프로그래머블 DC 전원 공급기

Protek PR/PD 시리즈

특징

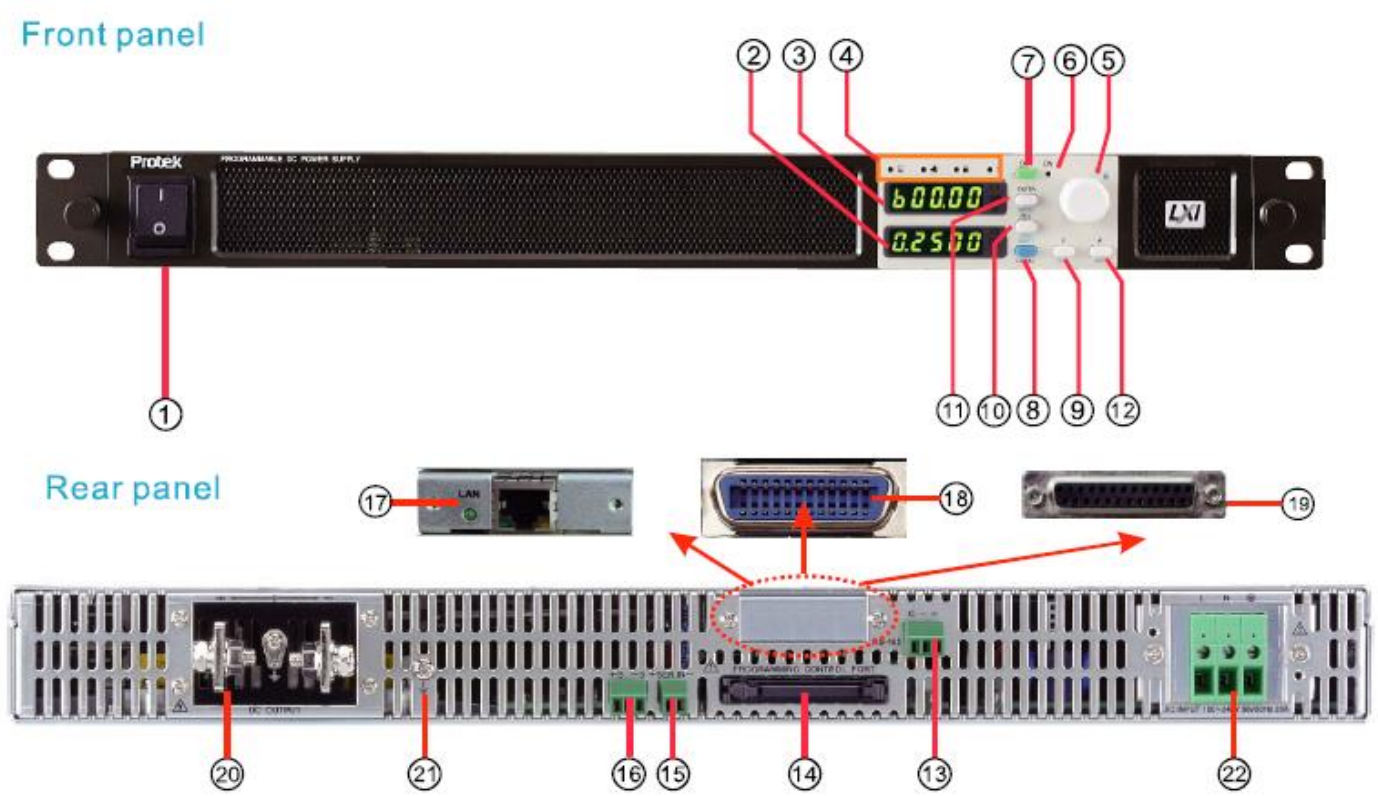
- 52가지 모델: 6V~600V/1A~400A 중 선택 가능.
- 5 또는 4 자릿수 전압 전류 미터.
- 2000A의 최대출력 전류 (5개 병렬 연결).
- 스위칭 모드, 고밀도, 19인치 받침대에 설치가 편리함
- 세팅/ 측정 : 16bit D/A, 24bit A/D
- 750W in 1U half width, 1.5kW in 1U/2UH, 3kW in 2U height.
- 과전압(OVP), 과전류(OCP), 과열(OTP) 보호
- 표준 LXI, Isolation RS-485 인터페이스, (GPIB 인터페이스 옵션).
- PR/PD 시리즈 16개 메모리 저장 가능; 메모리는 정면 계기판에서 수동으로 불러오거나 외부 조작으로 저장된 데이터를 불러올 수 있다.
- CE, LXI 인증

제품 주요 특징
All parameters are specified base on power on after 30 minutes, Ambient temperature 23±5℃ / Humidity : Under 80% RH, AC Voltage : ±5%, Frequency : ±5%.
Ripple Bandwidth=5 ~ 1MHz
The minimum output is 2V when measuring the ripple of 6V~20V models. The minimum output is 10% of the rated voltage/current when measuring other models.
Output transient response time: resistor load testing within rated output voltage.
Special requests on demand.
All specifications are subject to change without notice.

Protek

Programmable DC Power supply Protek PR/PD Series

- 제품 소개



제품 전면 소개	
1. 전원 스위치	7. 출력 ON/OFF 버튼
2. 전류 표시 화면	8. SHIFT & LOCAL 기능 버튼
3. 전압 표시 화면	9. 전압 셋팅 및 OVP 설정 버튼
4. 동작 상태 표시	10. RCL & STO 설정 버튼
5. 제어 노브	11. ENTER & MENU 설정 버튼
6. 출력 ON/OFF 표시	12. 전류 셋팅 및 OCP 설정 버튼

제품 뒷면 소개	
13. RS-485 인터페이스	18. IEEE 488 (GPIB) 인터페이스 (선택사항)
14. 아날로그 프로그래밍 인터페이스	19. Isolated 아날로그 인터페이스 (선택사항)
15. 아날로그 프로그래밍 보조 인터페이스	20. 출력 터미널 (선택사항 Note 참고)
16. Remote Sense 터미널	21. 접지 터미널
17. LAN(LXI) 인터페이스	22. AC 전원 입력 단자

Note : different output terminals depend on different capacities

Protek

Programmable DC Power supply Protek PR/PD Series

- 제품 소개

PR - 5 Digits Panel

1UH Series

1U Series

2UH Series

2U Series

PD - 4 Digits Panel

1UH Series
6V~100V

1U Series
6V~100V

1UH Series
150V ~ 600V

1U Series
150V ~ 600V

2UH Series
6V~100V

2U Series
6V~100V

2UH Series
150V ~ 600V

2U Series
150V ~ 600V

제품 주요 사항

6V~600V

1A~400A (750W ~3kW 급)

PR 시리즈 전압/전류 분해능 "5디지트" 적용 모델

PD 시리즈 전압/전류 분해능 "4디지트" 적용 모델

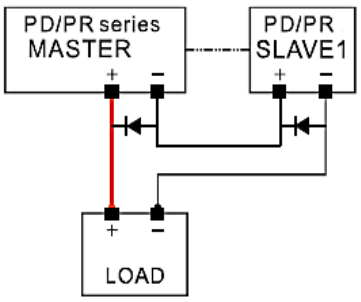
1U Half Rack / 1U Rack / 2U Half Rack / 3U Rack 까지 다양한 사이즈

- 응용 기능

Functions

Series

To enhance the output voltage of the PD/PR series you've had, you can connect additional units in series with the same model.



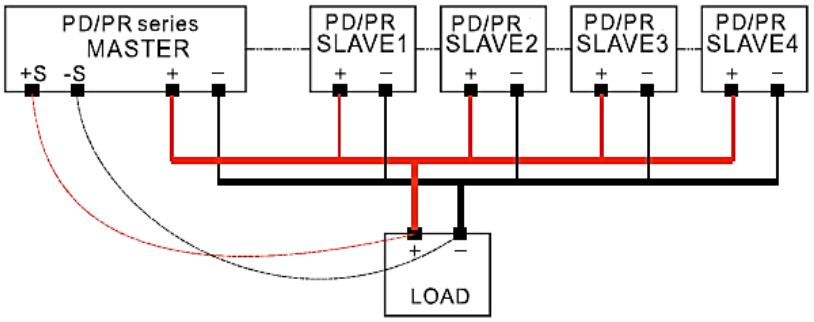
Parallel

PD/PR series allows max. 5 unit to be operated in parallel :

-When the load require exceeding current, you only need to get additional unit wtith same model to expand it's capacity.

-When the load require less current, just turn off the spare units for saving power.

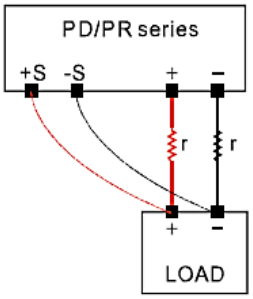
-When one of the units shuts down, the rest of others will keep providing power within it's rated current and execute the advanced current sharing function.



Remote Sensing :

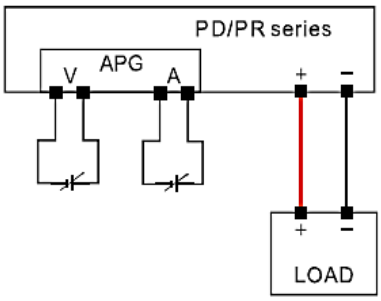
To compensate the voltage drop which is caused by the resistance of output leads.

The compensating voltage from 1~5V depends on different models.



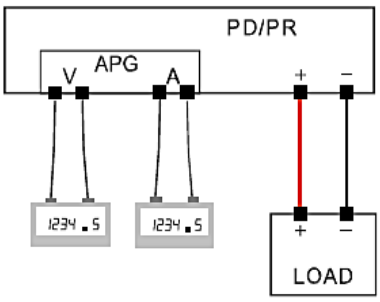
Analog Control V/A :

Through the accurate converter, external analog input 0~10V corresponds to 0~rated output voltage or current



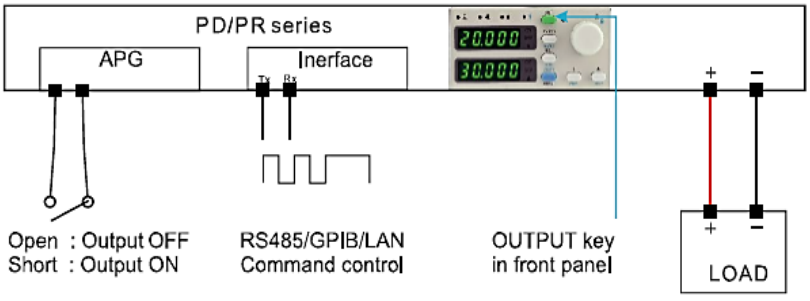
Analog Monitor V/A :

Through the accurate converter,
The 0~10V form APG connector can exactly show output voltage or current



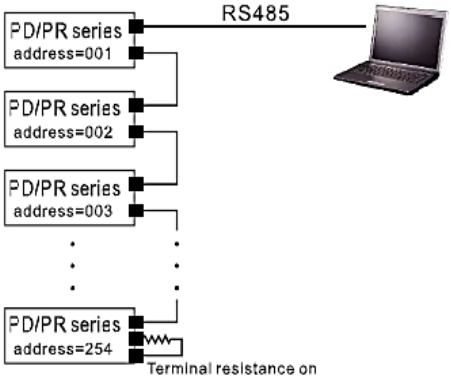
ON/OFF Control

Varied remote control interfaces for output ON/OFF:
Analog control, Command programming & Panel control.



RS-485/GPIB/LAN connection

RS-485 interface control 254 units
GPIB interface control 30 units
LAN interface control Unlimited units



- 제품 사양

출력		모델명	Ripple		무부하 정전압		부하 정전압		응답 시간(S)			Remote Sense (V)	사이즈
CV	CC		CV	CC	CV	CC	CV	CC	최대 부하 UP	최대 부하 Down	무부하 Down		
V	A		mV rms	mA rms	0.05% +mV	0.10% +mA	0.05% +mV	0.10% +mA					
0 - 6	0 - 100	PR/PD-6100	10	180	2.8	11	2.8	23	0.08	0.05	0.6	1	1UH
0 - 8	0 - 90	PR/PD-8090	10	180	2.8	11	2.8	23	0.08	0.05	0.6	1	1UH
0 - 12.5	0 - 60	PR/PD-1260	10	120	4	8.5	4	18	0.08	0.05	0.8	1	1UH
0 - 20	0 - 38	PR/PD-2038	10	76	4	5.8	4	12.6	0.08	0.05	0.8	1	1UH
0 - 30	0 - 25	PR/PD-3025	10	63	5	4.5	5	10	0.08	0.08	0.9	1.5	1UH
0 - 40	0 - 19	PR/PD-4019	10	48	6	3.9	6	8.8	0.08	0.08	1	2	1UH
0 - 50	0 - 15	PR/PD-5015	10	43	8	3.6	8	8.2	0.08	0.08	1.1	2	1UH
0 - 60	0 - 12.5	PR/PD-6012	10	38	8	3.25	8	7.5	0.08	0.08	1.1	3	1UH
0 - 80	0 - 9.5	PR/PD-809	10	29	10	2.95	10	6.9	0.15	0.15	1.2	4	1UH
0 - 100	0 - 7.5	PR/PD-1007	10	23	12	2.75	12	6.5	0.15	0.15	1.5	5	1UH
0 - 150	0 - 5	PR/PD-1505	16	18	17	2.5	17	6	0.15	0.15	2	5	1UH
0 - 300	0 - 2.5	PR/PD-3002	25	13	32	2.25	32	5.5	0.15	0.15	3	5	1UH
0 - 350	0 - 2.1	PR/PD-3502	25	13	32	2.25	32	5.5	0.15	0.15	3	5	1UH
0 - 450	0 - 1.7	PR/PD-4501	34	13	35	2.3	35	5.5	0.21	0.24	3.5	5	1UH
0 - 600	0 - 1.25	PR/PD-6001	75	8	62	2.13	62	5.26	0.25	0.3	4	5	1UH
0 - 6	0 - 200	PR/PD-6200	15	360	2.8	18.5	2.8	38	0.08	0.05	0.6	1	1U
0 - 8	0 - 180	PR/PD-8180	15	360	2.8	18.5	2.8	38	0.08	0.05	0.6	1	1U
0 - 12.5	0 - 120	PR/PD-12120	15	248	3.4	14.5	4	28	0.08	0.05	0.8	1	1U
0 - 20	0 - 76	PR/PD-2076	15	152	4	9.6	4	20.2	0.08	0.05	0.8	1	1U
0 - 30	0 - 50	PR/PD-3050	15	125	5	7	5	15	0.08	0.08	0.9	1.5	1U
0 - 40	0 - 38	PR/PD-4038	15	95	6	5.8	6	12.6	0.08	0.08	1	2	1U
0 - 50	0 - 30	PR/PD-5030	15	85	7	5.2	7	11.4	0.08	0.08	1.1	2	1U
0 - 60	0 - 25	PR/PD-6025	15	75	8	4.5	8	10	0.08	0.08	1.1	3	1U
0 - 80	0 - 19	PR/PD-8019	15	57	10	3.9	10	8.8	0.15	0.15	1.2	4	1U
0 - 100	0 - 15	PR/PD-10015	15	45	12	3.5	12	8	0.15	0.15	1.5	5	1U
0 - 150	0 - 10	PR/PD-15010	24	45	12	3.5	12	8	0.15	0.15	2	5	1U
0 - 300	0 - 5	PR/PD-3005	38	25	32	2.5	32	6	0.15	0.15	3	5	1U
0 - 350	0 - 4.2	PR/PD-3504	38	25	32	2.5	32	6	0.15	0.15	3	5	1U
0 - 450	0 - 3.4	PR/PD-4503	68	18	35	2.5	32	5.8	0.21	0.24	3.5	5	1U
0 - 600	0 - 2.5	PR/PD-6002	113	15	62	2.26	62	5.5	0.25	0.3	4	5	1U
0 - 6	0 - 400	PR/PD-6400	23	1000	2.8	42	6.2	85	0.08	0.02	0.5	1	2U
0 - 8	0 - 360	PR/PD-8360	23	1000	2.8	42	6.2	85	0.08	0.02	0.5	1	2U
0 - 12.5	0 - 240	PR/PD-12240	23	800	3.2	29	7.1	60	0.08	0.1	0.8	1	2U
0 - 20	0 - 152	PR/PD-20150	23	600	4	18.5	8	38	0.08	0.1	0.8	1	2U
0 - 30	0 - 100	PR/PD-30100	23	310	5	13	9.5	27	0.08	0.16	0.9	1.5	2U
0 - 40	0 - 76	PR/PD-40076	23	250	6	10.5	11	22	0.08	0.16	1	2	2U
0 - 50	0 - 60	PR/PD-5060	23	200	7	9	13	19	0.08	0.16	1.1	2	2U
0 - 60	0 - 50	PR/PD-6050	23	150	8	7.5	14	16	0.08	0.16	1.1	3	2U
0 - 80	0 - 38	PR/PD-8038	23	110	10	6.2	17	13.4	0.15	0.3	1.2	4	2U
0 - 100	0 - 30	PR/PD-10030	23	90	12	5.3	20	11.6	0.15	0.3	1.5	5	2U
0 - 150	0 - 20	PR/PD-15020	36	90	17	4.2	27.5	9.4	0.15	0.3	2	5	2U
0 - 300	0 - 10	PR/PD-30010	57	50	32	3.1	50	7.2	0.15	0.3	3.5	5	2U
0 - 350	0 - 8.4	PR/PD-3508	57	50	32	3.1	50	7.2	0.15	0.3	3.5	5	2U
0 - 450	0 - 6.8	PR/PD-4506	134	42	43	2.8	84	6.7	0.25	0.5	4	5	2U
0 - 600	0 - 5	PR/PD-6005	170	30	62	2.55	95	6.1	0.25	0.5	4	5	2U

- 공통 사양

Common Specification

Panel setting resolution	PR models: 5 digits	PD models: 4 digits
Panel display resolution	PR models: 5 digits	PD models: 4 digits
Panel setting accuracy	Voltage : ± (0.1% + 3 count) Current : ± (0.5% + 3 count)	
Panel display accuracy	Voltage : ± (0.1% + 3 count) Current : ± (0.5% + 3 count)	
Command setting resolution	±0.002% of full scale	
Command reading resolution	±0.002% of full scale	
Digital Programming Accuracy	Voltage : ± (0.1% + 3 count) Current : ± (0.5% + 3 count)	
Digital Readback Accuracy	Voltage : ± (0.2% + 2 count) Current : ± (0.5% + 3 count)	
Analog Programming Accuracy	Standard Optional Isolated	Voltage : 5% ; Current : 5% Voltage : 0.5% ; Current : 1%
Analog Readback Accuracy	Standard Optional Isolated	Voltage : 5% ; Current : 5% Voltage : 1% ; Current : 1%
CV Temp. Coefficient	100ppm/°C of rated output voltage, after 30 minutes warm-up	
CC Temperature drift	0.05% of rated Vout over 8hrs interval following 30 minutes warm-up. Constant line, load & temp.	
Protective functions	Programmable over voltage protection(POVP), Programmable over current protection(POCP), Over temperature protection(OTP), Fuse blown protection	
Command response time	≦20ms (After received) (Note.2)	
Transient response time	Constant voltage mode : 20V and under ≦1.5ms ; 30V~100V≦1ms ; 150V~600V≦2ms ;	
Output ramp up time	0.1~99.9 sec.	
Output ramp down time	0.1~99.9 sec. (Note 3)	
Input voltage	750W / 1500W type : 100~240Vac, 50/60Hz 3000W type : Max. 190~240Vac, 50/60Hz	
Input current (Full load)	750W type : 115Vac - 8.1A ; 230Vac - 4.1A 1500W type : 115Vac - 16.2A ; 230Vac - 8.1A 3000W type : 230Vac - 15.6A	
Inrush current	750W type : 230Vac - 12.5A 1500W type : 230Vac - 25A 3000W type : 230Vac - 50A	
Efficiency	750W type : 76% - 87% ; 1500W type : 77% - 88% ; 3000W type : 82% - 88%	
Power Factor (PF)	0.99 (at 115Vac, rated output)	
Withstand voltage	Input-Output - AC2000V:1 minute Input-Ground - AC2000V:1 minute	
Output polarity	positive (+) or negative (-) connect to Ground	
Cooling	Forced air by speed controlled fan	
Noise	50 ~ 70 dB(A)(Different by type and load)	
Weight	1UH type : approx 5.1 kg 1U type : approx 9.0 kg 2UH type : approx 8.2 kg 2U type : approx 15.1 kg	
Operating environment	Temperature : 0~40°C ; Humidity : 30%~90% RH(no condensation)	
Store environment	Temperature : -20~70°C ; Humidity : 10%~90% RH(no condensation)	
EMI and Safety Certifications	CE Mark- full compliance with LVD and EMC directives	

Note 1 : All specifications are subject to change without notice.

Note 2 : Programming time = Command response time + Output response time. The output response time is differ according to different models, from 40ms ~ 200ms.

Note 3 : Actual ramp down time will be different in different models.

Note 4 : The total voltage should be lower than 600V when connect 2 units in series.

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