



## LV8 USER CODE INTEGRATION

### User code integration on LV8 Platform for high dynamic processes

#### Optimized control performance

User Code Integration offers customers the ability to run applications on very fast, synchronous tasks. This can save an additional external controller and allow for tasks to be executed at up to 10kHz, without additional dead times. With this feature, the intellectual property remains in the hands of the customer. Changes can therefore be made independently of the LV8 drive software, keeping all essential safety functions intact. Tire models is an example of such a highly dynamic routine that with this functionality can be executed within the LV8 drive software.

#### Key benefits are:

- No additional external controller
- The software is executed within the fast cycle of the LV8 inverter software
- Highest dynamics for real-time operation, and thus the best possible simulation performance on the test bench

#### Integration of user modules

There are two ways to integrate user code modules into the LV8 drive software.\*

##### Option one: Function block modules

- A function module with predefined interface and template code is integrated into a fast task within the drive software.
- Programming must be done in C language with an Eclipse IDE.

##### Option two: Custom macros (UDEP)

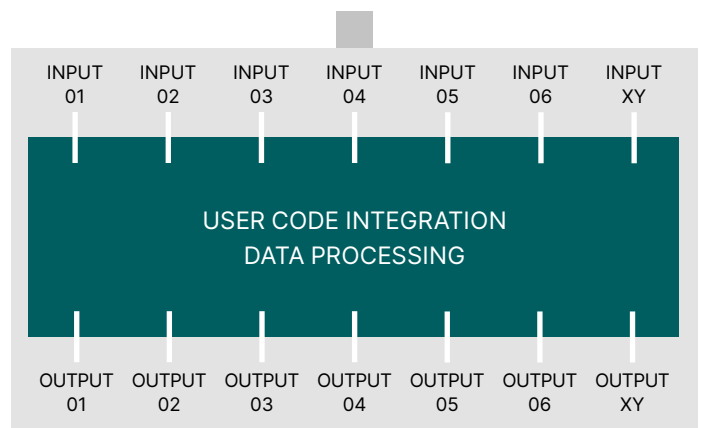
- A UDEF with predefined interface and template code is integrated into the fast task of the LV8 drive software.
- For programming, the graphical programming tool from GE Vernova P80i must be used and GE Vernova standard libraries are available.

\* Warranty/responsibility of GE Vernova

#### User Code Flow

##### INPUTS

- Preprocessed values (e.g. speed, torque, current)
- Limits
- Reference values from fieldbus
- Status values (e.g. Run, Release)



##### OUTPUTS

- Reference values (e.g. torque, speed, load current)
- Command bits
- Status values for fieldbus

##### SERVICE DATA

- Internal variables
- HMI parameter for configuration