

LEGEND APF

In a world of increasing electrical complexity, Legend is total power stability

Modern facilities are defined by complex, non-linear loads that degrade power integrity at the source. The Legend series is a sophisticated Active Power Filter that serves as your strategic defense of the facility. Legend delivers precise, real-time harmonic elimination and dynamic reactive power compensation for near-unity power factor.

Benefits

Elimination of resonance risks: unlike passive filters, Legend is an active system that does not create a tuned circuit with your impedance of network. This prevents the dangerous amplification of harmonic currents, shielding sensitive electronics and capacitors from catastrophic resonance-induced damage.

Total voltage integrity: by neutralizing harmonic currents at the source, APF Legend significantly reduces total voltage harmonic distortion (THDv). This ensures a clean, stable voltage waveform, preventing "flicker", malfunction, or premature failure of downstream precision equipment.

Enhanced thermal and energy efficiency: by filtering out the reactive and harmonic components of current, Legend lowers the overall RMS current flowing through your infrastructure. This directly reduces voltage drops and minimizes the temperature rise in transformers, switchgear, and cabling - extending the service life of your most expensive electrical assets.

Dynamic power factor optimization: APF Legend provides instantaneous, step-less reactive power compensation to maintain a near-unity power factor. This maximizes system capacity, eliminates utility penalties, and ensures your facility operates at peak electrical efficiency regardless of load volatility.

Features

The "Legend" advantage: next-generation active power filtering

Unmatched power quality & efficiency

Innovative CT-less installation: enables full harmonic mitigation without the need for external current transformers, completely eliminating extra control cables for a simplified setup.

Comprehensive harmonic mitigation: eliminates up to 51 orders of harmonic currents generated by nonlinear loads, ensuring clean power delivery. Optional extended range up to the 71st harmonic.

Dynamic reactive power compensation: automatically corrects both lagging and leading power factors to optimize system efficiency.

Intelligent auto-sensing operation: automatically estimates the required compensation current - no manual supply impedance measurement or complex harmonic spectrum analysis required.

Advanced architecture: built on cutting-edge 3-level solid-state power converter technology for superior performance.

Unmatched versatility: broad voltage tolerance (157V – 528V) ensures stable harmonic mitigation in any electrical environment.

Built for Uncompromising Reliability & Safety

Real-time resonance detection: equipped with intelligent technology to detect and protect against harmonic resonance in real-time.

Smart overload prevention: if load harmonics exceed capacity, the system safely shifts into current-limiting mode rather than shutting down - eliminating the severe overload risks associated with traditional passive filters.

Auto-recovery overvoltage protection: automatically disables the module during abnormal voltage spikes and instantly restarts compensation once mains voltage normalizes.

Global Mode autonomous targeting: automatically identifies and selects specific harmonic orders to eliminate without manual configuration, while intelligent resonance protection continuously ensures network stability and safety.

Dynamic Force mode control: allows precise setting of a target Displacement Power Factor (range: 0.6 lagging to 0.6 leading), dynamically forcing leading capacitive loads into stable lagging inductive profiles.

Optimized thermal management: specially designed air inlets and cooling fans aggressively dissipate heat, preventing thermal damage and ensuring the system operates at full capacity.

Highly scalable & flexible design

Grow on demand: easily scale your power quality solution by operating up to 8 APF modules in parallel.

Streamlined parallel scalability: utilizes built-in internal communication between units to synchronize operation, eliminating the need for complex parallel CT wiring to reduce cabling and accelerate commissioning.

Zero-downtime maintenance: features an optional hot-swappable design, allowing modules to be removed or installed seamlessly without disconnecting the main power supply.

Versatile integration: compatible with 3-phase 3-wire and 4-wire setups, offering flexible current transformer placement on either the load side or power side.

Durable build: housed in a robust IP30-rated enclosure.

Intuitive control & seamless connectivity

10" colorful LCD touch screen: a user-friendly interface that puts full control at your fingertips. View real-time power parameters, waveforms, and spectrum analysis.

Deep system diagnostics: easily configure compensation settings and track system history with an expansive event log that records up to 1,200 data entries.

Universal communication: seamlessly integrate into your existing building management or SCADA systems via Ethernet (Modbus TCP), RS-485 (J-Bus/Modbus RTU), and USB interfaces.

Comprehensive contact options: includes dedicated inputs/outputs (3 sets out, 1 set in) and an emergency power off (EPO) switch connection for ultimate control and safety.

All-in-one design: built-in control module eliminates the need for any external controllers.

LEGEND 100 - LEGEND 150 TECHNICAL DATA SHEET

MODEL		LEGEND 100	LEGEND 150
SIZE (A)		100	150
ELECTRICAL SPECIFICATIONS	Rated voltage	3 Phase 4 Wires: 157V - 460V (Line to Line)	
		3 Phase 3 Wires: 157V - 528V (Line to Line)	
	Phases	Three-phase	
	Frequency	50/60 ±3 Hz (auto-detect)	
	Harmonic correction	From the 2nd to the 51st (optional extended range up to the 71st harmonic)	
	Power factor correction	Compensates for leading or lagging power factor loads. Adjustable from 0.6 lagging power factor to 0.6 leading power factor	
	Load balancing	Between two phases and between phase and neutral	
	Response time	25 µs	
ENVIRONMENTAL PARAMETERS	Operating temperature	-10°C to +40°C without derating	
	Relative humidity	≤ 95% (no condensation)	
	Altitude (a.s.l.)	≤ 2000 m at rated load current, above 2000m altitude rated load current reduced by 1% per 100m	
	Audible noise at 1 m.	<65 dBA	
GENERAL	Dimensions (WxDxH) mm	IP31: 521 x 180 x 945	
		IP30: 521 x 180 x 886	
	Weight (kg)	Master: 49.5	
		Slave: 47.5	
	Protection class	IP30/IP31	
	Connections	4-wire/3-wire	
	Installation	Wall mounting	
	Type	Monolithic	
	Parallel connection up to (A)	3600	
	Max. parallel modules	24	
	CT configuration	Source side CT: closed loop control - load side CT: open loop control	
CONNECTIVITY	Built-in communication ports	USB, RS485, Modbus RTU, EPO Ethernet port and dry relay contacts (1 in/3 out)	
	User interface	10" colour LCD touch screen display	
	Software	Data monitoring and storage software	
REGULATIONS	Standards	EN61000-6-4, EN55011, CISPR 11, IEC 61000-3-12, IEC 61000-3-11,	
		IEC 61000-6-2, IEC 61000-4-2, IEC 61000-4-3, IEC 61000-4-4,	
		IEC 61000-4-5, IEC 61000-4-6, IEC 62477-1, EN 61000-4-8, EN61000-4-34	
		EN 61000-3-4, IEEE 519-1992, EN60146	
	Marking	CE, UKCA	

LEGEND 600 - LEGEND 1200 TECHNICAL DATA SHEET

MODEL		LEGEND 600	LEGEND 1200
SIZE (A)		600	1200
ELECTRICAL SPECIFICATIONS	Rated voltage	3 Phase 4 Wires: 157V - 460V (Line to Line)	
		3 Phase 3 Wires: 157V - 528V (Line to Line)	
	Phases	Three-phase	
	Frequency	50/60 ±3 Hz (auto-detect)	
	Harmonic correction	From the 2nd to the 51st (optional extended range up to the 71st harmonic)	
	Power factor correction	Compensates for leading or lagging power factor loads. Adjustable from 0.6 lagging power factor to 0.6 leading power factor	
	Load balancing	Between two phases and between phase and neutral	
	Response time	25 µs	
ENVIRONMENTAL PARAMETERS	Operating temperature	-10°C to +40°C at rated load current, > +40 °C at reduced load current	
	Relative humidity	≤ 95% (no condensation)	
	Altitude (a.s.l.)	≤ 2000 m at rated load current, above 2000m altitude rated load current reduced by 1% per 100m	
	Audible noise at 1 m.	<65 dBA	
GENERAL	Cabinet Dimensions (WxDxH) mm	650 x 896 x 1500	650 x 896 x 1950
	Cabinet weight (kg)	165	211
	Module Dimensions (WxDxH) mm	Hot-swappable: 500 x 775 x 130 Terminal block: 500 x 791 x 130	
	Module weight (kg)	44	
	Protection class	Cabinet: IP20	
		Module: IP30	
	Connections	4-wire/3-wire	
	Installation	Floor standing	
	Type	Modular	
	Parallel connection up to (A)	3600	
	Max. no. of modules per system (100 or 150 A in a mixed configuration)	Up to 4	Up to 8
	Max. parallel systems	6	3
	CT configuration	Source side CT: closed loop control - load side CT: open loop control	
CONNECTIVITY	Built-in communication ports	USB, RS485, Modbus RTU, EPO Ethernet port and dry relay contacts (1 in/3 out)	
	User interface	10" colour LCD touch screen display	
	Software	Data monitoring and storage software	
REGULATIONS	Standards	EN61000-3-4, IEEE 519-1992, EN60146	
		EN61000-6-4, EN55011, IEC 61000-3-12, IEC 61000-3-11,	
		IEC 61000-6-2, IEC 61000-4-2, IEC 61000-4-3, IEC 61000-4-4,	
		IEC 62477-1, IEC 61000-4-5, IEC 61000-4-6,	
		EN 61000-4-8, EN61000-4-34	
	Marking	CE, UKCA	