



*Danfoss*

ENGINEERING  
TOMORROW

## HIGHLIGHTS

### Speed up and de-risk

- Cut down test and commissioning time from days to hours
- De-risk project execution to avoid issues early
- Assess product and system performance before prototyping
- Reduce risk of equipment damage

### Design and operate efficiently

- Always maximal high fidelity and speed
- Extend system productivity by reducing energy consumption, downtime, and wear

Simulation for iC7 series: MyDrive® HIL

# Want **unique power** to **de-risk** product lifecycle?

## Powerful simulation replaces the test lab

With MyDrive® HIL you get an all in one powerful toolchain to de-risk and save time, with a hardware-in-the-loop simulator that replaces the test lab. This is your new toolchain for testing and validation of control systems with a rich feature set for electric motor drives and microgrid applications.

Get maximal power of simulation: real time and with the highest possible fidelity available.

## In every phase of system lifecycle

MyDrive® HIL can optimize every phase of the product or system lifecycle, from development and testing, to commissioning and lifetime monitoring. MyDrive® HIL supports continuous integration and continuous development by simulating individual applications using drives or power converters; or entire systems.

## Get going faster

Configure a setup in just 15 minutes. Cut down test and commissioning time from days to hours.

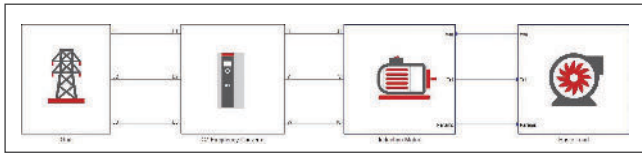
Feature	Benefit
Replace physical testing with virtual testing	Cut testing time from days to hours
De-risk project execution in an early phase	Greater reliability in business model
Run end-to-end system simulations	Improve uptime and de-risk project execution
Easily simulate different component sizes and combinations for early integration	Quickly find the optimal solution both cost and performance-wise
Assess configuration efficiency in the design phase	Reduce energy consumption in the application Save cost and reduce carbon emission
Optimize parameters in the design phase	Reduce commissioning time
<ul style="list-style-type: none"> <li>- Test with a high level of automation</li> <li>- Test critical scenarios in a low-stress environment</li> <li>- Eliminate risk of equipment damage</li> </ul>	Protect equipment and secure safety
<ul style="list-style-type: none"> <li>- Monitor and improve performance using a digital twin</li> <li>- Validate software updates virtually</li> </ul>	Efficiently maintain and improve the application over its lifetime

**Fast**

test and validation  
in just hours



**Software: Application simulator**  
**HIL system for frequency converters**



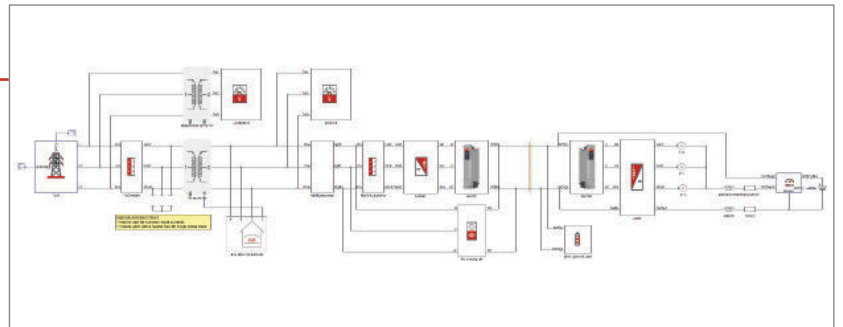
Hardware:  
 Control unit = control boards and option cards



**HIL system for system drives**



Software: System simulator



Hardware: Control unit = control boards and option cards

### What does high fidelity mean?

High fidelity in simulation means you achieve the greatest possible precision in recreating actual drive, converter, or system performance. MyDrive® HIL gives you absolute alignment between measured and simulated currents and voltages.

### What does real time mean?

By simulating in real time, you recreate the exact response of the system to a disturbance. Real time simulation gives you the power to react fast to avoid downtime in an operational situation. For example, you can simulate recovery of the grid after a brownout and short power interruption.

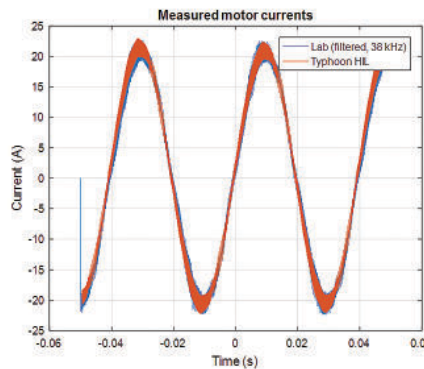
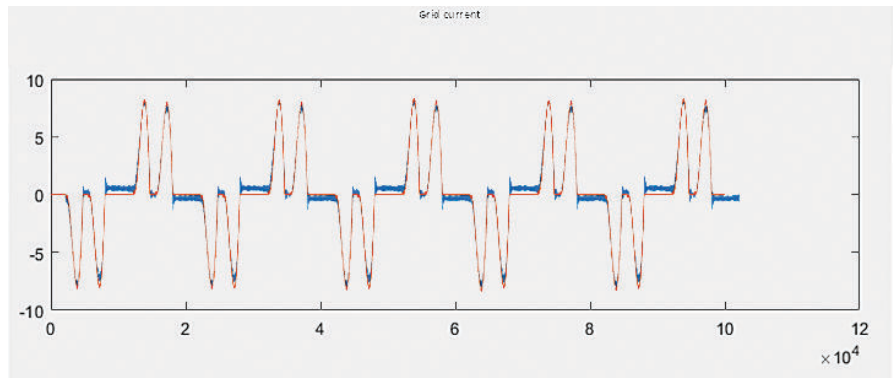
### How can MyDrive® HIL save cost?

The greater the variety of drive and motor sizes being tested with MyDrive HIL (for example, ratings of 1.5 kW, 7.5 kW, and 355 kW over the course of the day), the better the the higher the cost savings becomes eliminating the need for the physical test setup.

### How to buy

MyDrive® HIL from Danfoss will be available in two offerings. A combination of a software and hardware package supporting frequency converter or a system drive.

- Software package: Yearly service fee with user option to choose the features needed
- Hardware components: One time purchase



*The MyDrive® HIL setup allows us to emulate dozens of drive variants, paired with any motor that is used in our equipment. The system is well integrated into Typhoon HIL environment and there is good documentation to get up and running quickly – within a few hours of opening the box.*

*I am impressed with how robust the system operation is. Simulations will often fail to run if conditions are changed too quickly or deviate too much from the nominal values. The MyDrive® HIL system runs and gives reasonable results even with aggressive commands and load profiles.*

**Ben Sykora, Power Electronics Engineer at Trane Technologies, Wisconsin USA**



MyDrive® HIL is powered by Typhoon HIL