

Take the next step on your road to autonomy

Advanced software solutions

Designed for in-house engineering teams, PLUS+1® ACL (Autonomous Control Library) software is available in Essentials or Advanced packages. Both consist of preprogrammed and pretested software blocks built into Danfoss' XM100 controller hardware. Each block covers vital areas such as positioning, navigation, and perception and eliminates the need to design and develop autonomous software programs from scratch.

What's Advanced?

A paid solution, ACL Advanced includes all ACL Essentials software – plus advanced path following blocks and access to future advanced features and updates.

- Positioning blocks to locate or position a vehicle at a precise location
- Navigation blocks to plan and navigate a path for a machine to follow
- Advanced Perception blocks, featuring Planar Surface Segmentation and Obstacle Detect Area functionalities.

PLUS+1 ACL Advanced blocks

Planar Surface Segmentation uses a LiDAR scanner to collect point cloud data and identify the dominant plane.

Path Recorder records the path that a machine travels, storing the data in a JSON file AND temporary storage, that can then be used to make the vehicle follow the path that has been recorded.

Path Loader* reads path data from a JSON file and writes it to data lockers for other blocks to use it.

Path Converter allows users to input known paths, as an alternative to recorded paths.

Path Extract allows users to access path information contained in data lockers, which can be used for debugging, verification, something else application-specific.

Path Follower Advanced allows users to navigate a machine along a desired path by outputting steering commands and (optionally) propel commands.

Obstacle Detect Area enables defined zones to be created around the machine, which can be used to stop or adjust machine motion when an obstacle is detected within these zones.

Project Path Area creates zones in the machine's immediate trajectory to better detect obstacles when the machine is turning

GeoFence Blocks allows users to set virtual boundaries for geographic areas, ensuring reliable operation and enabling location tracking when machinery crosses boundaries.



PLUS+1 ACL
Advanced



Benefits

- Speed up development time
- Reduce development costs
- Robust, tried and tested software
- Get to market faster
- Lead your market



Make your vehicle autonomous and get to market faster

Increase your machine's precision, productivity, and safety – and its value, too, using PLUS+1 ACL software solutions from Danfoss Autonomy.

Don't have autonomous engineering services in-house? The ACES can help. A dedicated team of autonomous engineering experts, they do the work so you don't have to.

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