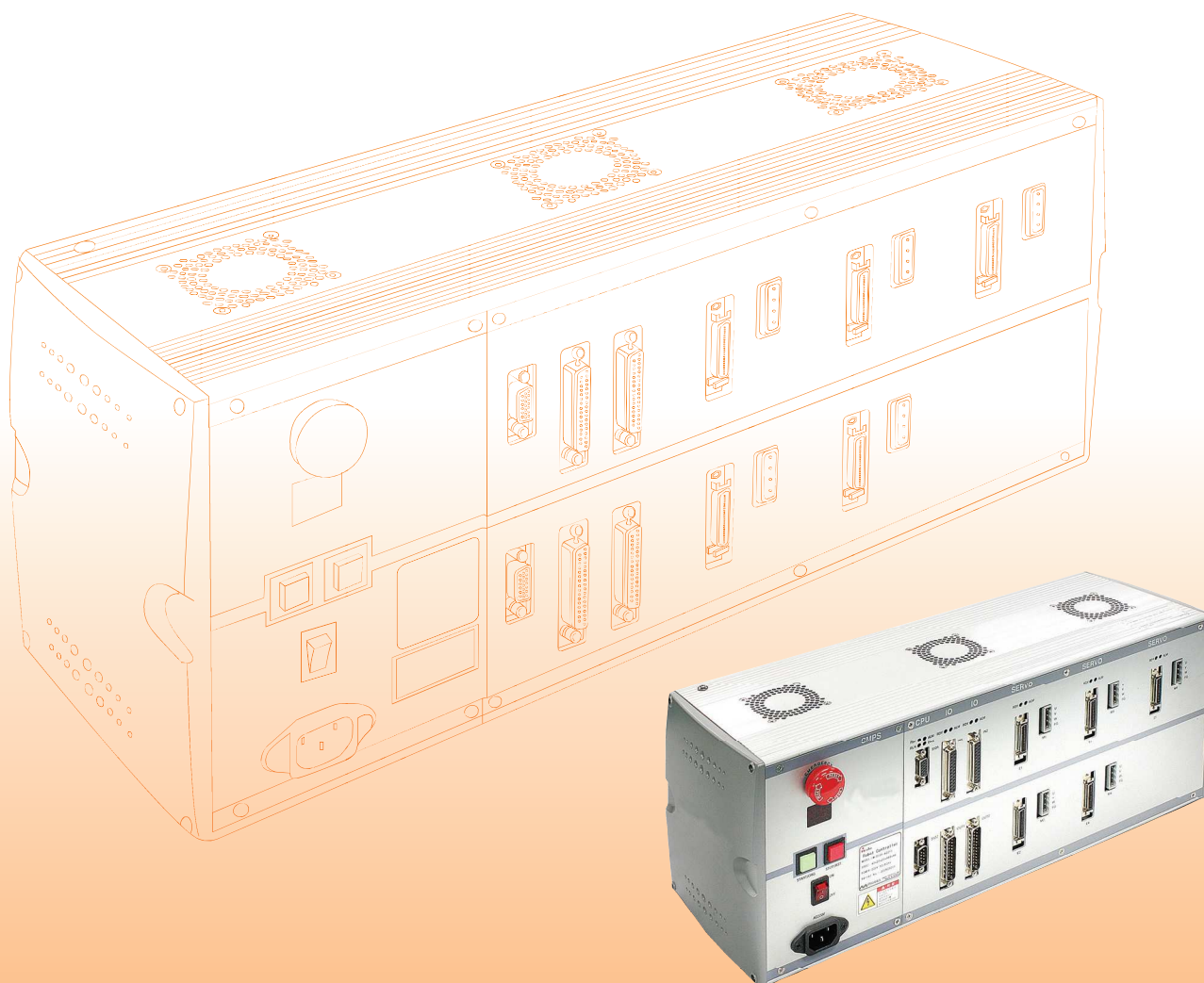


# MULTI AXES CONTROLLER / iM -Σ series



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## 5. User friendly software

The iM-Σ series has different types of software to use easy and enhance system performance. It provides the general purpose software, dispensing software, and screw tightening software, and also PC software.



## Ordering Model

① Series    ② Encoder    ③ Axis    ④ Motor Capacity    ⑤ Option  
**iM - Σ - A - 4 - 4221B - SG-CC**

### 1 Series

Name of the series : iM- $\Sigma$  series are the multi axes controller

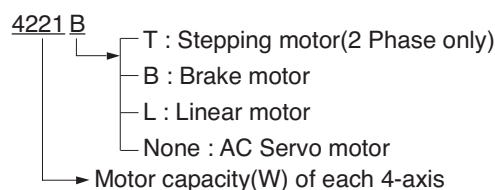
## ② Encoder

A : Absolute Encoder  
None : Incremental Encoder

### ③ Axis

Number of applicable axis (Ex : 4=4 axes)

#### ④ Motor Capacity



4221B : Required motor capacity of 4-axis  
is 400W, 200W, 200W and 100W  
with a brake

**⑤ Option**

**SG** : iM-S software for general purpose  
**EZ** : iM-EZ software for dispensing  
**TZ** : iM-TZ software for screw tightening  
**EIO** : Extend I/O (64/64)  
**CE** : CE certified  
**CC** : CC-Link connection  
**PB** : ProfiBus connection  
**M** : RS422 connection  
**AM** : AD/DA IO & MPG

## Model List

Series	-	Encoder	-	Axis	-	Motor	-	Option	
iM-Σ	-	A	-	2	-	66	-	SG	CC
				3	-	842			
				4	-	8422			
				5	-	84842		TZ	PB
				6	-	848486			
				7	-	8484846			
				8	-	84644444			
			EIO	M					
			CE	AM					

Note1) Motor can be used within maximum capacity as above.

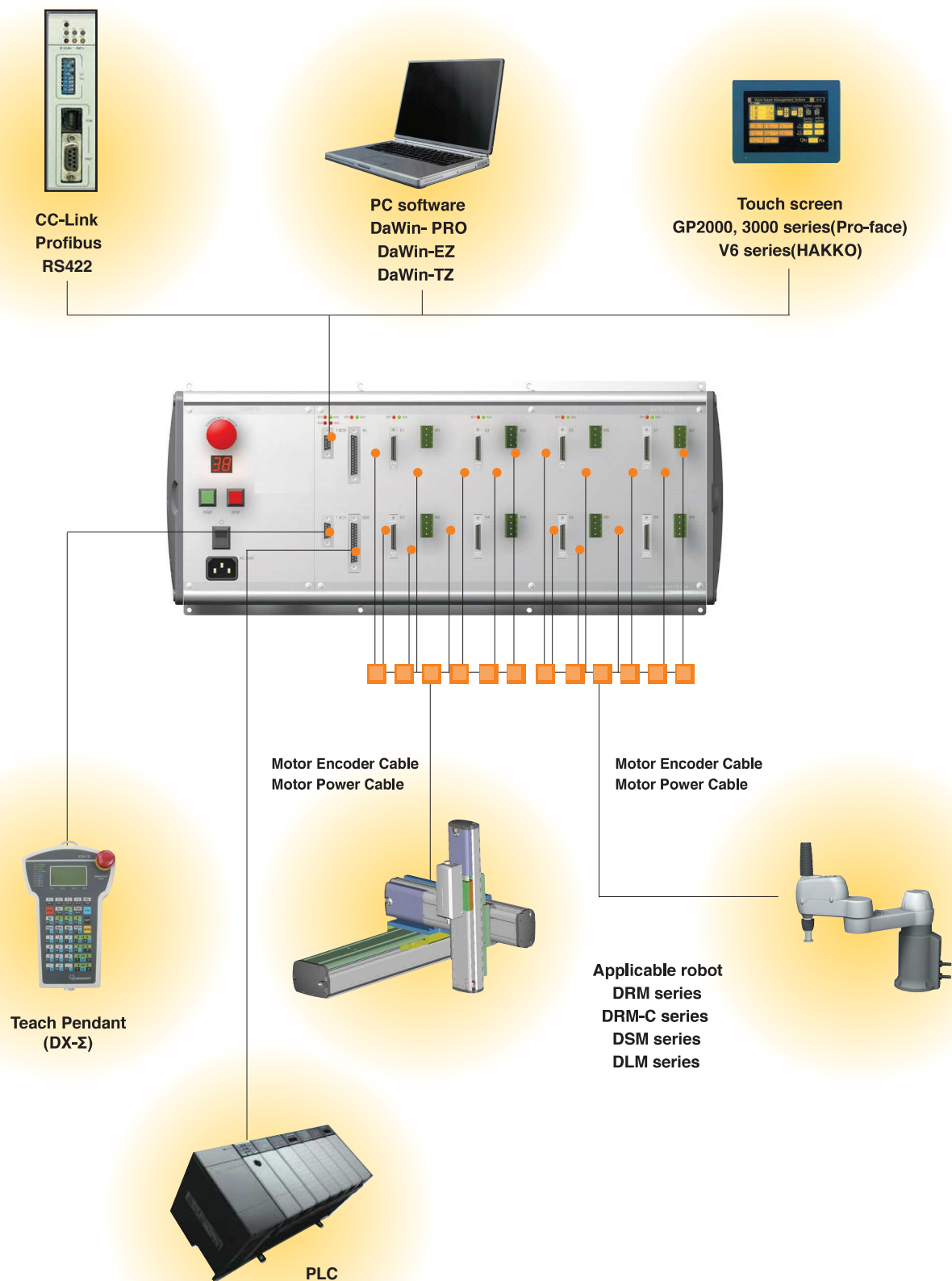
## Specification

Number of axis		2 axes	3/4 axes	5/6 axes	7/8 axes
Control capacity		1.2 kW (Max 1kW/axis)	4 kW (Max 1.2kW/2 axes)		
Input/ Output	Voltage/Frequency	Single-phase AC 220V(-15% ~ +10%), 50/60Hz			
	Capacity(kVA)	Maximum 5.0 kVA			
Applicable encoder type		Incremental type (Line driver: 9/15 lines), linear scaler, Absolute type (Tamagawa TS5667N120 FA-Coder Compatible)			
Programming tool		Teach pendant (DX-Σ), PC (IBM compatible)			
Position data input method		MDI, Direct Teaching, Touch Panel			
Motion control method		PTP control, CP control(3D linear/circular interpolation)			
Operating system		Multi-tasking OS(control Max. 4 independent channels simultaneously)			
Program language		DARL III (DASA's Advanced Robot Language)			
Sequence command		20 command sets(AND, OR, NOT, TIMER, COUNTER, etc)			
Control accuracy		Within±1 pulse of encoder			
Serial interface		RS232C(19,200bps), RS422/RS232C(9,600 to 38,400 bps) optional CC-Link(Note1) Profibus(Note2)			
Input/ Output	System I/O	Selected by parameter setting from General I/O			
	General I/O	Standard: 32/32(photo coupler), Extension: Max. 64/64 points(option), Analog & Digital I/O 2/2 port(option)			
Special function		3D palletizing, pass & turn motion, teaching point shift, I/O parallel processing, R-axis compensation, real time speed change, EZ software (easy function for dispensing, option)			
Internal PLC scan time		5 [ms]			
Safety function		IPM Error, Over Current, Over Load, Encoder Error, Under/Over Voltage, Following Error			
Dynamic Brake		Built-in			
Regenerative resistor		Built-in			
Operating conditions	Operation	Temperature : 0~45°C / Humidity : 20~80%RH (No condensing)			
	conditions	Temperature : -15~60°C / Humidity : 10~90%RH (No condensing)			
	Set-up environment	No erosive gas or explosive gas, no oil mist			
	Vibration	Less than 0.5G			
Memory size		512KB			
Memory backup		FRAM backup			
Applicable robots		DRM, DRMC, DLM, DTR, DSM Series			
Weight (kgf)		6.0	7.1	8.5	10
Dimen- sions	WxDxH[mm](under 2kW)	330 × 166 × 220(188)	405 × 166 × 220(188)	480 × 166 × 220(188)	555 × 210 × 220(188)
	WxDxH[mm](over 2kW)	-	480 × 166 × 220(188)	555 × 166 × 220(188)	630 × 210 × 220(188)

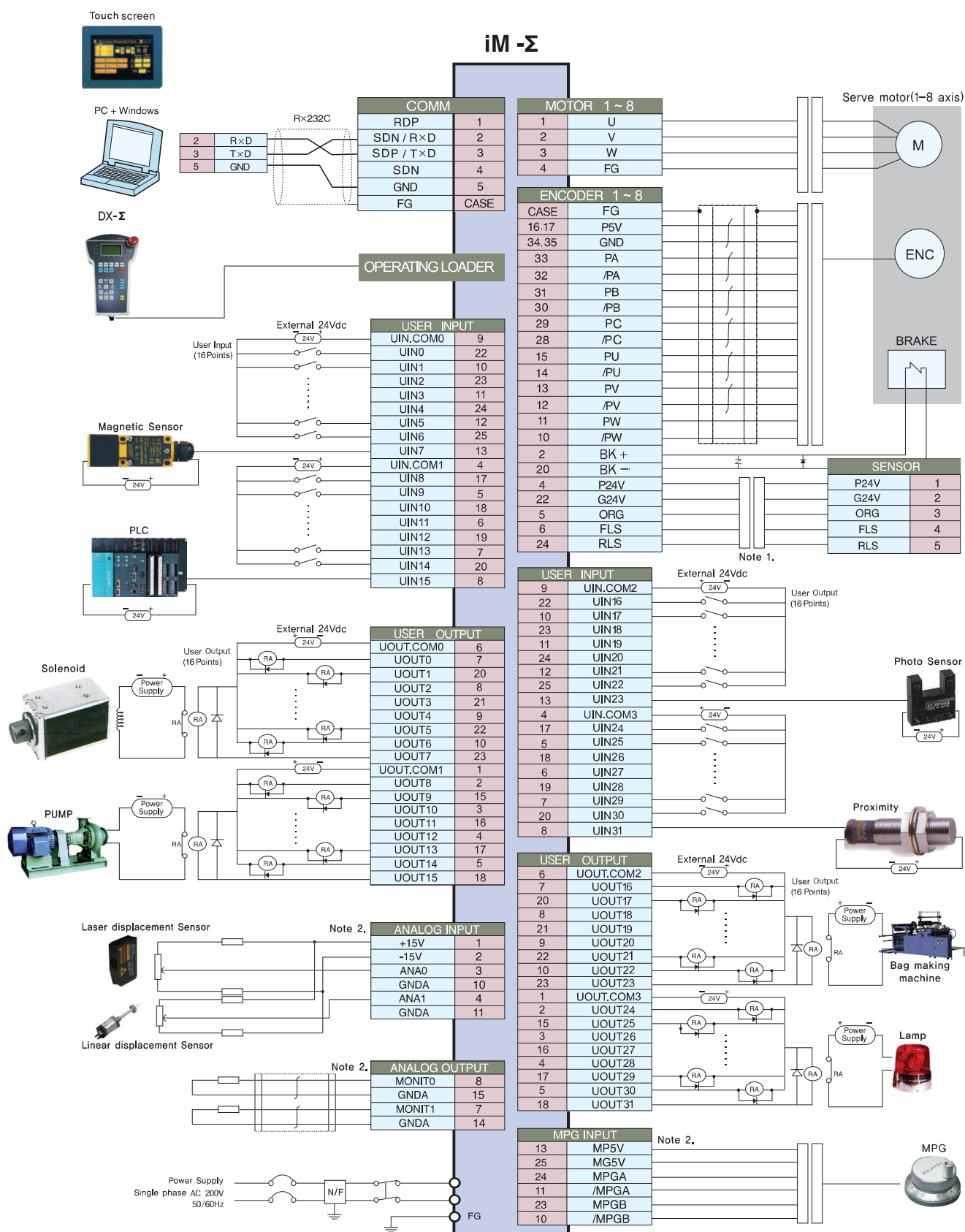
\* The value in ( ) of dimension indicates dimension when there is no rubber at the brackets and bottom.

Specifications	CC-Link (Note1)	Profibus (Note2)
Protocol	CC-Link Slave V2.0	Profibus-DP Slave, En 50170/DIN19245
Interface	RS-485(Electric)/Bus Topology	RS-485(Electrically isolated)
Communication Speed	10M/5M/2.5M/625K/156kbps	9600 ~12Mbps / Auto Baudrate
Communication System	Broadcast Polling System	1.2km ~ 100m / Settlement by Baudrate
Extended cyclic setting	x1/ x2/ x4/ x8	32 station / Segment
The maximum number of occupied stations	4 stations	Input 64 Byte / Output 64 Byte
Link Access	Remote Device Station	9 pin D-sub
Terminating Resistance	110 ohm, 1/2W(Link between DA and DB)	220 ohm, 1/2W(Link between A and B)

## System Configuration

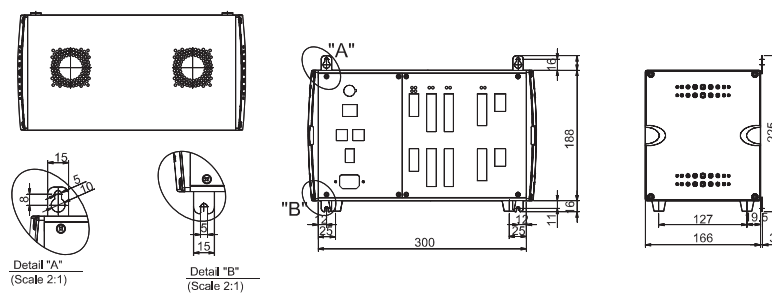


## Wiring diagram



## Dimension

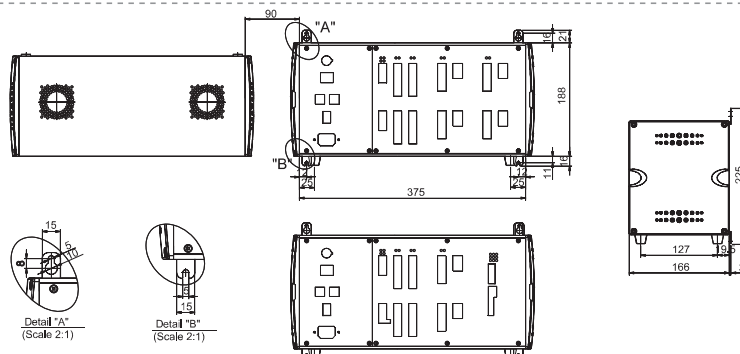
### 2-axis



### 4-axis

### 2-axis of high motor capacity

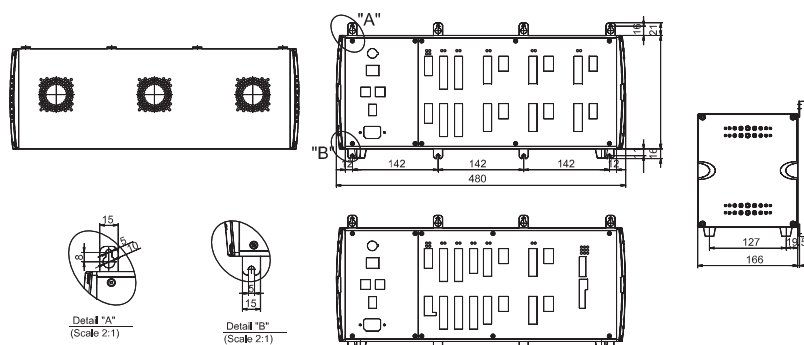
### 2-axis+ Network board



### 6-axis

### 4-axis with dual converter

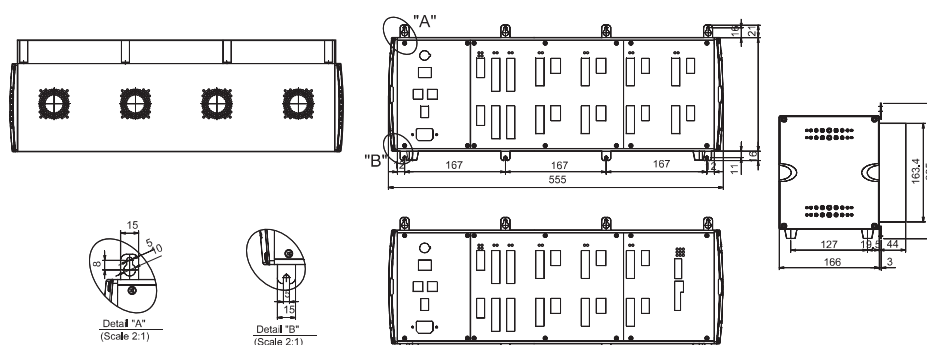
### 4-axis+ Network board



### 8-axis

### 6-axis with dual converter

### 6-axis+ Network board



### 8-axis with dual converter

