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PRODUCT & PROCESS ENGINEERING

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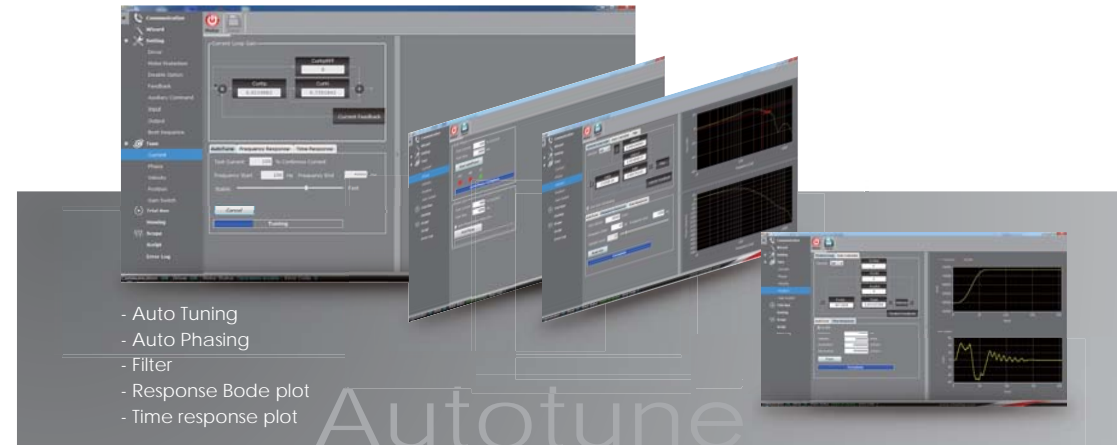
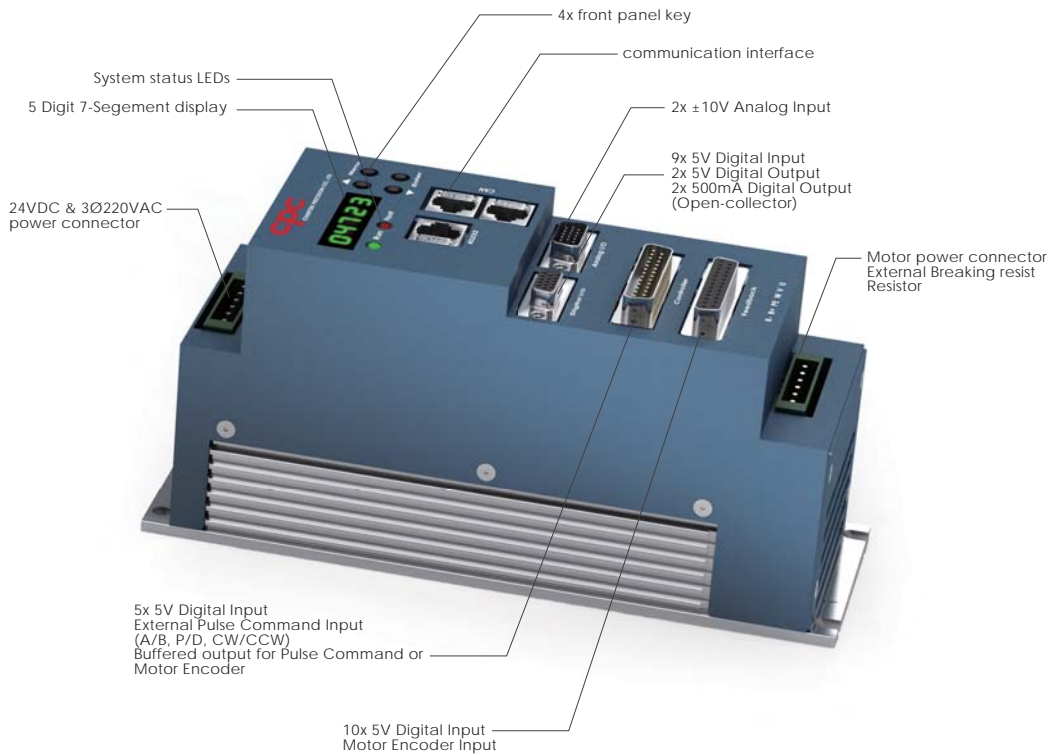


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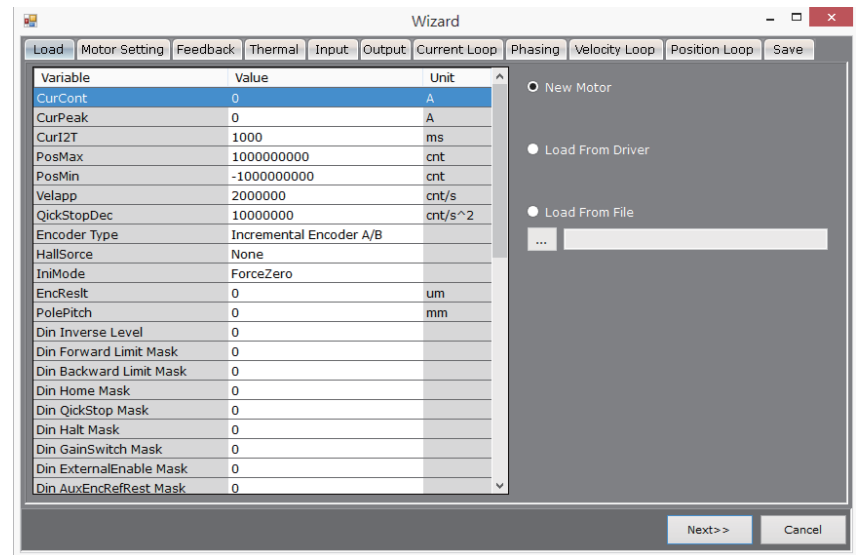


Product Overview

- Auto Phasing
- Auto Tuning
- Auto Gain Switch
- Current Filter
- Oscilloscope
- S-curve Profile
- Anti-Cogging
- Scripting



Wizard Step by step setup interface

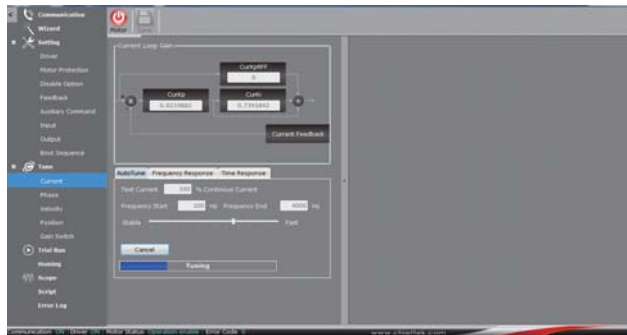


LM-Ironcore

LM-Ironless

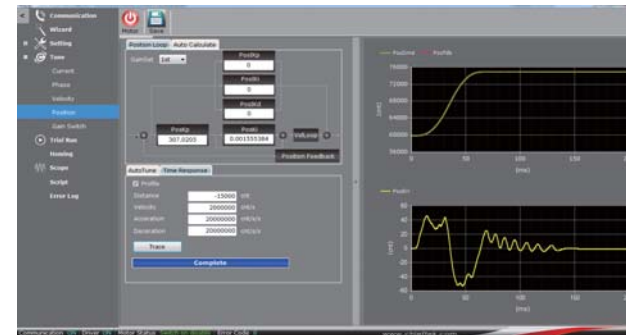
CLS series

Auto tune



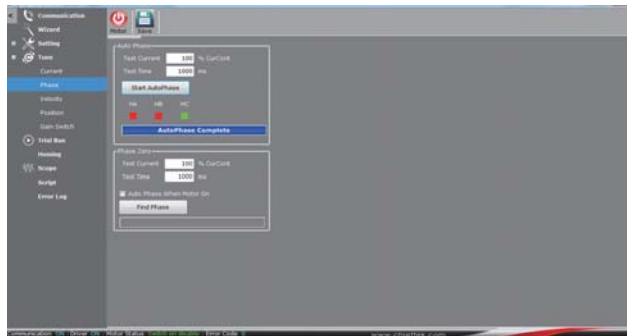
- Auto tuning
- Visible control loop
- User-friendly interface
- Highly efficient tuning algorithm
- Short tuning time
- Can tune for stable or fast system response

Auto tune(position)



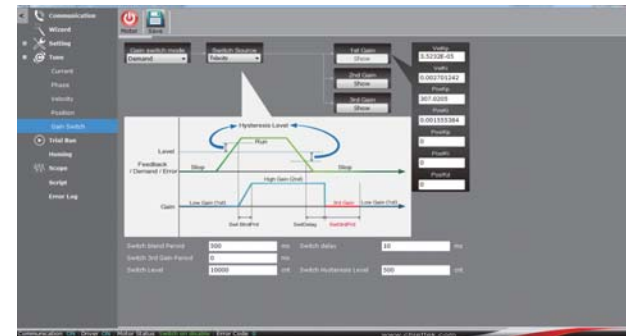
- Fast control loop up to 5k Hz
- Can test 3 groups of gain set
- Feedforward signal path
- Easy to fine tune
- Input response with profile position

Auto phasing



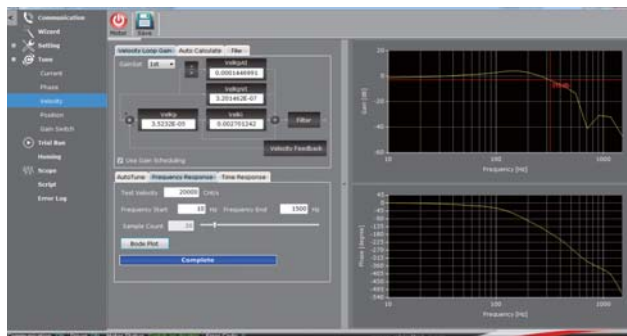
- Auto phasing
- Hall sensor or forcecommutation
- Step by step phasing progress prompt

Gain switch



- 3 groups of position and velocity gains can be switched
- Gain-switch rule: Demand, Feedback, Error, Target, and Digital Input
- Easy to fine tune for different application

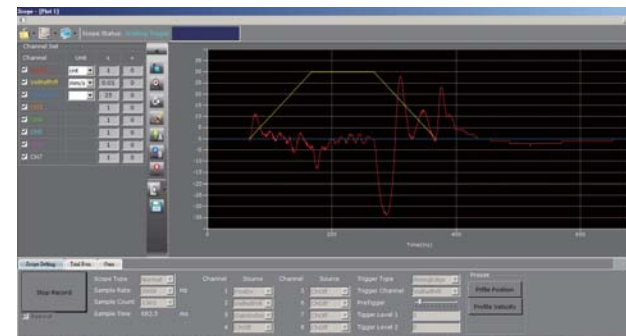
Auto tune(velocity)



- Fast control loop up to 10k Hz
- Can test 3 groups of gain set
- Easy to fine tune
- Feedforward signal path
- Response Bode plot
- Automatic label bandwidth
- Input response test with step/sine/triangle
- 3 filters on force output

Gain switch Test

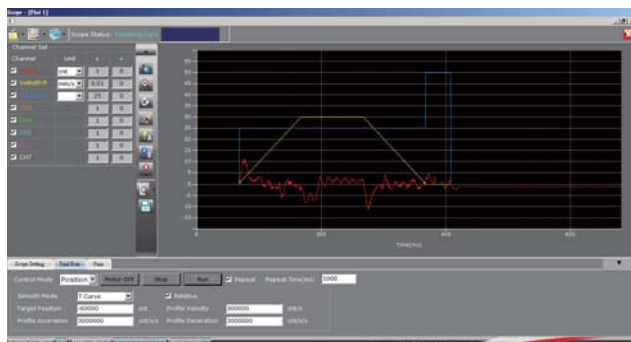
- Distance:0.6m
- Velocity:3m/s
- Acceleration:3g
- Deceleration:3g



- Performance without Gain-switch
- Yellow: velocity profile
- Red: Position Error [+ - 35 count]

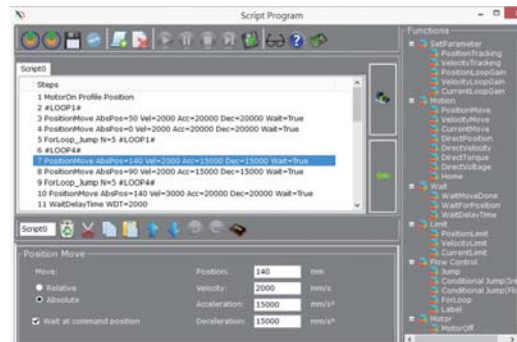
Gain switch Test

- Distance:0.6m
- Velocity:3m/s
- Acceleration:3g
- Deceleration:3g



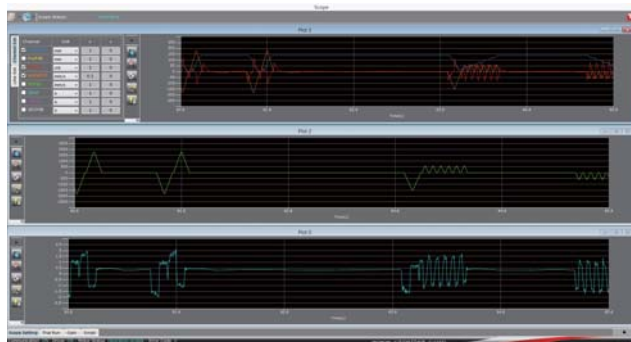
Performance with Gain-switch
 Yellow: velocity profile
 Red: Position Error [+ - 11 count]

Scripting



Script could program motor motion with user-friendly interface.

Scope



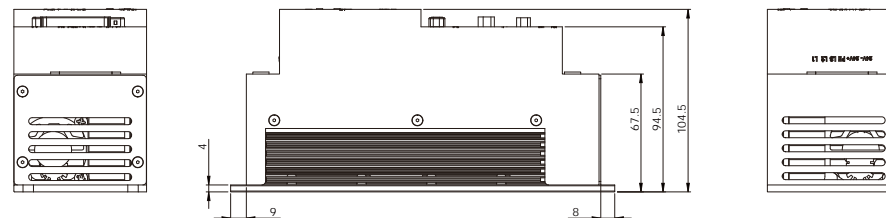
- Scope provides a real time monitor of driver information.
 - User could inspect motion detail without an oscilloscope.

Homing



- Setup interface provides 35 kinds of homing methods.
 - Also, the vivid animations explain how a homing method is performed.

Dimension



Specification

Operating voltage	AC110 V-220 V	
Maximum peak power	3 kW	
Maximum peak current	16 A	
Maximum continuous current	8 A	
Communication	RS232, CAN	
Size	201 mm*76.5 mm*108 mm	
Motor type	Linear Servo Motor, Rotary Servo Motor	
Encoder feedback	A/B incremental	
Auxiliary command	Position Current/Velocity command	A/B Incremental, P&D pulse, Analog input Analog input
AutoTune	Phase, Current Loop, Velocity Loop, Position Loop, Filter, Gain Scheduling	
Find phase	Hall Sensor, Force Commutation	
Control panel	Display Input	5 Digit 7 Segment display 4 Keys
Protection	Over Voltage, Over Current, Temperature, Motor Stuck, Software position limit, etc.	

