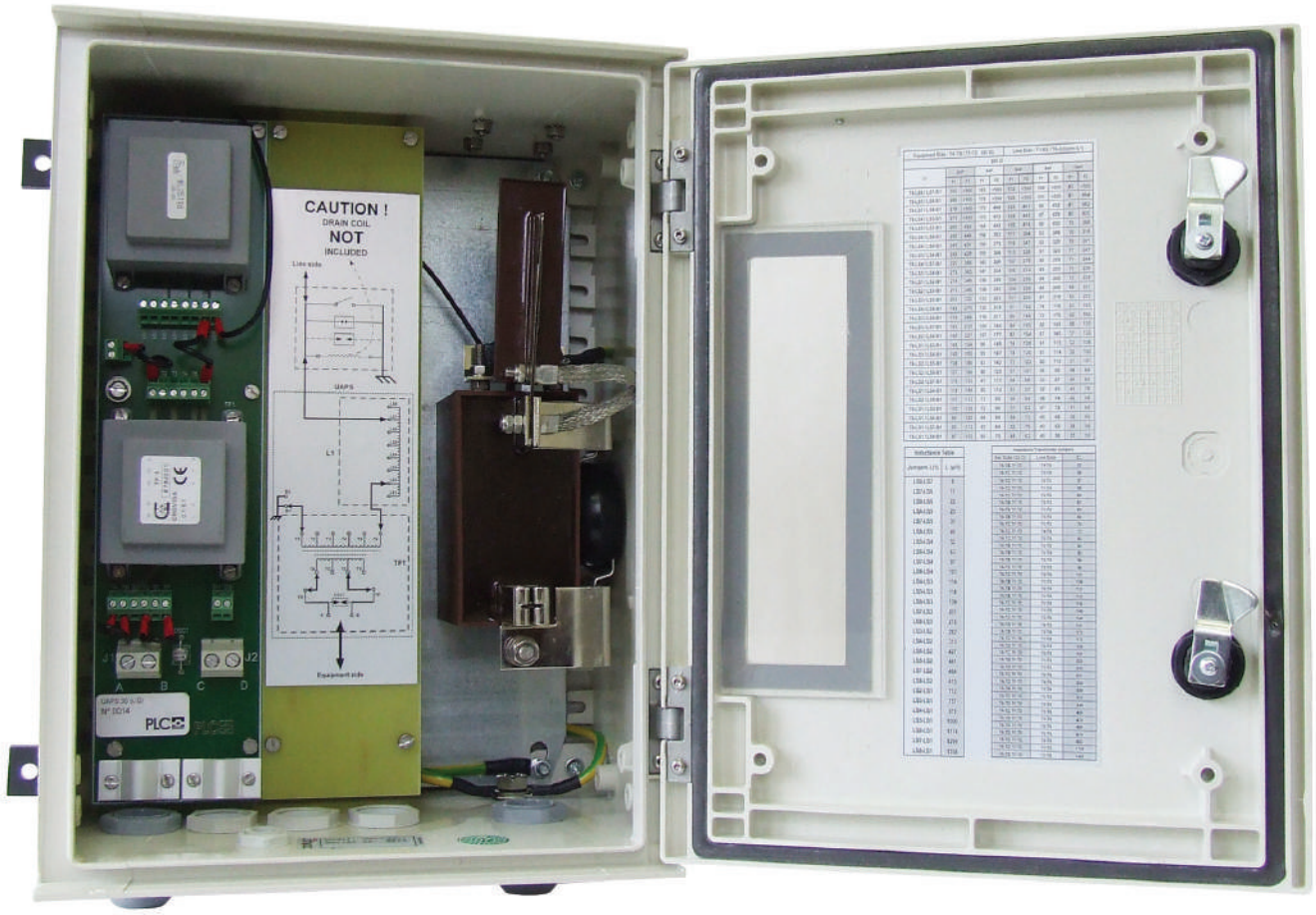
RFL 9512

Line Tuning Unit



Shown configured per RFL 9512 PNNYBIY

Description

The RFL 9512 Line Tuner matches the impedance of the Power Line Carrier (PLC) terminal to the high voltage power line in order to reduce the insertion loss of the transmission of PLC signals over the power line. In addition, isolation from the power frequency voltage and transient overvoltage protection is provided.

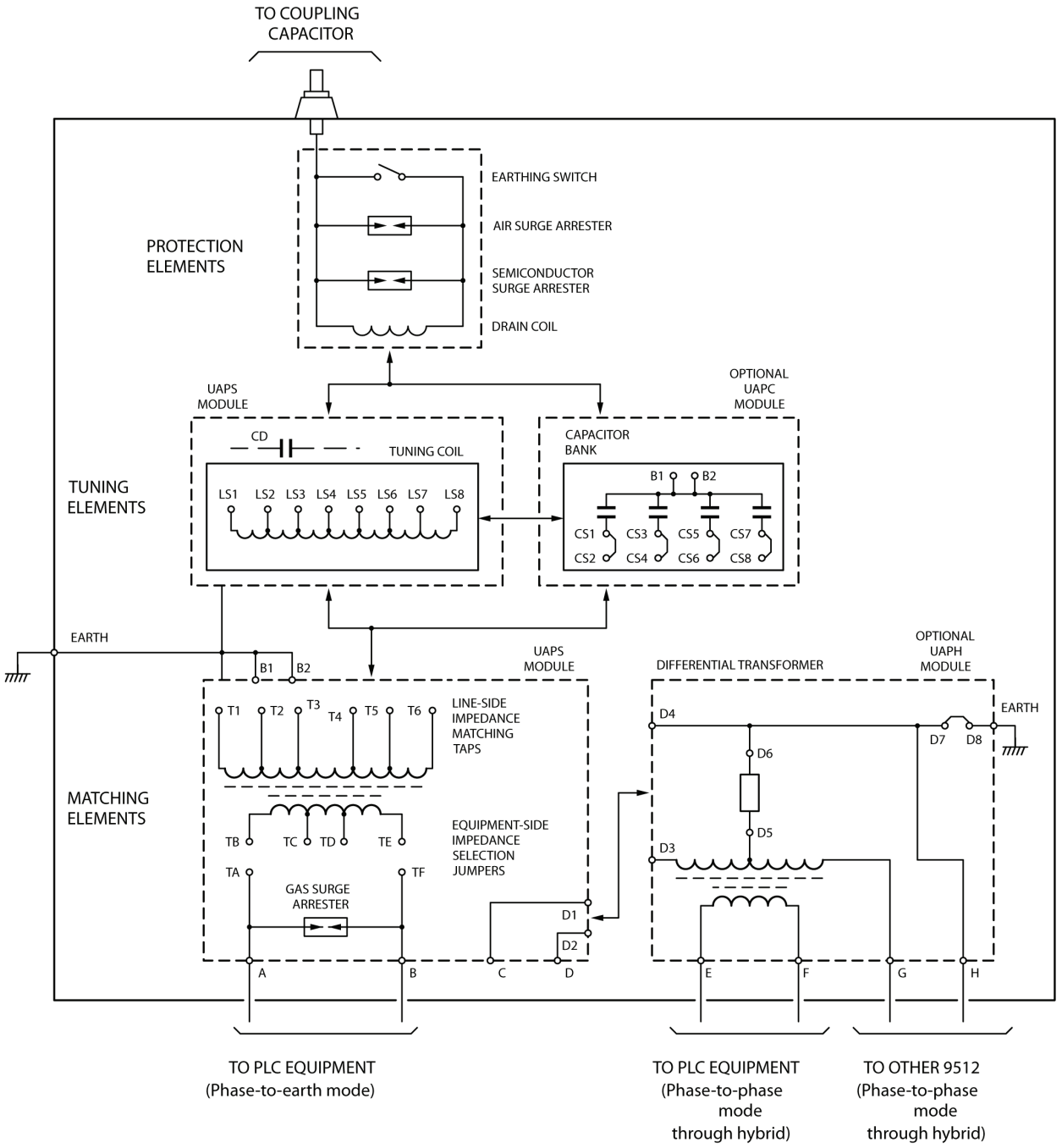
Key Features & Benefits

- The RFL 9512 line tuner can be used with PLC communications systems connected to coupling capacitors having a capacitance between 2,000 to 10,000pF.
- Conforms to the requirements of IEC 60481.
- Peak envelope power (PEP) rating is 400 Watts.
- Available in either High Pass or Band Pass filter configurations.
- The RFL 9512 is used for phase-to-ground coupling. Phase-to-phase versions are also available.
- All weather enclosure with stainless steel hardware.

Operating Principle

The high-pass or band-pass circuit consists of a drain coil, inductors, and capacitors. A matching transformer provides potential insulation between line side and equipment (cable) side, and provides the means to make the power line impedance match that of the PLC terminal. The power frequency current derived from the coupling capacitor is drained to ground by the optional drain coil. Limitation of voltage surges coming from the power line at the HV terminal of the tuner is performed by a lightning arrestor connected in parallel with the drain coil. The line tuner will be short-circuited to ground when the grounding switch is closed.

System Schematic



Shown with optional differential transformer for Phase to Phase coupling.

Technical Specifications

Frequency Range	40 – 500 kHz
Coupling Capacitor	2,000 to 10,000pF
Nominal Power (PEP)	400W for two tones
Impedance (Equipment Side)	50 and 75Ω
Line-side nominal impedance	100 to 600Ω selected by tap connection
Resonant circuit	Available as: • Third-order high-pass filter • Second-order band pass filter
Power Frequency Insulation	>10kVrms
Impulse voltage insulation	>5kVrms
Protection Elements	**Line side:** drain coil (optional), earthing switch,air-gap surge arrestor and a solid state surge arrestor. **Equipment side:** gas surge arrester

Operating Conditions

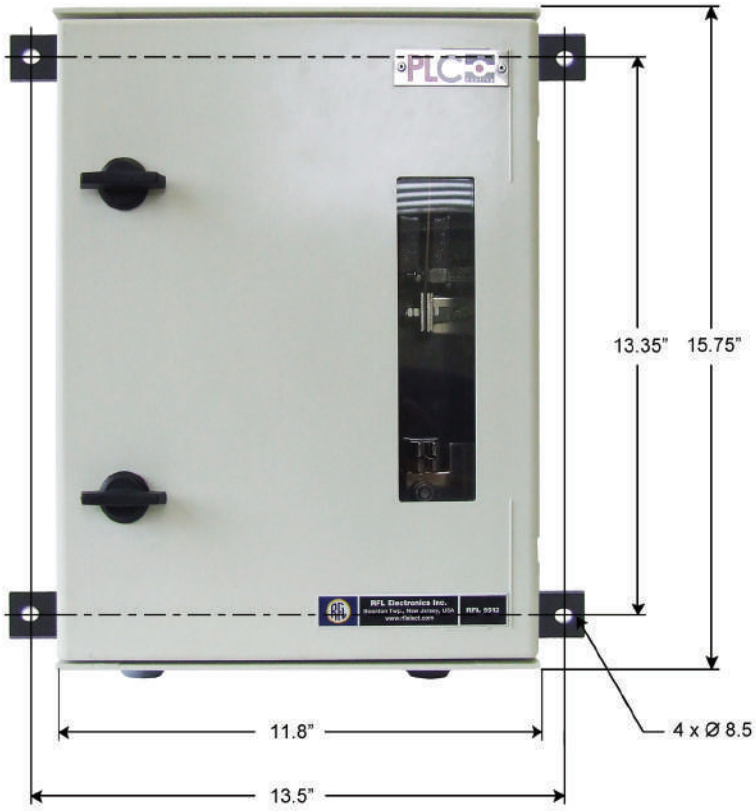
-20 C to +60 C and relative humidity not greater than 100%

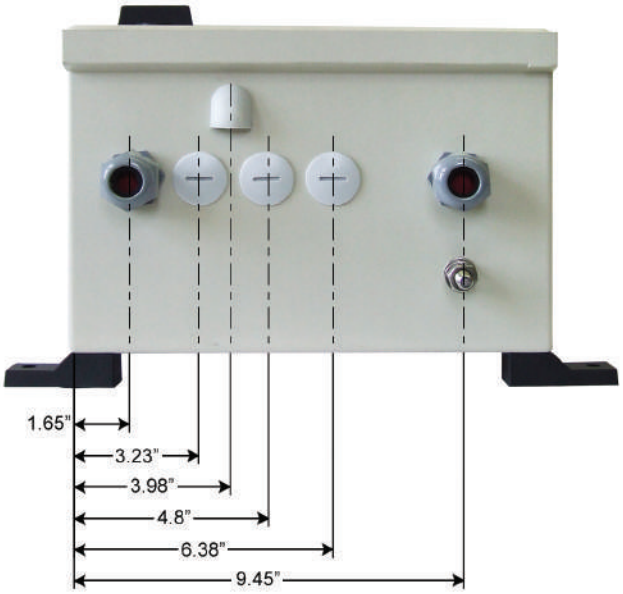
Mechanical Characteristics

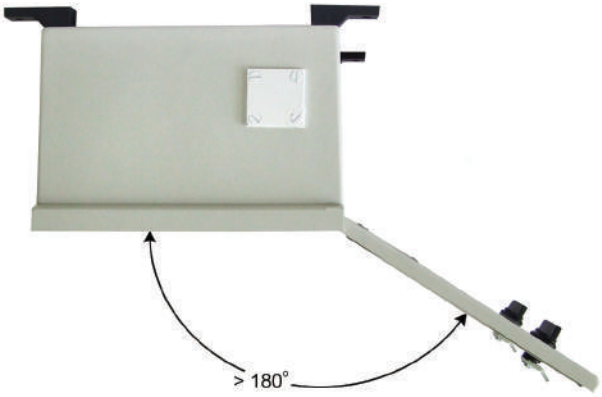
Dimensions:	Height: 15.75” (400mm); Width: 11.81” (300mm); Depth: 7.87” (200mm)
Weight:	25lbs (11.5kg)
Mounting:	(4) 5/16” (8.5mm) holes
Connection to line PLC equipment	By means of cable glands type PG-21, suitable for cables between .354”- .71”(9mm to 18mm)
Grounding:	Ground stud, Size M10
Ventilation:	Orifice with DR type device
IP protection level:	IP66 according to IEC 60529 (UNE 20324, EN 60529)

Ordering Information

RFL9512	P	Y	Y	Y	T	I	Y
Pass Band Function							
P	●						
High Pass Function							
Yes		●					
No							
Differential Transformer							
Phase to Phase coupling **Y**es			●				
Phase to Phase coupling **N**o							
Drain Coil							
Yes				●			
No							
Cable Entrance							
Top					●		
Bottom							
Ground Switch							
Internal						●	
External							
Solid State Surge Arrestor							
Yes							●
No							







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