

## LAD-01 Series



### LAD-01 Series

LAD-01C - 012 for Open Collector

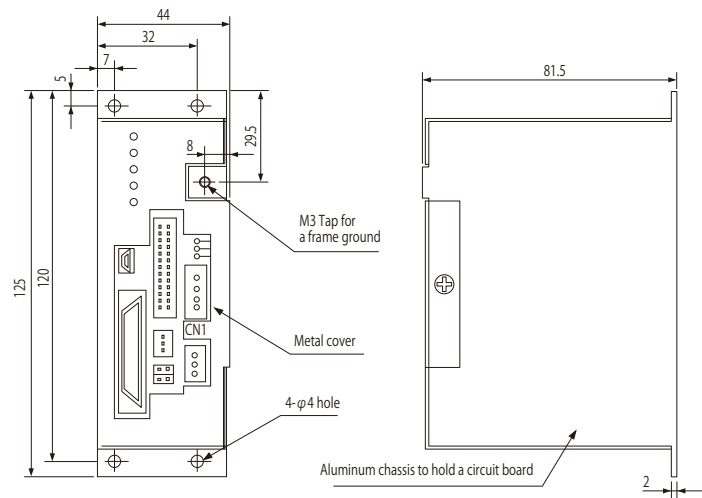
LAD-01D - 012 for Line Driver

Parameters and gains can be set by serial communication through USB cable.

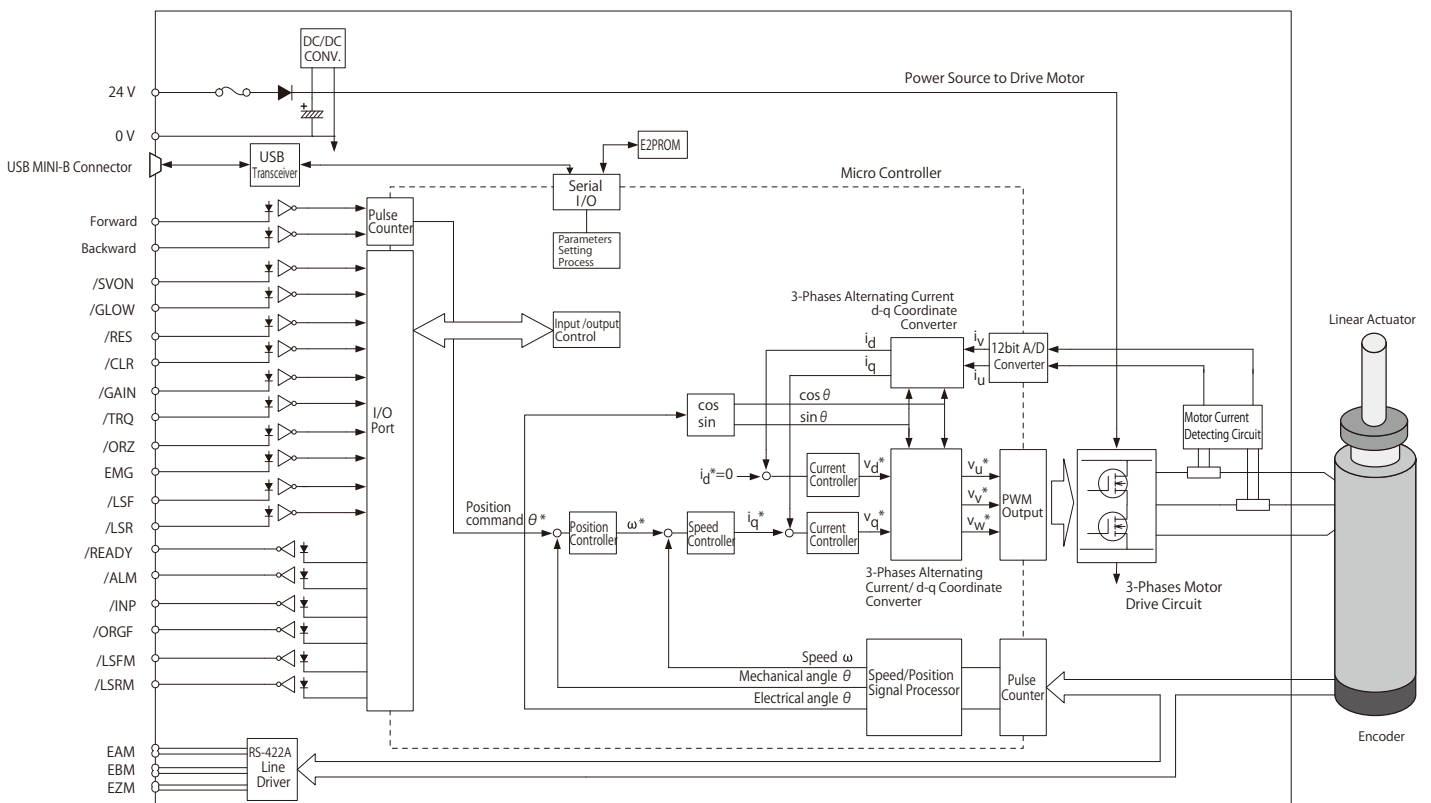
### Features

- This is a 3 phases sine wave PWM drive driver.
- This is the driver exclusive for Citizen Chiba Precision's miniaturized linear actuators.
- Two types of preprogrammed gain setting can be switched by input signal.

### Outside Drawing & Mounting Dimension (Unit: mm)



### Circuit Configuration



## Specifications

Model	LAD-01 Series			
Input Power Source Voltage	DC 24V			
Continuous Rated Output Current	3 Arms			
Maximum Rated Output Current	10 A peak			
Control System	Position Control			
Encoder Input	φ A, φ B, φ Z (MALS / MALB Series have no Z phase.)			
Hall sensor	φ U, φ V, φ W (Hall IC)			
Input Maximum Frequency	MAS-D16	16kHz	MAB-D28	100kHz
	MASC-D16	16kHz	MALS-D18	8kHz
	MAS-D23	20kHz	MALS-D23	10kHz
	MASC-D23	20kHz	MALB-D28	64kHz
Positioning Accuracy	± 1 pulse of encoder resolution			
Encoder Multiplication Function	× 4 multiplication			
Command Multiplication Function	Only for 2 pulse systems: fixed to 4 multiplications, other systems: 1 multiplication			
Operating Ambient Temperature Range	0 ~ 50℃			
Operating Ambient Humidity Range	Below 85%RH without condensation			
Storage Condition	20 to 85℃ without condensation			
● Input Signals				
Pulse Input Signal	Please select one by parameter setting: 1. (2 pulse system) CW or CCW pulse system 2. (1 pulse system) Pulse, Direction, Input 3. 2-phase pulse system (Input is isolated by photocoupler)			
Reset Input	Alarm output reset and Residual pulse reset / Logic is Low active			
Limit Sensor Input	LSF (CW prohibited), LSR (CCW prohibited)			
(Motor-Free Input)	Not available			
Gain - Low Input	Gain Low / Logic is Low active (Gain drop due to vibration power failure when stopped)			
Deviation Clear	Reset residual pulse / Low active			
Gain Switching	Switchable to 2 types of preprogrammed gain settings / Low active			
Start Searching Original Point	Execute searching original point by preprogrammed mode / Low active			
● Output Signals				
INP Output	In-Position Output can be set within a range from 0 to ±15 pulse by Parameter settings / Low active			
Alarm Output	It is output when encoder disconnection, full torque, full count or overheat occurred. (Encoder disconnection alarm is available only for a line driver type) Cause of the alarm at the time of error is indicated by the number of times LED blinks.			
Encoder Output	φ A, φ B, φ Z Equivalent to RS-422 output			
Limit Output	Input from limit sensor (LSF/ LSR mentioned as above) is output by photocoupler			
Completion of Searching Original Point	It is output when searching of original point is completed by input of Start Searching Original Point			
Ready	It is output when command pulse is ready to be input after Servo is ON			
● Control Functions				
Power Source Gain	Adjustable by parameter setting			
Speed Proportional Gain				
Speed Integral Gain				
Position gain				
● Display Functions				
PWR	Power ( + 24V) / LED lights up when input			
SV	LED lights up when Servo is ON			
ALM	LED lights up when an alarm occurred			
INP	LED lights up when residual deviation is within in-position setting value			
ORZ	LED lights up when searching original point is completed by input of Start of Searching Original Point			