Danfoss VLT Drives — FC Family Map, MCB Option Cards, LCP Panels and Coated Boards

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Which VLT family fits which duty (FC-51 through FC-302), what the reference's kW, voltage band and IP class mean on a replacement, the MCB option-card system (general-purpose I/O, relay cards), LCP control panels as separate items, and why conformal-coated boards matter — grounded in the stocked range.

The FC number places the drive

Family | Built for | Stocked examples |

FC-51 / FC-101 (Micro/HVAC Basic) | Simple speed control, compact panels | quoted per rating |

FC-102 / FC-202 (HVAC / AQUA) | Fans, pumps, water and wastewater — pump-specific software (sleep, pipe-fill, dry-run detection) | FC-202 11 kW IP55, 30 kW IP55, 30 kW 200–240 V |

FC-302 (AutomationDrive) | General machinery, high dynamic performance, safety (STO) | 11 kW IP20, 22 kW IP55, 90 kW IP54 |

A like-for-like swap needs four matches off the old unit's plate: family, kW at the duty's overload class, voltage band (the stocked rows show why — the same 30 kW AQUA exists in 380–480 V and 200–240 V builds), and enclosure (IP20 for cabinets, IP54/55 wall-mounted). The 131…/134… code on the plate pins the exact configuration including options; quote it whole. Cross-brand equivalents sit in the VFD cross-reference.

Options and spares are their own part numbers

MCB option cards slot into the control card: MCB 101 general-purpose I/O adds digital/analog points, MCB 105 adds relay outputs — note both exist coated ("ctd") and uncoated; match what the environment already dictated.

LCP control panels detach and replace separately — the LCP 12 with potentiometer is the numeric panel; graphic LCPs copy parameter sets between drives, which is the fastest commissioning trick in the manual.

Replacement operator panels and doors for cabinet units are catalogue items too (AQUA door panel, form-fit).

Coated boards ("ctd" in the reference) carry conformal coating for humid, salty or chemically loaded air — in such rooms specify coated for drive and options alike; it is the difference between five years and one.

Around 240 VLT line items are stocked — drives, option cards, panels — under Danfoss. Motor-side selection (frame, efficiency class, duty) pairs with the IEC frame chart and IE-class guide; a nameplate photo of drive and motor together gets both ends quoted in one 24-hour pass.

Frequently asked questions
Can an FC-302 replace an FC-202?Downward, usually yes — the AutomationDrive is the superset — but the AQUA software features (pipe-fill, flow compensation) and parameter layout differ, so a straight parameter copy is not possible and commissioning is redone. Like-for-like family swaps stay simplest.What does ctd mean in a Danfoss option card reference? Conformal-coated circuit board — the humidity/corrosion-protected build. Coated and uncoated versions carry different part numbers; environments that justified coating once require it on every card that goes in.Is the kW rating on a VFD the motor's kW?It is the drive's rating at a stated overload profile — a pump duty (low overload) and a machinery duty (high overload) can land one size apart for the same motor. Match the old drive's rating and duty class, or size from the motor's full-load current.Can I move the LCP panel from the old drive to the new one?Yes within the platform — LCPs are deliberately detachable spares, and a graphic LCP additionally carries parameter backups across. Confirm panel compatibility when crossing families.Why does my replacement drive trip where the old one ran?Newer firmware defaults differ: motor data not auto-tuned, switching frequency, or ramp times. Run the motor adaptation routine and transfer the old parameter set before suspecting hardware.

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