

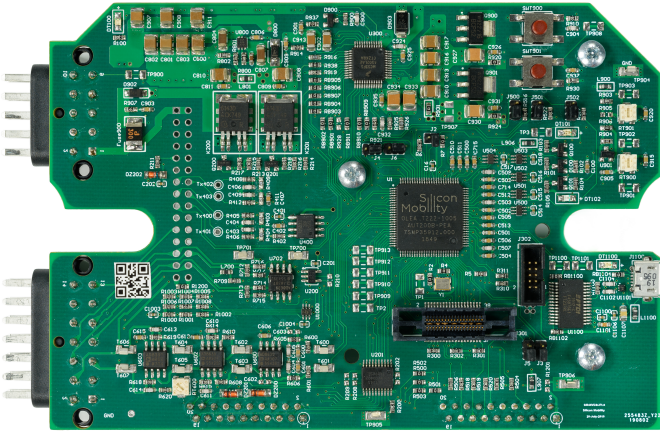


**OLEA®**

COMPOSER - T222  
Starter Kit for SKAI 3 LV

Silicon  
Mobility

## OLEA® COMPOSER - T222 Starter Kit for SKAI® 3 LV



A jump start solution for 10kW-50kW / 24V-160V PMSM and WRPM electric motor control using the best of Silicon Mobility's OLEA® technologies with SEMIKRON SKAI® 3 LV inverter module. The starter kit includes:

- OLEA® T222 FPCU based reference control board
- OLEA® APP INVERTER ED Pre-flashed.
- Vehicle Dependent Software demo code.
- Post build measurement, configuration, calibration and firmware update GUI software.
- User guide for fast setup

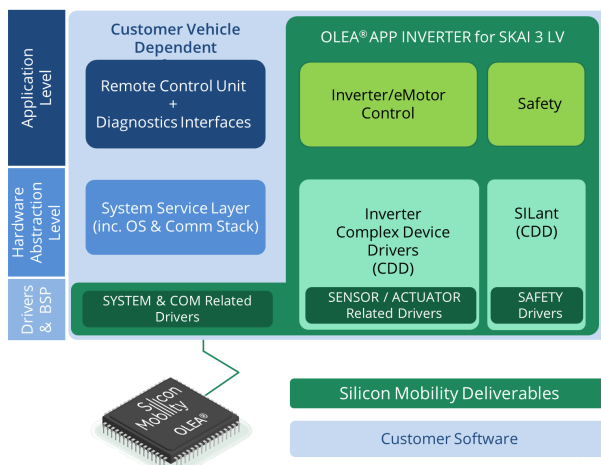
## Turnkey control solution for low voltage system

OLEA® COMPOSER - T222 for SKAI® 3 LV Starter Kit is a complete low voltage electric motor control solution. It is based on OLEA Technology and is using SEMIKRON SKAI® 3 LV MOFSET inverter module. The kit is composed of a control board, delivered as reference design, shapped and featured to match the inverter housing mechanical and electrical requirements. The board is powered by OLEA® T222 FPCU pre-flashed with OLEA® APP INVERTER.

The kit enables fast prototyping and development of any industrial or automotive application. It is delivered with a demonstration version of a vehicle dependent software including a scheduler and communication/interface stacks for the measurement, configuration and calibration of the system. It includes numerous configurable safety mechanisms for faults detection and reactions such as overcurrent, overvoltage, overtemperature.

The Starter Kit comes with a board schematic, user's guide and CAN-based user control interface for Windows.

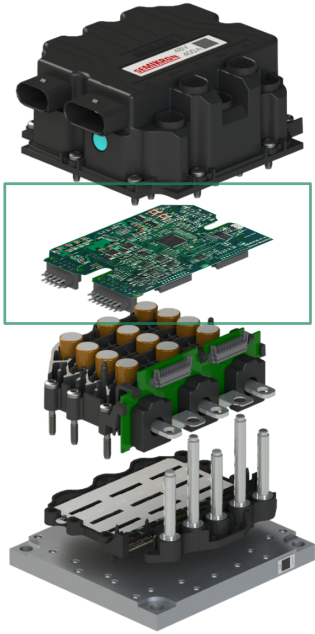
## Highly configurable control software



### OLEA® APP INVERTER ED main features:

- PMSM and WRSM motors
- Axial and Radial Flux motors
- Control of 3 phases motors
- Configurable number of pole pairs
- Flux weakening and Id/Iq Decoupling
- Field Oriented Control regulation
- Space Vector PWM modulation
- Control in speed and/or in Torque
- Numerous visibility status including temperature and position

# OLEA<sup>®</sup> COMPOSER - T222 SKAI3 Board Features



## Inverter Control

- Silicon Mobility OLEA T222 FPCU
- System Basis Chip (power)

## Vehicle Interface

- 2 x CAN FD (Flexible data rate interface up to 8Mbit/s)
- 1x LIN 2.21
- Battery supply

## Motor Interface

- Resolver winding
- Incremental encoder
- 2 x motor temperature sensors

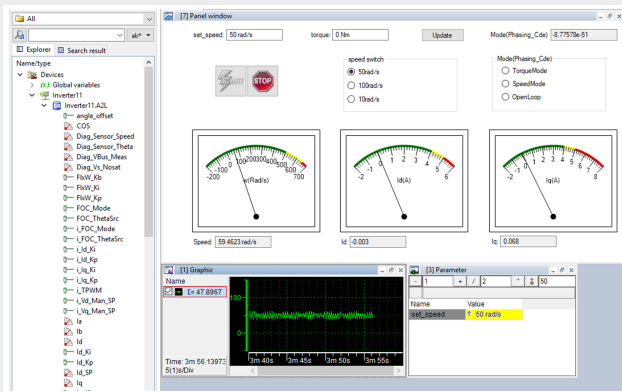
## Inverter module interface

- Phase voltage and current (U,V,W)
- PWM Gate Driver Phases (U,V,W)
- Reset and Error signals
- PCB & power module

## Developer interface

- 1 x SWD interface (debug)
- 1 xTrace Port Unit interface up to 100MB/s (real time debug and measure interface)
- 3 x potentiometers
- 4 x LEDs

## Calibration

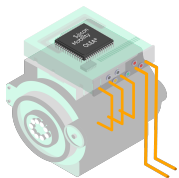


Calibration of OLEA APP INVERTER with CANape from VECTOR

The control, calibration and measurement of OLEA<sup>®</sup> APP INVERTER parameters can be done either using Silicon Mobility Graphical User's Interface or Vector CANape. Silicon Mobility GUI is interfaced via USB and/or CAN port using CAN XCP protocol.

OLEA<sup>®</sup> APP INVERTER DE supports Vector CANape and Vector CAN interface (VN1610/VX1000) using CAN XCP protocol.

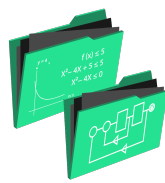
## From Starter Kit to Custom System Application Development



OLEA<sup>®</sup> APP INVERTER



OLEA<sup>®</sup> COMPOSER



OLEA<sup>®</sup> LIB INVERTER

For custom system application development, OLEA<sup>®</sup> APP INVERTER DE for SKAI 3 LV is accessible in two type of license:

**Object Code:** delivered as an object code to be interfaced with defined APIs to the vehicle dependent software.

**Source Code and Model:** delivered as a MATLAB SIMULINK model based design including OLEA<sup>®</sup> LIB INVERTER model building blocks. Auto-code generation using OLEA<sup>®</sup> COMPOSER development environment. It includes defined APIs to interface with the vehicle dependent software.