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



Automation for a Changing World

# Delta Human Machine Interface DOP-B series





# One Touch Gives You Limitless Possibilities with HML

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

### A Wide Range of Options

Three serial communication interfaces (RS-232/RS-485/RS-422), 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.



**B**est Performance

Beautiful Display

Notio

Beneficial Features

# **Specifications**

**B04** Standard

	Model Name	Display Size	Display Type	Resolution	ROM	Ethernet	USB Host	USB Client	Memory Card	Audio Output	
DOP	-B04S211	4.7	65536 Colors TFT	480x272	4 MB	N/A	N/A	v1.1 * 1	N/A	N/A	

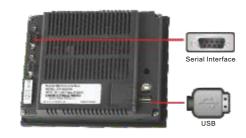




**B05** Standard

	Model Name	Display Size	Display Type	Resolution	ROM	Ethernet	USB Host	USB Client	Memory Card	Audio Output
DOF	P-B05S100	5.6	65536 Colors TFT	320x234	4 MB	N/A	v1.1 * 1	v1.1 * 1	N/A	N/A
DOF	P-B05S101	5.6	65536 Colors TFT	320x234	8 MB	N/A	v1 1 * 1	v1 1 * 1	N/A	N/A

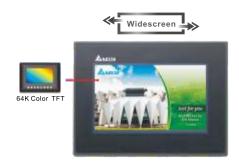


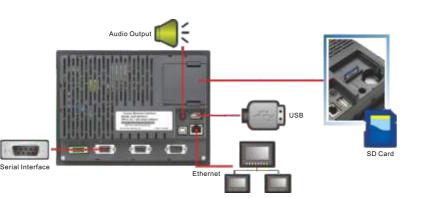


# **B07** High Resolution Widescreen

Model Name	Display Size	Display Type	Resolu tion	ROM	Ethernet	USB Host	USB Client	Memory Card		Delta Professional Integration Function
DOP-B07S411	7	65536 Colors TFT	800x480	128MB	N/A	v1.1 * 1	V2.0 * 1	N/A	N/A	N/A
DOP-B07S415	7	65536 Colors TFT	800x480	128MB	N/A	v1.1 * 1	V2.0 * 1	SD	N/A	N/A
DOP-B07E415	7	65536 Colors TFT	800x480	128MB	10/100 Base-T	v1.1 * 1	V2.0 * 1	SD	YES	N/A
DOP-B07PS415	7	65536 Colors TFT	800x480	128MB	N/A	v1.1 * 1	V2.0 * 1	SD	N/A	YES

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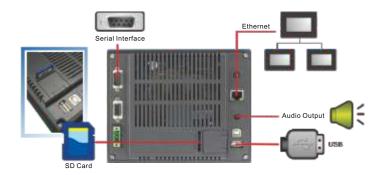




### B07 High Resolution

	_										
	Model Name	Display Size	Display Type	Resolu tion	ROM	Ethernet	USB Host	USB Client			Delta Professional Integration Function
DC	P-B07S515	7	65536 Colors TFT	800x600	128MB	N/A	v1.1 * 1	V2.0 * 1	SD	N/A	N/A
DC	P-B07E515	7	65536 Colors TFT	800x600	128MB	10/100 Base-T	v1.1 * 1	V2.0 * 1	SD	YES	N/A
DC	P-B07PS515	7	65536 Colors TFT	800x600	128MB	N/A	v1.1 * 1	V2.0 * 1	SD	N/A	YES

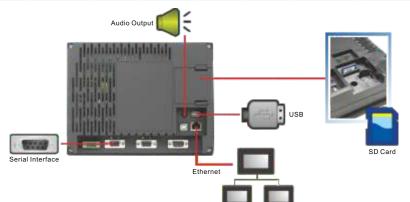




# **B08** High Resolution

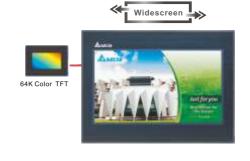
	Model Name	Display Size	Display Type	Resolution	ROM	Ethernet	USB Host	USB Client	Memory Card	Audio Output
DOF	P-B08S515	8	65536 Colors TFT	800x600	128MB	N/A	v1.1 * 1	V2.0 * 1	SD	N/A
DOF	P-B08E515	8	65536 Colors TFT	800x600	128MB	10/100 Base-T	v1.1 * 1	V2.0 * 1	SD	YES

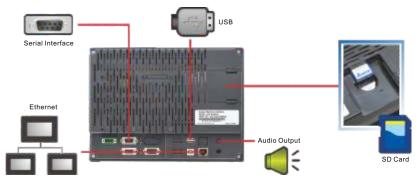




## B10 High Resolution Widescreen

	Model Name	Display Size	Display Type	Resolution	ROM	Ethernet	USB Host	USB Client	Memory Card	Audio Output
DO	P-B10S615	10	65536 Colors TFT	1024x600	128MB	N/A	v1.1 * 1	V2.0 * 1	SD	N/A
DO	P-B10E615	10	65536 Colors TFT	1024x600	128MB	10/100 Base-T	v1.1 * 1	V2.0 * 1	SD	YES







# **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.

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.



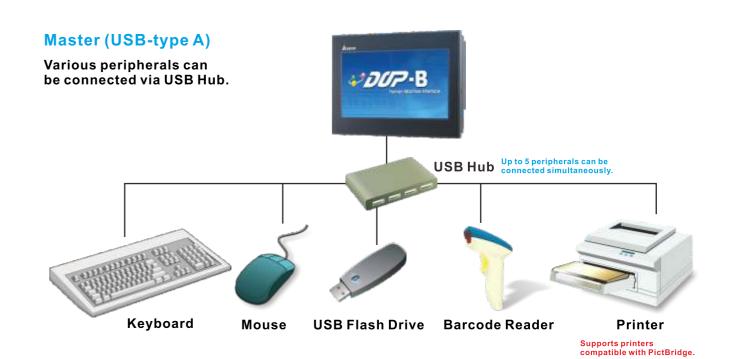
# **Supports Various Peripherals via USB Hub**



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



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





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# SD Card / USB Disk Versatile Storage Interface •

- Exploiting the convenience of SD card and USB disk, screen data transfer and collection can be quickly performed and the storage capacities of 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 PC.
- The data saved in 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 backup 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.

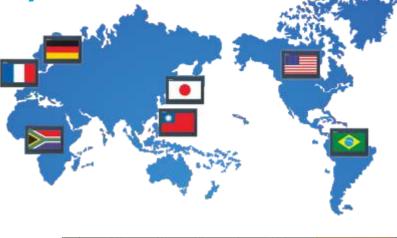


# **Multilingual Display**

Up to 16 languages are available. No need to redesign the screen data!

A benefit for marketing the equipment to manufacturers and end users around the world.

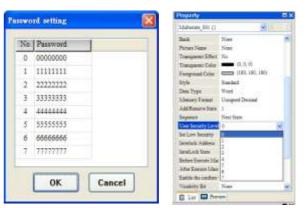




		D	1		0
	1	Chinese	English	lapanese	Spanish
ıg on	2	星期日	SUN	日曜日	Domingo
	3	星相一	MON	月曜日	Lunes
_1	1	星期二	TUE	火曜日	Martes
_,	4	星期三	WED	水曜日	Miércoles
	6	星期四	THR	木曜日	Iueves
	7	星期五	FRI	会曜日	Viernet
	8	星期六	SAT	土曜日	Sábado

#### **Password Settings**

Provide 8 levels of passwords to set 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.



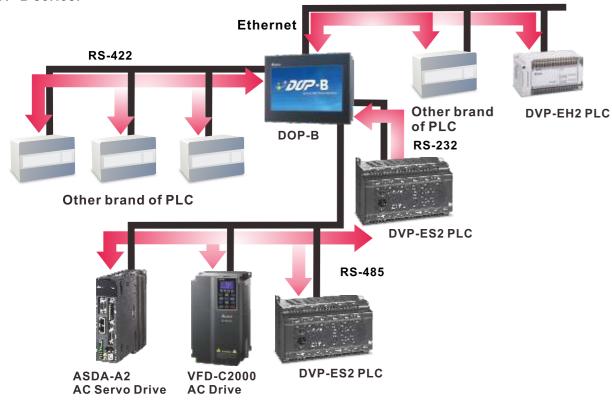




#### **Provides Diverse Communication Interfaces**

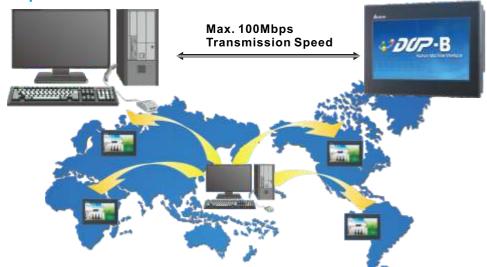
#### Easy to communicate with more than 30 brands of PLCs/Controllers

All DOP-B 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-B series.



### Ethernet Ubiquitous High Speed Communication •

#### **Ethernet Upload and Download**

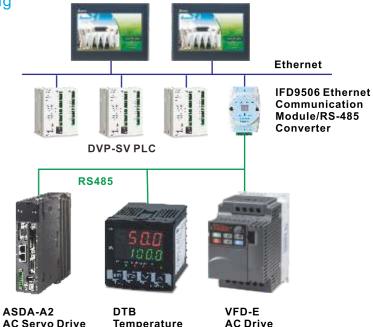


Easy to maintain and upgrade programs no matter where you are in the world.

#### **Best Solution for Network Monitoring**

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

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



**AC Servo Drive** 

**Temperature** 

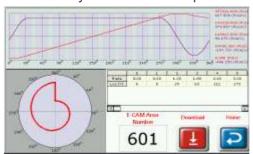
# **Delta Professional Integration Function: Electronic Cam (E-Cam) Curve Table**

- 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.



#### 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

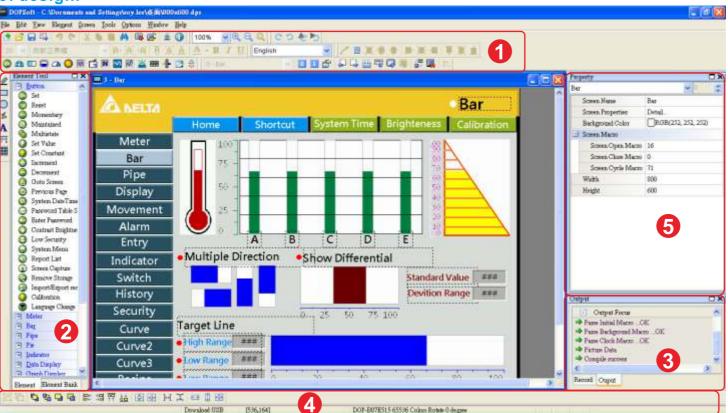






#### **DOPSoft**

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.

#### 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

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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 the existing Screen Editor software, the project file created by Screen Editor 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.



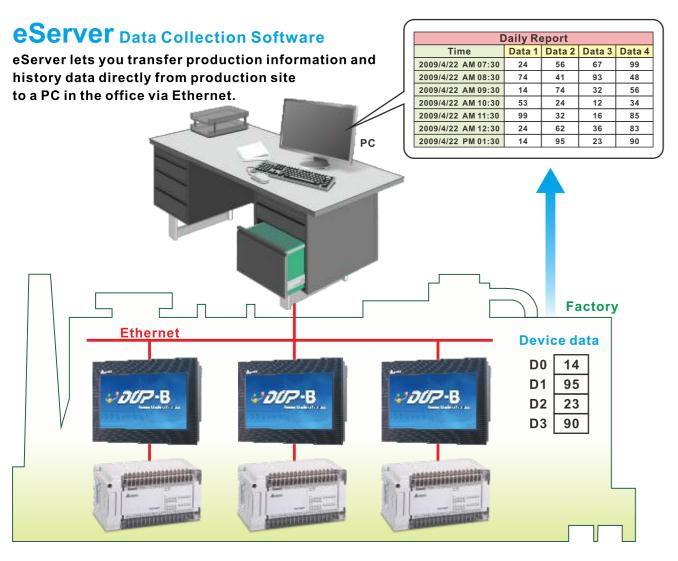
# Minimum System Requirements of DOPSoft

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

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

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# Solution for Constructing a Network between Office and Production Site 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 and monthly reports, and more automatically under different settings.

#### 2) Database Sampling Data

• Users can access any database via Open Database Connectivity (ODBC) interface.

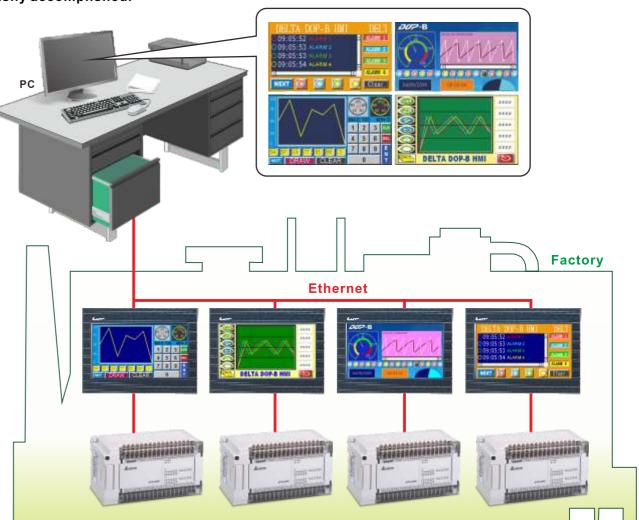
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#### 3) Recipe Data Transfer

• Users can transfer and backup the recipe data via eServer easily.

# eRemote 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
CPU	Pentium 4,1.6GHz or greater is recommended
Memory	2G MB and above is recommended
Hard Disk	Capacity: 50MB and above
Monitor	Supports resolution: 1024 x 768 or higher full-color display.
Printer	Printer compatible with Windows 2000 / Windows XP Windows Vista / Windows 7
Operating System	Windows 2000 / Windows XP / Windows Vista / Windows 7

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

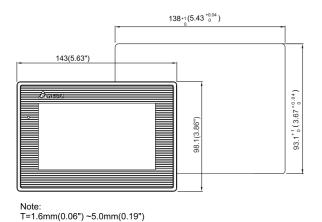


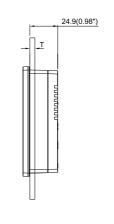


# **Dimensions**

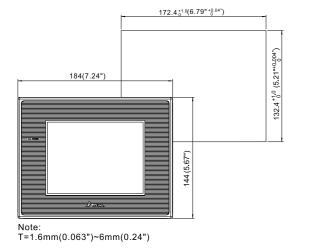
Units: mm (inches)

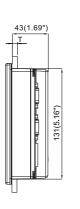
DOP-B04S211





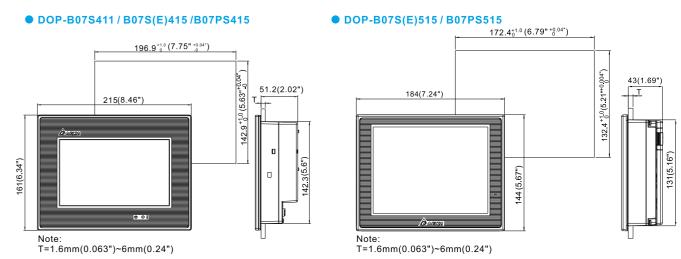


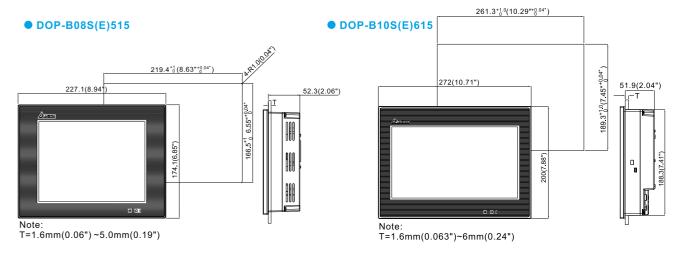




# **Optional Accessories**

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





# **Ordering Information**



**DELTA** 

# **Specifications**

MODEL		DOP-B04S211	DOP-B05S100	DOP-B05S101	DOP-B07S411	DOP-B07S415	DOP-B07PS415	DOP-B07E415
	Display Type	4.7" TFT LCD (65536 colors)	5.6" TFT LCD (	65536 colors)		7" Widescr	een TFT LCD	
LCD	Resolution	480 x 272 pixels	320 x 2	34 pixels		800 x 4	80 pixels	
MODULE	Backlight			Back Light (less t	than 20.000 hour			
	Display Size	113.68 x 58.75mm			154.08 x 85.92mm		152.4 x 91.44mm	n
Operating S	System System				Delta Real Time C			
MCU					RISC Micro-con			
NOR Flash	ROM	Flash ROM 4 MB (OS System: 2MB / User Application: 2MB)	/ User	(OS System: 2MB / User		Flash ROM 128 (OS System: 3 User Applicati	0MB / Backup: 16	6MB /
SDRAM		8Mby	rtes	16Mbytes		64N	lbytes	
Backup Me (Bytes)	mory	32Kbytes	128 <b>K</b>	(bytes		16N	lbytes	
Sound	Buzzer			Multi-Tone I	Frequency (2K ~	4K Hz)/85dB		
Effect Output	AUX	N/A	N/A	N/A	N/A	N/A	N/A	Stereo output
Ethernet In	terface	JX         N/A         N/A         N/A         N/A         N/A           iace         N/A         N/A				10/100 Mbps Auto- sensing(has built- in isolated power circuit (Note 3) )		
Memory Ca	rd	N/A	N/A	N/A	N/A		SD card (suppo	rt SDHC)
USB		1 USB Client Ver 1.1	1 USB Host (Note Client Ver 1.1	e2) Ver 1.1 / 1 USB	1 US	B Host Ver	1.1 / 1 USB Client	Ver 2.0
	COM1	RS-232 (Supports hardware flow control) / RS-422 /RS-485		RS	-232 (supports h	ardware flow co	ntrol)	
Serial COM	COM2	N/A		RS-232 / RS	-485	RS-232 RS-485	/ RS-422	RS-232 / RS-422 RS-485(has built -in isolated power circuit (Note 3))
Port	сомз	N/A		RS-422 / RS	-485	RS-232 RS-485	/ RS-422	RS-232 / RS-422 RS-485(has built -in isolated power circuit (Note 3))
Function K	ey				N/A			
	alendar (RTC)				Built-in			
Cooling Me					tural air circulat			
Safety App				CE	/ UL (Note 4) / KCC (	Note 4)		
Waterproof	/oltage <sup>(Note 5)</sup>		DC +24V(-10% ~	+15%) (please us	IP65 / NEMA4 se isolated powe	r supply)		DC +24V(-10% ~ +15%)(has built-in isolated power circuit (Note 3))
Voltage End	durance		AC500V for	1 minute (betwee	n charging DC24	terminal and FC	G terminals)	
Power Cons	sumption <sup>(Note 5)</sup>	2.64W	3.0	w	4W	5	w	7.5W
Backup Bat				3V lith	ium battery CR2	032 x 1		
Backup Bat	tery Life	It dep	ends on the tem	perature used an	d the conditions	of usage, about	3 years or more a	at 25°C
Operation 1	Гетр				0°C ~ 50°C			
Storage Ter	np				-20°C ~ +60°C			
Ambient Hu	ımidity			RH [0~40°C], 10				
Vibration R	esistance			ompliant 5Hz≦f< Continuous: 0.5				3
Dimensions	(W) x (H) x (D) mm	143 x 98.1 x 31.2	184 x 144 x 50	184 x 144 x 50	215 x 161 x 50	215 x 161 x 50	215 x 161 x 50	215 x 161 x 50
Panel Cuto	ut (w) × (H) mm	138 x 93.1	172.4 x 132.4	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
Weight		Approx. 295g	Approx. 670g	Approx. 670g	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) USB Host port can provide up to 5V/ 500mA of power.
- 3) The isolated power circuit can withstand a 1500V voltage peak for 1 minute.
- 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) Users can download the Screen Editor V2.00, the program editor of Delta HMI product and the user manual via the following link: http://www.delta.com.tw/industrialautomation/.
- 7) The content of this catalogue may be revised without prior notice. Please consult our distributors or download the most updated version at http://www.delta.com.tw/industrialautomation/.

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MODEL		DOP-B07S515	DOP-B07PS515	DOP-B07E515	DOP-B08S515	DOP-B08E515	DOP-B10S615	DOP-B10E615			
	Display Type	7"	TFT LCD (65536 cold	ors)	8" TFT LCD (	35536 colors)	10" Widesc	reen TFT LCD			
	Resolution		80	0 x 600 pixels	·		1024 x 600				
LCD MODULE	Backlight			Back Light (less	than 10,000 hours	s half-life at 25°C)		PIXOIO			
	Display Size		141 x 105.75mm			21.5mm		28.7mm			
Operating S	1 1			D	elta Real Time OS						
MCU	7				RISC Micro-contr						
NOR Flash	ROM	(OS Sys	OM 128MB stem: 30MB / Backup oplication: 82MB)	: 16MB /	Flash ROM 128I (OS System: 30 16MB / User Ap		Flash ROM 128 (OS System: 30 16MB / User Ap				
SDRAM					64Mbytes						
Backup Me (Bytes)	mory				16Mbytes						
Sound Effect	Buzzer			Multi-Tone F	requency (2K ~ 4	K Hz)/85dB					
Output	AUX	N/A	N/A	Stereo output	N/A	Stereo output	N/A	Stereo output			
Ethernet In	terface	N/A	N/A	10/100 Mbps Autosensing(has built- in isolated power circuit (Note 3))	N/A	10/100 Mbps Autosensing(has built- in isolated power circuit (Note 3))		10/100 Mbps Auto- sensing(has built- in isolated power circuit (Note 3) )			
Memory Ca	ırd			SD o	ard (support SDF	IC)					
USB		1 USB Host (Note2) Ver 1.1 / 1 USB Client Ver 2.0									
COM1			RS-232 (supports hardware flow control)								
Serial COM	COM2	RS-232 / R	S-422 / RS-485	RS-232 / RS-422 RS-485(has built- in isolated power circuit (Note 3))	RS-232 / RS-422 RS-485		S-422 / RS-485 n isolated power	circuit <sup>(Note 3)</sup> )			
Port	сомз	RS-232 / RS	S-422 / RS-485	RS-232 / RS-422 RS-485(has built- in isolated power circuit (Note 3))			S-422 / RS-485 n isolated power	circuit <sup>(Note 3)</sup> )			
Function K	еу	N/A									
Perpetual C	Calendar (RTC)	Built-in									
Cooling Me	ethod	Natural air circulation									
Safety App				CE	/ UL (Note 4) / KCC (No	te 4)					
Waterproof	Degree				IP65 / NEMA4						
Operation \	Voltage (Note 5)	DC +24V (-10% ~ +15%) (please use isolated power supply)	DC +24V (-10% ~ +15%) (has built-in isolated power circuit <sup>(Note 3)</sup> )	use isolated	+15%)(has built- in isolated power circuit (Note 3))		10% ~ +15%) n isolated power	circuit (Note 3))			
Voltage En	durance		AC500V for	1 minute (betwee	n charging DC24 t	erminal and FG te	erminals)				
Power Con	sumption <sup>(Note 5)</sup>		7.68W		5.2W	7.8W	1:	2W			
Backup Bat	ttery			3V lith	ium battery CR20	32 x 1					
Backup Bat	ttery Life	It	depends on the tem	perature used and		f usage, about 3 y	ears or more at 2	5°C			
Operation 7	Temp				0°C ~ 50°C						
Storage Te	mp	-20°C ~ +60°C									
Ambient Hu	umidity			RH [0~40°C], 10							
Vibration R			9Hz≦f≦150Hz=	ompliant 5Hz≦f< Continuous: 0.5o	/ Occasional: 1.0	g X, Y, Z direction	ns for 10 times				
	S (W) x (H) x (D) mm	184 x 144 x 50	184 x 144 x 50	184 x 144 x 50	227.1 x 174.1 x 61	227.1 x 174.1 x 61	272 x 200 x 61	272 x 200 x 61			
Panel Cuto	ut (W) x (H) mm	172.4 x 132.4	172.4 x 132.4	172.4 x 132.4	219.4 x 166.5	219.4 x 166.5	261.3 x 189.3	261.3 x 189.3			
Weight		Approx. 800g	Approx. 800g	Approx. 800g	Approx. 1226g	Approx. 1228g	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) USB Host port can provide up to 5V/ 500mA of power.
- 3) The isolated power circuit can withstand a 1500V voltage peak for 1 minute.
- 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) Users can download the Screen Editor V2.00, the program editor of Delta HMI product and the user manual via the following link: http://www.delta.com.tw/industrialautomation/.
- 7) The content of this catalogue may be revised without prior notice. Please consult our distributors or download the most updated version at http://www.delta.com.tw/industrialautomation/.

