AMPS)				0.192	TOTAL SYSTEM ALARM CURRENT (AMPS)				0.585

***** AOR-CS Stations (analog telephones) are line powered through the AOR-5/AOR-10 Command Unit and do not draw current when on-hook.
****** When on-hook, AOR-CS Stations do not draw current--when off-hook, typical draw is 24V at 20mA.

Required Operating Time of Secondary Power Source per NFPA 72 10.6.7.2.1:

STANDBY:	24	Hours		ALARM:	240	Minutes	x	1/60	=	4	Hours

REQUIRED STANDBY TIME (HOURS)		TOTAL SYSTEM STANDBY CURRENT (AMPS)		REQUIRED STANDBY CAPACITY (AMP-HOURS)	REQUIRED ALARM TIME (HOURS)		TOTAL SYSTEM ALARM CURRENT (AMPS)		REQUIRED ALARM CAPACITY (AMP-HOURS)
24	x	0.192	=	**4.608**	4	x	0.585	=	**2.34**

REQUIRED STANDBY CAPACITY (AMP-HOURS)		REQUIRED ALARM CAPACITY (AMP-HOURS)		REQUIRED STANDBY CAPACITY (AMP-HOURS)		FACTOR OF SAFETY		REQUIRED BATTERY CAPACITY (AMP-HOURS)
4.608	+	2.34	=	**6.948**	x	1.25	=	**8.685**

RECHARGE REQUIREMENT (AMP-HOURS)		RECHARGE RATE (AMP-HOURS)		RECHARGE TIME (HOURS)
8.685	÷	0.25	=	**34.74**

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