



BATTERY CHARGERS SINCE 1973

THREE MODELS FOR THE WHOLE RANGE

- ▶ cULus, cCSAus, FCC, TUV, CE approved
- ▶ 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

single and three-phase



TL EQUALIZER

single-phase



MATIC POINT

single-phase



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TL EQUALIZER

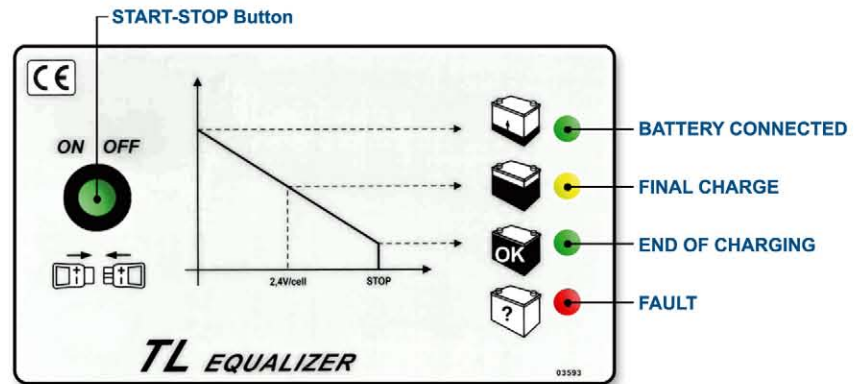
single-phase

Battery chargers since 1973

TECHINCAL DATA

- Single-phase input voltage 120/208/240 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 heavy-duty conditions.
- Overload cutout on transformer.
- Rectifier bridge equipped with interference suppressing filters.
- Protection fuses on mains input and D.C. output.
- Final acceptance test performed in compliance with UL, CSA, CE/TÜV safety requirements.

- Equipped with power cord and battery cables. Complete with connectors.
- Electronic controller AP071 with microprocessor and failure diagnostics.
- Polycarbonate panel 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).
- Charger complies with FCC and CE/TÜV rules and requirements on Electromagnetic Compatibility.



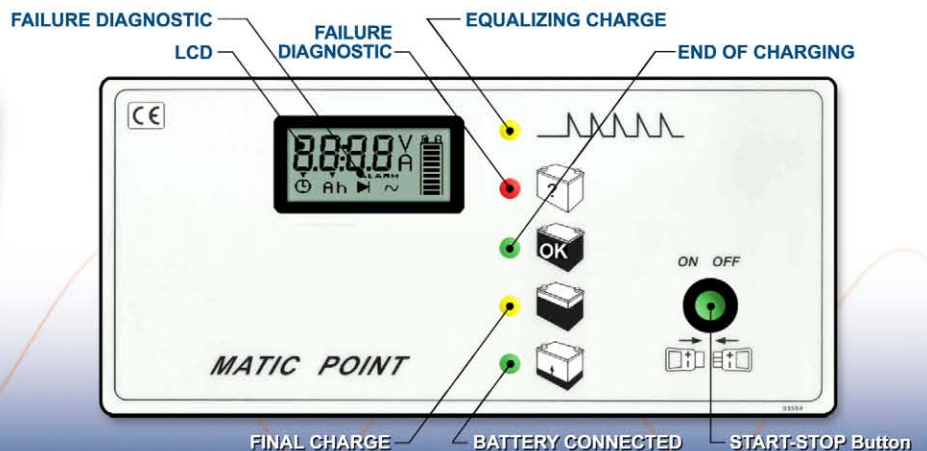
MATIC POINT

single-phase

TECHINCAL DATA

- Single-phase input voltage 120/208/240 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 heavy-duty conditions.
- Overload cut-out on transformer.
- Rectifier bridge equipped with interference suppressing filters.
- Protection fuses on mains input, auxiliary circuits and D.C. output.
- Final acceptance test performed in compliance with UL, CSA, CE/ TÜV safety requirements.
- Equipped with power cord 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 panel with LED's indicating the charging stages.
- 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.
- Charger complies with FCC and CE/TÜV rules and requirements on Electromagnetic Compatibility.



POWER POINT

single-phase
and three-phase

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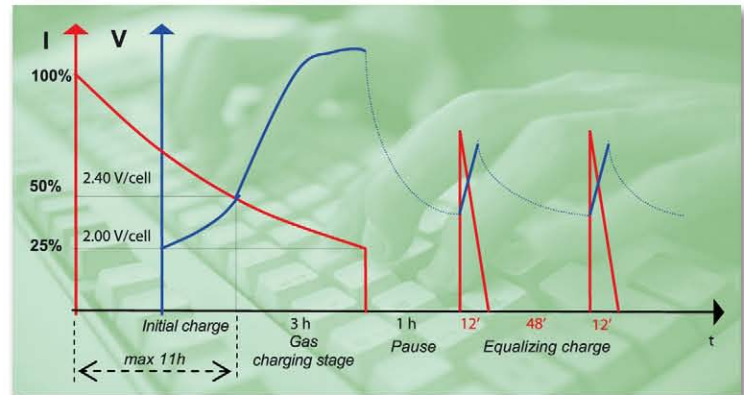
TECHNICAL DATA

- Single-phase input voltage 208/240/480 VAC - Frequency 50/60 Hz.
- Three-phase input voltage 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 heavy-duty conditions.
- Low voltage control circuit (24 VAC).
- 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 performed in compliance with UL, CSA, CE/ TÜV safety requirements.
- Complete with battery cables and connector.
- Power cord to be installed by the customer.
- Electronic controller AP735USA with microprocessor and failure diagnostics powered from battery voltage.
- Polycarbonate panel with LED's indicating the charging stages.
- Charger switching off on battery disconnection while on charge.
- LED's indicating charging stages or faults, if any.
- 4 digit LCD with 12 multifunctional symbols displaying the charging data recalled by pushing the ON-OFF button.
- Charger complies with FCC and CE/TÜV rules and requirements on Electromagnetic Compatibility.

CHARGING CHARACTERISTICS

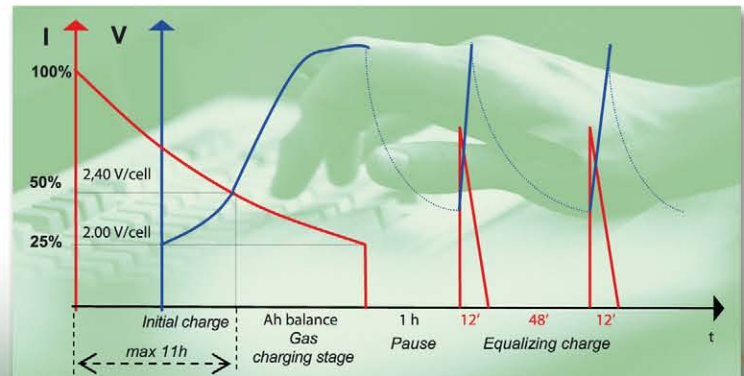
TL EQUALIZER CHARGING CHARACTERISTIC

- 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 switches (3 hours as standard).
- Foreseen charging time: 9 +10 hours (without equalizing charge).
- The equalizing charge is automatically performed 60 minutes after the last charge cycle. It is performed during the night and is repeated once a week as maintenance cycle.



MATIC POINT / POWER POINT CHARGING CHARACTERISTIC

- Charging with decreasing current until a voltage of 2.40 V/cell is reached and the gas charging stage begins (adjustable).
- Ah and dV/dt controlled gas charging stage available to optimize the overcharging factor, making it independent of mains fluctuations, battery discharge factor and status, thus ensuring a longer battery life.
- Time-controlled gas charging stage as an alternative adjustable by DIP switches (3 hours as standard).
- Foreseen charging time: 9 +10 hours (without equalizing charge).
- The equalizing charge is automatically performed 60 minutes after the last charge cycle. It is performed during the night and is repeated once a week as maintenance cycle.



POWER POINT DUALSHIFT

three-phase



Failure diagnostics with alarm display



LCD DISPLAYING CHARGING DATA

- 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 from 1h to 5h 30m
3. Safety timer on the initial stage settable to 7h or 11h (standard)
4. Equalizing charge
5. Proportional charge

TECHNICAL DATA

- 7-8h CHARGING TIME
- Three-phase input voltage: 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 performed in compliance with UL, CSA, CE/ TÜV safety requirements.
- Complete with charging cables and battery connectors.
- Power cord to be installed by the customer.
- It can be stacked up to three units high.

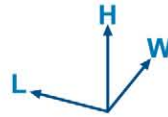


P/n	Model	Cells	Battery Ah	Mains Voltage	Box
			7-8 h		
60308 T6	12V / 80A	6	400-440	240/480/600	LPB
60310 T6	12V / 90A	6	450-495		LPB
60312 T6	12V / 100A	6	500-550		LPB
60316 T6	12V / 120A	6	600-660	240/480/600	LPB
60345 T6	24V / 60A	12	300-330		LPB
60349 T6	24V / 80A	12	400-440		LPB
60353 T6	24V / 100A	12	500-550		LPB
60357 T6	24V / 120A	12	600-660		LPB
60361 T6	24V / 140A	12	700-770		LPB
60365 T6	24V / 160A	12	800-880		LPB
60369 T6	24V / 180A	12	900-990		LPB
60373 T6	24V / 200A	12	1000-1100		LPB
60386 T6	36V / 60A	18	300-330	240/480/600	LPB
60390 T6	36V / 80A	18	400-440		LPB
60394 T6	36V / 100A	18	500-550		LPB
60398 T6	36V / 120A	18	600-660		LPB
60402 T6	36V / 140A	18	700-770		LPB
60406 T6	36V / 160A	18	800-880		LPB
60410 T6	36V / 180A	18	900-990		LPB
40414 T6	36V / 200A	18	1000-1100		LPC
40418 T6	36V / 220A	18	1100-1210		LPC
40422 T6	36V / 240A	18	1200-1320		LPC
60426 T6	48V / 50A	24	250-275	240/480/600	LPB
60427 T6	48V / 60A	24	300-330		LPB
60431 T6	48V / 80A	24	400-440		LPB
60435 T6	48V / 100A	24	500-550		LPB
60439 T6	48V / 120A	24	600-660		LPB
60443 T6	48V / 140A	24	700-770		LPB
60447 T6	48V / 160A	24	800-880		LPB
40451 T6	48V / 180A	24	900-990		LPC
40455 T6	48V / 200A	24	1000-1100		LPC
40459 T6	48V / 220A	24	1100-1210		LPC
40463 T6	48V / 240A	24	1200-1320		LPC
60472 T6	72V / 80A	36	400-440	240/480/600	LPB
60476 T6	72V / 100A	36	500-550		LPB
60480 T6	72V / 120A	36	600-660		LPB
60484 T6	72V / 140A	36	700-770		LPB

Our chargers

TECHNICAL DATA

- Brake-formed sheet steel cabinet
- Varnished with epoxide-containing powder
- Standard colours: grey to RAL 7016B and orange to RAL 2000L
- Protection class: IP20



	BOX	DIMENSIONS (inches)		
		L	H	W
TL EQUALIZER	L	16,7	11,0	10,6
	XL	19,7	11,8	11,8
MATIC POINT	L	16,9	11,0	10,6
	XL	19,7	11,8	11,8
POWER POINT	LP B	21,4	26,4	22,4
	LPC	25,3	29,1	24,7

CONTROL FEATURES		BATTERY CHARGER MODELS		
		TL EQUALIZER	MATIC POINT	POWER POINT
Single phase mains supply		X	X	X
Three phase mains supply				X
Automatic START-STOP		X	X	X
Equalizing charge		X	X	X
LCD			X	X
Failure diagnostics with alarm display			X	X
Overload cutout on transformer		X	X	X
Adjustable board on transformer		X	X	X
Electronic control with failure diagnostics		X	X	X
Configuration parameters setting		X	X	X
Battery VOLT	12V, 24V, 36V, 48V 72V	X	X	X
Preset for wall mounting		X	X	

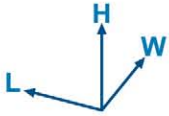


TYPE	No. of CELLS	LEAD-ACID BATTERY Ah (9 + 10h)	MODELS BOX SIZE AND MODEL NUMBER							A.C. INPUT(A)												
			TL EQUALIZER		MATIC POINT		POWER POINT		POWER POINT		Single-phase			Three-phase								
			Single-phase	Single-phase	Single-phase	Three-phase	Three-phase Dual Shift	120V	208V	240V	480V	208V	240V	480V	600V							
12V/20A	6	100+140	L 30,003	L 30,063							3,4	2	1,6									
12V/30A	6	150+210	L 30,005	L 30,065							5,1	2,9	2,6									
12V/40A	6	200+280	L 30,007	L 30,067							6,7	3,9	3,4									
12V/50A	6	250+350	L 30,009	L 30,069							8,4	4,8	4,2									
12V/60A	6	300+420	XL 30,011	XL 30,071							10,1	5,9	5									
12V/80A	6	400+560			LPB 70,108	LPB 50,308	LPB 60,308				7,6	6,5	3,3	4,2	3,7	1,9	1,4					
12V/90A	6	450+630			LPB 70,11	LPB 50,31	LPB 60,31				8,5	7,4	3,7	4,7	4,1	2,1	1,7					
12V/100A	6	500+700			LPB 70,112	LPB 50,312	LPB 60,312				9,4	8,2	4,1	5,3	4,6	2,3	1,9					
12V/120A	6	600+840				LPB 70,116	LPB 50,316	LPB 60,316			11,3	9,8	4,9	6,4	5,6	2,8	2,2					
24V/20A	12	100+140	L 30,019	L 30,079							6,4	3,7	3,2									
24V/30A	12	150+210	L 30,021	L 30,081							9,6	5,6	4,8									
24V/40A	12	200+280	XL 30,023	XL 30,083							12,8	7,4	6,4									
24V/50A	12	250+350	XL 30,025	XL 30,085							16	9,3	8									
24V/60A	12	300+420			LPB 70,145	LPB 50,345	LPB 60,345				10,8	9,3	4,7	6,18	5,3	2,6	2,1					
24V/80A	12	400+560			LPB 70,149	LPB 50,349	LPB 60,349				14,3	12,4	6,2	8	7	3,5	2,8					
24V/100A	12	500+700			LPB 70,153	LPB 50,353	LPB 60,353				17,9	15,5	7,8	10,1	8,8	4,3	3,5					
24V/120A	12	600+840			LPB 70,157	LPB 50,357	LPB 60,357				22,5	18,6	9,3	12,1	10,5	5,3	4,2					
24V/140A	12	700+980			LPB 70,161	LPB 50,361	LPB 60,361				25,1	21,8	10,9	14,1	12,2	6,1	4,8					
24V/160A	12	800+1120			LPB 70,165	LPB 50,365	LPB 60,365				28,7	24,9	12,4	16,1	13,9	7	5,6					
24V/180A	12	900+1260				LPC 30,369	LPC 40,369								18,1	15,7	7,8	6,3				
24V/200A	12	1000+1400				LPC 30,373	LPC 40,373								20,1	17,4	8,8	7				
36V/20A	18	100+140	L 30,035	L 30,095							9,4	5,5	4,7									
36V/30A	18	150+210	L 30,037	L 30,097							14,1	8,1	7,1									
36V/40A	18	200+280	XL 30,039	XL 30,099							18,9	10,9	9,5									
36V/50A	18	250+350			LPB 70,184						13,2	11,4	5,7									
36V/60A	18	300+420			LPB 70,186	LPB 50,386	LPB 60,386				15,8	13,7	6,9	8,9	7,7	3,8	3,1					
36V/80A	18	400+560			LPB 70,19	LPB 50,39	LPB 60,39				21,1	18,3	9,2	11,9	10,3	5,2	4,1					
36V/100A	18	500+700			LPB 70,194	LPB 50,394	LPB 60,394				26,4	22,9	11,4	14,8	12,9	6,4	5,2					
36V/120A	18	600+840			LPB 70,198	LPB 50,398	LPB 60,398				31,7	27,5	13,7	17,8	15,5	7,7	6,2					
36V/140A	18	700+980			LPB 70,202	LPB 50,402	LPB 60,402				37	32	16	20,7	18	9	7,2					
36V/160A	18	800+1120			LPB 70,206	LPB 50,406	LPB 60,406				42,3	36,6	18,3	23,7	20,5	10,3	8,2					
36V/180A	18	900+1260			LPB 70,21	LPB 50,41	LPB 60,41				47,5	41,2	20,6	26,7	23,1	11,5	9,3					
36V/200A	18	1000+1400				LPC 30,414	LPC 40,414								29,7	25,7	12,9	10,3				
36V/220A	18	1100+1540				LPC 30,418	LPC 40,418								32,7	28,2	14,1	11,3				
36V/240A	18	1200+1680				LPC 30,422	LPC 40,422								35,5	30,8	15,5	12,4				
48V/20A	24	100+140	XL 30,039	XL 30,103							12,8	7,4	6,4									
48V/30A	24	150+210	XL 30,039	XL 30,105							18,9	10,9	9,5									
48V/50A	24	250+350			LPB 70,226	LPB 50,426	LPB 60,426				17,5	15,1	7,6	9,8	8,5	4,2	3,4					
48V/60A	24	300+420			LPB 70,227	LPB 50,427	LPB 60,427				20,9	18,1	9,1	11,7	10,2	5,1	4					
48V/80A	24	400+560			LPB 70,231	LPB 50,431	LPB 60,431				27,9	24,2	12,1	15,7	13,6	6,8	5,5					
48V/100A	24	500+700			LPB 70,235	LPB 50,435	LPB 60,435				34,9	30,2	15,1	19,6	17	8,5	6,8					
48V/120A	24	600+840			LPB 70,239	LPB 50,439	LPB 60,439				41,9	36,3	18,1	23,5	20,4	10,2	8,2					
48V/140A	24	700+980				LPB 50,443	LPB 60,443								27,4	23,8	11,9	9,5				
48V/160A	24	800+1120				LPB 50,447	LPB 60,447								31,3	27,2	13,6	10,8				
48V/180A	24	900+1260				LPC 30,451	LPC 40,451								35,2	30,5	15,2	12,3				
48V/200A	24	1000+1400				LPC 30,455	LPC 40,455								39,1	33,9	17	13,6				
48V/220A	24	1100+1540				LPC 30,459	LPC 40,459								43,1	37,3	18,6	14,9				
48V/240A	24	1200+1680				LPC 30,463	LPC 40,463								47	40,7	20,4	16,3				
72V/80A	36	400+560			LPB 70,272	LPB 50,472	LPB 60,472				42,5	36	18	23,3	20,2	10,1	8					
72V/100A	36	500+700			LPB 70,276	LPB 50,476	LPB 60,476				51,9	45	22,5	29,1	25,2	12,6	10,1					
72V/120A	36	600+840			LPB 70,28	LPB 50,48	LPB 60,48				62,2	53,9	27	34,9	30,3	15,1	12,1					
72V/140A	36	700+980				LPB 50,484	LPB 60,484								40,7	35,3	17,7	14,1				

Multivoltage

BATTERY CHARGER

POKER



TECHINCAL DATA

- Input voltage: 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	10.03 AM	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 cut-out and 1.6A fuse.

FEATURES

- Dimensions (LxHxW - Inches): 15.7x33.5x12.6 (without handlebar: 15.7x23.6x12.6)
- Weight: 88 lbs (40 Kg)

ACCESSORIES

- Support for cable winding
- Handlebar for transport

TECHINCAL DATA

- 4 battery chargers in 1 single cabinet.
- Different standard configurations available (all units featuring same settings).
- Customized configurations on request (each single unit featuring a different rated voltage and current).
- 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 under heavy 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 battery connectors.
- Power cord to be installed by the customer.

LCD DISPLAYING CHARGING DATA



- 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)

X-POINT

three-phase



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