INSTRUCTION MANUAL

DIGI-SERIES POWER SUPPLIES

- [x] **Model DIGI-35A**
- [ ] **Model DIGI-185**
- [ ] **Model DIGI-360**

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DESCRIPTION

The "DIGI-Series" from Electro Industries are versatile, laboratory quality power supplies which deliver a fully regulated DC output of up to 180 watts. Please see complete specifications. Lab-type features include excellent load/line regulation, long-term stability, low ripple & noise characteristics and built-in short-circuit protection. These supplies offer two basic modes of operation – constant voltage (CV) or constant current (CC). Front panel-mounted concentric controls establish the precise voltage and current operating limits for each unit. If the load current should increase above the preset current level, the supply will automatically crossover from CV to CC operation. In addition to protecting integrated circuits and other sensitive load devices, any power supply in the "DIGI-Series" can be employed as a current regulated power source. Other features include:

Two Digital Displays – to simultaneously monitor output voltage and load current.

Voltage Controls – ten-turn potentiometers (DIGI-35A, DIGI-185), coarse and fine adjustments (DIGI-360).

Current Limiting – continuously variable to rated output, CV or CC mode indicators (DIGI-360).

Polarity – power supply is isolated from the chassis for negative ground, positive ground or floating operation.

Series/Parallel Operation – two power supplies of the same rating can be connected in series to produce a voltage of up to twice the rating of a single supply. Two or more supplies of the same rating can also be connected in parallel to provide greater current capacity. Current equalizing resistors may be required (not supplied).

Reliability – is assured by a conservatively designed, fully dissipative regulator system and the use of quality components.

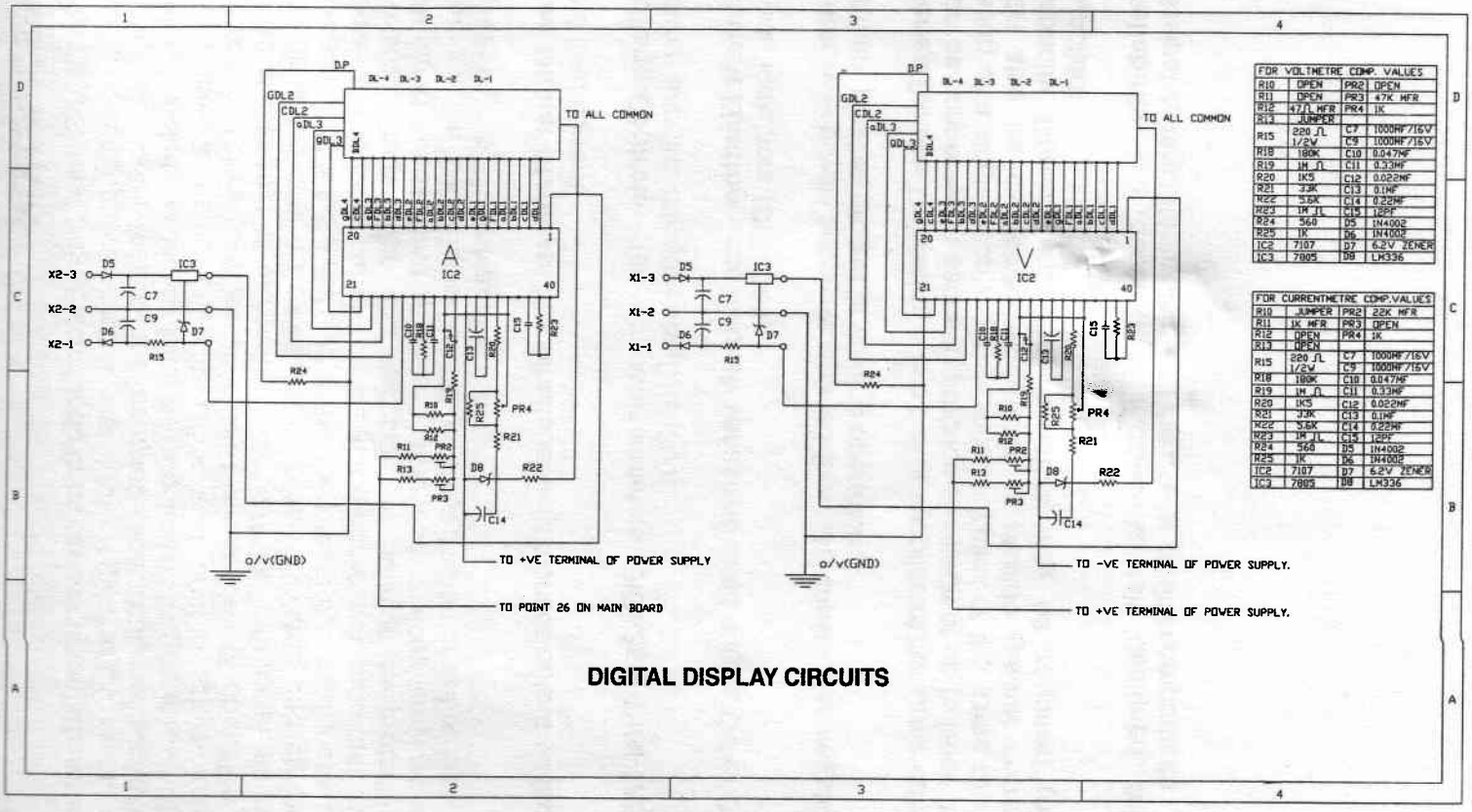
OPERATION

Plug power cord into a properly grounded AC outlet (115 VAC/ 60 Hz). Turn POWER switch ON. Digital voltmeter and ammeter displays will illuminate. Allow 20-minute warmup for unit to stabilize. Turn CURRENT control full CW to produce the rated capability of your "DIGI-Series" power supply. For a specific level of current protection, determine the maximum safe load current for the equipment to be powered and set CURRENT control for that value as follows:

1. Set VOLTAGE control(s) to approximately mid-position. Connect (-) and (+) OUTPUT terminals together with a handy clip-lead (output is shorted).
2. Adjust CURRENT control to read the required value of current protection on the digital ammeter. Add additional 10% safety factor. Remove clip-lead.
3. Adjust VOLTAGE control(s) to read the desired output voltage on the digital voltmeter.
4. Use shorting bar to select a positive or negative output polarity. For example, connect (-) and GND terminals together with shorting bar for a positive polarity (most used). Make load connections directly to (-) and (+) terminals for floating operation. Do not connect shorting bar to either OUTPUT terminal.
5. Place your "DIGI-Series" power supply in operation.

SPECIFICATIONS

MODEL	DIGI-35A	DIGI-185	DIGI-360
Output Voltage	0-30V	0-18V	0-30V
Output Current	0-3A	0-5A	0-6A
Voltage Regulation Load Line	 0.05% from zero to full load 0.02% from 105 to 125 VAC		
Current Regulation Load Line	 0.25% from zero to rated V 0.1% from 105 to 125 VAC		
Ripple & Noise	< 1 mV RMS		
Metering (V&A) Accuracy	3-digit 0.5″ LED ±0.5% of rdg ±2 dgt		
Temperature Operating	0° to 40°C, < 75% R.H.		
Power Requirements	115/230 ± 10/20 VAC, 50/60 Hz (fuse in-line)		
Power Consumption	180W	190W	350W
Size (HWD)	5.5x6.5x10.4 in. 140x165x264 mm	5.5x6.5x10.4 in. 140x165x264 mm	5.5x12.1x10.5 in. 140x308x267 mm
Weight	11 lb. (5 kg)	11 lb. (5 kg)	20 lb. (9 kg)



FOR VOLTMETRE COMP. VALUES			
R10	OPEN	PR2	OPEN
R11	OPEN	PR3	47K MFR
R12	47Ω MFR	PR4	1K
R13	JUMPER		
R15	220 Ω 1/2W	C7	1000MF/16V
		C9	1000MF/16V
R18	180K	C10	0.047MF
R19	1M Ω	C11	0.33MF
R20	1K5	C12	0.022MF
R21	2.2K	C13	0.1MF
R22	5.6K	C14	0.22MF
R23	1M Ω	C15	12PF
R24	560	D5	IN4002
R25	1K	D6	IN4002
IC2	7107	D7	6.2V ZENER
IC3	7805	D8	LM336

FOR CURRENTMETRE COMP.VALUES			
R10	JUMPER	PR2	22K MFR
R11	1K MFR	PR3	OPEN
R12	OPEN	PR4	1K
R13	OPEN		
R15	220 Ω 1/2W	C7	1000MF/16V
		C9	1000MF/16V
R18	180K	C10	0.047MF
R19	1M Ω	C11	0.33MF
R20	1K5	C12	0.022MF
R21	2.2K	C13	0.1MF
R22	5.6K	C14	0.22MF
R23	1M Ω	C15	12PF
R24	560	D5	IN4002
R25	1K	D6	IN4002
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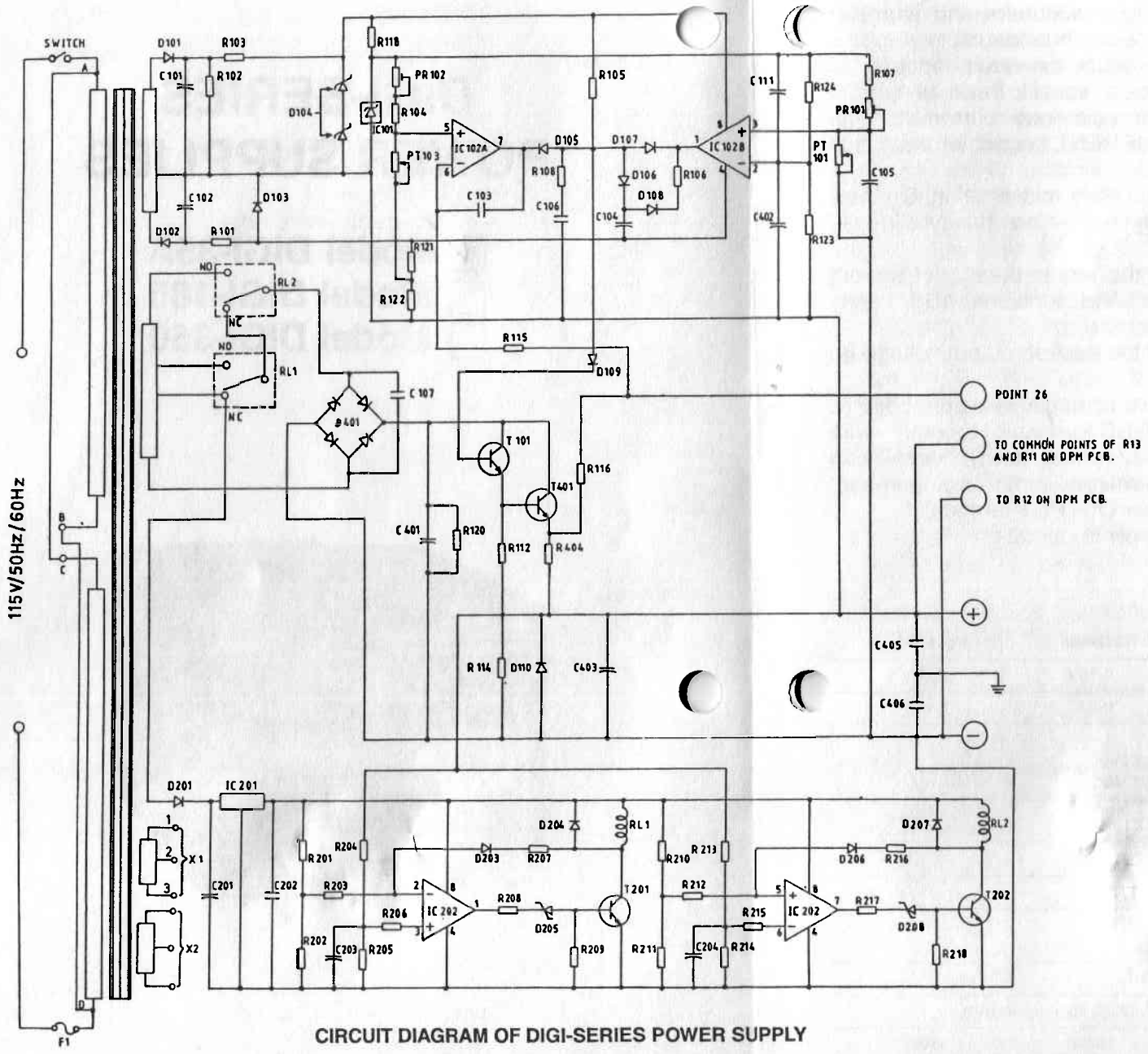
DIGITAL DISPLAY CIRCUITS



CIRCUIT DIAGRAM OF DIGI-SERIES POWER SUPPLY

R101	220E, 1/2W	R401	—	D203	
R102	4K7	R402	—		
R103	390E, 1/2W	R403	—	D203	1N 4002
R104	150K(MFR)	R404	0.22E, 5W	D204	
R105	1K5			D205	6.2V, FZ
R106	3K3			D206	
R107	680E(MFR)			D207	1N 4002
R108	33K			D208	6.2V, FZ
R109	—	C101	220/25V		
R118	—	C102	1000/16V	B401	4A03X4
R111	—	C103	10KPF		
R112	1K2	C104	100/16V	T101	TIP 31A
R113	—	C105	1/63V		
R114	10K -	C106	10KPF		
R115	330E(MFR)	C107	0.22MF/100V	T201	2N 5551
R116	110E			T202	
R117	—	C111	220MF/25V		
R118	1K5			T401	2N 3773
R119	—	C201	470MF/35V	T402	—
R120	8K2, 1W	C202	100KPF		
R121	33K (MFR)	C203	10/16V	IC101	LM336(2.5V)
R122	220E (MFR)	C204		IC102	LM 1458
R123	330E(MFR)			IC102	
R124	6K8 (MFR)				
				IC201	7812
		C401	3300/63V	IC202	LM 1458
		C402	220MF/25V		
		C403	100/50V	RL1	12V RELAY
		C405	10KPF	RL2	
		C406			
R201	4K7	D101	1N 4002		
R202	3K3	D102		F1	2 AMPS SLOW BLOW
R203	10K	D103	6.2V FZ		
R204	33K	D104	12V FZ		
R205	33K	D105	1N4002		
R206	10K	D106	1N 4148		
R207	100K	D107	1N4002		
R208	3K3	D108	1N 4002		
R209	10K	D109			
R210	4K7	D110	1N 5402		
R211	3K3				
R212	10K				
R213	22K				
R214	6K8				
R215	10K				
R216	100K				
R217	3K3				
R218	10K				

NOTE:
ALL RESISTORS ARE 1/4W, OHMS AND CAPACITORS IN MICROFARAD UNLESS OTHERWISE SPECIFIED.

PR 101 — VOLTAGE ADJUST PRESET. - 220E
PR 102 — CURRENT ADJUST PRESET. — 100K.
PT 101 — VOLTAGE ADJUST POT — 10K. (TEN TURN POT)
PT 103 — CURRENT ADJUST POT — 100K.