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\*We reserve the right to change the information in this catalogue without prior notice

# DOP-B

Human Machine Interface



DOP-B

## A Simple One-Touch to Find the Limitless Possibilities of HMI

Meet Customer Needs. Satisfy Various Applications. Provide Plenty Functions. Create Ultimate FA Equipment.

The whole new Screen Editor configuration software provides various and plenty functions for different customer requirements. With easy-to-use and user-friendly operator interface, efficient editing becomes easier and quicker.

DOP-B series all models adopt 65536 colors high-color TFT touch panel with beautiful and new elements which make it easy to create the most colorful and perfect screens.

With powerful built-in processor, it is able to communicate with a variety of PLCs and controllers, and drastically maximize HMI performance.



*Motion*

**Best Performance**

**Beautiful Display**



**Beneficial Features**



## B05 General Specifications

Model Name	Display Size	Display Type	COM Port	Ethernet	USB Host	USB Client	Memory Card	Audio Output
DOP-B05S100	5.6	65536 Colors TFT	3	N/A	1	1	N/A	N/A



## B07 General Specifications

Model Name	Display Size	Display Type	COM Port	Ethernet	USB Host	USB Client	Memory Card	Audio Output
DOP-B07S200	7	65536 Colors TFT*	3	N/A	1	1	N/A	N/A
DOP-B07S201	7	65536 Colors TFT	3	N/A	1	1	N/A	N/A
DOP-B07E205	7	65536 Colors TFT	3	10/100 Base-T	1	1	SD	YES

\*DOP-B07S200 uses CCFL back light module



! The Ethernet type models will be available soon.

## B07 General Specifications of Flat Panel Series

Model Name	Display Size	Display Type	COM Port	Ethernet	USB Host	USB Client	Memory Card	Audio Output
DOP-B07S211	7	65536 Colors TFT	3	N/A	1	1	N/A	N/A
DOP-B07E215	7	65536 Colors TFT	3	10/100 Base-T	1	1	SD	YES



! The Ethernet type models will be available soon.

Complete product line-up satisfy all your needs for all kinds of applications.



## Delicate and High Quality Display

"No Bright Pixel" Warranty!



65536 colors high-color TFT display offers the realistic elements and high-definition images which help the users quickly grasp the situation of the machine and monitor the manufacturing process.

\*For the conditions of "No Bright Pixel" warranty, please contact with your local distributor.

## Audio Output Interface

Alarm!



Support built-in amplified speaker of Ø3.5mm stereo mini jack

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

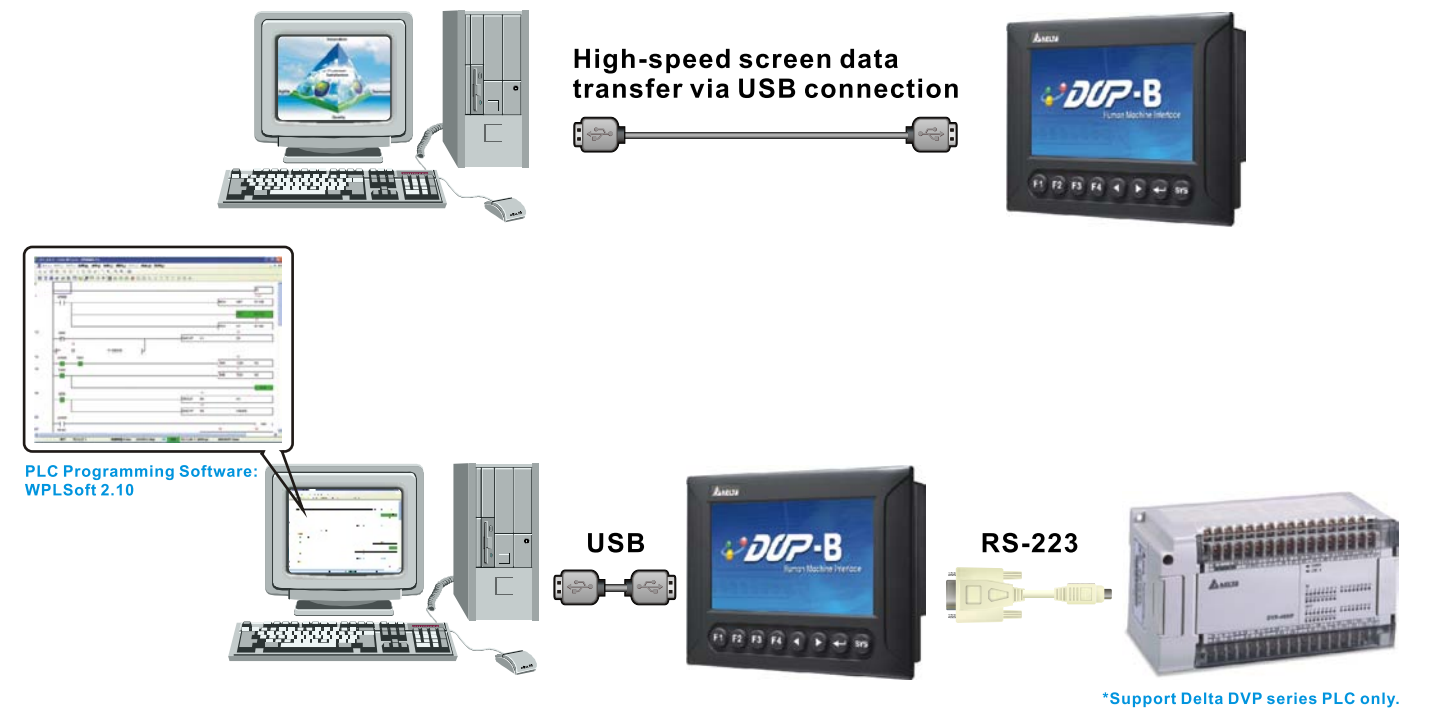
▶ As the broadcast of alarms is triggered by the corresponding bit, the alarm messages can be played and output in different sound files through the setting value of word registers.



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

## Support Various USB Devices

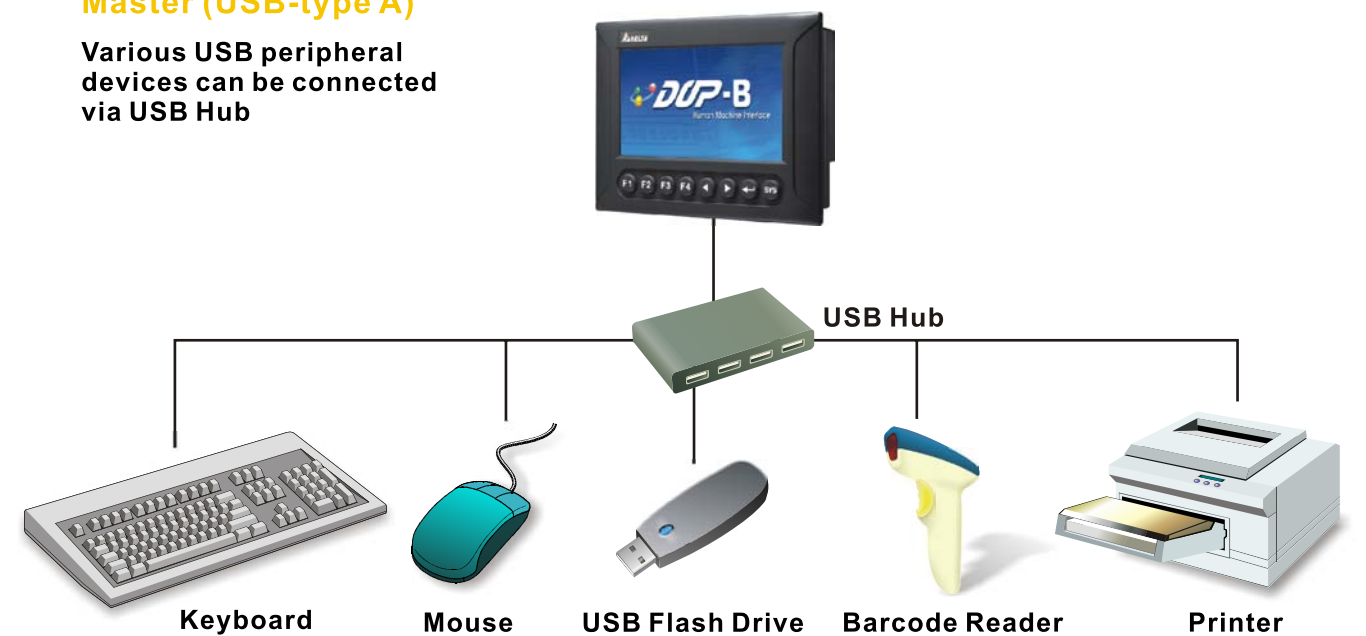
### Slave (USB-type B)



Using bypass function, it is possible to enable monitoring function and modify PLC programs directly via USB connection.

### Master (USB-type A)

Various USB peripheral devices can be connected via USB Hub



Up to 5 USB peripheral devices can be connected simultaneously.



## SD Card / USB Flash Drive Versatile Storage Interface

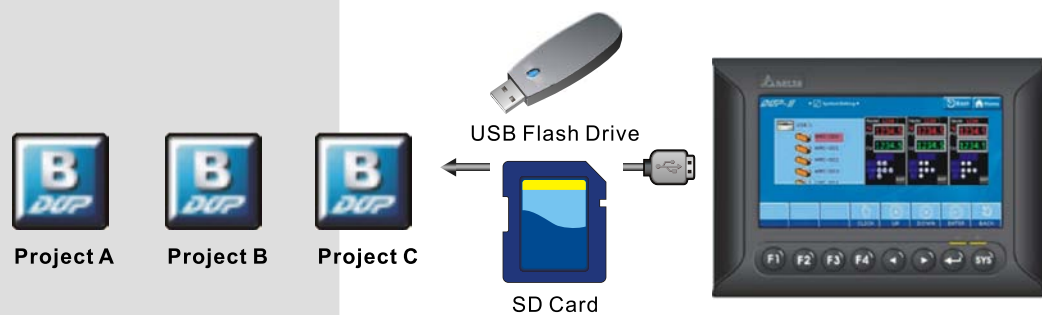
- Exploiting the convenience of SD card and USB flash drive, screen data transfer and collection can be quickly performed and the storage capacities of HMI can be easily increased as well. No need to worry about data capacity of excessive history and recipe data.
- SD card and USB flash drive are in FAT32 format, fully compatible with Microsoft Windows and allow file name that exceeds eight characters in length.



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



History and alarm information can also be saved in CSV format and stored into SD card / USB flash drive.



Multiple project screen data can be saved in SD card / USB flash drive simultaneously and transferred to HMI. No need to connect to PC.

## DOP-Transfer Effortless PLC Data Transfer and Backup

With perfect connection to Delta DVP series PLC, it is facile to establish the powerful control center for FA production equipment.



Support Delta DVP series PLC only.

- PLC ladder diagrams can be transferred and backup via SD card / USB flash drive even in a location where an external PC is not available.
- SD card / USB flash drive are capable of storing several PLC ladder diagrams.



Support Delta DVP series PLC only.

- Numerous groups of G-code data can be transferred to PLC via SD card / USB flash drive. No need to connect to PC.

Best Performance

Beautiful Display

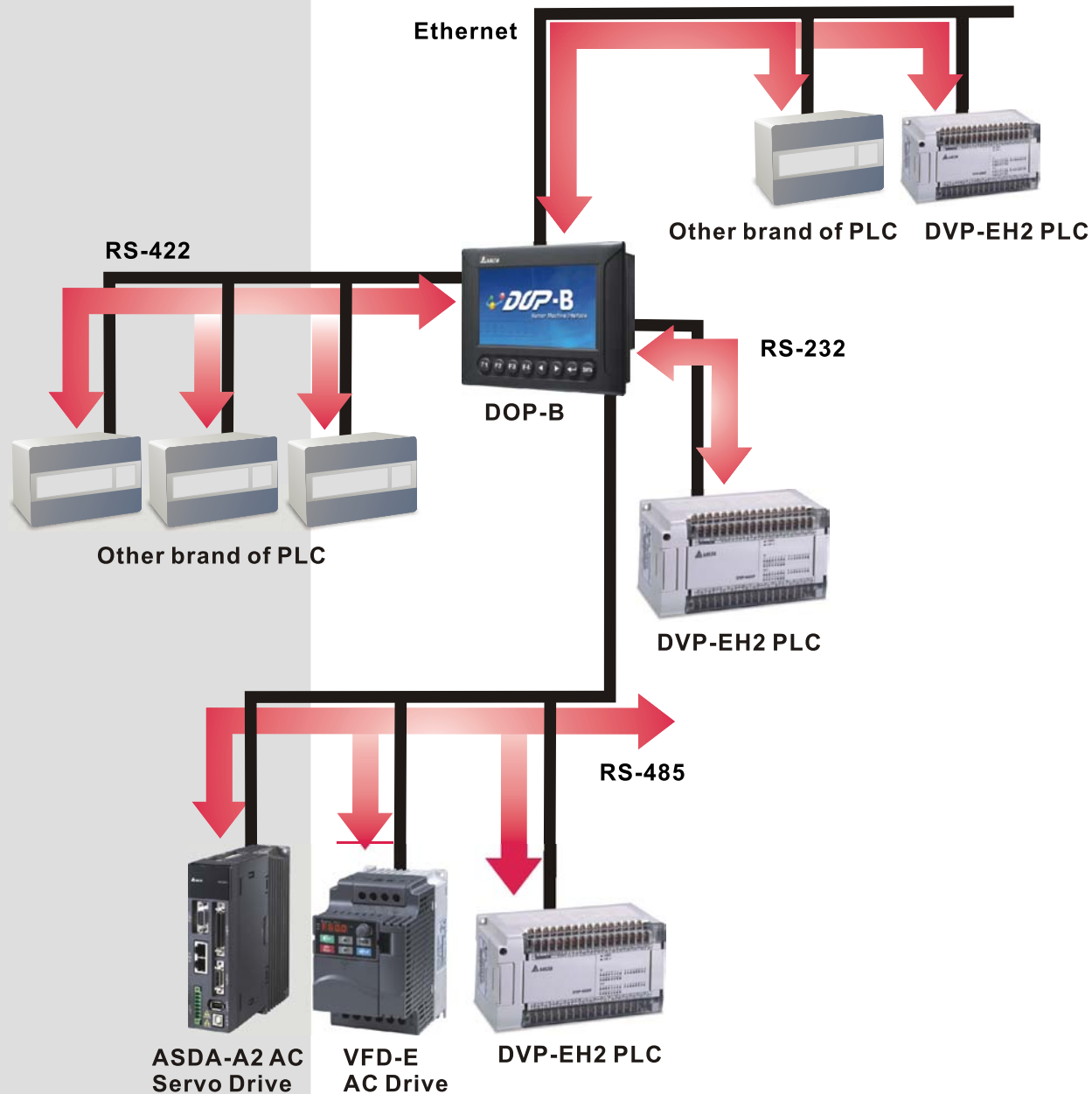


Beneficial Features

## Provide Diverse Communication Interfaces

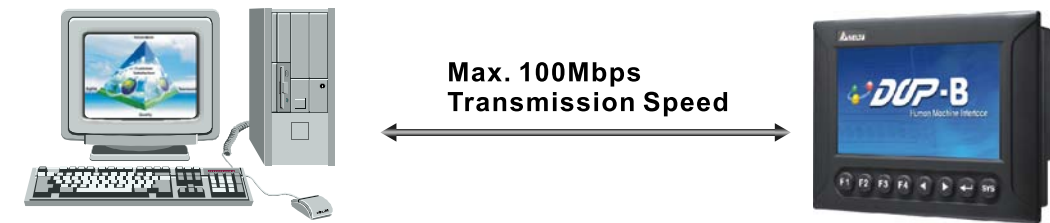
### Easy to communicate with more than 20 brands of PLCs/Controllers

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



## Ethernet Ubiquitous High Speed Communication

### Ethernet Upload and Download

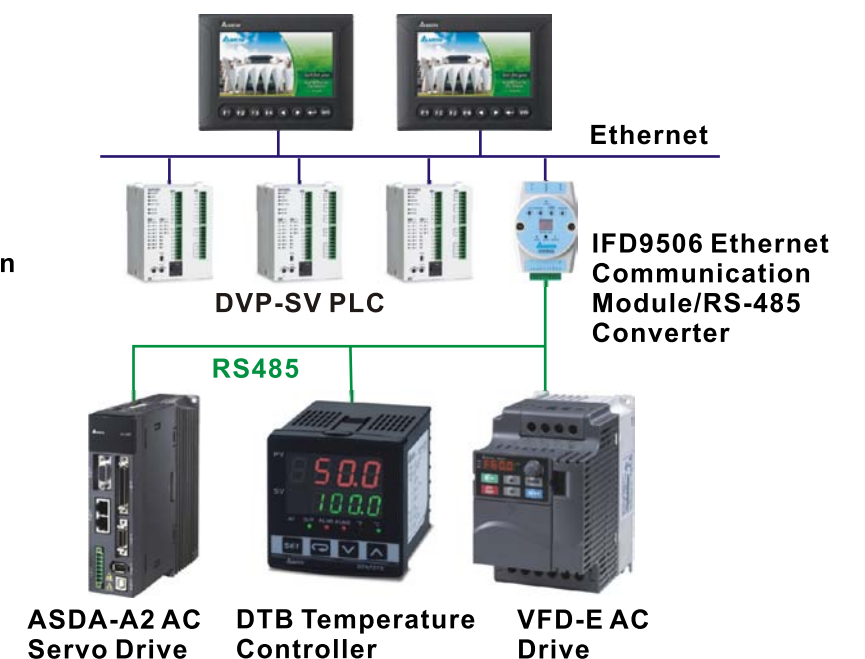


Easy to maintain and upgrade programs no matter where you are in the world.

### Best Solution for Network Monitoring

Using an Ethernet connection can easily establish N:N communication link and create the desired communication network according to different application requirements.

DOP-B series HMI can use IFD9506 Ethernet communication module, which is able to switch Ethernet and RS-485 interface quickly, to connect Delta's AC servo drive, AC motor drive and temperature controller etc. industrial automation products via the Ethernet and control the entire network that makes a complete and ultimate network monitoring solution.



## Screen Editor 2.00

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

### 1 Toolbar

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

### 2 Element Tool Window

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

### 3 Output Window

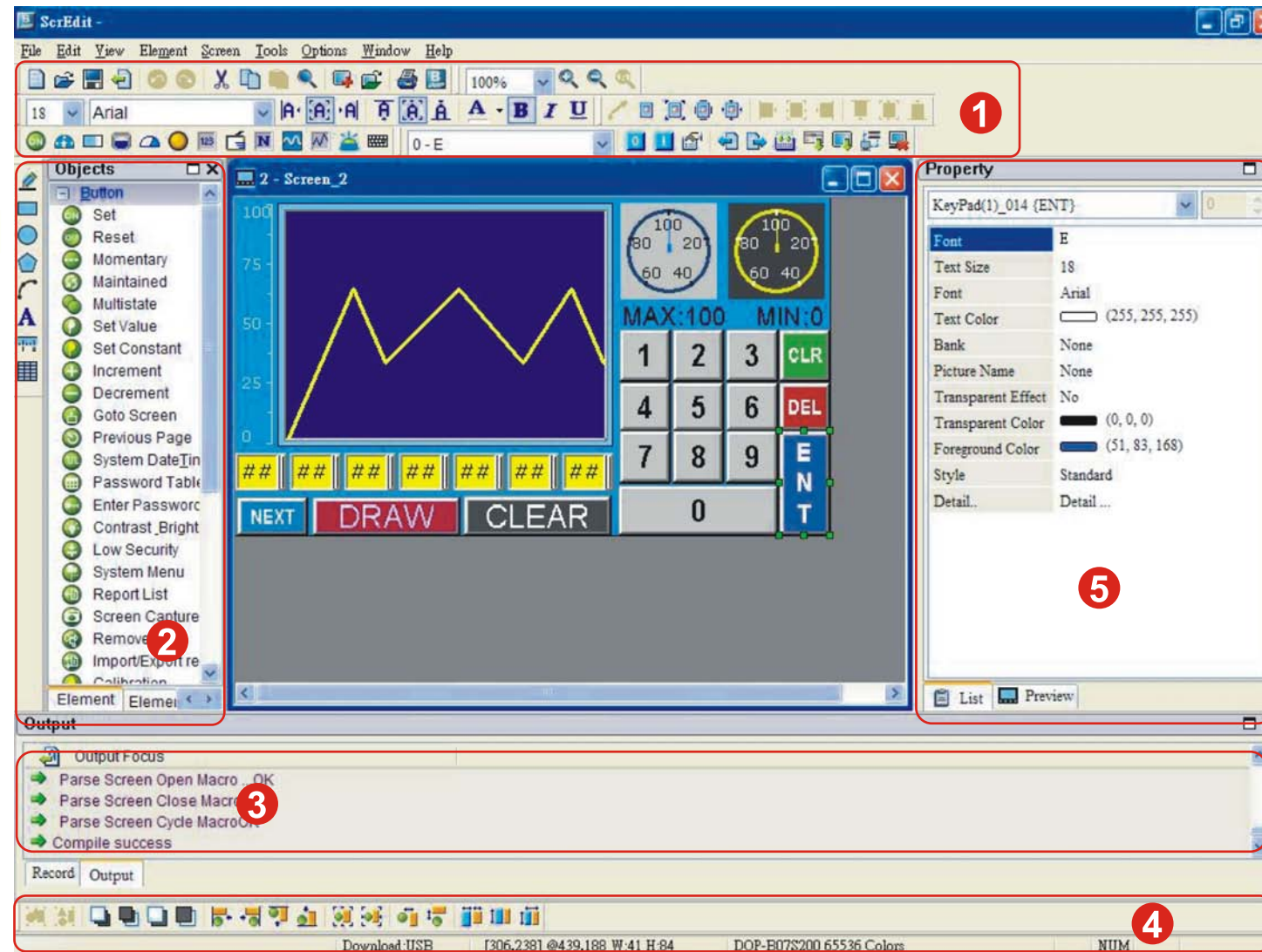
The Output Window displays all the editing actions and output message when compile function is enabled. Once error occurs, the error messages will be displayed in Output Window as well.

### 4 Layout Toolbar

The Layout Toolbar offers Bring to Front, Send to Bottom, Align, Across/Down Space Evenly, Make Same Size, etc. 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

New designed picture bank offers more colorful and attractive elements.



### Convenient Screen Data Convert

Compatible with the existing Screen Editor 1.05 for DOP-A series HMI. The project file created by Screen Editor 1.05 can be opened by Screen Editor 2.00. It is therefore easy to upgrade and convert the project of DOP-A series HMI to DOP-B series HMI.



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 and text size, etc. settings.

### Minimum System Requirement of Screen Editor 2.00

Hardware / Software	System Requirement
CPU	Pentium III, 500MHz or greater is recommended
Memory	256MB and above is recommended
Hard Disk	Capacity: 400MB and above
Monitor	Support resolution: 800X600 or higher full-color display.
Printer	Printer compatible with Windows® 2000 & Windows® XP
Operation System	Windows® 2000 / Windows® XP

\* Users can download the Screen Editor configuration software and the user manual at Delta's website via the following link: <http://www.delta.com.tw/industrialautomation/>.



## Multilingual Display

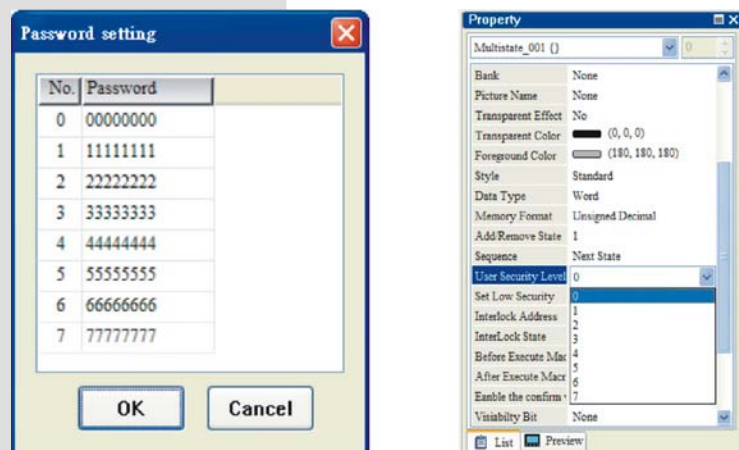
Up to 16 kinds of languages are available. No need to redesign the screen data!  
A benefit to market the equipment to manufacturers and end users in the world.



\* Enabling multilingual display function will consume the memory.

## Password Settings

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



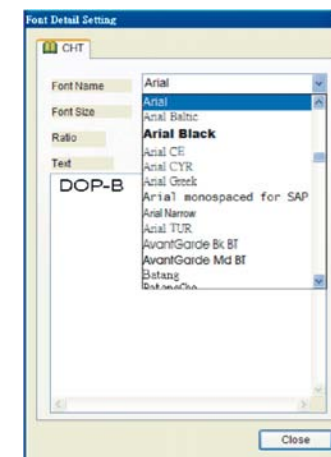
## Element Invisible Function

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



## Smooth Fonts

Not only Windows fonts are available, the smooth fonts function is also provided for the users to embellish the fonts and make them appear smoothly.



**DOP-B**  
Before

**DOP-B**  
After

\* Smooth fonts function is available for static text only.







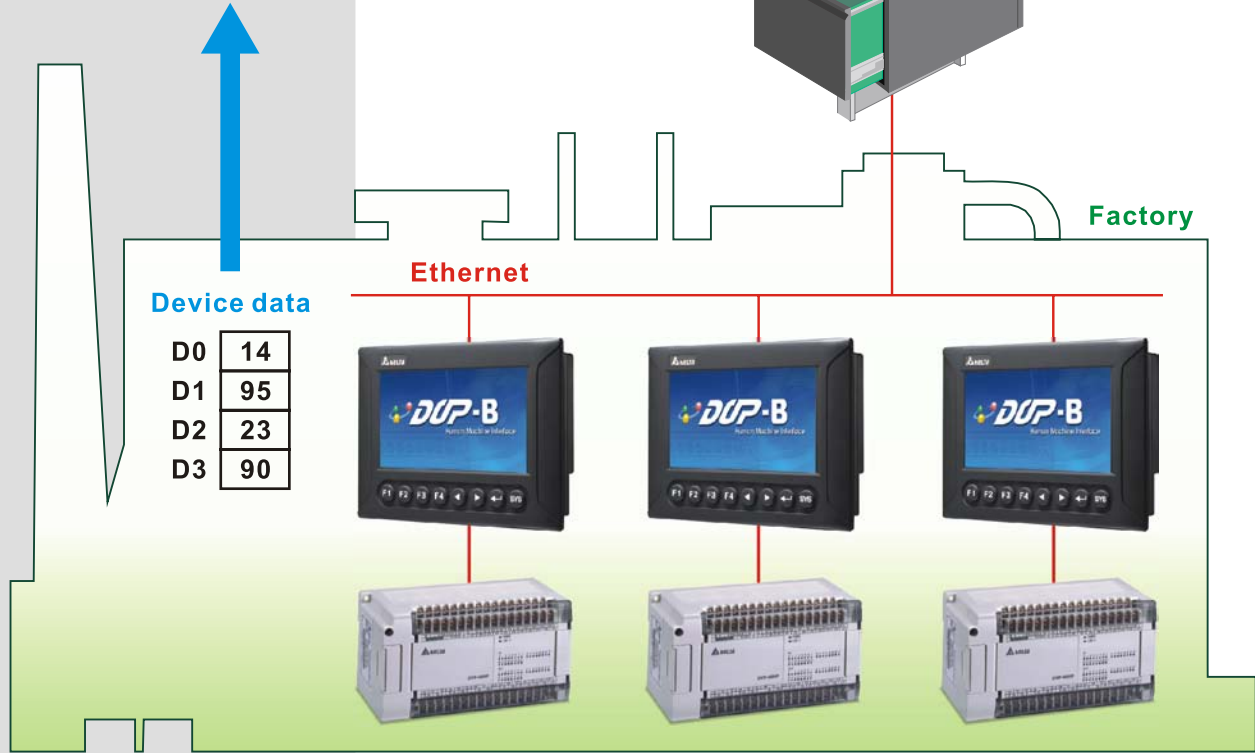
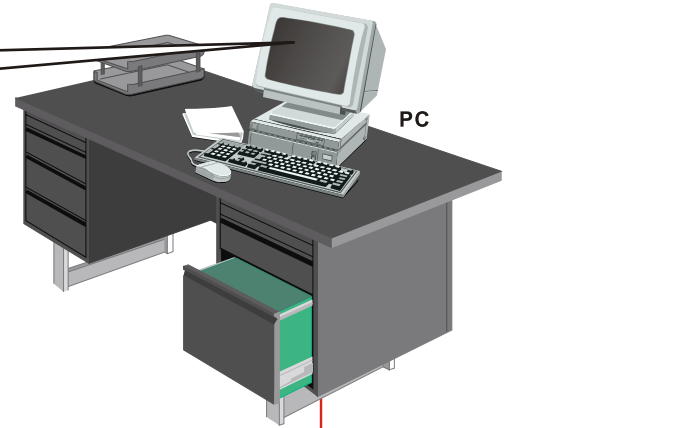
## Solution for Constructing a Network between Office and Production Site via Ethernet

### DOP-eServer Data Collection Software

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

! Will be released soon!

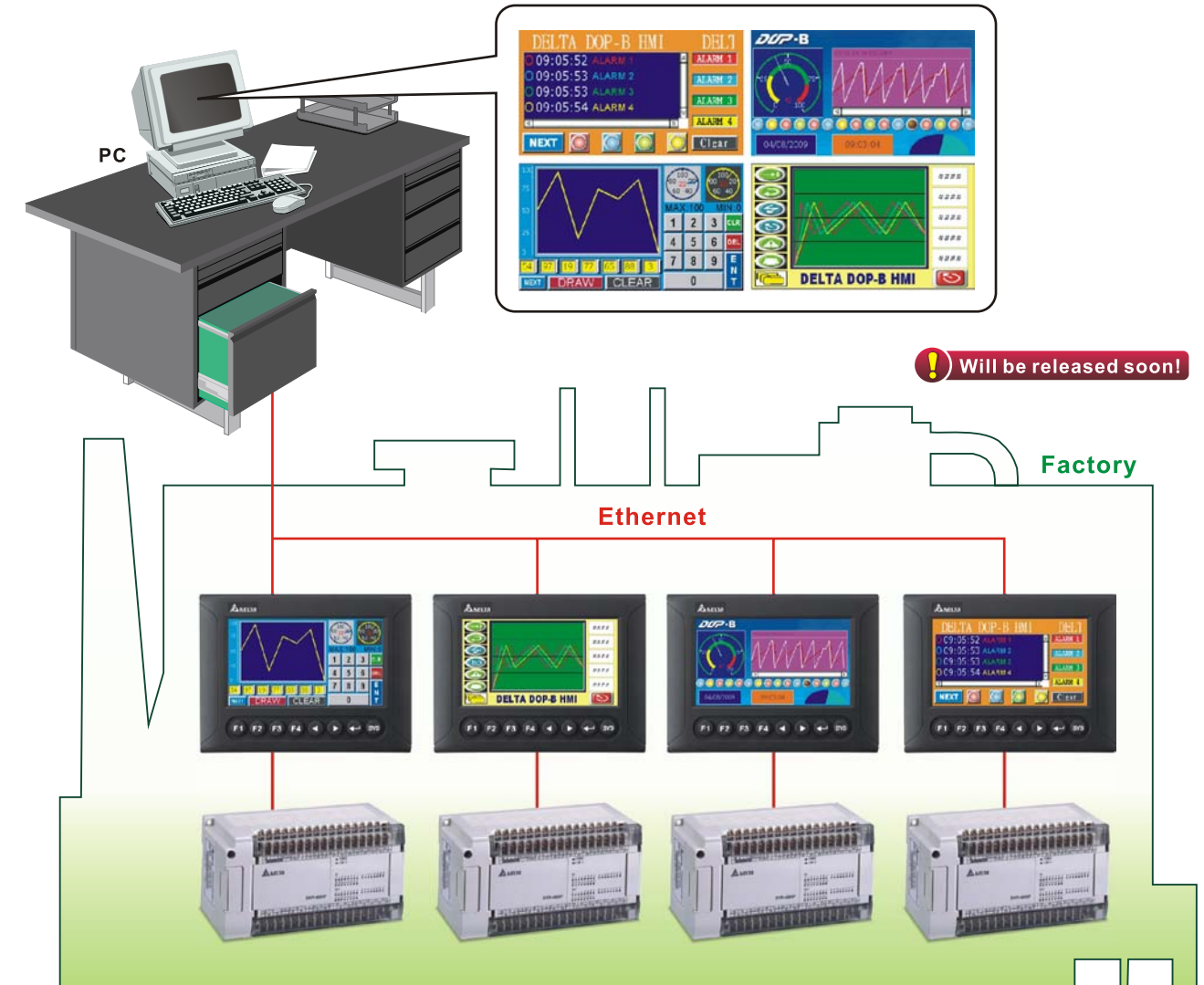
Daily Report				
Time	Data 1	Data 2	Data 3	Data 4
2009/4/22 AM 07:30	24	56	67	99
2009/4/22 AM 08:30	74	41	93	48
2009/4/22 AM 09:30	14	74	32	56
2009/4/22 AM 10:30	53	24	12	34
2009/4/22 AM 11:30	99	32	16	85
2009/4/22 AM 12:30	24	62	36	83
2009/4/22 PM 01:30	14	95	23	90



- Collected data can be saved in user-defined Excel file according to various purposes for the users to easily create production reports.
- If the formulas in Excel file are set in advance, the production data, i.e. defective rate, average working hour and capacity utilization rate, etc. can be calculated simultaneously while production data is recorded.
- Production data can be saved in daily reports, week reports and monthly reports, etc. automatically under different settings.

### DOP-eRemote Remote Control Software

eRemote is used to view and check the same screen shown on HMI at the production site, and control the manufacturing process via Ethernet. No matter where you are, remote controlling is not an arduous task at all.



! Will be released soon!

## Minimum System Requirement of DOP-eRemote / DOP-eServer

Hardware / Software	System Requirement
CPU	Pentium III, 500MHz or greater is recommended
Memory	256MB and above is recommended
Hard Disk	Capacity: 400MB and above
Monitor	Support resolution: 800X600 or higher full-color display.
Printer	Printer compatible with Windows® 2000 & Windows® XP
Operation System	Windows® 2000 / Windows® XP

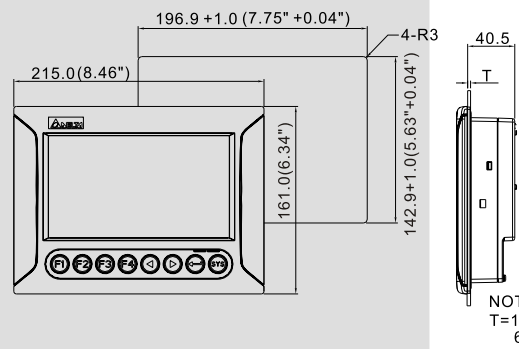
\* Users can download the DOP-eRemote / DOP-eServer software and the user manual at Delta's website via the following link:  
<http://www.delta.com.tw/industrialautomation/>



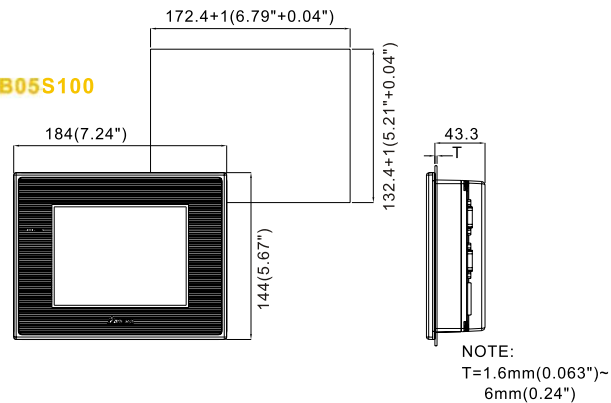
## Dimensions

Units: mm (inches)

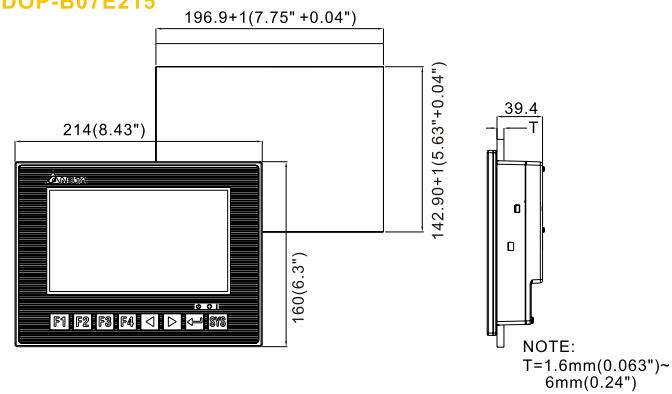
- DOP-B07S200
- DOP-B07S201
- DOP-B07E205



### ● DOP-B05S100



### ● DOP-B07S211 ● DOP-B07E215



## Optional Accessories

Model Name	Explanation
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

## Ordering Information

**DOP - B 07 S 2 00**

- [ Version Code ]
- [ Resolution ] 1 : QVGA / 2 : WQVGA
- [ Type ] S: Standard Type / E: Ethernet Type
- [ Display Size ] 05: 5.6 inches / 07: 7 inches
- [ Series ] B: B Series HMI
- [ Production Name ] DOP: Delta Operation Panel

## Specifications

MODEL	DOP-B05S100	DOP-B07S200	DOP-B07S201	DOP-B07S211	DOP-B07E205	DOP-B07E215
LCD MODULE	Display Type	5.6" TFT LCD (65536 colors)		7" Wide Screen TFT LCD (65536 colors)		
	Resolution	320 x 234 pixels		480 x 234 pixels		
	Backlight	LED Back Light (less than 20,000 hours half-life at 25°C) <sup>(Note 1)</sup>	CCFL Back Light (less than 50,000 hours half-life at 25°C) <sup>(Note 1)</sup>	LED Back Light (less than 20,000 hours half-life at 25°C) <sup>(Note 1)</sup>		
	Display Size	5.6" (113.28 x 84.70mm)	7" (154.08 x 86.58mm)			
Operation System	Delta Real Time OS					
MCU	32-bit RISC Micro-controller					
NOR Flash ROM	NOR Flash ROM 4Mbytes (System : 1MB / User : 3MB)					
SDRAM	8Mbytes	16Mbytes				
Backup Memory (Bytes)	128K	256K				
Sound Effect Output	Buzzer	Multi-Tone Frequency (2K ~ 4K Hz) / 85dB				
	AUX	N/A	N/A	N/A	N/A	Stereo output
Ethernet Interface	N/A	N/A	N/A	N/A	IEEE 802.3, IEEE 802.3u 10/100 Mbps auto-sensing (has built-in isolated power circuit) <sup>(Note 3)</sup>	
Memory Card	N/A	N/A	N/A	N/A	SD Card	
USB	1 USB Host <sup>(Note 2)</sup> Ver 1.1 / 1 USB Client Ver 1.1					
Serial COM Port	COM1	RS-232 (support hardware flow control)				
	COM2	RS-232 / RS-485	RS-232 / RS-422 / RS-485		RS-232 / RS-422 / RS-485 (has built-in isolated power circuit) <sup>(Note 3)</sup>	
	COM3	RS-422 / RS-485	RS-232 / RS-422 / RS-485		RS-232 / RS-422 / RS-485 (has built-in isolated power circuit) <sup>(Note 3)</sup>	
Function Key	N/A	User defined key x 4 + System key x 4				
Perpetual Calendar (RTC)	Built-in					
Cooling Method	Natural air circulation					
Safety Approval (Waterproof for front panel)	IP65 / NEMA4 / CE, UL <sup>(Note 4)</sup>					
Operation Voltage <sup>(Note 5)</sup>	DC +24V (-10% ~ +15%) (please use isolated power supply)				DC +24V (-10% ~ +15%) (has built-in isolated power circuit) <sup>(Note 3)</sup>	
Voltage Endurance	AC500V for 1 minute (between charging (DC24 terminal) and FG terminals)					
Power Consumption <sup>(Note 5)</sup>	3.0W	7.5W	4.8W	4.8W	6.5W	6.5W
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 Resistance	IEC 61131-2 Compliant 5Hz ≤ f < 9Hz = Continuous: 1.75mm / Occasional: 3.5mm 9Hz ≤ f ≤ 150Hz = Continuous: 0.5g / Occasional: 1.0g X, Y, Z directions for 10 times					
Dimensions (W) x (H) x (D) mm	184 x 144 x 50	215 x 161 x 50	215 x 161 x 50	215 x 161 x 48	215 x 161 x 50	215 x 161 x 48
Panel Cutout (W) x (H) mm	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
Weight	Approx. 670g	Approx. 880g	Approx. 880g	Approx. 840g	Approx. 920g	Approx. 880g

- 1) The half-life of backlight is defined as original luminance being reduced by 50% when the maximum driving current is supplied to HMI. The life of LED backlight shown here is an estimated value under 25°C normal temperature and humidity conditions.
- 2) USB Host port can provide up to 5V/ 500mA of power.
- 3) The withstand voltage of the isolated power circuit is 1500V peak for 1 minute.
- 4) DOP-B07S200 this model is UL recognized. Other models are in the process of application to UL certification.
- 5) The value of the power consumption indicates the electrical power consumed by HMI only without connecting to any peripheral devices. In order to ensure the normal operation, it is recommended to use a power supply which the capacity is 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 Delta website: <http://www.delta.com.tw/industrialautomation/>.