

Features

Rechargeable, sealed lead-acid batteries

- Lead-calcium grid structure with immobilized electrolyte in absorbent separator
- Low maintenance with no need to add water
- Low self-discharge characteristics
- One-piece, high-impact polystyrene cell cover with high-reliability dual-seal construction
- UL 924 recognized pressure relief valves

Battery sizes

- Batteries for internal mounting from 6.2 Ah to 50 Ah
- Larger batteries, up to 110 Ah, for mounting in external battery cabinets. Models with internal chargers are available.

Battery cabinets with chargers

Battery cabinets with chargers communicate with their connected fire alarm control unit (FACU) and are available for 4100ES/4010ES/4100U Series and 4010 Series FACUs.

Description

Simplex rechargeable sealed-lead acid batteries provide reliable and repeatable discharge and recharge characteristics for use in fire alarm and other systems applications. They feature immobilized electrolyte in an absorbent separator, which provides rated capacity on the first cycle.

Because of their sealed construction, packaging is possible within the system electronics enclosure, see [Figure 3](#). When this is applicable, the quantity of system cabinets and the battery wiring distances are minimized. Where required, external battery cabinets can be close-nipped to the FACU to house larger batteries with battery chargers available in some battery cabinet sizes.

Battery details

Charging: Compatible with Simplex battery chargers.

Series connections: Connect the batteries in series to produce 24 V system voltage. Battery sets must be of identical voltage, model number, appearance, and have approximately the same date of manufacture for optimal operation.

Testing: Test battery capacity with a sealed lead-acid battery tester to withdraw a minimum of battery charge. Testing is available through your local Simplex product supplier.

Shipping: Sealed lead-acid batteries only ship by ground or sea transportation.

Disposal: Battery chemicals and materials can be recycled. Refer to information shipped with the battery or on its case. Return to the manufacturer or to a similarly qualified battery processing facility for proper disposal.

Seismic activity applications: Battery brackets are available for systems tested for compliance with specific batteries. Refer to data sheet *S2081-0019* for details.

Figure 1: Compatible sealed lead-acid batteries inside an FACU cabinet

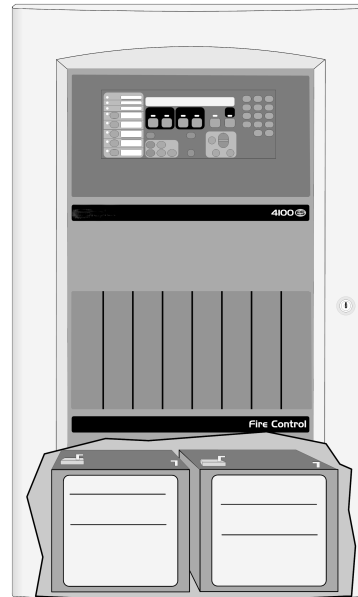
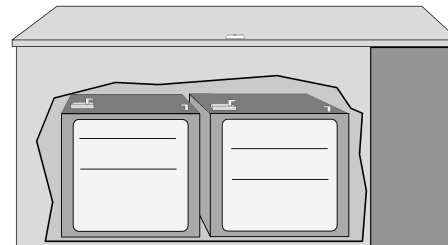


Figure 2: A remote battery cabinet for larger battery requirements

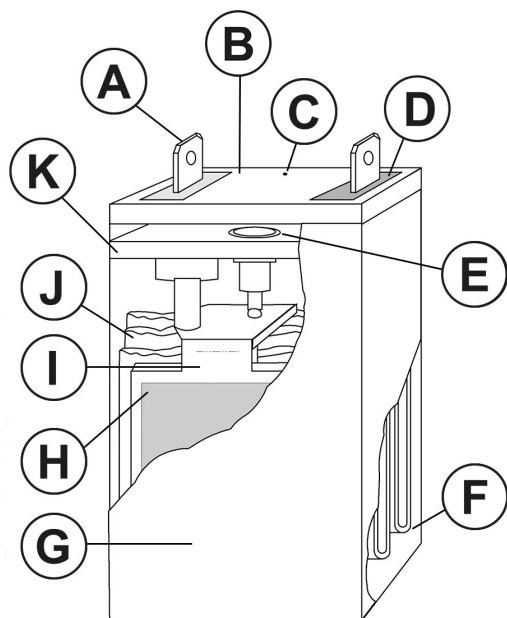


* Refer to page 4 for battery charger and cabinet agency listings. The batteries detailed in this document meet the requirements of UL, ULC, and Factory Mutual for use with respective equipment battery chargers as listed below. Contact your local Simplex product supplier for proper battery selection per system requirements. Listings and approvals under Simplex Time Recorder Co. are the property of Tyco Fire Protection Products.

Battery construction reference

Actual appearance varies with battery size.

Figure 3: Battery construction reference



Callout	Description	Callout	Description
A	Quick connect or post type terminal. Type varies with battery size.	B	Sealed outer cover
C	Vent hole	D	Potting material, black for negative, red for positive. Polarity is also clearly marked with + and -.
E	Pressure relief valve	F	Semi-permeable membrane separator
G	Cell case, high impact polystyrene	H	Lead-calcium grids
I	Cell group	J	Absorbent separator used to immobilize electrolyte
K	Inner cover	-	-

Battery size specifications

Battery model	Capacity at 20 hour discharge rate	Width*	Depth*	Height with terminals	Approximate weight*
2081-9272	6.2 Ah	6.12 in. (156 mm)	2.65 in. (68 mm)	4 in. (102 mm)	5.75 lb (2.6 kg)
2081-9286	7.0 Ah	6.12 in. (156 mm)	2.65 in. (68 mm)	4 in. (102 mm)	5.75 lb (2.6 kg)
2081-9274	10 Ah	6 in. (153 mm)	4.06 in. (103 mm)	4 in. (102 mm)	9.2 lb (4.2 kg)
2081-9288	12.7 Ah	6 in. (153 mm)	4 in. (102 mm)	4 in. (102 mm)	9 lb (4.1 kg)
2081-9275	18 Ah	7.25 in. (184 mm)	3.38 in. (86 mm)	6.63 in. (168 mm)	14.3 lb (6.5 kg)
2081-9287	25 Ah	6.63 in. (168 mm)	5 in. (127 mm)	7 in. (178 mm)	19.4 lb (8.8 kg)
2081-9271 (rectangular case, typically for service)	33 Ah	12.5 in. (318 mm)	3.38 in. (86 mm)	7.06 in. (179 mm)	26.6 lb (12.1 kg)
2081-9276 (square case, use for new)	33 Ah	7.75 in. (197 mm)	5.25 in. (133 mm)	6.75 in. (171 mm)	26.5 lb (12 kg)
2081-9296	50 Ah	9 in. (229 mm)	5.5 in. (140 mm)	8.88 in. (225 mm)	41.8 lb (19 kg)
2081-9279	110 Ah	11.38 in. (289 mm)	10.5 in. (267 mm)	9 in. (230 mm)	82 lb (37 kg)

* Dimensions and weight are per battery and are for reference only. Exact size may vary. Refer to [Battery compatibility for FACU mounting](#) and [External battery cabinet compatibility reference](#) for mounting compatibility. Batteries are 12 V each and connected in series for 24 V system use.

Note: When wired in series for 24 V output, these batteries are to be of identical voltage, appearance, model number, and have approximately the same date of manufacture.

General battery specifications

Specifications	
Nominal Voltage Rating	12 V
Discharge Rating	20 hour rate
Typical Charge/Discharge Cycles	100 cycles to 150 cycles
Preferred Charge Temperature Range	60°F to 90°F (15.6°C to 32.2°C)

Battery compatibility for FACU mounting

Note: Refer to individual FACU product data sheets for additional battery application information.

Table 1: Battery compatibility for FACU mounting

Simplex FACU model series										
Battery Model	Capacity	4003EC	4004R	4007ES & 4005	4006 & 4008	4009 (all models)	4010	4010ES	4100ES/ 4100U	4100 & 4120 (2, 4 or 6-Unit)
2081-9272	6.2 Ah	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2081-9286	7.0 Ah	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2081-9274	10 Ah	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2081-9288	12.7 Ah	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2081-9275	18 Ah	Ext	Note 3	Yes	Ext	Ext	Note 2	Yes	Yes	Yes
2081-9287	25 Ah	Ext	Note 3	Ext	Ext	N/A	Yes	Yes	Yes	Yes
2081-9271 rectangular	33 Ah	Ext	Note 3	Ext	N/A	N/A	Note 3	Yes	Yes	Ext
2081-9276 square	33 Ah	Ext	Note 3	N/A	N/A	N/A	Note 3	Yes	Yes	Yes
2081-9296	50 Ah	N/A	Note 3	N/A	N/A	N/A	Note 3	Note 4	2 or 3 bay	Ext
2081-9279	110 Ah	Requires external battery cabinet, compatible with 4100ES, 4010ES, 4100, and 4120 Series only								

Yes = Compatible with included FACU cabinet.

Ext = Requires external battery cabinet, refer to [External battery cabinet specification reference](#).

Note:

- These batteries meet the requirements of UL, ULC, and Factory Mutual for use with respective equipment battery chargers listed above. Contact your local Simplex product supplier for proper battery selection per system requirements.
- 4010 Cabinets accommodate 2081-9275, 18 Ah batteries, but do not allow bottom entry conduit.
- Use 4081 series companion cabinet and charger, refer to [External battery cabinet specification reference](#).
- For two bay cabinets only, 50 Ah batteries will fit in the cabinet.

External battery cabinet compatibility reference

Table 2: External battery cabinet compatibility reference

Battery cabinets without chargers, connected to FACU charger							
Cabinet	Panel compatibility	Battery					
		2081-9275 18 Ah*	2081-9287 18 Ah*	2081-9271 Rectangular 33 Ah	2081-9276 Square 33 Ah	2081-9296 50 Ah	2081-9279 110 Ah
2081-9280	4100ES, 4010ES, 4100U, and 4100+	N/A	N/A	N/A	N/A	N/A	Yes
2081-9281	multiple	Yes	Yes	Yes	Yes	Yes	N/A
2081-9282		Yes	Yes	Yes	Yes	Yes	N/A
4009-9801	multiple	Yes	Yes**	N/A	Yes	N/A	N/A

Table 3: External battery cabinet compatibility reference

Battery cabinets with chargers							
Cabinet	Panel compatibility	Battery					
		2081-9275 18 Ah*	2081-9287 18 Ah*	2081-9271 Rectangular 33 Ah	2081-9276 Square 33 Ah	2081-9296 Square 50 Ah	2081-9279 110 Ah
4081-9301	4004R and 4010	Yes	Yes	Yes	Yes	Yes	N/A
4081-9302		Yes	Yes	Yes	Yes	Yes	N/A
4081-9306	4100ES, 4010ES and 4100U	N/A	N/A	N/A	N/A	Yes	Yes
4081-9308		N/A	N/A	N/A	N/A	Yes	Yes

* Batteries smaller than those listed are normally mounted in the product cabinet

** 25 AH capacity is effective as of 7/2005

Yes = Compatible with included FACU cabinet

External battery cabinet specification reference

Table 4: Battery cabinets without chargers, shallow design with front door

Model	Color	Listings	Description		Dimensions
2081-9281	Beige	UL and CSFM	2-Unit, 4100 style cabinet without charger; with locking solid door and battery shelf, primarily for use with 50 Ah batteries		25.75 in. W x 20.75 in. H x 6.75 in. D (654 mm x 527 mm x 171 mm)
2081-9282	Red	UL			
4003-9860*	Beige	FM	For use with 4003EC systems, for batteries up to 33 Ah (refer to 4003EC data sheet S4003-0002)		9.5 in. H x 24 in. W x 9 in. D (241 mm x 610 mm x 229 mm)
4009-9801*	Beige	UL, ULC, and FM	For batteries up to 33 Ah	External battery cabinet without charger, with locking solid door and battery harness; for close-nippled mounting to FACU cabinet	16.25 in. W x 13.5 in. H x 5.75 in. D (413 mm x 343 mm x 146 mm)*

* Depth increased for 2081-9276 square 33 Ah batteries effective 7/2005.

Table 5: Battery cabinet without charger, deep design with hinged lid

Model	Color	Listings	Description	Dimensions
2081-9270	Red	UL	Battery cabinet without charger; cabinet has vented front, and hinged lid with support rod and lock on top	26.5 in. W x 12 in. H x 12 in. D (673 mm x 305 mm x 305 mm)

Table 6: Chargers for use with 4010 FACUs and 4004R suppression release systems, refer to data sheet S4081-0001

Model	Color	Listings	Input voltage	Description	Dimensions
4081-9301	Beige	UL and FM	120 VAC	Battery cabinet with charger for the 4010 and 4004R FACU, for batteries up to 50 Ah, with front door	22.5 in. W x 16.75 in. H x 8.38 in. D (572 mm x 425 mm x 213 mm)
4081-9302	Red				

Table 7: Battery cabinet without charger for 110 Ah batteries, for use with compatible FACU mounted chargers, refer to data sheet S2081-0012

Model and listing	Color	Listings	Cabinet description	Compatible chargers	Charger description	Dimensions
2081-9280	Red	UL, ULC, CSFM	Battery cabinet without charger for 2081-9279, 110 Ah batteries. Includes 80 A battery fuse, terminals and battery connection cables. See data sheet for details.	4100-9xxx Series	4100ES/4100U Power Supplies for Master Controller/CPU Bays	26.5 in. W x 12 in. H x 12 in. D (673 mm x 305 mm x 305 mm)
				4100-5401	4100ES Additional ES Power Supply (ES-PS)	
				4100-5111	4100ES/4100U Additional SPS	
				4100-5113		
				4100-5311	4100ES Additional EPS+	
				4100-5327	4100ES Additional EPS	
				4100-5125	4100ES/4100U Remote Power Supply (RPS)	
				4100-5127		
				4100-0104	4100 legacy power supplies	
				4100-0114		
				4100-0124		

Table 8: Battery cabinet with charger for 110 Ah batteries, for use with compatible FACU mounted chargers, refer to data sheet S2081-0012

Model	Color	Listings	Input voltage	Description	Dimensions
4081-9306	Red	UL, ULC, FM, MEA (NYC)	120 VAC	Battery cabinet with charger for batteries up to 110 Ah	27.88 in. W x 13.5 in. H x 14.63 in. D (708 mm x 343 mm x 371 mm)
4081-9308	Red	UL, ULC, FM	220/230/240 VAC, multi-tapped		