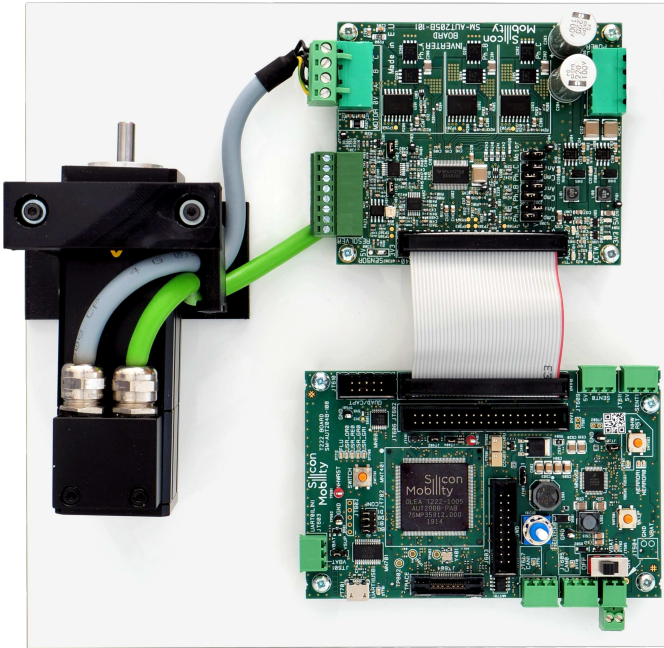


## OLEA® COMPOSER - T222 Inverter Starter Kit



All-in-one hardware platform for a rapid start up of 3-phases PMSM motor control application using the best of OLEA® technologies.

The starter kit includes:

- OLEA® COMPOSER - T222 Board
- OLEA® APP INVERTER Pre-flashed
- OLEA® COMPOSER - Inverter Board
- 3-phases PMSM Motor
- Chip and Board Support Package Software
- Cables and Power Supply
- User's Guide

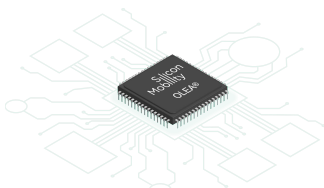
### All the hardware in one package

OLEA® COMPOSER - T222 Inverter Starter Kit is a jump start to evaluate OLEA® technologies and start application development for electric motor control. With the combination of the OLEA® T222 FPCU evaluation board, power inverter board and a 3-phases PMSM motor with embedded resolver sensor, users have all the necessary hardware platform for rapid software application development.

OLEA® COMPOSER - T222 Inverter Starter Kit is part of the OLEA® COMPOSER development framework which orchestrates a wide set of leading development tools all along the V-Model development lifecycle and accelerate development on OLEA®. From Model-in-the-Loop (MiL), Software-in-the-Loop (SiL) down to Hardware-in-the-Loop (HiL), developers can drastically reduce development, validation and calibration time. The performance are drastically improved by playing with the Hardware/Software split provided in the framework.

The Starter Kit is pre-configured with OLEA® APP INVERTER and includes Field oriented Control, speed control with flux weaknin, space vector PWM and calibration capability based on CAN/XCP protocol. The Starter Kit comes with board schematic, user's guide and UART-based user control interface for Windows.

### Enable the full stack product evaluation



#### OLEA® FPCU

Automotive semiconductor solution designed to process critical information faster with 100% predictability and accuracy.



#### OLEA® LIB

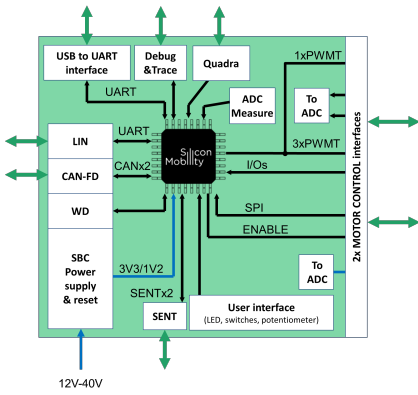
Highly optimized automotive control algorithms and software libraries for OLEA® FPCU



#### OLEA® APP

Application dedicated software models optimized for OLEA® FPCU. The kit can run OLEA® APP INVERTER for efficient and safe eMotor/inverter control.

## OLEA® COMPOSER - T222 Board Features



### Application interfaces

- 1 x OLEA® T222 FPCU
- 2 x 40-way Generic Inverter Interfaces
- 1 x CAN high speed interface up to 1 Mbit/s
- 1 x CAN Flexible data rate I/F up to 5 Mbit/s
- 1 x LIN interface
- 2 x SENT interfaces
- 1 x Quadra interface
- 1 x SWD debug interface
- 1 x Trace interface
- 4 x Temperature sensors

### Supply

- 1 x Power system basis chip for power supply generation,
- Single 12-40 Volt DC power supply input with on board on/off switch

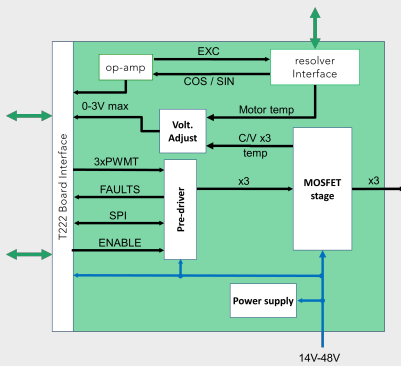
### User interfaces

- 2 x Potentiometers for the OLEA T222 internal comparator voltage reference settings,
- 1 x General purpose potentiometer
- 1 x USB interface
- 1 x General purpose switch
- 4 x General purpose I/Os with jumper configuration
- 5 x General purpose LEDs
- 1 x Reset switch
- 1 x Wake-up switch
- 1 x Power supply LED indicator
- 1 x Hardware reset LED indicator

### Format

- 85 mm x 125 mm

## OLEA® COMPOSER - Inverter Board Features



### Application interfaces

- Inverter interface with the T222 Board:
  - Pre-driver interface
  - Resolver sensor voltage interface
- Diagnostic interfaces
  - Phase currents
  - MOSFET currents
  - 2 x Temperatures analog I/F (Motor & MOSFET)
- 1 x 40 ways ribbon connector cable
- 1 x 3-way connector for motor windings I/F

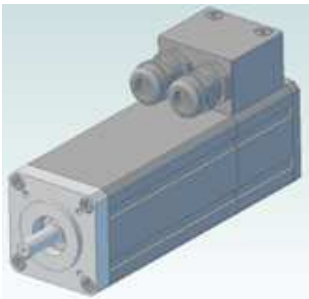
### Supply

- 14-48 Volt 1 x 4-way connector for Inverter board power supply

### Format

- 85 mm x 100 mm

## 3-phases PMSM Motor Features



### 24V Motor with embedded resolver winding sensor

DC Bus voltage : 24V  
 Voltage constant : 1,9 V / 1000/min  
 Resistance 2 ph. : 0,22 Ω  
 Inductance 2 ph. : 0,09 mH  
 El. time constant : 0,41 ms  
 Mech. time constant : 1,7 ms  
 Thermal time constant : 22 min.  
 Inertia : 0,04 kgcm<sup>2</sup>  
 Motor poles : 6  
 Mass without brake : 0,53 kg  
 Mass with brake : 0,66 kg

Brake torque : 0,4 Nm  
 Stall torque : 0,3 Nm  
 Stall current : 9,5 A  
 Nominal torque : 0,27 Nm  
 Nominal speed : 6000/min  
 Nominal power : 169 W  
 Nominal current : 8,9 A  
 Maximum torque : 1,2 Nm  
 Maximum current : 41 A  
 Max. speed mech. : 12000/min  
 Torque constant : 0,03 Nm/A