



## ACB Retrofit Method

exellison's unique *Complete* ACB Retrofit ensures the best possible, safest, most reliable and easiest to maintain solution for the retrofitting of Air Circuit Breakers. The factory tested assembly includes everything required for the retrofit ensuring a timely and accurate installation. The assembly is completed and factory tested prior to delivery including all copper connections and wiring termination points. We do not manufacture parts on site. Our solutions are fully designed and tested before we attend site. Each ACB retrofit assembly consists of:

- A standard ACB Moving portion including integral electronic trip relay.
- A Standard ACB Fixed cassette including safety shutters.
- New ACB racking mechanism.
- All ACB Accessories required in accordance with the customer requirements.
- A Steel frame assembly including all shrouding, a compartment door to allow the alignment of the busbar connections. The steelwork frame and covers provides a fully integrated shrouded and shuttered cassette.
- Side filler pieces to provide full shrouding around the new ACB assembly.
- All copper busbar connections to provide alignment with the existing internal busbars.
- Current transformers where required for door mounted metering.
- Busbar mounted backup fuses and terminal fuses to provide voltage reference for metering etc.
- Small wiring terminal rail with ACB accessories pre-wired to line up with standard loom.
- Castell locks as required.

The above then allows for complete testing of the retrofit assembly at our works (witness testing is encouraged). No modifications are required to the existing busbar installation.

To ensure compliance with our own internal standards we adhere to two check-lists – see below. There is a test and check-list for our pre-delivery testing and a checklist for the site installation element of our work. These ensure the full integrity of our ACB retrofit kits. The ACBs are tested and commissioned before final energization.





**ACB Retrofit Manufacture Check List**

**Site:**                                      **CCT Ref:**                                      **Date:**                                      **CCT Title:**

Description	Engineer	Checked By	Comments
Correct retrofit unit manufactured Current, Protection and pole Label Fitted to front door			
Tighten Phase Riser Connections (L1, L2, L3)			
Tighten Neutral riser connections tight (4 pole Only)			
Tighten Outgoing Connections (L1, L2, L3)			
Tighten Neutral Outgoing Connections (4 Pole Only)			
Clearance Check Top Connections			
Clearance Check Btm Connections			
Clearance check Neutral (4 pole Only)			
Busbar mounted fuses fitted and correct ampague			
CTs fitted correct size and orientation			
Retighten Busbar Tubes and rods			
Terminal Rail fitted with correct terminal arrangement fitted and wired			
Fit Terminal cover			
Connect PFC Control cables to terminal Ex and Hx from Met CTs			
Link Between F and G			
Blank any unused Wiring apertures			
Safety Shutters fitted to ACB chassis			
Rear Shroud Back plate fitted			
ACB Accessories fitted as per Spec			
Complete ACB Label on side of ACB cover			
Side Fillers fitted (if Applicable)			
Perform Insulation test 1000V, 1-min			
Set Protection relay to settings provided by client			
ENERGISE			
Program meter			



## ACB Retrofit Check List – Site Installation

Site: CCT Ref: Date: CCT Title:

Description	Engineer	Checked By	Comments
Remove moving portion of ACB			
Check control terminals for any voltage			
Disconnect Power Terminals			
Disconnect <i>Chip Pan</i>			
Disconnect ACB frame earth from earth riser (leave on chassis)			
Remove ACB Chassis			
Clean down of section, Removal of any foreign objects (nuts, Bolts, dirt and dust) and any tooling.			
Correct retrofit unit installed Current, Protection and pole Bolt framework into enclosure – tech screw for good earth			
Tighten Phase Riser Connections (L1, L2, L3)			
Tighten Neutral riser connections tight (4 pole Only)			
Tighten Outgoing Connections (L1, L2, L3)			
Tighten Neutral Outgoing Connections (4 Pole Only)			
Clearance Check Top Connections			
Clearance Check Btm. Connections			
Clearance check Neutral (4 pole Only)			
Tighten any busbar joints loosened to allow fitting of retrofit			
Replace any busbar mounted fuses			
Connect Neutral Supply cable front to back			
Fit Earth Fault CT and check orientation			
Retighten Busbar Tubes and rods			
Connect original wiring loom to 24-terminals			
Connect PFC Control cables to terminal Ex and Hx from Met CTs			
Link Between F and G			
Remove L1 CT Link			
Clean down of section, Removal of any foreign objects (nuts, Bolts, dirt and dust) and any tooling			
Reinstall Internal and external covers and shrouding			
Blank any unused Wiring apertures			
Perform Insulation test 1000V, 1-min			
Set Protection relay to settings provided by client			
Fit Terminal cover			
ENERGISE			
Program meter			
Check PFC operation			
Set Protection Relay			