

PFR-7 Series Fanless Multi-Range D.C. Power Supply

GW INSTEK

Made to Measure

固緯電子實業股份有限公司

Introduction of PFR-7 series

Front Panel

Front Panel

1. Voltage knob
2. Current knob
3. Output button
4. USB A port
5. Output terminal
6. Power switch [ON]/[OFF]
7. Display area

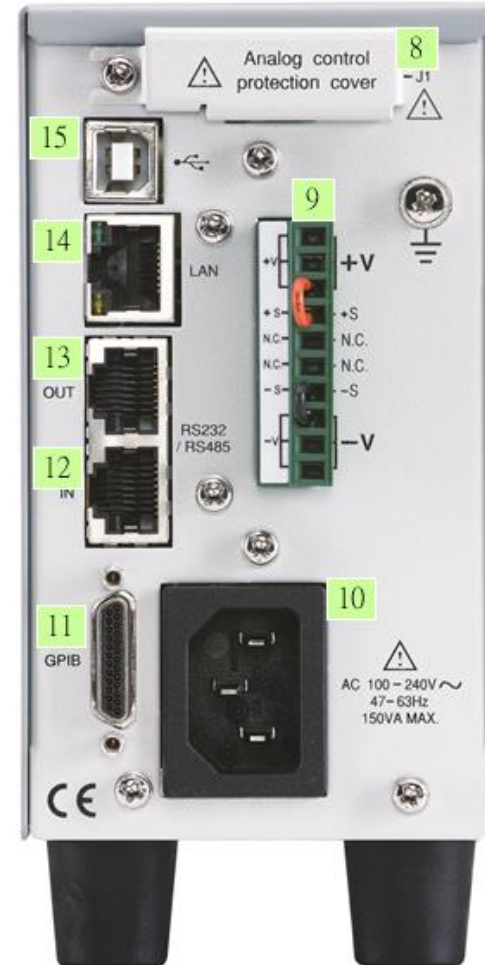


Introduction of PFR-7 series

Rear Panel

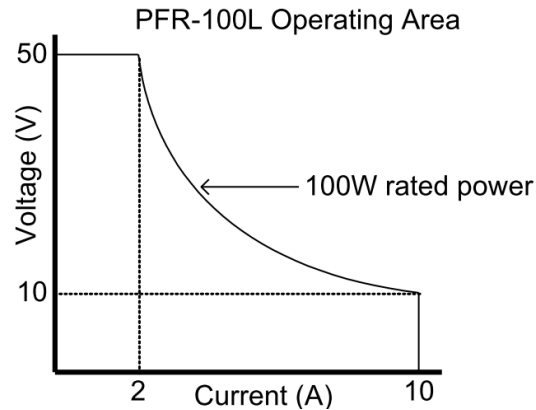
Back Panel

- 8. External analog remote control connector
- 9. Output terminals
- 10. Line voltage input
- 11. GPIB (factory installed option)
- 12. Remote In (RS-232 or RS-485)
- 13. Remote Out (RJ-45)
- 14. LAN (factory installed option)
- 15. USB

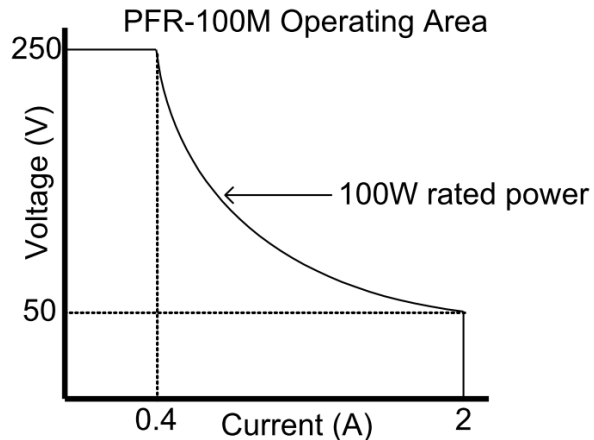


Introduction of PFR-series

PFR-7 Series Operating Area



Model	PFR-7100L
Output channel	1
Output voltage	0 – 50V
Output current	0~ 10A
Rated power	100W

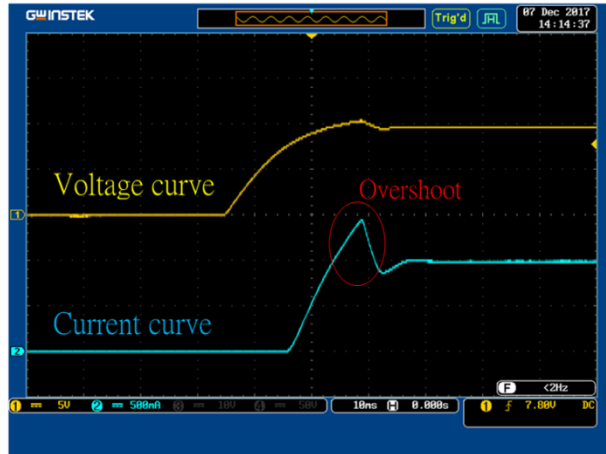


Model	PFR-7100M
Output channel	1
Output voltage	0 – 250V
Output current	0~ 2A
Rated power	100W

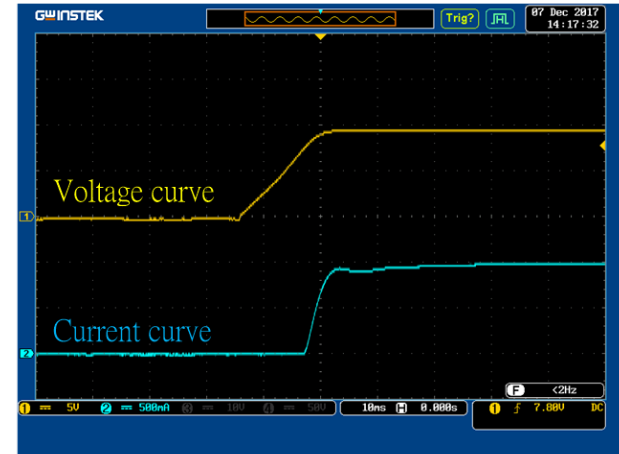
Features

- Five-fold rated power output
- **Natural convection cooling design (Fanless structure)**
- Three-point memory storage function
- Output ON/OFF delayed time function
- CV, CC priority mode
- Adjustable slew rate for voltage/current
- Bleeder circuit control
- Protections: OVP, OCP, AC FAIL and OTP
- Support front and rear panel output
- Built-in USB and RS-232/485 interfaces. Options: LAN and GPIB
- **Remotely monitor and control via internet**
(Web server remote control function.)
- External analog control and monitor function
- Remote compensation and detection for voltage function

C.V/C.C priority mode



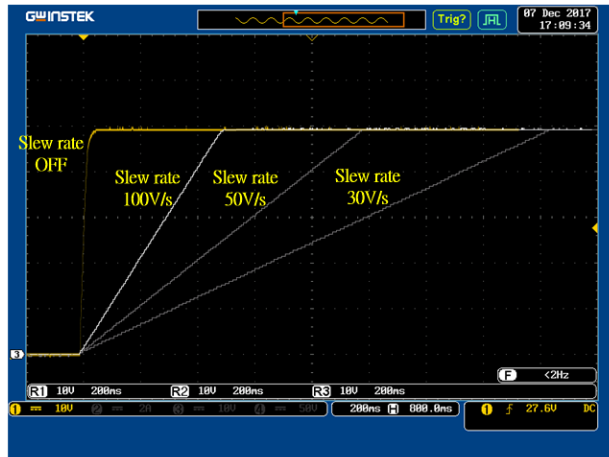
Under the conventional C.V mode, inrush current and surge voltage appeared at forward voltage (V_f) of LED



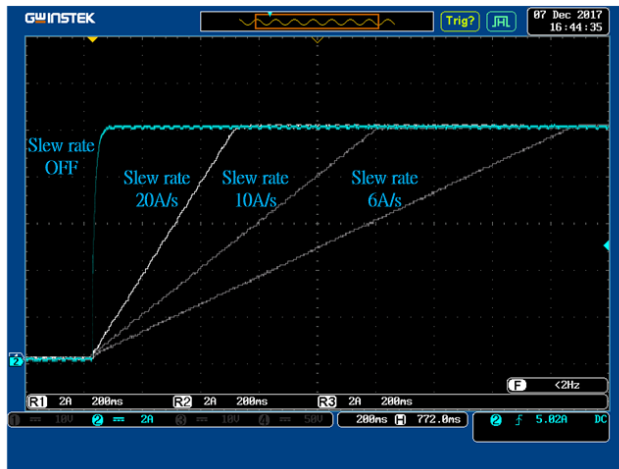
Under C.C priority mode, inrush and surge voltage are effectively restrained.

Under the application conditions of diode load, conventional power supplies under the CV priority mode will produce inrush current and surge voltage at turn-on. The PFR-7100 series has CV and CC priority modes. The CC priority mode can prevent inrush current and surge voltage from occurring at turn-on to protect DUT

Adjustable Slew Rate



Adjustable voltage slew rate



Adjustable current slew rate

The PFR-7100 series can adjust slew rate for current and voltage. Via setting the rise and fall time of voltage and current, users can verify DUT's characteristics during voltage and current variation. Additionally, slew rate adjustment can mitigate voltage shift to effectively prevent DUT from being damaged by inrush current. This function is ideal for tests such as capacitive load and motor.

Voltage Slew Rate

0.1V~100.0V/sec (PFR-7100L)

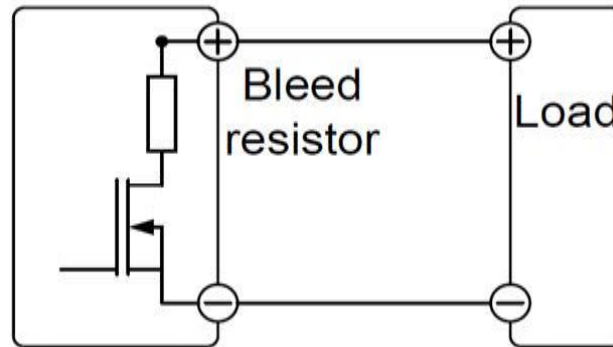
0.1V~500.0V/sec (PFR-7100M)

Current Slew Rate

0.01A~20.00A / sec (PFR-7100L)

0.001A~4.000A / sec (PFR-7100M)

Bleeder circuit control



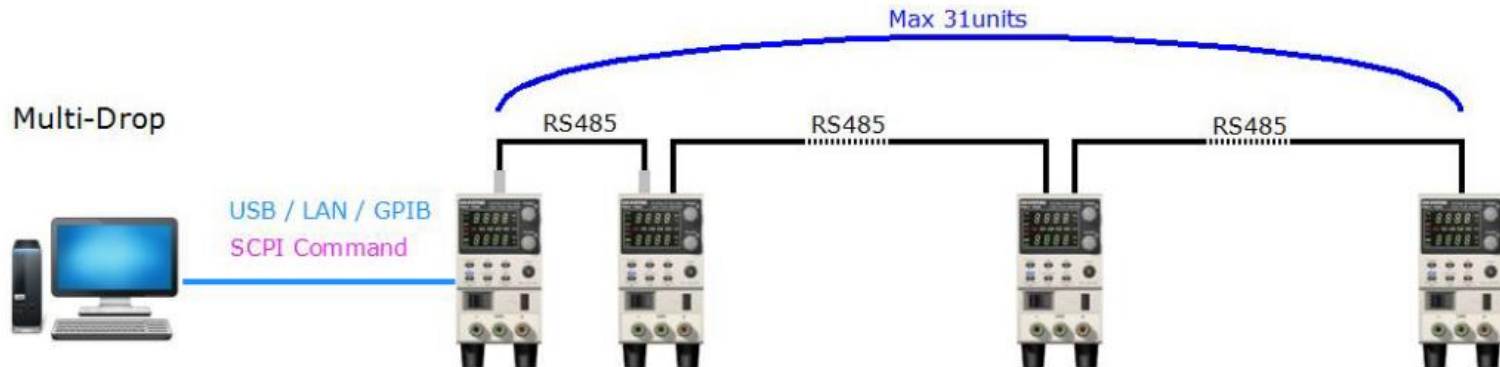
The PFR-7100 series power supply has a bleeder circuit control which is in parallel with the output terminal. When power is off or load is disconnected, the bleed resistor will consume electricity from the filter capacitor. Without a bleed resistor, the filter capacitor of power could still be charged with electricity that poses a potential danger.

In addition, for ATE system, bleed resistor allows the PFR-7100 series to bleed current rapidly so as to prepare itself for the next operation.

Remote program control (Up to 31 units connection)

Provide USB, GPIB and LAN for PC to remote control Master PFR-7100. RJ-45 connector on the rear panel can connect up to 31 units.

LAN or USB remote control and augmenting slave units by using the multi-drop mode will no longer need any switch/hub that can help customers save equipment costs.

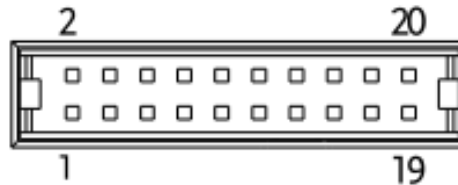


Web server remote control function



Users, via general browsers including Internet Explorer, Mozilla Firefox or Android cellular phones, can monitor PFRs' test and measurement anywhere. Users not only can remotely monitor PFR-100 via internet, but also remotely observe and adjust your operating PFR-7100 in the lab from your home. The outputs of PFR-7100 can be monitored including OVP, OCP, UVL; and system information can be checked such as unit's serial number, firmware edition and internet setting. Users can remotely adjust PFR-7100 settings, including output voltage/current, the slew rate for voltage/current, Bleed circuit control, OCP, delayed time for output voltage and Buzzer settings.

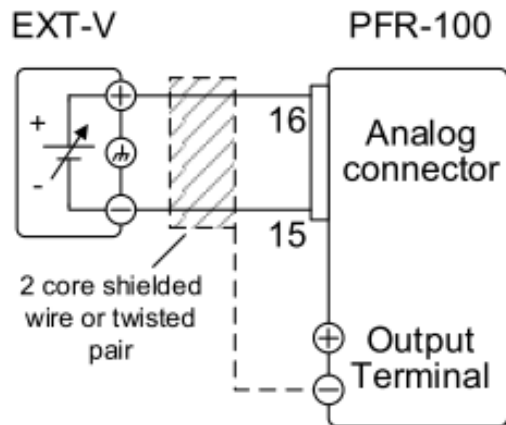
External analog control function



The rear panel of the PFR-7100 series has an analog control terminal. The external analog control interface allows external voltage or resistance to control voltage and current output; and allows power supply to output or to be turned on and off. The diagram on the left shows typical connection methods for external control applications. For more detailed connection information please refer to user manual.

External analog control function

External voltage controls voltage range

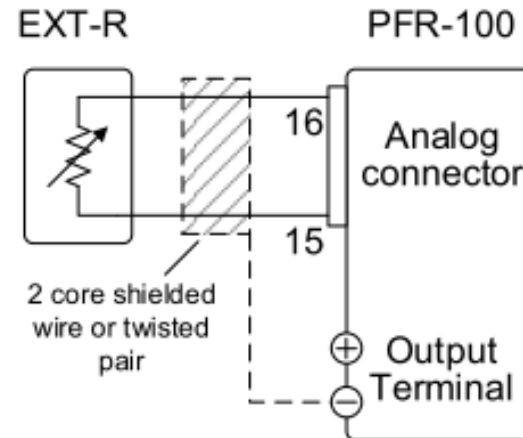


Pin16 → EXT-V (+)

Pin15 → EXT-V (-)

Wire shield → negative (-) output terminal

External resistance controls voltage range



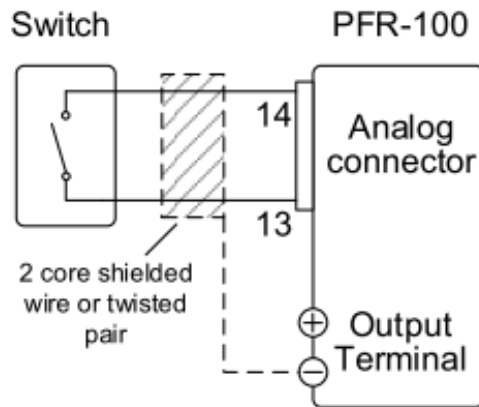
Pin16 → EXT-R

Pin15 → EXT-R

Wire shield → negative (-) output terminal

External analog control function

External on-off to control output,
on or off



Pin14 → Switch

Pin13 → Switch

Wire shield → negative (-) output terminal

Features, Advantages and Benefits

Feature	Advantages	Benefits
Five-fold rated power multi-range operation	Under a fixed power, larger voltage and current outputs can be covered.	For DUT with different voltage ranges, users don't have to additionally procure power supply with different voltage ranges.
Natural convection cooling design (fanless structure)	While in operation, PFR-100 is very quiet and will not suck in dust.	It is ideal for DUT with noise test requirement and tests in poor environment.
Web server remote control function (optional LAN interface is required)	Users, via browsers, can conduct monitoring and control.	Via internet connection, users don't have to sit in front of instrument to operate it.
Support multiple interfaces	Standard interfaces: USB, RS-232/ RS-485 Options : LAN & GPIB (factory installed)	Users can select suitable interfaces to conduct connection operation and automatic control.
Adjustable Slew rate	Determine the rise/fall time for voltage and current based upon applications.	It is beneficial for users in conducting detailed analysis and characteristic test on DUT.
An elaborate 3U height and 70mm width dimension	Highly portable and a space saver	By user's requirements, it can be integrated into a system or be rack mounted.
External analog remote control terminal	Simple voltage, resistance and on/off circuit can monitor.	It satisfies analog control power supply users such as PLC control.

Applications

- LED module test and reliability test
- Charging test for battery cell
- DC/DC converter applications
- DC motor test applications
- Solar module quality test
- Burn-in Test (to sort out defective components and products during the testing process of the electronic products)

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Thank You!

