ISO 9001
KEMA CERTIFIED
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ARR SERIES

Three-phase, silicon-controlled for utility, UPS and other standby applications

FEATURES AND BENEFITS

- Front access wiring reduces installation time and provides for ease of maintenance
- Common control board for all output voltages and current ratings reduce spares requirements and simplifies maintenance
- Stringent Class 1E nuclear design provides for a robust and reliable charger
- Standard battery eliminator filtering allows operation while battery is undergoing maintenance eliminating the need to provide separate power
- Designed to NEMA PE5 standard insures reliable performance under real world conditions

ARR SERIES FLOAT CHARGERS

Simplified operation, minimum maintenance, long, economical service… are a few of the advantages you get with a three-phase, high-power ARR charger. Electrical and mechanical design features make it ideal for a wide variety of utility, UPS and other standby power supply applications.

INPUT AND OUTPUT RATINGS

Three-phase ARR chargers have 208, 240 or 480-volt input. DC outputs are either 130 volts at 50 to 500 amps or 260 volts at 25 to 250 amps.

ELECTRICAL FEATURES

Standard control modules

All three-phase ARR chargers, regardless of size, use the same plug-in printed circuit boards. This minimizes parts inventory and simplifies maintenance.

Regulation

DC float voltage is maintained within ± 0.5 percent from no load to full load with input frequency variations of ±5 percent and with ac input voltage variation as shown.

Current limiting

The current limiting circuit is factory set at 105 percent and is adjustable from 75 percent up to 115 percent. It will hold down to short circuit.

Power factor

The typical power factor varies from 66 percent at +10 percent AC line to 80 percent at –10 percent AC line under full load conditions.

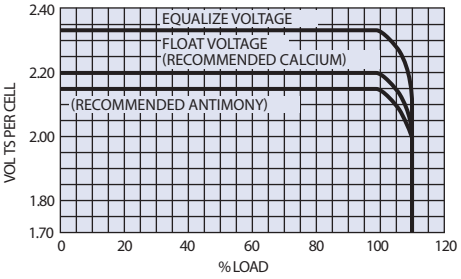
Electrical noise – filtered chargers

Filtered to 100 millivolts RMS when connected to a battery with an eight-hour capacity rating of four times the charger DC current rating.

INPUT VOLTAGE RANGE

Nominal Voltage	Minimum	Minimum
208V	184V	220V
240V	212V	254V
480V	424V	508V

REGULATION CURVE



Electrical noise – unfiltered chargers

Nominal ripple is approximately 3 percent RMS on unfiltered units when connected to a battery with an eight-hour capacity of four times the charger DC current rating.

Off-battery operation

All three-phase filtered ARR chargers can be operated on a principally resistive load with the battery disconnected for maintenance purposes. The RMS ripple will be greater than with the battery connected.

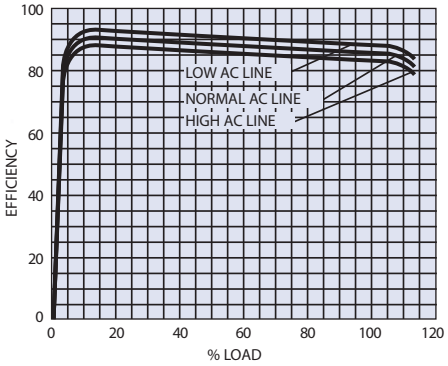
Paralleling

All three-phase ARR chargers can be operated in parallel with other constant potential chargers having similar regulation characteristics of the same nominal DC output voltage.

Circuit protection

A three-pole AC input circuit breaker is provided on all models. A two-pole DC circuit breaker is provided in the output circuit.

TYPICAL ARR EFFICIENCY CURVE



AC power failure alarm relay

The AC power fail alarm closes a single-pole Form C contact to operate a variety of local or remote alarms in the event of an AC failure.

High DC voltage shutdown

An adjustable DC high-voltage shutdown relay shuts down the charger if it senses a voltage above its set value.

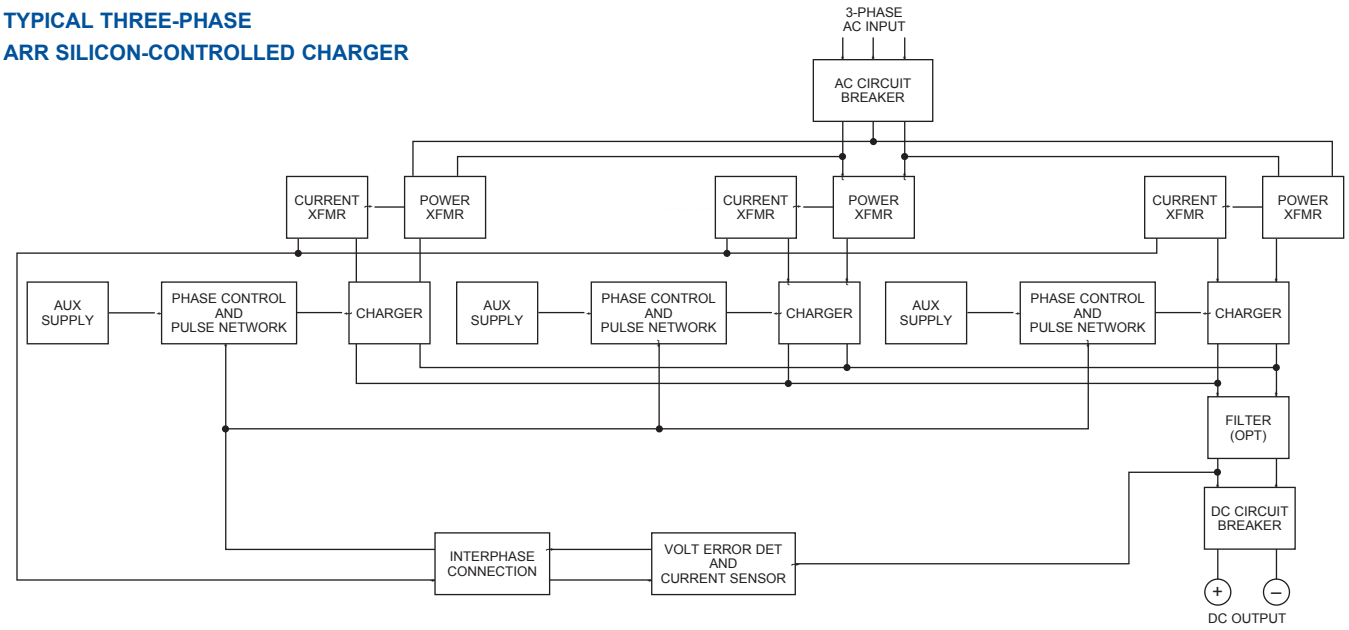
Float and equalize voltage controls

Two, multi-turn potentiometers provide the adjustment range. Selection is made with a toggle switch.

Meters

The DC ammeter and DC voltmeter have 3.5-in (89-mm) cases, 2.9-in (74-mm) scales and 2 percent accuracy.

BLOCK DIAGRAM FOR TYPICAL THREE-PHASE ARR SILICON-CONTROLLED CHARGER



Ambient operating temperatures

Three-phase ARR chargers will operate at current limiting continuously in temperatures from 32F to 122F (0C to 50C). These units can be stored for up to one year at temperatures ranging from -40F to 185F (-40C to 85C).

Finish

Electrostatically applied, baked epoxy powder finish (ANSI-61 gray) resists scratches, nicks, acid, and corrosive fumes.

Cooling

All models are natural convection cooled.

Mounting

All models are floor mounted.

OPTIONAL FEATURES

Low DC voltage alarm relay

Alarm operates when the charging voltage falls below a pre-set level. Available with time delay.

High DC voltage alarm relay

Alarm operates when the charging voltage goes above a pre-set level. Available with time delay.

Equalize timer (with indicating light)

0-255 hour timer replaces float-equalize switch. Charger automatically returns to float at end of time interval.

DC no-charge alarm relay with forced load sharing

DC no-charge alarm relay with forced load sharing operates when charger DC output current is less than 2 percent of rated output. Provides load sharing within ±5 percent for all three-phase ARR chargers with the same nominal DC output voltage and current. Recommended when chargers are operated in parallel.

One percent accuracy meters

Both voltmeter and ammeter have same size scale and case as standard two percent meters.

Summary alarm relay

The summary alarm relay combines the signals from several individual alarms and activates if one of the alarms is activated.

DC ground detection relay

Operates when resistance from output to ground is less than 10,000 ohms. Can be used for either remote or local indication.

Ground detection lights with two push-button switches

Shows whether ground is in (-) or (+) output line.

Ground detection momentary switch

Disconnects DC voltmeter from output circuit and measures voltage to common ground.

Lightning protective device

Provides added input protection against lightning-induced transients.

Drip shield

Protects charger from dripping water without interfering with convection cooling.

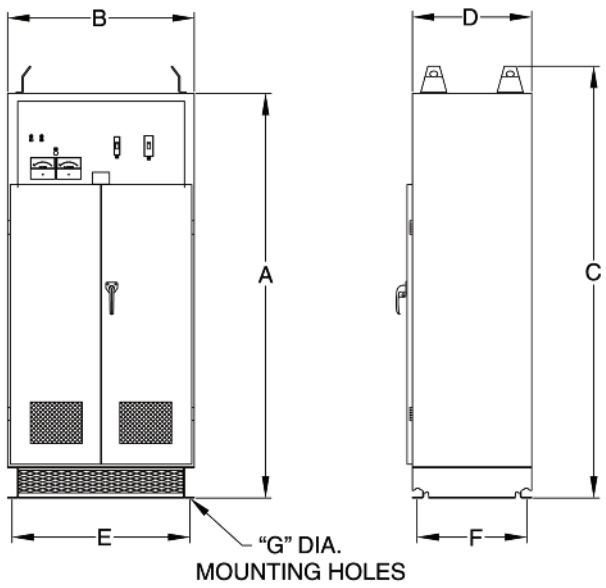
Other options

For special applications including:

- 50Hz
- special wiring
- special voltage
- blocking diodes
- digital meters
- special alarm indication

Contact Power Systems Application Engineering at 800-440-3504.

CABINET DIMENSIONS



CABINET	4623	2391	2970
A	58.00 in 1473 mm	78.00 in 1981 mm	78.00 in 1981 mm
B	28.00 in 711 mm	36.00 in 914 mm	48.00 in 1220 mm
C	63.25 in 1606 mm	83.25 in 2114 mm	83.25 in 2114 mm
D	20.00 in 508 mm	24.00 in 609 mm	36.00 in 914 mm
E	26.50 in 673 mm	30.00 in 762 mm	44.75 in 1137 mm
F	14.00 in 355 mm	21.25 in 539.7 mm	29.00 in 737 mm
G	0.56 in 14.2 mm	0.62 in 15.9 mm	87.00 in 22.2 mm

ARR THREE-PHASE MODEL SUMMARY

Model	Input Volts	AC amps at rated output	DC amps	Cabinet number	Approximate shipping weight	
					lb	kg
130-Volt output						
ARR130G50	208	32.5	50	4623	450	205
ARR130H50	240	28	50	4623	450	205
ARR130K50	480	14	50	4623	450	205
ARR130G75	208	49	75	4623	550	250
ARR130H75	240	42	75	4623	550	250
ARR130K75	480	21	75	4623	550	250
ARR130G100	208	62	100	4623	650	295
ARR130H100	240	54	100	4623	650	295
ARR130K100	480	27	100	4623	650	295
ARR130G150	208	95	150	4623	800	364
ARR130H150	240	82	150	4623	800	364
ARR130K150	480	41	150	4623	800	364
ARR130G200	208	140	200	2391	1100	500
ARR130H200	240	112	200	2391	1100	500
ARR130K200	480	56	200	2391	1100	500
ARR130G300	208	208	300	2970	1700	772
ARR130K300	480	112	300	2970	1700	772
ARR130K400	480	120	400	2970	2200	1000
ARR130K500	480	140	500	2970	3000	1364
260-Volt output						
ARR260K25	480	14	25	4623	450	205
ARR260K50	480	27	50	4623	650	295
ARR260K100	480	54	100	2391	1100	500
ARR260K150	480	90	150	2970	1700	772
ARR260K200	480	120	200	2970	2200	1000
ARR260K250	480	140	250	2970	3000	1364

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