

CPCV6 Series Hardware Manual

CPCV6-BOXPC-S1 / CPCV6-070WR / CPCV6-104WF/
CPCV6-150WF
[한국어/ ENGLISH]
[Version 1.2]



COMFILE
TECHNOLOGY

COMFILE Technology, Inc.

한 국 어

1. 개요

CPCV 시리즈는 열악한 산업현장에서 사용할 수 있도록 개발된 산업용 패널 PC입니다. 팬이나 모터와 같은 기계 부품이 없고 방열판과 SSD로 구성되어 있어 내구성이 좋습니다.

2. 용도

산업용 패널 PC로, 산업 자동화 솔루션을 위한 하드웨어로 구성되어 있습니다. 예를 들자면, 터치 스크린, 리얼타임 시계, RS-485, RS-232 등의 기능을 이용하여 PLC 및 유저 개발보드와 연계한 제품을 구성할 수 있습니다.

3. 동작방법

CPV6-070WR는 대부분의 Linux컴퓨터와 마찬가지로 전원(12V)을 인가 한 후, 부팅이 완료된 상태에서 유저 프로그램을 실행하여 동작시키면 됩니다. Windows10 IOT O/S는 일반 범용 PC와 동일한 방법으로 사용 가능합니다. 유저 프로그램 개발은 일반적인 범용 컴퓨터와 같이 사용 가능한 모든 프로그래밍 언어로 프로그램 할 수 있습니다. 프로그램 개발의 몇 가지 가이드는 아래와 같습니다.

- .NET (C# 및 VB.Net) - **C#, VB.Net**, .NET 7를 사용하여 CPCV6 시리즈용 어플리케이션을 개발하고 디버깅 할 수 있습니다.
- **C/C++** - MFC 와 같은 프레임워크를 사용하는 GUI 응용 프로그램을 포함하여 C 및 C++를 사용하여 CPCV6 응용 프로그램을 개발하고 디버깅 할 수 있습니다.
- **자바** - 개발 및 자바 및 자바 FX 를 사용하여 CPCV6 에 대한 응용 프로그램을 디버깅 할 수 있습니다.

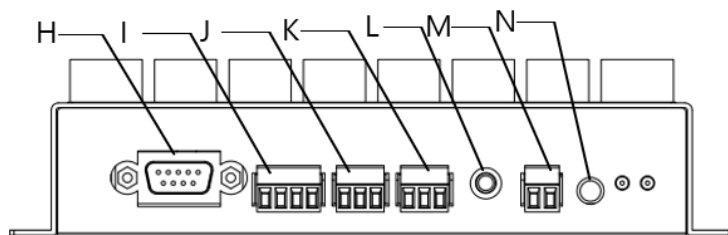
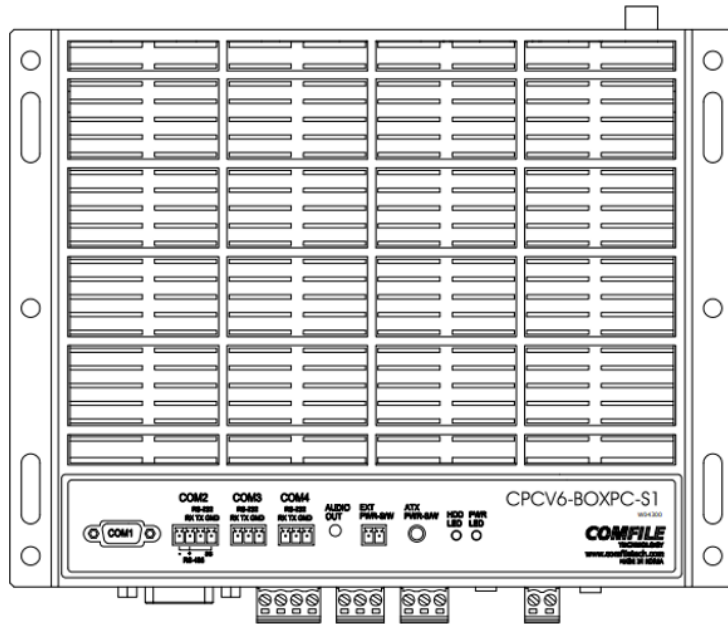
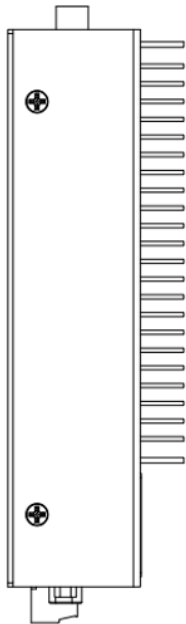
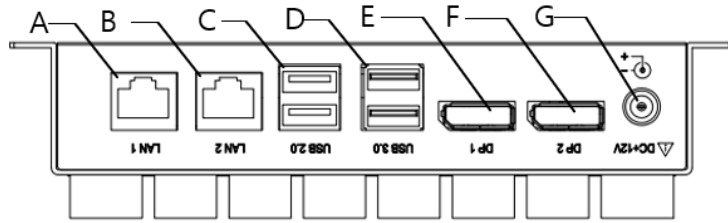
4. 하드웨어 사양

항 목		모델명			
		CPCV6-BOX-S1	CPCV6-070WR	CPCV6-104WF	CPCV6-150WF
CPU		Intel Celeron J6412 / Quad Core/ 2GHz			
CPU Type		Onboard			
RTC		Chipset Built-in RTC with Lithium Battery			
Memory		SODIMM DDR4 4GB			
Graphics		Intel UHD Graphics, DP Output Port x 2			
Ethernet		2x Intel Ethernet Controller I226-LM 2.5GbE			
Audio		Realtek High Definition Audio 1x Audio Line Out Port			
USB		2x USB2.0, 2xUSB3.0			
HDD		m-SATA 128GB			
Display	Size		7inch	10.4inch	15inch
	Resolution		WSVGA(1024 x600)	XGA(1024 x 768)	
	Aspect Raio		16:9	4:3	4:3
	Colors		16.7M	262K	16.7M
	Contrast		800:1	500:	800:1
	Response time		10msec	25msec	16msec
	Brightness		400cd	400cd	420cd
	Lifespan of Backlight		>20,000hrs	>30,000hrs	
	Touchscreen Type		4-Wire Resistive Touch		5-Wire Resistive Touch
Serial		4 Port(Note 1) COM1 : RS232C COM2 : RS232C/RS485 COM3 : RS232C COM4 : RS232C			
Input Power		DC+ 12V (Note 1)			
Power Consumption		<14.4W (1.2A@DC12V)	<16W (1.3A@DC12V)	<18W(1.5A@DC12V)	<24W (2.0A@DC12V)
Weight		660g	1065g	2400g	4050g
Operating Temperature		0°C ~ 60°C			
Storage Temperature		-30°C ~ 80°C			

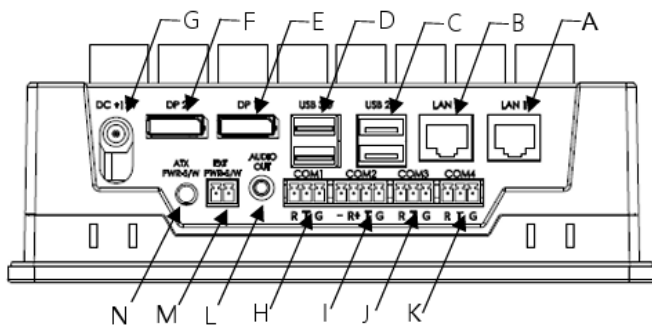
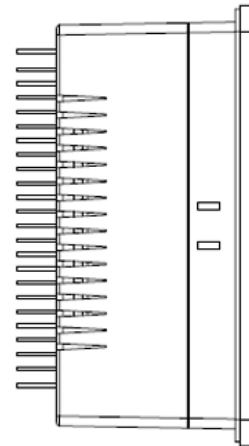
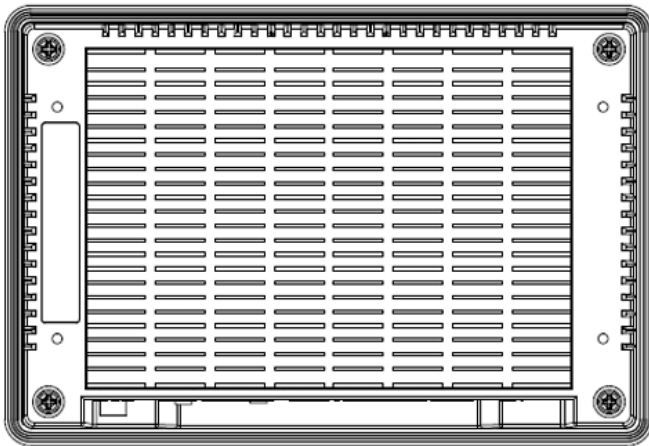
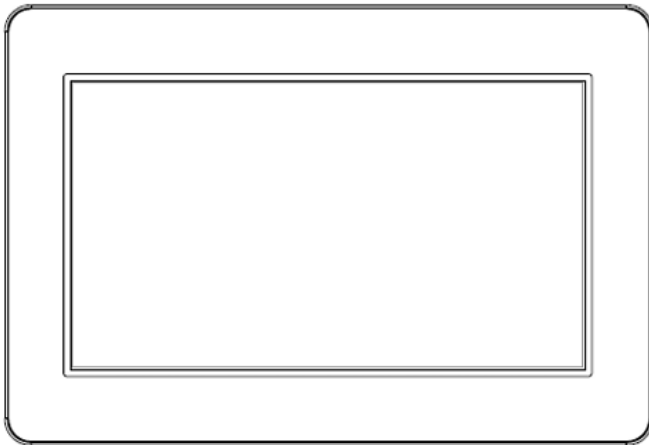
Note1. DC케이블, RS232C/RS485 케이블은 3m 이하로 사용해야 합니다.

5. 각부명칭 및 용도

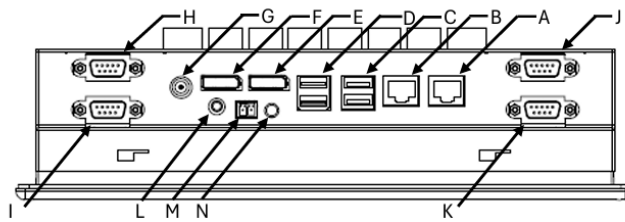
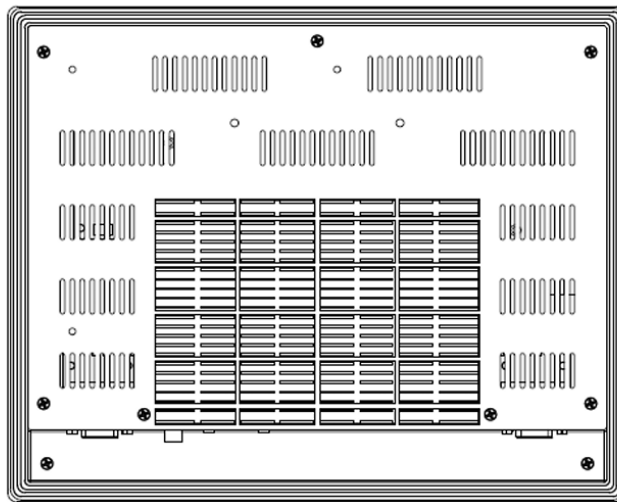
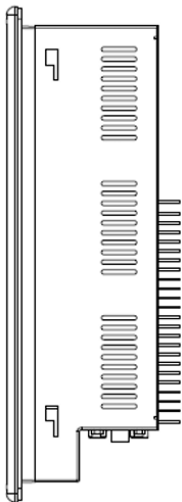
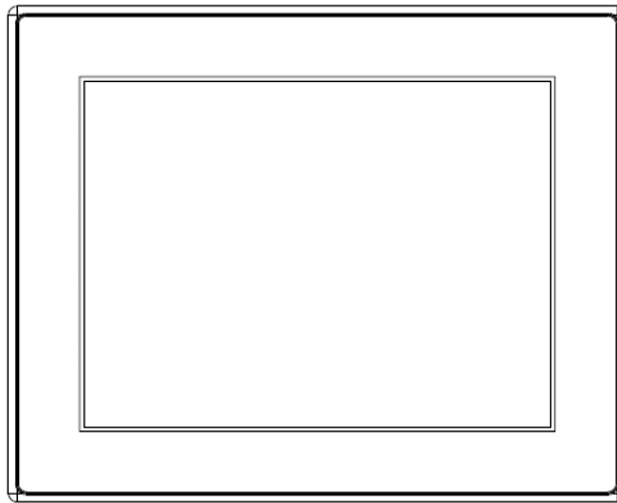
[CPCV6-BOX-S1]



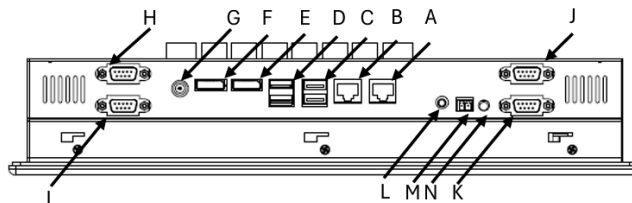
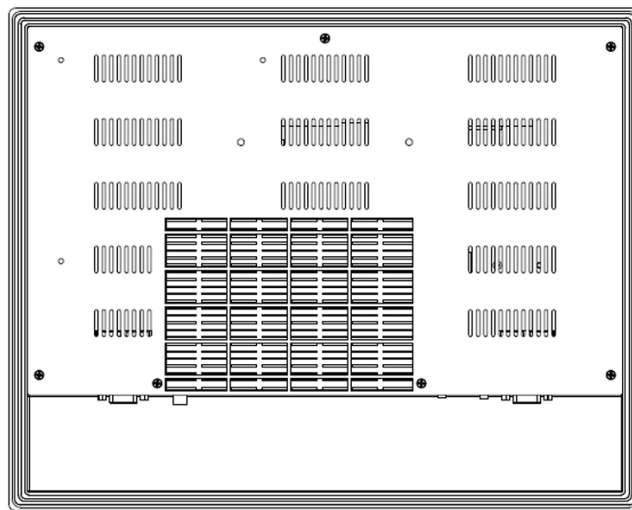
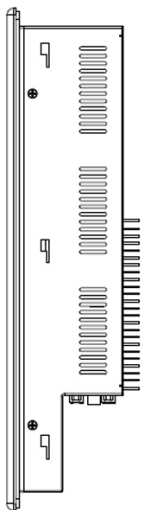
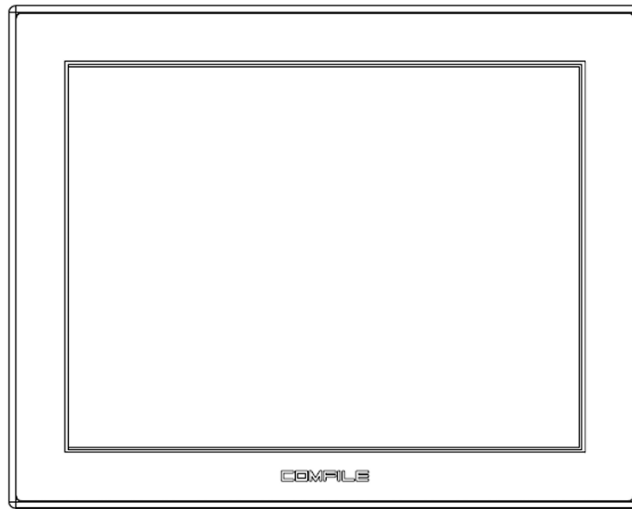
[CPCV6-070WR]



[CPCV6-104WR]



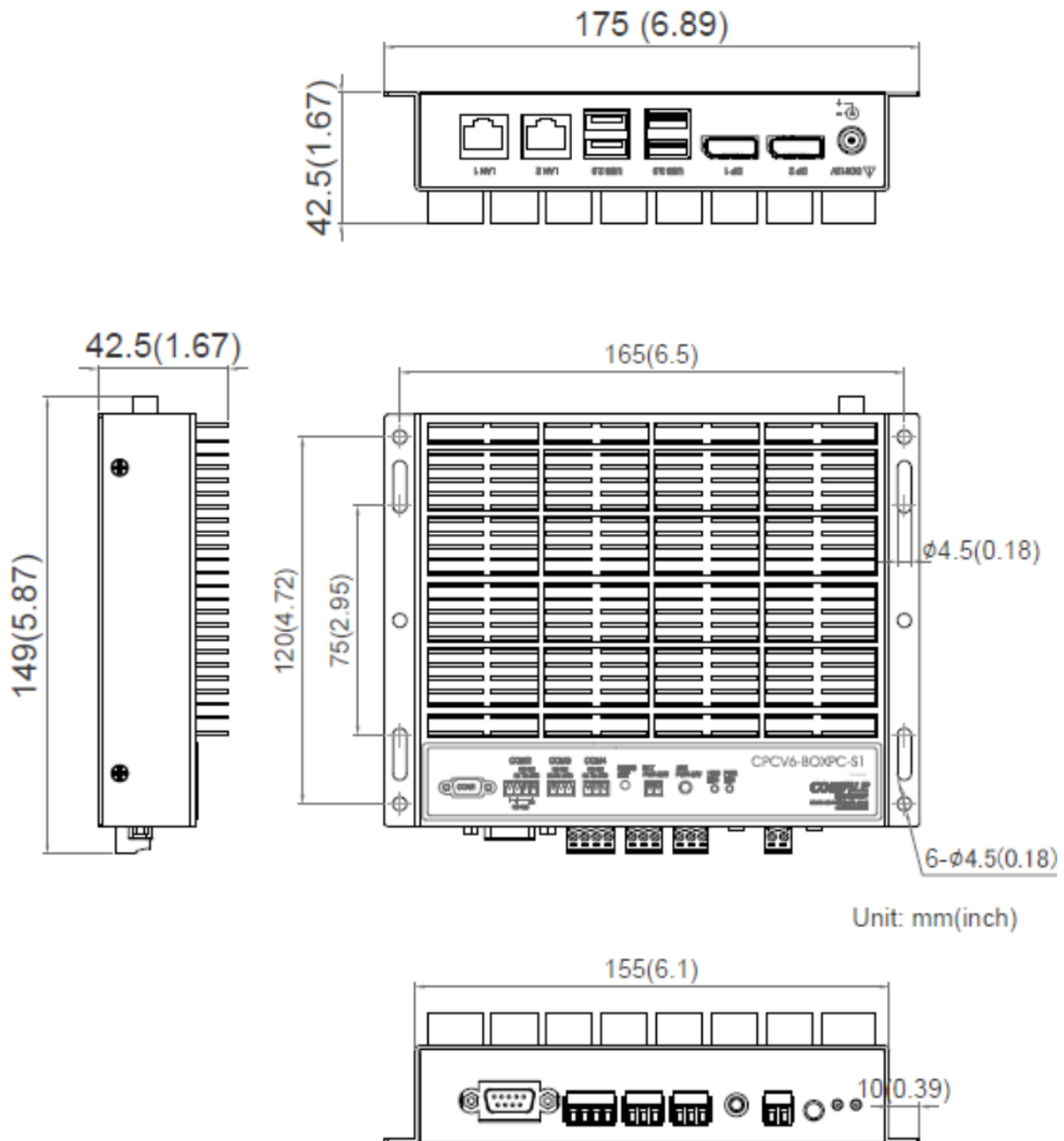
[CPCV6-150WR]



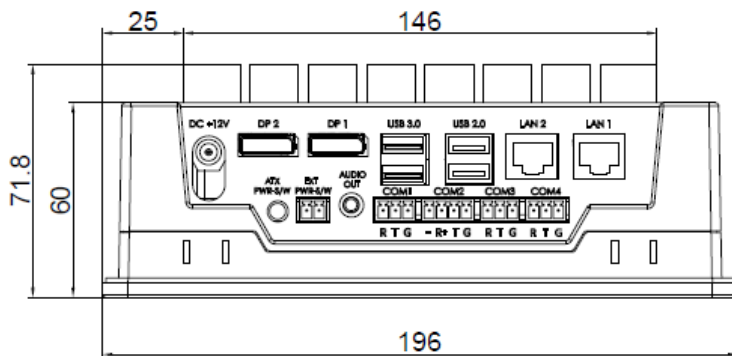
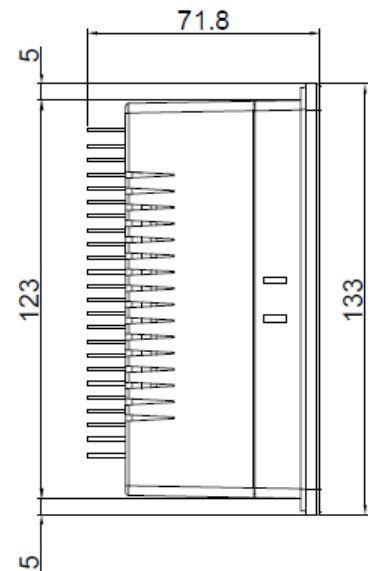
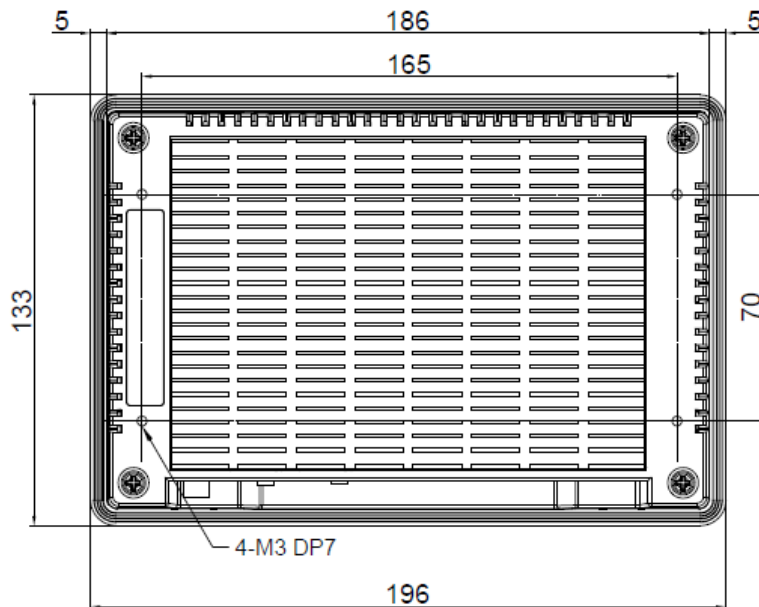
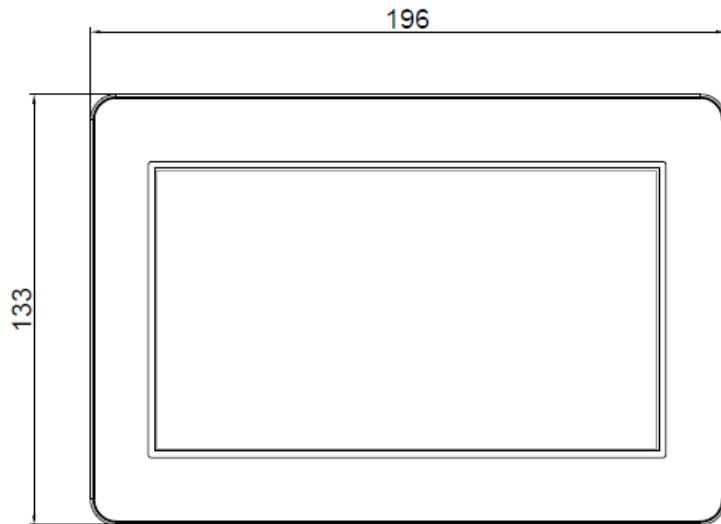
	Name	Description
A	LAN1 Port	Gigabit Ethernet 포트이며, RJ-45 타입의 커넥터 사용
B	LAN2 Port	Gigabit Ethernet 포트이며, RJ-45 타입의 커넥터 사용
C	USB 2.0 Port	USB2.0을 지원함.
D	USB 3.0 Port	USB3.0을 지원함.
E	DP1 Port	DP(Display port) 출력 단자로 외부 모니터 이용 시 사용함.
F	DP2 Port	DP(Display port) 출력 단자로 외부 모니터 이용 시 사용함.
G	DC INPUT	ø2.5 Adaptor 입력 커넥터. (DC + 12V)
H	COM1 Port	COM1 단자. (RS232C신호, D-SUB 9Pin Male Type)
I	COM2 Port	COM2 단자. (RS232C/RS485).
J	COM3 Port	COM3 단자. (RS232C).
K	COM4 Port	COM4 단자. (RS232C).
L	Audio OUT	사운드 출력 단자이며, 외부 스피커에 연결 시 사용함.
M	Ext. Power S/W	외부 스위치와 연결할 수 있는 커넥터이며, ATX Power S/W 와 동일한 기능을 함.
N	ATX Power S/W	ATX 모드 파워 스위치이며, 시스템 부팅 및 종료시킬 수 있음.

6. 외형 및 치수

[CPCV6-BOX-S1]

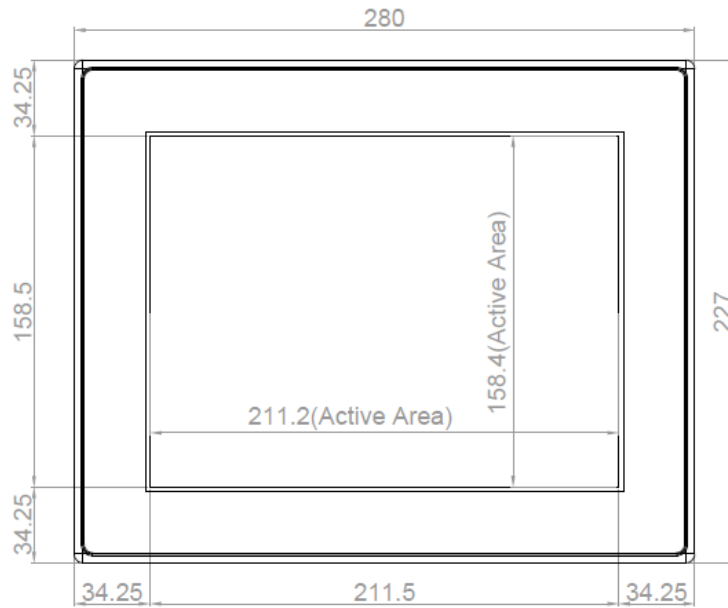


[CPCV6-070WR]

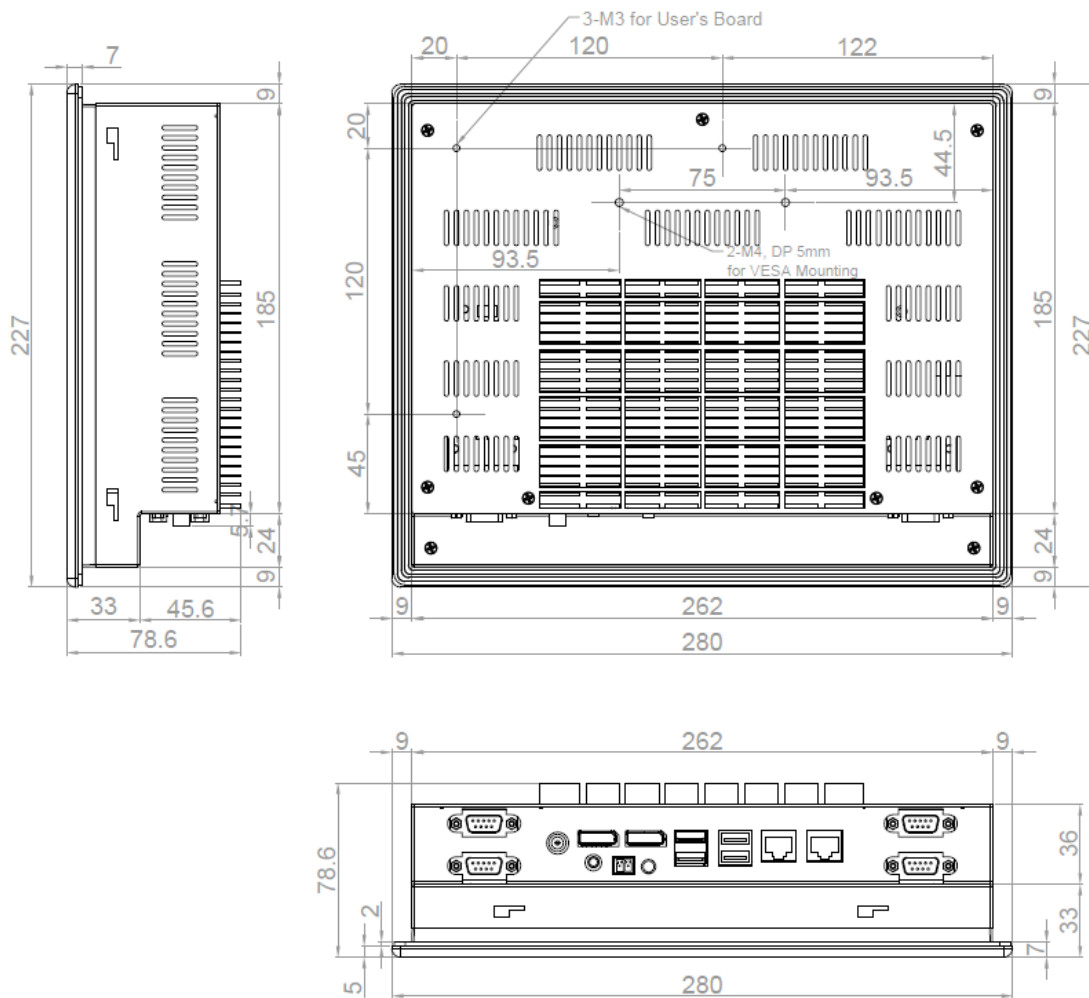


Unit: mm

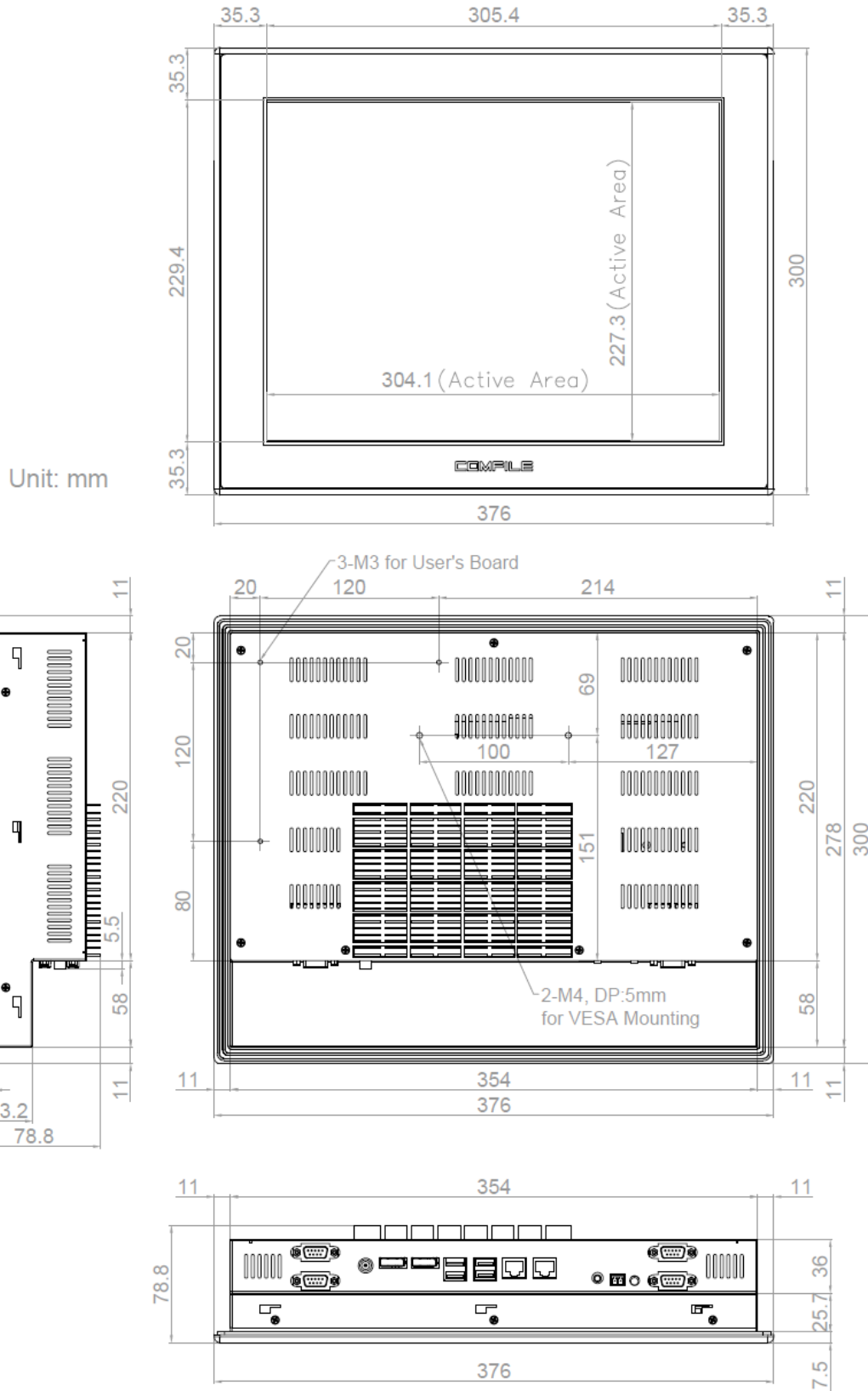
[CPCV6-104WF]



Unit: mm



[CPCV6-150WF]



7. 입출력 커넥터

■ DP(Display port) 출력 커넥터

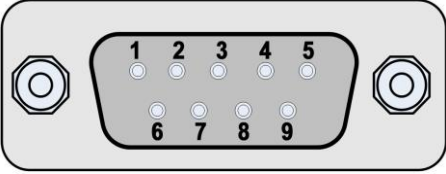
커넥터 형태							
Pin Assignment							
번호	신호명	번호	신호명	번호	신호명	번호	신호명
1	ML_Lane0 +	2	GND	3	ML_Lane0 -	4	ML_Lane1 +
5	GND	6	ML_Lane1 -	7	ML_Lane2 +	8	GND
9	ML_Lane2 -	10	ML_Lane3 +	11	GND	12	ML_Lane3 -
13	CONFIG2	14	CONFIG2	15	AUX CH+	16	GND
17	AUX_CH-	18	Hot plug	19	Return	20	DP_PWR

■ Serial Port 입/출력 커넥터 (COM1/COM2/COM3/COM4)

[CPCV6-BOX-S1 / CPCV6-070WR]

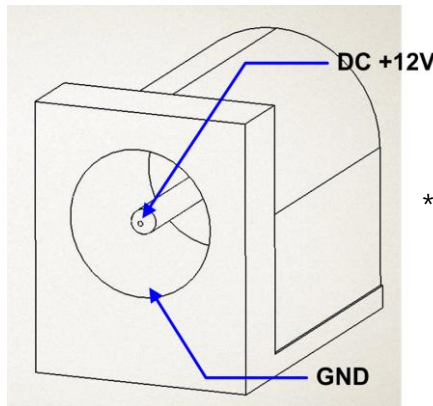
커넥터 형태											
RS232C (COM1)				RS232C/RS485 (COM2)				RS232C (COM3, COM4)			
Pin	Name	Pin	Name	Pin	Name	Pin	Name	Pin	Name	Pin	Name
1	DCD	2	RXD	1	DATA-	2	DATA+ RX	1	RX-	2	TX+
3	TXD	4	DTR	3	TX	4	GND	3	RX+		-
5	GND	6	DSR								
7	RTS	8	CTS								
9	RI	-	-								

[CPCV6-104WF / CPCV6-150WF]

커넥터 형태											
											
[COM1/ COM2/ COM3/ COM4]											
RS232C (COM1)				RS232C/RS485 (COM2)				RS232C (COM3, COM4)			
Pin	Name	Pin	Name	Pin	Name	Pin	Name	Pin	Name	Pin	Name
1	DCD	2	RXD	1	DCD DATA-	2	RX DATA+	1	DCD	2	RXD
3	TXD	4	DTR	3	TX	4	DTR	2	TXD	4	DTR
5	GND	6	DSR	5	GND	6	DSR	5	GND	6	DSR
7	RTS	8	CTS	7	RTS	8	CST	7	RTS	8	CTS
9	RI	-	-	9	RI	-	-	9	RI	-	-

*주의 : RS485모드는 COM2 Port만 지원됨. BIOS내에 COM2 설정 'Electrical Interface Mode'를 사용자가 원하는 모드로 변경해 줘야 함.

■ 전원 입력 커넥터



* ø 2.5 Adaptor Jack



배선 시 주의사항

- 배선 작업 이전에 본 제품 및 외부전원이 꺼져 있는지 반드시 확인하여 주십시오.
- 제품에 전원을 인가하기 전에 정격전압 및 배선상태가 맞는지 확인하여 주십시오.

8. 하자보증

■ 보증 범위

본 제품의 제작사는 본 제품을 구매한 날로부터 최소 1년 이상 제품이 정상 작동할 것 임을 보증합니다.

■ 보증 범위가 아닌 것

하자보증은 정상적인 마모의 경우는 해당하지 않으며, 제품이 제작사에서 인정하지 않은 사람에 의해 열리거나 수리가 된 경우, 제품 오남용, 습도, 열에 노출의 경우, 지침서를 준수하지 않는 경우 하자 보증 범위에서 제외됩니다.

■ 하자보증 요청

하자 보증기간 동안 제품의 결점이 생길 경우 제작사에 문의하거나 제작사로 제품을 하자 설명과 함께 제작자가 제공한 주소로 반송해야 합니다. 하자 보증 요청이 타당하다고 판단되는 경우 제작사는 제품을 수리 후 재 반송합니다.

■ 법적 권리

하자 보증이 제한되더라도 제품 판매에 관한 국가 법률에서 지정하는 법적 권리에 영향을 미치지 않습니다. 하자 보증 제한은 다른 사람에게 이전할 수 없습니다.

■ 책임의 한계

제작사와 공급업자는 직접, 간접적인 이유로 장비가 오작동이나 훼손이 되었을 경우에 대해 책임을 지지 않으며 제작사 및 공급업자의 전체 책임은 제품 설치 급 총액으로 제한합니다. 하자 보증 제한 조항은 명시적 또는 함축적, 서면 또는 구두로 한 기타 다른 하자 보증을 대신합니다.

A/S 및 연락처

CPCV6에 대한 추가적인 정보가 필요하시거나 문의사항이 있으시면, 언제든지 당사 사이트를 방문하여 도움을 받으시길 바랍니다.

회 사 명 : 컴파일 테크놀로지(주)

주 소 : 서울특별시 구로구 가마산로27길 11-9

홈페이지 : <http://www.comfile.co.kr>

전화번호 : 02-711-2592, 팩스번호: 02-711-2593

ENGLISH

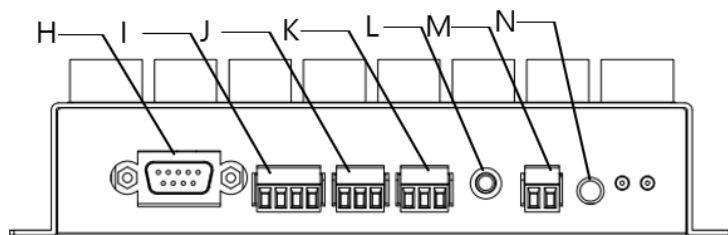
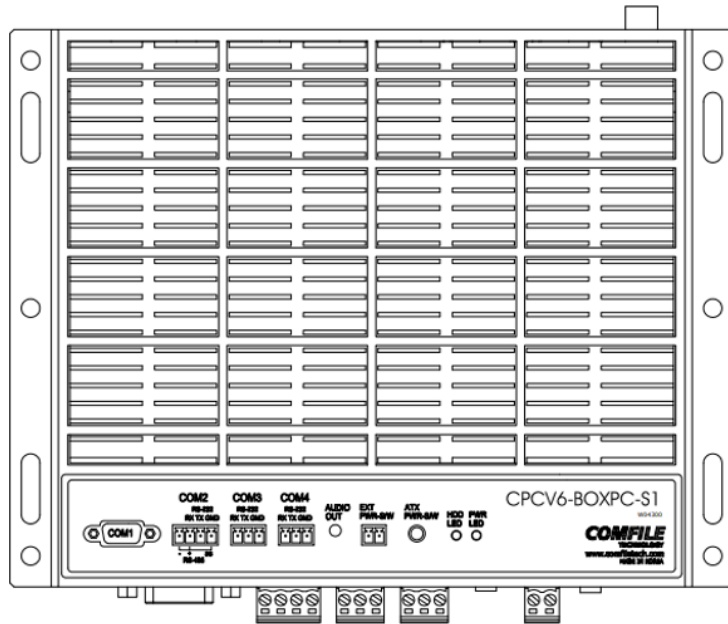
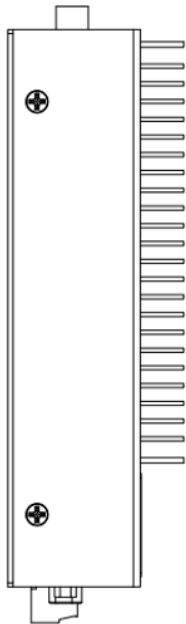
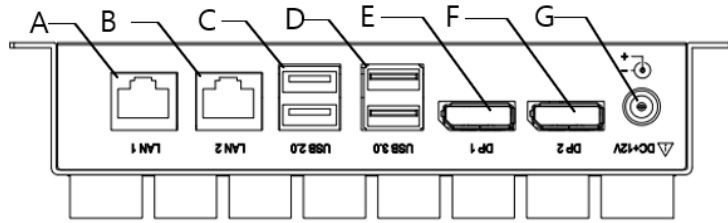
1. Hardware Specification

ITEM		Model Name			
		CPCV6-BOX-S1	CPCV6-070WR	CPCV6-104WF	CPCV6-150WF
CPU		Intel Celeron J6412 / Quad Core/ 2GHz			
CPU Type		Onboard			
RTC		Chipset Built-in RTC with Lithium Battery			
Memory		SODIMM DDR4 4GB			
Graphics		Intel UHD Graphics, DP Output Port x 2			
Ethernet		2x Intel Ethernet Controller I226-LM 2.5GbE			
Audio		Realtek High Definition Audio 1x Audio Line Out Port			
USB		2x USB2.0, 2xUSB3.0			
HDD		m-SATA 128GB			
Display	Size		7inch	10.4inch	15inch
	Resolution		WSVGA(1024 x600)	XGA(1024 x 768)	
	Aspect Ratio		16:9	4:3	4:3
	Colors		16.7M	262K	16.7M
	Contrast		800:1	500:	800:1
	Response time		10msec	25msec	16msec
	Brightness		400cd	400cd	420cd
	Lifespan of Backlight		>20,000hrs	>30,000hrs	
	Touchscreen Type		4-Wire Resistive Touch		5-Wire Resistive Touch
Serial		4 Port(Note 1) COM1 : RS232C COM2 : RS232C/RS485 COM3 : RS232C COM4 : RS232C			
Input Power		DC+ 12V (Note 1)			
Power Consumption		<14.4W (1.2A@DC12V)	<16W (1.3A@DC12V)	<18W(1.5A@DC12V)	<24W (2.0A@DC12V)
Weight		660g	1065g	2400g	4050g
Operating Temperature		0°C ~ 60°C			
Storage Temperature		-30°C ~ 80°C			

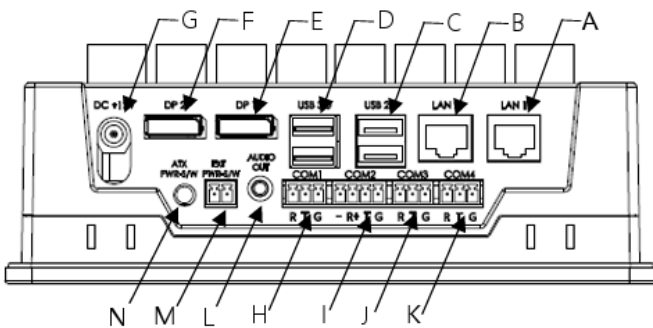
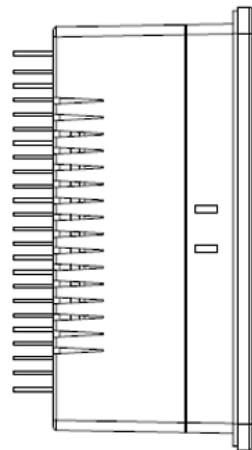
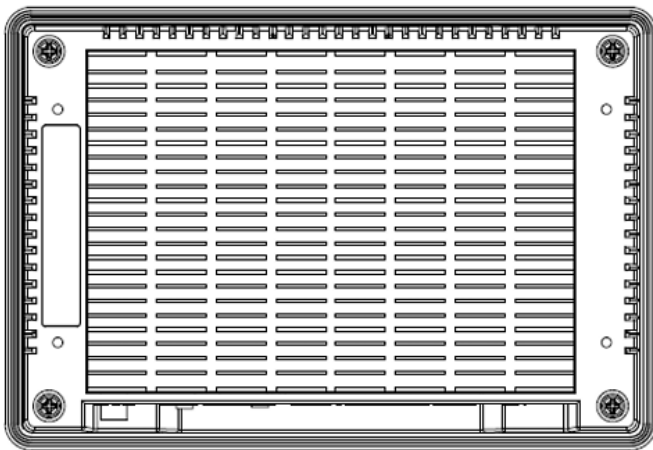
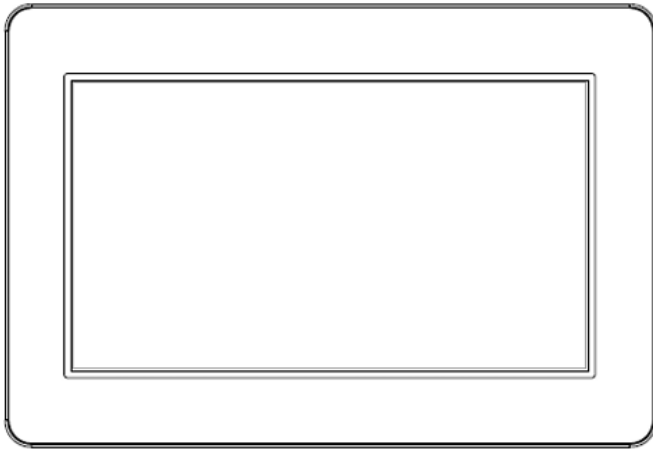
Note1. DC cables and RS232C/RS485 cables must be used less than 3m.

2. External Parts

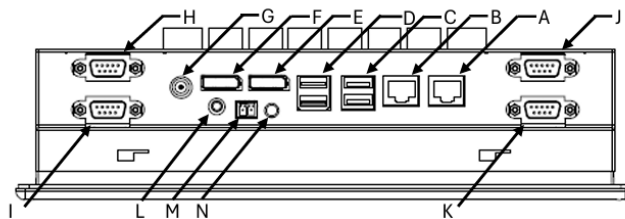
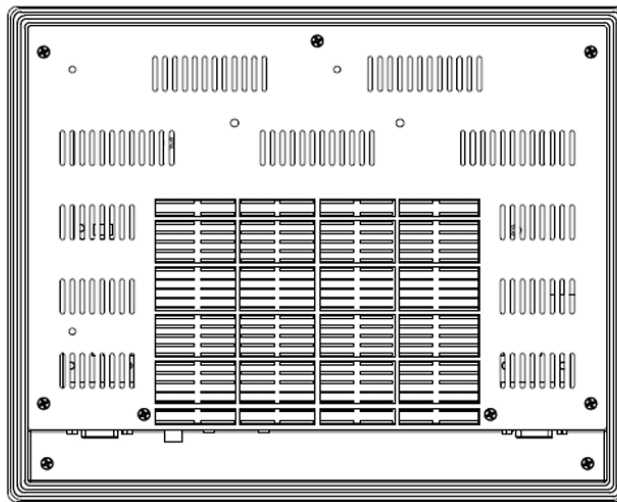
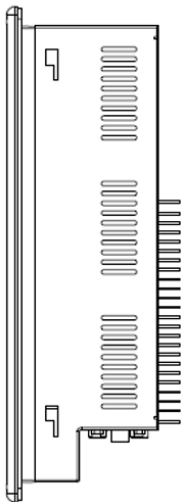
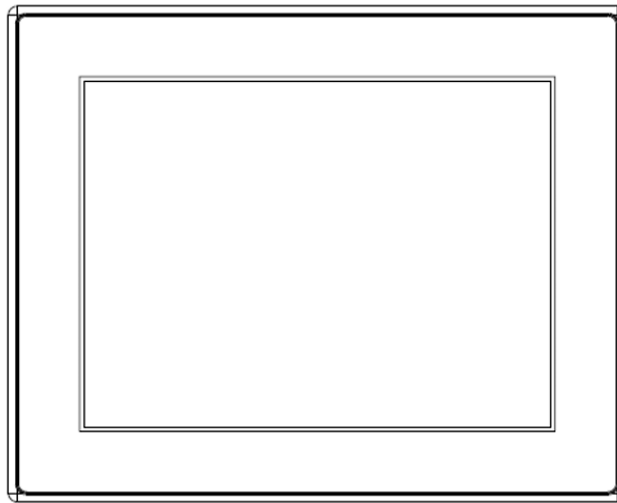
[CPCV6-BOX-S1]



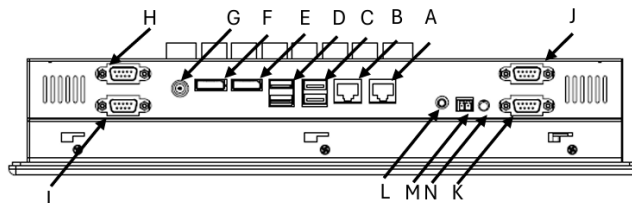
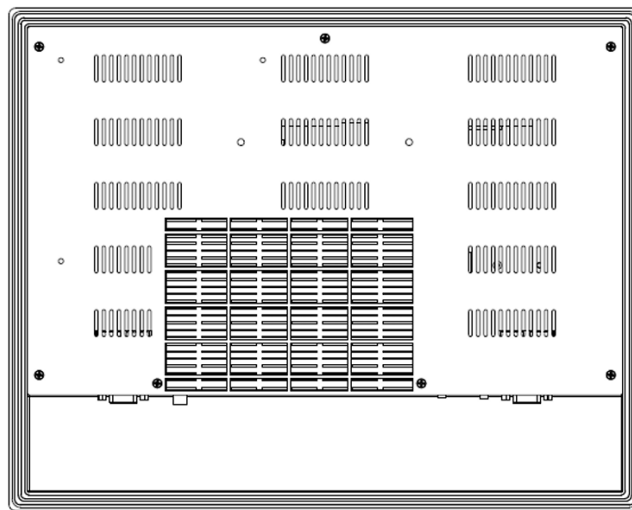
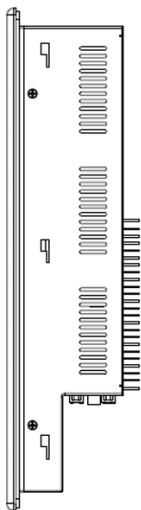
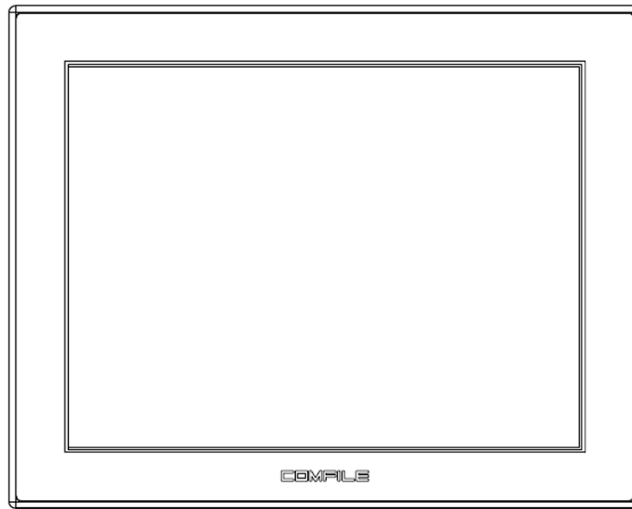
[[CPCV6-070WR]]



[CPCV6-104WR]



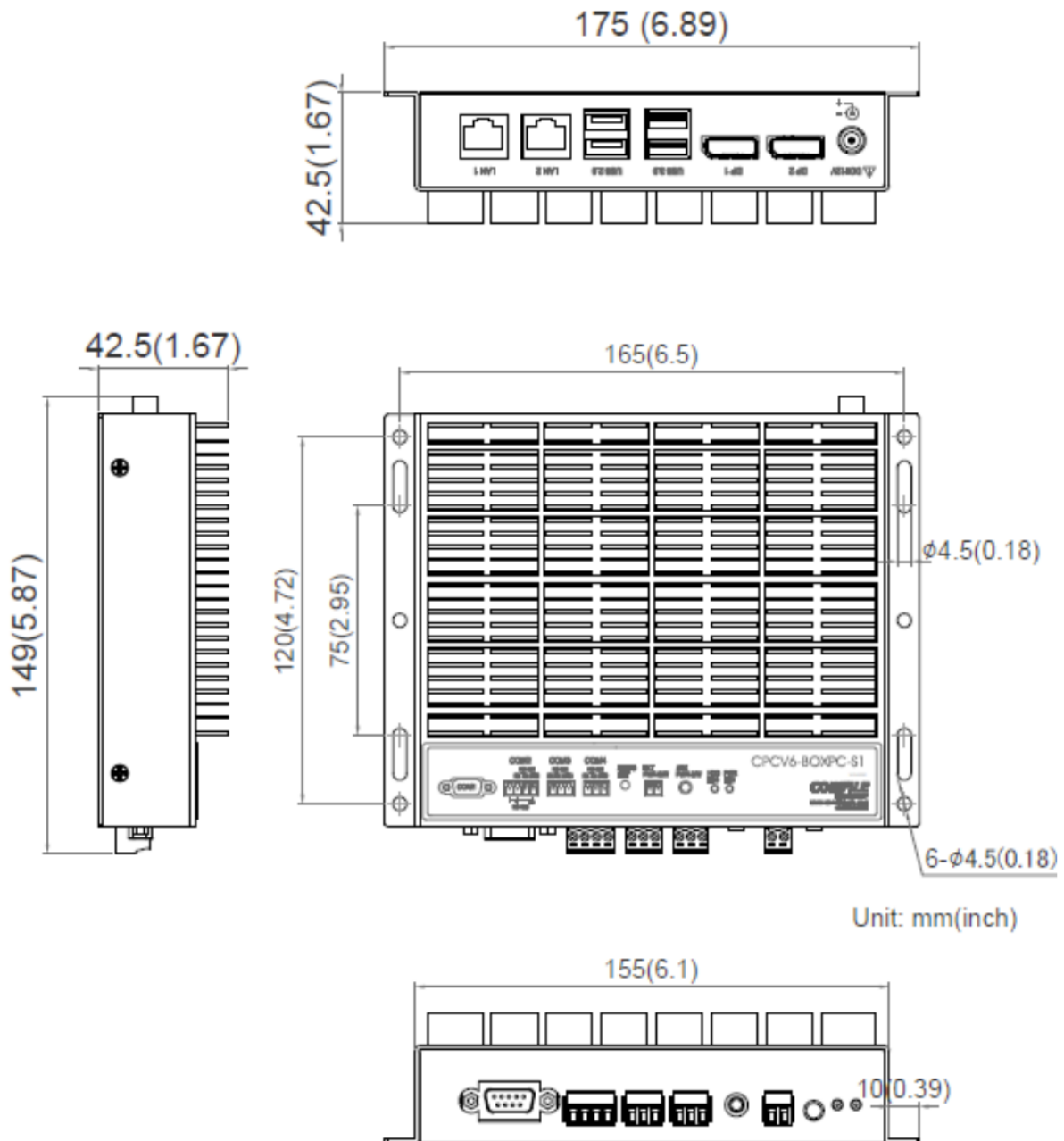
[CPCV6-150WR]



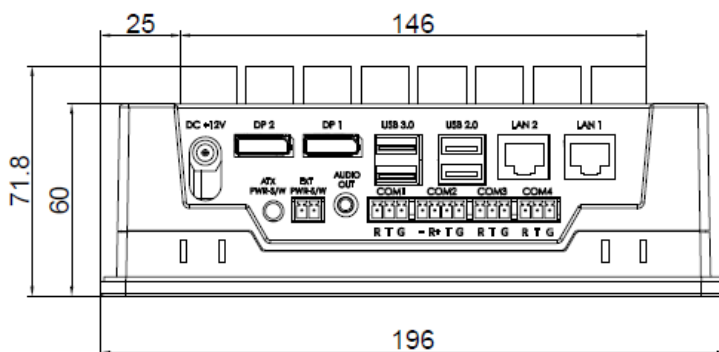
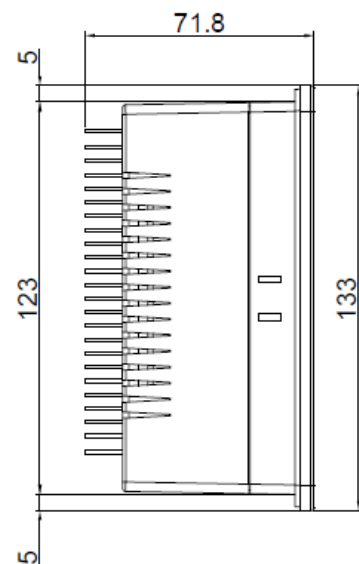
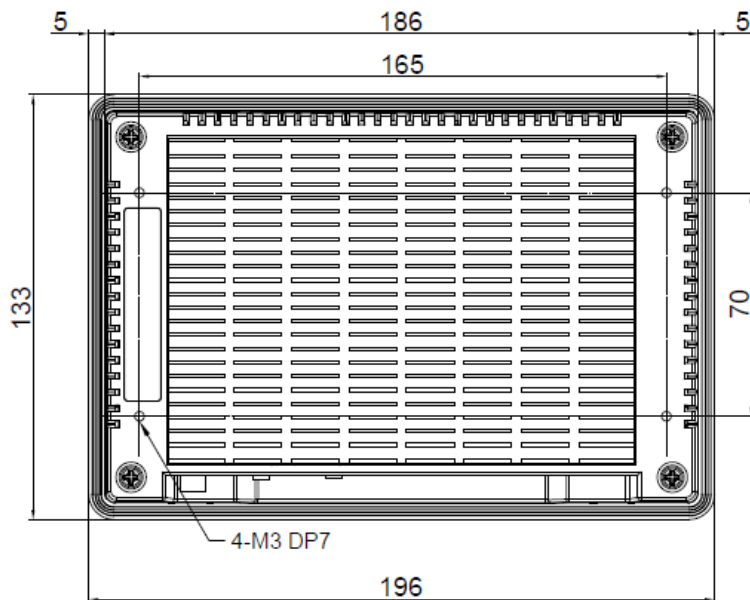
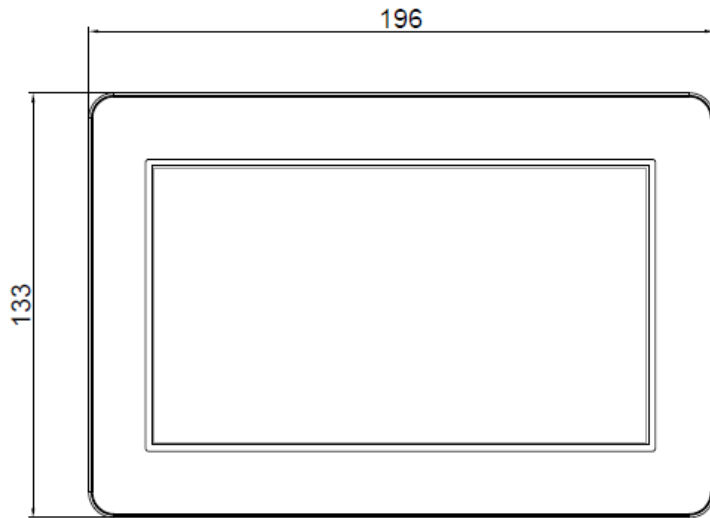
	Name	Description
A	LAN1 Port	Support Gigabit LAN, with RJ-45 type connector.
B	LAN2 Port	Support Gigabit LAN, with RJ-45 type connector.
C	USB 2.0 Port	Support USB2.0.
D	USB 3.0 Port	Support USB3.0.
E	DP1 Port	DP(Display port) output for external monitor.
F	DP2 Port	DP(Display port) output for external monitor.
G	DC INPUT	ø2.5 Adaptor Input Connector. (DC + 12V)
H	COM1 Port	COM1 (RS232C, D-SUB 9Pin Male Type)
I	COM2 Port	COM2 (RS232C/RS485).
J	COM3 Port	COM3 (RS232C).
K	COM4 Port	COM3 (RS232C).
L	Audio OUT	Sound output for external speaker.
M	Ext. Power S/W	The connector which can be linked to external switch. Same function with ATX Power S/W.
N	ATX Power S/W	ATX mode power switch. Boot or exit the system.

3. Dimensions

[CPCV6-BOX-S1]

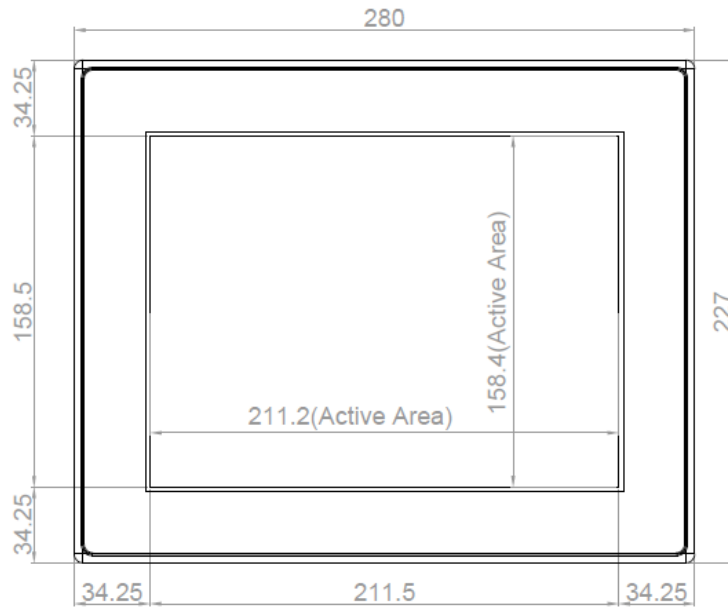


[CPCV6-070WR]

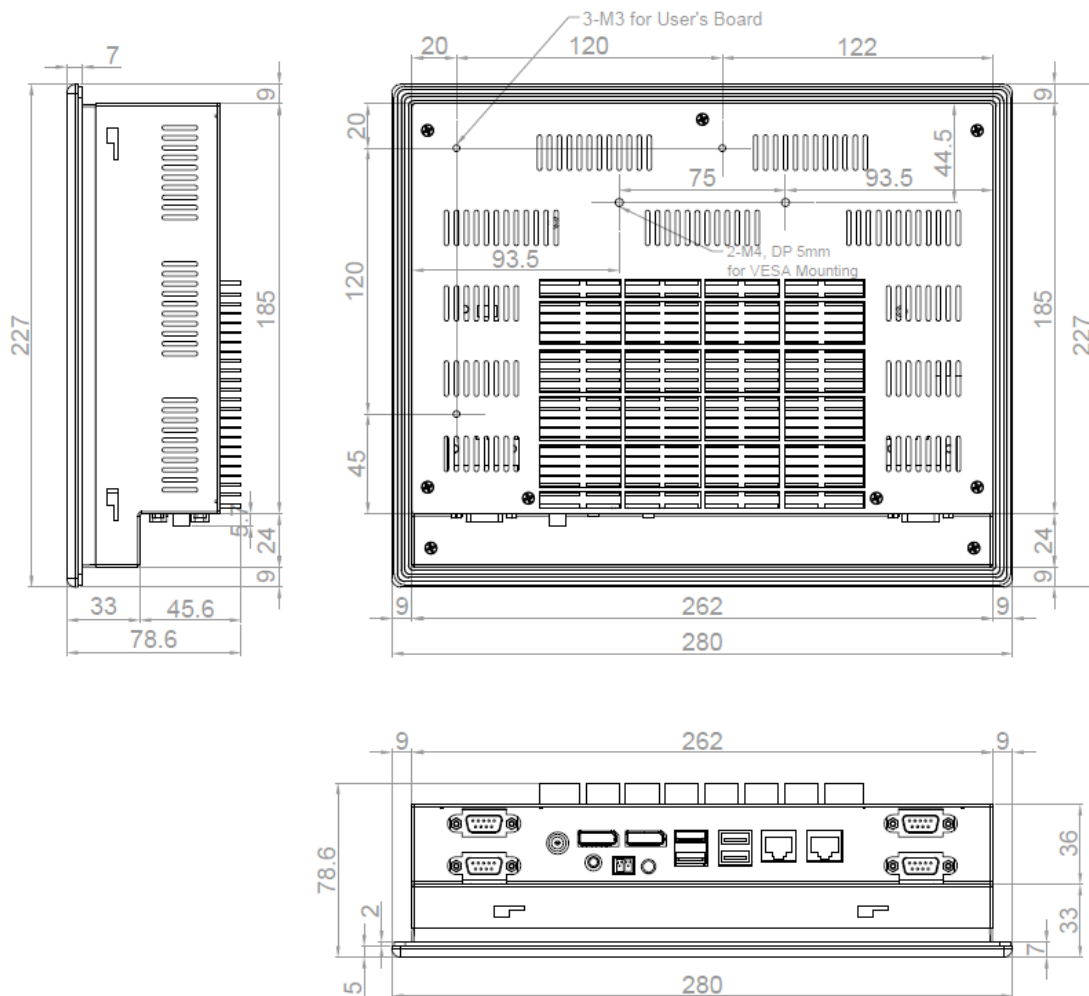


Unit: mm

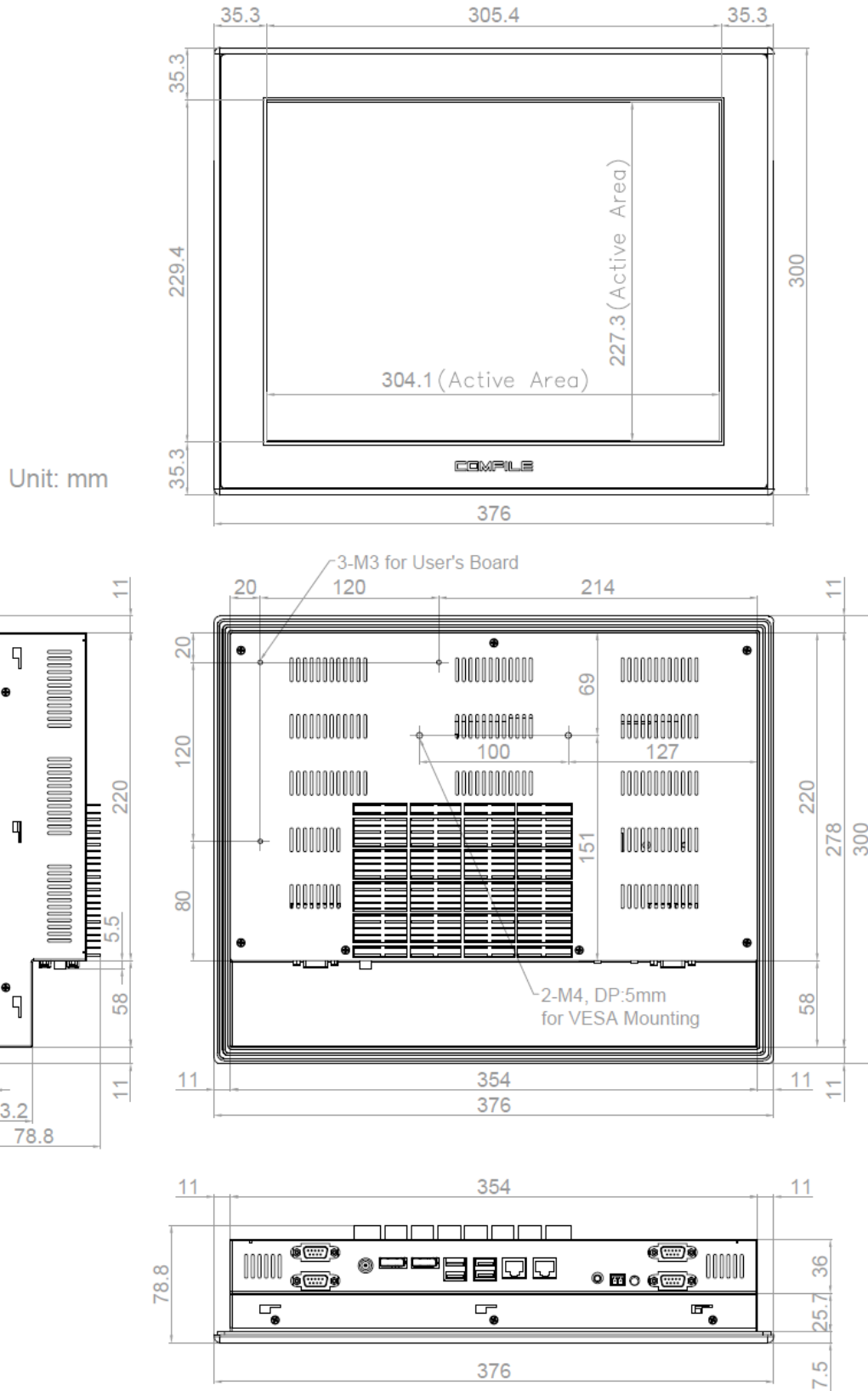
[CPCV6-104WF]



Unit: mm



[CPCV6-150WF]



4. Input/Output Connectors

DP(Display port) Output Connector

Connector Type							
Pin Assignment							
Order	Name	Order	Name	Order	Name	Order	Name
1	ML_Lane0 +	2	GND	3	ML_Lane0 -	4	ML_Lane1 +
5	GND	6	ML_Lane1 -	7	ML_Lane2 +	8	GND
9	ML_Lane2 -	10	ML_Lane3 +	11	GND	12	ML_Lane3 -
13	CONFIG2	14	CONFIG2	15	AUX CH+	16	GND
17	AUX_CH-	18	Hot plug	19	Return	20	DP_PWR

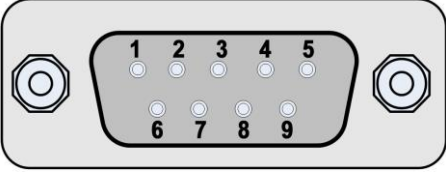
Serial Port Input/Output Connector (COM1/COM2/COM3/COM4)

[CPCV6-BOX-S1/ CPCV6-070WR]

Connector type											
RS232C (COM1)				RS232C/RS485 (COM2)				RS232C (COM3, COM4)			
Pin	Name	Pin	Name	Pin	Name	Pin	Name	Pin	Name	Pin	Name
1	DCD	2	RXD	1	DATA-	2	DATA+ RX	1	RX-	2	TX+
3	TXD	4	DTR	3	TX	4	GND	3	RX+		-
5	GND	6	DSR								
7	RTS	8	CTS								

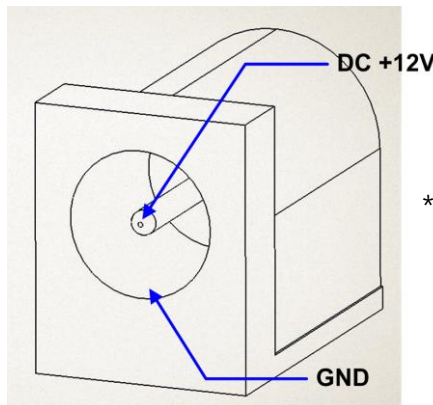
9	RI	-	-		
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[CPCV6-104WF / CPCV6-150WF]

커넥터 형태											
											
[COM1/ COM2/ COM3/ COM4]											
RS232C (COM1)				RS232C/RS485 (COM2)				RS232C (COM3, COM4)			
Pin	Name	Pin	Name	Pin	Name	Pin	Name	Pin	Name	Pin	Name
1	DCD	2	RXD	1	DCD DATA-	2	RX DATA+	1	DCD	2	RXD
3	TXD	4	DTR	3	TX	4	DTR	2	TXD	4	DTR
5	GND	6	DSR	5	GND	6	DSR	5	GND	6	DSR
7	RTS	8	CTS	7	RTS	8	CST	7	RTS	8	CTS
9	RI	-	-	9	RI	-	-	9	RI		-

*Notice : RS485 function is supported by COM2 Port only. User also needs to go to BIOS to set 'Electrical Interface Mode' for COM2.

Power Input Connector



* ø 2.5 Adaptor Jack

Caution for wiring

- Please make sure if every power supply is off before starting wiring.
- Please check the voltage and cables before supplying power.

5. Warranty Policy

■ Warranty Period

The products are warranted to be free of defects in materials and workmanship for 1 year from the date of purchase.

■ Warranty Exclusions

The warranty does not cover abrasion and is considered void if the product is opened by unauthorized person, damaged by abnormal use, heat or humidity, or used against user manual.

■ Request of Warranty Repair

If the products have defect(s) during the warranty period, the customer should inquire at the manufacturer or dispatch the products with the description to the address the manufacturer provides. If the request is appropriate, the manufacturers repairs and dispatch it to the customer.

■ Limitation of Liability

The manufacturer and distributor are not responsible for damages or breakdowns caused by direct or indirect reasons, and the maximum duty of manufacturer and distributor are limited to the total amount paid by the customer. The limitations or exclusions of warranty have priority over any other warranty expressed explicitly, implicatively, in writing, or orally.

Contact Information

Should you need any additional information or assistance about CPCV6, please feel free to contact us.

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