

**NCR SEISMIC ZONE 4
BATTERY SYSTEMS**

PowerSafe™

Battery Systems

The EnerSys® NCR rack is an ideal solution for critical applications requiring high energy density, high reliability and NEBS compliance.

The NEBS certified rack is a six shelf, fully welded structure.

EnerSys' NEBS certified Seismic Zone 4 rack can house up to six 48V strings or twelve 24V strings of batteries.

The rack houses PowerSafe™ V and SBS front terminal battery models. Both types are known for long life and reliability.

SBS battery types also offer unequalled energy density.

PowerSafe V and SBS battery systems can be customized to meet the specific power requirement at each remote terminal or small central office.

Multi-string systems are a viable and more reliable alternative to large single cell modular batteries.

System features:

- NEBS compliant
- High energy density
- Pre-wired for quick installation
- Front terminals for easy maintenance
- Redundant strings for high reliability



48V 1,140Ah System
Six Strings of SBS190F



PowerSafe™ V-VX Types

Internationally, recognized for quality, performance and long life.

PowerSafe™ SBS Types

Has the same reputation for quality, performance and long life plus *higher energy density and lower weight.*



Battery Performance and Floor Loading Data

PowerSafe™ V Battery Performance

Nominal Performance for V Front Terminal Models at 77°F (25°C)

Model	End Vpc	Constant Current Discharge Rates							
		1 Hr	2 Hrs	3 Hrs	4 Hrs	5 Hrs	8 Hrs	9 Hrs	10 Hrs
12V100F	1.75	66.3	38.6	27.9	22.0	18.4	12.5	11.3	10.4
12VX100F	1.75	66.3	38.6	27.9	22.0	18.4	12.5	11.3	10.4
12V125F	1.75	85.4	48.7	35.1	29.1	23.3	16.0	14.8	12.7
12V155FS	1.75	107.7	62.3	44.4	34.9	28.9	19.4	17.5	15.9
12V170F	1.75	118.2	67.0	47.8	37.5	31.2	21.3	19.2	17.4

Model	End Vpc	Constant Power Discharge Rates (Watts per Cell)							
		1 Hr	2 Hrs	3 Hrs	4 Hrs	5 Hrs	8 Hrs	9 Hrs	10 Hrs
12V100F	1.75	124.4	72.9	52.8	42.5	35.6	24.4	22.1	20.3
12VX100F	1.75	124.4	72.9	52.8	42.5	35.6	24.4	22.1	20.3
12V125F	1.75	163.5	94.9	68.6	58.6	45.5	31.3	28.0	25.2
12V155FS	1.75	206.3	119.4	86.0	67.7	56.2	37.7	34.1	31.1
12V170F	1.75	223.9	129.3	92.6	73.2	60.8	41.5	37.6	34.2

PowerSafe™ SBS Battery Performance

Nominal Performance for SBS Models at 77°F (25°C)

Model	End Vpc	Constant Current Discharge Rates							
		1 Hr	2 Hrs	3 Hrs	4 Hrs	5 Hrs	8 Hrs	9 Hrs	10 Hrs
SBS170F	1.75	123.2	72.0	50.7	39.4	32.3	21.4	18.9	17.4
SBS190F	1.75	137.7	80.5	56.7	44.1	36.1	23.9	21.3	19.5

Model	End Vpc	Constant Power Discharge Rates (Watts per Cell)							
		1 Hr	2 Hrs	3 Hrs	4 Hrs	5 Hrs	8 Hrs	9 Hrs	10 Hrs
SBS170F	1.75	240.0	142.1	100.8	78.6	64.5	43.2	38.0	34.9
SBS190F	1.75	280.0	162.2	115.0	89.7	73.6	48.3	43.0	39.0

Battery Capacities and Floor Loading

Battery Model	Rack Weight lbs	Battery Capacities				Floor Loading lbs/ft ²	
		Srings 48V / 24V	Ah Per String	Max Ah/48V System	Max Ah/24V System	Full System Load	Load Factor
12V100F	450	6 / 12	100	600	1,200	686	97
12VX100F	450	6 / 12	100	600	1,200	686	97
12V125F	450	6 / 12	130	780	1,560	788	114
12V155FS	450	6 / 12	155	930	1,860	800	116
12V170F	450	6 / 12	170	1,020	2,040	923	136
SBS170F	450	6 / 12	170	1,020	2,040	745	107
SBS190F	450	6 / 12	190	1,140	2,280	837	122

Floor loading correction for partially loaded rack:

Rack dimensions: 26" W x 24" D x 84" H, base plate area is 624 in² or 4.33 ft²

Floor Loading = Full System Load - (Load Factor x No. of Empty Shelves)

Example: System comprising of 4 strings of 12V170F

Floor loading = 923 - (136 x 2) = 923 - 272 = 651 lbs/ft²

Battery System Part Numbers

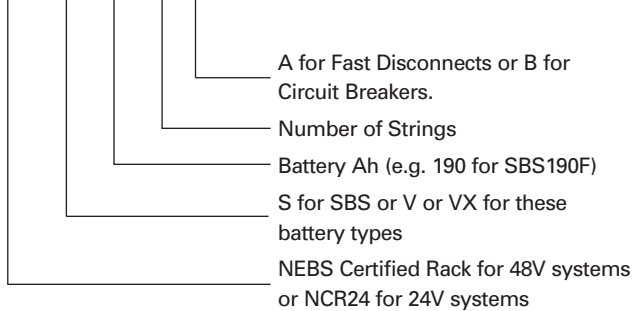
Standard systems are:

- 48V - Hot or live negative with positive ground
- +24V - Hot or live positive with negative ground

The racks are pre-wired for fast and easy installation and maintenance. To ensure maximum safety during installation and maintenance each string is connected to the power plant via a Fast Disconnect in the Hot cable or by a circuit breaker.

Ordering a battery system is easy. A single part number includes the rack, battery strings and accessories.

NCR48 - S - XXX - X - X



Example:

The part number NCR48-VX-100-5-A would comprise of:

- 1 - 6 Shelf NCR NEBS Certified Rack (pre-wired with Fast Disconnect in Negative cable)
- 20 - 12VX100F batteries with terminal fasteners
- 15 - Inter-bloc connectors
- 1 - Instruction sheet

Notes:

1. Each shelf must be fully loaded with four blocs regardless of system voltage.
2. The installer is responsible for ensuring the battery is situated where battery system weight and floor load bearing capacity are compatible.
3. The installer is responsible for situating and anchoring the rack in accordance with all applicable company, local, state and federal codes.



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