



## MOTOR CONTROLLER - CR SERIES ELECTRIC FORKLIFT APPLICATION

CR Series AC motor controllers are suitable for electric forklift application, ranging from 1.5 to 3.5 tons load capacities. Controllers are available for nominal battery voltages of 48V to 72V/80V, which can be integrated with traction motors or lifting motors. The rugged design, with high IP rating, enables the controller to operate in a harsh working environment.

Standard features incorporated into the CR Series for forklift application include selection of four drive power levels: high, normal, economic, and smooth, and three power regenerative modes: accelerator off, brake pedal, and direction braking. The anti-rollback control prevents the lift truck from

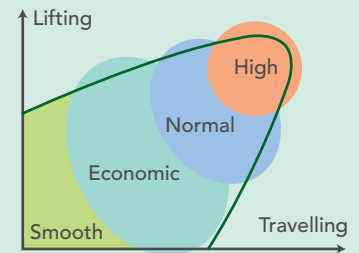
rolling backwards abruptly on a slope when it stops on a slope and the brake pedal is engaged. When the battery voltage is low, CR Series reduces output current for battery protection. The controller also has hydraulic motor control for lifting, steering, and tilting applications.

CR Series also comes with advanced functions as options to provide enhanced hands-on and safe driving, including fork-leveling control, lifting speed control, turn-speed control, and active steering position synchronization.

CR Series proves to consist of ideal motor controllers with high performance, reliability, and safety for electric forklift application.

### FEATURES

- Applicable to IM, PM, and BLDC motors for traction and lifting
- Nominal Voltage: 48V, 72V/80V
- Peak Current: 315A to 650A
- Continuous Current: 125A to 295A
- SMARTuning® software with auto-tuning function
- MTPA (Maximum Torque per Amp.) function
- Field-oriented control (FOC) algorithm
- IP Rating: IP65
- Power Regenerative Modes:
  - Accelerator off (accelerator release)
  - Brake pedal (extend brake pad wear)
  - Direction braking (switch-back)
- Anti-rollback Control
- Hydraulic Motor Control
- Drive Power Levels::
  - H: High
  - N: Normal
  - E: Economic
  - S: Smooth



- Advanced Functions (Options):
  - Fork-leveling Control
  - Lifting Speed Control
  - Turn-speed Control
  - Active Steering Position Synchronization
- Color Display
  - Adjustable parameters
  - Speed adjustment for pump & traction
  - Message/diagnostic/display setting





## Anti-rollback

When it stops on a slope and the brake pedal is engaged, the forklift will hold still for a few seconds before it starts rolling backwards slowly and smoothly.



## Advanced Functions (Options)

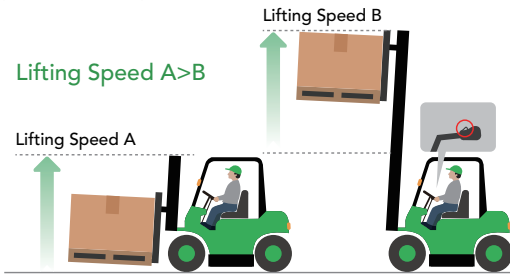
### Fork-leveling Control

Press a switch while in forward tilt stops the forks at a level position, setting the empty forks to the level position easily.



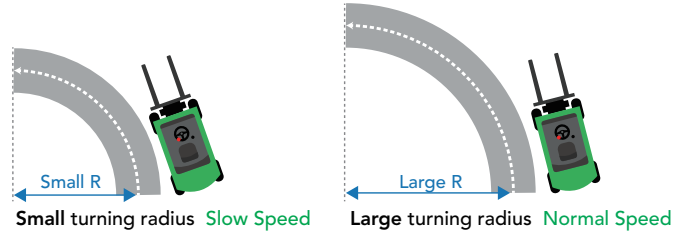
### Lifting Speed Control

Pressing a switch to control of lifting speed at a high position helps to prevent load spills.



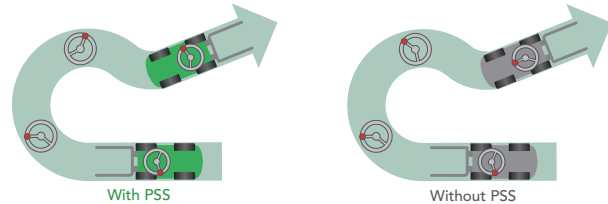
### Turn-speed Control

This function controls the turn speed according to the turning radius, providing stable rotation matched to the mode of operation.

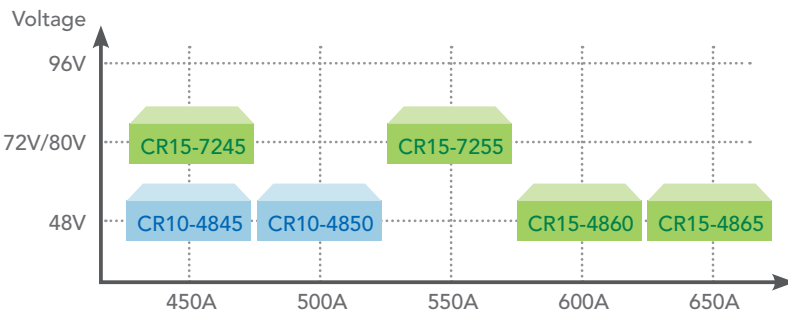


### Active Steering Position Synchronization

The PSS eliminates hydraulic steering slippage which helps the operator to work safely and more efficiently. The driver always knows the exact direction of the truck which contributes to safe operation.



## CR Series Controller Product Portfolio



CR10: 232x165x85mm



CR15: 275x232x85mm



Item	Unit	Specifications					
Truck Type	Load Capacity	kg	1500	2000	2500	3000	3500
	Battery Voltage	V	48	48	48	48	72/80
Traction Motor Application	Motor@60min	kW	8	10	10	14	14
	Controller Peak Current	A	450	500	600	650	450
	Controller Model	--	CR10-4845	CR10-4850	CR15-4860	CR15-4865	CR15-7245
Lifting Motor Application	Motor@5min	kW	9-10	10-12	12-14	14-16	14-16
	Controller Peak Current	A	450	500	600	650	550
	Controller Model	--	CR10-4845	CR10-4850	CR15-4860	CR15-4865	CR15-7255

All specifications are subject to change without notice.

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