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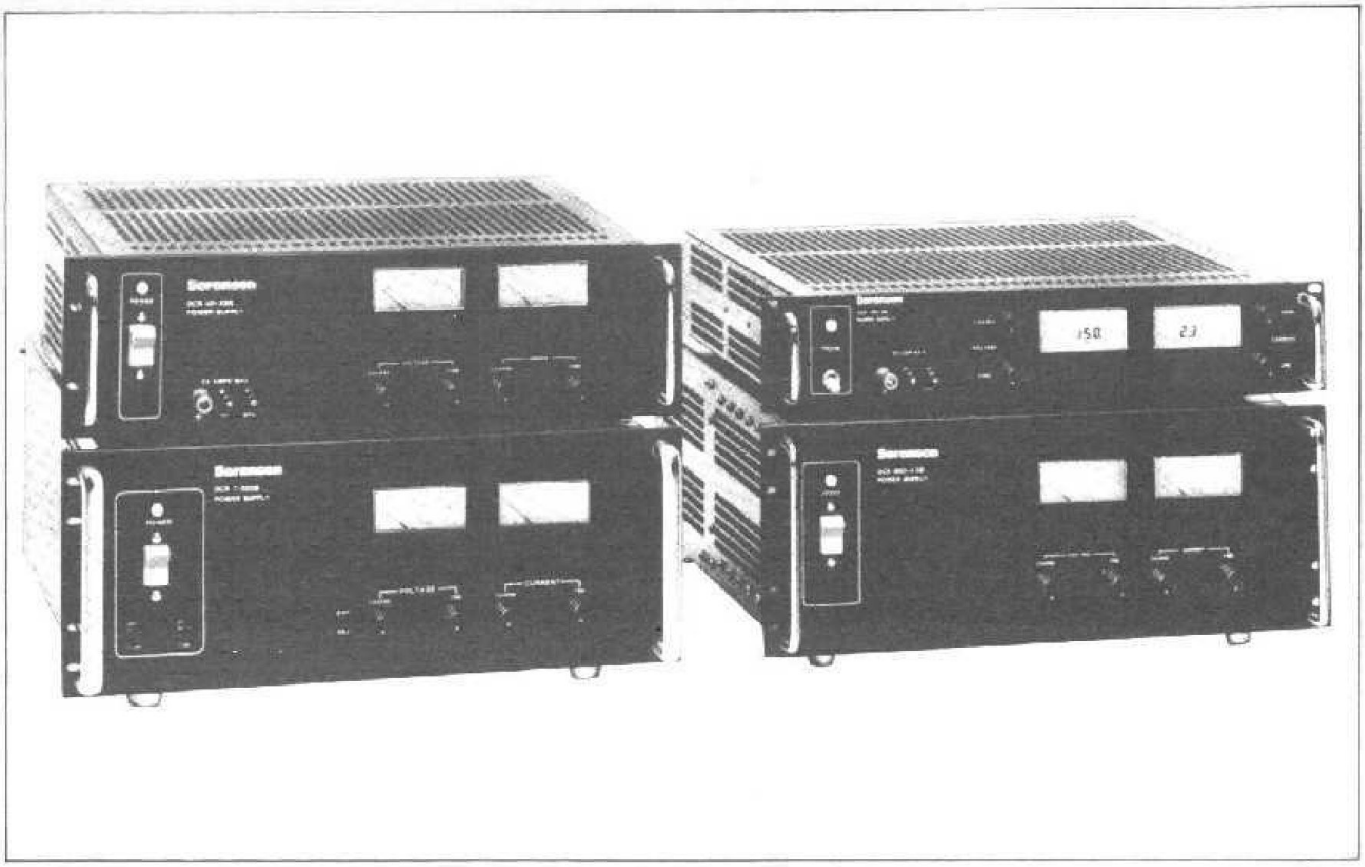
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500 to 2500 Watt, Single Phase Lab & Industrial Power Supplies
DCR-B Series

DCR-B Series high power laboratory and industrial power supplies have input SCR controlled regulator which provides unparalleled reliability along with regulation and transient response performance suitable for nearly all burn-in and test applications.

31 models in 9 voltage ranges offer from 0-7 to 0-600 Vdc with power levels from 400 to 2700 W. Sorensen has over 20 years of industry experience in designing this type of product.

- 31 models in nine voltage ranges from 0-7 Vdc to 0-600 Vdc with power levels from 400 to 2700 watts
- 115 Vac single phase input standard (208/220/230 Vac single phase optional) on all convection cooled models (up to 1800 watts)
- 208 Vac single phase input standard (220/230 Vac optional) on all fan cooled models (over 2000 watts)
- 50/60 Hz operation without derating
- Low ripple and noise
- Excellent voltage and current regulation with automatic crossover. Panel lights indicate operating mode
- Remote voltage and resistance programming in voltage and current modes
- Adjustable current limiting (overload/short circuit protection) with automatic recovery
- Overvoltage protection with crowbar standard, all models
- 0.05% line & load regulation (typical)
- 65-1200 mV rms ripple (model dependent)
- 50 msec transient response—50% change (typical)
- Option M50: LCD digital meters
- Option M35: Polarity switch and load disconnect
- 5-year warranty



DCR-B Series Specifications

OUTPUT

CONSTANT VOLTAGE MODE

Voltage Regulation:
Line and load combined
0-7 and 0-10 Vdc models
0.1% or 5 mV, whichever is greater.
0-20 to 0-80 Vdc models
0.05% or 10 mV, whichever is greater.
0-150 to 0-600 Vdc models
0.05% or 75 mV, whichever is greater.

Temperature Coefficient:
0.015%/°C of E_o max.

Resistance Programming:
See model specification chart.

Voltage Programming:
Consult instruction manual.

Stability:
0.1% E_o max for 8 hours after 30 minute warm-up.

Remote Sensing:
Maximum drop per load lead should not exceed 5% of E_o max. or 3 V, whichever is smaller.

Transient Response:
0-10 to 0-600 Vdc models
50 ms (typical) to return to ±1% band for step load change of 50 to 100% of full load (±2% or 20 V model, ±3% for 10 V model).
0-7 Vdc model
100 ms (typical) to return to ±3% band for step load change of 67 to 100% of full load.

CONSTANT CURRENT MODE

Current Regulation:
0.25% of I_o max. line and load combined. (0.5% for 7 V model)

Temperature Coefficient:
0.03%/°C. of $I_o$max.

Current Programming:
See model specification chart.

Stability:
0.15% of I_o max. for 8 hours after 30 minute warm-up.

INPUT

Voltage:
103-127 Vac single phase for 400 to 1800 watts models. 187-229 Vac single phase for 2100-2700 watt models.

Model	Output Power				Constant Voltage Regulation mV[6]	Constant Current Regulation mA[9]	Constant Voltage Ripple (PARD) rms/mV[2]	Constant Current Ripple (PARD) rms/mA[2,3]	Drift (Typ.)[7]		V. Prog. V/Full Scale	V. Prog. I/Full Scale
	Voltage (Vdc)	Current (Adc)							% E_o max	% I_o max		
		40°C	50°C	70°C								
DCR7-300B	0-7	300	225	150	7	1500	65	2800	.1	.15	0-10 V	0-.4
DCR10-40B	0-10	40	30	20	10	100	65	260	.1	.15	0-10 V	0-.4
DCR10-80B	0-10	80	60	40	10	200	65	520	.1	.15	0-10 V	0-.4
DCR10-120B	0-10	120	90	60	10	300	65	785	.1	.15	0-10 V	0-.4
DCR20-25B	0-20	25	19.3	13	10	63	65	82	.1	.15	0-10 V	0-.4
DCR20-50B	0-20	50	37.5	25	10	125	65	125	.1	.15	0-10 V	0-.4
DCR20-80B	0-20	80	60	40	10	200	65	260	.1	.15	0-10 V	0-.4
DCR20-115B	0-20	115	86.5	58	10	288	65	375	.1	.15	0-10 V	0-.4
DCR40-13B	0-40	13	9.8	6.6	20	33	90	30	.1	.15	0-10 V	0-.4
DCR40-25B	0-40	25	19.3	13	20	63	90	56	.1	.15	0-10 V	0-.4
DCR40-40B	0-40	40	30	20	20	100	90	90	.1	.15	0-10 V	0-.4
DCR40-70B	0-40	70	55	40	20	175	90	157	.1	.15	0-10 V	0-.4
DCR60-9B	0-60	9	7	5	30	23	125	19	.1	.15	0-10 V	0-.4
DCR60-18B	0-60	18	13.3	8.6	30	45	125	38	.1	.15	0-10 V	0-.4
DCR60-30B	0-60	30	23.3	16.5	30	75	125	63	.1	.15	0-10 V	0-.4
DCR60-45B	0-60	45	35.8	26.5	30	113	125	93	.1	.15	0-10 V	0-.4
DCR80-6B	0-80	6	4.7	3.3	40	15	150	12	.1	.15	0-10 V	0-.4
DCR80-12B	0-80	12	9.3	6.6	40	30	150	23	.1	.15	0-10 V	0-.4
DCR80-33B	0-80	33	26.5	20	40	83	150	61	.1	.15	0-10 V	0-.4
DCR150-3B	0-150	3	2.4	1.7	75	8	300	6	.1	.15	0-10 V	0-.4
DCR150-6B	0-150	6	4.7	3.3	75	16	300	12	.1	.15	0-10 V	0-.4
DCR150-12B	0-150	12	9.3	6.6	75	32	300	24	.1	.15	0-10 V	0-.4
DCR150-18B	0-150	18	14	10	75	45	300	36	.1	.15	0-10 V	0-.4
DCR300-1.5B	0-300	1.5	1.2	.8	150	4	700	4	.1	.15	0-10 V	0-.4
DCR300-3B	0-300	3	2.3	1.65	150	8	700	7	.1	.15	0-10 V	0-.4
DCR300-6B	0-300	6	4.7	3.3	150	16	700	14	.1	.15	0-10 V	0-.4
DCR300-9B	0-300	9	7.3	5.5	150	23	700	21	.1	.15	0-10 V	0-.4
DCR600-.75B	0-600	.75	.6	.4	300	2	1200	2	.1	.15	0-10 V	0-.4
DCR600-1.5B	0-600	1.5	1.2	.83	300	4	1200	3	.1	.15	0-10 V	0-.4
DCR600-3B	0-600	3	2.3	1.65	300	8	1200	6	.1	.15	0-10 V	0-.4
DCR600-4.5B	0-600	4.5	3.5	2.5	300	12	1200	9	.1	.15	0-10 V	0-.4

NOTES: 1. 7" units offer convection cooling or fan (F) cooling. **2.** Below 60 Hz, ripple and transient response characteristics will deteriorate by a factor of $(\frac{60}{f})^2$ where f is the input frequency. **3.** At full compliance voltage. **4.** At 115 Vac. **5.** At 208 Vac. (7-inch Fan). **6.** With load change (NL-to-FL or FL-to-NL) and a full line-voltage change combined. **7.** For 8 hours (after 30-min. warmup) with constant line, load and ambient temperature. **8.** To return to ±1% band on all models except 10 volt (±3%) and 20 volt (±2%) for a step-load change of half load-to-full load or full load-to-half load. **9.** With 0 to 95% compliance-voltage change and ±10% line-voltage change combined. **10.** Optional input voltage available 208 Vac ±10% (except 7-inch fan) (option M1) 220 Vac ±10% (option M2) 230 Vac ±10% (option M3)

DCR-B Series
Specifications

Voltage Options:
190-230 Vac, add M1 to model no.
200-240 Vac, add M2 to model no.
210-250 Vac, add M3 to model no.
Consult factory for modification price.

Frequency:
49-63 Hz single phase.
(Ripple and transient reponse specs apply only at 60 Hz).

OPERATING DATA

Ambient Operating Temperature Range:
0 to +70°C

Storage Temperature Range:
–40°C to +85°C

Efficiency:
61-86% depending on model.

Series Operation:
200 Vdc max. output (150 and 300 V models, two in series).

Parallel Operation:
Master-slave or straight parallel; four units maximum in master-slave.

Overshoot:
No overshoot at turn-on, turn-off or power failure.

Overvoltage Protection:
Now factory installed on all DCR-B models.

Remote Shutdown:
Remote relay, transistor or logic switching can be connected to shutdown terminals on back of supply.

Cooling:
Convection cooled on 400 to 800 watt models, built-in fan on 2100-2700 watt models.

DCRB ACCESSORIES

Digital Programmer:
Available for all models in DCRB series. IEEE-488 interface to GPIB Bus. Order Model 488 DAP.

Chassis Slide (Kit):
Available for all convection cooled models and fan cooled DCR 7-300B only. Consult factory.

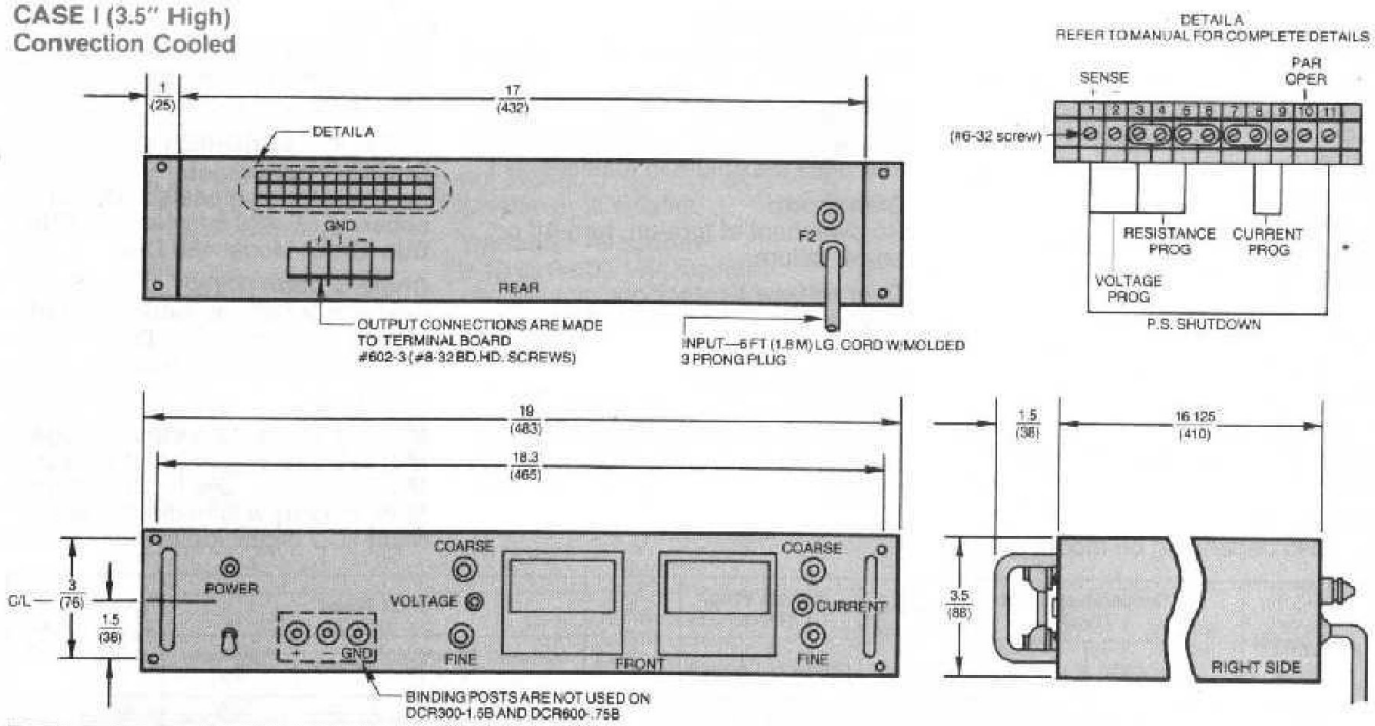
OPTIONS

M1: 208 Vac ± 10% input voltage
M2: 220 Vac ± 10% input voltage
M3: 230 Vac ± 10% input voltage
M35: Polarity & load disconnect
M50: LCD digital meters

Model	Temperature Coeff. (Typ.)		Transient Response Time ms(Typ.)[8]	Remote Prog. (Typ.)		Effi-ciency % (Typ.)	Input Power				Power Factor (Typ.)	Case Size[1]
	(mV/°C)	(mA/°C)		Ohms/V	Ohms/A		Voltage (Vac)[10]	Current[4,5] Max (Aac)	Phase	Frequency (Hz)		
DCR7-300B	1.1	90	100	1710	0.33	65	187-229	27.5	1ϕ	50/60	.62	V
DCR10-40B	1.5	12	50	1200	10	61	103-127	8.7	1ϕ	50/60	.65	I
DCR10-80B	1.5	24	50	1200	5	62	103-127	16	1ϕ	50/60	.69	II
DCR10-120B	1.5	36	50	1200	3.3	62	103-127	24.5	1ϕ	50/60	.67	III
DCR20-25B	3.0	7.5	50	600	16	71	103-127	9.4	1ϕ	50/60	.65	I
DCR20-50B	3.0	15	50	600	8	69	103-127	20	1ϕ	50/60	.62	II
DCR20-80B	3.0	24	50	600	5	70	103-127	30	1ϕ	50/60	.66	III
DCR20-115B	3.0	35	50	600	3.5	70	187-229	26.5	1ϕ	50/60	.60	IV
DCR40-13B	6.0	3.9	50	300	30	71	103-127	9.8	1ϕ	50/60	.65	I
DCR40-25B	6.0	7.5	50	300	16	79	103-127	16	1ϕ	50/60	.68	II
DCR40-40B	6.0	12	50	300	10	78	103-127	26.8	1ϕ	50/60	.66	III
DCR40-70B	6.0	21	50	300	6	77	187-229	29.6	1ϕ	50/60	.58	IV
DCR60-9B	9.0	2.7	50	200	46	75	103-127	9.7	1ϕ	50/60	.65	I
DCR60-18B	9.0	5.4	50	200	22	81	103-127	19	1ϕ	50/60	.60	II
DCR60-30B	9.0	0.9	50	200	16	84	103-127	27	1ϕ	50/60	.68	III
DCR60-45B	9.0	13.5	50	200	9	80	187-229	29.0	1ϕ	50/60	.56	IV
DCR80-6B	12.0	1.8	50	150	68	77	103-127	8.3	1ϕ	50/60	.65	I
DCR80-12B	12.0	3.6	50	150	33	83	103-127	15	1ϕ	50/60	.65	II
DCR80-33B	12.0	9.9	50	150	12	81	187-229	27.2	1ϕ	50/60	.57	IV
DCR150-3B	22.5	0.9	50	80	134	74	103-127	8.2	1ϕ	50/60	.65	I
DCR150-6B	22.5	1.8	50	80	66	84	103-127	15.5	1ϕ	50/60	.60	II
DCR150-12B	22.5	3.6	50	80	33	84	103-127	27	1ϕ	50/60	.69	III
DCR150-18B	22.5	5.4	50	80	22	83	187-229	27	1ϕ	50/60	.58	IV
DCR300-1.5B	45.0	0.45	50	40	270	74	103-127	8.9	1ϕ	50/60	.60	I
DCR300-3B	45.0	0.9	50	40	133	82	103-127	15.7	1ϕ	50/60	.60	II
DCR300-6B	45.0	1.8	50	40	66	84	103-127	27	1ϕ	50/60	.69	III
DCR300-9B	45.0	2.7	50	40	44	83	187-229	27.4	1ϕ	50/60	.57	IV
DCR600-.75B	90.0	0.225	50	20	530	74	103-127	8.9	1ϕ	50/60	.60	I
DCR600-1.5B	90.0	0.45	50	20	266	86	103-127	15.2	1ϕ	50/60	.60	II
DCR600-3B	90.0	0.9	50	20	133	86	103-127	27.4	1ϕ	50/60	.66	III
DCR600-4.5B	90.0	1.35	50	20	89	85	187-229	26.8	1ϕ	50/60	.57	IV

DCR-B Series
Dimensional Drawings

CASE I (3.5" High)
Convection Cooled

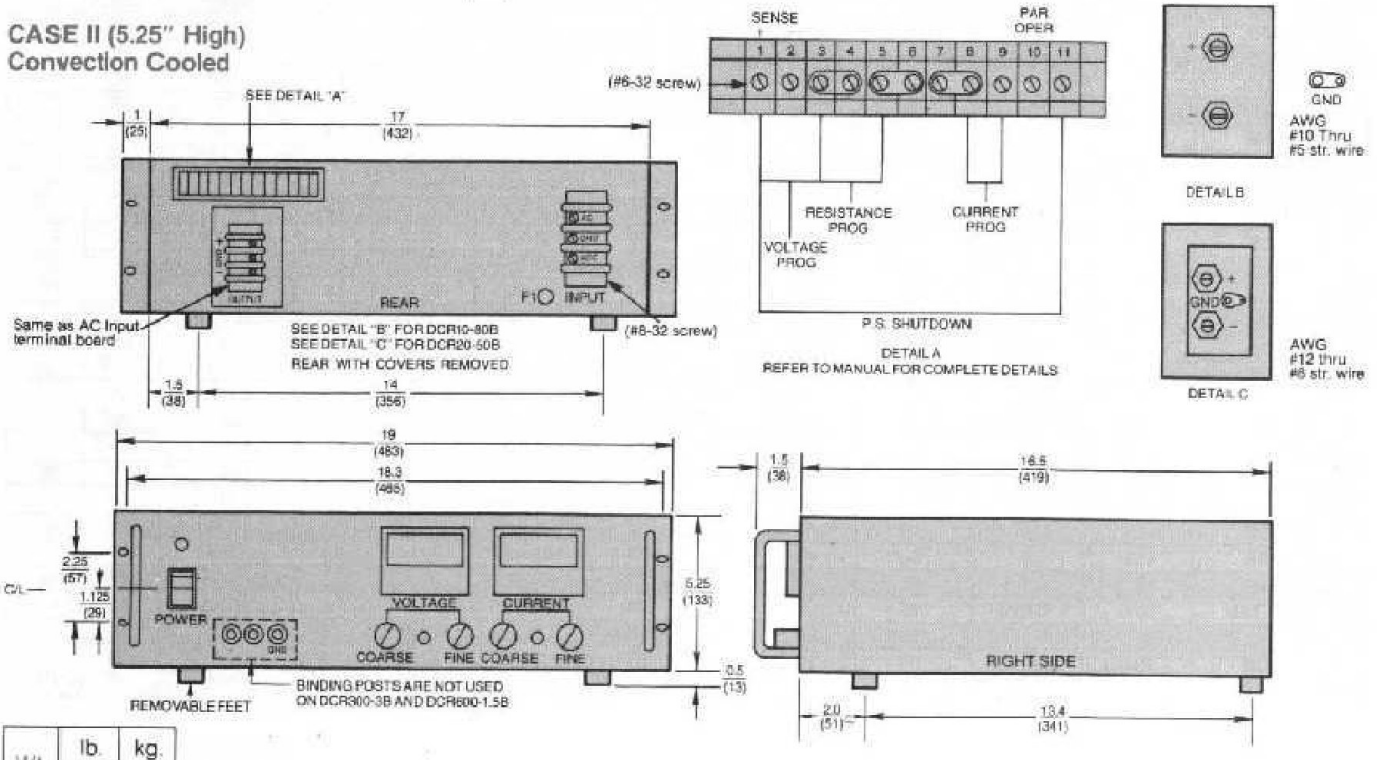


Wt.	lb.	kg.
	40	18.1

Note: Slide-rail option available.

Note: All dimensions are in inches (mm)

CASE II (5.25" High)
Convection Cooled

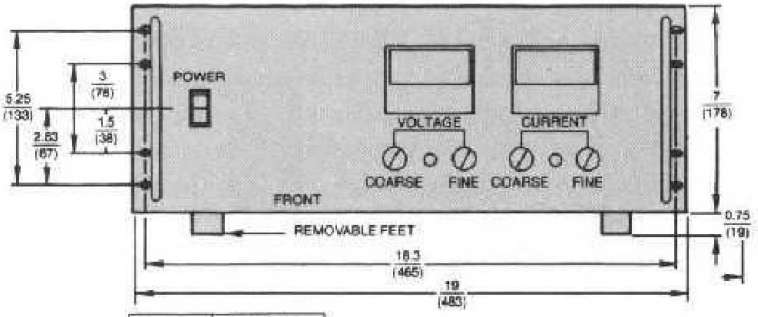


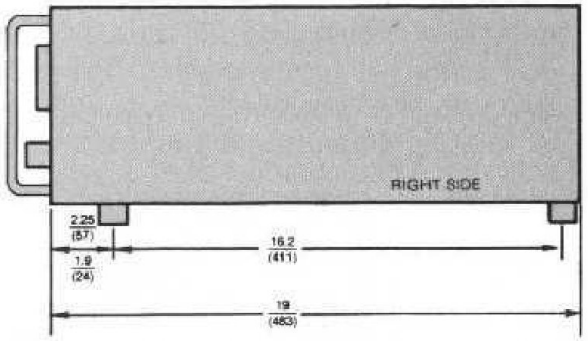
Wt.	lb.	kg.
	70	31.7

Note: Slide-rail option available. Note: All dimensions are in inches (mm)

DCR-B Series
Dimensional Drawings

CASE III (7" High) Convection Cooled

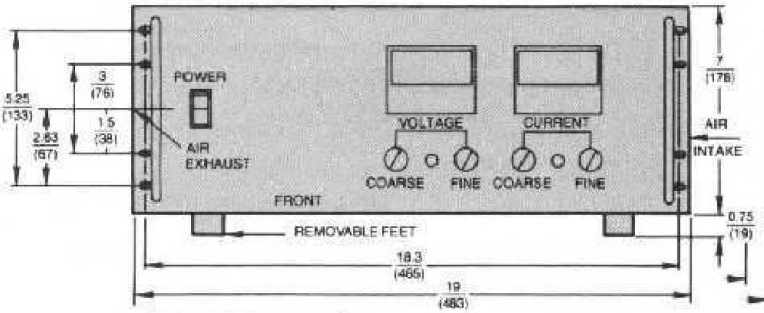


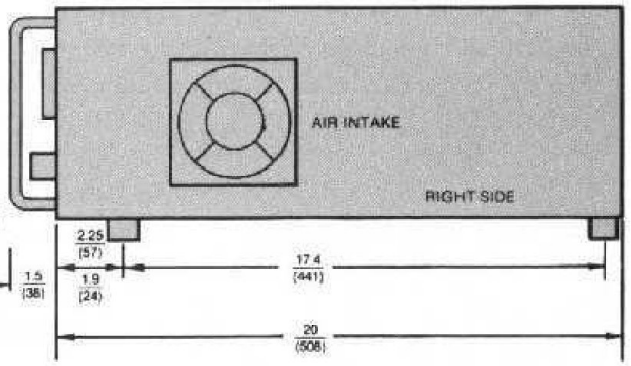


CASE	Weight lb.	kg.
III	90	40.8

Note: Slide-rail option available.

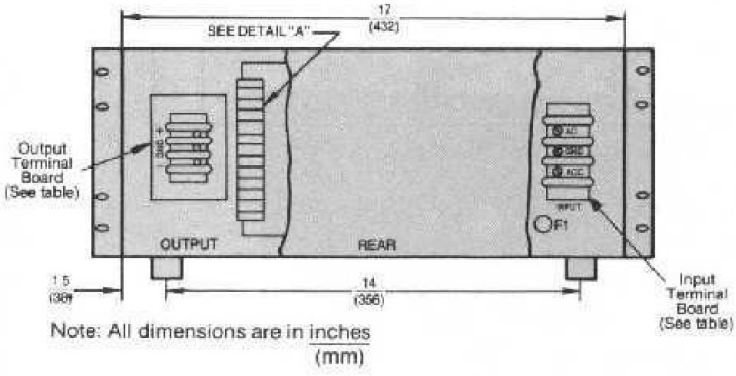
CASE IV (7" High) Fan Cooled



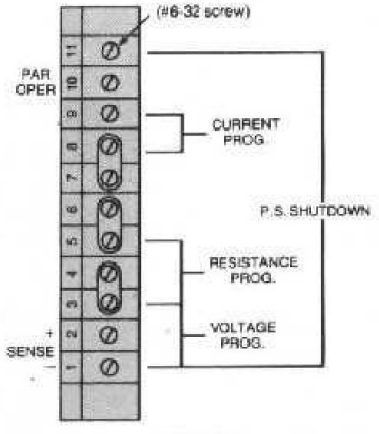


CASE	Weight lb.	kg.
IV	130	58.9

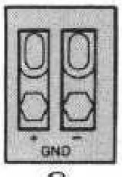
CASE III & IV REAR TERMINAL DETAILS



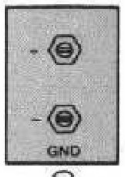
Note: All dimensions are in inches (mm)



DETAIL "A"
REFER TO MANUAL FOR COMPLETE DETAILS



DETAIL B
AWG #2 thru #2/0 str. wire



DETAIL C
AWG #10 thru #6 str. wire



AWG #12 thru #8 str. wire

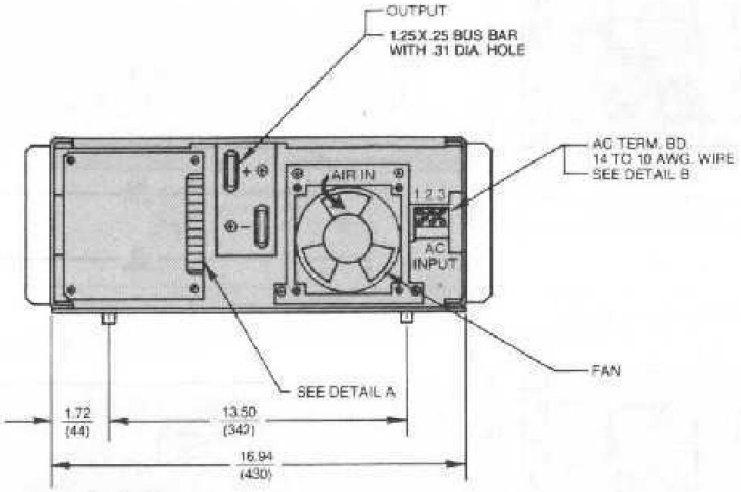
DETAIL D

Input/Output Terminal Data

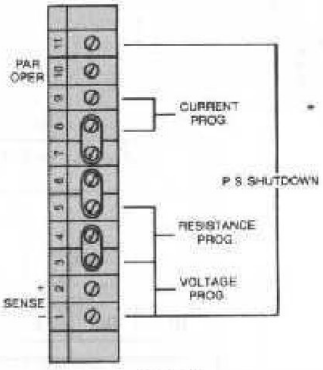
Terminal	Model	CASE III	Model	Case IV
ac		Term. Bd. (#8-32 screw)		Term. Bd. (#10-32 screw)
dc	DCR 10-120B	See Detail B	DCR 20-115B	See Detail B
dc	DCR 20-80B	See Detail B	DCR 40-70B	See Detail C
dc	DCR 40-40B	See Detail D	DCR 60-45B	See Detail D
dc	All others:	Term. Bd. (#8-32 screw)	All others:	Term. Bd. (#10-32 screw)

DCR-B Series
Dimensional Drawings

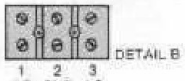
CASE V (7" High)
Fan Cooled

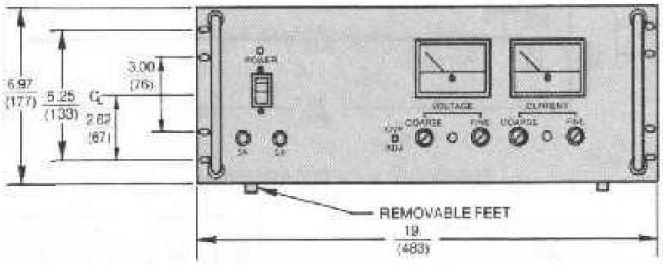


REAR VIEW

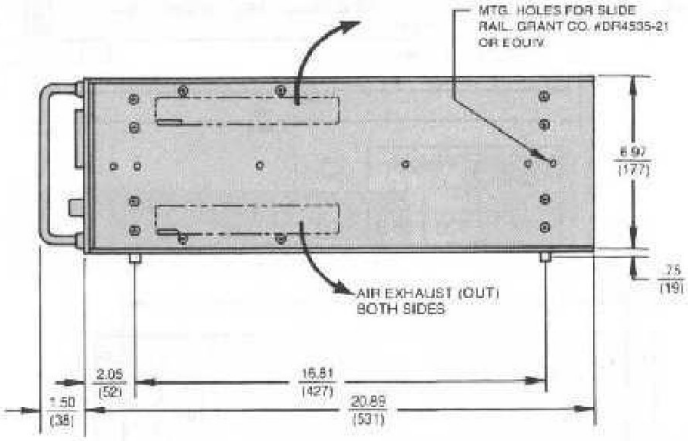


DETAIL 'A'
REFER TO MANUAL FOR COMPLETE DETAILS





FRONT VIEW



SIDE VIEW

Wt.	lb.	kg.
	150	68

Note: All dimensions are in inches (mm)

Artisan Technology Group is an independent supplier of quality pre-owned equipment

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