



HELMAR INC

Multi-Voltage Battery Charger



The POKER

PK120-C43

\$675⁰⁰

TECHNICAL GENERAL REMARKS

- Mains input: 120V AC $\pm 5\%$, UL-listed 20A input fuse, Input Current 15A AC max. Equipped with NEMA 5- 15A cables.
- Output: suitable for 12V, 24V, 36V and 48V lead-acid batteries.

Model	AC Input	Battery Capacity
12V/60A	10.3 A	12V 480Ah
24V/45A	13.9 A	24V 360Ah
36V/30A	13.5 A	36V 240Ah
48V/25A	13.9 A	48V 200Ah

- Electromechanical timer adjustable from 0 to 12 hours max.
- Electromechanical switch for output voltages selection.
- Ammeter: 100A/100mV.
- Cabinet with wheels and handlebar for easy handling.
- 24V AC auxiliary circuit with overload cutout and 1.6A fuse.

OPERATION:

1. Set the timer to the OFF position.
2. Connect the mains.
3. Select the correct battery voltage (12V-24V-36V-48V).
4. Connect the battery.
5. Set the timer to the requested charging time (12 hours max).
6. Check that the current shown on the ammeter does not exceed the rated current for the selected voltage by 10%.

LAMP INDICATIONS:

Lamps status description	CHARGING (Red lamp)	POWER ON (Orange lamp)	PAUSE (Green lamp)
Battery charger disconnected	OFF	OFF	OFF
Battery charger in pause	OFF	ON	ON
Battery charger operating	ON	ON	OFF
Fault: overload cutout or auxiliary fuse circuit	OFF	ON	OFF

FEATURES:

- Dimensions (LxHxW - Inches): 15.7 x 33.5 x 12.6 (without handlebar: 15.7 x 23.6 x 12.6)
- Weight: 88 lbs (40 Kg)

ACCESSORIES:

- Support for cable winding
- Handlebar for transport



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Battery Chargers EASY AND SURE CHARGE

THREE MODELS FOR THE WHOLE RANGE

- UL Listed
- UL recognized insulation system of the power transformer
- Electronic controller with failure diagnostics
- Last charge information stored as long as battery remains connected
- Automatic START/STOP
- Equalizing Charge
- Overload cutout on transformer

POWER POINT
Three-phase

POWER POINT
Single-phase



MATIC POINT
Single-phase



TL EQUALIZER
Single-phase



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TL EQUALIZER

Single-phase

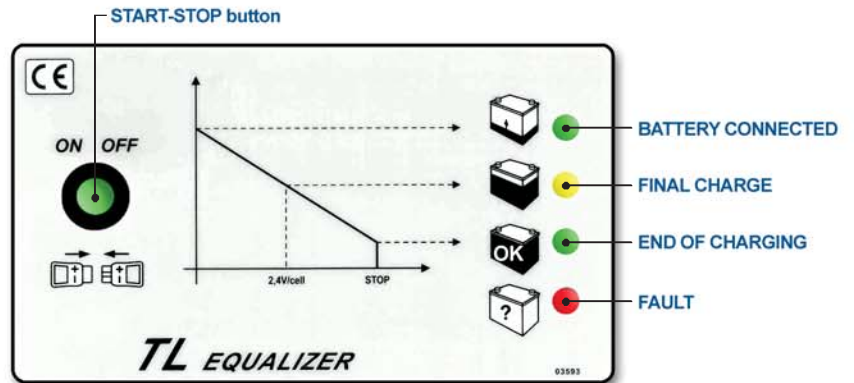
PLUGINS - 110 Volt

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TECHNICAL DATA

- Single-phase input voltage: 120/208/240V AC
Frequency: 50/60 Hz.
- Transformer adjustments to $\pm 5\%$ V AC.
- Tropicalized stray-flux transformer, copper windings with double enamel insulation, class H, impregnated with non-toxic resins, kiln-dried.
- Transformer with **UL recognized insulation system** which ensures high reliability even in difficult operating conditions.
- Overload cutout on transformer.
- Rectifier bridge equipped with interference suppressing filters.
- Protection fuses on mains input and D.C. output.
- Final acceptance test conforming to UL safety standards.
- Equipped with mains and battery cables. Complete with connectors.

- Electronic controller **AP071** with microprocessor and failure diagnostics.
- Polycarbonate plate equipped with 4 LED's indicating the charging stages.
- 12/24/36/48V rated voltages selectable by jumpers and with 2.40 V/cell automatic threshold setting.
- DIP switches to program and set the charging parameters (Autostart, Final charge time, Quick test, Equalizing charge, and Proportional charge).
- Lab-tested electronic circuit conforming to the **EMC-Directive** and **CE** marking.



MATIC POINT

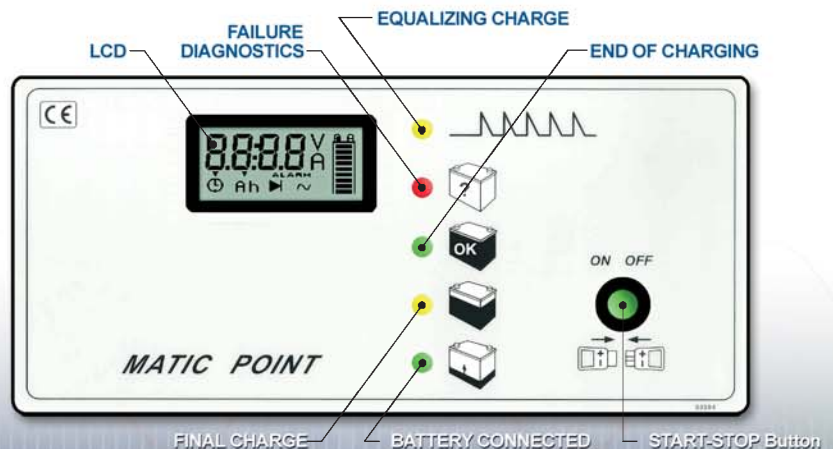
Single-phase

PLUGINS - 110 Volt

TECHNICAL DATA

- Single-phase input voltage: 120/208/240V AC
Frequency: 50/60 Hz.
- Transformer adjustments to $\pm 5\%$ V AC.
- Tropicalized stray-flux transformer, copper windings with double enamel insulation, class H, impregnated with non-toxic resins, kiln-dried.
- Transformer with **UL recognized insulation system** which ensures high reliability even in difficult operating conditions.
- Overload cutout on transformer.
- Rectifier bridge equipped with interference suppressing filters.
- Protection fuses on mains input, auxiliary circuits, and D.C. output.
- Final acceptance test conforming to the UL safety standards.
- Equipped with mains and battery cables. Complete with connectors.

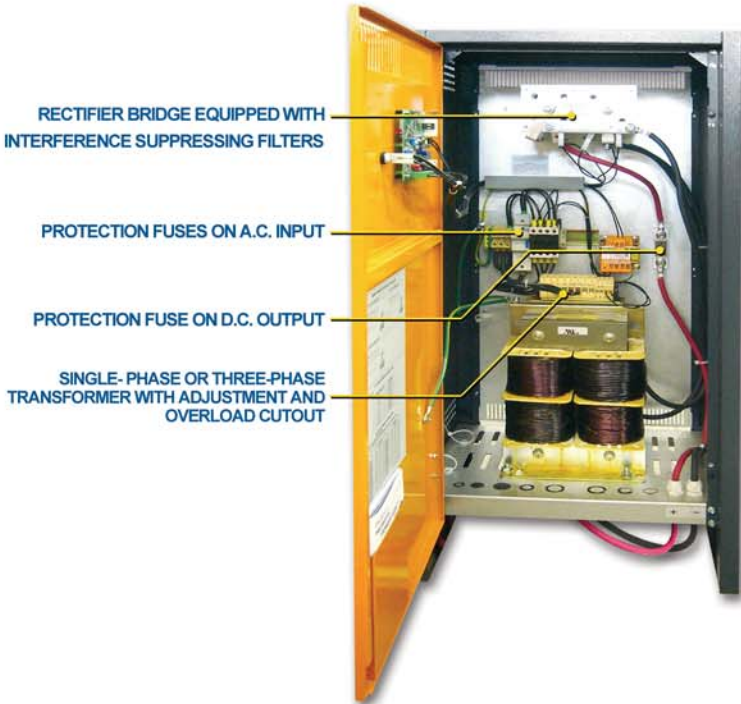
- Electronic controller **AP735USA** with microprocessor and failure diagnostics powered from battery voltage.
- Storage of the charging parameters of the last charge (only as long as battery remains connected) displayed on the LCD: Voltage, Current, Ah, and Time.
- Polycarbonate plate with LED's indicating the charging stages or faults, if any.
- Lab-tested electronic circuit conforming to the **EMC-Directive** and **CE** marking.
- Charger switching off on battery disconnection while on charge.
- Short check of functions and times.
- A 4 digit LCD with 12 multifunctional symbols displaying the charging data recalled by pushing the ON-OFF button.



POWER POINT

Single-phase
and Three-phase

208/240/480/600 Volt



TECHNICAL DATA

- Single-phase input voltage: 208/240/480V AC – Frequency: 50/60 Hz.
- Three-phase input voltage: 208/240/480/600V AC – Frequency: 50/60 Hz.
- Transformer adjustments to $\pm 5\%$ V AC.
- Tropicalized stray-flux transformer, copper windings with double enamel insulation, class H, impregnated with non-toxic resins, kiln-dried.
- Transformer with **UL recognized insulation system** which ensures high reliability even in difficult operating conditions.
- Low voltage control circuit (24V AC).
- Overload cutout on transformer.
- Rectifier bridge equipped with interference suppressing filters.
- Protection fuses on mains input, and D.C. output.
- Final acceptance test conforming to safety regulations.
- Complete with charging cables and connector.
- **Power cord to be installed by the customer.**
- Electronic controller **AP735USA** with microprocessor and failure diagnostics powered from battery voltage.
- Polycarbonate plate with LED's indicating the charging stages or faults, if any.
- Lab-tested electronic circuit conforming to the **EMC-Directive** and **CE** marking.
- Charger switching off on battery disconnection while on charge.
- Short check of functions and times.
- 4 digit LCD with 12 multifunctional symbols displaying the charging data recalled by pushing the ON-OFF button.

LCD DISPLAYING CHARGING DATA AND FAULTS, IF ANY

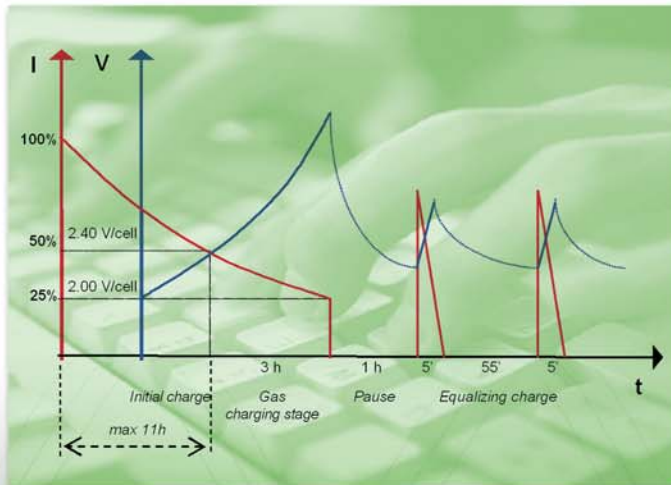


- Real Time Delivered Current (A) and Battery Voltage (V)
- Battery Voltage before charging (V) and Initial Current of the Charge (A)
- Delivered Charge (Ah)
- Overall charging time (hours : minutes)
- Final Voltage reached by battery (V) and Final Current delivered (A)

The following charging parameters can be programmed by means of DIP switches:

1. Automatic start (Autostart)
2. Final charge timer settable to 8 values from 1h to 5h 30m
3. Safety timer on the initial stage settable to 7h or 11h (standard)
4. Equalizing charge
5. Proportional charge

DESCRIPTION OF CHARGING CHARACTERISTICS



CHARGING CHARACTERISTIC (TL EQUALIZER)

- Charging with decreasing current until a voltage of 2.40 V/cell is reached and the gas charging stage begins (adjustable).
- Time-controlled gas charging stage, adjustable by DIP switch (3 hours as standard).
- Foreseen charging time: 8 ÷ 9 hours (without equalizing charge).
- The equalizing charge is automatically performed 60 minutes after the last charge cycle.

CHARGING CHARACTERISTIC (MATIC POINT / POWER POINT)

- Charging with decreasing current until a voltage of 2.40 V/cell is reached and the gas charging stage begins (adjustable).
- Time-controlled gas charging stage, adjustable by DIP switch (3 hours as standard).
- Foreseen charging time: 8 ÷ 9 hours (without equalizing charge).
- The equalizing charge is automatically performed 60 minutes after the last charge cycle.

X-POINT

Battery Charger

TECHNICAL GENERAL REMARKS

- 4 battery chargers in one compact cabinet.
- Many standard configurations available, with all units with the same specifications
- Custom configurations on request where the 4 unit can be singularly specified with different rated Voltage and Current
- Three-phase input supply: 208/240/480/600 VAC - Frequency 50/60 Hz.
- Transformer adjustments to $\pm 5\%$ VAC.
- Tropicalized stray-flux transformer, copper windings with double enamel insulation, class H, impregnated with non-toxic resins, kiln dried.
- Transformer with UL recognized insulation system which ensures high reliability even in difficult operating conditions.
- Low voltage control circuit (24 VAC).
- Overload cutout on transformer.
- Rectifier bridge equipped with interference suppressing filters.
- Protection fuses on mains input and D.C. output.
- Final acceptance test conforming to safety regulations.
- Complete with charging cables and battery connectors.
- Power cord to be installed by the customer.



LCD DISPLAYING CHARGING DATA



Four-digit LCD with 12 multifunctional symbols displaying the charging data recalled by pushing the ON/OFF button.

1. Current delivered in real time (A)
2. Voltage at battery terminals (V)
3. Charged Ampere-hours (Ah)
4. Overall charging time (hours : minutes)
5. Maximum voltage reached by battery (V)
6. Maximum current delivered (A)

Cabinet size (Inches):
23.62 x 41.34 x 55.12 (LxWxH)



Model	Cells	Mains Voltage	Box	Price USD	Model	Cells	Mains Voltage	Box	Price USD
4x 24V / 100A	12	208/240/480	4x	\$5,985.00	4x 48V / 100A	24	208/240/480	4x	\$7,500.00
4x 24V / 120A	12	208/240/480	4x	\$6,100.00	4x 48V / 120A	24	208/240/480	4x	\$7,800.00
4x 24V / 140A	12	208/240/480	4x	\$6,500.00	4x 48V / 140A	24	208/240/480	4x	\$8,500.00
					4x 48V / 160A	24	208/240/480	4x	\$8,800.00
4x 36V / 100A	18	208/240/480	4x	\$6,300.00					
4x 36V / 120A	18	208/240/480	4x	\$6,500.00					
4x 36V / 140A	18	208/240/480	4x	\$7,650.00					
4x 36V / 160A	18	208/240/480	4x	\$8,350.00					
4x 36V / 180A	18	208/240/480	4x	\$9,500.00					



HELMAR INC

POWER POINT

OPPORTUNITY CHARGER



7 TO 8 HOUR CHARGING TIME FOR MULTISHIFT OPERATION

Battery Charger

TECHNICAL GENERAL REMARKS

- Single-phase input supply: 208/240/480 VAC - Frequency 50/60 Hz.
- Three-phase input supply: 208/240/480/600 VAC - Frequency 50/60 Hz.
- Different power supply voltages available on request.
- Transformer adjustments to $\pm 5\%$ VAC.
- Tropicalized stray-flux transformer, copper windings with double enamel insulation, class H, impregnated with non-toxic resins, kiln-dried.
- Transformer with UL recognized insulation system which ensures high reliability even in difficult operating conditions.
- Low voltage control circuit (24 VAC).
- Overload cutout on transformer.
- Rectifier bridge equipped with interference suppressing filters.
- Protection fuses on mains input and D.C. output.
- Final acceptance test conforming to safety regulations.
- Complete with charging cables and battery connectors.
- Power cord to be installed by the customer.
- It can be stacked up to three units high.

LCD DISPLAYING CHARGING DATA



Four-digit LCD with 12 multifunctional symbols displaying the charging data recalled by pushing the ON/OFF button.

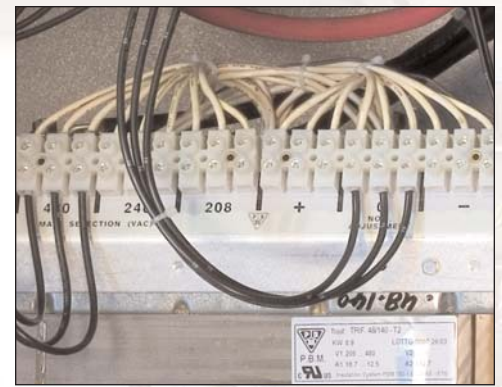
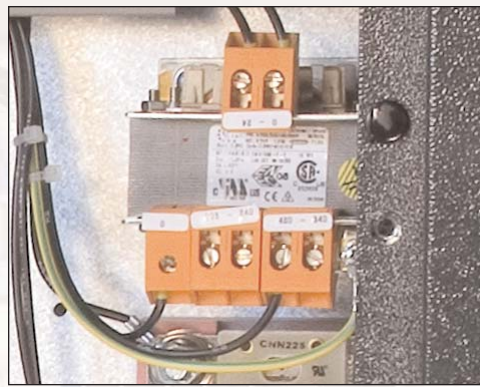
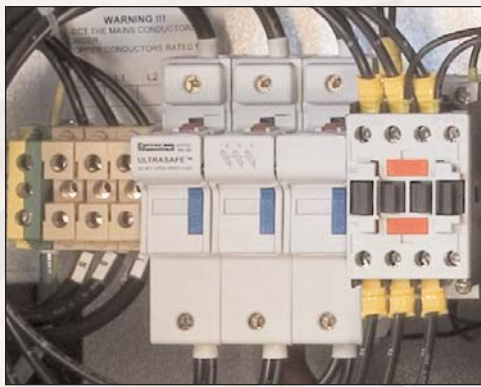
1. Current delivered in real time (A)
2. Voltage at battery terminals (V)
3. Charged Ampere-hours (Ah)
4. Overall charging time (hours : minutes)
5. Maximum voltage reached by battery (V)
6. Maximum current delivered (A)



Cabinet size (Inches):
 LP Box = 21.4 x 22.4 x 26.4 (LxWxH)
 L Box = 23.6 x 18.9 x 43.3 (LxWxH)



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Part#	Model	Cells	Battery Ah	7h	Mains Voltage	Box	Price USD
60-308	12V / 80A	6	425		240 / 480 / 600	LP	\$890.00
60-310	12V / 90A	6	480		240 / 480 / 600	LP	\$910.00
60-312	12V / 100A	6	530		240 / 480 / 600	LP	\$920.00
60-316	12V / 120A	6	640		240 / 480 / 600	LP	\$950.00
60-345	24V / 60A	12	320		240 / 480 / 600	LP	\$925.00
60-349	24V / 80A	12	425		240 / 480 / 600	LP	\$975.00
60-353	24V / 100A	12	530		240 / 480 / 600	LP	\$995.00
60-357	24V / 120A	12	640		240 / 480 / 600	LP	\$1,050.00
60-361	24V / 140A	12	740		240 / 480 / 600	LP	\$1,185.00
60-365	24V / 160A	12	850		240 / 480 / 600	LP	\$1,240.00
60-369	24V / 180A	12	955		240 / 480 / 600	LP	\$1,275.00
60-373	24V / 200A	12	1060		240 / 480 / 600	LP	\$1,350.00
60-386	36V / 60A	18	320		240 / 480 / 600	LP	\$985.00
60-390	36V / 80A	18	425		240 / 480 / 600	LP	\$1,025.00
60-394	36V / 100A	18	530		240 / 480 / 600	LP	\$1,075.00
60-398	36V / 120A	18	640		240 / 480 / 600	LP	\$1,125.00
60-402	36V / 140A	18	740		240 / 480 / 600	LP	\$1,250.00
60-406	36V / 160A	18	850		240 / 480 / 600	LP	\$1,290.00
60-410	36V / 180A	18	955		240 / 480 / 600	LP	\$1,395.00
60-414	36V / 200A	18	1060		240 / 480 / 600	L	\$1,450.00
60-418	36V / 220A	18	1170		240 / 480 / 600	L	\$1,490.00
60-422	36V / 240A	18	1270		240 / 480 / 600	L	\$1,540.00
60-426	48V / 50A	24	265		240 / 480 / 600	LP	\$980.00
60-427	48V / 60A	24	320		240 / 480 / 600	LP	\$1,025.00
60-431	48V / 80A	24	425		240 / 480 / 600	LP	\$1,075.00
60-435	48V / 100A	24	530		240 / 480 / 600	LP	\$1,225.00
60-439	48V / 120A	24	640		240 / 480 / 600	LP	\$1,275.00
60-443	48V / 140A	24	740		240 / 480 / 600	LP	\$1,410.00
60-447	48V / 160A	24	850		240 / 480 / 600	LP	\$1,475.00
60-451	48V / 180A	24	955		240 / 480 / 600	L	\$1,590.00
60-455	48V / 200A	24	1060		240 / 480 / 600	L	\$1,875.00
60-459	48V / 220A	24	1170		240 / 480 / 600	L	\$1,975.00
60-463	48V / 240A	24	1270		240 / 480 / 600	L	\$2,150.00
60-472	72V / 80A	36	425		240 / 480 / 600	LP	\$1,475.00
60-476	72V / 100A	36	530		240 / 480 / 600	LP	\$1,550.00
60-480	72V / 120A	36	640		240 / 480 / 600	LP	\$1,650.00
60-484	72V / 140A	36	740		240 / 480 / 600	LP	\$1,785.00