



# BATTERY CHARGERS

## STANDARD CHARGER

AQ-TRON 12 HOURS - Wa



# AQ-TRON®

### TECHNICAL SPECIFICATIONS Wa

- Mains input 230/400Vac  $\pm 5\%$  50-60Hz
- Characteristics of charge current Wa
- Microprocessor controlled charging process
- Clear and recognisable visualisation of charging level through 5mm LEDs and display
- Display and acoustic Safety timer over the 12h
- Last 5 charge cycles saved on board memory
- Starting charge automatic or manual
- Suitable for rated battery voltages from 12V - 24V - 36V - 48V - 80V
- Maintenance charge
- Phase failure signalling
- Intelligent post-charge
- Conformity to European normative CE-marking

### RECOMMENDATIONS


Before buying a charger, next data must be determined:

#### a) CHARGE CYCLE

We advise you to consider your choice of the battery, and to examine all our chargers. Every model was designed for a specific application. Before you choose, check the next points:

- 1) Is the battery totally or partly discharged when it's connected to the charger?
- 2) How much time is there to charge the battery?
- 3) Do you need a charger which can charge batteries with different tension and capacity? Contact us!

## AQ-TRON PRACTICAL 12 HOUR CHARGER TO KEEP YOUR BATTERIES IN TOP CONDITION

	Ref.	Tension (V)	Power supply (V)	Current (A)	 Dim. X x Y x H	Average C5 (Ah)	
<b>12 V</b>	AQ12M15	12	230	15	250 x 160 x 180	75	
	AQ12M20	12	230	20	250 x 160 x 180	110	
	AQ12M25	12	230	25	250 x 160 x 180	140	
	AQ12M30	12	230	30	340 x 260 x 260	170	
<b>24 V</b>	AQ24M10	24	230	10	250 x 160 x 180	55	
	AQ24M15	24	230	15	250 x 160 x 180	75	
	AQ24M20	24	230	20	250 x 160 x 180	110	
	AQ24M25	24	230	25	340 x 260 x 260	140	
	AQ24M30	24	230	30	340 x 260 x 260	170	
	AQ24M40	24	230	40	340 x 260 x 260	220	
	AQ24M50	24	230	50	340 x 260 x 260	290	
	AQ24M60	24	230	60	340 x 260 x 260	360	
	AQ24M80	24	230	80	340 x 260 x 260	460	
	AQ24T80	24	3x400	80	500 x 350 x 400	460	
	AQ24M100	24	230	100	500 x 350 x 400	600	
	AQ24T100	24	3x400	100	500 x 350 x 400	600	
	AQ24T120	24	3x400	120	500 x 350 x 400	750	
	AQ24T140	24	3x400	140	500 x 350 x 400	875	
<b>36 V</b>	AQ36M20	36	230	20	340 x 260 x 260	110	
	AQ36M25	36	230	25	340 x 260 x 260	140	
	AQ36M30	36	230	30	340 x 260 x 260	170	
	AQ36M40	36	230	40	340 x 260 x 260	220	
	AQ36M50	36	230	50	340 x 260 x 260	290	
	AQ36M60	36	230	60	500 x 350 x 400	360	
	AQ36M80	36	230	80	500 x 350 x 400	460	
	AQ36T80	36	3x400	80	500 x 350 x 400	460	
	AQ36T100	36	3x400	100	500 x 350 x 400	600	
	AQ36T120	36	3x400	120	500 x 360 x 900	750	
	AQ36T140	36	3x400	140	500 x 360 x 900	875	
<b>48 V</b>	AQ48M50	48	230	50	500 x 350 x 400	290	
	AQ48T50	48	3x400	50	500 x 350 x 400	290	
	AQ48M60	48	230	60	500 x 350 x 400	360	
	AQ48T60	48	3x400	60	500 x 350 x 400	360	
	AQ48M80	48	230	80	500 x 350 x 400	460	
	AQ48T80	48	3x400	80	500 x 350 x 400	460	
	AQ48M100	48	230	100	500 x 360 x 900	600	
	AQ48T100	48	3x400	100	500 x 360 x 900	600	
	AQ48T120	48	3x400	120	500 x 360 x 900	750	
	AQ48T160	48	3x400	160	500 x 360 x 900	1000	
<b>72 V</b>	AQ72T80	72	3x400	80	500 x 360 x 900	460	
	AQ72T100	72	3x400	100	500 x 360 x 900	600	
	AQ72T120	72	3x400	120	500 x 360 x 900	750	
<b>80 V</b>	AQ80T80	80	3x400	80	500 x 360 x 900	460	
	AQ80T100	80	3x400	100	500 x 360 x 900	600	
	AQ80T120	80	3x400	120	500 x 360 x 900	750	
	AQ80T140	80	3x400	140	500 x 360 x 900	875	
	BAT/19591	UNIVERSAL TRANSFORMATION KIT 12V-96V					

M = monofase / monophasé

T = driefase / triphasé





# BATTERY CHARGERS

## AQ-TRON BATTERY CHARGER

**AQ-TRON®**

### AQ-TRON EQUIPMENT

▶ <b>BAT/34544</b>	Electronic card for single phase charger
▶ <b>BAT/34543</b>	Electronic card for three-phase charger
▶ <b>BAT/34545</b>	Rectifier bridge for single phase charger 20 A
▶ <b>BAT/21090</b>	Rectifier bridge for single phase charger 30 A
▶ <b>BAT/15417</b>	Rectifier bridge for single phase charger 40 A
▶ <b>BAT/34548</b>	Rectifier bridge for single phase charger 50 A
▶ <b>BAT/33100</b>	Rectifier bridge for single phase charger 60 A
▶ <b>BAT/34550</b>	Rectifier bridge for three-phase charger 60 A
▶ <b>BAT/34551</b>	Rectifier bridge for three-phase charger 80 A
▶ <b>BAT/34552</b>	Rectifier bridge for three-phase charger 100 A
▶ <b>BAT/34553</b>	Rectifier bridge for three-phase charger 120 A
▶ <b>BAT/34554</b>	Rectifier bridge for three-phase charger 140 A
▶ <b>BAT/34555</b>	Single phase fuses 20/30/40/60/80A
▶ <b>BAT/34556</b>	Three-phase fuses 80/100/120/140/160A

### CHECKLIST

- 1 ✓ Compact size
- 2 ✓ Solid body
- 3 ✓ Simple use
- 4 ✓ Clear indication of the charge phase
- 5 ✓ Equalization charge
- 6 ✓ Safety timer
- 7 ✓ CE-label
- 8 ✓ Exact calibration of the mains voltage
- 9 ✓ Connection cables included



#### ▶ **BAT/33368**

Protecting cage for chargers  
Size: 520 x 380 x 920 (h)



#### ▶ **BAT/33369**

Protecting cage for chargers  
Size: 520 x 380 x 460 (h)

# INDUSTRIAL CHARGERS



## AQ-TRON FAST CHARGER 8 HOURS WoWa

	Ref.	Tension (V)	Current (A)	Current 400Vae (A)	Battery Capacity Average C5 (Ah)	Power (KVA)
24 V	AQ24T60FAST	24	60	3,3	300	2,25
	AQ24T80FAST	24	80	4,2	340	3
	AQ24T100FAST	24	100	5,3	450	3,75
	AQ24T120FAST	24	120	6,3	560	4,5
	AQ24T140FAST	24	140	7,4	675	5,25
	AQ24T160FAST	24	160	8,4	780	6
	AQ24T180FAST	24	180	9,4	890	6,75
36 V	AQ36T60FAST	36	60	4,8	300	3,75
	AQ36T80FAST	36	80	6,4	340	4,5
	AQ36T100FAST	36	100	7,8	450	5,62
	AQ36T120FAST	36	120	9,3	560	6,75
	AQ36T140FAST	36	140	10,9	675	7,87
	AQ36T160FAST	36	160	12,6	780	9
	AQ36T180FAST	36	180	14,1	890	10,12
	AQ40T60FAST	40	60	5,2	300	3,75
	AQ40T80FAST	40	80	7,0	340	5
	AQ40T100FAST	40	100	8,8	450	6,25
48 V	AQ48T60FAST	48	60	6,3	300	4,5
	AQ48T80FAST	48	80	8,4	340	6
	AQ48T100FAST	48	100	10,4	450	7,5
	AQ48T120FAST	48	120	12,6	560	9
	AQ48T140FAST	48	140	14,6	675	10,5
	AQ48T160FAST	48	160	16,7	780	12
	AQ48T180FAST	48	180	18,8	890	13,5
72 V	AQ72T50FAST	72	50	8,2	250	5,85
	AQ72T60FAST	72	60	9,4	300	6,75
	AQ72T80FAST	72	80	12,6	340	9
	AQ72T100FAST	72	100	15,6	450	11,25
	AQ72T120FAST	72	120	18,8	560	13,50
	AQ72T140FAST	72	140	22,0	675	15,75
	AQ72T160FAST	72	160	25,0	780	18
80 V	AQ80T50FAST	80	50	9,1	250	6,5
	AQ80T60FAST	80	60	10,4	300	7,5
	AQ80T80FAST	80	80	13,8	340	10
	AQ80T100FAST	80	100	17,3	450	12,5
	AQ80T120FAST	80	120	21,7	560	15
	AQ80T140FAST	80	140	24,3	675	17,5
	AQ80T160FAST	80	160	27,7	780	20
	AQ80T180FAST	80	180	31,2	890	22,5
96 V	AQ96T80FAST	96	80	16,7	340	12
	AQ96T100FAST	96	100	21,0	450	15
	AQ96T120FAST	96	120	25,0	560	18
	AQ96T140FAST	96	140	29,2	675	21
	AQ96T160FAST	96	160	33,4	780	24



### TECHNICAL SPECIFICATIONS

- Mains input 400Vac  $\pm$ 5% 50-60Hz
- Characteristics of charge current WoWa
- Clear of recognisable visualisation of charging level through 5mm Leds and display
- Microprocessor-controlled charging process
- Display and acoustic Safety timer
- Last 5 charge cycles saved in board memory
- Starting charge automatic or manual
- Suitable for rated battery voltages 24V-36V-48V-72V-80V-96V
- Maintenance charge
- Missing power supply phase signalling
- Intelligent charge
- Conformity to European normative CE-marking
- Weight: 40-90 Kg
- Dimensions: 360 x 500 x 900 mm



# BATTERY CHARGERS

## INDUSTRIAL CHARGERS



### RECOMMENDATIONS

Before buying a charger, next data must be determined:

#### a) CHARGE CYCLE

We advise you to consider your choice of the battery, and to examine all our chargers. Every model was designed for a specific application. Before you choose, check the next points:

- 1) Is the battery totally or partly discharged when it's connected to the charger?
- 2) How much time is there to charge the battery?
- 3) Do you need a charger which can charge batteries with different tension and capacity? Contact us!

#### b) TENSION OF THE CHARGER

The tension of the charger must be the same as that of the battery: 2.0V per cell.

#### c) CHARGE CURRENT

The charge current must be chosen in accordance with the battery capacity. With charge current, we mean the current which is given by the charger when the battery is at its nominal voltage (2.0V/cell). The current decreases to 50% when the battery tension rises up to 2.4V/cell and to 25% when 2.65V/cell is reached. For example: 48V - 100A / 57.6V - 50A / 63.6V - 25A.

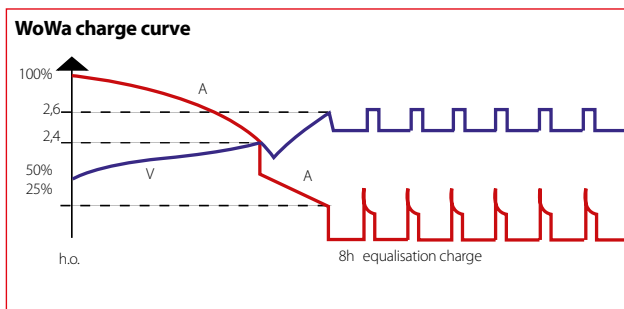
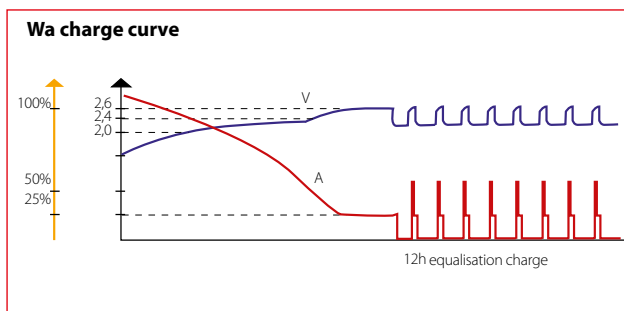
### Wa and WoWa charge curve

#### Wa charge curve:

Consists in a principal charge phase and a final charge phase. The charger starts to charge with a maximal current (100 %), during the charge, the battery tension increases and the charge current decreases correspondingly. When 2.4V/cell is reached, the charge current is decreased to 50 % and the principal charge phase is ended. During the final charge phase, the charge current decreases to 25 %, and a battery tension of 2.65V/cell is reached (= full battery tension).

#### WoWa charge curve:

Equals the Wa charge curve, but the current in the principal phase is 20 to 40 % higher than by the Wa charge curve. The final charge phase is identical with the Wa charge curve.



## CAPACITY TABLE FOR BATTERY CHARGERS

BATTERY DATA		POWER REQUIRED	MAXIMUM CURRENT AND FUSES					
VOLT V	AMP A		MAIN POWER KVA	SINGLE -PHASE		THREE PHASE		
		VOLT 230		FUSE aM	VOLT 230	FUSE aM	VOLT 400	FUSE aM
24	25	0.90	3.9	6,3				
24	30	1.08	4.7	6,3				
24	40	1.44	6.3	8	3.6	6	2.1	4
24	60	2.16	9.4	12	5.4	8	3.1	4
24	80	2.88	12.5	16	7.2	12	4.2	6
24	100	3.60	15.7	20	9	16	5.2	8
24	120	4.32			10.9	20	6.2	10
24	140	5.04			12.7	20	7.3	12
36	30	1.62	7	12	4.1	6	2.3	4
36	40	2.16	9.4	16	5.4	8	3.1	4
36	60	3.24	14.1	20	8.1	12	4.7	8
36	80	4.32	18.8	32	10.9	16	6.2	10
36	100	5.40	23.5	40	13.6	20	7.8	12
36	120	6.48	28.2	50	16.3	25	9.4	12
36	140	7.56			19	32	10.9	16
48	40	2.88	12.5	20	7.2	12	4.2	6
48	60	4.32	18.8	32	10.9	16	6.2	10
48	80	5.76	25	40	14.5	25	8.3	12
48	100	7.20			18.1	32	10.4	16
48	120	8.64			21.7	35	12.5	20
48	140	10.08			25.3	40	14.6	25
48	160	11.52					16.6	25
72	60	6.48			16.3	25	9.4	16
72	80	8.64			21.7	35	12.5	20
72	100	10.80			27.1	40	15.6	25
72	120	12.96					18.7	32
72	140	15.12					21.8	40
72	160	17.26					25	40
80	60	7.20			18.1	32	10.4	16
80	80	9.60			24.1	40	13.9	25
80	100	12.00			30.2	50	17.3	25
80	120	14.40					20.8	32
80	140	16.80					24.3	40
80	160	19.20					27.7	50
80	180	21.60					31.2	50
96	60	8.64			21.7	35	12.5	20
96	80	11.52			29	50	16.6	25
96	100	14.40					20.8	40
96	120	17.28					25	40
96	140	20.16					29.1	50
96	160	23.04					33.3	50
96	180	25.92					37.5	63