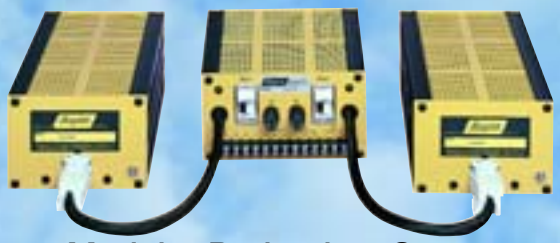
D A T A S H E E T

Acopian

NEED ULTRA-RELIABILITY? USE REDUNDANT POWER

Redundant Power Packages and Systems have two power supplies for each output. If one fails, you're still operating.

Wall Mounting
Redundant Power Package



Modular Redundant System
(May be mounted on a DIN rail, wall, chassis or cabinet frame)

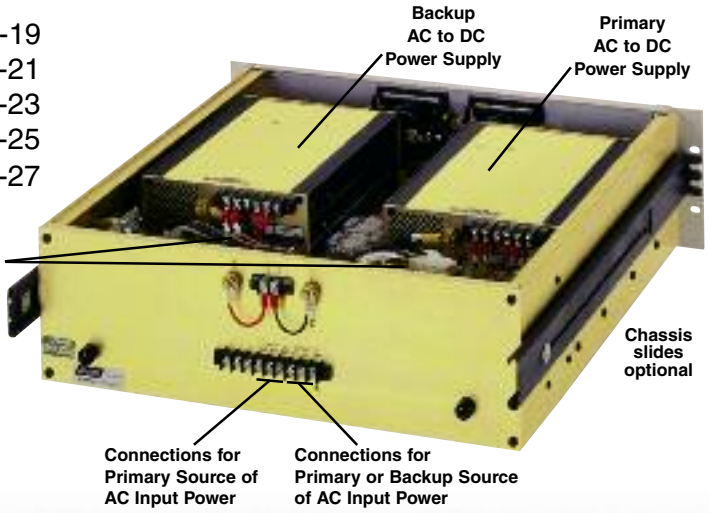
Rack Mounting
Redundant Power Package

Pluggable
Redundant Power Package

Customized Redundant Systems
(Built to your requirements)

REDUNDANT POWER PACKAGES and *MODULAR REDUNDANT SYSTEMS*

(Rack Mounting, Wall Mounting & Pluggable) ***(Three separate modules)***



AC-DC
single output

- Shipped Within 9 Days
- U.L. Recognized (Power Packages on pages 18-21)
- Five Year Warranty

Applications: Redundant Power should be considered for any equipment where the highest attainable reliability is essential, and an unexpected loss of power would be disastrous. Such applications include communications systems (both voice and data types), computer systems (volatile memory systems in particular), process controls, utility and municipal systems, and security/safety alarm systems.

Output Redundancy: Each Redundant Power Package or Modular Redundant System contains two identical power supplies with their outputs interconnected through a diode switching arrangement that will detect any fault condition, isolate it from the system output, and pass only the output of the other supply with no interruption of output power during the transition.

Input Redundancy: All Acopian Redundant Power Packages or Modular Redundant Systems may be operated with only one AC power source. However, two isolated sets of AC input connections are provided, so that two independent sources of AC input power may be used, to obtain the additional benefit of input power redundancy. By feeding one input through a battery-backup power source (UPS), DC output power will be maintained even if both AC power sources should fail.

Serviceability: A defective power supply can be rapidly and safely changed while the other supply continues to furnish uninterrupted power to the load. All input, output and alarm-contact connections are at the rear of the assembly for Rack Mounting models or on the front for Wall Mounting models or Modular Systems. For Rack Mounting models, the chassis slides and handles options are recommended for applications where it is desired to service the Redundant Power Package without removing it from the rack.

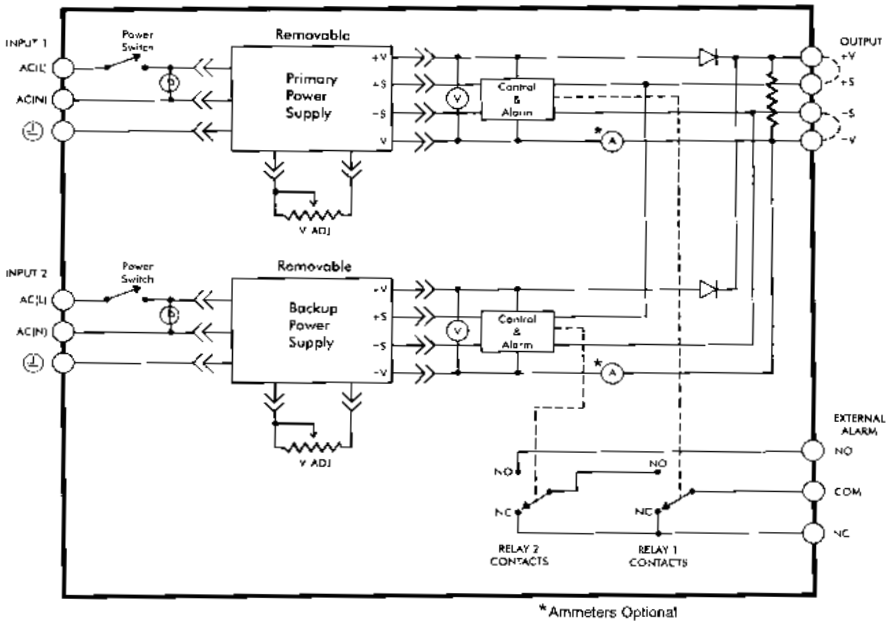
Operation: The output voltage of the primary supply is set approximately 0.2 volt higher than that of the backup supply. Under this condition, the backup supply's diode is not forward biased; only the primary supply delivers current to the load. If the output voltage of the primary supply decreases by more than 0.2 volt, the situation is reversed and only the backup supply delivers load current. There is no interruption of output power during the transition.

Monitoring Circuitry: Acopian Redundants contain two voltage monitoring circuits with relays, the contacts of which are available to control external failure alarms or other circuitry. The contact wiring of the two relays is connected in cascade, to simulate a single set of Form C contacts which switches if the output voltage of either power supply decreases by more than 2.0 volts from the nominal rating (3.0 volts for Linear models with outputs over 49 volts; 4.0 volts for Switching models with outputs over 49 volts).

Overvoltage Protection: Automatic recovery. Each power supply contains an overvoltage protection circuit, to assure that neither power supply output will significantly exceed the nominal output voltage rating under any condition, including incorrect application and misadjustment.

Simplified Diagram for Redundant Power Packages

(see page 23 for Simplified Diagram
of the Pluggable Redundant Power Packages
or
page 25 for Simplified Diagram
of the Modular Redundant Systems)



SPECIFICATIONS (for all Redundant Power Packages & Modular Redundant Systems)

Input Voltage: (A separate set of AC input terminals is provided for each power supply, so that if two sources of AC input power are available, one may be used for each supply and so reduce the possibility of output dropout due to loss of input power.)

Linear (all models): 105-125 VAC, 50-400 Hz, single phase.
Switching (Redundant Power Packages): 90-132 VAC, 49-61 Hz, single phase.
For models R24W7, RWL24W7, R28W7, RWL28W7, R48W7 and RWL48W7, the use of 30A lines is recommended.
When operating on 50 Hz input, derate output by 5%.
Switching (Pluggable Redundant Power Packages): 90-265 VAC, 49-420 Hz, single phase.
Switching (Modular Redundant Systems): 90-265 VAC, 49-420 Hz, single phase.

Remote Voltage Sensing: Provision for sensing the output voltage across the load, so that drops in the load lines are compensated, is a standard feature.

Output Voltage:
Normal mode: Nominal voltage shown in tables.
Backup mode: 0.2 volt less than nominal voltage shown in tables.

Output Regulation:
Line: ±0.05%
Load: ±0.05% (Dynamic regulation - does not include 0.2 volt shift which occurs during switchover to lower-set backup supply.)

Load Protection: Overvoltage protection.

Overload/Short Circuit Protection: Foldback current limiting with automatic recovery (Switching Modular Redundant Systems and Pluggable Redundant Power Packages have current limiting with automatic recovery).

Polarity: Output is floating; either positive or negative output terminal may be grounded or floated up to 300 volts above ground.

Output Monitoring:
Redundant Power Packages: A separate voltmeter for each output (standard). Ammeters available; see Options.
Modular Redundant Systems: 'Output Present' LED for each power supply is located on the Integration Module. ('Output Present' green LEDs are also located on each power supply (DC on) on the Switching Regulated Modular Redundant Systems.)

Alarm Relay Contact Ratings: 120 VAC, 8A / 60 Vdc, 1A. (To comply with SELV requirements, limit switched voltage to 60Vdc/42 VAC.)

Temperature Coefficient: 0.02%/°C (Typical).

Ambient Operating Temperature:
Linear: –20 to +71°C.
Switching: 0 to +71°C.

Storage Temperature:
Linear: –55 to +85°C.
Switching: –40 to +85°C.

Terminal Strip Cover: Clips on.

LINEAR REGULATED

REDUNDANT POWER PACKAGES

Rack Mounting & Wall Mounting

AC-DC

single output

- Shipped Within 9 Days
- All Models U.L. Recognized
- Five Year Warranty

Rack Mounting

(Ammeters and handles optional)

An Acopian Redundant Power Package is installed by simply connecting the AC input and DC output terminals. All wiring (including isolation diodes, output monitor circuits, switches, meters, adjustments and connectors) has been done for you.

For Specifications and other information, see pages 16 & 17.

OPTIONS

Add option suffixes in alphabetical order. Example: R5H16AH-230.

Ammeters: One for each output. For models in case sizes 3R14 and 317R18 two volt/ammeters, each with switch, are substituted for the standard voltmeters. Add suffix "A" to model number and $120.00 to price.

Audible Alarms: Piercing whistle alerts personnel to a voltage lower than normal. Front panel mounted, one for each power supply. When this option is included and the alarm contacts are also used, meeting SELV levels requires that the input voltages be no greater than 125 VAC. To order, add suffix "K" to model number and $90.00 to price.

Separate Alarm Contacts for each Power Supply: If a power supply's output is incorrect, using two alarms permits remotely identifying that power supply. Each contact set is Form C (SPDT). To order, add suffix "R" to model number and $35.00 to price.(Cannot combine "K" and "R" options on Wall Mounting units.)

Handles (for Rack Mounting models)**:** Add suffix "H" to model number and $30.00 to price.

Chassis Slides (for Rack Mounting models)**:** For racks having rear mounting rails spaced 20˝ to 26˝ behind the front panel. To order, add suffix "S" to model number and $90.00 to price.

230 Volt Input: For operation on inputs of 210-250 VAC, 50-400 Hz. To order, add suffix "–230" to model number and $75.00 to price. Requires two additional days.

Linear Regulated REDUNDANT POWER PACKAGES

Nominal Output Voltage	Adjust Range ±V	Output Current Amps. at 40°C	55°C	71°C	Ripple mV RMS	Rack Mounting Models ($) Price	Model	Case Size	Wall Mounting Models ($) Price	Model	Case Size
5	.5	2.6	2.5	2.4	1	1195	R5N8X	3R14	1515	RWL5N8X	317R18
5	.5	5.3	4.4	3.5	1	1305	R5M6	5R14	1625	RWL5M6	517R18
5	.5	11	9.3	7.5	1	1415	R5M13	5R18	1730	RWL5M13X	517R20
5	.5	21	17	14	1	1625	R5H11	7R18	1945	RWL5H11	719R20
5	.5	28	23	19	1	1845	R5H16	7R20	2165	RWL5H16	719R25
12	.5	1.5	1.5	1.5	1	1195	R12N8X	3R14	1515	RWL12N8X	317R18
12	.5	3.5	3	2.5	1	1305	R12M6	5R14	1625	RWL12M6	517R18
12	.5	8	7.5	7	1	1415	R12M13	5R18	1730	RWL12M13X	517R20
12	.5	16	13.8	11.2	1	1625	R12H11	7R18	1945	RWL12H11	719R20
12	.5	20	17	14.2	1	1845	R12H16	7R20	2165	RWL12H16	719R25
15	.5	1.5	1.5	1.5	1	1195	R15N8X	3R14	1515	RWL15N8X	317R18
15	.5	4	3.8	3.6	1	1305	R15M9	5R14	1625	RWL15M9	517R18
15	.5	6.5	6	5.5	1	1415	R15M13	5R18	1730	RWL15M13X	517R20
15	.5	14.7	12.5	10.3	1	1625	R15H11	7R18	1945	RWL15H11	719R20
15	.5	18.7	16	13.3	1	1845	R15H16	7R20	2165	RWL15H16	719R25
24	.5	.9	.9	.9	1	1195	R24N8X	3R14	1515	RWL24N8X	317R18
24	.5	3	2.7	2.4	1	1305	R24M9	5R14	1625	RWL24M9	517R18
24	.5	5	5	5	1	1415	R24M13	5R18	1730	RWL24M13X	517R20
24	.5	11.7	10.2	8.7	1	1625	R24H11	7R18	1945	RWL24H11	719R20
24	.5	14.7	12.7	10.7	1	1845	R24H16	7R20	2165	RWL24H16	719R25
28	.5	1	1	1	1	1195	R28N8X	3R14	1515	RWL28N8X	317R18
28	.5	2.7	2.6	2.5	1	1305	R28M9	5R14	1625	RWL28M9	517R18
28	.5	5	5	5	1	1415	R28M13	5R18	1730	RWL28M13X	517R20
28	.5	10.5	9.2	8	1	1625	R28H11	7R18	1945	RWL28H11	719R20
28	.5	14	12	10	1	1845	R28H16	7R20	2165	RWL28H16	719R25
48	.5	.4	.4	.4	1	1230	R48N8T	3R14	1555	RWL48N8T	317R18
48	.5	1.6	1.4	1.2	1	1355	R48M9	5R14	1670	RWL48M9	517R18
48	.5	3	3	3	1	1460	R48M13	5R18	1780	RWL48M13X	517R20
48	.5	6	5	4	1	1680	R48H11	7R18	2000	RWL48H11	719R20
48	.5	8.5	7.2	5.5	1	1990	R48H16	7R20	2315	RWL48H16	719R25
60	1	.25	.25	.25	1	1265	R60N8T	3R14	1585	RWL60N8T	317R18
60	1	1	.9	.8	1	1385	R60M9	5R14	1705	RWL60M9	517R18
60	1	2.5	2.1	1.7	1	1490	R60M13	5R18	1815	RWL60M13X	517R20
60	1	5	4.1	3.3	1	1710	R60H11	7R18	2035	RWL60H11	719R20
60	1	7	5.8	4.6	1	2000	R60H16	7R20	2330	RWL60H16	719R25
120	1	.12	.12	.12	1	1285	R120N8T	3R14	1605	RWL120N8T	317R18
120	1	.5	.5	.4	1	1415	R120M6	5R14	1730	RWL120M6	517R18
120	1	1.2	1.1	1	1	1520	R120M13	5R18	1850	RWL120M13X	517R20
120	1	2.5	2	1.6	1	1750	R120H11	7R18	2080	RWL120H11	719R20
120	1	3.5	2.9	2.3	1	2050	R120H16	7R20	2380	RWL120H16	719R25
125	1	.12	.12	.12	1	1310	R125N8T	3R14	1630	RWL125N8T	317R18
125	1	.4	.4	.4	1	1435	R125M6	5R14	1750	RWL125M6	517R18
125	1	1.2	1.1	1	1	1545	R125M13	5R18	1870	RWL125M13X	517R20
125	1	2.4	1.9	1.5	1	1775	R125H11	7R18	2100	RWL125H11	719R20
125	1	3.4	2.8	2.3	1	2075	R125H16	7R20	2400	RWL125H16	719R25

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Wall Mounting

(Ammeters optional)

PARALLELABLE "SEMISYSTEM" POWER SUPPLIES

LINEAR REGULATED

Two units connected in parallel function the same as a Redundant Power Package.

(Handles optional)

SHIPPED WITHIN 9 DAYS
FIVE YEAR WARRANTY
ALL MODELS U.L. RECOGNIZED

Each supply contains a voltmeter, isolation diodes, a voltage monitor circuit providing contacts for control of an external alarm (or built-in audible alarm) and overvoltage protection circuit, so that two paralleled units are functionally equivalent to a Redundant Power Package. All connections are by means of a Jones connector (mate provided), so that one supply may be quickly, easily and safely installed in or removed from the rack while another provides uninterrupted power to the load. For a redundant system, order two units.

Specifications: Same as shown under SPECIFICATIONS on page 17 for Linear Redundant Power Packages.

Case Size: 5¼″ x 19″ panel, 16 13/16″ deep. (53 lbs.)
To allow for mating connector and radius of wiring, mounting space should be at least 20″ deep.

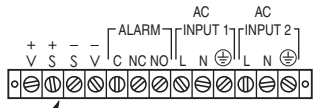
CASE SIZES:

Rack Mounting:

3R14	3½″ x 19″ panel, 14 13/16″ deep. (15 lb.)
5R14	5¼″ x 19″ panel, 14 13/16″ deep. (23 lb.)
5R18	5¼″ x 19″ panel, 17⅞″ deep. (29 lb.)
7R18	7″ x 19″ panel, 18½″ deep. (50 lb.)
7R20	7″ x 19″ panel, 20½″ deep. (64 lb.)

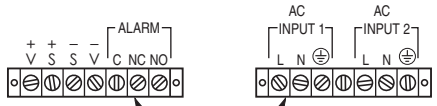
Wall Mounting: See page 21.

CONNECTIONS FOR CASE SIZES 3R14, 317R18, 5R14, 5R18, 517R18 and 517R20:



Barrier Strip with 6-32 terminal screws

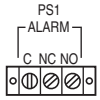
CONNECTIONS FOR CASE SIZES 7R18, 7R20, 719R20, and 719R25:



Barrier Strips with 8-32 terminal screws

Additional CONNECTIONS for "R" Option: Separate Alarm Contacts for each Power Supply

(Note: Connections for 'ALARM' in above drawings become connections for 'PS2 ALARM')



PARALLELABLE "SEMISYSTEM" POWER SUPPLIES
Linear Regulated

For a redundant system, order two units.

Nominal Output Voltage	Adjust Range ±V	Output Current Amps. at 40°C	Output Current Amps. at 55°C	Ripple mV RMS	($) Price	Model	Case Size
5	.5	55	43	1	1195	R5PH17	5R17
12	.5	41	32	1	1195	R12PH17	5R17
15	.5	37	29	1	1195	R15PH17	5R17
24	.5	28	22	1	1195	R24PH17	5R17
28	.5	27	21	1	1195	R28PH17	5R17
48	.5	15	12	1	1195	R48P17	5R17

OPTIONS

Add option suffixes in alphabetical order.

Ammeter: Add suffix letter "A" to model number and $60.00 to unit price.

Handles: Add suffix "H" to model number and $30.00 to unit price.

Audible Alarm: Whistle alerts personnel to voltage lower than normal. Front panel mounted. Units with this option do not have provision for control of an external alarm. Add suffix "K" to model number and $45.00 to unit price.

230 Volt Input: For operation on inputs of 210-250 VAC, 50-400 Hz. To order, add suffix "–230" to model number and $40.00 to unit price. Requires two additional days.

SWITCHING REGULATED

REDUNDANT POWER PACKAGES

Rack Mounting & Wall Mounting

AC-DC

single output

- Shipped Within 9 Days
- All Models U.L. Recognized
- Five Year Warranty

An Acopian Redundant Power Package is installed by simply connecting the AC input and DC output terminals. All wiring (including isolation diodes, output monitor circuits, switches, meters, adjustments and connectors) has been done for you.

Rack Mounting

(Handles and chassis slides optional)

For Specifications and other information, see pages 16 & 17.

OPTIONS

Add option suffixes in alphabetical order. Example: R12W6AH-230.

Ammeters: One for each output. Add suffix letter "A" to model number and $120 to price.

Audible Alarms: Piercing whistle alerts personnel if the power supply's output deviates by more than 2 volts from the nominal rating. Front panel mounted, one for each power supply. When this option is included and the alarm contacts are also used, meeting SELV levels requires that the input voltages be no greater than 125 VAC. To order, add suffix "K" to model number and $90.00 to price.

Separate Alarm Contacts for each Power Supply: If a power supply's output is incorrect, using two alarms permits remotely identifying that power supply. Each contact set is Form C (SPDT). To order, add suffix "R" to model number and $35.00 to price. (Cannot combine "K" and "R" options on Wall Mounting units.)

Handles (for Rack Mounting models)**:** Add suffix "H" to model number and $30.00 to price.

Chassis Slides (for Rack Mounting models)**:** For racks having rear mounting rails spaced 20″ to 26″ behind the front panel. To order, add suffix "S" to model number and $90.00 to price.

230 Volt Input: For operation on inputs of 180-264 VAC, 49-61 Hz. To order, add suffix "–230" to model number and $100.00 to price. Requires two additional days.

Rack Mounting Case Sizes:

5RW16 5¼″ x 19″ panel, 16 13/16″ deep. (21 lb.)
5RW18 5¼″ x 19″ panel, 18 13/16″ deep. (27 lb.)
5RW22 5¼″ x 19″ panel, 22 13/16″ deep. (32 lb.)

Wall Mounting Case Sizes: See page 21.

Switching Regulated REDUNDANT POWER PACKAGES

Nominal Output Voltage	Adjust Range ±V	Output Current Amps. at			Ripple mV (@ 25 MHz BW)		Rack Mounting Models			Wall Mounting Models		
		40°C	55°C	71°C	RMS	P-P	($) Price	Model	Case Size	($) Price	Model	Case Size
12	.5	26	22	18	15	100	2165	R12W6	5RW16	2485	RWL12W6	519RW15
12	.5	41	35	28	15	100	2605	R12W9	5RW18	2925	RWL12W9	519RW18
12	.5	61	52	42	15	100	3035	R12G7	5RW22	3365	RWL12G7	522RW17
15	.5	21	18	15	15	100	2165	R15W6	5RW16	2485	RWL15W6	519RW15
15	.5	33	28	23	15	100	2605	R15W9	5RW18	2925	RWL15W9	519RW18
15	.5	49	42	34	15	100	3035	R15G7	5RW22	3365	RWL15G7	522RW17
24	.5	15	13	11	15	100	2165	R24W6	5RW16	2485	RWL24W6	519RW15
24	.5	24	21	17	15	100	2605	R24W9	5RW18	2925	RWL24W9	519RW18
24	.5	36	31	25	15	100	3035	R24G7	5RW22	3365	RWL24G7	522RW17
24	.5	50	42	35	15	100	3245	R24W7	5RW22	3575	RWL24W7	522RW17
28	.5	13	11	9	15	100	2165	R28W6	5RW16	2485	RWL28W6	519RW15
28	.5	20	17	14	15	100	2605	R28W9	5RW18	2925	RWL28W9	519RW18
28	.5	30	26	21	15	100	3035	R28G7	5RW22	3365	RWL28G7	522RW17
28	.5	42	35	29	15	100	3245	R28W7	5RW22	3575	RWL28W7	522RW17
48	.5	8	7	5	25	150	2165	R48W6	5RW16	2485	RWL48W6	519RW15
48	.5	12	10	8	25	150	2605	R48W9	5RW18	2925	RWL48W9	519RW18
48	.5	19	16	13	25	150	3035	R48G7	5RW22	3365	RWL48G7	522RW17
48	.5	25	21	17	25	150	3245	R48W7	5RW22	3575	RWL48W7	522RW17

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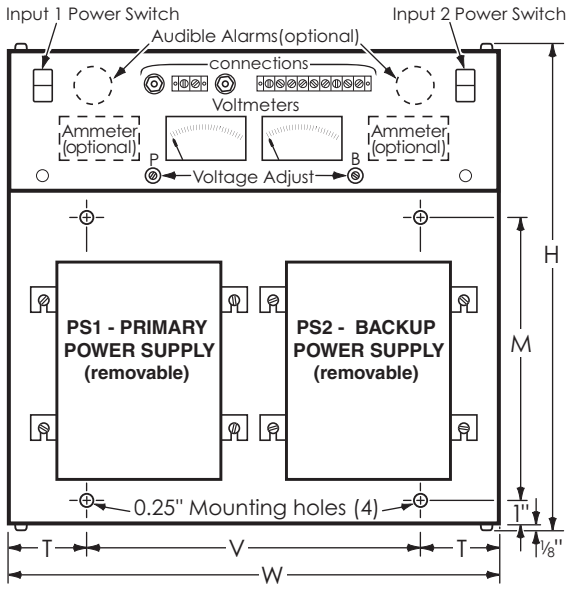
Wall Mounting

(Ammeters optional)

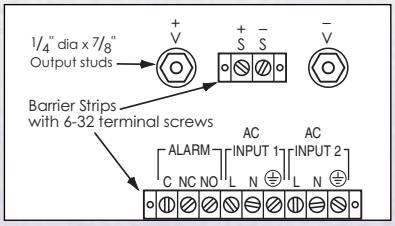
Wall Mounting Case Sizes:



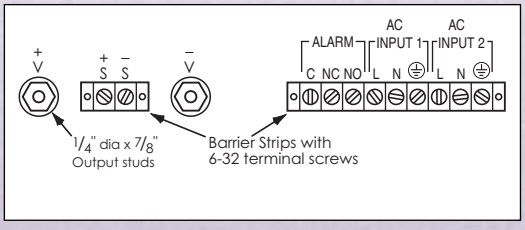
Case Size	H	W	M	V	T	Depth	Approx. Weight
317R18	18½″	17	11	14	1½	4¼	18 lb.
517R18	18½″	17	11	14	1½	6	22-26 lb.
517R20	20½″	17	13	13	2	6	34 lb.
519RW15	15½″	19	8	13	3	6 1/16	24 lb.
519RW18	18½″	19	11	13	3	6 1/16	27 lb.
522RW17	17¼″	22½	10	16½	3	6 1/16	33 lb.
719R20	20½″	19	13	13	3	7¾	58 lb.
719R25	25½″	19	18	13	3	7¾	70 lb.

CONNECTIONS:

RACK MOUNTING

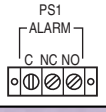


WALL MOUNTING



Additional CONNECTIONS for "R" Option:
Separate Alarm Contacts for each Power Supply

(Note: Connections for 'ALARM' in above drawings become connections for 'PS2 ALARM')



SWITCHING REGULATED

PLUGGABLE REDUNDANT POWER PACKAGES

(Power Factor Correction and Universal Input)

AC-DC

single output

- Shipped Within 9 Days
- Five Year Warranty

Extremely high overall reliability results from connecting two power sources so that one will continue to provide power to their load even if the other becomes inoperative. Acopian Redundant Power Packages have all the wiring done for you - not only isolation diodes, but also switches, meters, adjustments and output monitor circuits. All you need to do is connect the input and output terminals.

Two Voltmeters (standard)
Two Ammeters (optional)
Audible Alarms (optional)
Handles (optional)

For more Specifications and information, see pages 16 & 17.

System Description: These models are functionally identical to the other Redundant Power Packages, but have the added advantage that a power supply can literally be changed in seconds.

OPTIONS

Add option suffixes in alphabetical order.
Example: R24WP8XAHKS.

Ammeters: One for each output. Add suffix letter "A" to model number and $120.00 to price.

Audible Alarms: Front panel mounted, one for each power supply. Piercing whistle alerts personnel if the power supply's output deviates by more than 2 volts from the nominal rating (4 volts for 50 to 125 volt models). When this option is included and the alarm contacts are also used, meeting SELV levels requires that the input voltages be no greater than 125 VAC. To order, add suffix "K" to model number and $90.00 to price.

Separate Alarm Contacts for each Power Supply: If a power supply's output is incorrect, using two alarms permits remotely identifying that power supply. Each contact set is Form C (SPDT). To order, add suffix "R" to model number and $35.00 to price.

Handles: Add suffix "H" to model number and $30.00 to price.

Chassis Slides: For racks having rear mounting rails spaced 20˝ to 26˝ behind the front panel. To order, add suffix "S" to model number and $90.00 to price.

SPECIFICATIONS

Input Voltage: 90-265 VAC, 49-420 Hz, single phase.
(A separate set of AC input terminals is provided for each power supply, so that if two sources of AC input power are available, one may be used for each supply and so reduce the possibility of output dropout due to loss of input power.)

Power Factor: 0.99 typical at 115 VAC, 60Hz and full load. Complies with EN61000-3-2.

Drift: ±0.1% typical over 8 hours, after 30 minute warmup.

Inrush Current: Cold start, (thermistor limiter) 20A peak @115 VAC; 40A peak @ 230 VAC.

Startup Time: 800 mS typical.

Remote Sensing: Compensates up to 0.5 volt drop per output line (1 volt for 50 to 125 volt models), within the limits of the output voltage adjustment range.

Holdup Time: 16 mS minimum.

Transient Response: 300 µS to return to ±1% of output setting. Maximum of ±3% output excursion following a load step change from 50% to 100%.

Switching Frequency: 100 kHz (Typical).

Isolation: Input to output, input to case; 500 VAC.
Output to case; 300 VAC

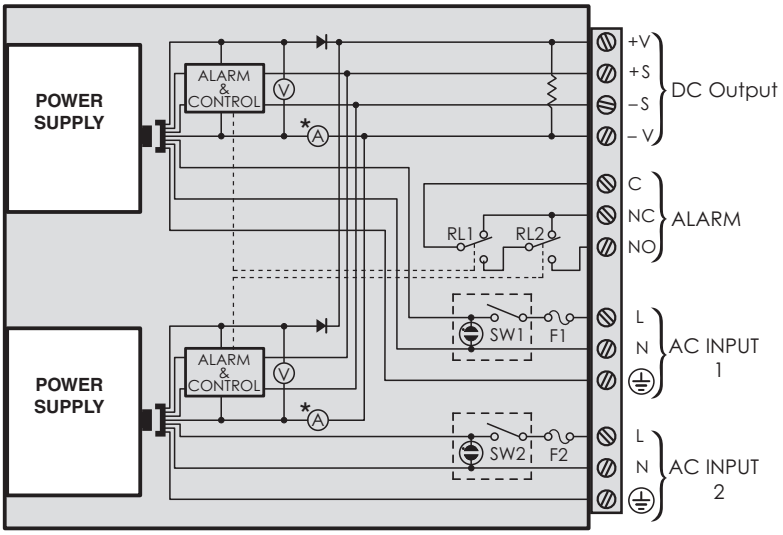
Thermal Protection: Thermostat, self-resetting.

Cooling: Forced-air cooled; air enters front of system and exits from top.

CASE SIZE: 5RP13 5¼˝ x 19˝ panel, 12¾˝ deep. (14 lb. 4 oz.)

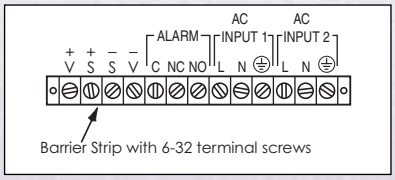
Nominal Output Voltage	Adjust Range ±V	Output Current Amps. at 40°C	55°C	71°C	Ripple mV (@ 25 MHz BW) RMS	P-P	($) Price	Model	Case Size
3.3	.5	15.4	13	10.7	10	50	1390	R3.3WP8X	5RP13
3.3	.5	24	20.5	16.8	10	50	1550	R3.3WP8	5RP13
5	.5	15.4	13	10.7	10	50	1390	R5WP8X	5RP13
5	.5	24	20.5	16.8	10	50	1550	R5WP8	5RP13
6	.5	15	12.6	10.5	10	50	1390	R6WP8X	5RP13
6	.5	23	19.5	16.8	10	50	1550	R6WP8	5RP13
7	.5	14.7	12.4	10.3	10	50	1390	R7WP8X	5RP13
7	.5	23	19.5	16.1	10	50	1550	R7WP8	5RP13
8	.5	14.4	12	10	15	100	1390	R8WP8X	5RP13
8	.5	23	19.5	16.1	15	100	1550	R8WP8	5RP13
9	.5	14.1	12	9.8	15	100	1390	R9WP8X	5RP13
9	.5	22	18.7	15.4	15	100	1550	R9WP8	5RP13
10	.5	13.5	11.5	9.5	15	100	1390	R10WP8X	5RP13
10	.5	21	18.5	15	15	100	1550	R10WP8	5RP13
12	.5	12.3	10.5	8.6	15	100	1390	R12WP8X	5RP13
12	.5	20	17	14	15	100	1550	R12WP8	5RP13
13	.5	11.3	9.7	7.9	15	100	1390	R13WP8X	5RP13
13	.5	18.4	15.7	12.9	15	100	1550	R13WP8	5RP13
14	.5	10.9	9.3	7.6	15	100	1390	R14WP8X	5RP13
14	.5	17.6	15	12.3	15	100	1550	R14WP8	5RP13
15	.5	10.2	8.7	7.1	15	100	1390	R15WP8X	5RP13
15	.5	16.5	14	11.5	15	100	1550	R15WP8	5RP13
18	.5	8.5	7.2	5.9	15	100	1390	R18WP8X	5RP13
18	.5	13.7	11.6	9.5	15	100	1550	R18WP8	5RP13
20	.5	7.6	6.5	5.3	15	100	1390	R20WP8X	5RP13
20	.5	12.7	10.7	8.8	15	100	1550	R20WP8	5RP13
24	.5	7.2	6.1	5	15	100	1390	R24WP8X	5RP13
24	.5	11.5	9.8	8	15	100	1550	R24WP8	5RP13
25	.5	6.6	5.6	4.6	15	100	1390	R25WP8X	5RP13
25	.5	10.6	9	7.4	15	100	1550	R25WP8	5RP13
28	.5	5.9	5	4.1	15	100	1390	R28WP8X	5RP13
28	.5	9.5	8.1	6.7	15	100	1550	R28WP8	5RP13
30	.5	5.6	4.8	4	25	150	1390	R30WP8X	5RP13
30	.5	8.7	7.4	6.1	25	150	1550	R30WP8	5RP13
32	.5	5.2	4.5	3.7	25	150	1390	R32WP8X	5RP13
32	.5	8.3	7	5.8	25	150	1550	R32WP8	5RP13
36	.5	4.7	4	3.3	25	150	1390	R36WP8X	5RP13
36	.5	7.7	6.5	5.4	25	150	1550	R36WP8	5RP13
40	.5	4.2	3.6	3	25	150	1390	R40WP8X	5RP13
40	.5	6.8	5.8	4.8	25	150	1550	R40WP8	5RP13
48	.5	3.5	3	2.5	25	150	1390	R48WP8X	5RP13
48	.5	5.7	4.9	4	25	150	1550	R48WP8	5RP13
50	1	3.3	2.8	2.3	50	150	1390	R50WP8X	5RP13
50	1	5	4.3	3.5	50	150	1550	R50WP8	5RP13
55	1	3	2.5	2.1	50	150	1390	R55WP8X	5RP13
55	1	4.5	3.8	3.1	50	150	1550	R55WP8	5RP13
60	1	2.8	2.3	1.9	50	150	1390	R60WP8X	5RP13
60	1	4.2	3.5	2.9	50	150	1550	R60WP8	5RP13
70	1	2.4	2	1.7	67	200	1390	R70WP8X	5RP13
70	1	3.6	3.1	2.5	67	200	1550	R70WP8	5RP13
75	1	2.2	1.8	1.5	67	200	1390	R75WP8X	5RP13
75	1	3.3	2.8	2.3	67	200	1550	R75WP8	5RP13
80	1	2.1	1.7	1.4	67	200	1390	R80WP8X	5RP13
80	1	3.1	2.6	2.2	67	200	1550	R80WP8	5RP13
90	1	1.8	1.5	1.3	100	300	1390	R90WP8X	5RP13
90	1	2.8	2.4	2	100	300	1550	R90WP8	5RP13
100	1	1.7	1.4	1.2	150	450	1390	R100WP8X	5RP13
100	1	2.5	2.1	1.8	150	450	1550	R100WP8	5RP13
110	1	1.5	1.3	1.1	150	450	1390	R110WP8X	5RP13
110	1	2.3	1.9	1.6	150	450	1550	R110WP8	5RP13
120	1	1.4	1.2	1	150	450	1390	R120WP8X	5RP13
120	1	2.1	1.8	1.5	150	450	1550	R120WP8	5RP13
125	1	1.3	1.1	0.9	150	450	1390	R125WP8X	5RP13
125	1	2	1.7	1.4	150	450	1550	R125WP8	5RP13

Simplified Diagram for Pluggable Redundant Power Packages



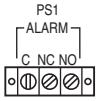
*Ammeters optional

CONNECTIONS:



Additional CONNECTIONS for "R" Option:
Separate Alarm Contacts for each Power Supply

(Note: Connections for 'ALARM' in the above drawing become connections for 'PS2 ALARM')



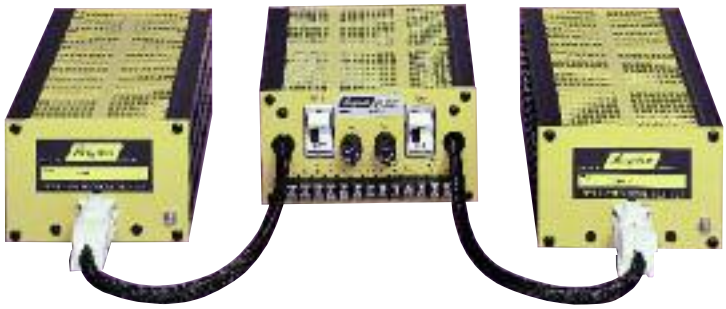
LINEAR REGULATED

MODULAR REDUNDANT SYSTEMS

AC-DC

single output

- Shipped Within 9 Days
- Five Year Warranty



These systems have the versatility to be mounted in a wide variety of ways - within a system cabinet, on a DIN rail or to a wall. Another benefit is that the three modules need not be mounted together, so that if a control panel is crowded, just the Integration Module may be mounted there and the power supplies mounted elsewhere.

For Specifications and other information, see pages 16 & 17.

System Description: Each Modular Redundant DC Power System consists of three units: two identical power supplies connected to an Integration Module by 24" long cables. The Integration Module includes the diodes for isolating the power supply outputs, AC input switches, input fuses, LED 'output present' indicators, failure alarm circuits, and the umbilical cables which plug into the power supplies. Connections for the AC inputs, redundant DC output and failure alarm relays are on a screw terminal strip.

Mounting: Each module has threaded mounting holes which permit mounting to a chassis, cabinet wall or bracket, or they may be used on a test bench or tabletop. To mount from the power supply side of the mounting surface or for DIN rail mounting, use an Accessory Mounting Kit (see page 25).

Interconnection: The Integration Module has two 24 inch long cables.

OPTIONS

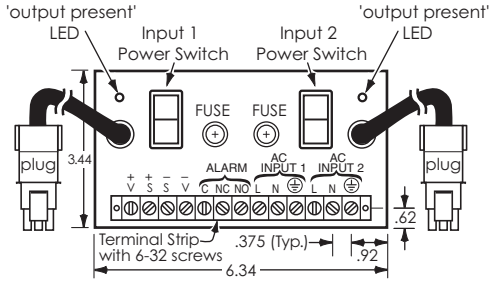
Cable lengths: Although 24" is standard, any other length from 12" to 60" may be ordered as an option. To order, add suffix "C??" to model number and $60.00 to price. Replace the "??" with the cable length desired. For example, if you are ordering Model RM24M9 with 4 foot (48") cables, the model number would be RM24M9C48, and the price would be $995.00+$60.00=$1055.00.

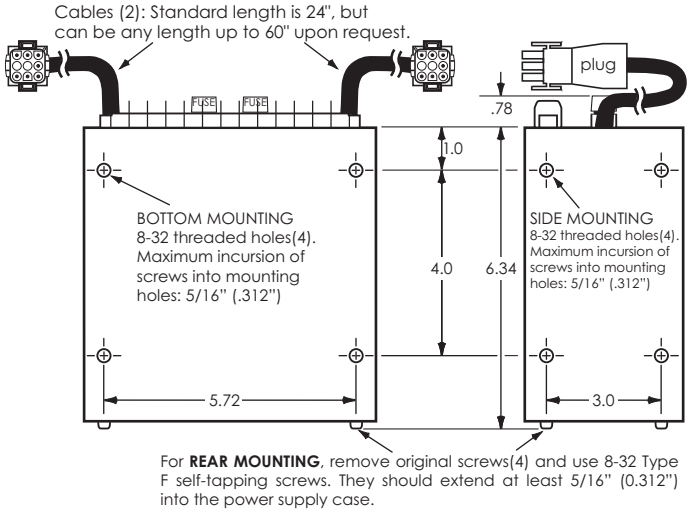
230 Volt Input: All models can be alternately furnished for operation on inputs of 210-250 VAC, 50-400 Hz. To order, add suffix "–230" to model number and $80.00 to price. The "–230" option requires two additional days.

Linear Regulated MODULAR REDUNDANT SYSTEMS

Nominal Output Voltage	Adjust Range ±V	Output Current Amps. at 40°C	55°C	71°C	Ripple mV RMS	($) Price	Model	Case sizes: Integration Module	Power Supplies (2)
5	.5	2.6	2.5	2.4	1	895	RM5N8X	RM6	CN8H
5	.5	5.3	4.4	3.5	1	995	RM5M6	RM6	CM6
5	.5	11	9.3	7.5	1	1095	RM5M13	RM6	CM13
5	.5	21	17	14	1	1295	RM5H11	RM6	CH11
12	.5	1.5	1.5	1.5	1	895	RM12N8X	RM6	CN8H
12	.5	3.5	3	2.5	1	995	RM12M6	RM6	CM6
12	.5	8	7.5	7	1	1095	RM12M13	RM6	CM13
12	.5	16	13.8	11.2	1	1295	RM12H11	RM6	CH11
12	.5	20	17	14.2	1	1495	RM12H16	RM6	CH16
15	.5	1.5	1.5	1.5	1	895	RM15N8X	RM6	CN8H
15	.5	4	3.8	3.6	1	995	RM15M9	RM6	CM9
15	.5	6.5	6	5.5	1	1095	RM15M13	RM6	CM13
15	.5	14.7	12.5	10.3	1	1295	RM15H11	RM6	CH11
15	.5	18.7	16	13.3	1	1495	RM15H16	RM6	CH16
24	.5	.9	.9	.9	1	895	RM24N8X	RM6	CN8H
24	.5	3	2.7	2.4	1	995	RM24M9	RM6	CM9
24	.5	5	5	5	1	1095	RM24M13	RM6	CM13
24	.5	11.7	10.2	8.7	1	1295	RM24H11	RM6	CH11
24	.5	14.7	12.7	10.7	1	1495	RM24H16	RM6	CH16
28	.5	1	1	1	1	895	RM28N8X	RM6	CN8H
28	.5	2.7	2.6	2.5	1	995	RM28M9	RM6	CM9
28	.5	5	5	5	1	1095	RM28M13	RM6	CM13
28	.5	10.5	9.2	8	1	1295	RM28H11	RM6	CH11
28	.5	14	12	10	1	1495	RM28H16	RM6	CH16
48	.5	.4	.4	.4	1	930	RM48N8T	RM6	CN8T
48	.5	1.6	1.4	1.2	1	1040	RM48M9	RM6	CM9
48	.5	3	3	3	1	1140	RM48M13	RM6	CM13
48	.5	6	5	4	1	1345	RM48H11	RM6	CH11
48	.5	8.5	7.2	5.5	1	1635	RM48H16	RM6	CH16
60	1	.25	.25	.25	1	960	RM60N8T	RM6	CN8T
60	1	1	.9	.8	1	1070	RM60M9	RM6	CM9
60	1	2.5	2.1	1.7	1	1170	RM60M13	RM6	CM13
60	1	5	4.1	3.3	1	1375	RM60H11	RM6	CH11
60	1	7	5.8	4.6	1	1645	RM60H16	RM6	CH16
120	1	.12	.12	.12	1	980	RM120N8T	RM6	CN8T
120	1	.5	.5	.4	1	1095	RM120M6	RM6	CM6
120	1	1.2	1.1	1	1	1200	RM120M13	RM6	CM13
120	1	2.5	2	1.6	1	1415	RM120H11	RM6	CH11
120	1	3.5	2.9	2.3	1	1690	RM120H16	RM6	CH16
125	1	.12	.12	.12	1	1000	RM125N8T	RM6	CN8T
125	1	.4	.4	.4	1	1115	RM125M6	RM6	CM6
125	1	1.2	1.1	1	1	1220	RM125M13	RM6	CM13
125	1	2.4	1.9	1.5	1	1435	RM125H11	RM6	CH11
125	1	3.4	2.8	2.3	1	1710	RM125H16	RM6	CH16

INTEGRATION MODULE

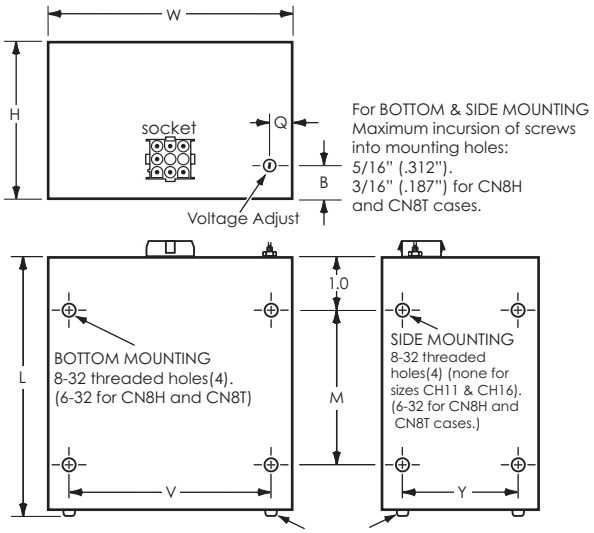




For **REAR MOUNTING**, remove original screws(4) and use 8-32 Type F self-tapping screws. They should extend at least 5/16" (0.312") into the power supply case.

Case Size RM6
Approx. Weight: 2 lb. 8 oz.

POWER SUPPLIES
(Two in each Modular Redundant System)



For **REAR MOUNTING**, remove original screws(4) and use 8-32 Type F self-tapping screws. They should extend at least 5/16" (0.312") into the power supply case.
For **REAR MOUNTING of CN8H and CN8T cases**, remove original 6-32 screws(4). These screws may then be used for mounting, provided they extend at least 1/4" (0.250") into the power supply case.

Case Size	L	W	H	M	V	Y	Q	B	Approx. Weight
CM6	6.59	5.12	3.44	4.0	4.5	3.0	.5	.75	4 lb. 4 oz.
CM9	9.25	5.12	3.44	6.0	4.5	3.0	.5	.75	7 lb. 4 oz.
CM13	13.25	5.12	3.44	10.0	4.5	3.0	.5	.75	11 lb.
CH11	11.25	7.37	5.12	8.0	6.75	4.56	1.12	1.25	18 lb. 4 oz.
CH16	16.00	7.37	5.12	11.0	6.75	4.56	1.12	1.25	26 lb.
CN8H	8.47	4.68	1.68	5.0	3.12	1.31	2.87	1.31	3 lb. 14 oz.
CN8T	8.47	3.84	1.68	5.0	3.12	1.31	2.87	1.31	3 lb. 2 oz.

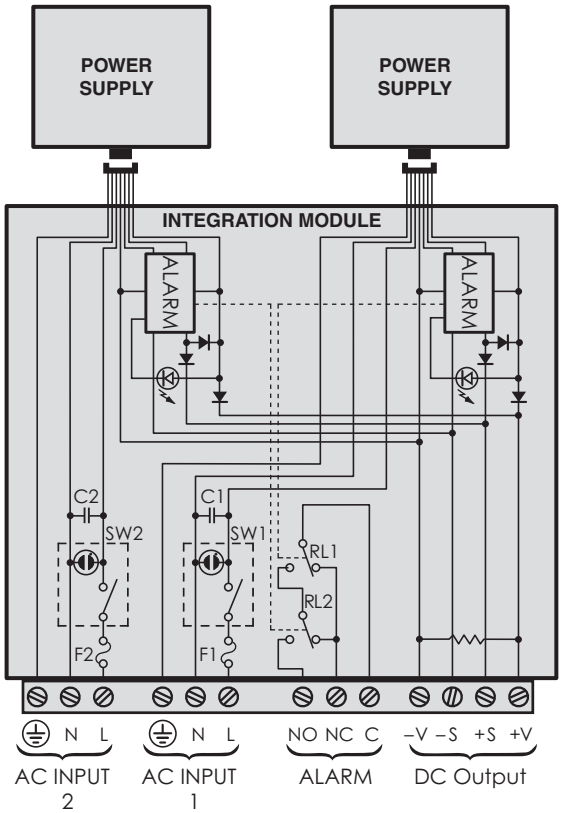
ACCESSORY MOUNTING KITS

- FOR WALL MOUNTING (See page 91 for illustration.)
These kits provide a way of mounting power supplies on a wall or panel when the other side of the mounting surface is inaccessible. Each kit consists of four aluminum brackets and four machine screws for fastening them to the power supply, effectively adding mounting flanges to the power supply.

For case sizes RM6, CM6, CM9, CM13, CH11, CH16
GB8 Mounting Kit *(#8-32 mounting holes)* $10
For case size CN8T
NP6 Mounting Kit *(#6-32 mounting holes)* $10
For case size CN8H
NP6L Mounting Kit *(#6-32 mounting holes)* . . . $10
Model NP6L consists of two brackets 1.5" long and two 2.5" long brackets (to extend beyond heat sink).

- FOR DIN RAIL MOUNTING (See page 91 for illustration.)
For Rear Mounting
GR35DIN Mounting Kit $15.00
Fits on case sizes RM6, CM6, CM9.
(Can be used, but not recommended, on case size CM13.)
NPR35DIN Mounting Kit $15.00
Fits on case sizes CN8H, CN8T.
For Horizontal Mounting
CH35DIN Mounting Kit $15.00
Fits on case size RM6.
GH35DIN Mounting Kit $15.00
Fits on case sizes CM6, CM9, CM13.
NPH35DIN Mounting Kit $15.00
Fits on case sizes CN8H, CN8T.
For Vertical Mounting
NPV35DIN Mounting Kit $15.00
Fits on case sizes CN8H, CN8T.

Simplified Diagram for Modular Redundant Systems



SWITCHING REGULATED

MODULAR REDUNDANT SYSTEMS

(Power Factor Correction and Universal Input)

AC-DC
single output

- Shipped Within 9 Days
- Five Year Warranty

These systems have the versatility to be mounted in a wide variety of ways - within a system cabinet, on a DIN rail or to a wall. Another benefit is that the three modules need not be mounted together, so that if a control panel is crowded, just the Integration Module may be mounted there and the power supplies mounted elsewhere.

For more Specifications and information, see pages 16 & 17.

System Description: Each Modular Redundant DC Power System consists of three units: two identical power supplies connected to an Integration Module by 24" long cables. The Integration Module includes the diodes for isolating the power supply outputs, AC input switches, input fuses, LED 'output present' indicators, failure alarm circuits, and the umbilical cables which plug into the power supplies. Connections for the AC inputs, redundant DC output and failure alarm relays are on a screw terminal strip.

Mounting: Each module has threaded mounting holes which permit mounting to a chassis, cabinet wall or bracket, or they may be used on a test bench or tabletop. To mount from the power supply side of the mounting surface or for DIN rail mounting, use an Accessory Mounting Kit (see page 27).

Interconnection: The Integration Module has two 24 inch long cables.

OPTIONS

Cable lengths: Although 24" is standard, any other length from 12" to 60" may be ordered as an option. To order, add suffix "C??" to model number and $60.00 to price. Replace the "??" with the cable length desired. For example, if you are ordering Model RM24WN8 with 4 foot (48") cables, the model number would be RM24WN8C48, and the price would be $1250.00+$60.00=$1310.00.

Simplified Diagram for
Modular Redundant Systems:
See page 25

Switching Regulated MODULAR REDUNDANT SYSTEMS

Nominal Output Voltage	Adjust Range ±V	Output Current Amps. at 40°C	55°C	71°C	Ripple mV (@ 25 MHz BW) RMS	P-P	($) Price	Model	Case sizes: Integration Module	Power Supplies (2)
3.3	.5	15.4	13	10.7	10	50	1100	RM3.3WN8A	RW6	WN8A
3.3	.5	24	20.5	16.8	10	50	1250	RM3.3WN8	RW6	WN8
5	.5	15.4	13	10.7	10	50	1100	RM5WN8A	RW6	WN8A
5	.5	24	20.5	16.8	10	50	1250	RM5WN8	RW6	WN8
8	.5	14.4	12	10	15	100	1100	RM8WN8A	RW6	WN8A
8	.5	23	19.5	16.1	15	100	1250	RM8WN8	RW6	WN8
10	.5	13.5	11.5	9.5	15	100	1100	RM10WN8A	RW6	WN8A
10	.5	21	18.5	15	15	100	1250	RM10WN8	RW6	WN8
12	.5	12.3	10.5	8.6	15	100	1100	RM12WN8A	RW6	WN8A
12	.5	20	17	14	15	100	1250	RM12WN8	RW6	WN8
13	.5	11.3	9.7	7.9	15	100	1100	RM13WN8A	RW6	WN8A
13	.5	18.4	15.7	12.9	15	100	1250	RM13WN8	RW6	WN8
15	.5	10.2	8.7	7.1	15	100	1100	RM15WN8A	RW6	WN8A
15	.5	16.5	14	11.5	15	100	1250	RM15WN8	RW6	WN8
20	.5	7.6	6.5	5.3	15	100	1100	RM20WN8A	RW6	WN8A
20	.5	12.7	10.7	8.8	15	100	1250	RM20WN8	RW6	WN8
24	.5	7.2	6.1	5	15	100	1100	RM24WN8A	RW6	WN8A
24	.5	11.5	9.8	8	15	100	1250	RM24WN8	RW6	WN8
28	.5	5.9	5	4.1	15	100	1100	RM28WN8A	RW6	WN8A
28	.5	9.5	8.1	6.7	15	100	1250	RM28WN8	RW6	WN8
32	.5	5.2	4.5	3.7	25	150	1100	RM32WN8A	RW6	WN8A
32	.5	8.3	7	5.8	25	150	1250	RM32WN8	RW6	WN8
40	.5	4.2	3.6	3	25	150	1100	RM40WN8A	RW6	WN8A
40	.5	6.8	5.8	4.8	25	150	1250	RM40WN8	RW6	WN8
48	.5	3.5	3	2.5	25	150	1100	RM48WN8A	RW6	WN8A
48	.5	5.7	4.9	4	25	150	1250	RM48WN8	RW6	WN8
55	1	3	2.5	2.1	50	150	1100	RM55WN8A	RW6	WN8A
55	1	4.5	3.8	3.1	50	150	1250	RM55WN8	RW6	WN8
60	1	2.8	2.3	1.9	50	150	1100	RM60WN8A	RW6	WN8A
60	1	4.2	3.5	2.9	50	150	1250	RM60WN8	RW6	WN8
70	1	2.4	2	1.7	67	200	1100	RM70WN8A	RW6	WN8A
70	1	3.6	3.1	2.5	67	200	1250	RM70WN8	RW6	WN8
80	1	2.1	1.7	1.4	67	200	1100	RM80WN8A	RW6	WN8A
80	1	3.1	2.6	2.2	67	200	1250	RM80WN8	RW6	WN8
90	1	1.8	1.5	1.3	100	300	1100	RM90WN8A	RW6	WN8A
90	1	2.8	2.4	2	100	300	1250	RM90WN8	RW6	WN8
100	1	1.7	1.4	1.2	150	450	1100	RM100WN8A	RW6	WN8A
100	1	2.5	2.1	1.8	150	450	1250	RM100WN8	RW6	WN8
110	1	1.5	1.3	1.1	150	450	1100	RM110WN8A	RW6	WN8A
110	1	2.3	1.9	1.6	150	450	1250	RM110WN8	RW6	WN8
120	1	1.4	1.2	1	150	450	1100	RM120WN8A	RW6	WN8A
120	1	2.1	1.8	1.5	150	450	1250	RM120WN8	RW6	WN8
125	1	1.3	1.1	0.9	150	450	1100	RM125WN8A	RW6	WN8A
125	1	2	1.7	1.4	150	450	1250	RM125WN8	RW6	WN8

Online Ordering and Instant Quotes for ALL Acopian power supplies at ***www.acopian.com***
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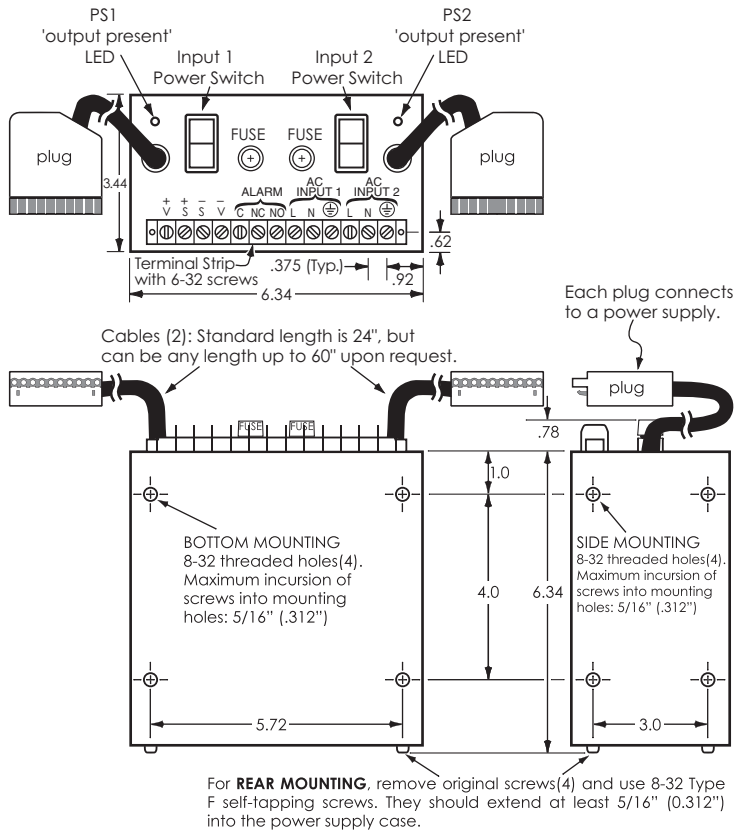
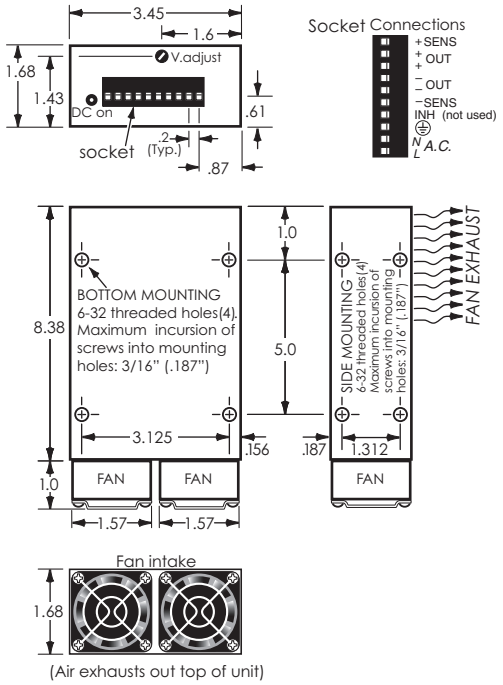
INTEGRATION MODULE



Case Size RW6
Approx. Weight: 3 lb. 4 oz.

POWER SUPPLIES

(Two in each Modular Redundant System)



Case Size	Number of fans on rear panel	Approx. Weight
WN8	2	2 lb. 2 oz.
WN8A	1 (centered on rear)	1 lb. 14 oz.

SPECIFICATIONS

Input Voltage: 90-265 VAC, 49-420 Hz, single phase.
(A separate set of AC input terminals is provided for each power supply, so that if two sources of AC input power are available, one may be used for each supply and so reduce the possibility of output dropout due to loss of input power.)

Power Factor: 0.99 typical at 115 VAC, 60Hz and full load. Complies with EN61000-3-2.

Drift: ±0.1% typical over 8 hours, after 30 minute warmup.

Output Monitoring: 'Output Present' green LEDs are located on each power supply (DC on) and on the Integration Module.

Inrush current: Cold start, (thermistor limiter) 20A peak @115 VAC; 40A peak @ 230 VAC.

Startup Time: 800 mS typical.

Remote Sensing: Compensates up to 0.5 volt drop per output line (1 volt for 55 to 125 volt models), within the limits of the output voltage adjustment range.

Holdup Time: 16 mS minimum.

Transient Response: 300 µS to return to ±1% of output setting. Maximum of ±3% output excursion following a load step change from 50% to 100%.

Switching Frequency: 100 kHz (Typical).

Isolation: Input to output, input to case; 300 Vdc.
Output to case; 300 Vdc.

Thermal Protection: Thermostat, self-resetting.

Cooling: Forced-air cooled; air enters rear of power supply and exits from top.

ACCESSORY MOUNTING KITS

- FOR WALL MOUNTING (See page 91 for illustration.)
These kits provide a way of mounting power supplies on a wall or panel when the other side of the mounting surface is inaccessible. Each kit consists of four aluminum brackets and four machine screws for fastening them to the power supply, effectively adding mounting flanges to the power supply.

For case size RW6
GB8 Mounting Kit *(#8-32 mounting holes)* $10
For case sizes WN8, WN8A
NP6 Mounting Kit *(#6-32 mounting holes)* $10

- FOR DIN RAIL MOUNTING (See page 91 for illustration.)
For Rear Mounting
GR35DIN Mounting Kit $15.00
Fits on case size RW6.
For Horizontal Mounting
CH35DIN Mounting Kit $15.00
Fits on case size RW6.
NPH35DIN Mounting Kit $15.00
Fits on case sizes WN8, WN8A.
For Vertical Mounting
NPV35DIN Mounting Kit $15.00
Fits on case sizes WN8, WN8A.

If none of our standard models meets your requirements, we'll build you one that does.

284 standard models, each shipped within 9 days

Our standard models have outputs from 5 to 125 volts, and up to 1200 watts. Each is fully wired, tested and shipped within 9 days after receiving your order. All that's left for you to do is to connect it to input power and your load.

We can customize Redundants for you

If no standard model meets your needs, we can customize a model for you, or design a 'special' for your unique requirements. We frequently design 'specials' with outputs as high as 3600 watts.

Various configurations to fit the available space

Acopian manufactures redundants in three form factors: rack mounting, (some with power supplies that plug in from the front), wall mounting and modular. If you need something different, speak with one of our engineers. We can design a form that meets your requirements.

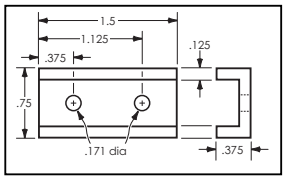
Proven designs since 1973

There are numerous considerations that go into the design of a good redundant system. (Can the power supplies compensate the voltage drops of the isolation diodes? Is the regulation maintained after the diodes? Is the output stable?) Acopian has been manufacturing a standard line of redundants since 1973. We have the expertise to build redundants that are extremely reliable, provide high performance and are easy to use.

5-year warranty

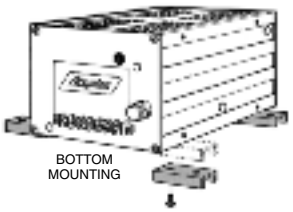
Obviously, the reliability of a redundant system is dependent upon the reliability of the power supplies it uses. We build our supplies so you can operate them reliably for many years, which is why all Acopian Redundants come with an unsurpassed, full 5-year warranty. Our customers have told us about Acopian supplies that have remained in use for 30 years and more.

The complete Acopian catalog is also available on the Internet at ***www.acopian.com***
P.O. Box 638, Easton, PA 18044 • Phone: (610) 258-5441 • FAX: (610) 258-2842



WALL MOUNTING KITS ...$10

These kits provide a way of mounting power supplies on a wall or panel when the other side of the mounting surface is inaccessible. Each kit consists of four aluminum brackets and four machine screws for fastening them to the power supply, effectively adding mounting flanges to the power supply.

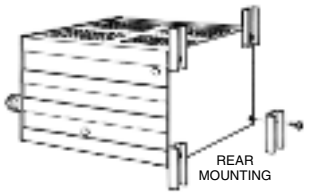


For Gold Box and modular High Voltage power supplies:

GB8 Mounting Kit *(#8-32 mounting holes)*

Can be used on these case sizes:

CM6, CM9, CM13, CH11, CH16, DG5, DG6, DG9, G3, G5, G5D, G6, G9, G13, GT5, GT6, GT9, GT13, H8, H11, H16, HD345, HD355, HA349, HA359, HT11, HT16, M6, M9, M13, RM6, RW6 TG5, TG6, TG9, TG13, TH11, WG7, WM6, WM9, Y3, Y5, Y6, YH11, YA



For Narrow Profile power supplies:

NP6 Mounting Kit *(#6-32 mounting holes)*

Can be used on these case sizes:

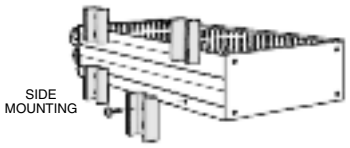
AMC, CN8T, DN6B, DN6A, DN8A, DN8, F6T, F8T, N8T, WL9, WN6A, WN6B, WN8, WN8A, TN6T

NP6L Mounting Kit *(#6-32 mounting holes)*

Model NP6L consists of two brackets 1.5" long as shown above, and two 2.5" long brackets (to extend beyond heat sink).

Can be used on these case sizes:

CN8H, N8H, TN8H

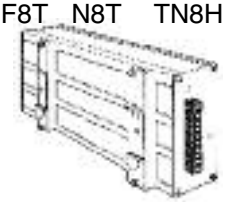


DIN RAIL MOUNTING KITS ...$15

NPH35DIN Mounting Kit (Horizontal mounting)

Can be used on these case sizes:

CN8H	DN6A	F6T	N8H	TN6T	WN6A
CN8T	DN6B	F8T	N8T	TN8H	WN6B
	DN8				WN8
	DN8A				WN8A



GR35DIN Mounting Kit (Rear mounting)

Can be used on these case sizes:

CM6	DG5	G3	GT5	HD345	M6	RM6	TG5	Y3
CM9	DG6	G5	GT6	HD355	M9	RW6	TG6	Y5
	DG9	G5D	GT9				TG9	Y6
		G6						
		G9						

(Can be used, but not recommended on case sizes: G13, GT13, M13, TG13)

NPV35DIN Mounting Kit (Vertical mounting)

Can be used on these case sizes:

CN8H	DN6A	F6T	N8H	TN6T	WN6A
CN8T	DN6B	F8T	N8T	TN8H	WN6B
	DN8				WN8
	DN8A				WN8A

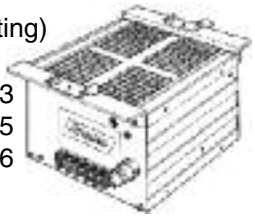
WL35DIN Mounting Kit (Vertical mounting)

Can be used on this case size: WL9

GH35DIN Mounting Kit (Horizontal mounting)

Can be used on these case sizes:

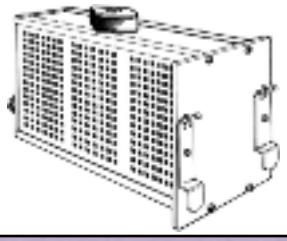
CM6	DG5	G3	GT5	M6	TG5	Y3
CM9	DG6	G5	GT6	M9	TG6	Y5
CM13	DG9	G5D	GT9	M13	TG9	Y6
		G6	GT13		TG13	
		G9				
		G13				



NPR35DIN Mounting Kit (Rear mounting)

Can be used on these case sizes:

CN8H	F6T	N8H	TN6T
CN8T	F8T	N8T	TN8H

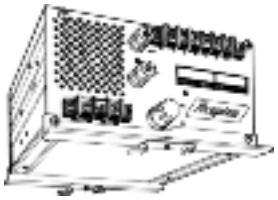


CH35DIN Mounting Kit (Horizontal mounting)

Can be used on these case sizes: RM6, RW6

WH35DIN Mounting Kit (Horizontal mounting)

Can be used on these case sizes: WM6, WM9



About Acopian's 3 Day Shipment Guarantee:

In 1964, Acopian initiated its "3 Day Shipping Guarantee." Since then our product offerings have expanded to include many more lines of power supplies that ship within 3 Days as well as others that ship within 6 or 9 Days. These guarantees apply to every model in the Acopian catalog.

Our unique 3-day shipping guarantee has prompted many questions. Below are some of those most often asked:

What does Acopian's 3-day shipping promise mean?
It means that power modules listed in this catalog are shipped within 3 days after we receive your order. High Voltage, Redundant, Rack Mounting, Systems and certain Switching power supplies are shipped within 9 days.

Has Acopian ever failed to meet this promise?
Never.

Do options affect shipping time?
The 230 volt input option and moisture/fungus-proofing option require two additional days. All other options do not affect shipping time.

Is the 3-day promise affected by quantity? Suppose we need 50 or 100 pieces?
The 3-day promise applies to orders for five or less modules. (Two or less for 9-day items). If requested, Acopian will ship five pieces of a larger order in 3 days and, with consideration of your requirement, schedule the balance. (Since each shipment is processed and priced as a separate order, for lowest prices request shipment in one lot.)

What if I need four or five different models? Does the 3-day promise still apply?
Yes. Guaranteed 3-day shipment applies to one model or to a combination of models.

Do I have to ask for 3-day shipment of my order?
3-day shipment is automatic. In fact, you must tell us if you want the shipment delayed.

How long after you ship will I have the power supplies?
Transportation time varies with the carrier used. Unless otherwise requested, Acopian ships small orders by UPS Ground.

You say Acopian has never failed to meet the 3-day promise. How do you do it?
Our facilities have been designed and equipped to meet our 3-day shipment promise. When your order is received, your power supplies are built specifically for you and shipped within three days. We do not ship from stock. (For this reason, we are unable to accept returns for credit.)

I've seen other power supply manufacturers advertise "same-day shipment." Isn't that better than 3-day shipment?
A typical vendor's "same-day shipment" advertisement can only be fulfilled if the power supplies you need are in stock. Otherwise, a four to six week delay is not unusual before inventory is replenished and your order is shipped.
Acopian's 3-day shipment promise applies to ALL 3 Day models (larger units ship within 9 Days) and is not dependent on the quantity in stock. We build each unit after the order for that unit is received. If an order is needed faster, often times we can ship in less than 3 days.

If you require shipment even earlier than our standard promise, just let us know, we can usually ship sooner. We welcome the opportunity to work with you.

ACOPIAN...

...answers your phone call with a live salesperson
No automated menus. The person who answers your call will courteously and promptly answer your questions, quote price and delivery, expedite your urgent requirements, and offer you immediate access to our engineers.
Call toll free 800-523-9478.

…can customize power supplies for you
If a standard power supply does not meet all of your requirements, speak with one of our engineers. We can often modify the specifications, ratings and configuration of a supply. We can also combine several power supplies into a Multiple Output Power System with the operating features you specify (such as meters and switches) and ship it within 9 Days!

…has a 5-year warranty
This is typical: One of our customers sent us an old power supply with a note indicating that the supply had been in continuous use since 1972 (33 years!), but he had recently noticed that the output voltage was low. We found that the capacitors had dried up, replaced them and returned the supply to the customer, who thanked us and said he intends to keep using it. We focus on making power supplies that will last a long time. There are power supplies that cost less than ours, or that are smaller than ours, but you won't find any that last longer than ours. All too often, low-priced supplies are densely packed, run hot, have short lifetimes and short warranties. All Acopian metal-cased power products have a 5-year warranty, but you can expect them to last a lot longer.

Purchase Acopian... 3-day shipment, long lasting power supplies, and unsurpassed customer service.

"In my business, Acopian is referred to as bulletproof. It never fails and lasts forever."
- Steve Andrews, President
Technical Options, Inc.

"If Acopian made automobiles, I'd buy one without question."
- David A. Price, Research Technologist
Georgia Tech Research Institute

ORDERING INFORMATION & Terms and Conditions

ACOPIAN SELLS FACTORY DIRECT WORLDWIDE: We do not use representatives or distributors. Contact Acopian for technical information or a quote.

WARRANTY: Acopian power supplies are warranted to be free from defects in material and workmanship for a period of five years (encapsulated devices, for one year) from date of original shipment. Acopian's obligation under this warranty is limited to repairing any power supply returned to the factory Service Department in Easton, PA and replacing any defective parts. Mini Encapsulated power supplies are not repairable. Authorization must be obtained from Acopian before a power supply may be returned for repair. Units must be well packed when shipping to Acopian; the repair of any damage incurred during shipment will be charged. Transportation charges are to be paid by the purchaser. A reinspection and handling charge will be applied to returned units found to have no defects. If a failure has been caused by misuse, operation in excess of specifications, or modification by the customer, repairs will be billed at cost; in such cases, a cost estimate will be submitted before work is started.

Acopian reserves the right to make changes or improvements in its products without incurring any obligation to install the same on products previously manufactured.

This warranty is in lieu of all other warranties, obligations, and liabilities, expressed or implied, and is the purchaser's exclusive remedy. Acopian makes no warranty, either express or implied, of merchantability, fitness for a particular purpose or otherwise. In no event shall Acopian be liable whether in contract, tort, or negligence, for special, indirect, incidental or consequential damages of any kind, including loss of business or profits, or any other losses incurred by the purchaser or any third party, the Customer's remedies being limited, at Acopian's option, to replacement, repair or credit at the price on the date of claim.

The validity, performance and construction of all terms and conditions and any sale made by Acopian shall be determined by the law of Pennsylvania, without regard to its conflict of law principles, and all parties to the transaction expressly consent to the jurisdiction of such courts and consent to the venue of the Court of Common Pleas for Northampton County, Pennsylvania.

PRICES: The prices shown are F.O.B. our factory; Easton, PA. or Melbourne, FL.. All prices and specifications are subject to change without notice. Minimum order is $50.00.

TERMS: Net 30 days, subject to credit approval. Visa, MasterCard and American Express also accepted.

SHIPPING: Location permitting, small shipments are made by United Parcel Service, or by Parcel Post; larger shipments, by insured motor freight collect. Shipments can be made by air upon request. Risk of loss shall be F.O.B. Our Factory, even in cases where freight may be prepaid or allowed to destination by Acopian. If equipment is received in damaged condition, it is the customer's responsibility to contact the carrier and file a claim for damages.

TIME FOR DELIVERY: The time for delivery quoted by Acopian is the time required to ship from our plants. We will not be liable for delays in delivery caused by any reason beyond our control, including but not limited to acts of God, casualty, civil disturbance, labor disputes, transportation or supply difficulties, or any interruption of our facilities, and the quoted time for delivery shall be extended during the continuance of such conditions and for a reasonable time thereafter. In no event will Acopian be liable for any premium transportation, reprocurement, or similar costs incurred by the Customer as a result of conditions beyond Acopian's control resulting in Acopian's inability to deliver product in accordance with customer's requested delivery schedules.

QUANTITY DISCOUNTS: Discounts are available to quantity buyers and are dependent upon the order quantity and the manufacturing scheduling anticipated by the order, and apply only to the quantity and delivery ordered. Partial shipments are considered as separate orders for discounting purposes.

EXPORT ORDERS: A minimum export documentation charge of $60.00 applies. (A minimum charge of $25.00 applies on orders requiring customs forms for Canadian orders and for orders to certain U.S. territories.)

MOISTURE/FUNGUS PROOFING: Power supplies can be furnished with a moisture and fungus resistant varnish applied to interior surfaces. To order, add the suffix letter F to the model number. The additional cost is $25.00 per output and requires two additional days. Not available on High Voltage, Mini Encapsulated, Rack Mounting, and Gold Box Switching models.

TAGGING: Maximum of 15 characters/spaces. Add $10.00 to price.

TEST DATA: Cost, $35.00 or 2% of order, whichever is greater.

SPECIAL MODELS/MODIFICATIONS: Cataloged models can be altered at the factory to meet special requirements. Contact the Applications Engineering Department to discuss your needs.

PARTS: The designs used in Acopian power supplies utilize standard components to the greatest practical extent. When replacements are required, the types originally used, or their equivalents, can usually be obtained most quickly from a local electronic components distributor.

Special components, such as transformers, are stocked at the factory warehouses. Contact the Applications Engineering Department for information on the parts required, referencing the model number of the power supply, the circuit designation of the component, and a description.

PURCHASE ORDER ACCEPTANCE: Orders are accepted subject to Acopian's Terms and Conditions. Any Terms and Conditions of any Purchaser's order, agreement, or understanding which are in addition to or inconsistent with Acopian's shall not be binding upon Acopian unless made in writing and accepted over the signature of an authorized officer of Acopian. Orders shall not be considered accepted until entered into production at our plant. Acopian reserves the right to refuse any order. All typographical and clerical errors are subject to correction by Acopian.

RETURNED GOODS: Acopian products are built on a per-order basis, and ordinarily no credit can be extended for their return. No goods will be accepted for return unless authorized in writing by Acopian.

CHANGES: The customer may, by a written notice, request changes within the general scope of the order, in the drawings, designs or specifications; method of shipment; and place of delivery. If any such change causes an increase or decrease in the cost, or the time required for the processing of any part of the order, an equitable adjustment shall be made in the price or delivery schedule, or both, and the order shall be modified in writing accordingly.

CANCELLATION: Suspension or cancellation of orders may be made only upon our written approval and on terms that will indemnify us against all loss.

OVERTIME: It is anticipated that any order will be processed during regular working hours on regular working days. If for any reason the Purchaser requests Acopian to process the order, or any portion of it, outside of such regular working hours, any overtime or other additional expense occasioned thereby shall be billed to and paid by the Purchaser as an extra cost. Acopian reserves the right to decline to process the order outside regular working hours.

CUSTOMER DELAY OF WORK: If the performance of all or any part of the work is delayed or interrupted by Customer's failure to act within the time specified (or within a reasonable time if no time is specified) and such act is not expressed or implied by the order, an adjustment shall be made in the cost of performance of the order caused by such delay or interruption and the order modified in writing accordingly. Adjustment will also be made in the delivery or performance dates and any other contractual provisions affected by such delay or interruption.

GOVERNMENT SPECIFICATIONS: Pricing is based upon industrial-grade construction, marking, packing, and packaging. Exception is taken to any MIL specifications, and to any requirements for the use of special forms, documentation other than quoted, and Government Source Inspection. Acopian must decline to quote on any other basis.

APPLICATIONS ASSISTANCE: ***Questions regarding the specifications, features, and use of any Acopian product should be directed to the Applications Engineering Department. A staff of power supply specialists will be pleased to assist you.***

www.acopian.com *- Online Ordering and Instant Quotes Online!*

Acopian

Since 1957

Acopian Technical Company
P.O. Box 638, Easton, PA 18044 • Phone: (610) 258-5441 • FAX: (610) 258-2842
Call toll free: (800) 523-9478 ***(International: Country Code 01)***

ALL ACOPIAN POWER SUPPLIES MADE IN U.S.A.

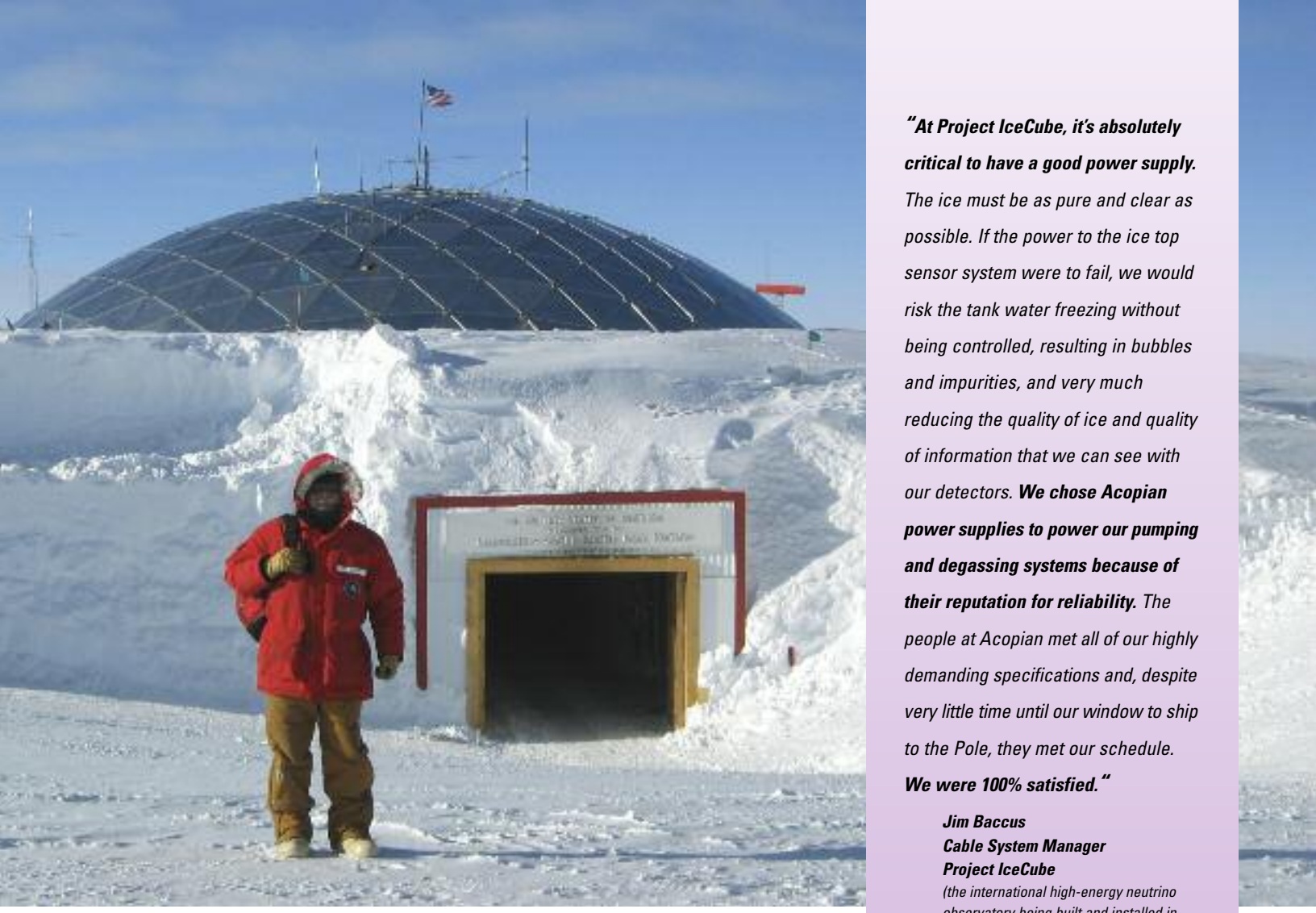


PHOTO COURTESY OF THE ICECUBE PROJECT

*"**At Project IceCube, it's absolutely critical to have a good power supply.** The ice must be as pure and clear as possible. If the power to the ice top sensor system were to fail, we would risk the tank water freezing without being controlled, resulting in bubbles and impurities, and very much reducing the quality of ice and quality of information that we can see with our detectors. **We chose Acopian power supplies to power our pumping and degassing systems because of their reputation for reliability.** The people at Acopian met all of our highly demanding specifications and, despite very little time until our window to ship to the Pole, they met our schedule. **We were 100% satisfied."***

Jim Baccus
Cable System Manager
Project IceCube
(the international high-energy neutrino observatory being built and installed in the ice below South Pole Station)

The world's most demanding environments demand Acopian power systems.

Design your own Acopian power system online with the System Builder at www.acopian.com. Simply enter your requirements, and you'll receive a quotation for fully wired multiple-output power systems, without the need for you to prepare mechanical layouts or search through a power supply catalog. Each system will be completely wired, tested and shipped within 9 days after receipt of the order. Choose Acopian – the power supplies of choice for the world's leading engineers.

ALL ACOPIAN POWER SUPPLIES MADE IN U.S.A.

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