S C Mobility

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[®] COMPOSER Inverter Board
- 3-phases PMSM Motor
- Chip and Board Support Package Software
- Cables and Power Supply

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, a power inverter board and a 3-phases PMSM motor with embedded resolver sensor, users have all the necessary hardware platform for rapid software 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 drastically reduce development, validation and calibration time. The performance are drastically improved by playing with the Hardware/Software split provided in the framework.

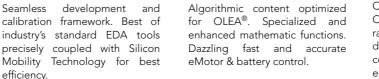
The Starter Kit is best used with OLEA® LIB: a library of software optimized for OLEA® including all the necessary mathematical and algorithm building blocks for inverter control based on Field Oriented Control.

Enable the full stack product evaluation

efficiency.

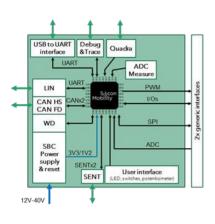


leveraging embedded robust and secured programmable logic. Safe Deterministic and Parallel processing



durability extensions, energy consumption & pollutant emission reduction.

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
- 1 x Power SBC

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

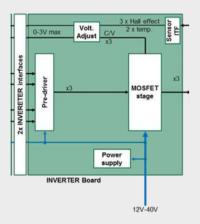
User interfaces

- 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

80 mm x 125 mmm

OLEA[®] COMPOSER - Inverter Board Features



Application interfaces

- Inverter interface with the T222 Board:
 - Pre-driver interface
 - Position interface
 - Hall-effect based sensor current I/F
 - Hall-effect based sensor digital I/F
 - Quadrature digital I/F
 - Diagnostic interfaces
 - Phase currents
 - MOSFET currents
 - 2 x Temperatures analog I/F
- 1 x 40 ways ribbon connector cable
- 1 x 3-way connector for motor windings I/F

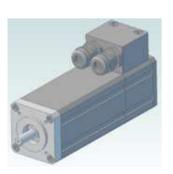
Supply

 24-40 Volt 1 x 4-way connector for Inverter board power supply

Format

85 mm x 108 mmm

3-phases PMSM Motor Features



24V Motor with embedded resolver winding sensor

- 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 kgcm2 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

Silicon Mobility

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