



- 2.5kV~30kV ISOLATION
- REMOTE, GROUND REFERENCED VOLTAGE PROGRAMMING
- +24Vdc GROUND REFERENCED SUPPLY
- HIGH STABILITY, (TEMPERATURE COEFFICIENT<200ppm/°C)
- VOLTAGE MONITOR
- ARC & SHORT CIRCUIT PROTECTED
- CUSTOMIZATION AVAILABLE

INTRODUCTION

PF series are isolated input/output. High Stability and low ripple HV modules. PF intended to power microchannel plate and imaging detectors, that are isolated by many kV from Ground. They give 0 to 3.5 kV and can be floated on voltages up to ± 2.5 kV (PFxx2.5), ± 10 kV (Pfx010), ± 20 kV (PFxx020) & ± 30 kV (PFxx030). These units use differential feedback techniques to allow the +24Vdc power, control and monitor signals to be at ground potential.

TYPICAL APPLICATIONS

Microchannel plates for Mass Spectrometers & Electron Microscopes, Floating grid & bias voltages, Medical, chemical Applications, Science, Laboratory Applications Industrial Applications.

PF SELECTION TABLE

kV	Voltage(V)	mA	P(W)	MODEL	Isolated	Full Load Ripple	Injected Ripple
5	20V ~ 5kV	1	5	PF5*5F2.5	X= ± 2.5 kV ²	<50mV(pk-pk)	<50mV(pk-pk)
5	20V ~ 5kV	1	5	PF5*5F2.5L	X= ± 2.5 kV ²	<50mV(pk-pk)	<25mV(pk-pk)
5	20V ~ 5kV	1	5	PF5*5F 5	X= ± 5 kV ²	<50mV(pk-pk)	<50mV(pk-pk)
5	20V ~ 5kV	1	5	PF5*5F 5L	X= ± 5 kV ²	<50mV(pk-pk)	<25mV(pk-pk)
5	20V ~ 5kV	1	5	PF5*5F10	X= ± 10 kV ³	<75mV(pk-pk)	<75mV(pk-pk)
5	20V ~ 5kV	1	5	PF5*5F10L	X= ± 10 kV ³	<75mV(pk-pk)	<35mV(pk-pk)
5	20V ~ 5kV	1	5	PF5*5F15	X= ± 15 kV ³	<75mV(pk-pk)	<75mV(pk-pk)
5	20V ~ 5kV	1	5	PF5*5F15L	X= ± 15 kV ³	<75mV(pk-pk)	<35mV(pk-pk)
5	20V ~ 5kV	1	5	PF5*5F 20	X= ± 20 kV ³	<100mV(pk-pk)	<150mV(pk-pk)
5	20V ~ 5kV	1	5	PF5*5F 20L	X= ± 20 kV ³	<100mV(pk-pk)	<75mV(pk-pk)
5	20V ~ 5kV	1	5	PF5*5F25	X= ± 25 kV ³	<150mV(pk-pk)	<150mV(pk-pk)
5	20V ~ 5kV	1	5	PF5*5F25L	X= ± 25 kV ³	<150mV(pk-pk)	<75mV(pk-pk)
5	20V ~ 5kV	1	5	PF5*5F30	X= ± 30 kV ³	<150mV(pk-pk)	<200mV(pk-pk)
5	20V ~ 5kV	1	5	PF5*5F30L	X= ± 30 kV ³	<150mV(pk-pk)	<100mV(pk-pk)

- 1) Ripple injected into the power supply providing the floating voltage, measured assuming load capacitance of 1000 pF.
- 2) Resistance to ground 400 MW on each output.
- 3) Resistance to ground 600 MW on each output.

PF SELECTION EXAMPLE

PF	5	*	5	F30	LIR	/	VP	10	VM	10	LS	/	M1	LX
Series Number	Maximum Output Voltage (kV)	Output polarity P:Positive Polarity N:Negative Polarity	Maximum Output Power(W)	OPTION Maximum Float voltage 30kV	OPTION Low Injected Ripple	OPTION VP:Voltage Programming	OPTION 10:0~10Vdc=0 to maximum output 5:0~5Vdc=0 to maximum output	OPTION VM: Voltage Monitor	OPTION 10:0~10Vdc=0 to maximum output 5:0~5Vdc=0 to maximum output	OPTION Low Start	OPTION PIN information: M1:simulation M2:Rs485 M3:RS232	OPTION L:Unshield cable LC:Shield cable X=Wirelength		

APPLICATION SPECIFIC



SPECIFICATIONS

PARAMETER	DESCRIBE
Input Voltag/Currente	+24Vdc±10%,maximum input current 0.7A.
Output Voltage	3.5kV,3.5W.
Stability	0.1% per hour after 1 hour warm up.
Temperature Coefficient	<0.02% / °C
Voltage Programming	0~+10Vdc for 0~100% ±3%,(Zout = 10MW).
Voltage Monitor	0~+10Vdc for 0~100% ±3%,(Zin = 10kW).
Voltage Line Regulation	<0.1% for 1Vdc change in input voltage.
Load regulation	<0.1% for 100uA to maximum load change.
Protection (all outputs)	Protected against intermittent arcing and continued short circuit to ground.
Operating Temperature	+10 °C~+50 °C.
Storage Temperature	-35 °C~+85 °C.
Operating Altitude	Up to 2,000m
Humidity	<31 °C,80% maximum,>30 °C,Decrease linearly to 50 °C.
Storage Altitude	Up to 18,000m.
Dimensions	8.07" D×3.94" W×1.69" H (205mm×100mm×43mm) .
Weight	1.5kg.

APPLICATION SPECIFIC

M1 PIN INFORMATION

PIN	PARAMETER	DESCRIBE
1	NC	NC
2	+24Vdc Input	+24Vdc Input, <0.7A
3	Voltage Monitor	0 ~+10Vdc=0~100%±3%,Zout = 10kW
4	Voltage Program Out	0 ~+10Vdc=0~100%±3%,Zin= 100kW
5	Voltage Program In	0 ~+10Vdc=0~100%±3%,Zin = 100kW
6	LS	Low Start(ON=GND,OFF=OPEN)
7	Power Ground	Power Ground
8	Power Ground	Power Ground

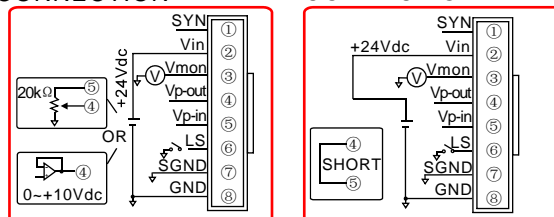
M2/M3 DIGITAL PIN INFORMATION

PIN	PARAMETER	DESCRIBE
1	NC	NC
2	+24Vdc Input	+24Vdc Input,<0.7A
3	RS485B/RXD	RS485B/RXD
4	kV Program Out	0 ~+10Vdc=0~100%±3%,Zin= 100kW
5	kV Program In	0 ~+10Vdc=0~100%±3%,Zin =100kW
6	LS	Low Start(ON=GND,OFF=OPEN)
7	RS485A/TXD	RS485A/TXD
8	Power Ground	Power Ground

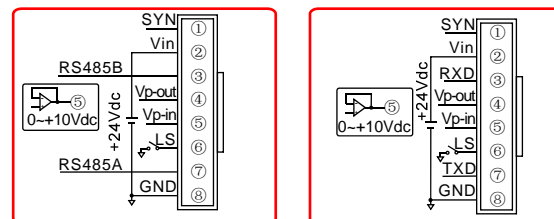
OUTPUT PIN INFORMATION

PIN	PARAMETER	DESCRIBE
1	FG	Floating Ground
2	OUT	High Voltage Output

PF EXTERNAL PROGRAMING CONNECTION PF INTERIOR PROGRAMING CONNECTION



PF CONNECTION RS485 PF CONNECTION RS232



DIMENSIONS : inch [mm]

