



- **6kV to 20kV Versions Available**
- **Continuously Variable Electronic Test Load Capable of Dissipating 30kW**
- **Up and Down Ramp Rates for Voltage and Current**
- **Programmable Electroding Functions Provided**
- **Electronic Polarity Reversal**
- **Data and Event Logging Functions**
- **Alarm and Trip Functions**

Spellman High Voltage is the leading independent supplier of Power Feed Equipment to the Telecom industry and most frequently utilized power supplies for shipborne uses. Our Power Feed Equipment (PFE-SB) has been optimized for shipborne use to provide continuous power to a line whilst being laid and is known for its reliability and quality. It is used with repeatered fiber optic cable systems for telecommunications and has been installed on numerous cable laying ships around the world.

It provides all of the features to allow safe, reliable operation with configuration functions to suit all cable installation requirements. The PFE system is designed to provide a well-regulated, low ripple, high voltage supply at varying current requirements.

An advanced digital management system provides output configuration, control, polarity setting, continuous monitoring and alarm reporting from the Main Control Unit (MCU), or the System Management Terminal (SMT).

The Electronic Test Load is an active solid-state design allowing the load to be dynamically varied using a manual front panel control.

The system is powered directly from 3-phase supply without the need for autotransformers.

### SPECIFICATIONS

#### PFE-SB – Input/Output

Model	Output Voltage	Output Current	Input Voltage	Input Current (per phase max)
PFESB6PN12	6kV	2A max	400Vac 3 phase ±10% 50/60Hz	25A
PFESB10PN24	10kV	2.4A max		40A
PFESB15PN36	15kV	2.4A max		60A
PFESB20PN40	20kV	2A max		75A

#### Input Wiring:

3Φ + Neutral (Star). For a 3Φ supply without a neutral (delta), a single phase 230Vac 10A supply will be required to power the control modules.

#### Voltage Ripple:

<0.3%

#### Stability:

Typically <0.25% over any 24 hour period with a temperature range of 0°C to 30°C.

#### Voltage Regulation:

Load: 0.05% of full voltage for full load change  
Line: +/-0.05% of full voltage +500mV over specified range

#### Current Regulation:

Load: 0.05% of full current for any voltage change  
Line: +/-0.05% of full current over specified input range

#### Temperature Coefficient:

< 100 ppm/°C

#### Operating Temperature:

0 to +30°C

#### Storage Temperature:

-10 to +70°C

#### Humidity:

0% to 90%, non-condensing

#### Cooling:

Forced Air. 210 liters/sec (445 cfm) per cabinet, 1500 liters/sec (3180 cfm) for the test load

#### Regulatory Approvals:

Designed to meet IEC/UL 61010-1 Safety requirements for electrical equipment for measurement, control and laboratory use; CAN/CSA-C22.2 No.61010-1.

## KEY FEATURES

### Clamp/Safety Chassis:

Protects the repeaters/cable and PFE. A HV relay and dump circuit will quickly and safely discharge the system in case of emergency shutdown. A front panel mounted lamp indicates if the PFE output is energized.

### Output Control:

Using either the Main Control Unit (MCU) or SMT; the system output can be operated in constant current or constant voltage control and as a feed for a single end, double end or branched line.

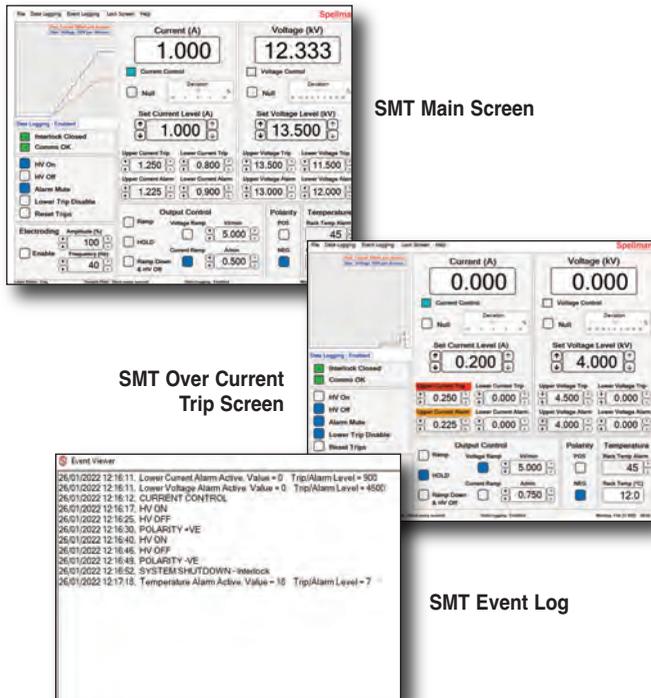
### System Management Terminal (SMT):

The SMT is an advanced touchscreen control and monitoring system which can be installed within the PFE cabinets or remotely up to 80m from the PFE.



- Full output control and monitoring
- Fully adjustable ramp rates in current or voltage control: 10V-10kV/min and 10mA-10A/min
- User settable over/under voltage and current trips and alarms
- Output voltage and current logging
- Event logging
- Programmable electroding (tone generator 10-40Hz provided)

### Typical System Management Screens:



SMT Main Screen

SMT Over Current Trip Screen

SMT Event Log

### Main Control Unit (MCU):

The system can be controlled manually using the MCU front panel controls.



- 4.2" LCD display
- Full output control and monitoring including polarity reversal
- Test points for voltage and current
- Front panel controls for voltage and current
- Ramp rates available:  
Default: 60kV/min 6A/min  
Slow: 500V/min 0.2A/min
- Over volts/current trips
- HV and Alarm outputs

### Patch Panel:

User configurable interconnects from Converter(s) to Electronic Load or Cable Termination Cubicles (CTC's).

### Electronic Load:

Fully isolated and actively adjustable resistance by the user.

- Max power: 30kW
- Max voltage: ± 15kV @ 2A
- Max current: 2.4A @ ±12.5kV

### Interlock System:

Full protection for user and connected equipment. All PFE access panels and patch panel connections are interlocked. External connection terminals are provided to allow connection to CTCs, associated equipment or external E-Stop circuits.

### Optional Hood (17668-4)

A flange at the rear provides attachment of exhaust ducting, allowing most of the heat dissipated from the system to be transferred outside the immediate environment of the PFE.

### Optional Cable Termination Cubicle (CTC12/377)

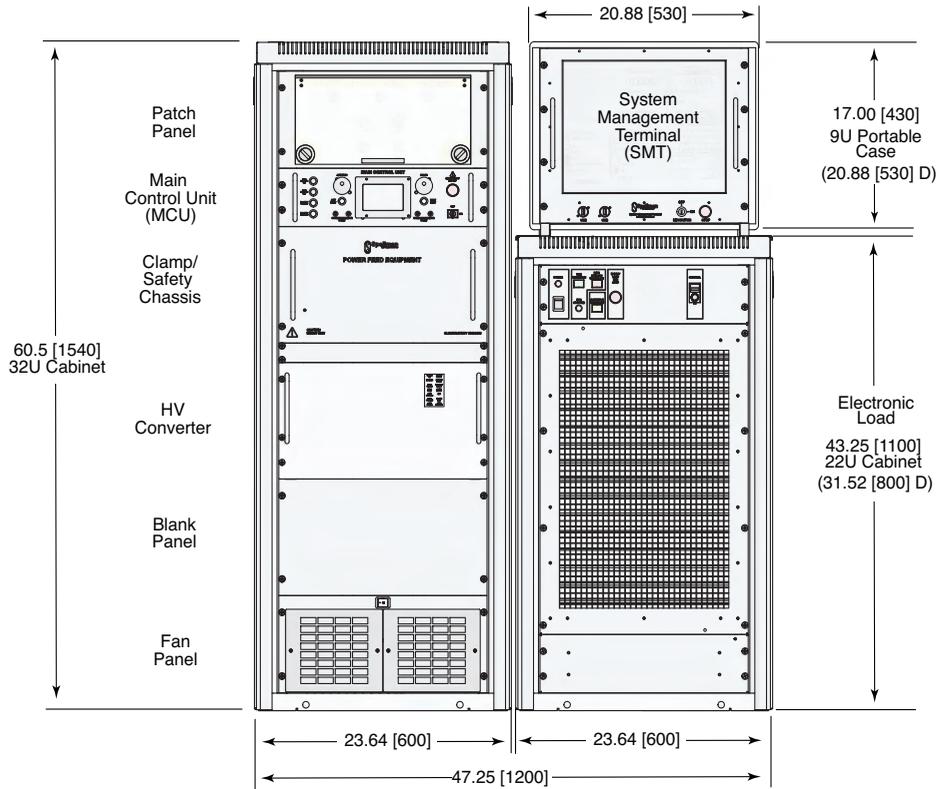
Facility to safely accommodate half joints and bare cables for installation and repairs. The CTC provides a safe, interlocked enclosure for connection of the PFE HV to the cable conductors. 2 clamps and strain relief allow the fiber core to be separated and safely routed out of the box to external optical equipment.



- W 27.26" [692mm]
- D 10.44" [265mm]
- H 8.27" [210mm]

DIMENSIONS: in.[mm]

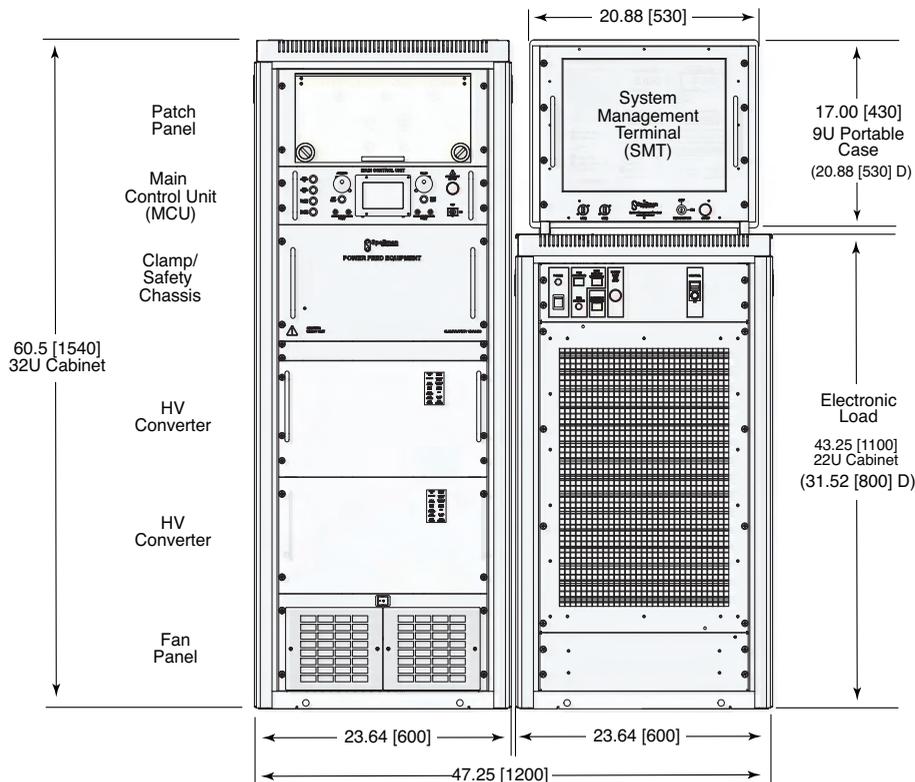
## PFESB6PN12



### PFESB6PN12 Weight

Cabinet 1	441lbs. [200kg]
SMT	33lbs. [15kg]
Electronic Load	364lbs. [165kg]

## PFESB10PN24

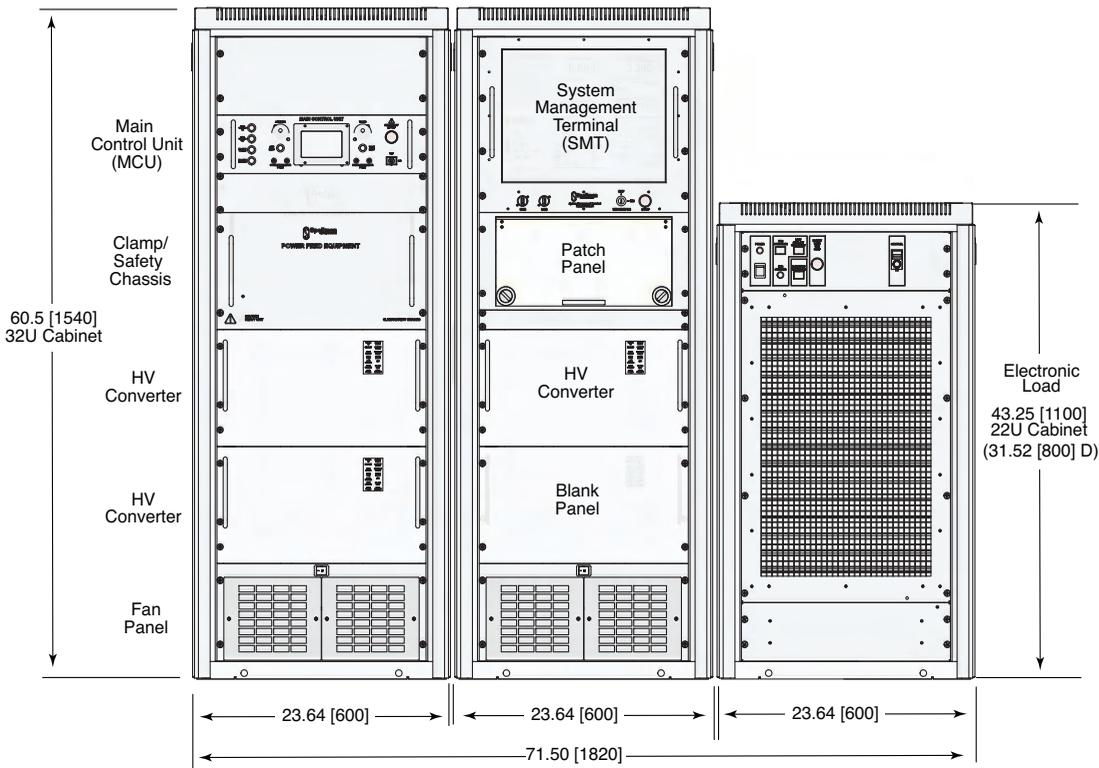


### PFESB10PN24 Weight

Cabinet 1	529lbs. [240kg]
SMT	33lbs. [15kg]
Electronic Load	364lbs. [165kg]

DIMENSIONS: in.[mm]

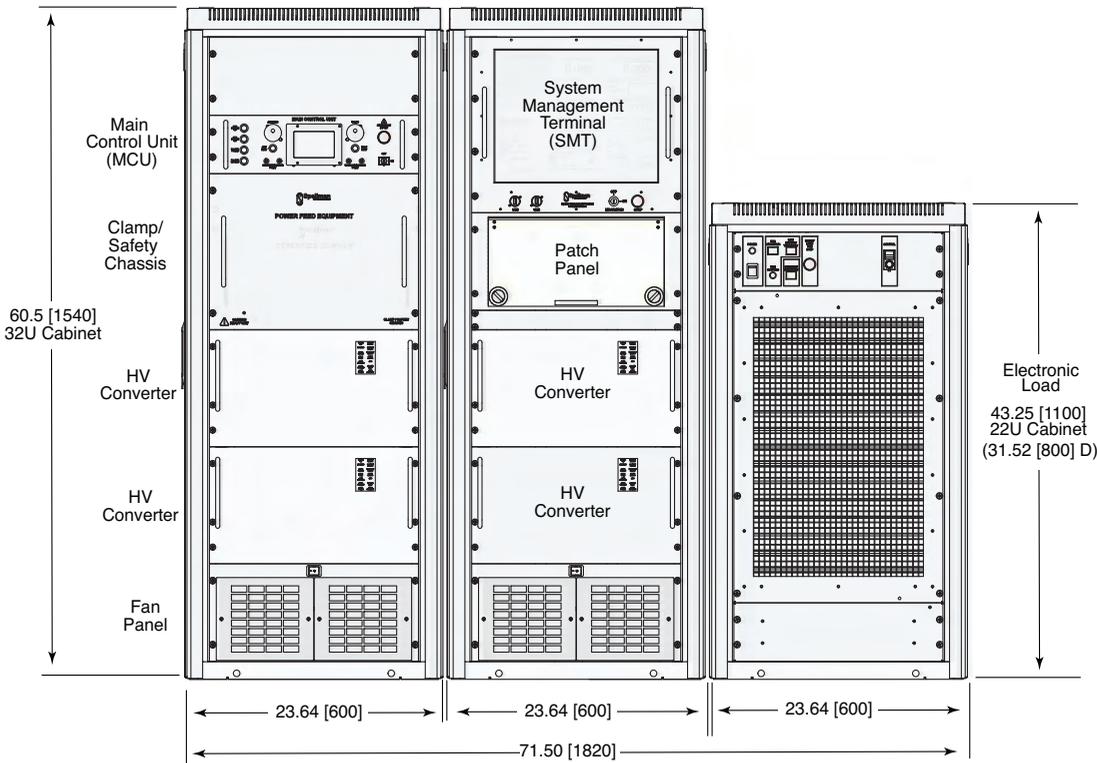
## PFESB15PN36



### PFESB15PN36 Weight

Cabinet 1	507lbs. [230kg]
Cabinet 2	309lbs. [140kg]
Electronic Load	364lbs. [165kg]

## PFESB20PN40



### PFESB20PN40 Weight

Cabinet 1	507lbs. [230kg]
Cabinet 2	419lbs. [190kg]
Electronic Load	364lbs. [165kg]