

# CONVEX

## CATALOGUE 2005

STEP MOTOR DRIVER

LINEAR, ROTARY, VCM, DC  
MOTOR DRIVER

MOTION CONTROLLER

SERVO MOTOR DRIVER

CUSTOMIZED CONTROLLER



## Convex Stepmotor driver selection guide

### STEP MOTOR DRIVER series

Driver Type	Resolution	Input Voltage	Motor Current	Structure	Excitation	Model Name
Bipolar	Low (Low cost)	15 ~ 36V	0.1 ~ 1.2A	1Axis	Full, Half, 800, 1600 BIN : 200, 800, 1600, 3200, 6400, 12800, 25600, 51200 DEC : 400, 500, 1000, 2000, 4000, 5000, 10000, 20000, 50000	CSMD2-LB140-s
			0.4 ~ 3.2A	1Axis		CSMD2-B340
	High	15 ~ 36V	0.4 ~ 2A 0.7 ~ 4A	1Axis		CSMD2-B240-ce CSMD2-B440-ce CSMD2-B440S
			0.8 ~ 4A	2Axis (VME)		CSMD2-B440-3U
		15 ~ 56V (High Speed)	0.4 ~ 2A 0.8 ~ 4A	1Axis		CSMD2-B260-ce CSMD2-B460-ce
		36 ~ 180V (Very High Speed)	0.7 ~ 4A	1Axis		CSMD2-B4180
			1 ~ 8A			CSMD2-B8180
Unipolar	Low (Low cost)	0.8 ~ 4A	0.4 ~ 3A	1Axis	Full, Half, 800, 1600 BIN : 200, 800, 1600, 3200, 6400, 12800, 25600, 51200 DEC : 400, 500, 1000, 2000, 4000, 5000, 10000, 20000, 50000	CSMD2-LU340 CSMD2-LU340N CSMD2-LU340CN
			0.4 ~ 2A 0.8 ~ 4A	1Axis		CSMD2-U240-ce CSMD2-U440-ce
	High		1Axis (VME)	CSMD2-U440-3U		

### CSMD2 - U 4 40 - □□

CONVEX 2PH MICROSTEP DRIVER series

#### Special type 2PH Microstep Driver

CSMD2-B440S-3Axis	Mass Production Model, 4A, three in one
CSMD2-B440-RCE	Motor error compensation, high Precision
CSMD2-U240B-1	Full Microstep Driver with Dynamic Brake

ce : Certified Model  
3U : 3U VME type  
1 : 1 motor driver a pack  
3 : 3 motor driver a pack

40 : 15 - 36 Vdc  
60 : 15 - 56 Vdc  
180 : 24 - 180Vdc

2 : 0.5 ~ 2A/ phase  
4 : 0.7 ~ 4A/ phase  
8 : 1 ~ 8A/ phase

U : Unipolar type  
B : Bipolar type  
LU : Low Cost Unipolar type  
LB : Low Cost Bipolar type

### MOTION CONTORLLER series

### CeCon - □□

CONVEX MOTION CONTROLLER series

Accessories	Control PC S/W Power, I/O, Serial connector
Option	Programming JOG, External I/O Various cable

1 : 1 Axis  
2 : 2 Axis  
4 : 4 Axis

D : Deluxe type  
E : Economic type  
S : Standard type

SERVO MOTOR DRIVER series

CONVEX AC SERVO DRIVER series

Servo Drive series  
CSDM / CSDH type

Rated Output

Symbol	Output	Symbol	Output
V1	35W	A5	50W
V2	72W	01	100W
V3	132W	02	200W
V4	200W	04	400W
A5	50W	08	750W
A5	50W	15	1.5kW

CSDH - 04 A A 0 - □

- Mount Type**  
Void : Base Mount  
P : Panel Mount
- Encoder Type**  
0 : Incremental Encoder  
1 : Absolute Encoder
- Control Type**  
A : Position, Speed, Torque  
P : Position Control  
S : Velocity, Torque
- Input Power Supply**  
A : AC220Vac (3ph/single)  
T : DC24Vdc  
F : DC48Vdc  
H : DC100Vdc

LINEAR, ROTARY DC, VOICE COIL, BRUSHLESS DC MOTOR DRIVERS

Motor	Driver Type	Control Type	Output Current	Model Name
Electric Scooter or Power Crane	Pack	High Power Speed & Torque Control	0A ~ 50A(80A peak)	CDMD-5040
Brushless DC Motor	Pack	Velocity Control only	±9A peak	CBMD-0735(24)
Rotary, Linear, Voice Coil, DC	Pack	Position/Velocity/Torque Control	0A ~ ±1.5A(±4.5A peak)	CDSD-440
	VME 3U (12HP)	High Torque Control	0A ~ ±10A(±30A peak)	CMDDC-30180
	VME 3U (8HP)	Torque Control	±10A peak	CMDDC-1050
	VME 3U (8HP)	Velocity(Voltage) Control	±1A peak	CMDDC-0150

CONVEX DC MOTOR DRIVER

CDMD - 50 40

Input Power Supply  
40 : 17 ~ 36 Vdc

Output Current  
50 : 50A

CONVEX BRUSHLESS DC MOTOR DRIVER

CBMD - 07 35

Input Power Supply  
35 : 35 Vdc  
24 : 24Vac

Output Current  
07 : 7A

CONVEX ROTARY, LINEAR, VOICE COIL, DC MOTOR DRIVER

CDSD - 4 40

Input Power Supply  
40 : 12 ~ 40Vdc

Output Current  
4 : 0 ~ 4A

CONVEX ROTARY, LINEAR, VOICE COIL, DC MOTOR DRIVER (VME 3U type)

CMDDC - 30 180

Input Power Supply  
180 : 60 ~ 18Vdc  
50 : ±15 ~ ±48Vdc

Output Current  
30 : 0 ~ 30A  
10 : 0 ~ 10A  
01 : 0 ~ 1A

# CONVEX

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## CATALOGUE 2005

### STEP MOTOR DRIVER

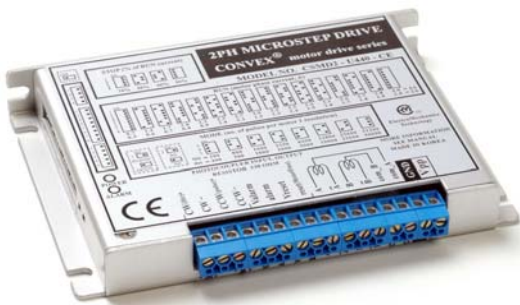


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# STEP MOTOR DRIVER

CONVEX 2PH MICROSTEP DRIVER series

**CSMD2-U240-ce**  
**CSMD2-U440-ce**  
**CSMD2-B240-ce**  
**CSMD2-B440-ce**  
**CSMD2-B440S-ce**



CSMD2-U440-ce



CSMD2-B440-ce



CSMD2-B440S

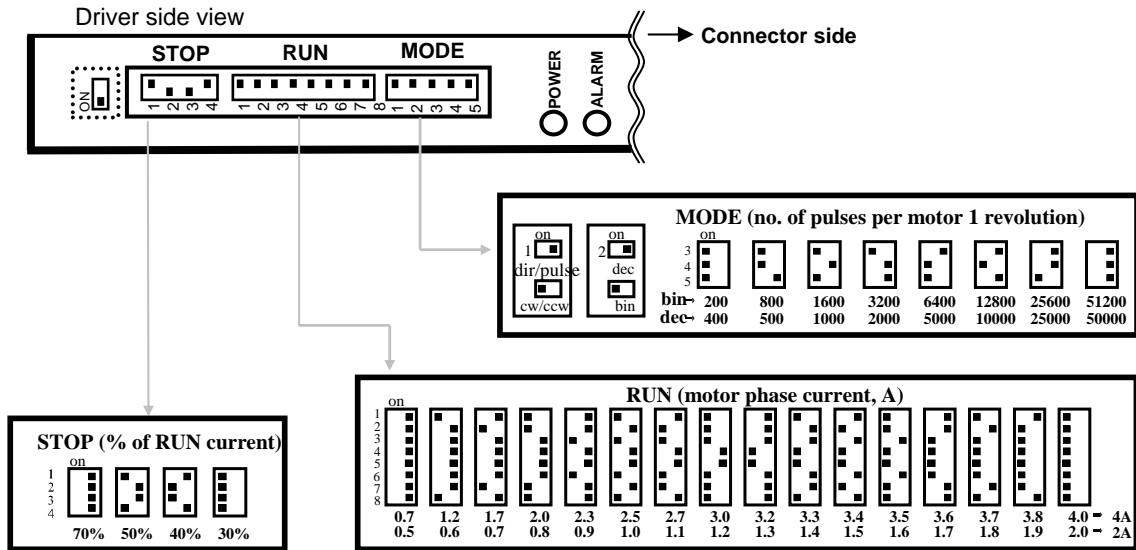
## FEATURES

- CE Certified Driver
- High Performance and Reliability
- **Unipolar, Bipolar Microstep**
- High Resolution up to 51200
- General Applications

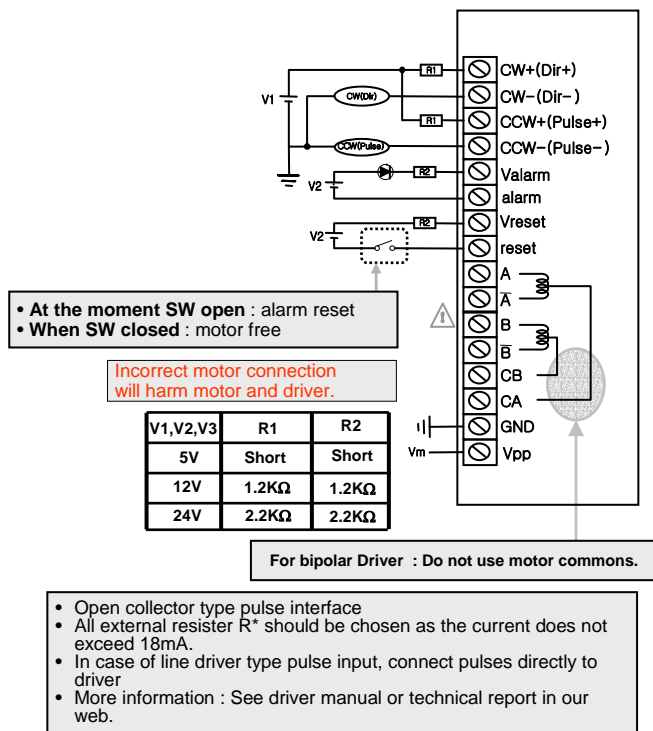
## SPECIFICATIONS

Item	Description
Driver Input Voltage	15 ~ 36 Volt DC : CSMD2-**40 15 ~ 55 Volt DC : CSMD2-**60
Driver Output Current	0.5 ~ 2A/Phase : CSMD2-2** 0.7 ~ 4A/Phase : CSMD2-4**
Excitation	Constant Current PWM Unipolar : CSMD2-U*** Bipolar : CSMD2-B***
Resolution	BIN : 200, 800, 1600, 3200, 6400 12800, 25600, 51200 DEC : 400, 500, 1000, 2000, 5000 10000, 25000, 50000
Input Pulse Type	1 Pulse : Direction, Pulse 2 Pulse : CW, CCW Pulse Photocoupler Isolation
MAX Input Pulse FREQ	500kHz (500kpps)
Control In Signal	Alarm Reset : Edge Motor Free : Level Photocoupler Isolation
Control Out Signal	Alarm Out or Timing(option) Photocoupler Isolation
Function	Auto Power Save 4 level selection : 30%, 40%, 50%, 70%
LED Display	Power On Alarm State
Protection	Over Current ARM Short Regeneration
Operating Temperature	0°C ~ 50°C

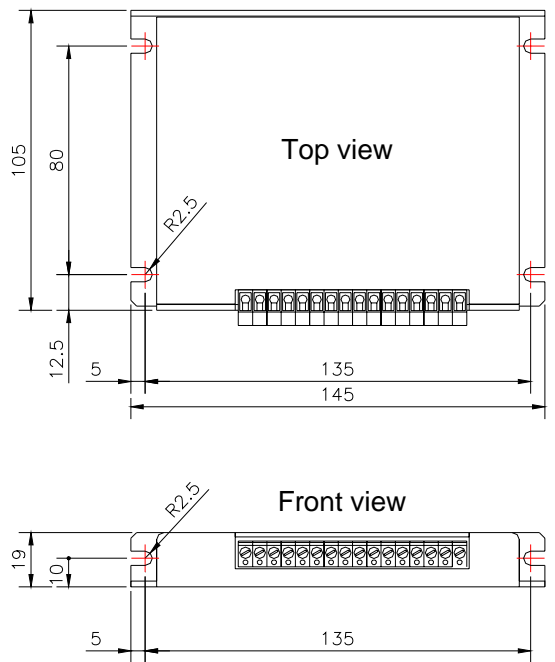
## Mode Selection and Current Setting



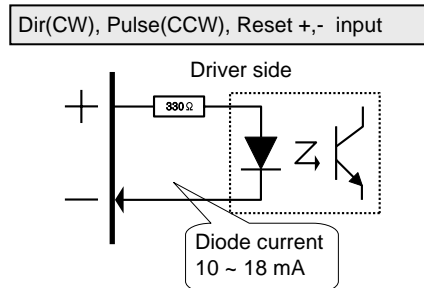
## Driver Connection Example



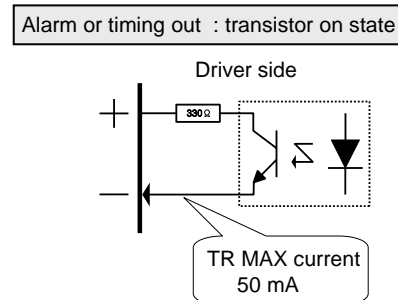
## Case Dimension



## Driver In Photocoupler Circuit



## Driver Out Photocoupler Circuit





# STEP MOTOR DRIVER

CONVEX 2PH MICROSTEP DRIVER series

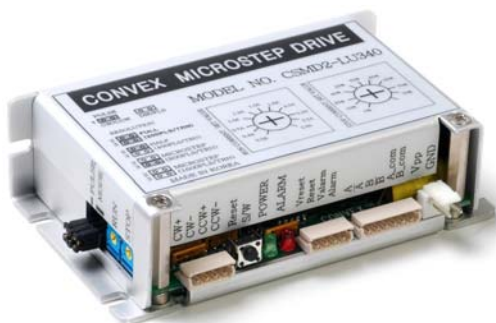
## CSMD2-LU340 CSMD2-LU340N CSMD2-LU340CN



CSMD2-LU340



CSMD2-LU340N



CSMD2-LU340CN

## FEATURES

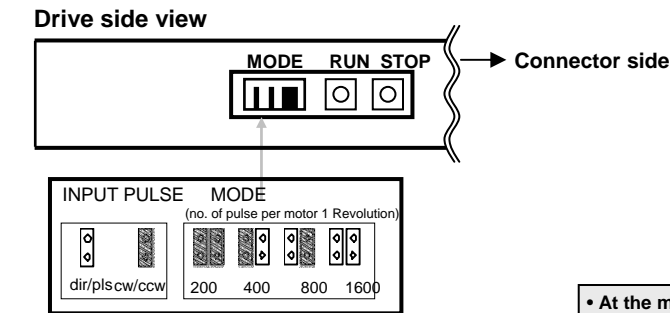
- CE Certified Driver
- Low Cost **Unipolar Microstep** Driver
- High Performance and Reliability
- Microstep Resolution (200, 400, 800, 1600)
- Small Size and Easy to Use
- General Applications

## SPECIFICATIONS

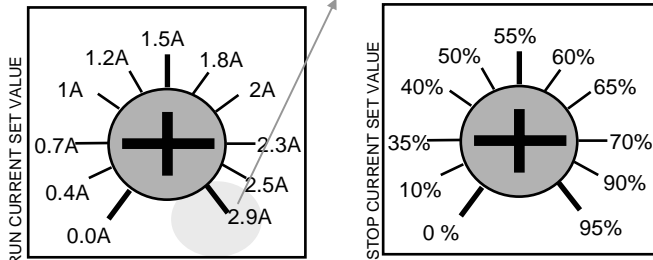
Item	Description
Driver Input Voltage	15 ~ 36 Volt DC
Driver Output Current	0.5 ~ 3A/Phase Adjustable
Excitation	Constant Current PWM Unipolar
Resolution	200 : Full 400 : Half 800 : Microstep 1600 : Microstep (Pulse/Motor 1 Revolution)
Input Pulse Type	1 Pulse : Direction, Pulse 2 Pulse : CW, CCW Pulse Photocoupler Isolation
MAX Input Pulse FREQ	80kHz MAX (80kpps MAX)
Control In Signal	Alarm Reset : Edge Motor Free : Level Photocoupler Isolation
Control Out Signal	Alarm Out or Timing (Option) Photocoupler Isolation
Function	Auto Power Save : 10% ~ 90%
LED Display	Power On Alarm State
Protection	Over Current ARM Short Regeneration
Operating Temperature	0°C ~ 50°C

## Mode Selection and Current Setting

## Driver Connection Example

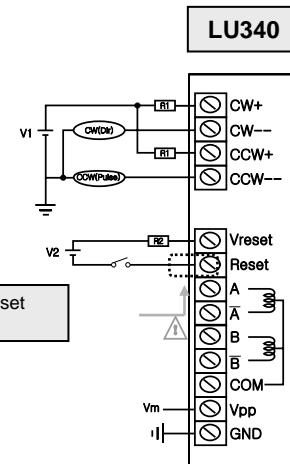


Excessive high heating may occur  
External heatsink will be required.

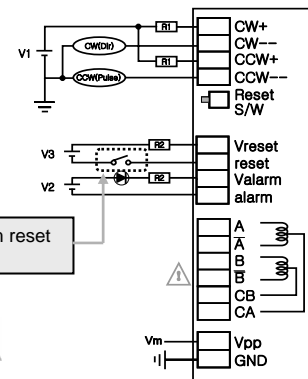


- At the moment SW open : alarm reset
- When SW closed : motor free

V1,V2,V3	R1	R2
5V	Short	Short
12V	1.2KΩ	1.2KΩ
24V	2.2KΩ	2.2KΩ



**LU340N  
LU340CN**

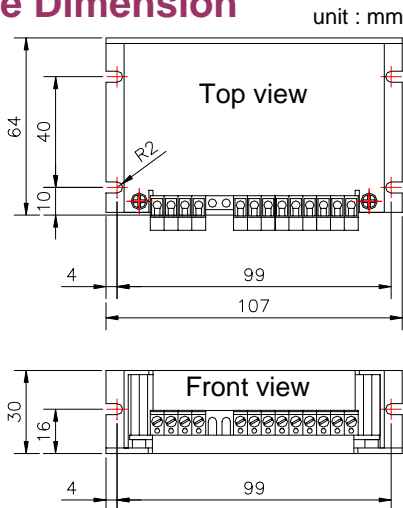


- At the moment SW open : alarm reset
- When SW closed : motor free

Incorrect motor connection  
will harm motor and driver.

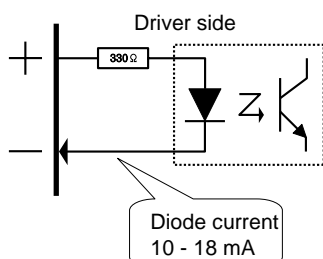
- Open collector type pulse interface
- All external resistor R\* should be chosen as the current does not exceed 18mA.
- In case of line driver type pulse input, connect pulses directly to driver
- More information : See drive manual or technical report in our web.

## Case Dimension



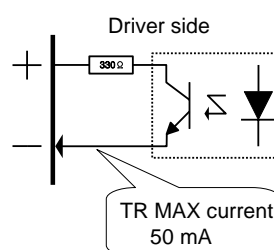
## Driver In Photocoupler Circuit

Dir(cw), pulse(ccw), Reset, + - input



## Driver Out Photocoupler Circuit

Alarm or timing out : transistor on state





# STEP MOTOR DRIVER

CONVEX 2PH MICROSTEP DRIVER series

## CSMD2-U240B-1



CSMD2-U240B-1

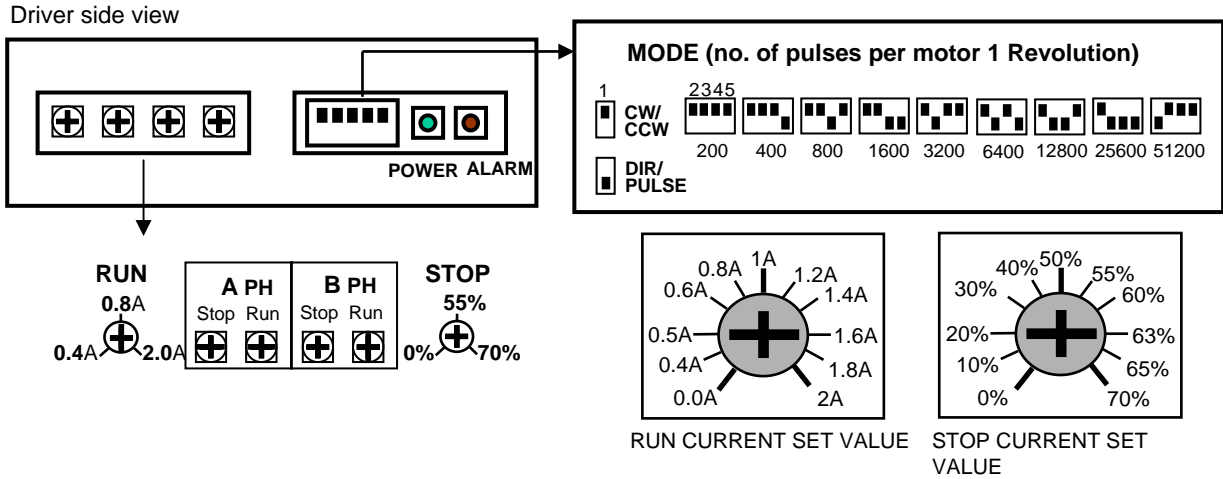
## FEATURES

- CE Certified Driver
- Low Cost and Compact Size, **Unipolar Microstep** Driver
- High Performance and Reliability
- High Resolution up to 51200
- **Dynamic Break** Type
- Special 2PH Microstep Driver for Vertical Motion

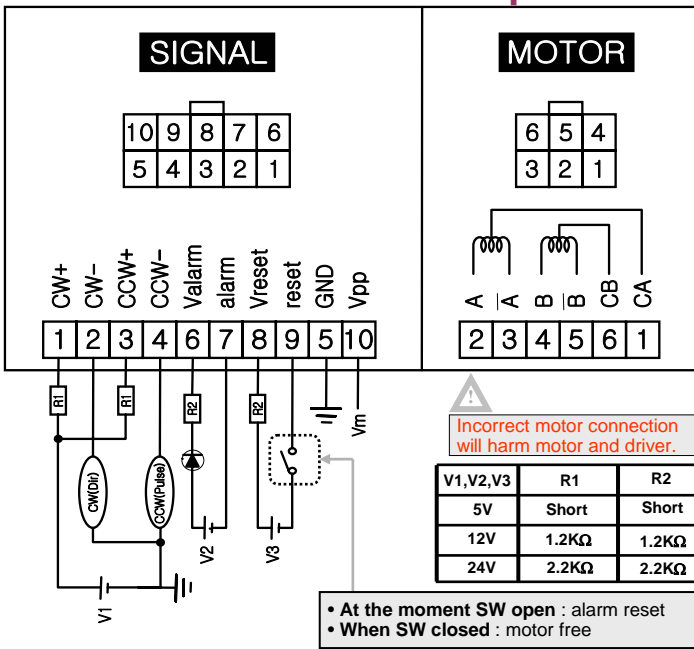
## SPECIFICATIONS

Item	Description
Driver Input Voltage	15 ~ 36 Volt DC
Driver Output Current	0.4A ~ 2A/Phase
Excitation	Constant Current PWM Unipolar
Resolution	200, 400, 800, 1600, 3200 6400, 12800, 25600, 51200
Input Pulse Type	1 Pulse : Direction, Pulse 2 Pulse : CW, CCW Pulse Photocoupler Isolation
MAX Input Pulse FREQ	500kHz (500kpps)
Control In Signal	Alarm Reset : Edge Motor Free : Level Photocoupler Isolation
Control Out Signal	Alarm Out or Timing(Optional) Photocoupler Isolation
Function	Auto Power Save : 10% ~ 70%
LED Display	Power On Alarm State
Protection	Over Current Over heat ARM Short Regeneration
Operating Temperature	0°C ~ 50°C

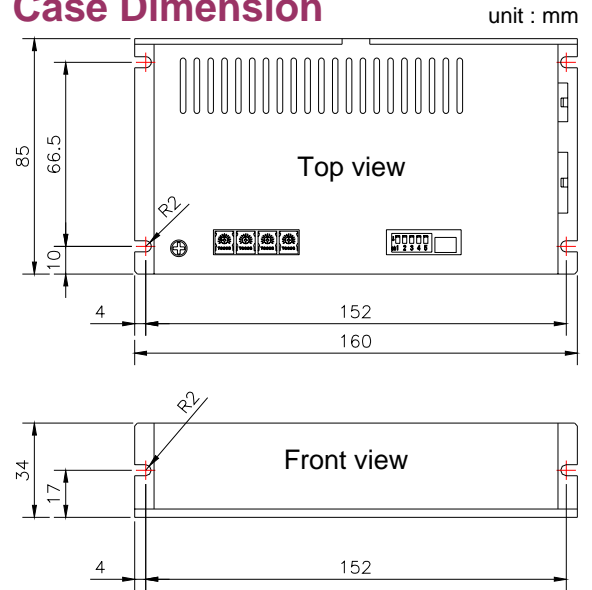
## Mode Selection and Current Setting



## Driver Connection Example



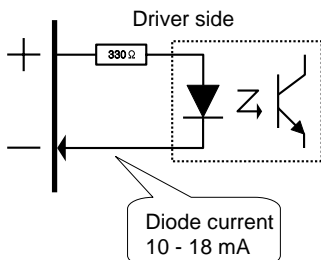
## Case Dimension



- Open collector type pulse interface
- All external resistor R\* should be chosen as the current does not exceed 18mA.
- In case of line driver type pulse input, connect pulses directly to driver
- More information : See driver manual or technical report in our web.

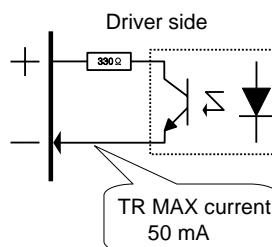
## Driver In Photocoupler Circuit

Dir(CW), Pulse(CCW), Reset +, - input



## Driver Out Photocoupler Circuit

Alarm or timing out : transistor on state



# STEP MOTOR DRIVER

CONVEX 2PH MICROSTEP DRIVER series

## CSMD2-B4180 CSMD2-B8180



CSMD2-B8180

## FEATURES

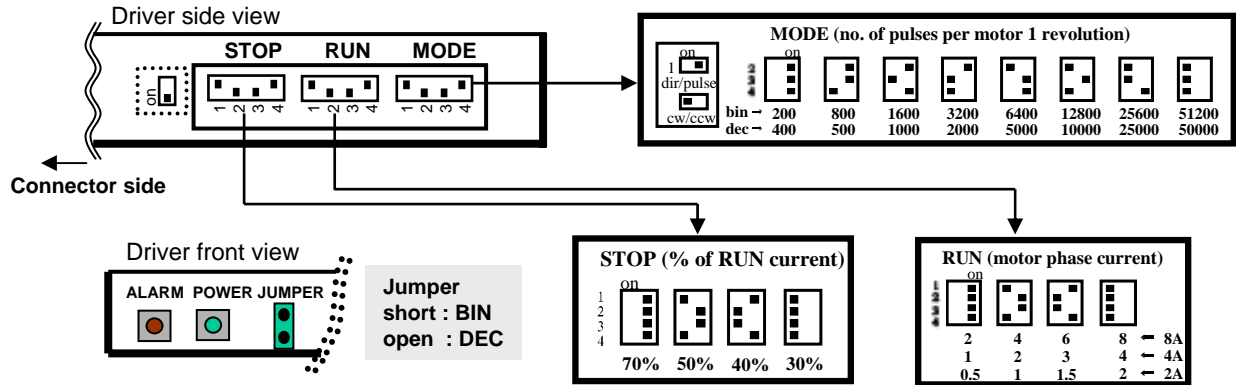
- High Power Bipolar Micro Step Driver
- High Performance and Reliability
- High Resolution up to **102400 (Order made)**
- General Applications

※ Depending on operating condition,  
external heatsink or fan are crucially required!

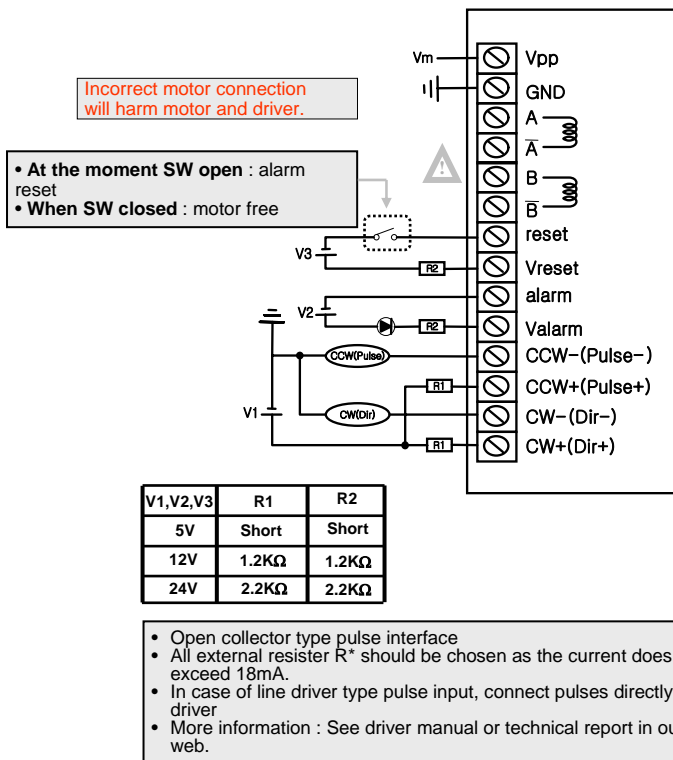
## SPECIFICATIONS

Item	Description
Driver Input Voltage	36 ~ 180 Volt DC
Driver Output Current	0.7 ~ 4A/Phase : (B4***) 1 ~ 8A/Phase : (B8***)
Excitation	Constant Current PWM Bipolar
Resolution	BIN : 200, 800, 1600, 3200, 6400 12800, 25600, 51200 DEC : 400, 500, 1000, 2000, 5000 10000, 25000, 50000
Input Pulse Type	1 Pulse : Direction, Pulse 2 Pulse : CW, CCW Pulse Photocoupler Isolation
MAX Input Pulse FREQ	500kHz (500kpps)
Control In Signal	Alarm Reset : Edge Motor Free : Level Photocoupler Isolation
Control Out Signal	Alarm Out or Timing(Optional) Photocoupler Isolation
Function	Auto Power Save 4 level selection : 30%, 40%, 50%, 70%
LED Display	Power On Alarm State
Protection	Over Current ARM Short Regeneration
Operating Temperature	0°C ~ 50°C

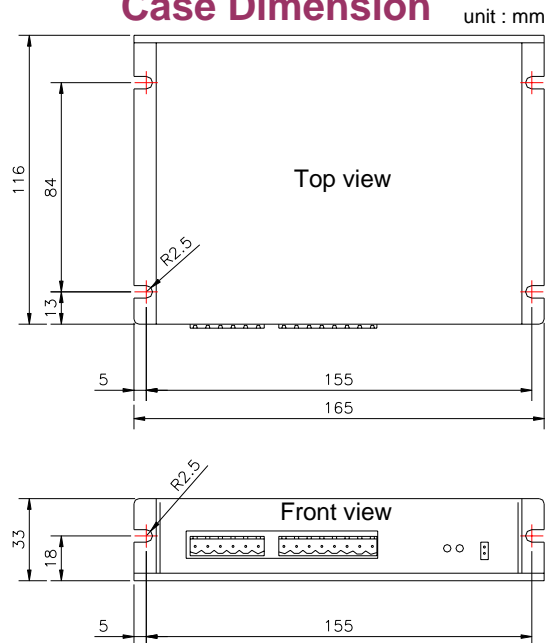
## Mode Selection and Current Setting



## Driver Connection Example

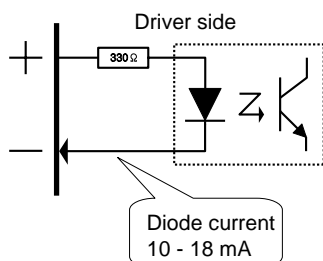


## Case Dimension



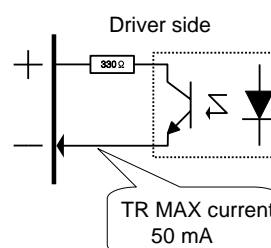
## Driver In Photocoupler Circuit

Dir(CW), Pulse(CCW), Reset +, - input



## Driver Out Photocoupler Circuit

Alarm or timing out : transistor on state



# STEP MOTOR DRIVER

CONVEX 2PH MICROSTEP DRIVER series

## CSMD2-B340



CSMD2-B340

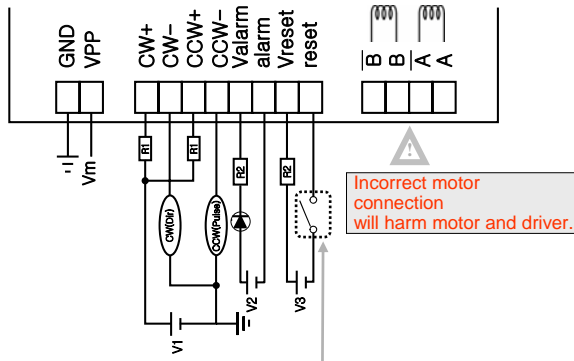
## FEATURES

- High Performance and Reliability
- **Bipolar Microstep Driver**
- Microstep Resolution
- Easy to Use
- Model for Mass Production

## SPECIFICATIONS

Item	Description
Driver Input Voltage	15 ~ 36 Volt DC
Driver Output Current	0.5 ~ 3.0A/Phase (Set at Factory)
Excitation	Constant Current PWM Bipolar
Resolution	BIN : 200, 800, 1600, 3200, 6400 12800, 25600, 51200 DEC : 400, 500, 1000, 2000, 5000 10000, 25000, 50000 (Set at Factory)
Input Pulse Type	1 Pulse : Direction, Pulse 2 Pulse : CW, CCW Pulse Photocoupler Isolation
MAX Input Pulse FREQ	80kHz MAX (80kpps MAX)
Control In Signal	Alarm Reset : Edge Motor Free : Level Photocoupler Isolation
Control Out Signal	Alarm Out or Timing(option) Photocoupler Isolation
Function	Auto Power Save (Power save quantity is set at Factory)
LED Display	Power On Alarm State
Protection	Over Current ARM Short
Operating Temperature	0°C ~ 50°C

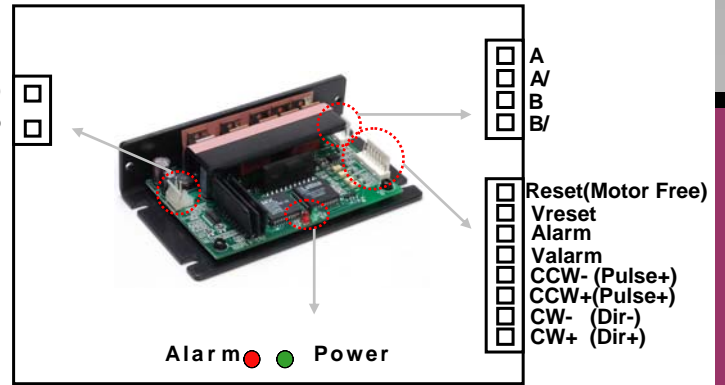
## Driver Connection Example



V1,V2,V3	R1	R2
5V	Short	Short
12V	1.2KΩ	1.2KΩ
24V	2.2KΩ	2.2KΩ

- At the moment SW open : alarm reset
- When SW closed : motor free

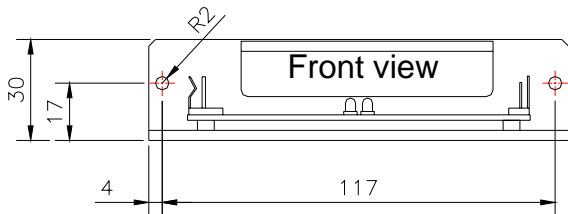
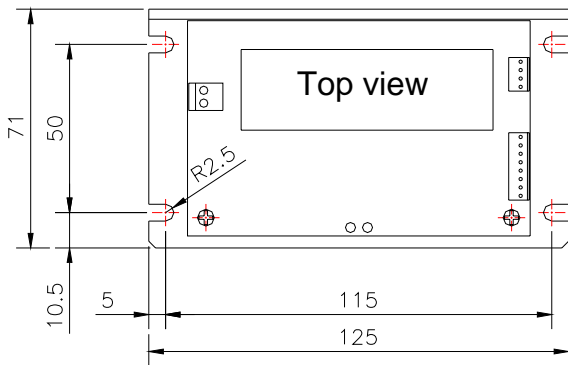
- Open collector type pulse interface
- All external resistor R\* should be chosen as the current does not exceed 18mA.
- In case of line driver type pulse input, connect pulses directly to driver
- More information : See driver manual or technical report in our web.



- Reset(Motor Free)
- Vreset
- Alarm
- Valarm
- CCW- (Pulse+)
- CCW+ (Pulse+)
- CW- (Dir-)
- CW+ (Dir+)

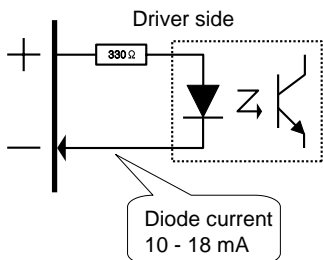
## Case Dimension

unit : mm



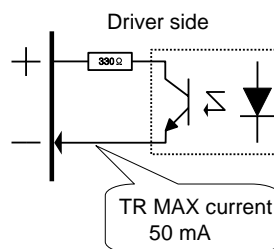
## Driver In Photocoupler Circuit

Dir(CW), Pulse(CCW), Reset +, - input



## Driver Out Photocoupler Circuit

Alarm or timing out : transistor on state





# STEP MOTOR DRIVER

CONVEX 2PH MICROSTEP DRIVER series

## CSMD2-LB140-s



CSMD2-LB140-s

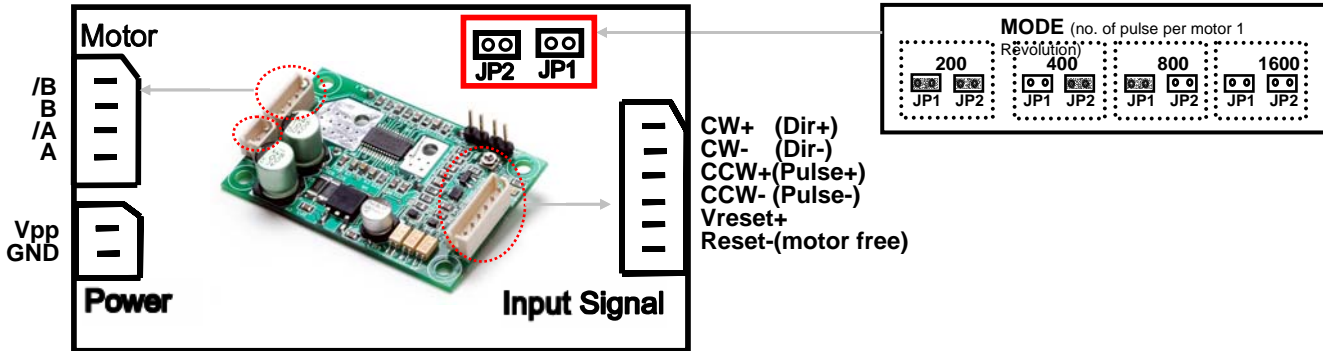
## FEATURES

- **Extremely Low Cost Bipolar Driver**
- Microstep Resolution (200,400,800,1600)
- **Small Size** and Easy to Use
- Model for Mass Production

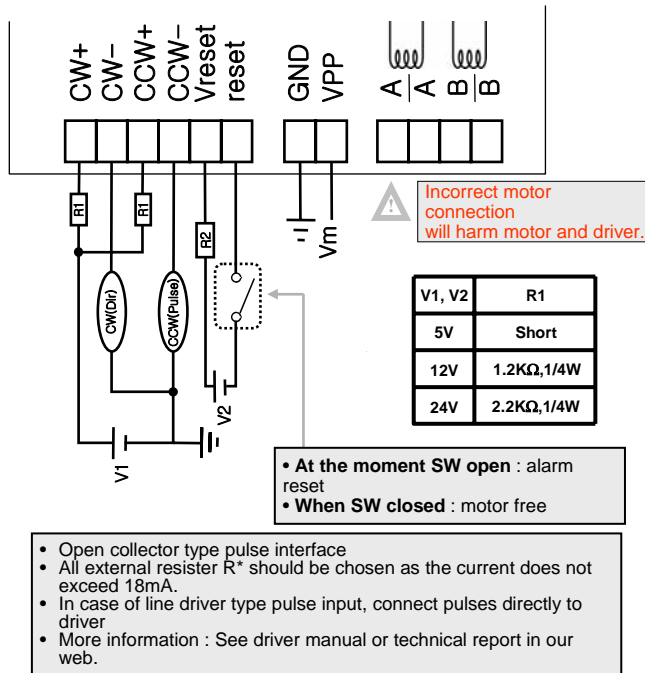
## SPECIFICATIONS

Item	Description
Driver Input Voltage	15 ~ 36 Volt DC
Driver Output Current	1.2AMAX/Phase (continuous state) Set at Factory
Excitation	Constant Current PWM Bipolar
Resolution	200 : Full 400 : Half 800 : Microstep 1600 : Microstep (Pulse/Motor 1 Revolution)
Input Pulse Type	1 Pulse : Direction, Pulse 2 Pulse : CW, CCW Pulse Photocoupler Isolation
MAX Input Pulse FREQ	80kHz MAX (80kpps MAX)
Control In Signal	Alarm Reset : Edge Motor Free : Level Photocoupler Isolation
Function	Auto Power Save (Power save quantity is set at Factory)
LED Display	Power On
Operating Temperature	0°C ~ 50°C

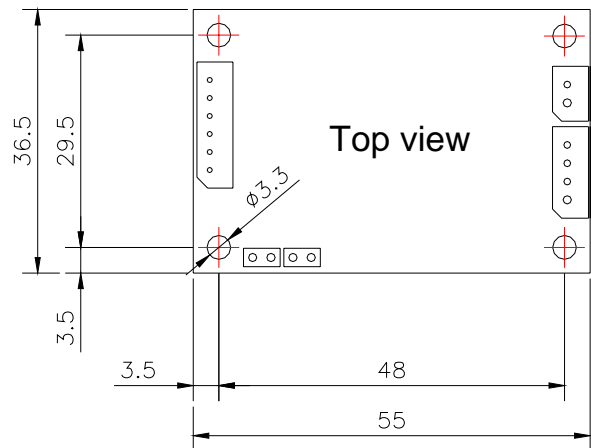
## Mode Selection



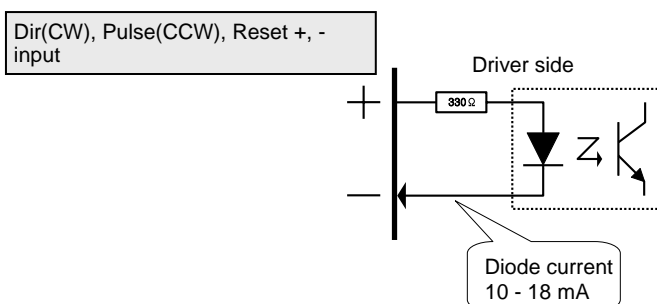
## Driver Connection Example



## Case Dimension unit : mm



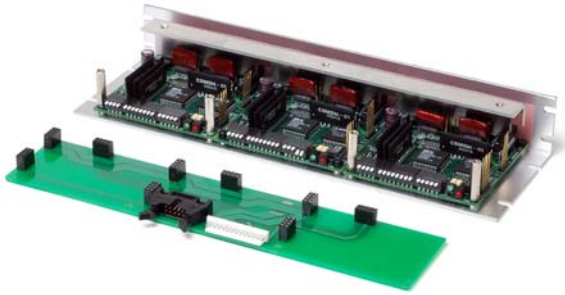
## Driver In Photocoupler Circuit



# STEP MOTOR DRIVER

CONVEX 2PH MICROSTEP DRIVER series

## CSMD2-B440S- 3Axis Customized Driver



CSMD2-B440S-3Axis

## FEATURES

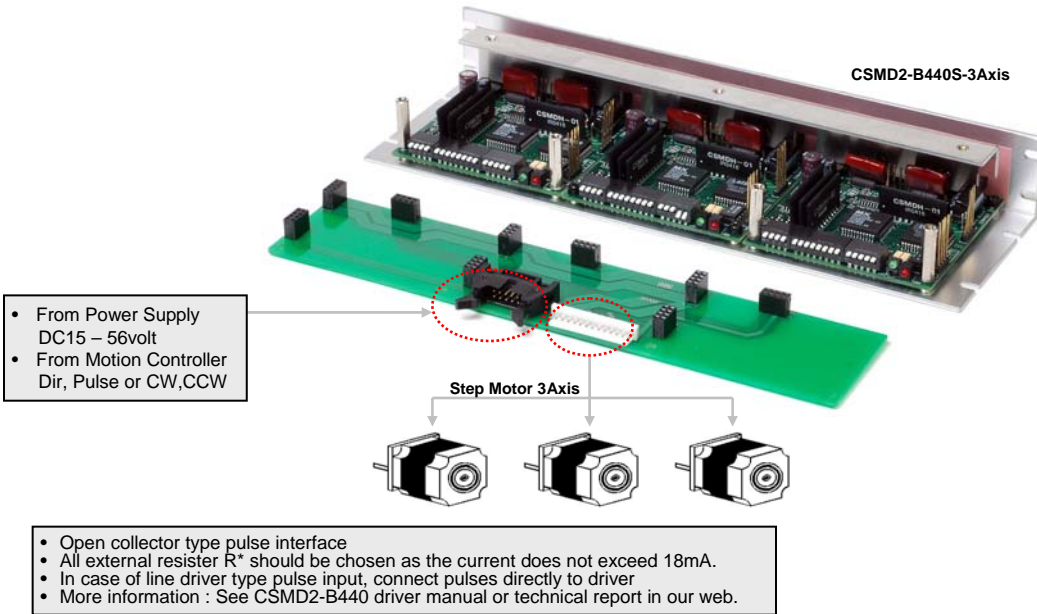
- High Performance and Reliability
- **Bipolar Microstep Driver (3Axis)**
- Order Made for Low Cost
- Cost Effective for Mass Production

## SPECIFICATIONS

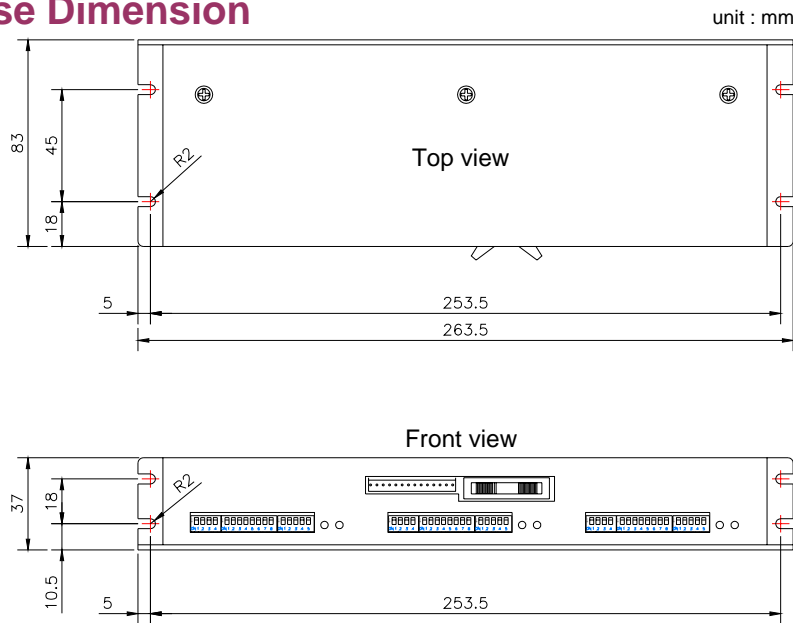
Item	Description
Driver Input Voltage	15 ~ 36 Volt DC 15 ~ 55 Volt DC(Order made)
Driver Output Current	0.7 ~ 4A/Phase
Excitation	Constant Current PWM Bipolar
Resolution	BIN : 200, 800, 1600, 3200, 6400 12800, 25600, 51200 DEC : 400, 500, 1000, 2000, 5000 10000, 25000, 50000
Input Pulse Type	1 Pulse, 2 Pulse Photocoupler Isolation (Set at Factory)
MAX Input Pulse FREQ	500kHz (500kpps)
Control In Signal	Alarm Reset(Order made) Motor Free(Order made)
Control Out Signal	Alarm Out or Timing(Order made)
Function	Auto Power Save (Power save quantity is set at Factory)
LED Display	Power On Alarm State
Protection	Over Current ARM Short Regeneration
Operating Temperature	0°C ~ 50°C

※Two or three drivers in a Aluminum base(Heatsink)

## 3 Axis Control Layout

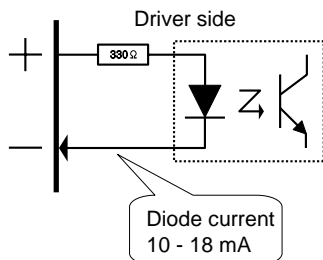


## Case Dimension



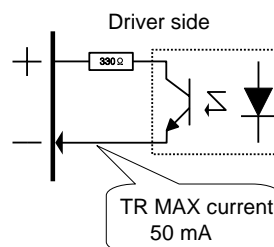
## Driver In Photocoupler Circuit

Dir(CW), Pulse(CCW), Reset +, - input



## Driver Out Photocoupler Circuit

Alarm or timing out : transistor on state



# STEP MOTOR DRIVER

CONVEX 2PH MICROSTEP DRIVER series

## CSMD2-B440-RCE



CSMD2-B440-RCE

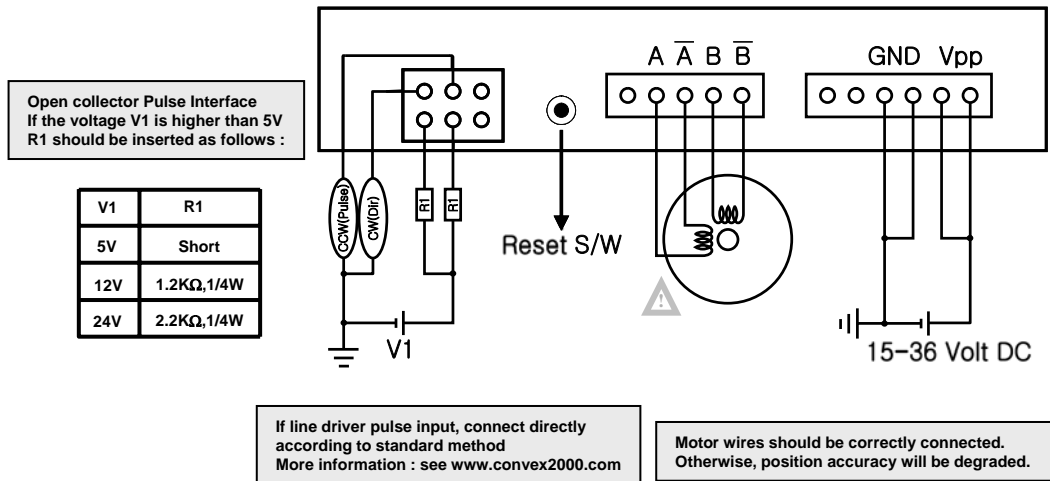
## FEATURES

- CE Certified Bipolar Microstep Driver
- High Performance and Reliability
- High Resolution
- Step Motor angular positioning **Error Compensation Driver**
- **Absolute Rotation Error : less than  $\pm 0.018^\circ$**

## SPECIFICATIONS

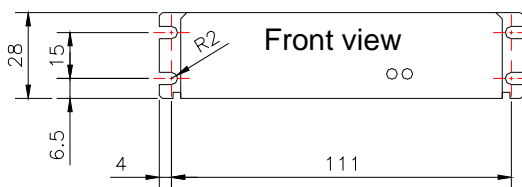
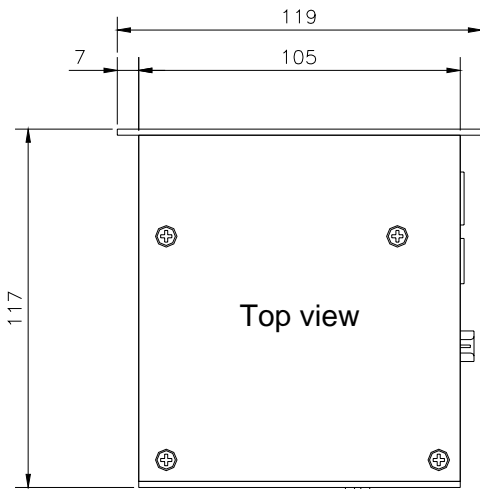
Item	Description
Driver Input Voltage	15 ~ 36 Volt DC
Driver Output Current	0.4 ~ 4A/Phase (Set at Factory)
Excitation	Constant Current PWM Bipolar
Resolution	BIN : 200, 800, 1600, 3200, 6400 12800, 25600, 51200 DEC : 400, 500, 1000, 2000, 5000 10000, 25000, 50000 (Set at Factory)
Input Pulse Type	1 Pulse, 2 Pulse Photocoupler Isolation (Set at Factory)
MAX Input Pulse FREQ	500kHz (500kpps)
Control In Signal	Alarm Reset : Edge Motor Free : Level Photocoupler Isolation
Control Out Signal	Alarm Out or Timing(Optional) Photocoupler Isolation
Function	Auto Power Save 4 level selection : 30%, 40%, 50%, 70% (Save quantity is set at Factory)
LED Display	Power On Alarm State
Protection	Over Current ARM Short Regeneration
Operating Temperature	0°C ~ 50°C

## Driver Connection Example



## Case Dimension

unit : mm



◆ 스텝 모터는 입력 펄스 당 일정한 각을 회전하는 모터이다. 기본각이 1.8°인 2상 스텝 모터는 모터를 구동하는 드라이버의 회로에 따라 0.9°, 0.45°, -----, 0.00001° 등 임의의 각도로 잘게 나눌 수 있다. 그러면 실제 회전 각도는 어떠한가?

◆ 스텝 모터가 1.8° 회전한다는 규격은 개념적인 원리를 의미하며 실제 스텝 모터에 2상 여자하여 1 스텝 회전시키면 실제 회전각은  $1.8^\circ \pm 0.05^\circ$  이다. 즉, 실제 회전각에는  $\pm 0.05^\circ$  의 회전각 오차 (positional error) 가 존재하게 된다. 이 오차는 maker에 따라, 모델에 따라 작거나 큰 데 대개의 경우  $\pm 0.05^\circ$  정도이다. 따라서 마이크로 스텝으로 1 스텝에 대한 회전각을 잘게 자르더라도 절대 오차의 크기는 작아지지 않고 기본각 만이 작아지게 된다. 즉, 아무리 마이크로 스텝을 하여도 절대 오차는 여전히 같은 양만큼 남게 된다.

◆ 이 오차는 스텝 모터가 teaching 방식에 의해 단순한 pick & place 운동을 하는 경우에는 큰 문제가 되지 않으나, 큰 관성 부하와 직결되어 회전 운동을 하는 경우 회전 시 진동을 유발하여 저속 회전 조차 되지 않게 하거나, 정밀 이송기구에서 미세 회전 운전시 오차를 유발하게 된다. 즉, 마이크로 스텝 (최근에 나노 스텝) 여자에 의하여 모터를 회전한다 하여도 모터 자체에 내재된 오차는 줄어들지 않는 것이다.

◆ 마이크로 스텝은 반복 정밀도를 높이고, 소음, 진동을 줄일 수 있는 좋은 방법이나 절대 회전각 오차를 줄일 수는 없다. 그러면 마이크로 스텝의 장점을 그대로 살리면서 절대적인 회전각 오차를 줄이는 방법은 없는가?

◆ 컨벡스의 CSMD2-B440-RCE (patent pending)는 모터의 오차를 보정하는 마이크로 스텝 드라이버로 절대 회전각 오차를  $\pm 0.018^\circ$  까지 줄일 수 있다. 이 경우 드라이버는 모터의 오차 보정 정보를 갖고 있으며 출하 혹은 사용시 반드시 모터와 짝(pair)으로 사용되어야 최저 오차가 보장 된다.



# STEP MOTOR DRIVER

CONVEX 2PH MICROSTEP DRIVER series

## CSMD2-B440-3U



CSMD2-B440-3U

### VME Type Step Driver



다축 바이폴라 Step Motor를 구동시키기 위한  
모듈형 VME Type Step Driver

※ 귀사 장비에 적용하실 때 컨벡스 기술지원팀에  
문의해 주십시오.

## FEATURES

- High Performance and Reliability
- **Bipolar Microstep Driver (2Axis)**
- **VME Type Driver-3U-8HP**
- Specifications of each axis is the same as that of CSMD2-B440-ce
- High Resolution
- Easy to use and Wiring

## SPECIFICATIONS

Item	Description
Driver Input Voltage	15 ~ 55 Volt DC
Driver Output Current	0.7 ~ 4A/Phase
Excitation	Constant Current PWM Bipolar
Resolution	BIN : 200, 800, 1600, 3200, 6400 12800, 25600, 51200 DEC : 400, 500, 1000, 2000, 5000 10000, 25000, 50000
Input Pulse Type	1 Pulse, 2 Pulse Photocoupler Isolation (Set at Factory)
MAX Input Pulse FREQ	500kHz (500kpps)
Control In Signal	Alarm Reset : Edge Motor Free : Level Photocoupler Isolation
Control Out Signal	Alarm Out or Timing(option) Photocoupler Isolation
Function	Auto Power Save 4 level selection : 30%, 40%, 50%, 70%
LED Display	Power On Enable On Alarm State
Protection	Over Current ARM Short Regeneration
Operating Temperature	0°C ~ 50°C

CONVEX 2PH MICROSTEP DRIVER series

## CSMD2-U440-3U



CSMD2-U440-3U

### VME Type Step Driver



다축 유니폴라 Step Motor를 구동시키기 위한 모듈형 VME Type Step Driver

※ 귀사 장비에 적용하실 때 컨벡스 기술지원팀에 문의해 주십시오.

## FEATURES

- High Performance and Reliability
- **Uipolar Microstep Driver**
- **VME Type Driver-3U-7HP**
- Specifications of each axis is the same as that of CSMD2-U440-ce
- High Resolution
- Easy to use and Wiring

## SPECIFICATIONS

Item	Description
Driver Input Voltage	15 ~ 36 Volt DC
Driver Output Current	0.7 ~ 4A/Phase
Excitation	Constant Current PWM Unipolar
Resolution	BIN : 200, 800, 1600, 3200, 6400 12800, 25600, 51200 DEC : 400, 500, 1000, 2000, 5000 10000, 25000, 50000
Input Pulse Type	1 Pulse : Direction, Pulse 2 Pulse : CW, CCW Pulse
MAX Input Pulse FREQ	500kHz (500kpps)
Control In Signal	Alarm Reset : Edge (Order made) Motor Free : Level (Order made) Photocoupler Isolation
Control Out Signal	Alarm OUT or Timing(option) Photocoupler Isolation
Function	Auto Power Save 4 level selection : 30%, 40%, 50%, 70%
LED Display	Power On Alarm State
Protection	Over Current Over heat ARM Short Regeneration
Operating Temperature	0°C ~ 50°C

# CONVEX

## CATALOGUE 2005

LINEAR, ROTARY, VCM, DC  
MOTOR DRIVER



(주) 컨 벅 스

# LINEAR, ROTARY, VCM, DC MOTOR DRIVER

CONVEX DC MOTOR DRIVER series

## CDMD-5040



CDMD-5040

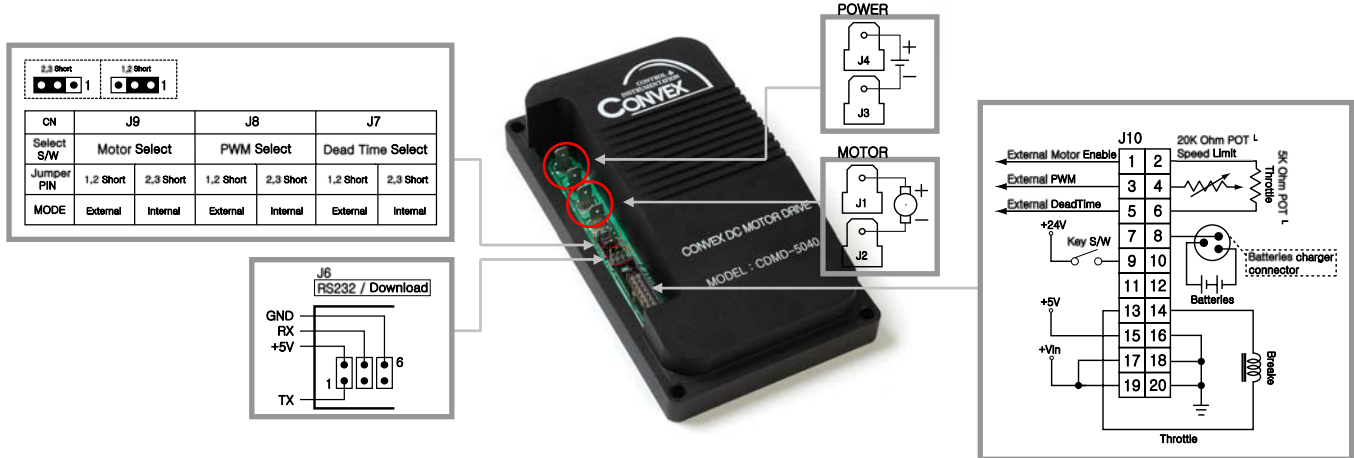
## FEATURES

- **CE Certified Controller**
- High Performance and Reliability
- Order Made for **Low Cost**
- General Applications for **Power Scooter or Crane Controller, etc.**
- **Cost Effective for Mass Production**
- High Power Speed & Torque Control of DC Motor

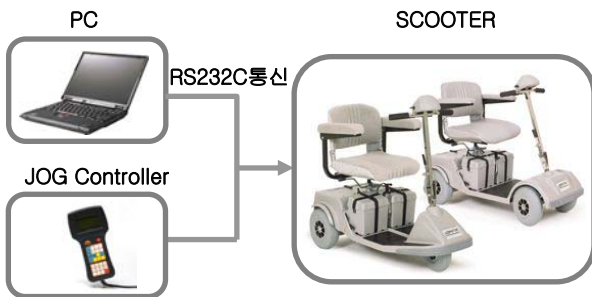
## SPECIFICATIONS

Item	Description
Driver Input Voltage	17 ~ 36 Volt DC
Output Current	Peak : 80A Continuous : 50A
Power Dissipation (at standstill)	3.2W
PWM Frequency	15.62KHz
PWM Ratio	0% ~ 98%
Accel/Decel Pattern	Modified Trapezoidal
In Signal	Velocity Command Input Hard Key Beep Direction
Function	Brake Control Creep Speed Control Anti rollback Auto Power Saver Inhibit during Charging
Protection	HPD Over Current Over Voltage Under Voltage Brake Open/Short
Programming Method	Jog controller or PC by RS232C, I2C
Easy Motion Program	16 Motion Parameters 12 Control Parameters

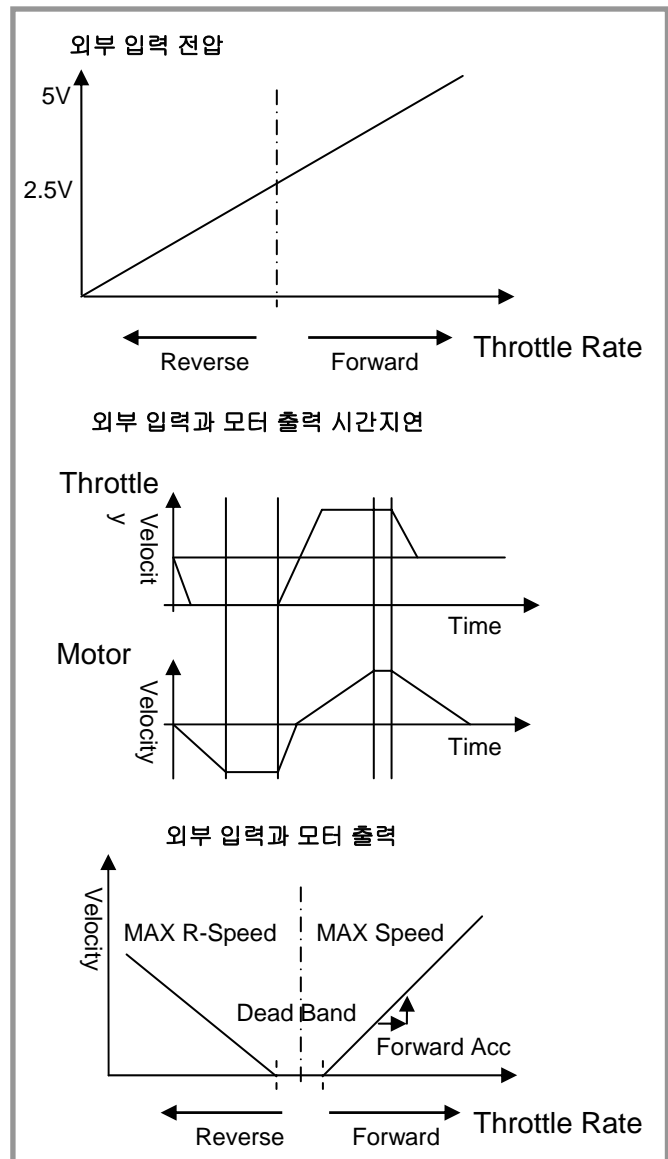
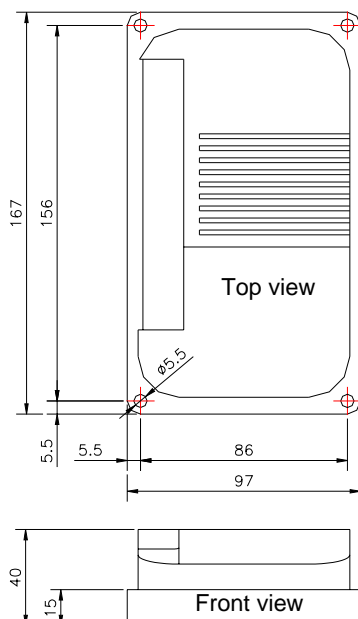
## Driver Connection Example



## Applications Example



## Case Dimension unit : mm



# LINEAR, ROTARY, VCM, DC MOTOR DRIVER

CONVEX DC MOTOR DRIVER series

## CBMD-0735(24)



CBMD-0735(24)

## FEATURES

- **Brushless DC Motor Velocity Control Driver**
- Low Vibration, Low Noise Compact size
- Wide Speed Control Range (150rpm ~ 3500rpm)
- Tacho Pulse out and Direction Output
- Over Load Protection

## SPECIFICATIONS

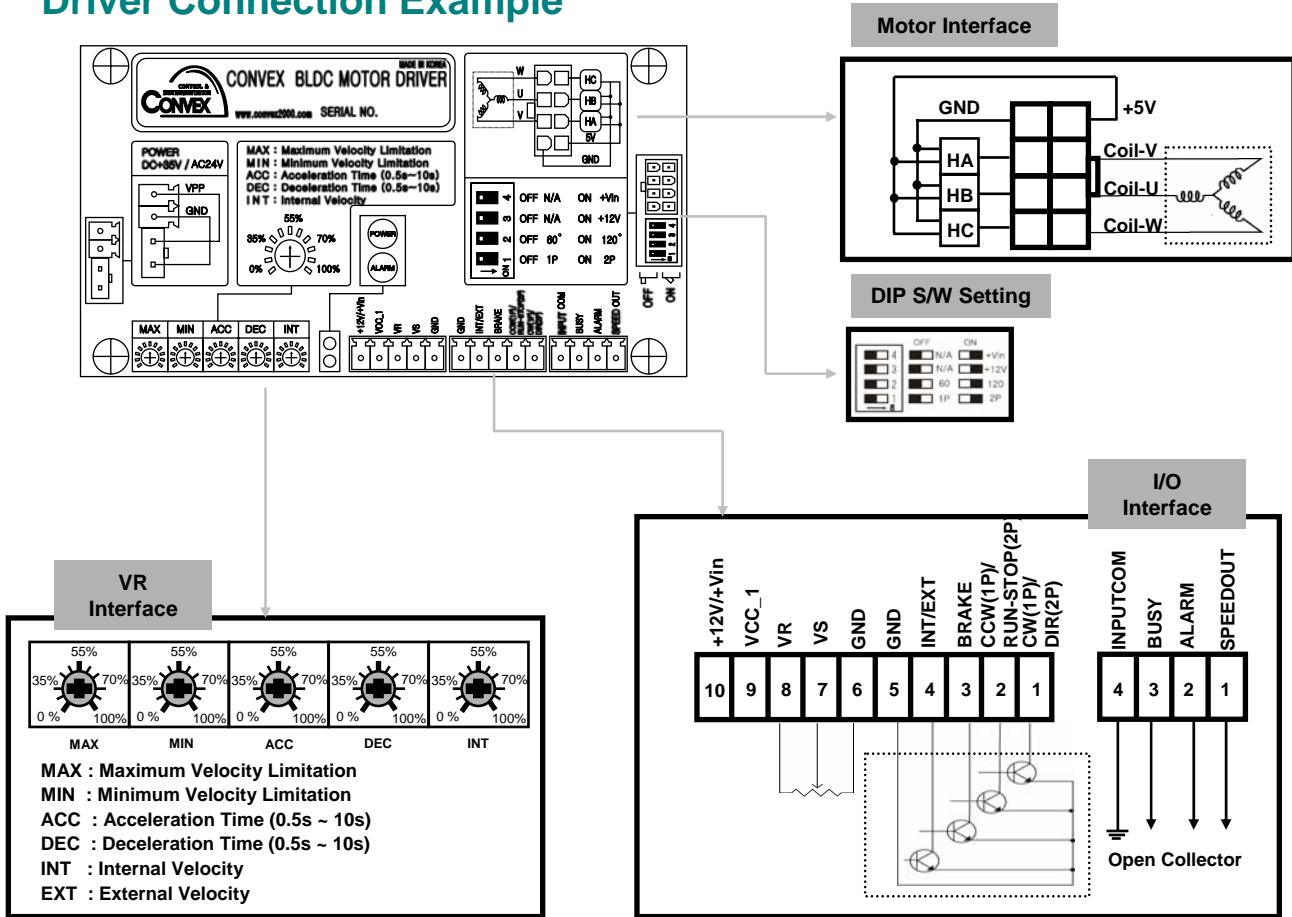
Item	Description
Driver Input Voltage	35Vdc / 24Vac
Driver Output Current	±2A (± 9A peak)
Control Method	3 Phase PWM
Input Signal	Dir, Run-Stop, Brake, Int-Ext
Output Signal	Speed Out, Alarm Out, Busy
LED Display	Power, Alarm
Operating Temperature	0°C ~ 50°C

## OPERATING INSTRUCTIONS

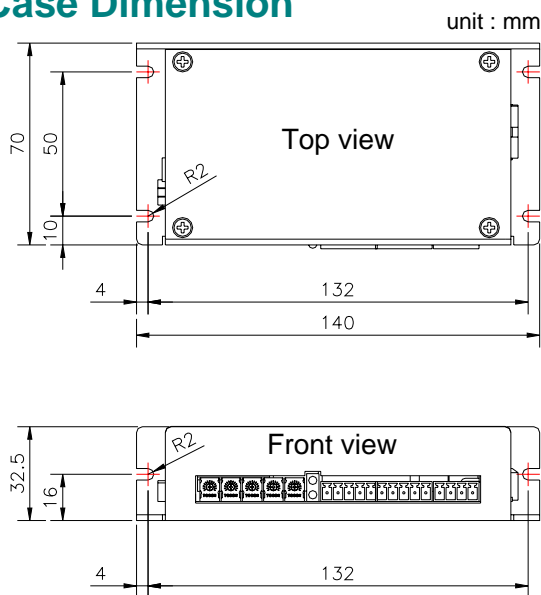
Item	Description	
Power Indication	If connect power, power led is lit.	
Alarm Indication	Overheat, Overload, Wrong Wiring, Disconnected Sensor Wire	
Velocity Control	MAX_VR	Maximum Velocity Limitation
	MIN_VR	Start Velocity
	ACC-VR	Acceleration Time(0.5sec ~ 10sec)
	DEC_VR	Deceleration Time(0.5sec ~ 10sec)
	INT_VR	Internal Velocity
	EXT	External Velocity
CW(1P)/ DIR(2P)	1P	High → Stop, Low → Clockwise Rotation
	2P	High → Clockwise, Low → Counter-Clockwise Select
CCW(1P)/ RUN-STOP(2P)	1P	High → Stop, Low → Counter-Clockwise Rotation
	2P	High → Stop, Low → Rotation According to Dir
BRAKE	High → Run, Low → When Stop, Emergency Stop	
INT-EXT	High → INT_VR, Low → EXT	
BUSY	High during motor running	
SPEEDOUT	Monitor the Motor	
ALARM	Set low during alarm state	
60°/120° SELECT	Sensor type selection	
1P/2P	1P if ON, 2P if OFF	
CN_3 – 10 SELECT	I/O voltage selection	



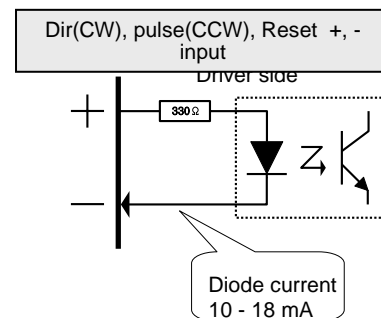
## Driver Connection Example



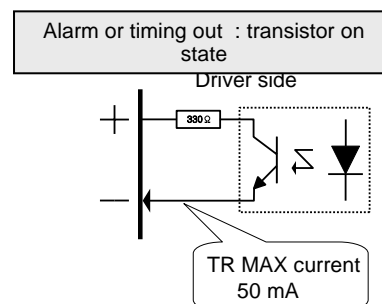
## Case Dimension



## Driver In Photocoupler Circuit



## Driver Out Photocoupler Circuit



# LINEAR, ROTARY, VCM, DC MOTOR DRIVER

CONVEX DC MOTOR DRIVER series

## CSDS-440



CSDS-440

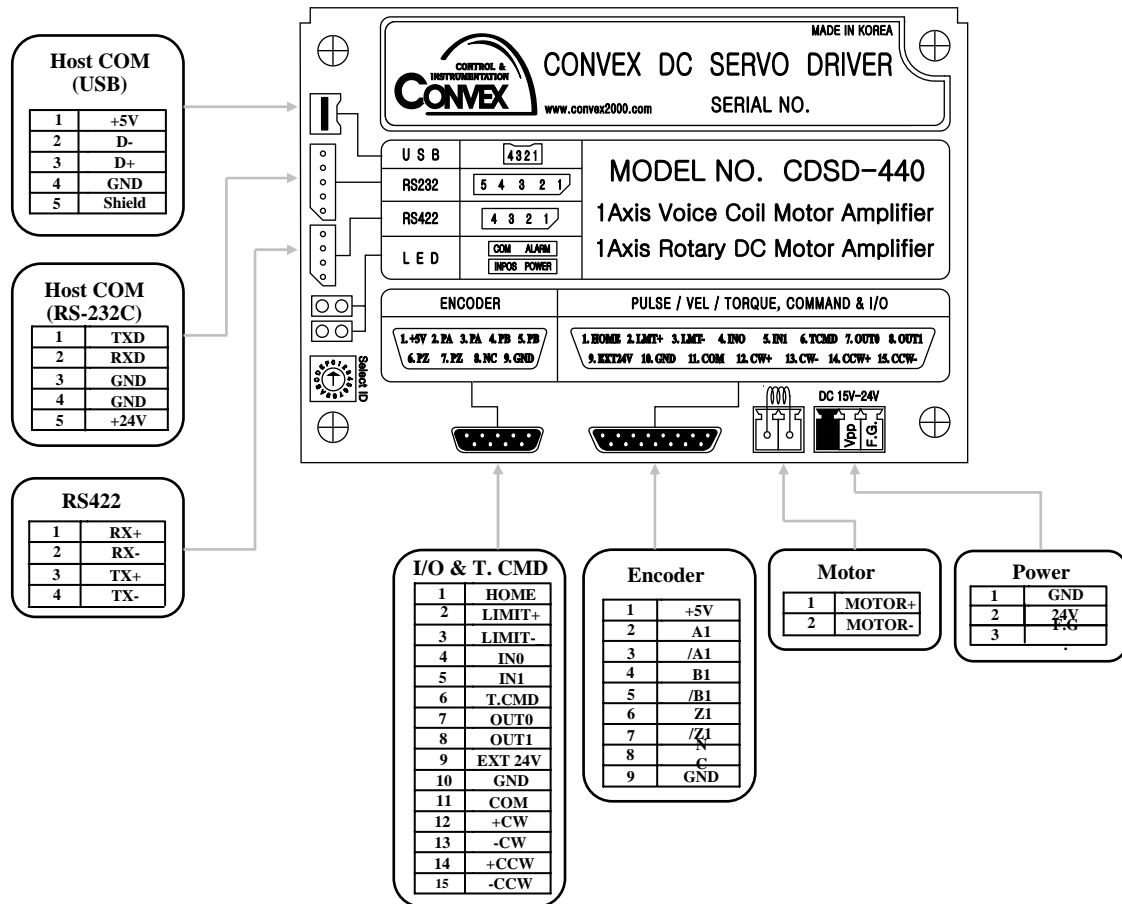
## FEATURES

- Voice Coil Motor Position / Velocity / Torque Controller
- DC Motor Position / Velocity / Torque Controller
- **Cheap and Simple (Compact size)**
- Link-Type via RS232C,422, USB and External I/O Control by PLC
- CW, CCW Pulse out for **DC Servo Motor Control**
- Stand-alone Operation (when operating, not require programmer)
- **Trapezoid type Acceleration/ Deceleration**

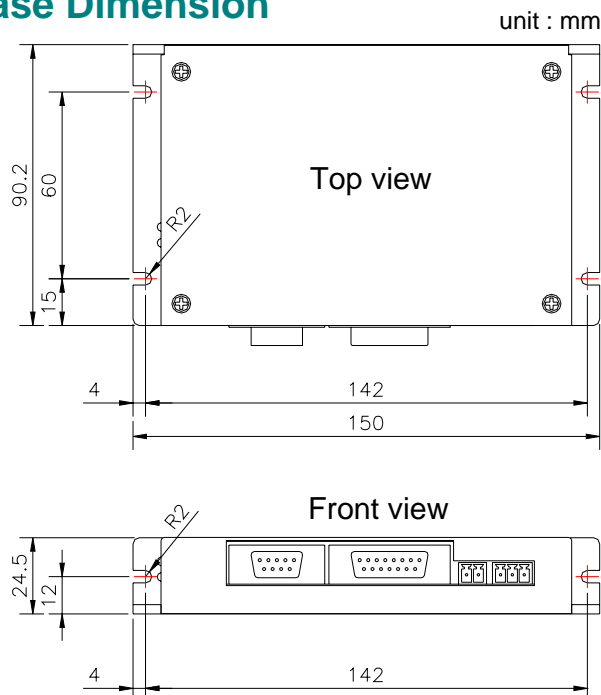
## SPECIFICATIONS

Item	Description
Driver Input Voltage	12V ~ 40Volt DC
Driver Output Current	4.5A peak / 1.5A continuous
Driver Input	-5V ~ +5V (analog torque input or current input)
User Interface	Serial I/O for PC. External I/O for PLC or Manual Operation.
External Input/Output	2 General Inputs / 2 General Outputs (Photocoupler Isolation)
MAX FREQ. of Pulse Input	5Mpps
MAX FREQ. of Encoder Input	1Mpps
Serial I/O	RS232C,422 (115.2kbps), USB
Pulse Input	CW/CCW, Pulse/Direction
Encoder Input	Line driver type
System Input	+Limit, -Limit, Home
LED Display	Power on, Alarm out, In-position
Applications	Linear or Rotary DC, Voice Coil Motor Torque Control
Operating Temperature	0°C~ 50°C

## Driver In/Out Description



## Case Dimension



# LINEAR, ROTARY, VCM, DC MOTOR DRIVER

CONVEX DC MOTOR DRIVER series

## CMDDC-30180



CMDDC-30180

### 모듈형 VME Type Driver



※ 귀사 장비에 적용하실 때 컨벡스 기술지원팀에 문의해 주십시오.

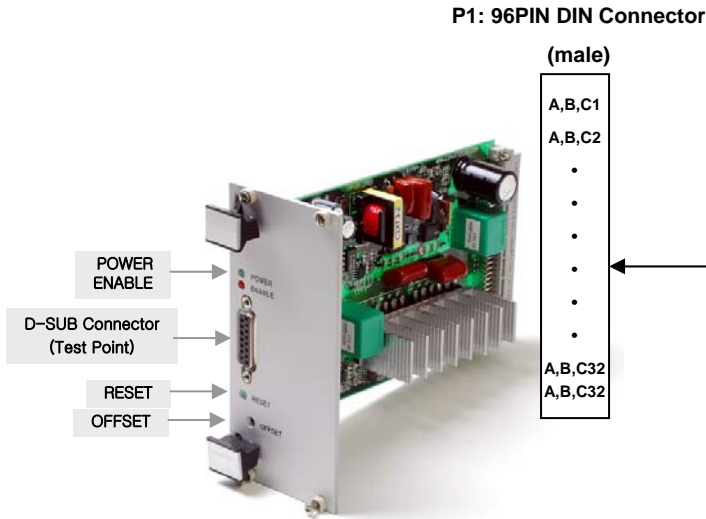
## FEATURES

- Linear Current Amplifier
- VME Type Drive-3U-12HP
- Torque Control of Rotary, Linear VCM, DC Motor
- High Power, High Current

## SPECIFICATIONS

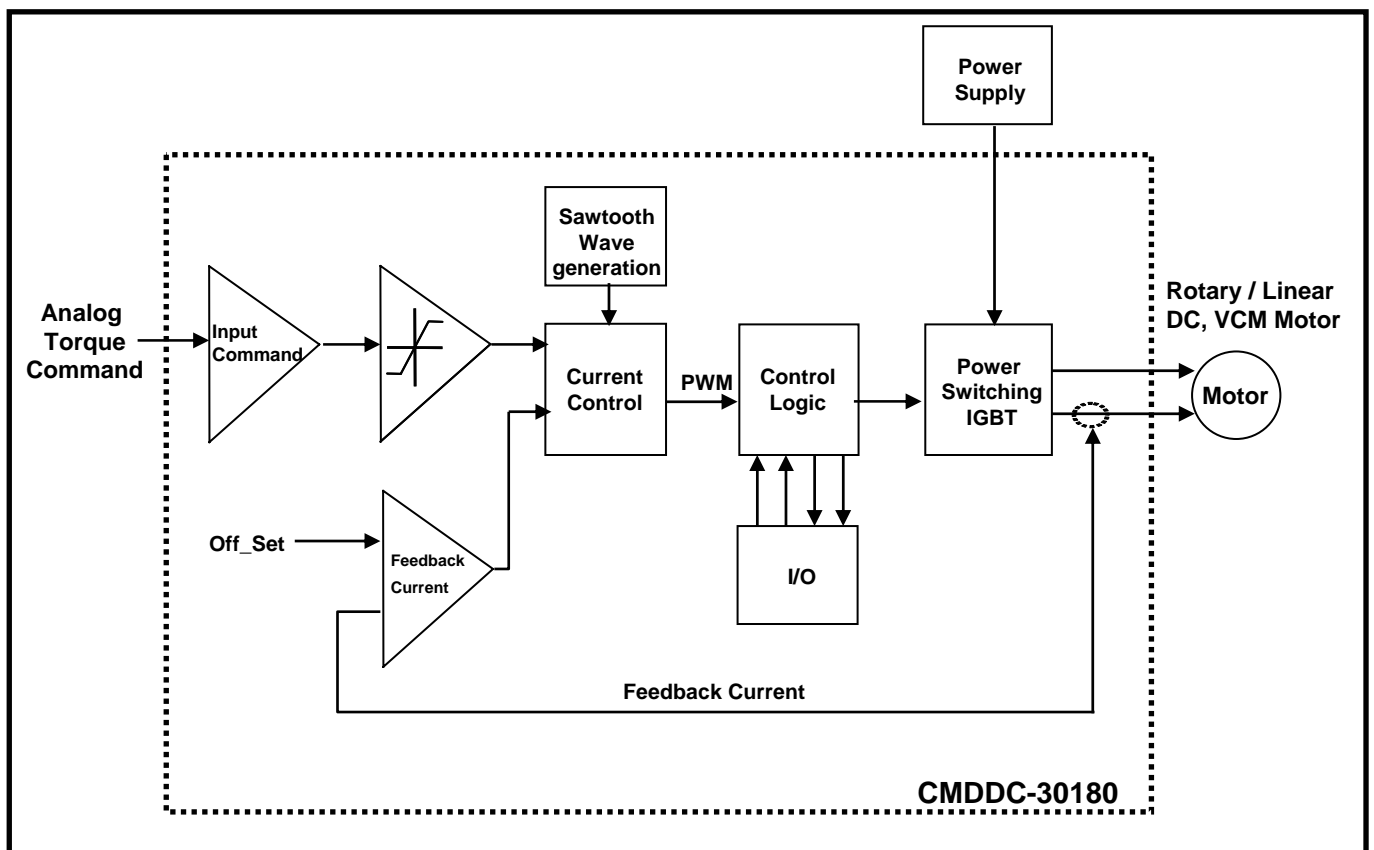
Item	Description
Driver Input Voltage	+60 ~ +180 Volt DC
Driver Output Current	±30.0A peak
Driver Input	±10 Volt (analog torque input or current input)
Excitation	Constant Current Bipolar Linear
Bandwidth of Control Loop	3khz
Control Input Signal	Reset (Photocoupler Isolation) Inhibit +/- (Photocoupler Isolation)
Control Output Signal	Alarm out (Photocoupler Isolation)
LED Display	Power On, Alarm State
Protection Circuit	Over Current, Over Heat, ARM Short, Over Voltage, Under Voltage
Operating Temperature	0°C~ 50°C
Applications	Linear or Rotary DC, Voice Coil Motor Torque Control Precision High Power Current Amplifier

## Driver In/Out Description



Pin	Row A	Row B	Row C
1	Bus Voltage(I)	Bus Voltage(I)	Bus Voltage(I)
2	Bus Voltage(I)	Bus Voltage(I)	Bus Voltage(I)
3	Bus Voltage(I)	Bus Voltage(I)	Bus Voltage(I)
4	Bus Voltage(I)	Bus Voltage(I)	Bus Voltage(I)
5	Power GND(I)	Power GND(I)	Power GND(I)
6	Power GND(I)	Power GND(I)	Power GND(I)
7	Power GND(I)	Power GND(I)	Power GND(I)
8	Power GND(I)	Power GND(I)	Power GND(I)
9	NC	NC	NC
10	NC	NC	NC
11	NC	NC	NC
12	NC	NC	NC
13	NC	NC	NC
14	NC	NC	NC
15	Motor + (O)	Motor + (O)	Motor + (O)
16	Motor + (O)	Motor + (O)	Motor + (O)
17	Motor + (O)	Motor + (O)	Motor + (O)
18	NC	NC	NC
19	Motor - (O)	Motor - (O)	Motor - (O)
20	Motor - (O)	Motor - (O)	Motor - (O)
21	Motor - (O)	Motor - (O)	Motor - (O)
22	NC	NC	NC
23	NC	NC	NC
24	Cmd + (I)	NC	NC
25	Cmd - (I)	*Inhibit + (I)	Amp_AGND(O)
26	NC	*Inhibit + (I)	*Reset (I)
27	Cur_FB + (O)	*Enable	Amp_+5V (O)
28	Cur_FB - (O)	*Fault (O)	Amp_DGND (O)
29	NC	NC	NC
30	NC	NC	NC
31	NC	NC	NC
32	NC	NC	NC

## Applications Example



# LINEAR, ROTARY, VCM, DC MOTOR DRIVER

CONVEX DC MOTOR DRIVER series

## CMDDC-1050



CMDDC-1050

### 모듈형 VME Type Driver



※ 귀사 장비에 적용하실 때 컨벡스 기술지원팀에 문의해 주십시오.

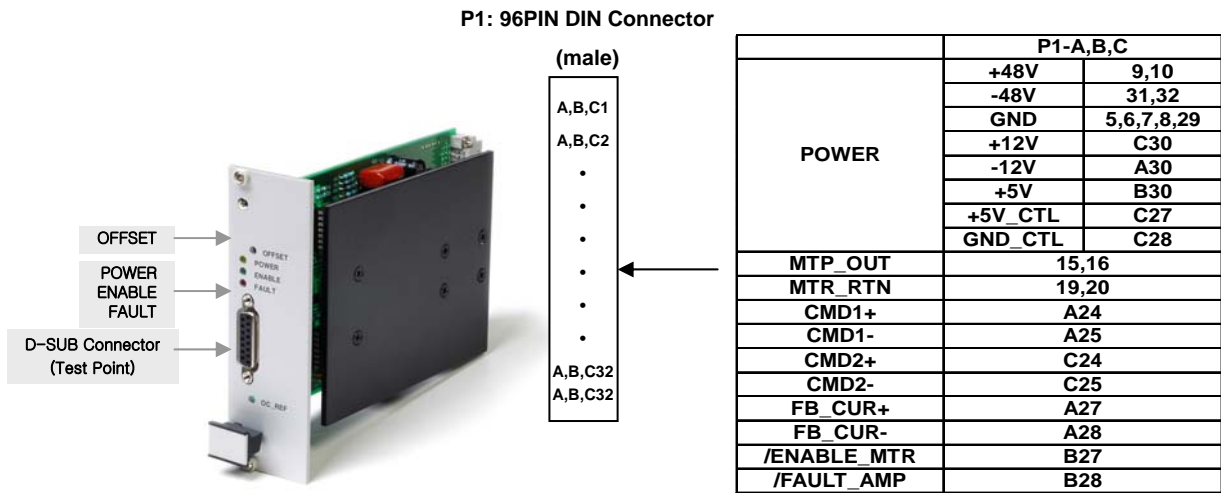
## FEATURES

- Linear Current Amplifier
- VME Type Driver-3U-8HP
- Torque Control of Rotary, Linear VCM, DC Motor
- High Power, High Current

## SPECIFICATIONS

Item	Description
Driver Input Voltage	$\pm 15 \sim \pm 48$ Volt DC with additional $\pm 12$ Volt DC for control
Driver Output Current	$\pm 10.0$ A peak
Driver Input	$\pm 7$ Volt (analog torque input or current input)
Excitation	Constant Current Bipolar Linear
Bandwidth of Control Loop	3khz
Control Input Signal	Reset (Photocoupler Isolation)
Control Output Signal	Alarm out (Photocoupler Isolation)
LED Display	Power On, Alarm State
Protection Circuit	Over Current, ARM Short
Operating Temperature	0°C~ 50°C
Applications	Linear or Rotary DC Voice Coil Motor Torque Control Precision High Power Current Amplifier

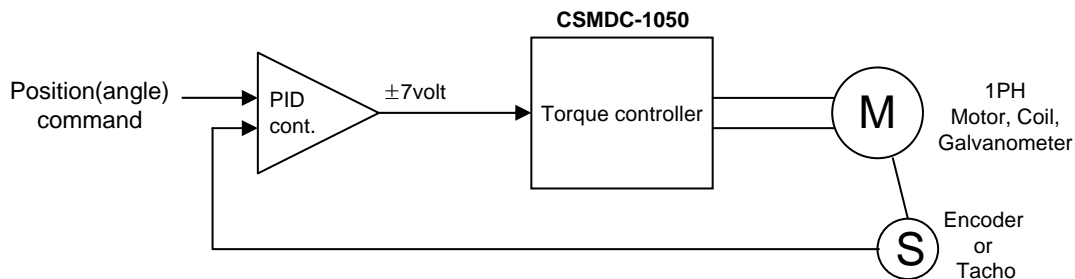
## Driver In/Out Description



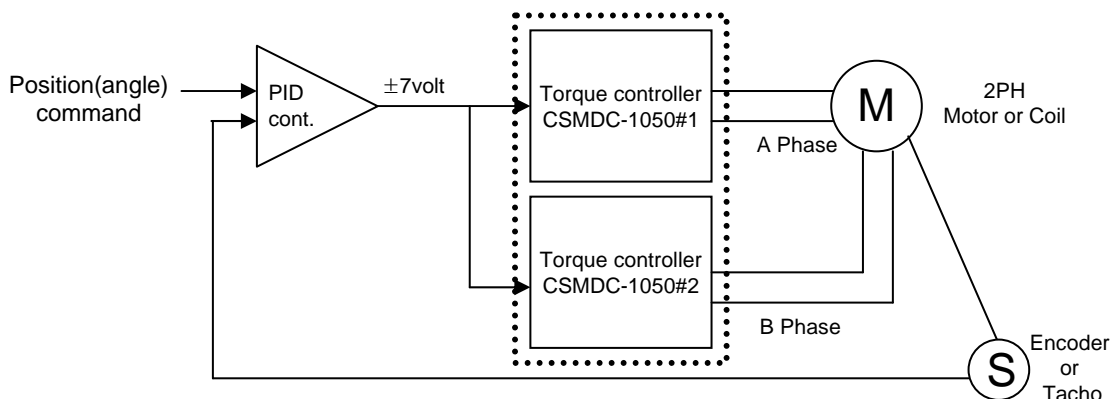
For higher performance, the design, in/out, and inner circuit can be changed without any notification. Any modification will be appreciated. Contact us. Drivers of a certain specifications is designed based on special user, so the same drivers can not be supplied to any user. Any modifications should be required. Contact us.

## Applications Example

Linear(Rotary) DC, Voice Coil Motor Position(Angle) Control



Case 2 : Linear(Rotary) 2PH Step or AC Motor Position(Angle) Control





# LINEAR, ROTARY, VCM, DC MOTOR DRIVER

CONVEX DC MOTOR DRIVER series

## CMDDC-0150



CMDDC-0150

## FEATURES

- High Performance and High Reliability
- **Galvanometer Control**
- VME Type Driver-3U-8HP
- **Precise Current or Torque Control of VCM, DC Motor**
- **Velocity(Voltage) Control Type**

## SPECIFICATIONS

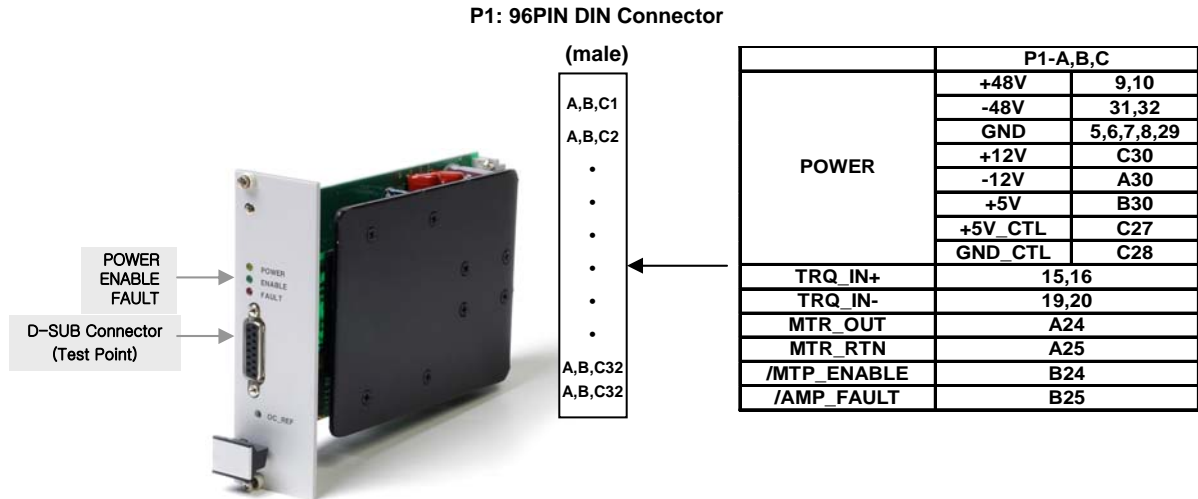
Item	Description
Driver Input Voltage	$\pm 15 \sim \pm 48$ Volt DC with additional $\pm 12$ Volt DC for control
Driver Output Current	$\pm 1.0A$ peak
Driver Input	$\pm 7$ Volt
Excitation	Constant Current Bipolar Linear
Bandwidth of Control Loop	3khz
Control Input Signal	Reset (Photocoupler Isolation)
Control Output Signal	Alarm out (Photocoupler Isolation)
LED Display	Power On Alarm State
Protection Circuit	Over Current ARM Short
Operating Temperature	$0^{\circ}C \sim 50^{\circ}C$
Applications	Linear or Rotary DC Voice Coil Motor Torque Control Galvanometer Precise Control

### 모듈형 VME Type Driver



※ 귀사 장비에 적용하실 때 컨벡스 기술지원팀에 문의해 주십시오.

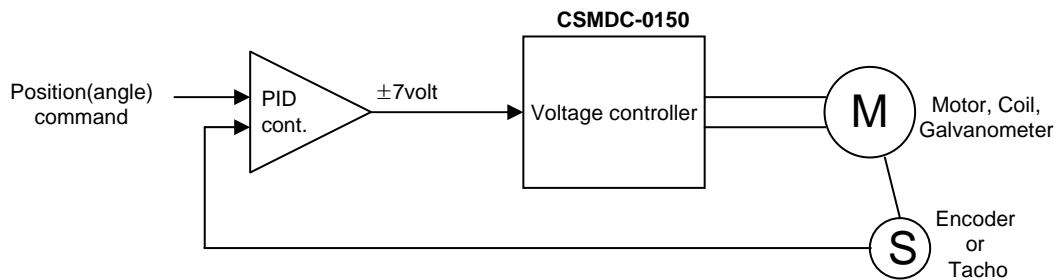
## Driver In/Out Description



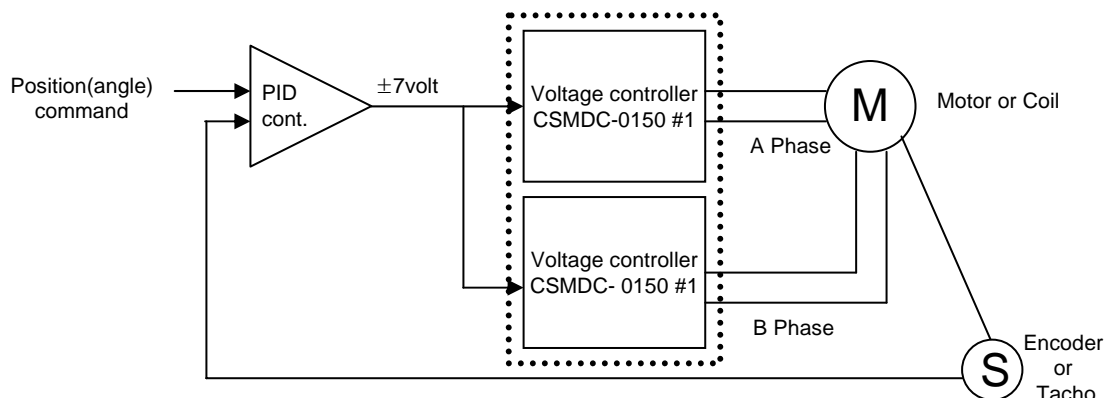
For higher performance, the design, in/out, and inner circuit can be changed without any notification. Any modification will be appreciated. Contact us. Drivers of a certain specifications is designed based on special user, so the same drivers can not be supplied to any user. Any modifications should be required. Contact us.

## Applications Example

Linear(Rotary) DC, Voice Coil Motor Position(Angle) Control



Case 2 : Linear(Rotary) 2PH Step or AC Motor Posion(Angle) Control



# CONVEX

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## CATALOGUE 2005

### MOTION CONTROLLER



(주) 컨 벅 스

# MOTION CONTROLLER

CONVEX MOTION CONTROLLER series

## CeCon-E1



CeCon-E1

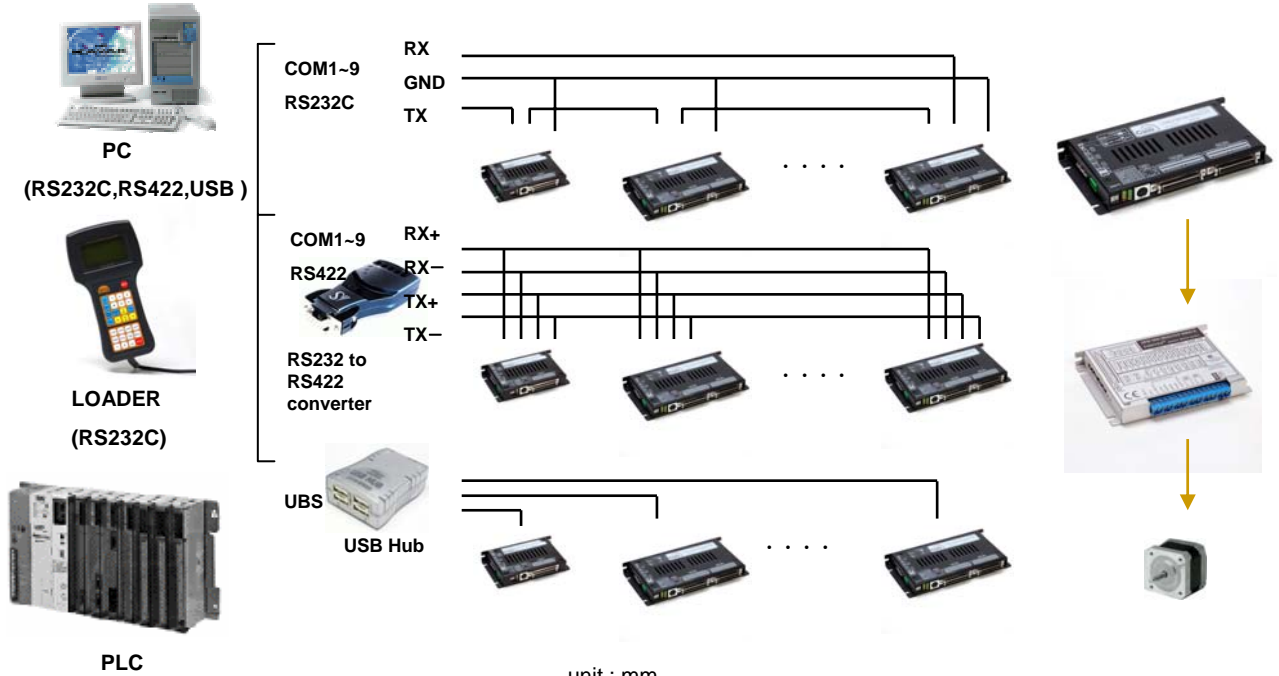
## FEATURES

- 1-Axis Controller
- Cheap and Various Functions (Compact Size)
- Various and powerful communications and I/O
- PC based Motion, Stand-alone Motion, I/O based Motion and Programming Loader Motion Control
- Linkage of Multiple Controllers by RS232C, RS422, or USB

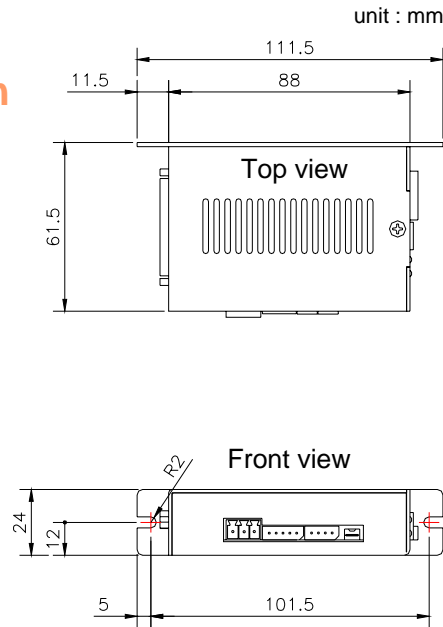
## SPECIFICATIONS

Item	Description
<b>Input Voltage</b>	24Volt DC, 400mA MAX
<b>User Interface</b>	Serial I/O for PC. PLC or Manual Operation
<b>Supporting Driver</b>	Servo Motor Driver, Step Motor Driver
<b>File System</b>	EEPROM (4K byte) Parameter & Program Saving
<b>Input/Output</b>	12 General Inputs / 8 General Outputs (Photocoupler Isolation)
<b>Programming</b>	Upto 5 Program (64 step)
<b>MAX FREQ. of Pulse Output</b>	0.4Mpps
<b>Serial I/O</b>	RS232C (115.2Kbps), RS422 (115.2Kbps), USB(1.1)
<b>Linkage of Multiple Controllers</b>	RS232C (Daisy-Chained up to 16 system) RS422 (up to 16 system) USB (up to 128 system)
<b>Pulse Output Method</b>	2-pulse (CW / CCW)
<b>Pulse Output</b>	Line Driver output
<b>Encoder Input</b>	+Limit, -Limit, Home, Alarm, Reset, Emergency stop
<b>System Input</b>	Trapezoid Accel / Decel
<b>Velocity Control Type</b>	Trapezoid Accel / Decel
<b>LED Display</b>	Power on, Pulse out, Alarm out, 2 Com (USB & RS232C/RS422 Communication)
<b>Operating Temperature</b>	0°C~ 40°C
<b>PC Operating System</b>	Windows 2000, Windows XP

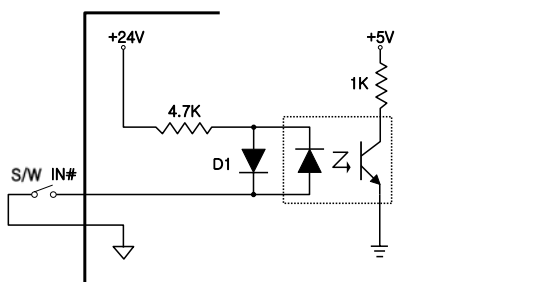
## Application Example



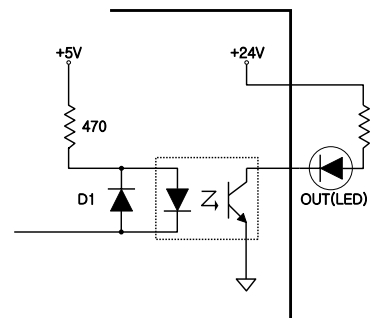
## Case Dimension



## Controller In Photocoupler Circuit



## Controller Out Photocoupler Circuit



# MOTION CONTROLLER

CONVEX MOTION CONTROLLER series

## CeCon-D4



CeCon-D4

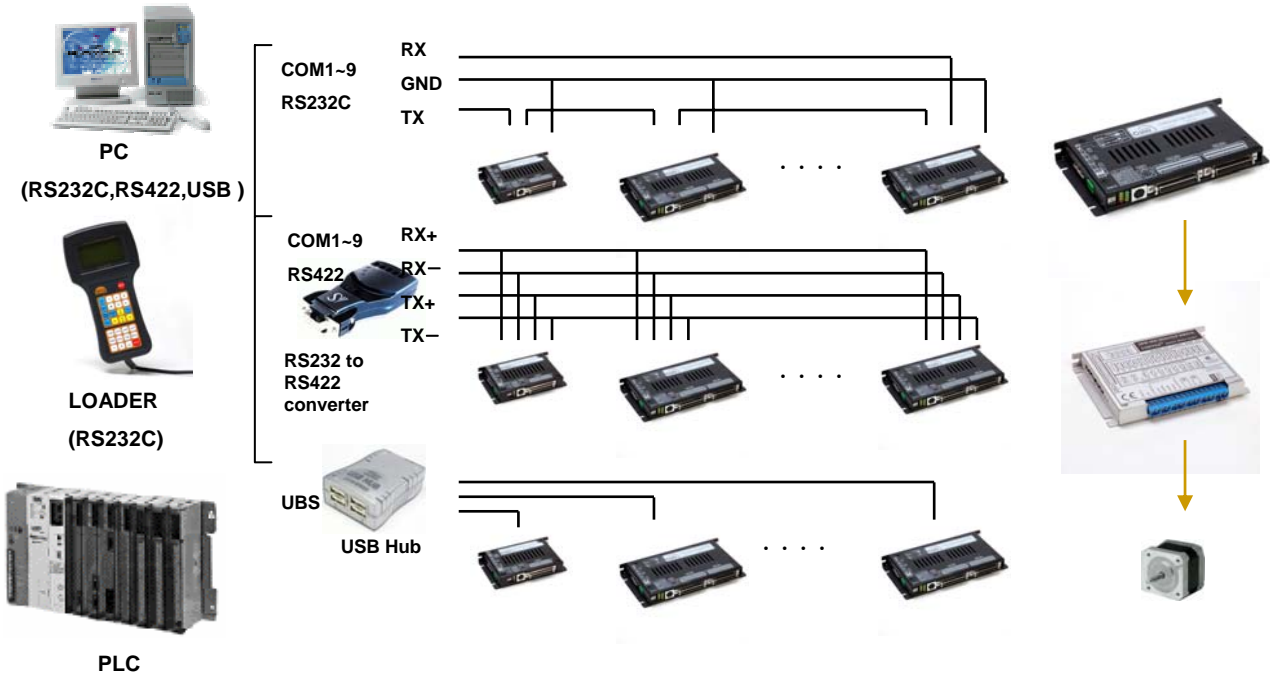
## FEATURES

- 4-Axis Controller
- Various Functions and Compact Size
- PC based Motion, Stand-alone Motion, I/O based Motion and Programming Loader Motion Control
- Linear, Circular and Curve Interpolation
- Various and Powerful Communications and I/O Interfaces
- Linkage of Multiple Controllers by RS232C, RS422 or USB

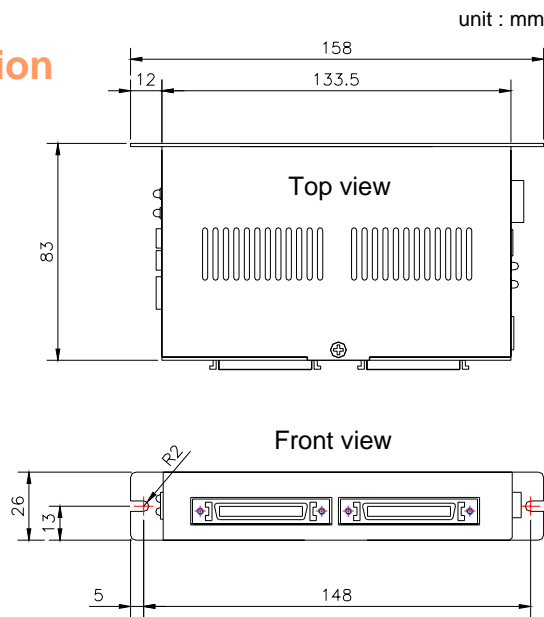
## SPECIFICATIONS

Item	Description
<b>Input Voltage</b>	24 Volt DC, 1A MAX
<b>User Interface</b>	Serial I/O for PC. External I/O for PLC or Manual Operation
<b>Supporting Driver</b>	Servo Motor Driver, Step Motor Driver
<b>File System</b>	EEPROM (36K byte) Parameter & Program Saving
<b>Input/Output</b>	16 General Inputs / 8 General Outputs (Photocoupler Isolation)
<b>Programming</b>	Upto 4 Program (512 step)
<b>MAX FREQ. of Pulse Output</b>	6.5Mpps
<b>MAX FREQ. of Encoder Input</b>	1Mpps
<b>Serial I/O</b>	RS232C (115.2Kbps), RS422 (115.2Kbps), USB(1.1)
<b>Linkage of Multiple Controllers</b>	RS232C (Daisy-Chained up to 16 system) RS422 (up to 16 system) USB (up to 128 system)
<b>Pulse Output Method</b>	2-pulse (CW / CCW) / 1-pulse (Pulse / Direction)
<b>Pulse Output</b>	Line Driver output
<b>Encoder Input</b>	Line Driver type
<b>Interpolation Function</b>	Linear, circulation, Curve
<b>System Input</b>	+Limit, -Limit, Home, Alarm, Emergency Stop, Reset
<b>System Output</b>	Servo on, Reset
<b>Velocity Control Type</b>	S-curve, Trapezoid Accel / Decel
<b>LED Display</b>	Power on, 4 Pulse out, Alarm out, 2 Com (USB & RS232C/RS422 Communication)
<b>Operating Temperature</b>	0°C~ 40°C
<b>PC Operating System</b>	Windows 2000, Windows XP

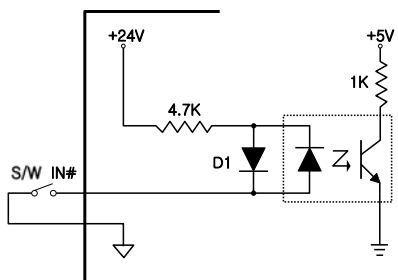
## Application Example



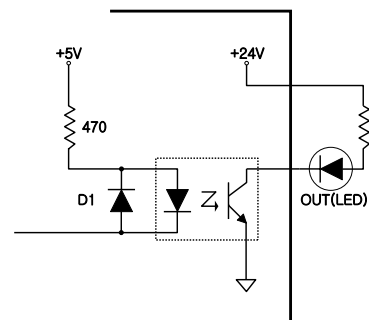
## Case Dimension



## Controller In Photocoupler Circuit



## Controller Out Photocoupler Circuit





# MOTION CONTROLLER

CONVEX MOTION CONTROLLER series

## CeCon-S1



CeCon-S1

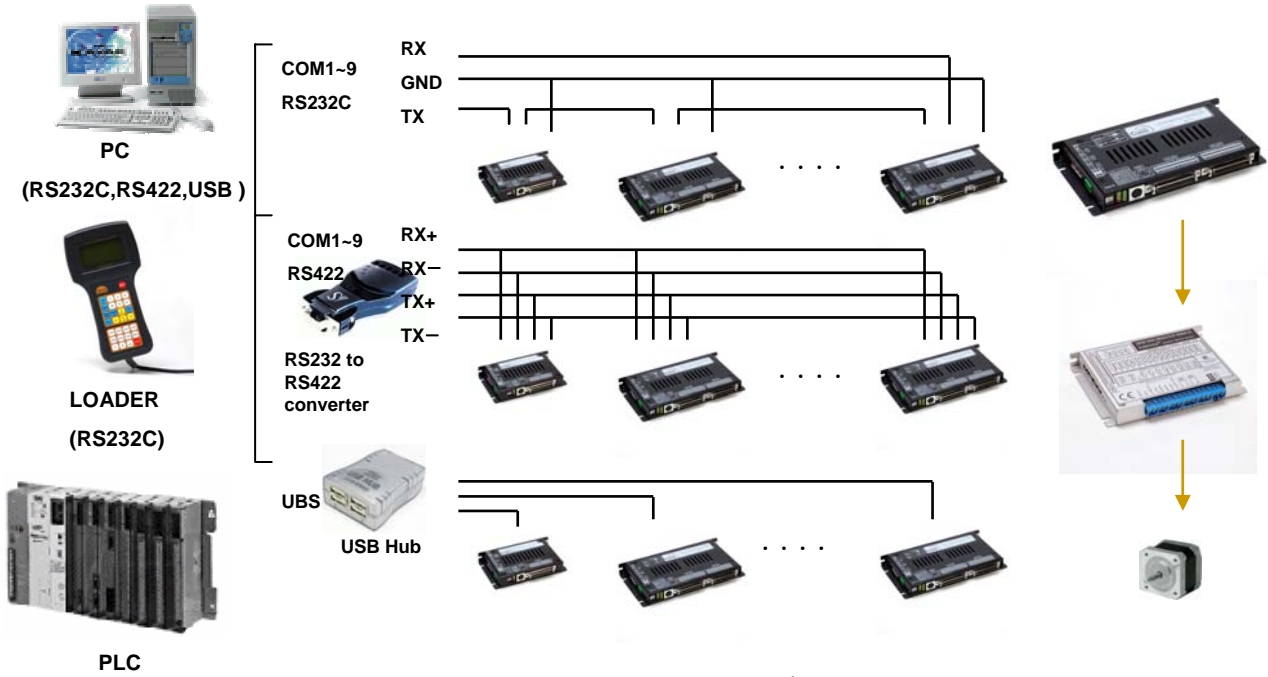
## FEATURES

- 1-Axis Controller
- Various Functions and Compact Size
- PC based Motion, Stand-alone Motion, I/O based Motion and Programming Loader Motion Control
- Various and Powerful Communications and I/O Interfaces
- Linkage of Multiple Controllers by RS232C, RS422 or USB
- 수동 펄스 입력 (MPG Input)

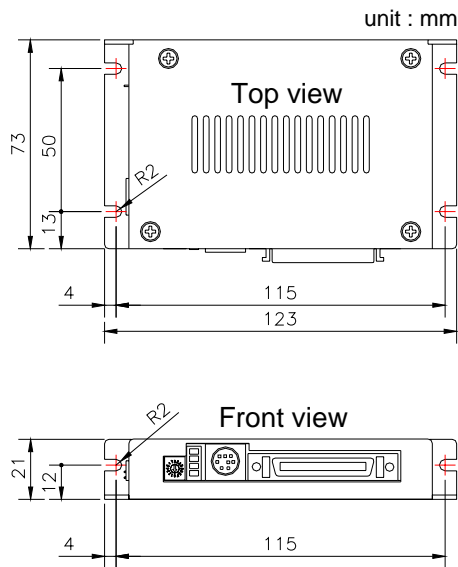
## SPECIFICATIONS

Item	Description
Input Voltage	24 Volt DC, 1A MAX
User Interface	Serial I/O for PC. External I/O for PLC or Manual Operation
Supporting Driver	Servo Motor Driver, Step Motor Driver
File System	EEPROM ( 36K byte ) Parameter & Program Saving
Input/Output	12 General Inputs / 8 General Outputs ( Photocoupler Isolation )
Programming	Upto 10 Program (512 step)
MAX FREQ. of Pulse Output	6.5Mpps
MAX FREQ. of Encoder Input	1Mpps
Serial I/O	RS232C ( 115.2Kbps ), RS422 ( 115.2Kbps ), USB( 1.1 )
Linkage of Multiple Controllers	RS232C ( Daisy-Chained up to 16 system ) RS422 ( up to 16 system ) USB ( up to 128 system )
Pulse Output Method	2-pulse ( CW / CCW ) / 1-pulse ( Pulse / Direction )
Pulse Output	Line Driver output
Encoder Input	Line Driver type
System Input	+Limit, -Limit, Home, Alarm, Emergency Stop, Reset
System Output	Servo on, Reset
Velocity Control Type	S-curve, Trapezoid Accel / Decel
LED Display	Power on, Pulse out, Alarm out, 2 Com (USB & RS232C/RS422 Communication)
Operating Temperature	0°C~ 40°C
PC Operating System	Windows 2000, Windows XP

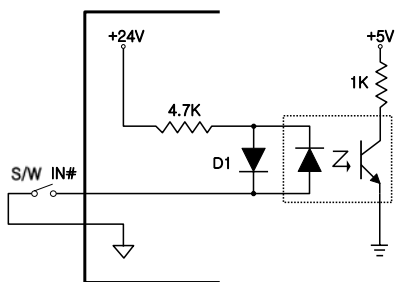
## Application Example



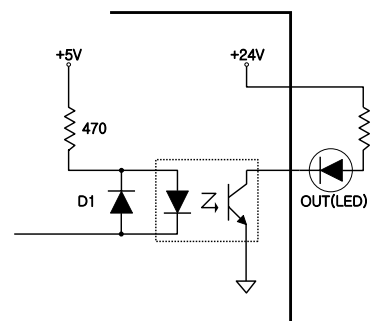
## Case Dimension



## Controller In Photocoupler Circuit



## Controller Out Photocoupler Circuit



# MOTION CONTROLLER

CONVEX MOTION CONTROLLER series

## CeCon-S4



CeCon-S4

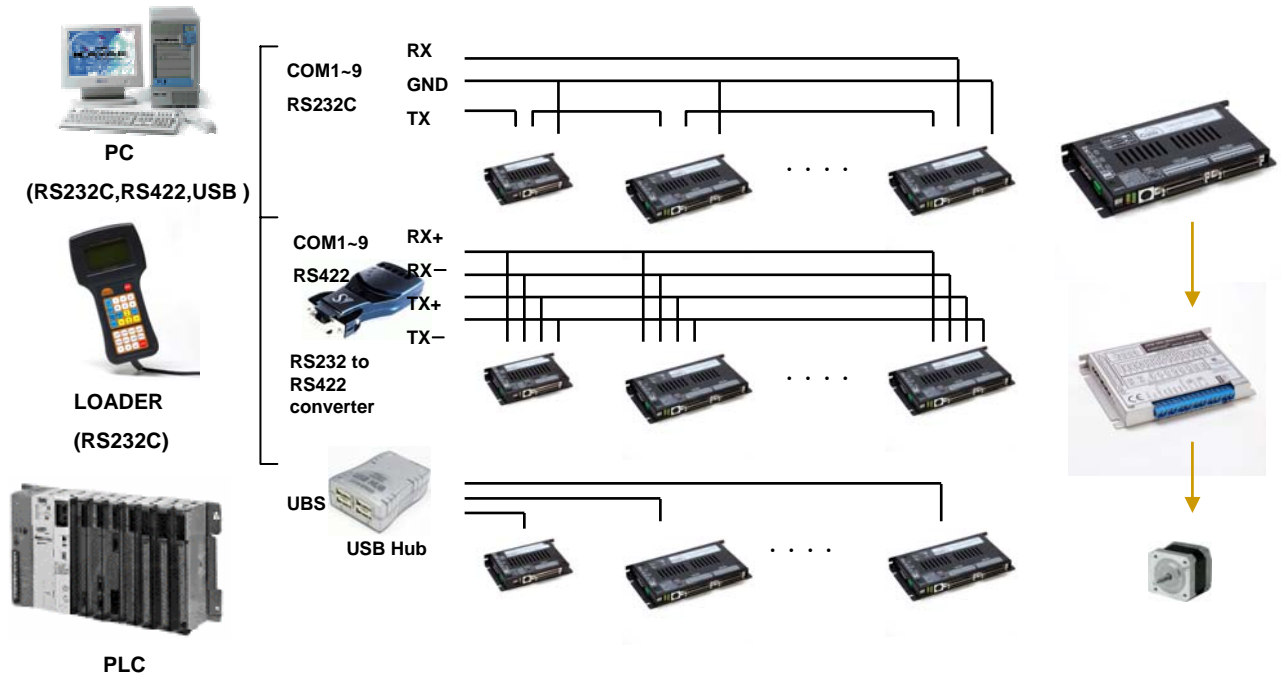
## FEATURES

- 4-Axis Controller
- Various Functions and Compact Size
- PC based Motion, Stand-alone Motion, I/O based Motion and Programming Loader Motion Control
- Various and Powerful Communications and I/O Interfaces
- Linkage of Multiple Controllers by RS232C, RS422 or USB

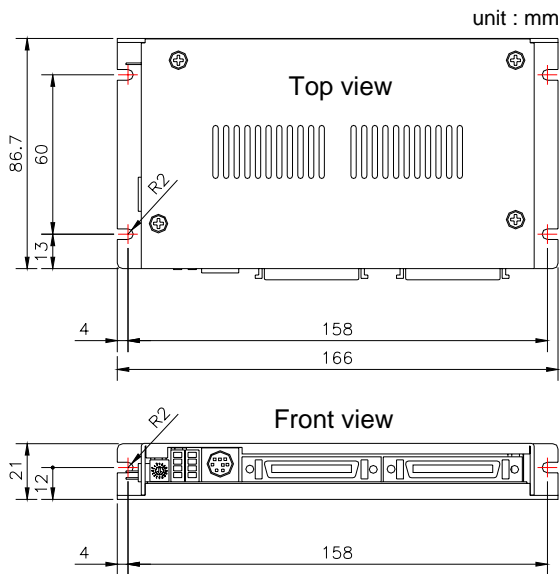
## SPECIFICATIONS

Item	Description
<b>Input Voltage</b>	24 Volt DC, 1A MAX
<b>User Interface</b>	Serial I/O for PC. External I/O for PLC or Manual Operation
<b>Supporting Driver</b>	Servo Motor Driver, Step Motor Driver
<b>File System</b>	EEPROM ( 36K byte ) Parameter & Program Saving
<b>Input/Output</b>	16 General Inputs / 8 General Outputs ( Photocoupler Isolation )
<b>Programming</b>	Upto 10 Program (512 step)
<b>MAX FREQ. of Pulse Output</b>	6.5Mpps
<b>MAX FREQ. of Encoder Input</b>	1Mpps
<b>Serial I/O</b>	RS232C ( 115.2Kbps ), RS422 ( 115.2Kbps ), USB( 1.1 )
<b>Linkage of Multiple Controllers</b>	RS232C ( Daisy-Chained up to 16 system ) RS422 ( up to 16 system ) USB ( up to 128 system )
<b>Pulse Output Method</b>	2-pulse ( CW / CCW ) / 1-pulse ( Pulse / Direction )
<b>Pulse Output</b>	Line Driver output
<b>Encoder Input</b>	Line Driver type
<b>System Input</b>	+Limit, -Limit, Home, Alarm, Emergency Stop, Reset
<b>System Output</b>	Servo on, Reset
<b>Velocity Control Type</b>	S-curve, Trapezoid Accel / Decel
<b>LED Display</b>	Power on, 4 Pulse out, Alarm out, 2 Com (USB & RS232C/RS422 Communication)
<b>Operating Temperature</b>	0°C~ 40°C
<b>PC Operating System</b>	Windows 2000, Windows XP

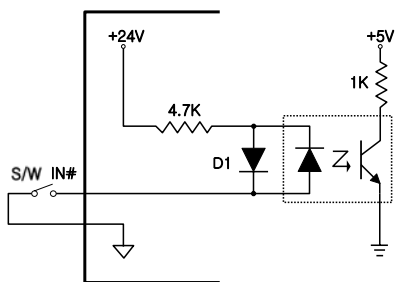
## Application Example



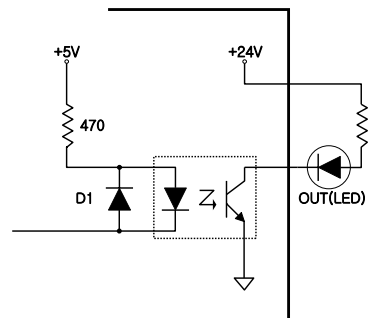
## Case Dimension



## Controller In Photocoupler Circuit



## Controller Out Photocoupler Circuit



# CONVEX

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## CATALOGUE 2005

### SERVO MOTOR DRIVER



(주) 컨 벅 스

# SERVO MOTOR DRIVER

CONVEX SERVO MOTOR DRIVER series

**CSDH-A5A-  
CSDH-01A-  
CSDH-02A-  
CSDH-04A-  
CSDH-08A-  
CSDH-15A-**



CSDH-A5A-  
CSDH-01A-  
CSDH-02A-  
CSDH-04A-



CSDH-08A-  
CSDH-15A-



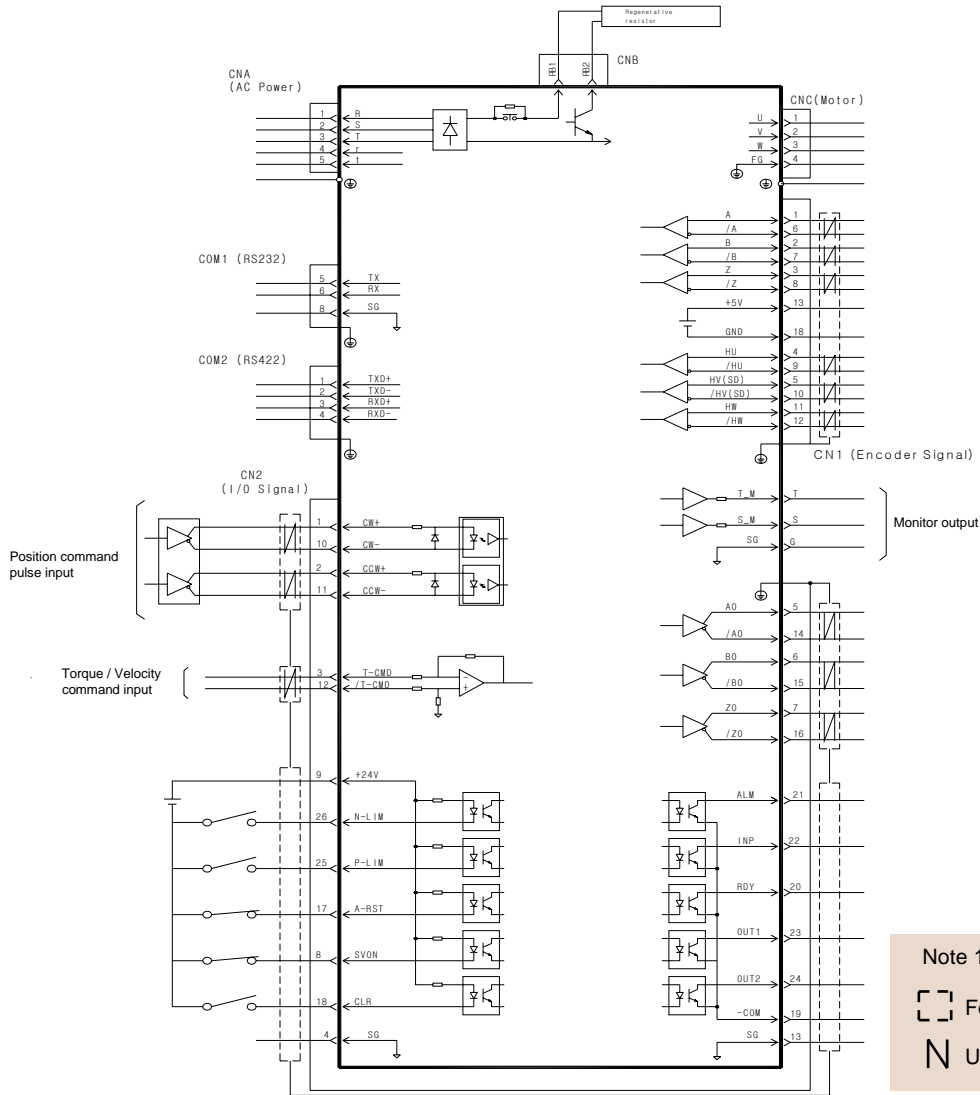
## FEATURES



- High Performance
- High Usability
- High functionality
- High Reliability
- Standard Type

## SPECIFICATIONS

Item		Description
Servo Amp. Model		CSDH-04AA0   CSDH-15AA0
Control Circuit Power Supply	Voltage/Frequency	1-phase 200 to 230Vac 50/60Hz
Main Circuit Power Supply	Voltage/Frequency	1/3-phase 200 to 230Vac 50/60Hz
Control System		IGBT PWM control
Position control mode	Maximum Input Pulse Frequency	500kpps(line driver type) 200kpps(open collector type)
	Input Pulse Type	Sign + pulse train, 90° phase differential 2-phase pulse (phase A + phase B), or CCW+CW pulse
	Position Feedback	Incremental encoder/17bit Absolute encoder
Speed Control Mode	Speed Control Range	Analog speed command 1:2000, internal 1: 5000
	Analog Speed Command Input	0 to ±10Vdc (±6Vdc/rated speed)
	Torque Limit	Set by parameter
Torque Control Mode	Analog Torque Command Input	0 to ±10Vdc (±3Vdc/rated torque)
	Speed Limit	Set by parameter
I/O Signals	Position Signal Output	Encoder A,B,Z phase line driver output
	Input Signals	Servo on, Forward/Reverse run prohibit, Alarm reset, Counter clear
	Output Signals	Servo alarm, Positioning complete, Servo ready
	Monitor Output	Velocity, Torque monitor output
Communication s	Interface	Digital operator(jog), RS232C, RS422
	1:N Communications	N can be up to 14 when an RS422 port is used.
Display Function		Charge, Power, Ready, Alarm, 7 Segment LED x 5
Regenerative Register		Regenerative resistor externally mounted (option).
Dynamic Brake		Built-in
Safety Feature		Overcurrent, Regeneration Overvoltage, Overload, Encoder fault, Regeneration fault, Undervoltage, Overspeed protection
Mass		1.5kg   2kg

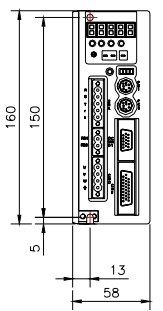
## Driver Connection Example



Note 1)  
 For the partmarked shielded cable.  
 Use a twisted pair cable.

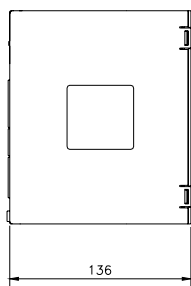
## Case Dimension

CSDH-A5A  
CSDH-01A



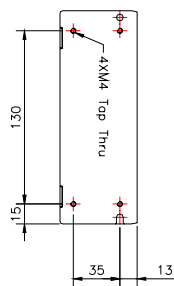
Front view

CSDH-02A  
CSDH-04A



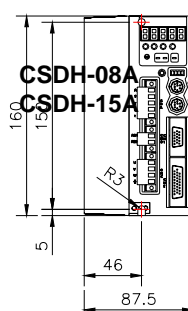
Right view

unit : mm

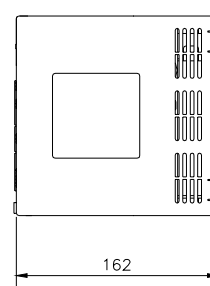


Rear view

CSDH-08A  
CSDH-15A

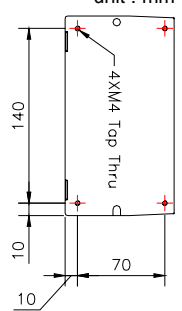


Front view



Right view

unit : mm



Rear view



# SERVO MOTOR DRIVER

CONVEX SERVO MOTOR DRIVER series

**CSDM-V1A-  
CSDM-V2A-  
CSDM-V3A-  
CSDM-V4A-**



CSDM-V1A-  
CSDM-V2A-  
CSDM-V3A-  
CSDM-V4A-



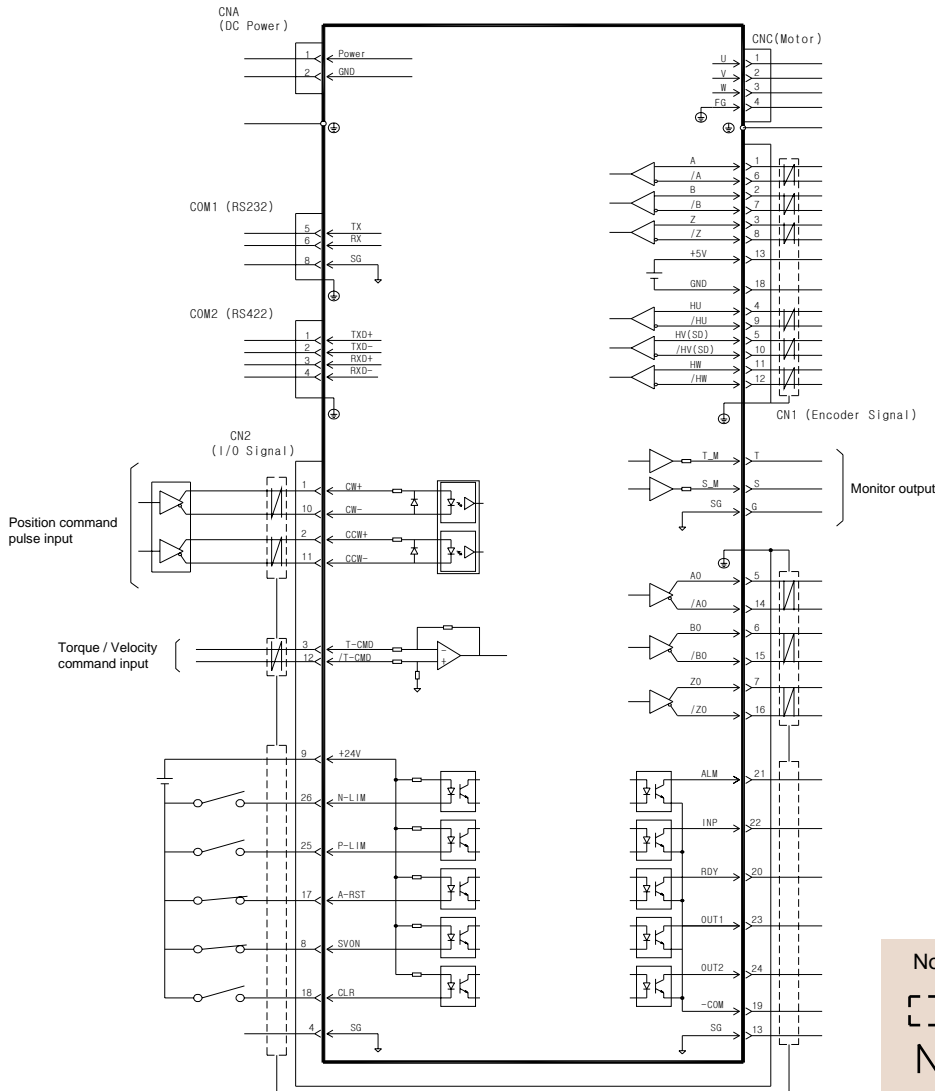
## FEATURES

- High Performance
- High Usability
- High functionality
- High Reliability
- Low Cost Type

## SPECIFICATIONS

Item400		Description
Servo Amp. Model		CSDM series
Main Circuit Power Supply	Voltage	24~200Vdc $\pm$ 10%
Driver Output Power	Current	Continues:2.9Arms, Peak:8.4Arms
Control System		IGBT PWM control
Position control mode	Maximum Input Pulse Frequency	500kpps(line driver type) 200kpps(open collector type)
	Input Pulse Type	Sign + pulse train, 90° phase differential 2-phase pulse (phase A + phase B), or CCW+CW pulse
	Position Feedback	Incremental encoder
Speed Control Mode	Speed Control Range	Analog speed command 1:2000, internal 1: 5000
	Analog Speed Command Input	0 to $\pm$ 10Vdc ( $\pm$ 6Vdc/rated speed)
	Torque Limit	Set by parameter
Torque Control Mode	Analog Torque Command Input	0 to $\pm$ 10Vdc ( $\pm$ 3Vdc/rated torque)
	Speed Limit	Set by Parameter
I/O Signals	Position Signal Output	Encoder A,B,Z phase line driver output
	Input Signals	Servo on, Forward/Reverse run prohibit, Alarm reset, Counter clear
	Output Signals	Servo alarm, Positioning complete, Servo ready
	Monitor Output	Velocity, Torque monitor output
Communications	Interface	Digital operator(jog), RS232C, RS422
	1:N Communications	N can be up to 14 when an RS422 port is used.
Display Function		Charge, Power, Ready, Alarm, 7 Segment LED x 5
Regenerative Register		Not
Dynamic Brake		Not
Safety Feature		Overcurrent, Regeneration Overvoltage, Overload, Encoder fault, Regeneration fault, Undervoltage, Overspeed protection
Mass		400g

## Driver Connection Example

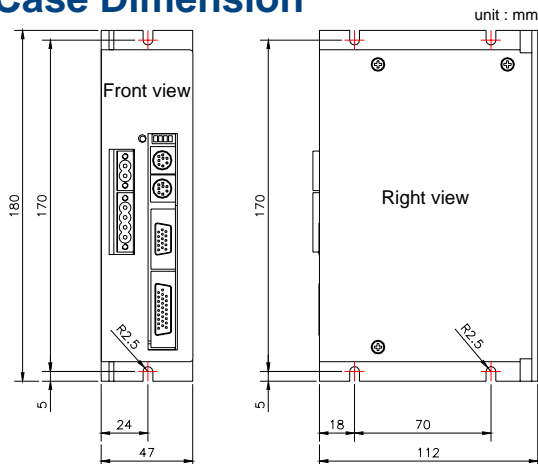


Note 1)

□ For the partsmarked shielded cable.

N Use a twisted pair cable.

## Case Dimension

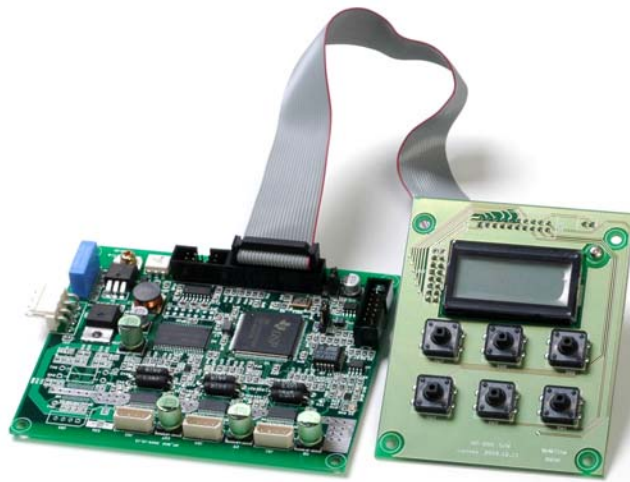


# CONVEX

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## CATALOGUE 2005

### CUSTOMIZED CONTROLLER

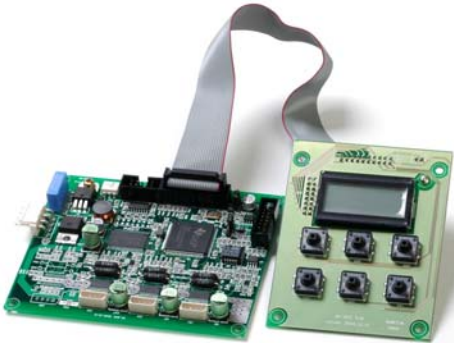


(주) 컨 벅 스

# CUSTOMIZED CONTROLLER

CONVEX CUSTOMAIZED CONTROLLER series

**렌즈 외경 측정기**  
**렌즈 가공 제어기**  
**커팅 제어기**  
**무선 용접 로봇 제어기... 등**



렌즈 외경 측정기



렌즈 가공 제어기



커팅 제어기



무선 용접 로봇 제어기

## FEATURES

### 렌즈 외경 측정기

- 2-Phase Stepping Motor Control (4Axis)
- AC Motor Control (AC Motor On/Off)
- Encoder Input
- Key, LCD Display
- RS232C Communication

### 렌즈 가공 제어기

- Linear Interpolation
- 2-Phase Stepping Motor Control (2Axis)
- DC Motor Control (DC Motor On/Off)
- Graphic LCD Display
- 400 grams of cutting force
- RS232C Communication.

### 커팅 제어기

- 2-Phase Stepping Motor Control (2Axis)
- AC Motor Control (3Axis AC Motor On/Off)
- DC Motor Control (2Axis DC Motor On/Off)
- Key, 7-Segment Display for User
- RS232C Communication

### 무선 용접 로봇 제어기

- 2-Phase Stepping Motor Control (2Axis)
- Motion & Remote Controller
- RF, RS232 Communication
- Sensor Interface
- LED, 7-Segment Display for User
- Charge a Storage Battery

※ 위의 모델은 주문 제작형 모델이므로 범용으로 사용할 수 없습니다.

CONVEX CUSTOMIZED CONTROLLER series

## Aotostage 3D Scanner 3D Laser Scanner DNA Chip Scanner, etc.

### FEATURES

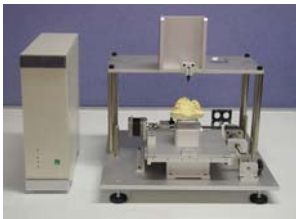
#### Aotostage



Auto Stage

- 3-Axis (X, Y, Z) Control
- Motorized Stage and Controller
- Autostage User Friendly PC Program
- Precision Nanostep Movement less than 100nm
- Auto-filter and Auto-lens Extension

#### 3D Scanner



3D Scanner

- 3-Axis (X, Y, Z) Control
- Motorized Stage and Controller
- Adopts All Directional Touch Probe
- High Speed Data Scan Ability ( 20Hz )
- Applications : Dental Teeth or General Object 3D Measure

#### 3D Laser Scanner



3D Laser Scanner

- 3-Axis (X, Y, R)
- Motorized Stage and Controller
- Modular Mechanical Design for Extension
- High Accurate and Smooth Motion for Precise Image Capture
- Narrow Laser Beam Control Less Than 500um

#### DNA Chip Scanner



DNA Chip Scanner

- Special application for DNA Chip Scan
- 3-Axis (X, Y, R)
- Motorized Stage and Controller
- Automatically logs all scanning and analysis procedures
- High Accurate and Smooth Motion for Precise Image Capture
- User-Selectable Excitation & Emission Filters

※ 위의 모델은 주문 제작형 모델이므로 범용으로 사용할 수 없습니다.