

## FLX200 and SCR200 Silicon Controlled Rectifier Chargers

### Application

The SCR200 and FLX200 are Silicon Controlled Rectifier chargers conservatively rated to recharge discharged Exide Technologies Industrial Energy batteries, as defined by the GNB® Flooded Classic Flat, Flooded Tubular-HP™, Liberator®, or Element® Valve Regulated installation and operating manuals, to its ampere-hour capacity within 8 hours.

### Regulation

Line and load regulated. Finish rate voltage is held to within +/- 1% with line voltage variations of +/- 10%.

### Warranty

Chargers have a 10-year limited warranty to the end-user. For the first 3 years, full warranty repair or replacement of defective parts (including labor) for all components is offered. During year 4, warranty is for parts only. Power transformers, SCR's, and silicon diodes are covered for a full 10 years. For more specific information, see Warranty Statement GB-4000.

### Provides High Efficiency

The proven I-E-I (constant current – constant voltage – constant current) profile is among the fastest and most reliable conventional recharges for your battery. By determining what your battery needs, the FLX200 and SCR200 provide electronic control over the charger output resulting in more efficient power usage.

### Extends the Life of Your Battery

The constant voltage phase of recharging features a tightly controlled voltage during the critical gassing period. For Flooded Flat or Tubular batteries, this means less heat build-up and results in significantly less battery watering.

### Upgrades Add Versatility

FLX200 chargers, programmed to recharge Flooded batteries, can be upgraded at a later date for use with Element® industrial batteries or other valve regulated lead-acid batteries. Contact your local sales representative for further details.



### Advanced Charge Profiles

#### Prevent Under and Over Charging

Both FLX200 and SCR200 chargers use an I-E-I charge profile. The FLX200 charger is initially programmed for charging Flooded Flat or Tubular batteries. The SCR200 charger programming allows it to charge either Flooded, Element® Valve Regulated, or Liberator® batteries.

By supplying precise electronic control during the high and low rate current stages, each charge cycle length is determined by battery voltage levels. This ensures your battery will receive the optimum charge regardless of input voltage fluctuations or variations in site conditions. Once the battery's voltage stabilizes, charging is terminated by timer or  $dV/dt$  (change in voltage over change in time), in order to protect against overcharging.

This Exide Technologies Industrial Energy product is represented by:

Name

Phone

Company

## FLX200 and SCR200 Chargers

offer you safe, simple, and reliable charging every time.

Features	Benefits
Adjustable Output Current	Enables you to match the exact battery size and charger requirements. More precise charging.
Low Voltage Override	Operator can manually override charger voltage limits for deeply discharged batteries.
Battery / Charger Mismatch Protection	Automatically reads for battery/charger voltage mismatches and won't start the recharge if the battery and charger voltage don't match. Prevents the possibility of using the wrong charger on your battery.
5-Second Delay	Delays recharge start 5 seconds after battery to charger connection is made. Guarantees safer connection by reducing possible danger to the operator.
Smart Start	Evaluates battery State Of Charge (SOC) and adjusts the charging profile to prevent overcharging. If the battery SOC is greater than 80%, the charger enters Auto Balance mode. If the SOC is between 70% and 80%, the charger operates until the finish rate current is reached, then enters Auto Balance mode.
Auto Balance	Slowly brings the battery up to full recharge with periodic charging, which minimizes heat generation and water loss.
Automatic Start / Stop	Requires only a simple battery to charger connection to begin recharge and automatically shuts off when recharge is complete. A user-friendly charger that protects against the risks associated with overcharging your battery.
LED Indicators and Display	Clearly displays your battery's charging status, battery voltage, charging current, elapsed time, and returned Ahr's. Prevents guesswork when charging status is required.
Delay Start	Charging can be programmed to begin within 48 hours (in one hour increments) after the battery to charger connection is made. Allows charging during off-peak hours - saving money on reduced electricity expenses. It also allows for battery warm up or cool down when required for certain applications.
Back-Up Timer	Shuts off the charger after 6.5 hours of operation at the high current rate, regardless of State Of Charge. Prevents unwanted continuous charging when the battery needs servicing. Protects battery from being over charged, prolonging battery life.
Manual Equalize	Operator can manually activate the equalize feature during battery charging cycle.
Auto Equalize	Charger can be programmed to automatically equalize the battery after a specified charging cycle count interval, from 0 to 255.
Refresh Charge with Disable	Refresh Charge gives the recharged and ready battery a 10-minute boost every 24 hours. Disable feature allows use with automated battery rotation systems.
Cool Down Period	Protects the battery by calculating, displaying, and counting down the minimum cool down period.
dV/dt Charge Termination	An automatic shutdown feature that monitors battery voltage and terminates the charge when no rise in voltage is detected. Helps prevent over and under charging, thus maximizing the life of your battery.
di/dt Charge Termination	An automatic shutdown feature that monitors for an increase in current during the constant voltage charging stage. Protects against thermal runaway and battery damage.
Adjustable Capacity Range	Should your battery requirements change in the future, the charger current output is adjustable from 50% to 100% of the charger's nominal Ahr rating in order to serve a wider selection of battery Ahr ratings. Eliminates the need to purchase another charger, thus resulting in a cost savings by using the same charger for future battery requirements.
Adjustable Gassing Voltage	Critical for cold storage and high temperature applications, which require a higher than nominal gassing voltage set point.
Voltage Drop Compensation	Extended charger cable lengths can be used after control board reprogramming.
AC Fail Recovery	After AC power is restored, the recharge resumes at the correct point in the charging cycle. Saves time, electricity, and unnecessary battery charging
Stackable Up To 3 High Without Additional Hardware	Provides flexibility in planning charging areas without the need to purchase expensive and often awkward hardware.

## Charger Design

### Serviceability:

All FLX200 and SCR200 charger models have been engineered to provide easy access to internal connections and components for ease of service, if ever required.

### Thermal Management:

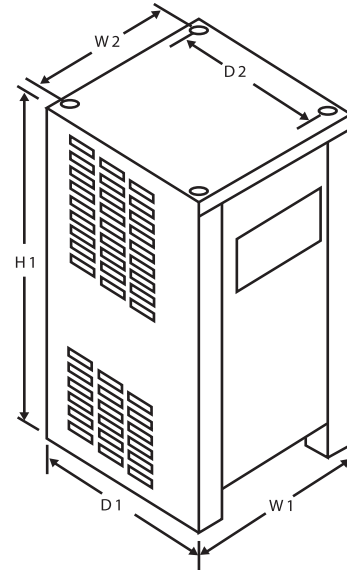
An efficient transformer design, ventilation louvers and reveal allow for maximum heat dissipation and longer operating life.

### Quiet Operation:

The chargers produce less noise than standard ferroresonant chargers for a quieter working environment.

### Independent Testing:

The chargers have been successfully tested by an authorized Underwriter's Laboratories testing facility to UL 1564 and CSA 107.2 standards.



CABINET TYPE	inches/mm					
	CABINET WIDTH (W1)	CABINET DEPTH (D1)	CABINET HEIGHT (H1)	MOUNTING HOLE WIDTH (W2)	MOUNTING HOLE DEPTH (D2)	MOUNTING HOLE DIAMETER
M4	19.69 500 mm	16.93 430 mm	26.65 678 mm	17.54 445 mm	12.99 330 mm	0.315 8.0 mm
M5	23.62 600 mm	20.87 530 mm	26.65 678 mm	21.48 546 mm	16.93 430 mm	0.315 8.0 mm
M6	23.62 600 mm	23.62 600 mm	42.01 1068 mm	21.48 546 mm	19.69 500 mm	0.315 8.0 mm

## CHARGER TECHNICAL DATA

SINGLE PHASE FLX or SCR Model Numbers	Amp Hour	DC Volt	DC Amps	Max. AC Amps (RMS)					Shipping Data		
				@120 VAC	@208 VAC	@240 VAC	@480 VAC	@600 VAC	Cabinet Size	Weight	
										Lb	Kg
200-06-260S1	260	12	40	11.7	6.7	5.8	2.9		M4	79	36
200-06-475S1	475	12	75	21.9	12.6	10.9	5.5		M4	97	44
200-06-600S1	600	12	95	27.7	16	13.9	6.9		M4	101	46
200-06-865S1	865	12	135		16.2	19.7	9.8		M4	125	57
200-06-965S1	965	12	150		25.2	21.9	10.9		M4	154	70
200-09-475S1	475	18	75		17	14.7	7.3		M4	114	52
200-09-600S1	600	18	95		21.5	18.6	9.3		M4	119	54
200-09-865S1	865	18	135		30.5	26.4	13.2		M4	143	65
200-09-965S1	965	18	150		33.9	29.4	14.7		M4	178	80
200-12-260S1	260	24	40	19.7	11.4	9.8	4.9	3.9	M4	95	43
200-12-475S1	475	24	75		21.3	18.4	9.2	7.4	M4	134	61
200-12-600S1	600	24	95		27	23.4	11.7	9.3	M4	145	66
200-12-750S1	750	24	115		32.6	28.3	14.1	11.3	M4	163	74
200-12-865S1	865	24	135		38.3	33.2	16.6	13.3	M4	169	77
200-12-965S1	965	24	150		42.6	36.9	18.4	14.8	M4	198	90
200-18-260S1	260	36	40		16	13.8	6.9	5.5	M4	136	62
200-18-475S1	475	36	75		29.9	25.9	13	10.4	M4	158	72
200-18-600S1	600	36	95		37.9	32.9	16.4	13.1	M4	163	74
200-18-750S1	750	36	115		45.9	39.8	19.9	15.9	M5	216	98
200-18-865S1	865	36	135			46.7	23.3	18.7	M5	238	108
200-24-260S1	260	48	40		20.6	17.8	8.9	7.1	M5	132	60
200-24-475S1	475	48	75		38.6	33.4	16.7	13.4	M5	198	90
200-24-600S1	600	48	95			42.4	21.2	16.9	M5	242	110

THREE PHASE FLX or SCR Model Numbers	Amp Hour	DC Volt	DC Amps	Max. AC Amps (RMS)					Shipping Data		
				@120 VAC	@208 VAC	@240 VAC	@480 VAC	@600 VAC	Cabinet Size	Weight	
										Lb	Kg
200-06-475T1	475	12	75		6.1	5.3	2.6		M4	101	46
200-06-600T1	600	12	95		7.7	6.7	3.3		M4	101	46
200-06-750T1	750	12	115		9.3	8.1	4.0		M4	123	56
200-06-865T1	865	12	135		10.9	9.5	4.7		M4	132	60
200-06-965T1	965	12	150		12.1	10.5	5.3		M4	143	65
200-06-1050T1	1050	12	165		13.3	11.6	5.8		M4	163	74
200-06-1200T1	1200	12	185		14.9	13	6.5		M5	246	112
200-06-1450T1	1450	12	225		18.2	15.8	7.9		M5	299	136
200-12-475T1	475	24	75		11	9.7	5	4.2	M4	134	61
200-12-600T1	600	24	95		13.8	12.2	6.3	5.3	M4	145	66
200-12-750T1	750	24	115		16.7	14.6	7.6	6.4	M4	145	66
200-12-865T1	865	24	135		19.5	17.1	8.9	7.6	M4	180	82
200-12-965T1	965	24	150		21.6	18.9	9.9	8.4	M5	238	108
200-12-1050T1	1050	24	165		23.7	20.7	10.8	9.2	M5	238	108
200-12-1200T1	1200	24	185		26.4	23	12.1	10	M5	288	131
200-12-1450T1	1450	24	225		31.9	27.6	14.7	13	M5	365	166
200-18-260T1	260	36	40		8.4	7.3	3.7	3.4	M4	158	72
200-18-475T1	475	36	75		15.5	13.6	7	6.3	M4	180	82
200-18-600T1	600	36	95		19.5	17.1	8.8	8	M4	180	82
200-18-750T1	750	36	115		23.4	20.6	10.7	9.7	M4	209	95
200-18-865T1	865	36	135		27.3	24.1	12.5	11	M5	275	125
200-18-965T1	965	36	150		30.1	26.6	13.9	13	M5	297	135
200-18-1050T1	1050	36	165		33	29.2	15.3	14	M5	297	135
200-18-1200T1	1200	36	185		36.7	32.5	17.1	16	M5	321	146
200-18-1450T1	1450	36	225		44	39.1	20.8	19	M5	398	180
200-18-1700T1	1700	36	265			45.6	24.5	22	M6	466	212
200-24-475T1	475	48	75		20.4	17.8	9.2	8.4	M5	242	110
200-24-600T1	600	48	95		25.7	22.4	11.6	11	M5	264	120
200-24-750T1	750	48	115		30.9	27	14	13	M5	288	130
200-24-865T1	865	48	135		36.1	31.5	16.4	15	M5	299	136
200-24-965T1	965	48	150		39.9	34.8	18.2	17	M5	304	138
200-24-1050T1	1050	48	165		43.7	38.1	20	18	M5	326	148
200-24-1200T1	1200	48	185			42.4	22.4	21	M5	363	165
200-24-1450T1	1450	48	225				27.1	25	M5	464	211
200-36-475T1	475	72	75		30.1	26.2	13.7	13	M5	330	150
200-36-750T1	750	72	115		45.7	39.7	21	19	M5	352	160
200-36-865T1	865	72	135			46.3	24.6	23	M5	374	170
200-36-965T1	965	72	150				27.3	25	M5	396	180

Model Numbers:

FLX200-AA-BBBBC1X or SCR200-AA-BBBBC1X		
Where	AA	= Number of Battery Cells
	BBBB	= Maximum Battery Ampere-Hours
	C	= S (single) or T (triple) Phase Input Power
	X	= H for 208/240/480 VAC = L for 120/208/240 VAC = C for 600 VAC

Note: Design and/or specifications are subject to change without notice. If questions arise, contact your local sales representative for clarification.

### Exide Technologies Industrial Energy

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