



# CLiP<sup>®</sup>-LV Current Limiting Protector

## *“Save money and improve safety with G&W’s Current Limiting Protector (CLiP-LV)”*

The most versatile current limiting device available. Protect your system from catastrophic damage and downtime while keeping your personnel safe.

### CLiP-LV®

---

With the ever-increasing demand for reliable energy, electrical systems have been forced to expand to accommodate the increased capacity, which could cause catastrophic failure. The CLiP-LV’s unique ability provides high continuous current ratings with current limitation and ultra-high-speed operation in one package. This makes it an economical solution to protect against short-circuit interruptions without having to add new equipment.

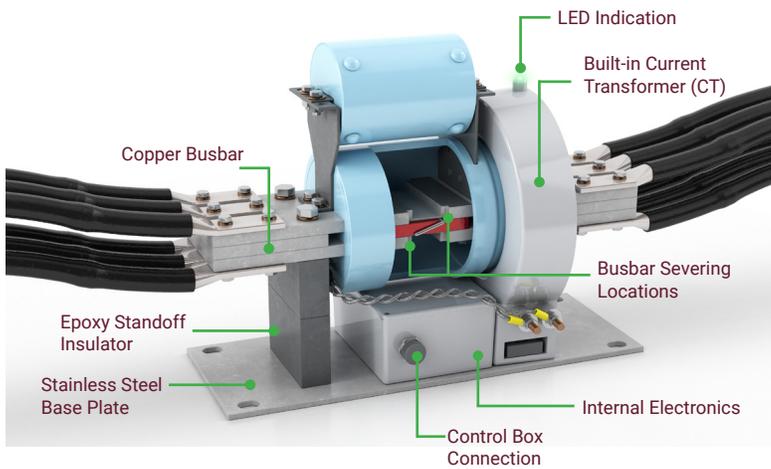
G&W’s CLiP-LV (Current Limiting Protector) is a unique over-current protection device that interrupts potentially damaging fault current significantly limiting potential damage. It helps prevent currents from exceeding equipment ratings and avoids catastrophic failure and dramatically reduces peak fault currents to minimize damage to protect personnel and arc flash hazards.

### UL CERTIFICATION

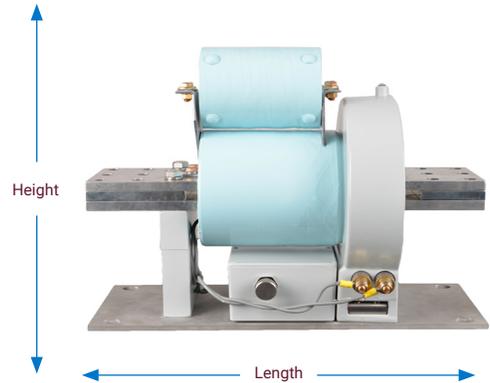
The design, quality and operation of G&W’s CLiP-LV has been certified by this globally recognized agency and now complies with Standard(s) for Safety: UL 3801, Outline of Investigation for Fault Limiters. This product can now be offered to industrial customers who want a lower cost alternative to replacing aging equipment. CLiP-LV UL rating gives our customers an added layer of certainty that our product has been tested and is safe to use in their configurations.



The CLiP-LV is an electronically sensed and triggered, commutating form of current limiter, sometimes generically referred to as a triggered current limiting device. A built-in current transformer (CT) provides real time current values to the internal electronics. The CLiP-LV has a field adjustable instantaneous pickup setting referred to as the trigger level. If the current exceeds the user-defined trigger level, a signal is sent by the firing logic to interrupt the current. A continuous copper busbar path carries the continuous current, which is opened during over-current conditions, while a parallel connected current-limiting fuse interrupts the fault.



Single Phase CLiP-LV Components



**DIMENSIONS**

Single or Three Phase	Dimensions (mm)	Weight (kg)	Maximum Voltage & Current	Interrupting Rating	Catalog Number
Single phase	18.5" L x 9.7" W x 13.1" H (470mm) x (246mm) x (333mm)	85 lbs (39 kg)	750V; 4000A	50kA	1-CLiP-750-4000-50
				100kA	1-CLiP-750-4000-100
				200kA	1-CLiP-750-4000-200
Three phase	18.5" L x 27.7" W x 13.1" H (470mm) x (703mm) x (333mm)	255 lbs (102 kg)	750V; 4000A	50kA	3-CLiP-750-4000-50
				100kA	3-CLiP-750-4000-100
				200kA	3-CLiP-750-4000-200

## FEATURES AND BENEFITS

Features	Benefits
Single phase & three phase protection	Use the hi-speed remote indication relay contacts (located in the control box) to trip a breaker and interrupt unfaulted phases. No need to replace interrupters in unfaulted phases
Threshold current sensing (Does not use transient susceptible rate of rise current sensing)	<ul style="list-style-type: none"> <li>• Hardened transient filtering responds to actual current values, not transients or harmonics</li> <li>• Can directly protect capacitor banks and harmonic filters</li> <li>• Consistent peak let-through values, regardless of fault asymmetry level</li> </ul>
Field-selectable trigger levels (pick-up)	Adjust trigger levels in the field to ensure continuing protection as the site characteristics change
Remote enable/disable	If protection is temporarily not required it can be remotely disabled. It then acts simply as a busbar. The operation modes are PLC and SCADA adaptable
Remote trip indication	Three-phase remote indication of operation (within 3 cycles) provides two Form C contacts for remote monitoring and trip of user's series breaker to prevent single-phasing
Outdoor duty	Can be installed outdoors without an enclosure
No fuse aging associated with transients or inrushes	No need to replace aging fuses, providing substantial long-term cost savings
Copper busbar	Lower system losses, resulting in improved reliability. Lower peak let-through let-through, resulting in better current limiting performance

## TECHNICAL RATINGS

Categories	Ratings
Voltage class	750V
Continuous current (rms, sym)	Up to 4,000A*
Interrupting rating (rms, sym)	Up to 200kA*
Available trip levels	Up to 30kA* instantaneous
Clearing time	Interrupt between 1/4 - 1/2 cycle in accordance with UL-248-1 and IEC 60269
Input voltage requirements	24 - 250V AC/DC; 150W peak, 60W nominal

\*Contact your local G&W sales representative for alternate ratings

## APPLICATIONS

### Arc Flash Mitigation

An arc flash typically occurs when fault current travels through air from one conductor to another or to ground. The energy generated by the flash can cause significant equipment damage and/or serious injury. CLiP-LV is the best method to minimize or eliminate the problem by reducing the fault current and time duration. In addition to Personal Protection Equipment (PPE), the CLiP-LV provides additional protection creating a much safer overall environment.

### Overdutied Equipment Protection

When the available fault current increases due to the addition of cogeneration, the higher fault current can exceed the withstand ratings of the existing equipment and in the event of a fault, severe damage can occur. Upgrading entire facilities is often cost prohibitive. The CLiP-LV can be used to eliminate the need to replace underrated equipment. The CLiP-LV will interrupt the fault current passing through it before the first peak current is reached, significantly reducing the peak let-through current and interrupting duty to a value within the ratings of the equipment.

### Minimize Damage

Even if equipment is rated properly to withstand the available fault duty, the let-through energy of a fault may still result in costly damage. Traditional equipment such as relays, circuit breakers and current-limiting reactors are far less effective at preventing this from occurring. At lower continuous currents, current-limiting fuses prevent this damage; while at higher continuous currents the CLiP-LV provides effective current-limiting performance of a much lower rated fuse, but with electronically controlled operation.

## CONVENTIONAL DEVICES VS. CLiP-LV

Design Considerations		
Conventional Fault-Interrupting Devices	Current Limiting Fuse	<ul style="list-style-type: none"> <li>Reduced current-limiting capabilities at low-level fault currents</li> <li>Motor starts, lightning surges and heavy transients may damage traditional fuse elements or change their response, requiring replacement</li> <li>No status feedback available</li> </ul>
	Expulsion Fuse	<ul style="list-style-type: none"> <li>Emits blasts when clearing faults and ineffective in limiting let-through energy</li> <li>Lower-level fault currents may partially melt the fuse, resulting in failure or limited performance if not known or replaced</li> <li>No status feedback available</li> </ul>
	Circuit Breaker	<ul style="list-style-type: none"> <li>Much slower clearing times allow for far greater energy let-through and requires maintenance</li> <li>Requires an external device (relay) to send the operational signal which delays the circuit interruption</li> </ul>
Conventional Current-limiting Devices	Current Limiting Reactor	<ul style="list-style-type: none"> <li>Large size often does not fit in retrofit applications</li> <li>Adds to system losses (internal resistance in mohm range) during normal operation</li> <li>Blocks VARS transfer out of generators</li> <li>No status feedback available</li> </ul>
	Three-phase Earthing Switch	<ul style="list-style-type: none"> <li>Large size often does not fit in retrofit applications</li> <li>Eliminates the arc by inducing a bolted fault on the system, which adds stresses to the entire electrical system</li> <li>Equipment lifespan may be reduced</li> </ul>

Contact us today

708.388.5010 or [info@gwelec.com](mailto:info@gwelec.com)



Since 1905, G&W Electric has been a leading provider of innovative power grid solutions, including the latest in load and fault interrupting switches, reclosers, system protection equipment, power grid automation and Transmission and Distribution cable terminations, joints and other cable accessories. G&W is headquartered in Bolingbrook, Illinois; U.S.A, with manufacturing facilities and sales support in more than 100 countries including China, Mexico, Canada, UAE, India, Singapore and Brazil. We help our customers meet their challenges and gain a competitive edge through a suite of advanced products and technical services.

Learn more and find your local  
sales representative at [gwelec.com](http://gwelec.com)