



Automation for a Changing World

# Delta Human Machine Interface DOP Series



PLC1

[www.deltaww.com](http://www.deltaww.com)

 **DELTA**  
Smarter. Greener. Together.

# One Touch Gives You Limitless Possibilities

Meets Customer Needs. Satisfies a Variety of Applications. Provides Multiple Functions. Creates

## A Wide Range of Options

Three serial communication interfaces (RS-232/RS-422/RS-485), USB disk, Ethernet, audio output, SD card and more are supported for various applications.

## Powerful Controller Drivers Support

Not just Delta industrial automation products, but more than 30 brands, and over 100 models of PLCs or controllers can be connected for effortless communication and versatile operation.



*Motion*

**Best Performance**

*Human*

**Beautiful Display**



**Beneficial Features**

# Capabilities with HMI

is the Ultimate FA Equipment.

## Energy Saving and Environmental Automation

All models are equipped with LED backlights which provide energy-efficient lighting that is made without mercury, reduces energy use and CO2 emissions, and protects the environment.

## High Quality and Full-Color Display

A full 65,536-color display is available on all models. With a whole new 2D drawing technique, the screen resolution is enhanced for more realistic images and for more colorful and vivid displays.





es

# Product Line-up

## DOP-B series

The DOP-B series provides various types and different sizes of touch panel HMIs with multiple dimensions and colors, and also offers fast and convenient control functions to meet the diverse application requirements demanded of industrial automation machines.

DOP-B			
4.3 inches Wide		B03S211 B03E211	7 inches
		B07S515 B07E515 B07PS515	
5.6 inches		B05S111	8 inches
		B08S515 B08E515	
7 inches Wide		B07S401K	10.1 inches
		B10S411 B10S615 B10E615	
		B07S411K	10.4 inches
		B07S410 B07S411 B07E411 B07S415 B07E415 B07PS415	

### DOP-H Series

The DOP-H series provides handheld type HMIs and customized teaching pendants for controlling and programming the motion of robot arms and other motion control systems.

DOP-H		
7 inches Wide		H07S425      H07E425 H07S42A      H07E42A H07S465      H07E465 H07S46A      H07E46A

### DOP-W Series

The DOP-W series offers large-size HMIs that come with high resolution and high brightness touch screens, and should be your first choice to meet customer needs for a wide range of high-end industrial automation applications.

DOP-W		
10.4 inches		W105B
12 inches		W127B
15 inches		W157B



## High Quality Display



65,536-color high quality TFT display offers more realistic and vivid images to capture and visualize system and manufacturing processes more quickly.

## Audio Output Interface



In case of errors, an alarm alerts users via an audio message in real time.

Supports built-in amplified speaker using 3.5 mm stereo mini jack

- ▶ As the broadcast of alarms is triggered by the corresponding bit, the alarm messages can be played and output in different sound files by setting values of word registers.



D100	Sound Files	Audio Messages
1	A.wav	Overcurrent
2	B.wav	Overvoltage
3	C.wav	Overload

# Supports Various Peripherals via USB Hub

## Slave (USB-type B)

**!** Compatible with Windows Vista / Windows 7



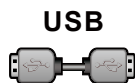
Screen data can be transferred rapidly via USB connection.



Up to 480Mbps high-speed data transfer via USB v2.0



PLC Programming Software: WPLSoft

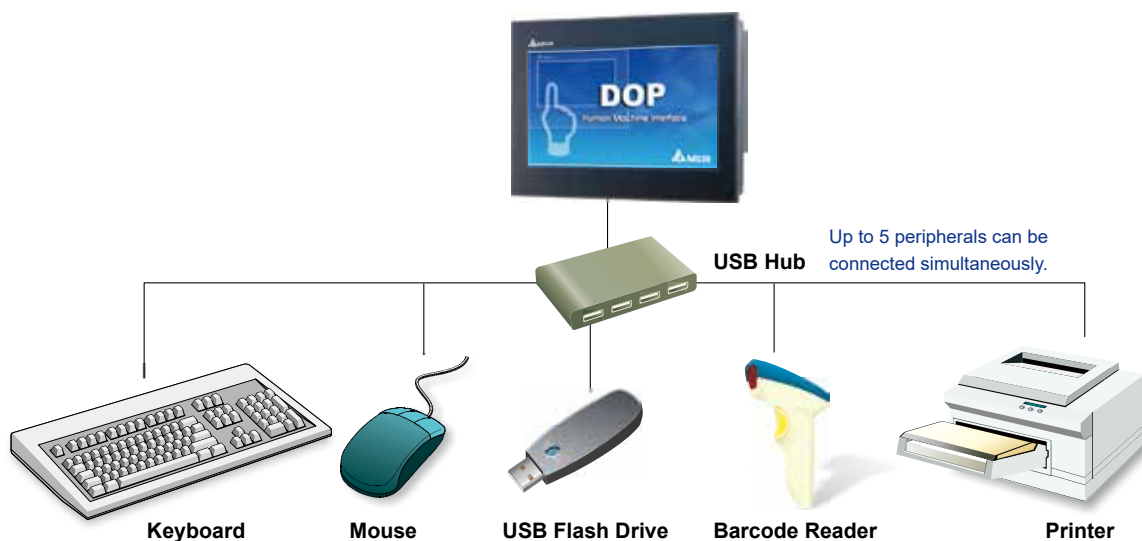


\*Supports Delta DVP series PLC only.

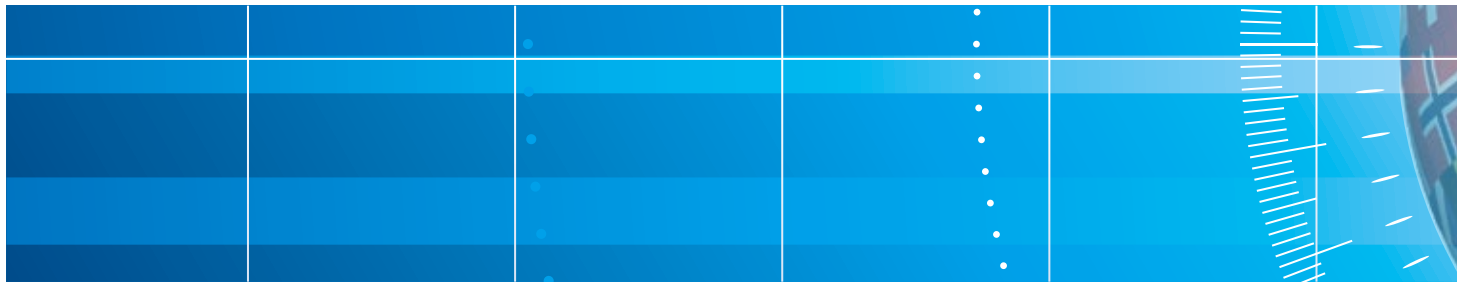
Using the bypass function, enable monitoring functions and modify PLC programs directly via the USB connection.

## Master (USB-type A)

Various peripherals can be connected via a USB Hub.



Supports printers compatible with PictBridge.



## SD Card / USB Disk Versatile Storage Interface

- ▶ Exploiting the convenience of an SD card or USB disk, screen data transfer and collection can be quickly performed and the storage capacities of the HMI can be easily increased. No need to worry about data capacity of excessive history and recipe data
- ▶ SD card and USB disk are in FAT32 format, fully compatible with Microsoft Windows and allow filenames that exceed eight characters in length



The recipe data can be saved in CSV format and easily edited on an external PC in Excel to effectively save PLC memory.



History and alarm information can also be saved in CSV format and stored to the SD card / USB disk.

- ▶ Multiple project screen data can be saved in SD card / USB disk simultaneously and transferred to HMI. No need to connect to a PC
- ▶ The data saved in an SD card / USB disk can be encrypted and the number of copies can be limited to protect the programs from unauthorized use



- ▶ PLC ladder diagrams can be transferred and backed up via SD card / USB disk even in a location where an external PC is not available
- ▶ SD card / USB disk are capable of storing several PLC ladder diagrams

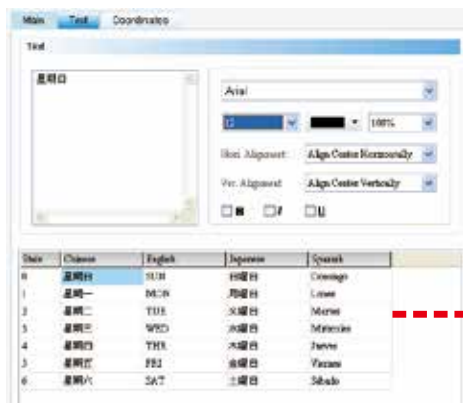
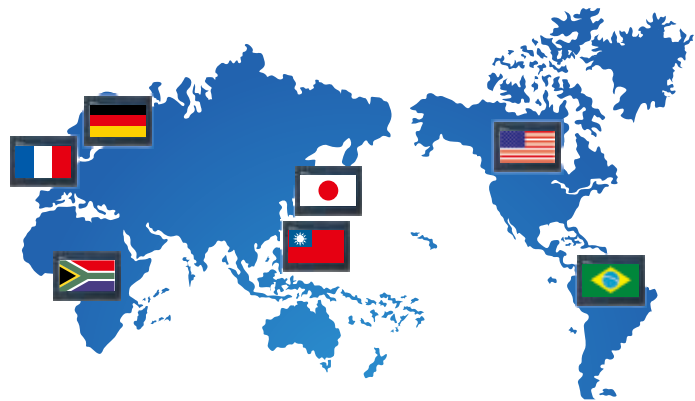






## Multilingual Display

Up to 32 languages are available. No need to redesign the screen data! A benefit for marketing the equipment to manufacturers and end users around the world.

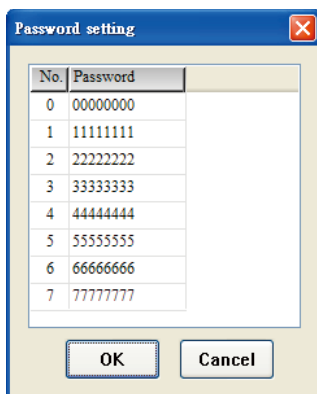


Multilingual editing on a PC in Excel

	Chinese	English	Japanese	Spanish
0	星期日	SUN	日曜日	Domingo
1	星期一	MON	月曜日	Monday
2	星期二	TUE	火曜日	Tuesday
3	星期三	WED	水曜日	Wednesday
4	星期四	THU	木曜日	Thursday
5	星期五	FRI	金曜日	Friday
6	星期六	SAT	土曜日	Saturday

## Password Settings

Provides 8 levels of passwords to set user security and prevent improper use. Only the security level that is equal to or higher than the current setting can use the element.



## Element Invisible Function

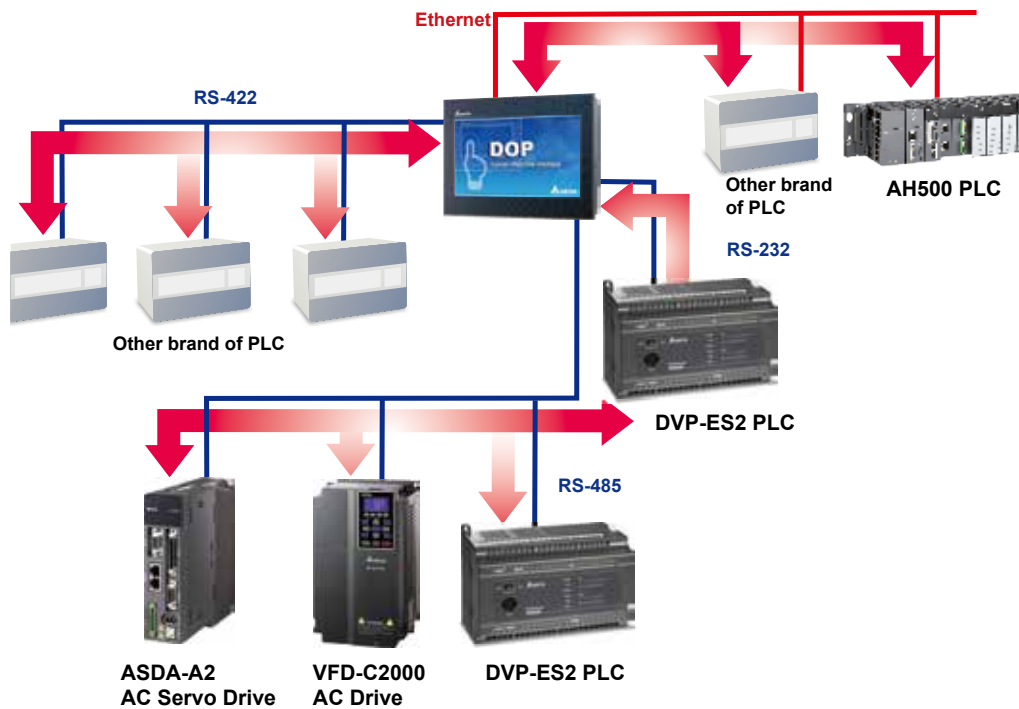
The element on the screen can be hidden by triggering the corresponding bit.



# Provides Diverse Communication Interfaces

## Easy to communicate with more than 30 brands of PLCs/Controllers

All DOP series models support RS-232/485/422 communication interfaces and over 20 different PLC/Controller drivers. With the aid of an Ethernet interface, it is possible to use four communication interfaces at the same time, easily connecting to various industrial automation devices for a complete communication network link managed by Delta's new DOP series.



## VGA Model

DOP-B10VS511 supports VGA video input which integrates live video and HMI display into one unit. Incorporated with Delta's DMV series machine vision system, Delta offers an integrated solution that delivers precise and reliable control to meet the needs of industry upgrades and bring benefits to our customers around the world.



Specifications	
Input Interface	VGA Input
Resolution	800 x 600 pixels
Scanning Frequency	56 Hz / 60 Hz

# Integrates Delta Professional Functions (PS Models Only):

## G-Code

- ▶ Supports Delta's motion controllers: DVP-10MC / DVP-20PM / AH20MC
- ▶ Capable of viewing and changing the G-code files with the HMI
- ▶ Supports serial and Ethernet communications



Drawing Machine

Makes the programming of motion control systems really easy



ASDA-A2 Servo Drive

Run the program



AH20MC

Download to the AH20MC

DOP-B07PS515



Connect the USB Disk to the HMI

USB Host

Copy to the USB disk

## Create Autocad files



Transform to G-Code

```

N01 G00 Z1.00000
N10 G64
N20 G00 X51.41791 Y6.46013
N30 G01 Z-0.10000 F1000.00
N40 G01 X51.43897 Y6.57145
N50 G01 X51.46328 Y6.60449
N60 G01 X54.19628 Y9.64749
N70 G01 X54.54002 Y10.03007
N80 G01 X54.61772 Y10.20689
N90 G01 X54.69736 Y10.58087
N100 G01 X55.03397 Y11.59650
N110 G01 X55.22240 Y12.08614
N120 G01 X55.52968 Y12.78773
    
```

## Electronic Cam (E-Cam) Curve Table

- ▶ Supports ASDA-A2 series servo drives
- ▶ A personal computer is not required. Electronic cam curves can be generated on HMI and downloaded to the ASDA-A2 series servo drive directly

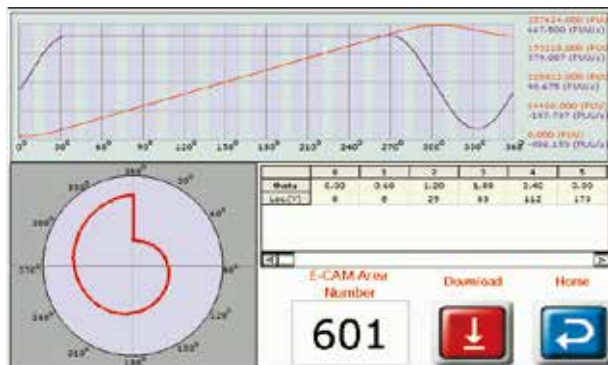


Electronic Cam Curve



## Supports E-Cam table macro for making E-Cam curve on HMI

- ▶ Auto rotary shear with sealing zone
- ▶ Indirect printing
- ▶ Auto rotary shear – cos compensation



## Supports cubic curve manual creation

New	Load	Save	Save As	Delete	Up	Down	Add File	Delete File	Copy
USB Disk:									
SD:									
20120307									
20120221_152917									
20120217_104259									
1-80	0								Cubic Curve
2-7	99								Cubic Curve
3-60	0								N/A

# DOP-W Features



## The Ultimate in Industrial Versatility

- ▶ 1GHz high speed processor for higher computing performance
- ▶ Aluminum enclosure: greater vibration resistance and higher tolerance for ambient environments compared with plastic enclosure.
- ▶ The enclosure with dark gray mold texturing is easily cleaned and ideal for the medical and food sectors.
- ▶ 1024 x 768 pixels high resolution and high brightness display (W127B: 500 cd/m<sup>2</sup>, W157B: 450 cd/m<sup>2</sup>)
- ▶ 256MB Flash ROM
- ▶ Highly reliable touch panel with min. 10,000,000 touches

## Front Speaker

- ▶ The built-in stereo amplifying speaker provides efficient alarm notifications. No additional speaker is required.
- ▶ Apart from replacing general alarm with buzzers, functions for playing recorded voice and reminders are available for multiple applications.
- ▶ Mechanism design breakthrough. The front panel including the front speaker has acquired the IP65 waterproof certificate.



## Multiple Peripheral Interfaces

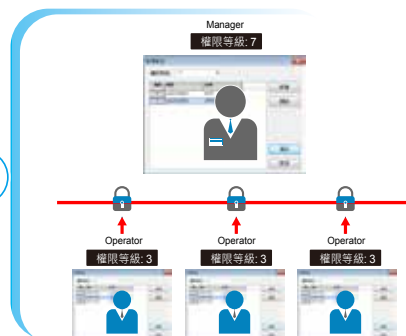
- ▶ Supports 2 COM Ports
- ▶ Supports 2 Ethernet Ports
- ▶ Supports 3 USB Host 2.0 Ports
- ▶ Supports SD card
- ▶ Apart from traditional mounting, DOP-W also supports the VESA standard mounting interface making wall mounts easier.

*\*VESA mounting interface is only available on devices above 12 inches.*

## Multi-User Authority Management

This function allows users to assign authority levels and register passwords to set permissions for different user groups for security control. No need for third-party configuration and set-up costs.

- ▶ 8 levels of user authority Level: 0 ~ 7
- ▶ 8 sets of user accounts with passwords for each user authority



## High-Capacity Memory

- ▶ Increased memory capacity stores more nonvolatile data, such as alarm messages and historical records than ever before for power-loss protection.

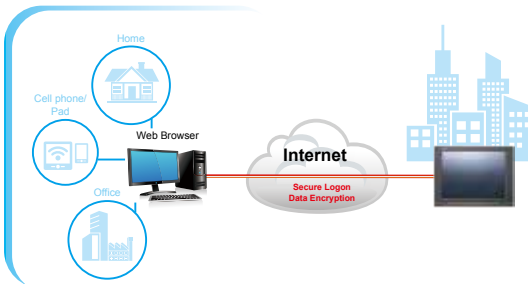
### DOP-B vs DOP-W ROM



## More Powerful Remote Monitoring Function

- ▶ Compatible with eRemote
- ▶ Supports VNC Server
- ▶ Monitoring by eRemote software or web browser on PC
- ▶ Apps for eRemote or VNC Client support Apps on Android devices
- ▶ VNC Client supported Apps on iOS devices

\* JAVA is required in web browsers.



## Two Individual Ethernet Ports

- ▶ Two individual Ethernet ports are equipped as standard, one is for HMI communication and the other is for external I/O for quick and easy integration.



## Multilingual Display

- ▶ In addition to English and numbers, 16 languages are supported for a more localized interface

\* Supports English, Traditional Chinese, and Simplified Chinese only during the launching period.

\* Other languages such as Arabic, French, German, Hebrew, Hindi, Portuguese, Spanish, Japanese, Korean, Thai, Turkish, Russian, and Persian are continually added.



## Video Player

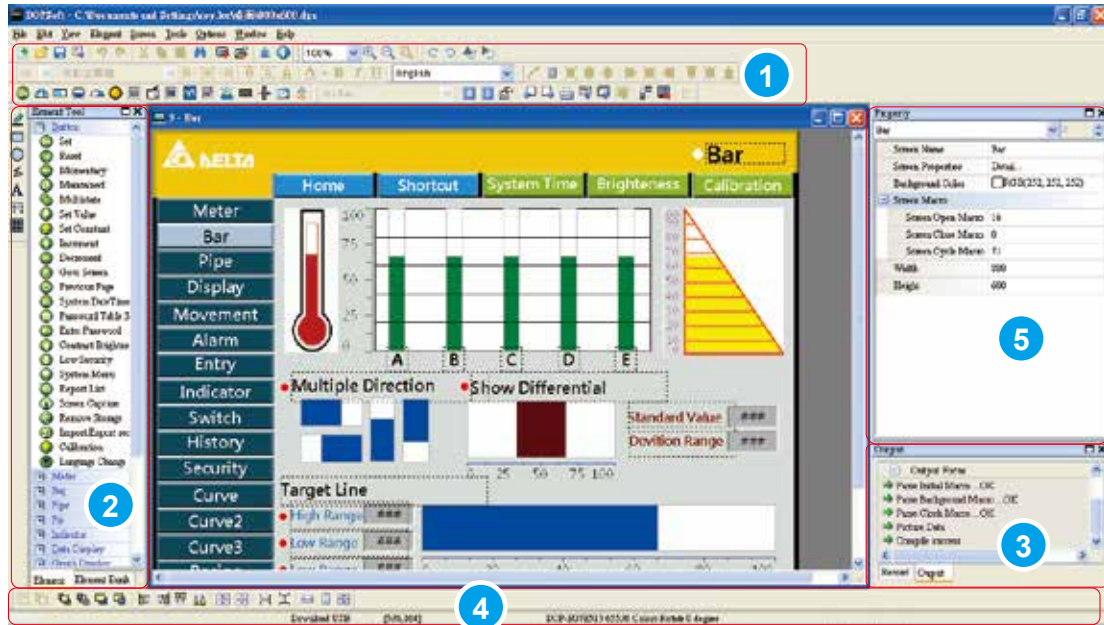
- ▶ A new video player with self-defined playlist allows users to manage the list based on different applications.

\* Supported Format: WMV



# DOPSoft

The all new and upgraded configuration software provides complete functions and a user-friendly operator interface. Make editing easier than ever with a whole new level of design.



## 1 Toolbar

Actions such as edit, save, upload and compile can be executed easily just by clicking the attractive and easy-to-see icons on the toolbar.

## 2 Element Tool Window

The Element Tool Window provides a wide variety of element icons for selection. Use the mouse to select the desired element icon and drag it onto the work place to create a new element.

## 3 Output Window

The Output Window displays all the editing actions and output messages when the compile function is enabled. Once an error occurs, the error messages are displayed in Output Window as well.

## 4 Layout Toolbar

The Layout Toolbar offers Bring to Front, Send to Bottom, Align, Across / Down Space Evenly, Make Same Size and other functions for the benefit of creating intricate and beautiful elements.

## 5 Property Table

The Property Table displays the element property settings for each element.

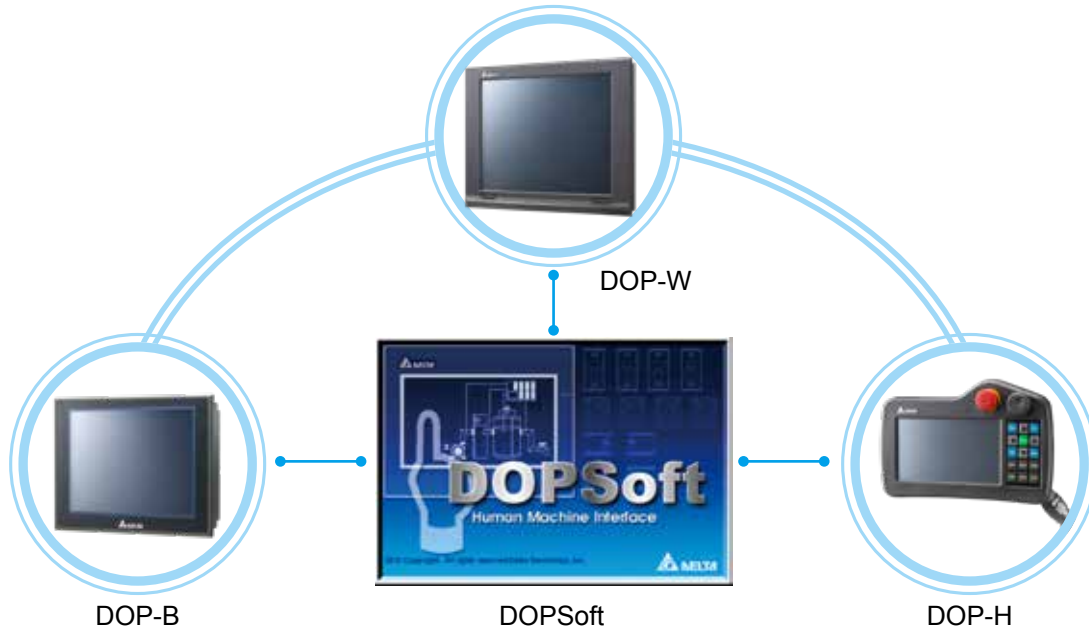
# Picture Bank

Newly designed picture bank offers more colorful and attractive elements.



# Convenient Screen Data Conversion

Compatible with all DOP series, project files can be easily upgraded and converted to DOPSoft format.



The screen data can be converted to different models even if the display size is not the same. The same project can be applied on different models.



\*After the screen data is converted, it still needs to confirm the element position, text size and other settings.

## Minimum System Requirements of DOPSoft

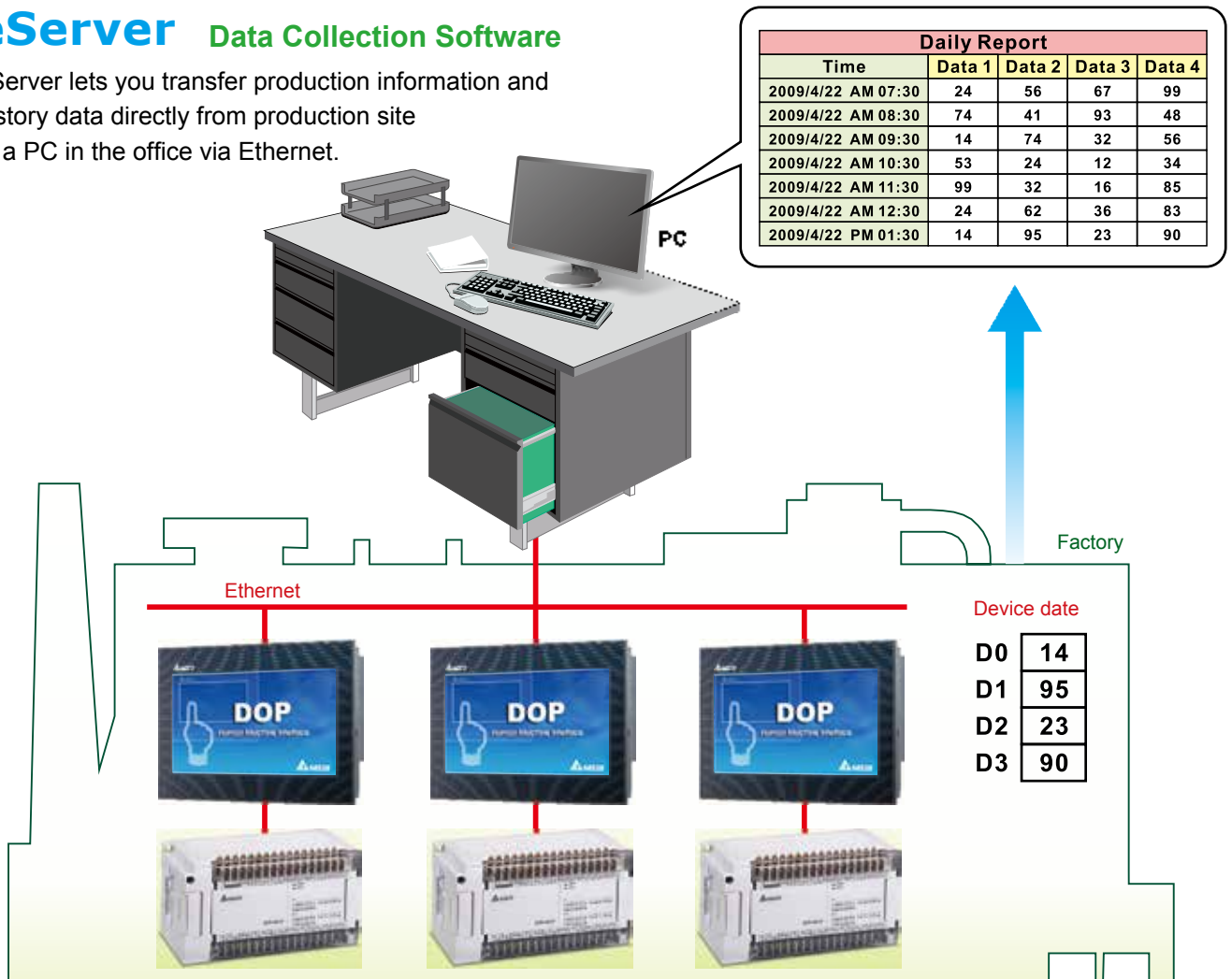
Hardware / Software	System Requirements
<b>CPU</b>	Pentium4 1.6GHz or greater is recommended
<b>Memory</b>	2G MB and above is recommended
<b>Hard Disk</b>	Capacity: 400MB and above
<b>Monitor</b>	Supports resolution: 800 x 600 or higher full-color display
<b>Printer</b>	Printer compatible with Windows 2000 Windows XP / Windows Vista / Windows 7
<b>Operating System</b>	Windows 2000 / Windows XP Windows Vista / Windows 7

\*Users can download the DOPSoft configuration software and the user manual at Delta's website via the following link: <http://www.deltaww.com>

# Solution for Constructing a Network between Office and Production Site via Ethernet

## eServer Data Collection Software

eServer lets you transfer production information and history data directly from production site to a PC in the office via Ethernet.



### 1 Excel Sampling Data

- ▶ Collected data can be saved in user-defined Excel files according to purpose and to easily create production reports
- ▶ If the formulas in the Excel file are set in advance, the production data, i.e. defective rate, average working hours and capacity utilization rate, and more can be calculated in real time while production data is recorded
- ▶ Production data can be saved in daily reports, weekly reports, monthly reports, and others automatically under different settings.

### 2 Database Sampling Data

- ▶ Users can access any database via ODBC (Open Database Connectivity) interface

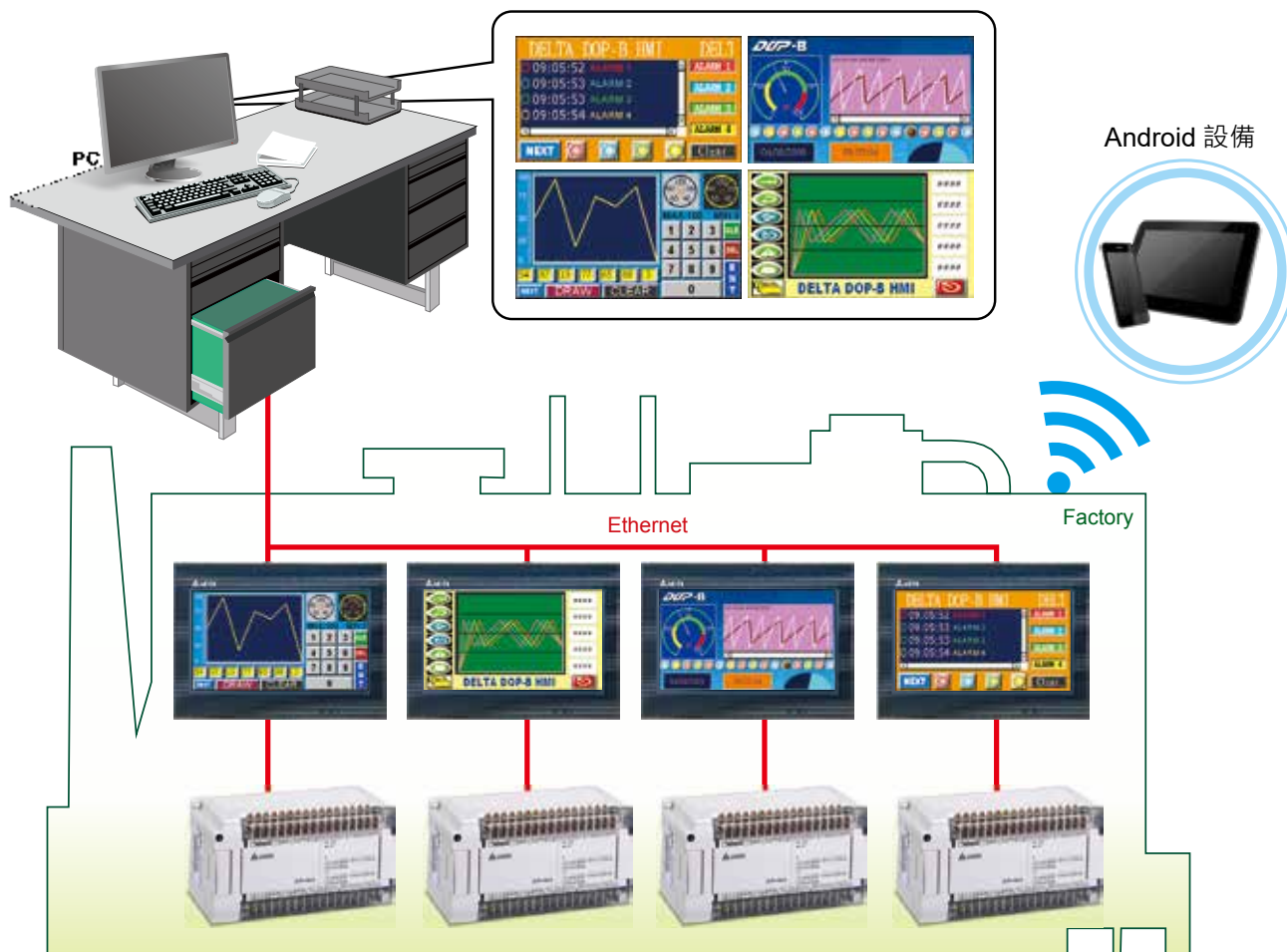
### 3 Recipe Data Transfer

- ▶ Users can transfer and backup the recipe data via eServer easily



## eRemote Remote Control Software

eRemote lets you view and monitor the same screen shown on the HMI at the production site, and control the manufacturing process via Ethernet. No matter where you are, remote control is easily accomplished.



## Minimum System Requirements for eServer / eRemote

Hardware / Software	System Requirements
<b>CPU</b>	Pentium 4, 1.6GHz or greater is recommended
<b>Memory</b>	2G MB and above is recommended
<b>Hard Disk</b>	Capacity: 100MB and above
<b>Monitor</b>	Supports resolution: 1024 x 768 or higher full-color display.
<b>Printer</b>	Printer compatible with Windows 2000 / Windows XP / Windows Vista / Windows 7
<b>Operating System</b>	Windows 2000 / Windows XP / Windows Vista / Windows 7

\*Users can download the eServer / eRemote software and the user manual at Delta's website via the following link: <http://www.deltaww.com>

System Requirements of eRemote App		
Operating System	Android 4.1.2 and later versions	
Storage Capacity	860 KB and above	

# Specifications

## DOP-B Series

MODEL		DOP-B03S211	DOP-B03E211	DOP-B05S111	DOP-B07S410	DOP-B07S411	DOP-B07E411	DOP-B07S401K DOP-B07S411K	DOP-B07S415	DOP-B07PS415	DOP-B07E415
LCD MODULE	Display Size and Type	4.3" TFT LCD		5.6" TFT LCD	7" Widescreen TFT LCD						
	Display Colors	65536 colors									
	Resolution (pixels)	480 x 272		320 x 234	800 x 480						
	Backlight	LED Back Light									
	Luminance (cd/m <sup>2</sup> )	280	400	200	250	250	250	250	350	350	350
	Backlight Life (hours) <small>(Note 1)</small>	20,000	10,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000
MCU	400 MHz										
Flash ROM (Bytes)	128 MB		128 MB	4MB	128 MB						
RAM (Bytes)	64MB			64MB							
Backup Memory (Bytes)	16MB			32k	16MB						
Buzzer	Multi-Tone Frequency ( 2K ~ 4K Hz ) / 85dB										
AUX	N/A		N/A	N/A							Stereo output
Ethernet	N/A	1 Port <small>(Note 2)</small>	N/A	N/A		1 Port <small>(Note 2)</small>	N/A			1 Port <small>(Note 2)</small>	
Memory Card	N/A		N/A	N/A				SD card (supports SDHC)			
USB	1 USB Host Ver 1.1 / 1 USB Client Ver 2.0			1 USB Client Ver 2.0	1 USB Host Ver 1.1 / 1 USB Client Ver 2.0						
Serial COM Port	COM1	RS-232 (Supports hardware flow control) / RS-485		RS-232 (Supports hardware flow control) <small>(Note 2)</small>	RS-232 (Supports hardware flow control) / RS-485 / RS-422	RS-232 (Supports hardware flow control)			RS-232 (Supports hardware flow control) <small>(Note 2)</small>		
	COM2	RS-422 / RS-S485	RS-422 / RS-485 <small>(Note 2)</small>	RS-232 / RS-485 <small>(Note 2)</small>	N/A	RS-232 / RS-485			RS-232 / RS-422 / RS-485 <small>(Note 2)</small>		
	COM3	N/A		RS-422 / RS-485 <small>(Note 2)</small>	N/A	RS-422 / RS-485			RS-232 / RS-422 / RS-485 <small>(Note 2)</small>		
VGA Input	N/A		N/A	N/A							
Delta Professional Integration Function	N/A		N/A	N/A						YES	N/A
Function Key	N/A		N/A	N/A			8	N/A			
Perpetual Calendar (RTC)	Built-in										
Cooling Method	Natural air circulation										
Safety Approval	CE / UL										
Waterproof Degree	IP65 / UL type 4x										
Operation Voltage <small>(Note 3)</small>	DC +24V ( -10% ~ +15% ) <small>(Note 2)</small>										
Voltage Endurance	AC500V for 1 minute (between charging DC24 terminal and FG terminals)										
Power Consumption <small>(Note 5)</small>	2.64 W	2.64 W	3.0 W	3.5 W	4 W	4 W	4 W	4 W	5 W	5 W	7.5 W
Backup Battery	3V lithium battery CR2032 x 1										
Backup Battery Life	It depends on the temperature used and the conditions of usage, about 3 years or more at 25 °C										
Operation Temp.	0°C ~ 50 °C										
Storage Temp.	-20 °C ~ +60 °C										
Ambient Humidity	10% ~ 90% RH (0 ~ 40 °C), 10% ~ 55% RH (41 ~ 50 °C), Pollution Degree 2										
Vibration	IEC 61131-2 compliant 5Hz ~ 8.3Hz = Continuous: 3.5mm, 8.3Hz ~ 150Hz = Continuous: 1.0g										
Shock	IEC 60068-2-27 compliant 15g peak for 11 ms duration, X, Y, Z directions for 6 times										
Dimensions ( W ) x ( H ) x ( D ) mm	129 x 103 x 39	129 x 103 x 39	184 x 144 x 50	215 x 161 x 35.3	215 x 161 x 50	215 x 161 x 50	215 x 161 x 50	215 x 161 x 50	215 x 161 x 50	215 x 161 x 50	215 x 161 x 50
Panel Cutout ( W ) x ( H ) mm	118.8 x 92.8	118.8 x 92.8	172.4 x 132.4	196.9 x 142.9	196.9 x 142.9	196.9 x 142.9	196.9 x 142.9	196.9 x 142.9	196.9 x 142.9	196.9 x 142.9	196.9 x 142.9
Weight	Approx. 230g	Approx. 264g	Approx. 670g	Approx. 700g	Approx. 820g	Approx. 820g	Approx. 820g	Approx. 820g	Approx. 970g	Approx. 970g	Approx. 970g

1) The half-life of backlight is defined as original luminance being reduced by 50% when the maximum driving current is supplied to HMI.

2) With built-in isolated power circuit.

3) Please use isolated power supply.

4) Some models are in the process of application for UL and KCC certification. For more information, please consult our distributors.

5) The value of the power consumption indicates the electrical power consumed by HMI with no peripheral devices connected.

To ensure normal operation, it is recommended using a power supply with a capacity 1.5 ~ 2 times the value of the power consumption.

6) The content of this catalogue may be revised without prior notice. Please consult our distributors or download the most updated version at <http://www.deltaww.com>

DOP-B07S515	DOP-B07PS515	DOP-B07E515	DOP-B08S515	DOP-B08E515	DOP-B10S511	DOP-B10VS511	DOP-B10E515	DOP-B10PE515	DOP-B10S411	DOP-B10S615	DOP-B10E615
7" TFT LCD			8" TFT LCD			10.4" TFT LCD			10.1" Widescreen TFT LCD		
65536 colors											
800 x 600			800 x 600			800 x 600			800 x 480	1024 x 600	
LED Back Light											
450	450	450	500	500	300	300	300	300	300	200	200
20,000	20,000	20,000	25,000	25,000	10,000	10,000	10,000	10,000	20,000	15,000	15,000
400 MHz											
128 MB			128 MB			128 MB			128 MB		
64MB			64MB			64MB			64MB		
16MB			16MB			16MB			16MB		
Multi-Tone Frequency ( 2K ~ 4K Hz ) / 85dB											
N/A	Stereo output		N/A	Stereo output		N/A		Stereo output		N/A	Stereo output
N/A	1 Port <sup>(Note 2)</sup>		N/A	1 Port <sup>(Note 2)</sup>		N/A		1 Port <sup>(Note 2)</sup>		N/A	1 Port <sup>(Note 2)</sup>
SD card (supports SDHC)		SD card (supports SDHC)	SD card (supports SDHC)			N/A		SD card (supports SDHC)		N/A	SD card (supports SDHC)
1 USB Host Ver 1.1 / 1 USB Client Ver 2.0											
RS-232 (Supports hardware flow control) <sup>(Note 2)</sup>			RS-232 (Supports hardware flow control) <sup>(Note 2)</sup>			RS-232 (Supports hardware flow control)	RS-232 (Supports hardware flow control) <sup>(Note 2)</sup>			RS-232 (Supports hardware flow control)	RS-232 (Supports hardware flow control) <sup>(Note 2)</sup>
RS-232 / RS-485 <sup>(Note 2)</sup>			RS-232 / RS-422 / RS-485 <sup>(Note 2)</sup>			RS-232 / RS-485	RS-232 / RS-485 <sup>(Note 2)</sup>	RS-232 / RS-422 / RS-485 <sup>(Note 2)</sup>		RS-232 / RS-485	RS-232 / RS-422 / RS-485 <sup>(Note 2)</sup>
RS-422 / RS-485 <sup>(Note 2)</sup>			RS-232 / RS-422 / RS-485 <sup>(Note 2)</sup>			RS-232 / RS-422 / RS-485 <sup>(Note 2)</sup>	RS-232 / RS-422 / RS-485 <sup>(Note 2)</sup>	RS-232 / RS-422 / RS-485 <sup>(Note 2)</sup>		RS-232 / RS-422 / RS-485	RS-232 / RS-422 / RS-485 <sup>(Note 2)</sup>
N/A			N/A			N/A	Resolution 800x600 pixels Scanning Frequency 56Hz / 60Hz	N/A		N/A	
N/A	YES	N/A	N/A			N/A		YES		N/A	
N/A			N/A			N/A			N/A		
Built-in											
Natural air circulation											
CE / UL											
IP65 / UL type 4x											
DC +24V ( -10% ~ +15% ) <sup>(Note 2)</sup>											
AC500V for 1 minute (between charging DC24 terminal and FG terminals)											
7.68W	7.68W	7.68W	5.2W	7.8W	6.1W	6.1W	9.6W	9.6W	6.6W	12W	12W
3V lithium battery CR2032 x 1											
It depends on the temperature used and the conditions of usage, about 3 years or more at 25 °C											
0 °C ~ 50 °C											
-20 °C ~ +60 °C											
10% ~ 90% RH (0 ~ 40 °C), 10% ~ 55% RH (41 ~ 50 °C), Pollution Degree 2											
IEC 61131-2 compliant 5Hz ~ 8.3Hz = Continuous: 3.5mm, 8.3Hz ~ 150Hz = Continuous: 1.0g											
IEC 60068-2-27 compliant 15g peak for 11 ms duration, X, Y, Z directions for 6 times											
184 × 144 × 50	184 × 144 × 50	184 × 144 × 50	227.1 × 174.1 × 61	227.1 × 174.1 × 61	299 × 224 × 51.1	299 × 224 × 51.1	299 × 224 × 51.1	299 × 224 × 51.1	272 × 200 × 61	272 × 200 × 61	272 × 200 × 61
172.4 × 132.4	172.4 × 132.4	172.4 × 132.4	219.4 × 166.5	219.4 × 166.5	285.2 × 210.2	285.2 × 210.2	285.2 × 210.2	285.2 × 210.2	261.3 × 189.3	261.3 × 189.3	261.3 × 189.3
Approx. 800g	Approx. 800g	Approx. 800g	Approx. 1226g	Approx. 1228g	Approx. 1700g	Approx. 1700g	Approx. 1700g	Approx. 1700g	Approx. 1520g	Approx. 1520g	Approx. 1520g

1) The half-life of backlight is defined as original luminance being reduced by 50% when the maximum driving current is supplied to HMI.

2) With built-in isolated power circuit.

3) Please use isolated power supply.

4) Some models are in the process of application for UL and KCC certification. For more information, please consult our distributors.

5) The value of the power consumption indicates the electrical power consumed by HMI with no peripheral devices connected.

To ensure normal operation, it is recommended using a power supply with a capacity 1.5 ~2 times the value of the power consumption.

6) The content of this catalogue may be revised without prior notice. Please consult our distributors or download the most updated version at <http://www.deltaww.com>

# Specifications

## DOP-H Series

Model		DOP-H07S425 DOP-H07S42A	DOP-H07S465 DOP-H07S46A	DOP-H07E425 DOP-H07E42A	DOP-H07E465 DOP-H07E46A
LCD MODULE	Display Size and Type	7" Widescreen TFT LCD			
	Display Colors	65536 colors			
	Resolution (pixels)	800 x 480			
	Backlight	LED Back Light			
	Luminance (cd/m <sup>2</sup> )	450			
	Backlight Life (hours) <sup>(Note 1)</sup>	20,000			
MCU	400 MHz				
Flash ROM (Bytes)	128 MB				
RAM (Bytes)	64 MB				
Backup Memory (Bytes)	16 MB				
Buzzer	Multi-Tone Frequency ( 2K ~ 4K Hz ) / 80dB				
Audio Output	N/A				
USB	1 USB Client Ver 2.0				
SD	SD card (supports SDHC)				
Serial COM Port	RS-422 / RS-485 <sup>(Note 2)</sup>		N/A		
Ethernet	N/A		1 Ports <sup>(Note2)</sup>		
Function Key	15				
Cable Length & Type	End of Model Name: 5 - 5 m End of Model Name: A - 10 m				
Emergency Stop	B-contact: 2 Rated voltage: DC 30V Maximum rated current: 1A Minimum allowable load: DC 5V/1 mA Complies with IEC60947-5-1, EN60947-5-1, IEC60947-5-5, EN60947-5-5, UL 508, and CSA C22.2 No.14, GB 14085.5				
3-Position Operation Switch	A-contact: 1 Rated voltage: DC 30V Maximum rated current: 700 mA Minimum allowable load : DC 3 V/5mA Complies with EN/IEC60947-5-8, IEC60947-5-1, EN60947-5-1, JIS C8201-5-1, UL508, and CSA C22.2 NO. 14 Applicable standards for use with ISO12100-1, -2/EN12100-1, -2, IEC60204-1/EN60204-1, ISO11161/prEN11161, ISO10218/EN775, ANSI/RIA R15.06, ANSI B11.19				
Handwheel	N/A	Rated Voltage: <DC 24V in Resolution: 50(P/R) Output Pulse: Square Output Phase: A, B Phase difference of A and B: 90° ± 45° Max. Frequency response: 200 Hz		N/A	Rated Voltage: <DC 24V in Resolution: 50(P/R) Output Pulse: Square Output Phase: A, B Phase difference of A and B: 90° ± 45° Max. Frequency response: 200 Hz
Perpetual Calendar	Built-in				
Cooling Method	Natural cooling				
Safety Approval	CE				
Waterproof Level of Panel Display	IP55				
Operation Voltage <sup>(Note3)</sup>	DC +24V (±15%) (with built-in isolated power circuit) <sup>(Note2)</sup>				
Voltage Endurance	AC500V for 1 minute (between charging (DC24V terminal) and FG terminals)				
Power Consumption <sup>(Note 5)</sup>	5.6W				
Backup Battery	3V lithium battery CR2450 × 1				
Backup Battery Life	About 5 years or more at 25oC but subjects to the temperature and the conditions during usage.				
Operation Temperature	0°C ~ 40°C				
Storage Temperature	-20 °C ~ +60 °C, 10% ~ 90% RH				
Operating Environment	10% ~ 90% RH [ 0 ~ 40 °C ] ; 10% ~ 55% RH [ 41 ~ 50 °C ] ; Pollution Degree 2				
Vibration	Conforms to IEC61131-2; Continuous: 5Hz ~ 8.3Hz 3.5 mm, 8.3Hz ~ 150Hz 1G				
Shock	Conforms to IEC60068-2-27; 11ms, 15G Peak , X, Y, Z direction for 6 times				
Dimensions ( W ) × ( H ) × ( D ) mm	257.4 × 170.3 × 71.8 (Emergency stop switch and hook are included.)				
Weight	750 g (cable excluded)				

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2) With built-in isolated power circuit.

3) Please use isolated power supply.

4) Some models are in the process of application for UL and KCC certification. For more information, please consult our distributors.

5) The value of the power consumption indicates the electrical power consumed by HMI with no peripheral devices connected.

To ensure normal operation, it is recommended using a power supply with a capacity 1.5 ~2 times the value of the power consumption.

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## DOP-W Series

MODEL		DOP-W105B	DOP-W127B	DOP-W157B
LCD MODULE	Display Size and Type	10.4" TFT LCD	12.1" TFT LCD	15" TFT LCD
	Display Colors	65536 colors		
	Resolution (pixels)	800 x 600	1024 x 768	
	Backlight	LED Back Light		
	Luminance (cd/m <sup>2</sup> )	300	500	450
	Backlight Life (hours) <sup>(Note 1)</sup>	10,000	30,000	100,000
MCU		1 GHz		
Flash ROM (Bytes)		256 MB		
RAM (Bytes)		256 MB		
Backup Memory		800000 numbers of data (alarm data + historical data)		
Buzzer		Multi-Tone Frequency ( 2K ~ 4K Hz ) / 80dB		
Audio Output		Stereo output	Stereo output / Built in 1.5W Speaker	
USB		1 USB Host Ver 2.0	3 USB Host Ver 2.0	
SD		SD card (supports SDHC)		
Serial COM Port	COM1	N/A		
	COM2	RS-232 / RS-422 / RS-485 <sup>(Note 2)</sup>		
	COM3	RS-232 / RS-422 / RS-485 <sup>(Note 2)</sup>		
Ethernet		2 Ports <sup>(Note 2)</sup>		
Perpetual Calendar (RTC)		Built-in <sup>(Note 5)</sup>		
Cooling Method		Natural air circulation		
Safety Approval		CE / UL		
Waterproof Degree		IP65 / UL type 4x	IP65 / UL type 1	
Operation Voltage <sup>(Note 3)</sup>		DC +24V ( -10% ~ +15% )		
Voltage Endurance		AC500V for 1 minute (between charging (DC24V terminal) and FG terminals)		
Power Consumption <sup>(Note 6)</sup>		13.5W	18.5W	21.6W
Backup Battery		Uses a gold-capacitor instead of a battery, no need to replace batteries		
Backup Battery Life		It can keep the RTC working at least seven days in a working environment where the conditions do not exceed the specifications for DOP-W series.		
Operation Temperature		0°C ~ 50°C		
Storage Temperature		-20°C ~ +60°C, 10% ~ 90% RH		
Ambient Humidity		10% ~ 90% RH [0 ~ 40°C], 10% ~ 55% RH [41 ~ 50°C] Pollution Degree 2		
Vibration		IEC61131-2 compliant 5Hz ≤ f < 8.3Hz = Continuous: 3.5mm, 8.3Hz ≤ f ≤ 150Hz = Continuous: 1.0g		
Shock		IEC 60068-2-27 compliant 15g peak for 11 ms duration, X, Y, Z directions for 6 times		
Dimensions ( W ) x ( H ) x ( D ) mm		299 × 224 × 46.8	313 × 239.5 × 67.5	384.4 × 295.8 × 67.8
Panel Cutout ( W ) x ( H ) mm		285.2 × 210.2	302.7 × 228.7	372.4 × 283.7
Weight		Approx. 1750g	Approx. 2830g	Approx. 3880g

1) The half-life of backlight is defined as original luminance being reduced by 50% when the maximum driving current is supplied to HMI.

2) With built-in isolated power circuit.

3) Please use isolated power supply.

4) Some models are in the process of application for UL and KCC certification. For more information, please consult our distributors.

5) The value of the power consumption indicates the electrical power consumed by HMI with no peripheral devices connected.

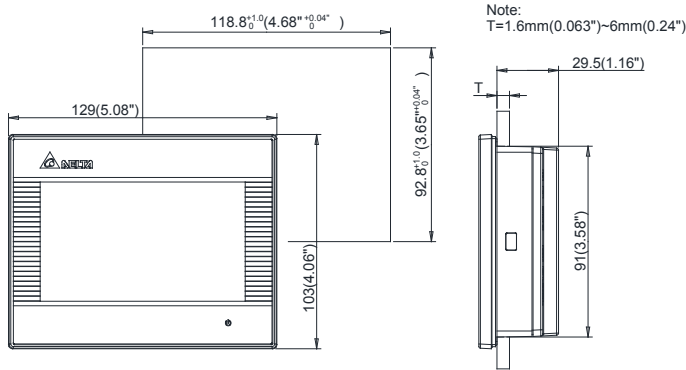
To ensure normal operation, it is recommended using a power supply with a capacity 1.5 ~2 times the value of the power consumption.

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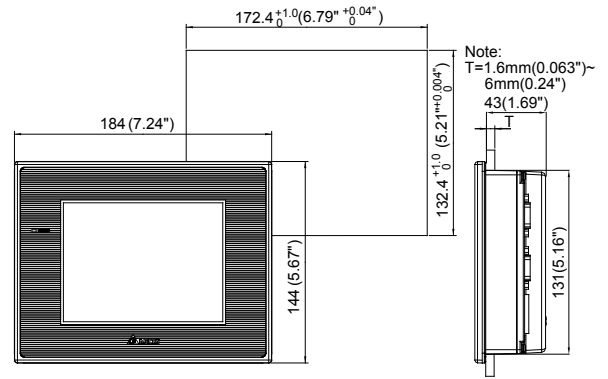
# Dimensions Unit: mm (inches)

## DOP-B Series

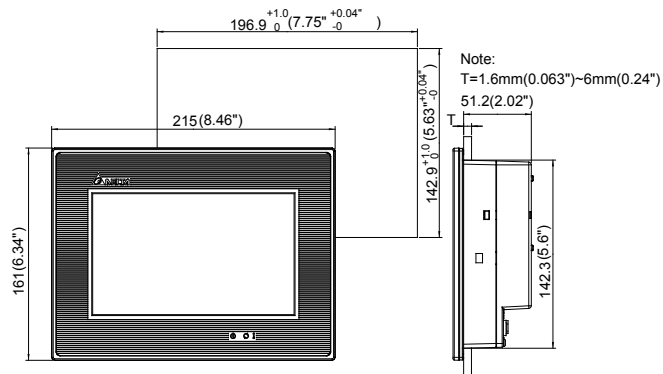
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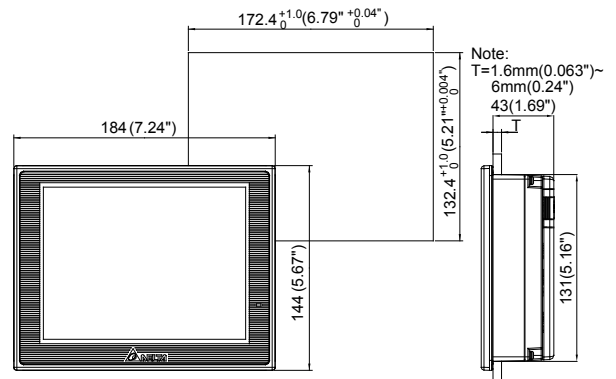
### • DOP-B05S111



### • DOP-B07S(E)415 / DOP-B07PS415

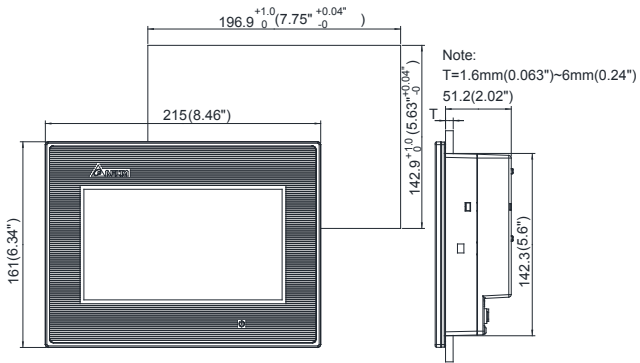


### • DOP-B07S(E)515 / DOP-B07PS515

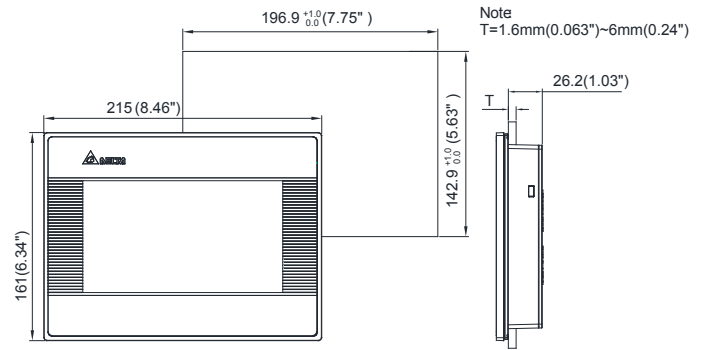


## DOP-B Series

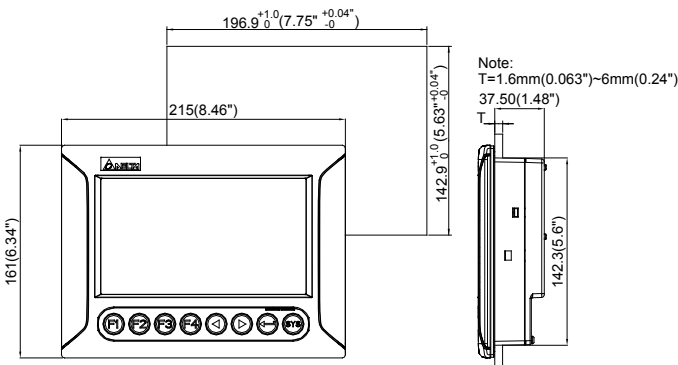
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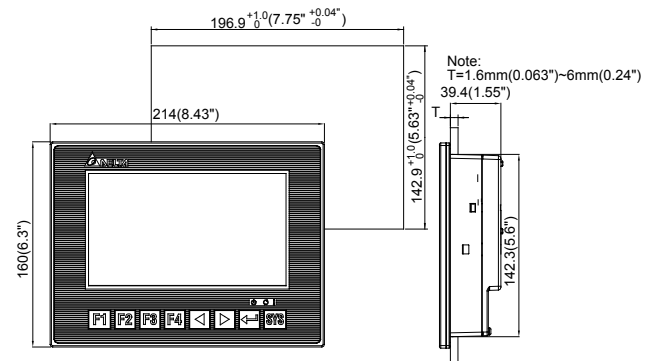
### • DOP-B07S410



### • DOP-B07S401K



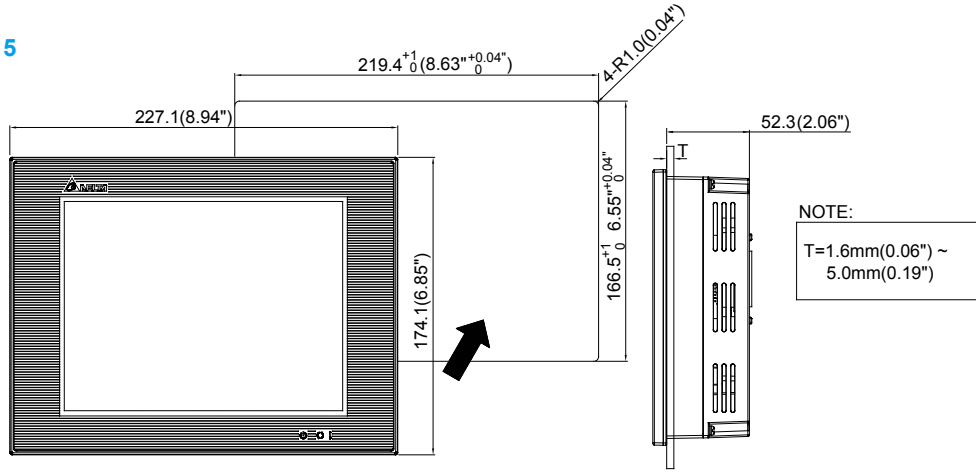
### • DOP-B07S411K



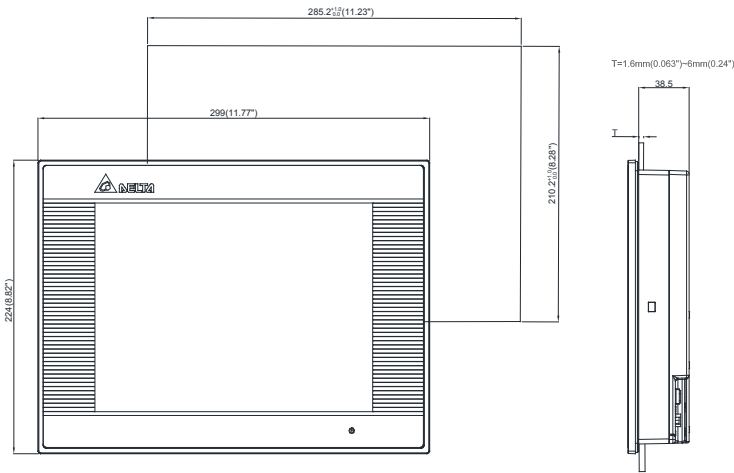
# Dimensions Unit: mm (inches)

## DOP-B Series

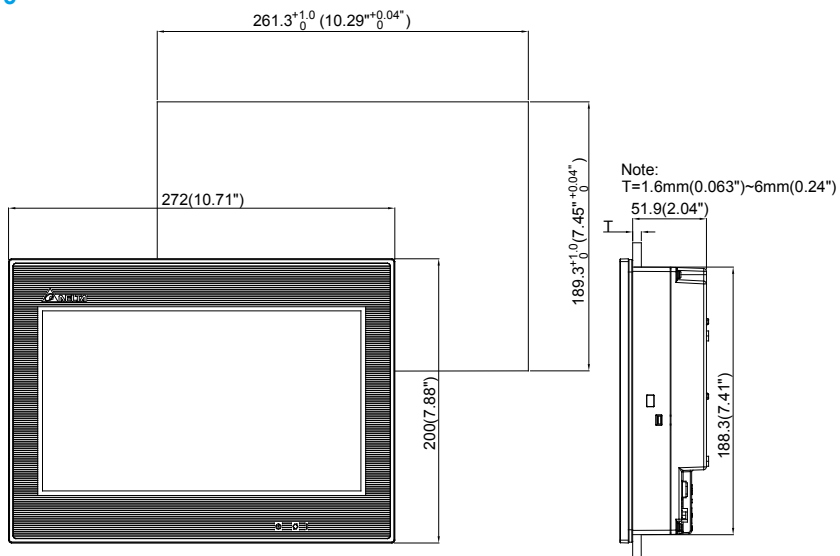
### • DOP-B08S(E)515



### • DOP-B10S(E)51x / DOP-B10PE515 / DOP-B10VS511



### • DOP-B10S(E)615

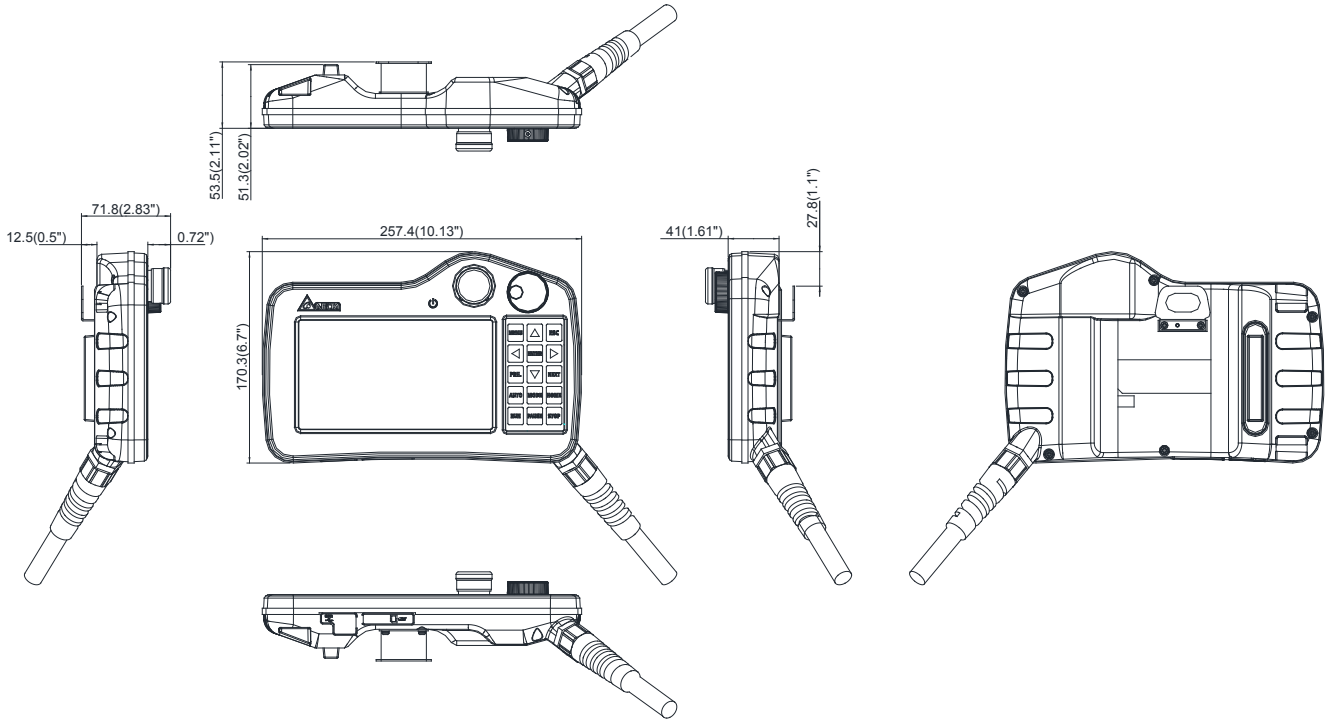




# Dimensions Unit: mm (inches)

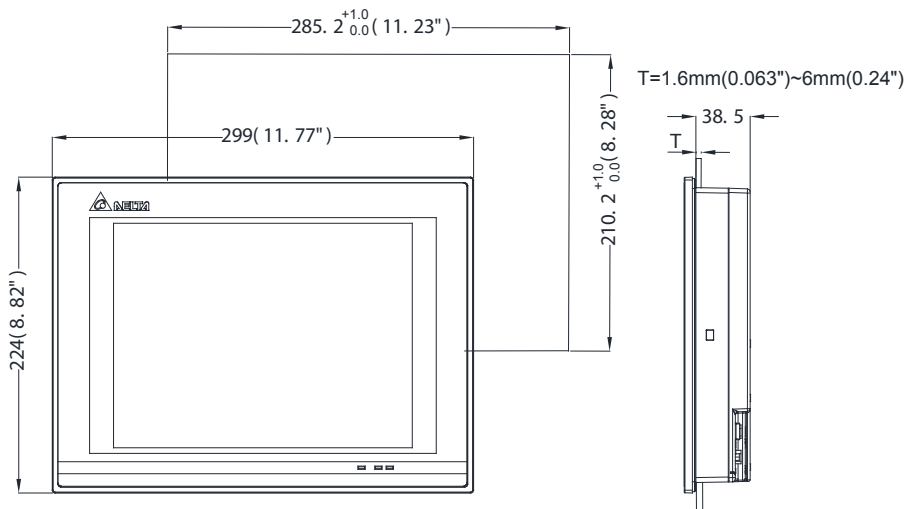
## DOP-H Series

- DOP-H07X4XX



## DOP-W Series

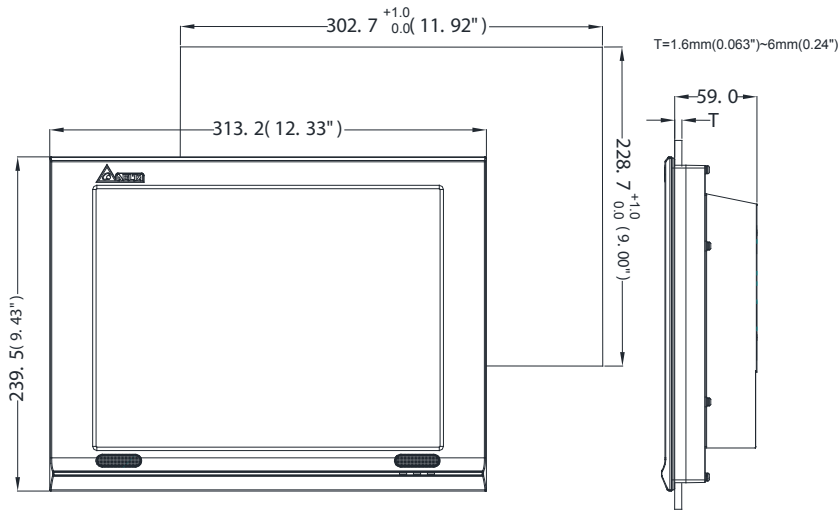
- DOP-W105B



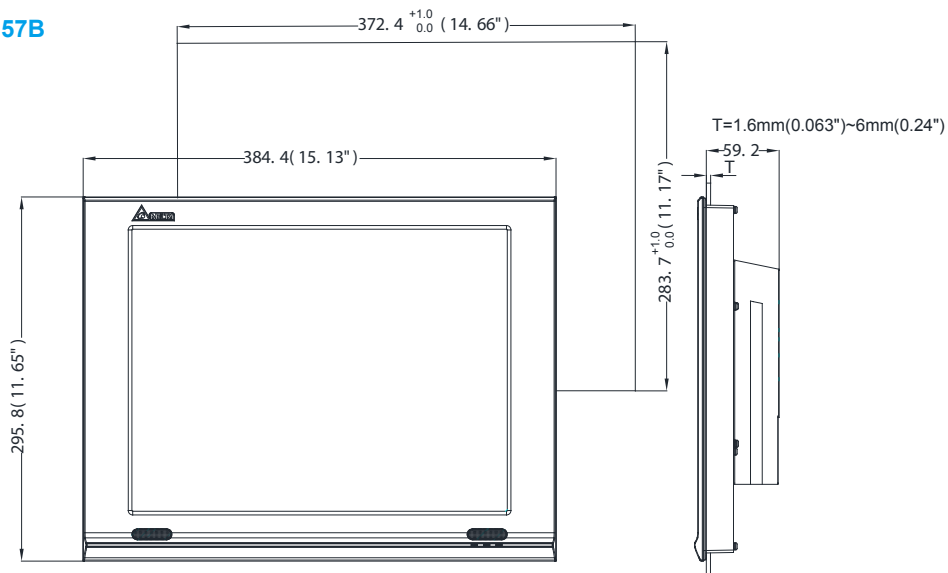
# Dimensions Unit: mm (inches)

## DOP-W Series

- DOP-W127B



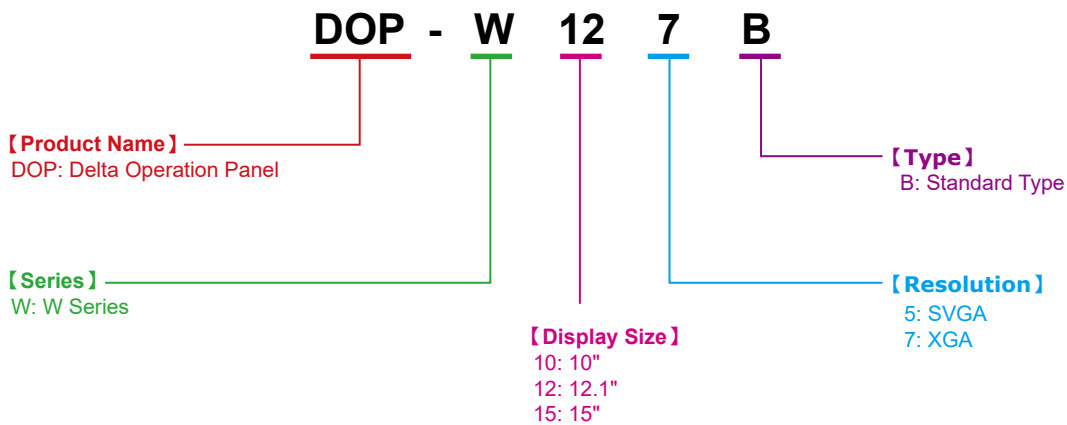
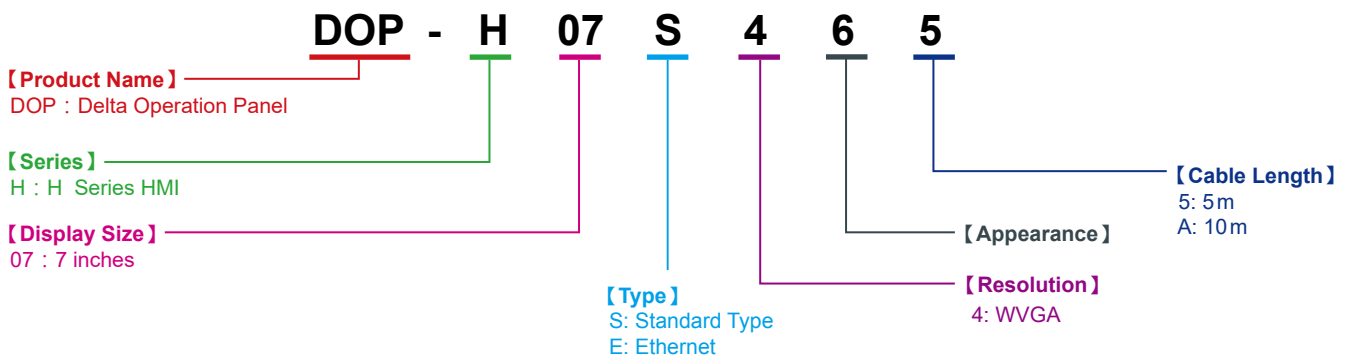
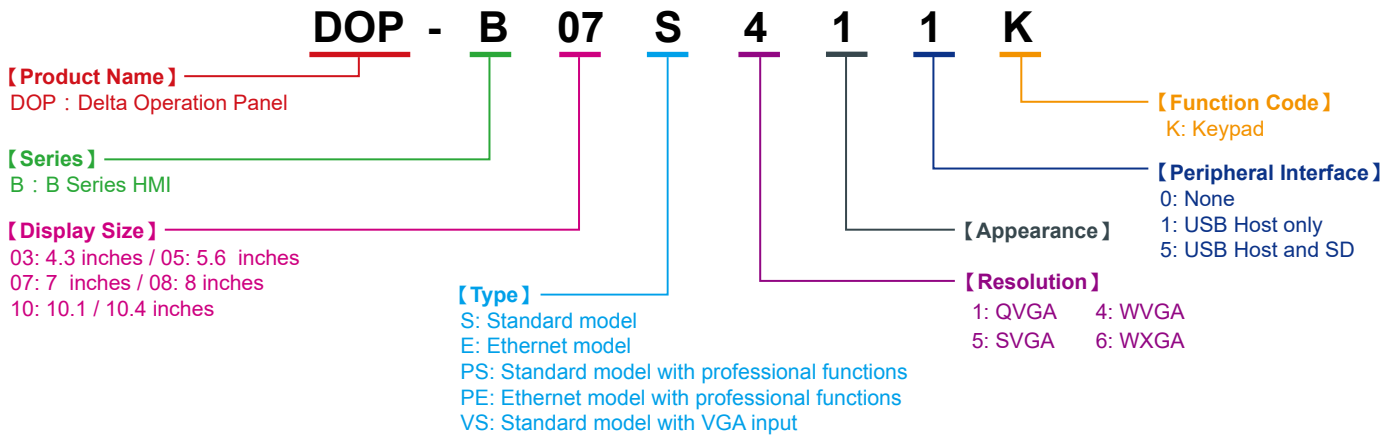
- DOP-W157B



## Optional Accessories

Model Name	Description
DOP-CA232DP	DOP-CA232DP: RS-232 Communication Cable for DVP Series PLC (Female Socket)
DVPACAB2A30	DVPACAB2A30: RS-232 Communication Cable for DVP Series PLC (Male Socket)
DOP-CAUSBAB	DOP-CAUSBAB: USB Communication Cable

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