

ELECTRON[®]



40
YEARS
ANNIVERSARY

Product Catalog



About Electron

Established in 1982, Electron invented the first ever Automatic Changeovers, bringing to market a product that is now ubiquitous in electrical installations across India (and even coined the name “ACCL”, now an industry standard!). Entering its fourth decade, Electron continues to be the leader and pioneer in ACCL technology, with a reputation for being a company which excels at turning unconventional ideas into successful products.

Along the way, the Electron brand has set milestone after milestone, and earned customer satisfaction incessantly with a proven track record of delivering premium, innovative, quality products. Today, customers in over two million homes and offices have their lives made easier by an Electron product.

Apart from ACCLs, Electron offers a number of unique products such as the OLP-3+ AC starter, Fridge-Guard & TV-Guard. Each of our products is designed and produced in coherence with our core values : innovation, simplicity, customer and environmental friendliness, and an unwavering commitment to quality.

In order to meet scaling industry demands, we have now set up a new unit in Calcutta.

Automatic Changeover-cum-Current Limiter (ACCL)

ACCL is a fully automatic, high precision system installed in apartments, residential complexes and commercial buildings. It has the following functions:

- The ACCL allows unrestricted power on Mains. If both supplies are available, EB is given preference.
- When EB fails and the standby Generator is ON it transfers the load to DG and begins monitoring the load.
- While on DG, if the load current exceeds a pre-set limit, the output trips. Other consumers who are within limits continue enjoying uninterrupted DG power. After 8/10/12 seconds, the load is reconnected and monitored again. If the current drawn has been reduced by switching off unneeded appliances, supply continues, else, it trips again.
- When EB gets restored, the ACCL automatically disconnects the load from DG and transfers to EB.

Features and benefits:

- Microcontroller based design for superior performance, replacing outdated manual systems at no extra cost.
- Saves on wiring costs.
- Available in single-phase and 3-phase configurations, up to 125A capacity.
- Assured availability of allotted current - no less, no more. Ensures equitable rationing of generator power.
- Separate settings for per-phase and total current limit allows more freedom to the homeowner at no extra cost to the project. Allows for higher DG utilisation without exceeding the total power allotment.
- DIN channel mountable enclosures save space and make installation hassle-free.
- Secure and easy app-based on-site reconfiguration of DG limits and other parameters.
- Metering ACCLs (Class 1.0) models with RS-485 connectivity available. Option for dual-source metering.
- Display of key parameters such as current, voltage, pre-trip and trip indication.
- Generator ON-delay randomized on boot to load DG gradually.
- Ultra-compact designs help minimize panel size. No compromise on relay/contact rating.
- Extremely low self-consumption of power makes the product life longer and saves energy.
- Best-in-class design and aesthetics. Fire-retardant polycarbonate body for increased safety.
- Simple operation with clear indication of states – set it and forget it!

Single Phase ACCLs



M304

- TP MCB size ACCL with LED indication of operational states.
- All new design and aesthetics.
- Ultra-low self-consumption of power.

Rated Loads	30A (EB); 20A (DG)
Suited for	Lighting loads only.
Dimensions (WxHxD)	54 x 85 x 75 mm
Switching device	Relay



M32D

- Heavy-duty, all-new contactor based design for single-phase lighting + power loads up to 32A.
- Smallest footprint - TP MCB width (only 54mm!)
- DIN-channel mounting.

Rated Loads	32A (EB); 32A (DG)
Suited for	Lighting+Power loads.
Dimensions (WxHxD)	54 x 124 x 112 mm
Switching device	Contactor

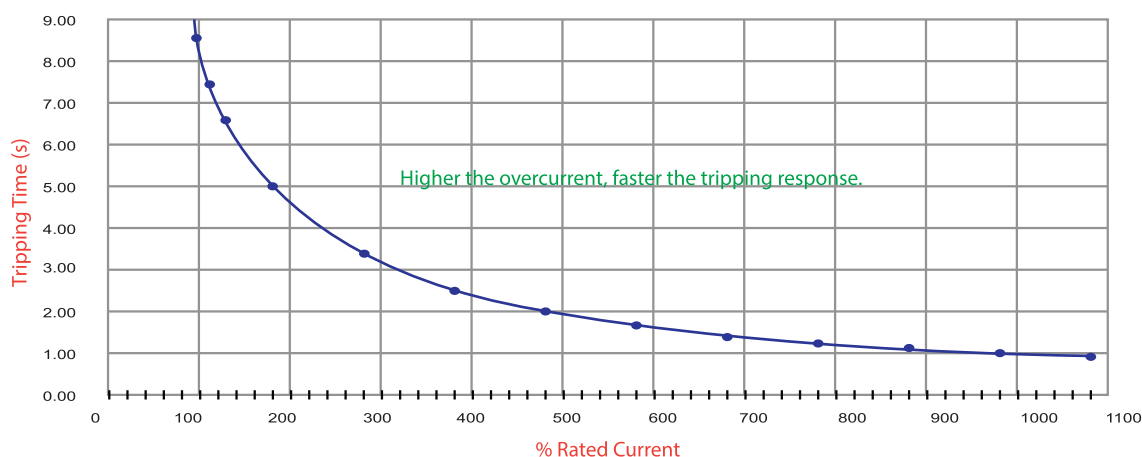


M50D / M50D+

- Interlocked dual contactor design for increased robustness.
- Suitable for lighting + power loads up to 50A.
- Small size saves valuable panel space.
- M50D+ available with Class 1.0 DG metering in-built.

Rated Loads	50A (EB); 50A (DG)
Suited for	Lighting+Power loads.
Dimensions (WxHxD)	101 x 150 x 124 mm
Switching device	Contactor

ACCL Tripping Time vs. % Rated Current



Three Phase ACCLs



M32F

- Now in unprecedented 101mm (<6 MCBs) wide design, the all-new M32F provides the same robust functionality while taking up 35% less space – by far the industry's most compact 3-phase ACCL.
- Electrically interlocked AC1+AC3 duty contactors for fail-safe operation.

Rated Loads	32A
Suited for	Lighting+Power loads.
Dimensions (WxHxD)	101 x 150 x 124mm
Switching device	Contactor



M45F / M63FS

- Time-tested ACCLs with interlocked contactor design
- Pure white FR polycarbonate enclosure with custom-made fine-pitch terminals for safer operation and better aesthetics.
- All-new model M63FS allows for 63A AC1 capacity in a small form factor at a lower cost.

Rated Loads	M45F: 45A ; M63FS: 63A
Suited for	Lighting+Power loads.
Dimensions (WxHxD)	122 x 157 x 148mm
Switching device	Contactor



M63F / M70F / ATS 80

- High current capacity ACCLs for luxury residential and commercial projects.
- Fire-retardant polycarbonate body—unique in its class!
- Option for both DIN-channel and surface mounting.

Rated Loads	63A 70A 80A
Suited for	Lighting+Power loads.
Dimensions (WxHxD)	185 x 220 x 180mm
Switching device	Contactor



ATS 125

ATS models monitor all three phases continuously and give priority to DG in case any of the EB phases are unhealthy, acting as a mains single-phasing preventer (when DG is on).

Rated Loads	125A
Suited for	Lighting + power loads.
Dimensions (WxHxD)	265x250x165 mm
Switching device	Contactor

Metering ACCLs

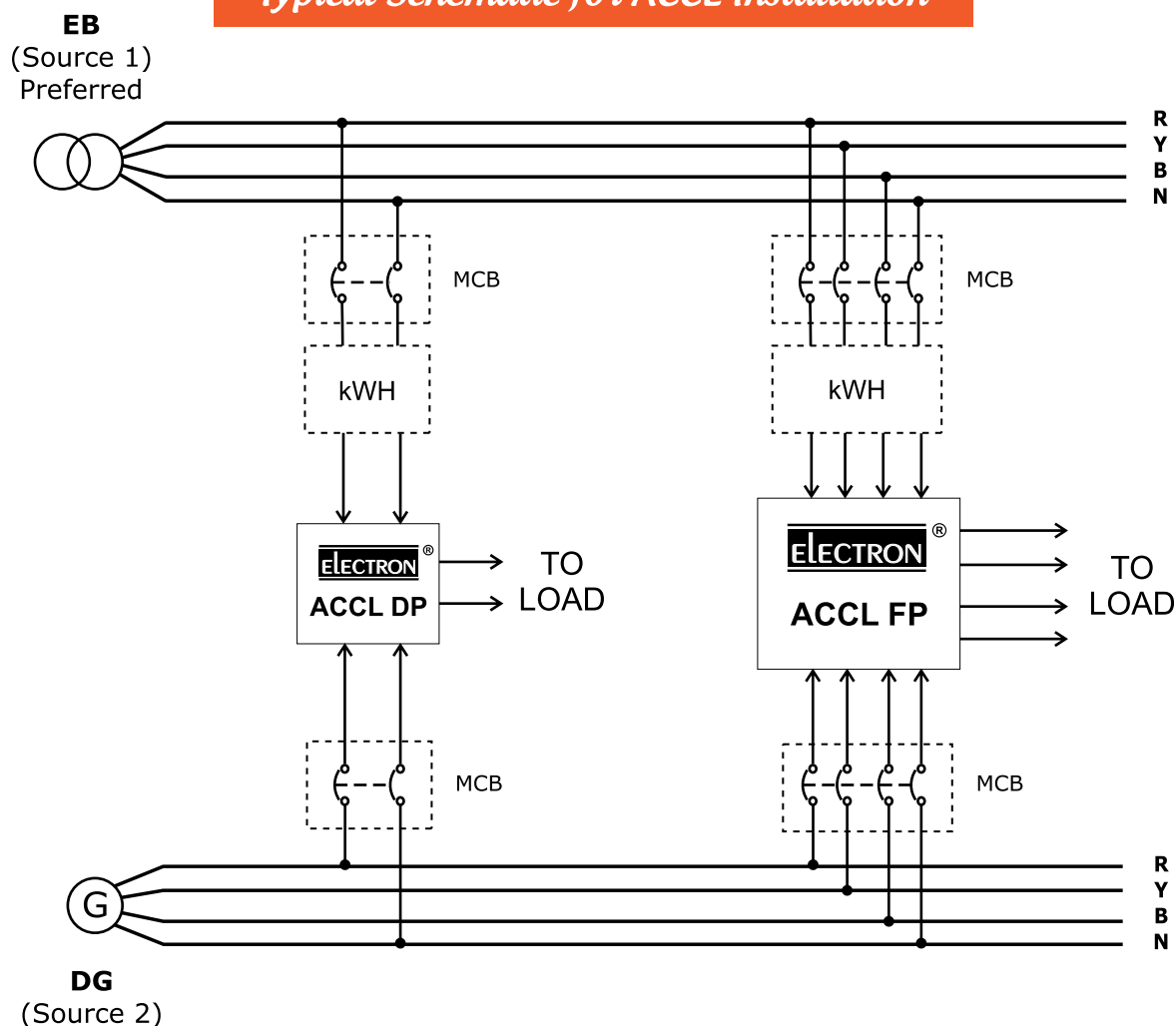


M50D+ / M32F+ / M45F+ / M63FS+

- Advanced ACCLs with fully capable true class 1.0 kWh meter built-in.
- Now with dual-source metering built into the ACCL – a unique offering, perfect for projects with HT supplies. Removes the need for separate meters, with huge cost and panel space savings.
- Backlit LCD for display of all parameters – kWh, kW, kVAH, phase currents, phase voltages, power factor, etc.
- RS-485 connectivity for integration with BMS or cloud systems.

Rated Loads (EB & DG)	M50D+: 50A DP; M32F+: 32A; M45F+: 45A; M63FS+: 63A
Suited for	Lighting + power loads.
Dimensions(WxHxD)	122x157x148 mm
Switching device	Contactors

Typical Schematic for ACCL Installation



Installation notes :

1. RCCB should be connected at outgoing of ACCL.
2. Use copper terminations only and tighten all screws completely.

Technical Specifications

	Single Phase ACCLs				Three Phase & Metering ACCLs				ATS Models	
	M304	M32D	M50D / M50D+	M32F / M32F+	M45F / M45F+	M63FS / M63FS+	M63F	M70F	ATS 80	ATS 125
No. of Poles	2 (1P+N)			4 (3P+N)						
Rated Voltage	240V, 50 Hz.			415V (L-L) / 240V (P-N), 50 Hz.						
Mains Rated Current (AC1)	30A	32A	50A	32A	45A	63A	63A	70A	80A	125A
Mains Rated Current (AC3)	-	12A	25A	18A	25A	-	40A	50A	65A	95A
Generator Trip Range (AC1)	0.5-20A	1-32A	1-50A	1-32A	1-45A	1-63A	1-63A	1-70A	1-80A	1-125A
Starting Voltage Range (Mains, P-N)	70-300V			180-300V						
Operating Voltage Range (Mains, P-N)	70-320V			180-300V (310-520V L-L)						
Operating Voltage Range (Gen, P-N)	170-250V			170-250V						
Generator output on-delay	4-10 seconds, randomized on boot-up									
Transfer Time	0.5 seconds	2 seconds		1 second						
Self-resetting Time (after tripping)	4-10 seconds									
Under/over-voltage Protection (Mains)				Optional						
Under/over-voltage Protection (Gen)	-			Yes, 170-270V						
Utilisation Category	AC1/AC7a			AC1 / AC7a / AC7b						
Electrical Endurance (Operations)	100,000			60,000						
Enclosure Material	Polycarbonate (Fire-retardant)									
Mounting Type	DIN (35mm)		DIN (35mm)	DIN (35mm / 75 mm)		DIN (35mm / 75 mm) / Surface				Sheet-metal Surface
Terminal Capacity	6 mm ²		16 mm ²		35 mm ²					
Dimensions in mm (W x H x D)	54 x 85 x 75	54 x 124 x 112	101 x 150 x 124 *	122 x 157 x 148		185 x 220 x 180		215 x 265 x 185		
Weight	0.21 KG	0.53 KG	1.0 KG	1.1 KG	1.54 KG	1.6 KG	3.6 KG	3.8 KG	6.5 KG	
Conformity	IEC 60947-4 / IEC 60947-6-1									
Protection Class	IP20									
Ambient Temperature	-10° - 65°C									
Rated Insulation Voltage	1.1 kV									
Load Switching Device	Relay	Contactor	Interlocked Dual Contactor							
Short-circuit withstand capacity	3kA		6kA							
Optional on-demand features	Generator output lock-out; On-site reconfiguration									
Metering Display	-		Backlit metering LCD; 6 digits + status indicators #		-					
DG Energy Metering	-		Class 1.0 #		-					
EB Energy Metering	-		Class 1.0 (Optional) #		-					
Communication	-		Modbus over RS-485		-					
Display Parameters	-		Voltage, Current, kVA, kW, kWh, Frequency, PF, RS-485 Bus ID #		-					

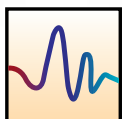
* Dimensions for M50D+ & M32F+ (Metering models) : 122 x 157 x 148 mm (W x H x D)

MxxF+ models only.



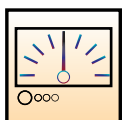
OLP 3+ Air-conditioner Starters

Today, air-conditioners are usually the highest energy-consuming appliance in a home, and also one of the most expensive. The all-new OLP 3+ is an advanced microprocessor-controlled motor starter designed to ensure safety and long life of your air-conditioner using the time-tested combination of VOLTCHECK, AMPCHECK, and TIMECHECK. The vivid 3-digit display shows all operational parameters such as voltage, current, reason for trip, and time remaining till reset, for user interest and awareness of their AC's consumption characteristics. Available in 11A, 16A, 21A, 25A, 27A and 30A configurations.



VOLTCHECK :

OLP 3+ monitors the line voltage and trips if safe limits (160-270V) are breached. If tripped, the reason (Hi/Lo) and value of unsafe voltage are shown.



AMPCHECK :

Current drawn by the AC is monitored continuously, and the output is disconnected if this exceeds a pre-set limit. This protects the compressor from damage due to rotor locking or excessively long start-up time. Tripping follows an inverse time-current characteristic - higher the overload, faster the tripping response. After tripping, the overload current is shown on the display.



TIMECHECK :

On tripping, OLP 3+ holds the output open for a duration of 3 minutes from the time of last compressor operation, and then restarts the AC automatically. This is important safety measure for the compressor. When TIMECHECK is active, the display indicates the number of minutes left for AC to restart, along with trip information.

Rated Voltage	240V (P-N), 50 Hz., 1-phase
Rated Current (AC1)	Upto 30A
Operating Voltage Range	90-320V
Under/over-voltage Protection	160-270V
Electrical Endurance (Operations)	100,000
Enclosure Material	Polycarbonate (Flame-retardant)
Mounting Type	4-module box
Mounting Centre	120 mm
Terminal Capacity	10 mm ²
Dimensions in mm (W x H x D)	146 x 88 x 44
Protection Class	IP20
Ambient Temperature	-10° - 65°C
Display Parameters	Line Voltage, Current, Fault indication, Time before restart.
Protection Features	VOLTCHECK, AMP-CHECK, TIMECHECK

Some of our prestigious clients



DLFA



PURAVANKARA



SIDDHA



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