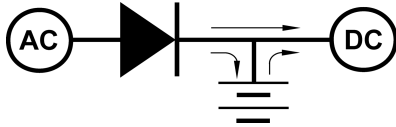


Stacion **Zamboni Chargers** are the most functionally advance, durable, field serviceable and proven of their type. Over 40 years of similar applications to electric plant vehicles and mine locomotives is testimony to their reliability.



Features

Reliability by Design

- Robust industrial duty
- Electronic + magnetic V regulation
- Failsafe electronic control module
- AC input fuse, DC fuse
- Transformer isolation
- Soft-switching, low noise
- Tropical / Humidity Proofing

Optimum Battery Charging

- For lead acid or lithium batteries
- For flooded or sealed batteries
- Constant I high + V finish charge
- Diagnostic auto equalize
- Battery V sensing / monitoring
- Battery end V (gassing pt) selection
- Low battery charging temperature
- Reduced battery water consumption

User Friendly

- Simple, no special training
- Automatic battery charging
- Switchable normal-boost charge
- Switchable battery charge V
- Friendly diagnostic display
- Battery V meter jacks
- Front access for service

Environment Friendly

- Soft-walk-in AC startup
- Energy efficient (85 - 95%)
- CSA / UL EMI compliant
- Quiet, convection cooling (no fans)
- Stackable cabinets

Versatile Options

- X 50 Hz AC Input Voltages
- M Digital V Meter (1% accuracy)
- U AC input delayed start timer
- P Input PF Correction (≥ 0.90)
- N Charge V Temp. Compensation
- L Low V Startup PB
- B DC Output Breaker
- S Special Cables & Plugs
- D Top drip shield (NEMA 2)

DC Output Cable + Connector

- Standard 2.5 m L DC battery cable c/w SB350 grey connector provided
- Other cable options available

Charger Model Numbers

APL 40 _ 520 B _

- | | | | L Options (see above)
- | | | | L A or B Cabinet style
- | | L Output charge (Ampere-Hours)
- | L AC input voltage code (table at right)
- L Number of battery cells

Warranty & Service

- 5 year comprehensive warranty
- 20 year parts / service availability
- 25 year design life

AC Voltage	Phase	Code
208	3	E
380-400-415	3	LX (50 Hz)
480	3	F
600	3	K

Nom V _{dc}	Batt. Cells	8 Hr Ah Rate	AC In	Cab Style	Mass kg (lbs)
80	40	520	3Ø	A	170 (375)
80	40	600	3Ø	A	185 (407)
80	40	770	3Ø	B	195 (429)
80	40	850	3Ø	B	215 (473)
80	40	940	3Ø	B	235 (517)

A Style: 610 (24) H x 508 (20) W x 457 (18) D mm (in)

B Style: 762 (30) H x 559 (22) W x 508 (20) D mm (in)

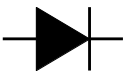
- Dead battery boost + engine start capability
- Auto IEi for long battery life
- Low battery temperature rise
- Good for old & new batteries

- Good for lead acid & lithium batteries
- Good for flooded & sealed batteries
- No battery discharge when AC off

Contents

Specifications 2





Charger Specs

Power Conversion Design

- Transformer input (60 or 50 Hz)
Full-wave, silicon diode rectifier
6 pulse I, V, 3 phase
Soft switching, low noise

Output Control

- Closed loop, negative feedback control
Analog circuitry (no digital electronics)
High speed electronic V sensing
FET based voltage-to-current control
Failsafe, magnetic shunt regulation

Steady-State DC V Regulation

- ±3% (full load, ±10% AC V)

Output Ripple Voltage

- ≤ 2% rms (on resistive load)
≤ 1% rms (on typical battery)

Parallel Charger Operation

- Load sharing within 10% unit Ibc

Charge Function

- High rate constant I initial charge
Finish rate constant V finish charger

Annunciation & Meters

- Standard annunciation:
Start delay 1 yellow LED
High rate 5 red LEDs
Finish rate 5 green LEDs
100% Charged 1 yellow LED
Battery fault 1 red LED
Optional Meter
V meter digital, 1% accuracy

Protection

- AC breaker rated I ≈ 1.5 x full load Iac
DC fuse / breaker rated I ≈ full load Ibc
Input transformer, electrical isolation
I² t coordinated diode stacks
Failsafe I limit set at 120% of rated IDC

Surge Tolerance

- Inherent, inductive surge tolerance is 4 kV (1Ø) & 6 kV (3Ø) peak for 8 ms
Withstands ANSI / IEEE C62.41 (IEC 6080-4) standard surge V waveforms

Electromagnetic Interference

- Conducted / radiated EMI within CSA C108.8 & FCC Part 15 Class B limits

In-Rush & Input power Factor

- In-rush I ≈ 3x full load A for 1-3 cycles
Input PF ≈ 0.80 (PF ≥ 0.90 optional)

Audible Noise

- 55-65 dBA (at 1 m, rating dependent)

Cabinets

- NEMA type 1, IEC 60529 IP 20
Front accessible, side / top cable entry
14 / 10 gage steel panels / mounts
Powder coated, baked enamel finish

Environmental Requirements

- Natural convection cooled
20°C to +40°C continuous operation
RH < 95% non-condensing

Design & Test Standards

- CSA SPE-1000 inspected & approved
Built to CSA C22.2 No. 107.2
Magnetics designed for Class H, 180°C

Single-Line Diagram with Control Function

