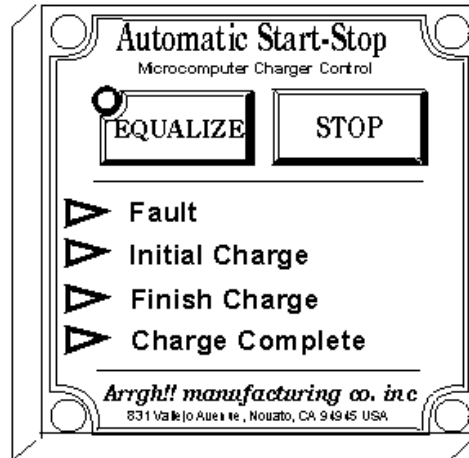
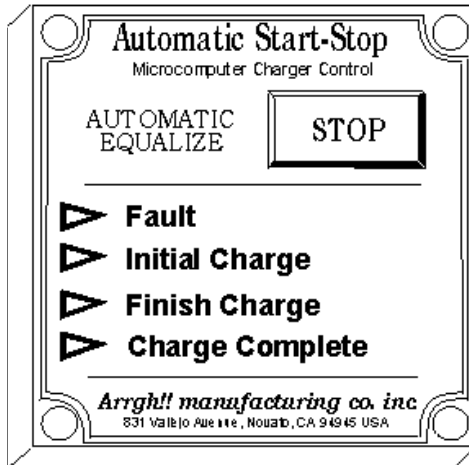


# MCC - Microcomputer Charger Control

For Lead-Acid Traction Battery Chargers

**Cost Savings & Warranty**



**Maintenance - Your Largest, Controllable Battery Expense!**

## Cost Savings

Studies indicate that chargers with timer controls overcharge their batteries on an average by 18% to 32% (details available upon request). Continual overcharge reduces battery life by an equal percentage. (Industry accepted rule of thumb)

*20% overcharge = 20% reduced life.*

### MCC's Yearly Savings Per Battery By Eliminating a 20% Overcharge

Typical Batteries	12 Volt	24 Volt	36 Volt	48 Volt
	500 AH	720 AH	935 AH	850 AH
	5.8 KWH	16.7 KWH	32.6 KWH	39.6 KWH
Cost	\$ 800.00	\$1,850.00	\$3,200.00	\$4,100.00
Life	5 Years (60 months)			
<b>Savings Per Battery</b>				
Battery Life	\$ 32.00	\$ 74.00	\$ 128.00	\$ 164.00
Electricity	\$ 52.00	\$ 149.00	\$ 291.00	\$ 354.00
Maintenance	\$ 78.00	\$ 156.00	\$ 234.00	\$ 312.00
Downtime/Repair	<u>\$ 90.00</u>	<u>\$ 180.00</u>	<u>\$ 270.00</u>	<u>\$ 360.00</u>
<b>Yearly Savings</b>	<b>\$ 252.00</b>	<b>\$ 559.00</b>	<b>\$ 923.00</b>	<b>\$1,190.00</b>

#### Formulas Used:

Battery Life	= Battery Cost x 20% / 5 years
Electricity	= $\frac{\text{Battery KWH} \times 20\% \times \$ .10 \times 250 \text{ days}}{\text{System Efficiency } 56\%}$
Maintenance	= 1/2 Minute/Cell/Week x \$30.00/Hour x 52 Weeks
Downtime/Repair	= 1/2 Hour/Cell/Year x \$30.00 Hour

**Not included in the above are potential savings from low-rate, off-peak charging.**

**If these results seem unrealistic for your operation, divide them by half. The savings are still spectacular!**

# Warranty

MCCs up to and including 128 volts dc, unless used in mining or other corrosive environments, are warranted to be free of defects in workmanship and materials for a period of five (5) years from date of shipment.

MCCs over 128 volts dc or used in mines or other harsh environments are warranted for one (1) year.

Warranty is limited to MCC repair or replacement at Arrgh!!'s option.

This warranty does not cover damage caused by failure to follow the installation & operation instructions, or due to other causes beyond Arrgh!!'s control.

This warranty is in lieu of any other warranties, guarantees or representations, expressed or implied, by operation of law or otherwise, including any warranty of merchantability or fitness for purpose.

Under no circumstances shall Arrgh!! Mfg. Co., Inc. be liable for any personal injury; for indirect, special, or consequential damages; nor for loss, damages or expenses directly arising from the use of this product.