



Automation for a Changing World

Delta Human Machine Interface DOP-B Series



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

Energy
Environment

All models
provide
mercury
and prot

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

Models are equipped with LED backlights which 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.

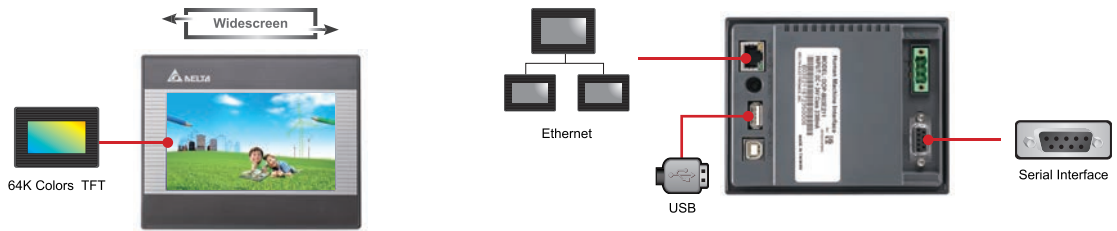


es

Specifications

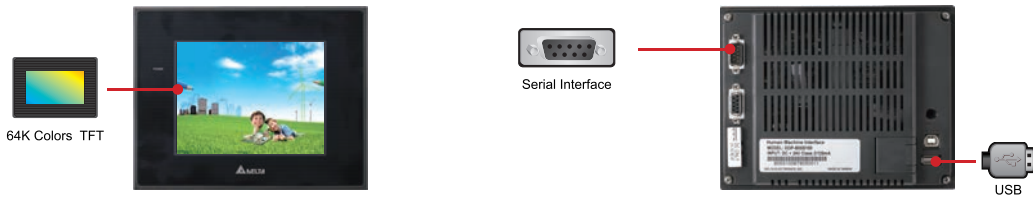
B03 High Resolution Widescreen

| Model Name | Display Size | Display Type | Resolution | ROM | Ethernet | USB Host | USB Client | Memory Card | Audio Output |
|-------------|--------------|------------------|------------|-------|---------------|----------|------------|-------------|--------------|
| DOP-B03S211 | 4.3-inch | 65536 Colors TFT | 480 x 272 | 128MB | N/A | v1.1 * 1 | V2.0 * 1 | N/A | N/A |
| DOP-B03E211 | 4.3-inch | 65536 Colors TFT | 480 x 272 | 128MB | 10/100 Base-T | v1.1 * 1 | V2.0 * 1 | N/A | N/A |



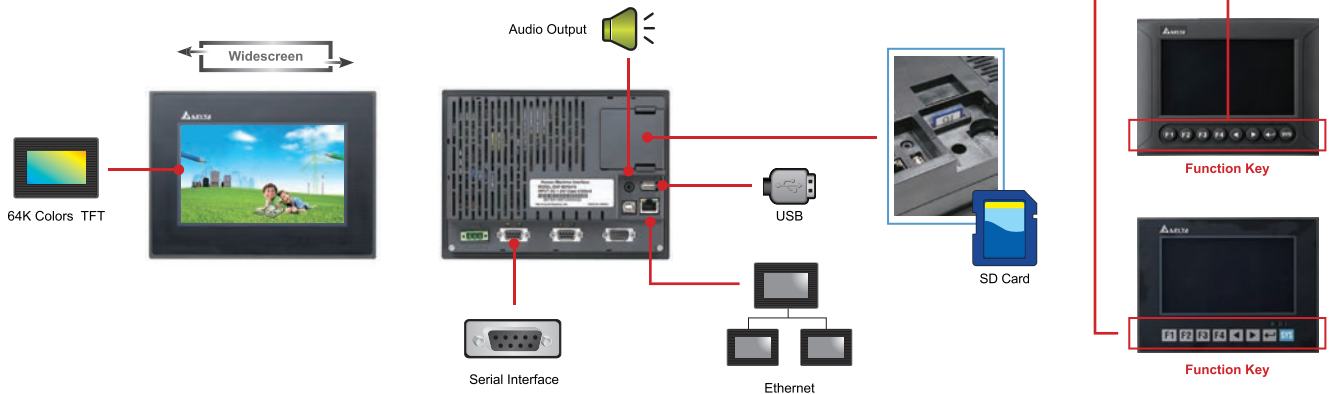
B05 Standard

| Model Name | Display Size | Display Type | Resolution | ROM | Ethernet | USB Host | USB Client | Memory Card | Audio Output |
|-------------|--------------|------------------|------------|-------|----------|----------|------------|-------------|--------------|
| DOP-B05S111 | 5.6-inch | 65536 Colors TFT | 320x234 | 128MB | N/A | v1.1 * 1 | V2.0 * 1 | N/A | N/A |



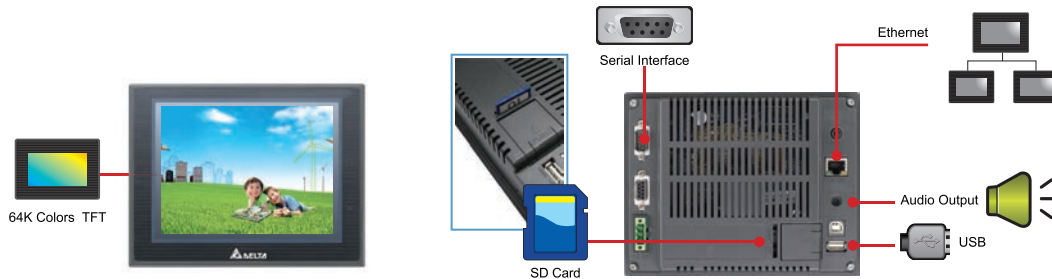
B07 High Resolution Widescreen

| Model Name | Display Size | Display Type | Resolution | ROM | Ethernet | USB Host | USB Client | Memory Card | Function key | Audio Output |
|--------------|--------------|------------------|------------|-------|---------------|----------|------------|-------------|--------------|--------------|
| DOP-B07S411 | 7-inch | 65536 Colors TFT | 800x480 | 128MB | N/A | v1.1 * 1 | V2.0 * 1 | N/A | N/A | N/A |
| DOP-B07S401K | 7-inch | 65536 Colors TFT | 800x480 | 128MB | N/A | v1.1 * 1 | V2.0 * 1 | N/A | 8 | N/A |
| DOP-B07S411K | 7-inch | 65536 Colors TFT | 800x480 | 128MB | N/A | v1.1 * 1 | V2.0 * 1 | N/A | 8 | N/A |
| DOP-B07S415 | 7-inch | 65536 Colors TFT | 800x480 | 128MB | N/A | v1.1 * 1 | V2.0 * 1 | SD | N/A | N/A |
| DOP-B07E415 | 7-inch | 65536 Colors TFT | 800x480 | 128MB | 10/100 Base-T | v1.1 * 1 | V2.0 * 1 | SD | N/A | N/A |
| DOP-B07PS415 | 7-inch | 65536 Colors TFT | 800x480 | 128MB | N/A | v1.1 * 1 | V2.0 * 1 | SD | N/A | YES |



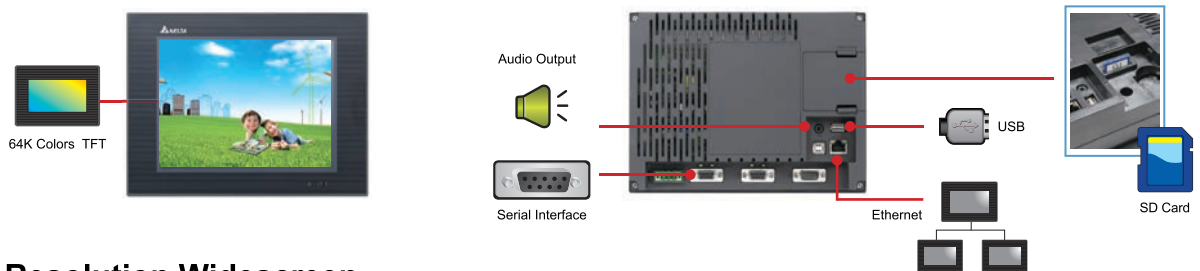
B07 High Resolution

| Model Name | Display Size | Display Type | Resolution | ROM | Ethernet | USB Host | USB Client | Memory Card | Audio Output | Delta Professional Integration Function |
|--------------|--------------|------------------|------------|-------|---------------|----------|------------|-------------|--------------|---|
| DOP-B07S515 | 7-inch | 65536 Colors TFT | 800x480 | 128MB | N/A | v1.1 * 1 | V2.0 * 1 | SD | N/A | N/A |
| DOP-B07E515 | 7-inch | 65536 Colors TFT | 800x480 | 128MB | 10/100 Base-T | v1.1 * 1 | V2.0 * 1 | SD | YES | N/A |
| DOP-B07PS515 | 7-inch | 65536 Colors TFT | 800x480 | 128MB | N/A | v1.1 * 1 | V2.0 * 1 | SD | N/A | YES |



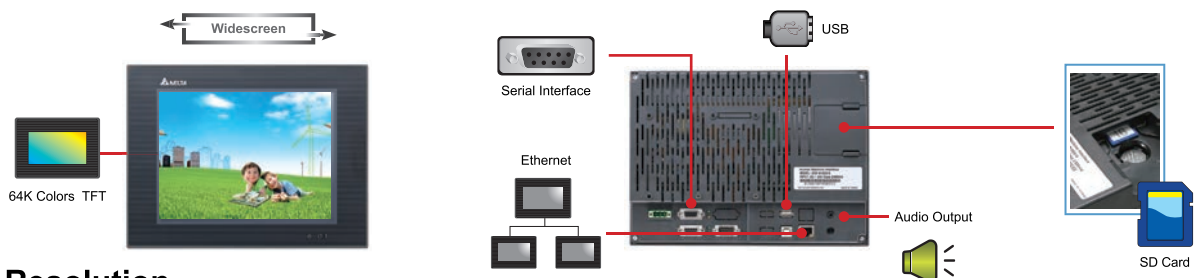
B08 High Resolution

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



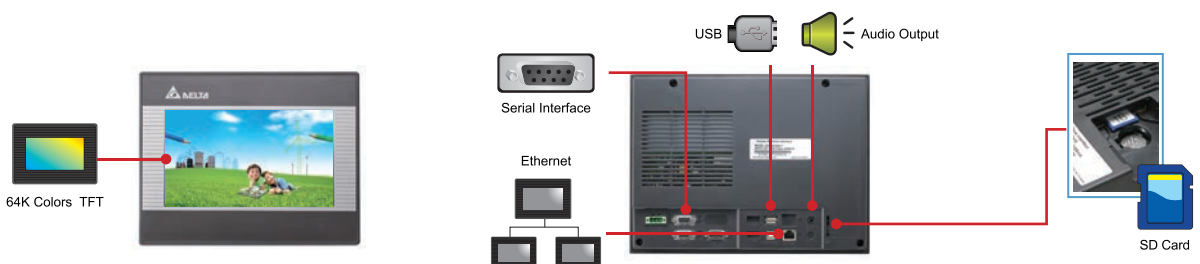
B10 High Resolution Widescreen

| Model Name | Display Size | Display Type | Resolution | ROM | Ethernet | USB Host | USB Client | Memory Card | Audio Output |
|-------------|--------------|------------------|------------|-------|---------------|----------|------------|-------------|--------------|
| DOP-B10S411 | 10.1-inch | 65536 Colors TFT | 800x480 | 128MB | N/A | v1.1 * 1 | V2.0 * 1 | N/A | N/A |
| DOP-B10S615 | 10.1-inch | 65536 Colors TFT | 1024x600 | 128MB | N/A | v1.1 * 1 | V2.0 * 1 | SD | N/A |
| DOP-B10E615 | 10.1-inch | 65536 Colors TFT | 1024x600 | 128MB | 10/100 Base-T | v1.1 * 1 | V2.0 * 1 | SD | YES |



B10 High Resolution

| Model Name | Display Size | Display Type | Resolution | ROM | Ethernet | USB Host | USB Client | Memory Card | Audio Output |
|-------------|--------------|------------------|------------|-------|---------------|----------|------------|-------------|--------------|
| DOP-B10S511 | 10.4-inch | 65536 Colors TFT | 800x600 | 128MB | N/A | v1.1 * 1 | V2.0 * 1 | N/A | N/A |
| DOP-B10E515 | 10.4-inch | 65536 Colors TFT | 800x600 | 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.

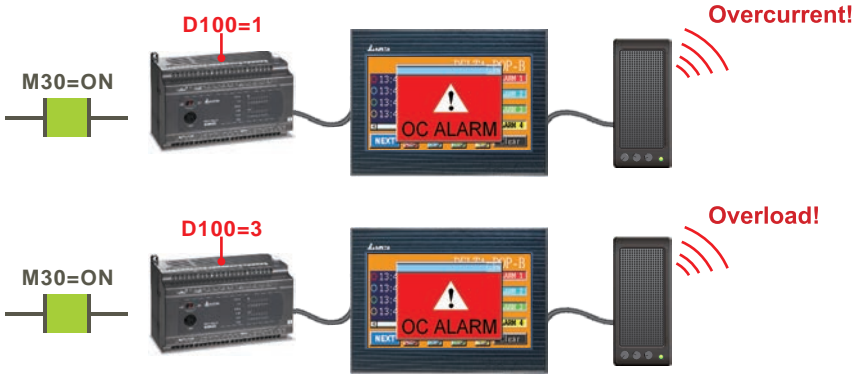
Audio Output Interface



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

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)

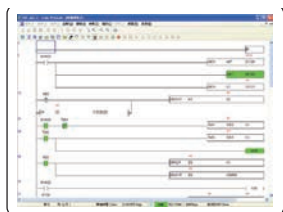
! Compatible with Windows Vista / Windows 7



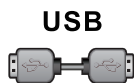
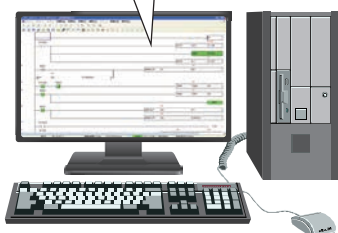
Screen data can be transferred rapidly via USB connection.



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



PLC Programming Software:
WPLSoft



USB



RS-223

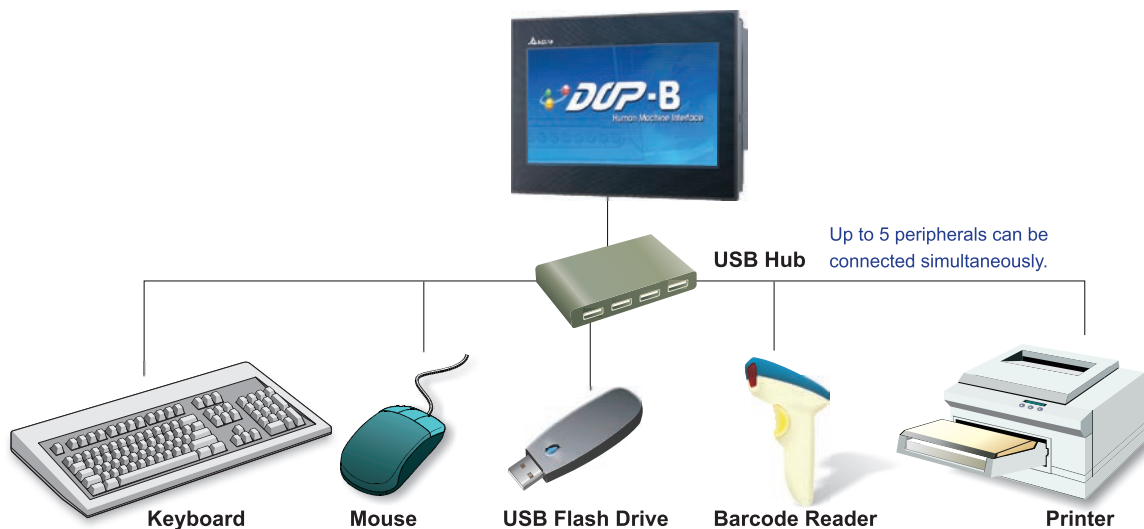


*Supports Delta DVP series PLC only.

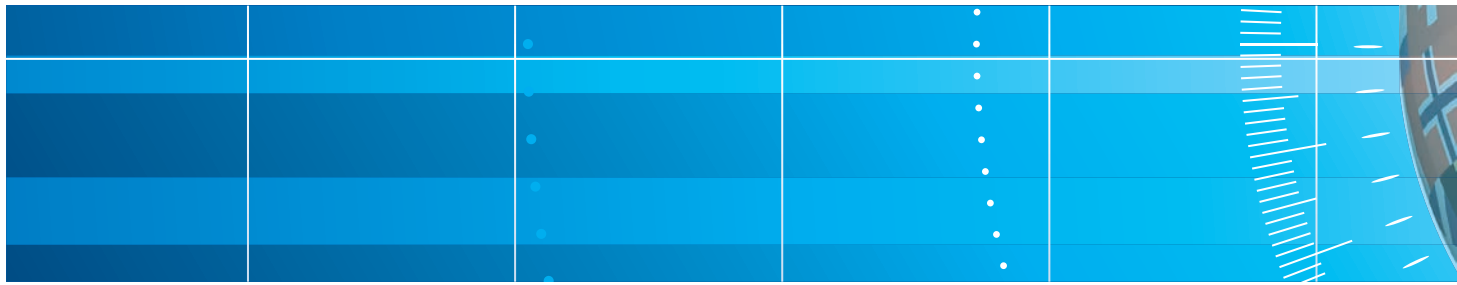
Using bypass function, enable monitoring functions and modify PLC programs directly via USB connection.

Master (USB-type A)

Various peripherals can be connected via USB Hub.



Supports printers compatible with PictBridge.



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

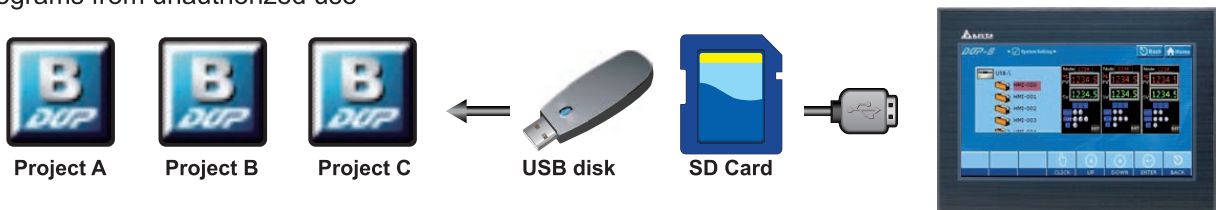


The recipe data can be saved in CSV format and easily edited on an external PC in Excel to effectively save PLC memory.



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

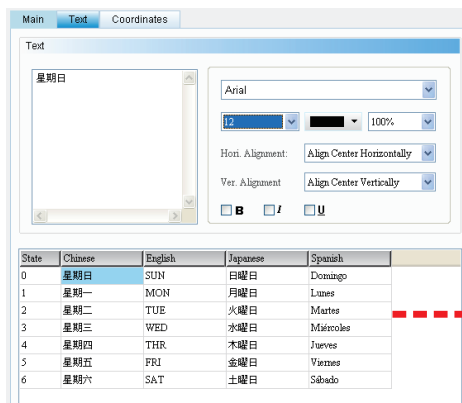
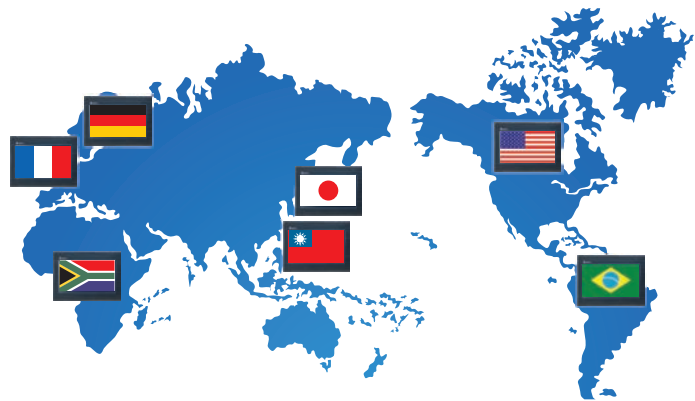


Support Delta DVP series PLC only.



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.

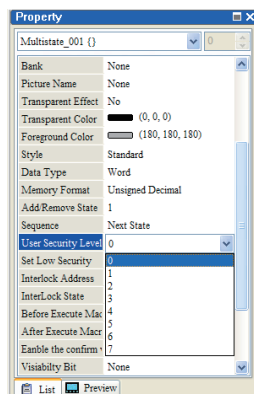
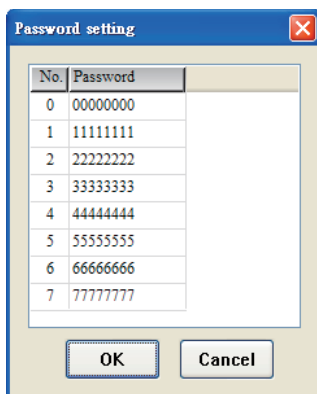


Multilingual editing on a PC in Excel

| | D | E | F | G |
|---|---------|---------|----------|-----------|
| 1 | Chinese | English | Japanese | Spanish |
| 2 | 星期日 | SUN | 日曜日 | Domingo |
| 3 | 星期一 | MON | 月曜日 | Lunes |
| 4 | 星期二 | TUE | 火曜日 | Martes |
| 5 | 星期三 | WED | 水曜日 | Miércoles |
| 6 | 星期四 | THR | 木曜日 | Jueves |
| 7 | 星期五 | FRI | 金曜日 | Viernes |
| 8 | 星期六 | SAT | 土曜日 | Sábado |

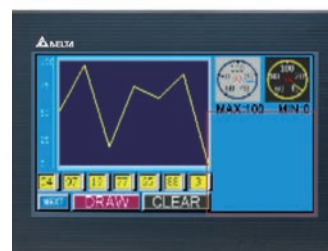
Password Settings

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

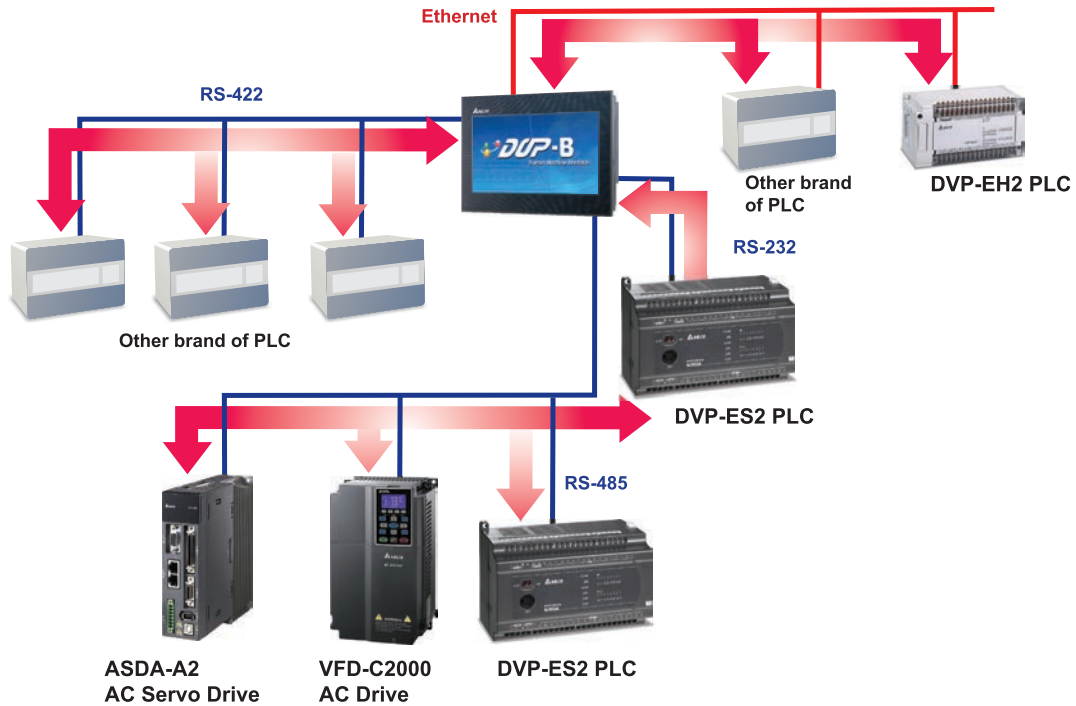
The element on the screen can be hidden by triggering the corresponding bit.



Provides Diverse Communication Interfaces

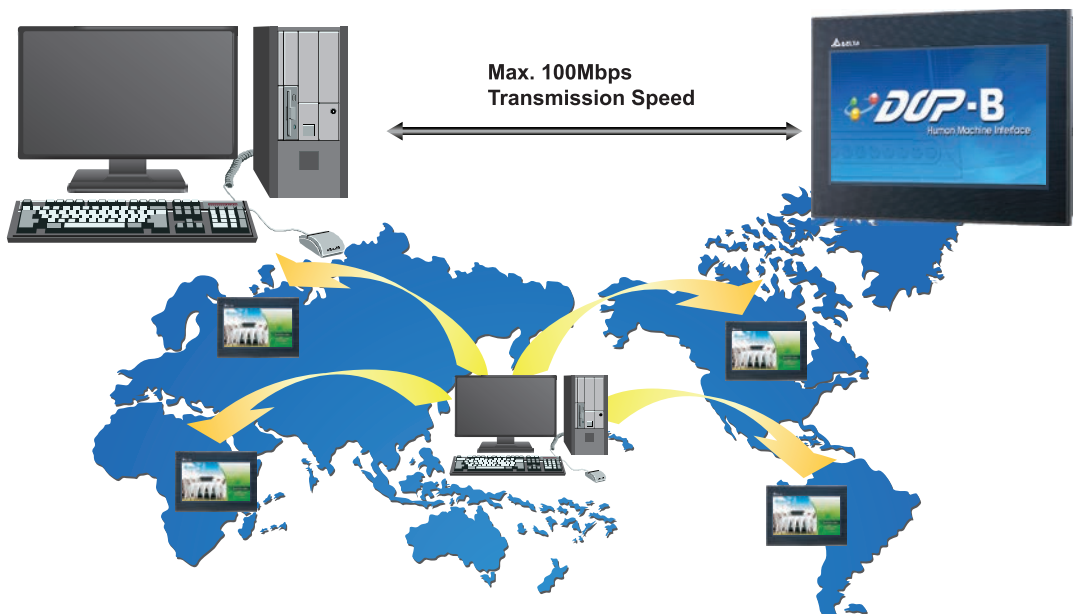
Easy to communicate with more than 30 brands of PLCs/Controllers

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

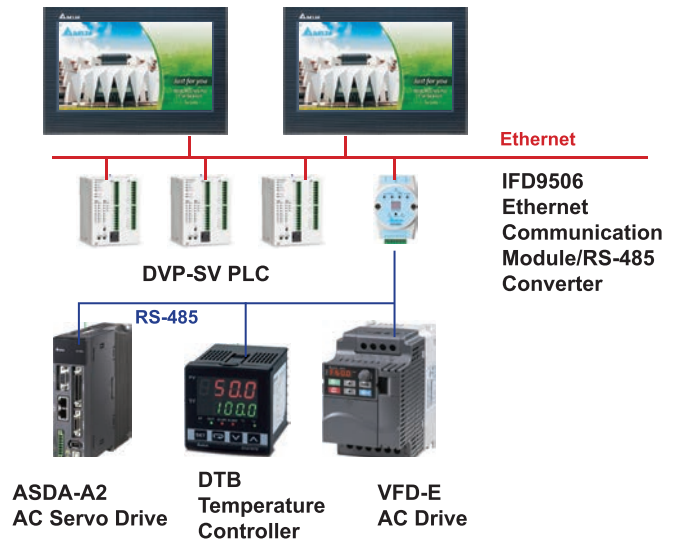


Easy to maintain and upgrade programs no matter where you are in the world.

Best Solution for Network Monitoring

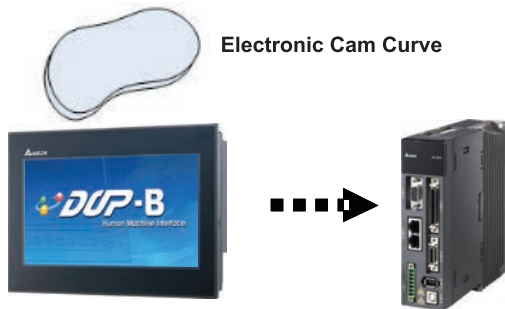
Using an Ethernet connection can easily establish an N:N communication link and create the desired communication network according to different application requirements.

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.



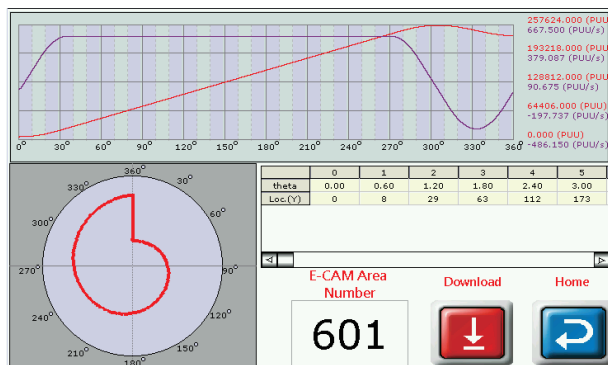
Delta Professional Integration Function: Electronic Cam (E-Cam) Curve Table

- ▶ 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

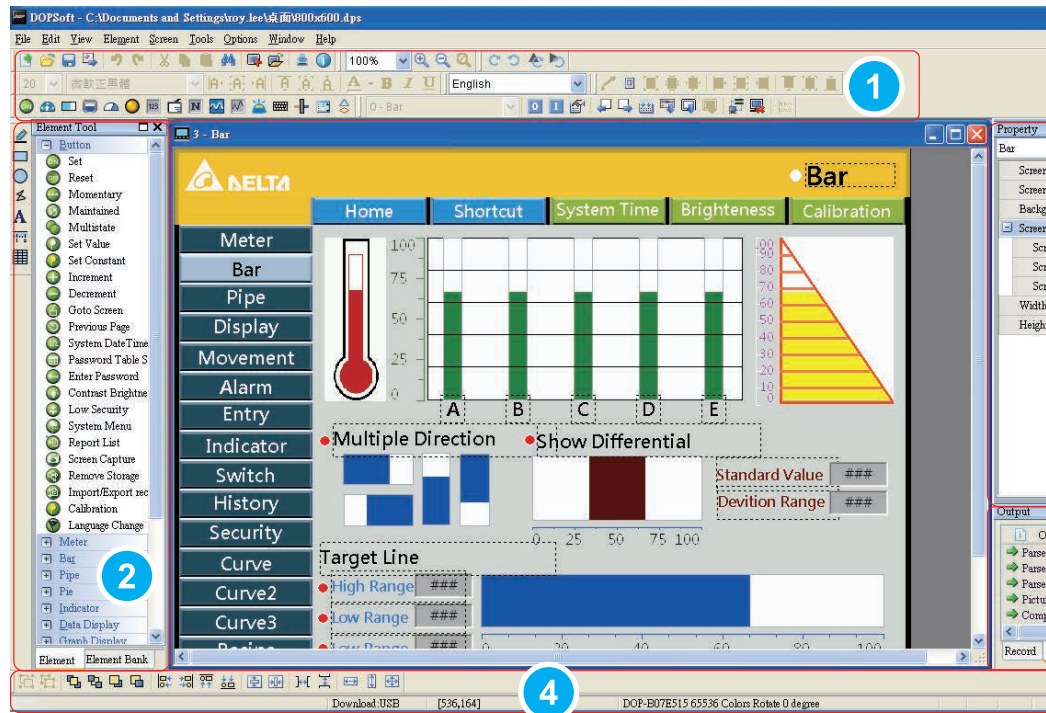
The screenshot shows the HMI interface for manual creation of cubic curves. It includes a table with columns for parameters and curve types.

| Item | Value | Unit | Curve Type |
|-------|-------|------|--------------|
| P5-19 | 1.0 | | Type |
| Theta | R | | Cubic Curve |
| 0 | 0 | | Const. Acc. |
| 25 | 55 | | Const. Speed |
| 90 | 0 | | Cubic Curve |
| 180 | 0 | | Cubic Curve |
| 247 | 99 | | Cubic Curve |
| 360 | 0 | | N/A |



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

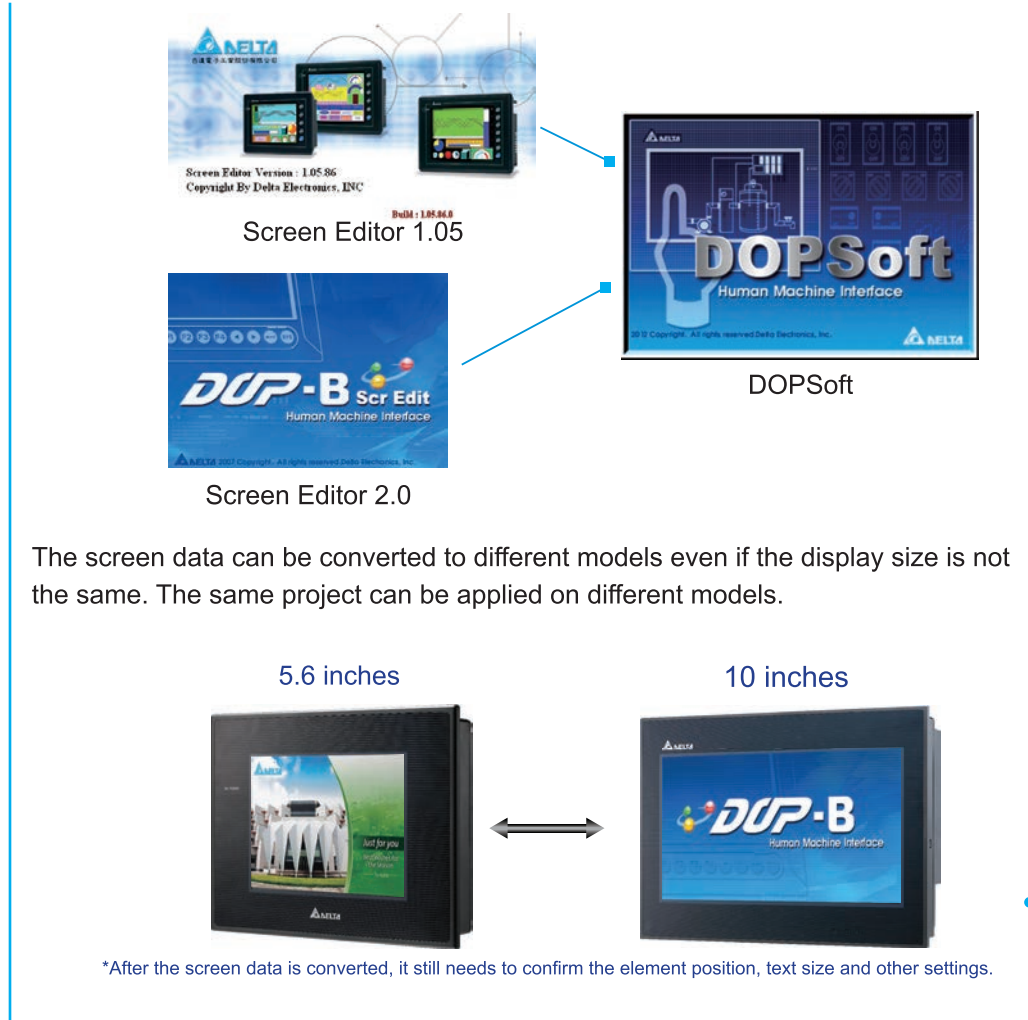
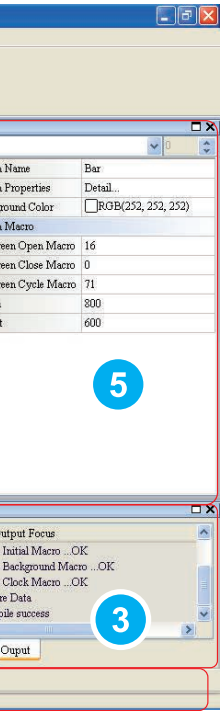
The Property Table displays the element property settings for each element.

Pict
Newly des
attractive



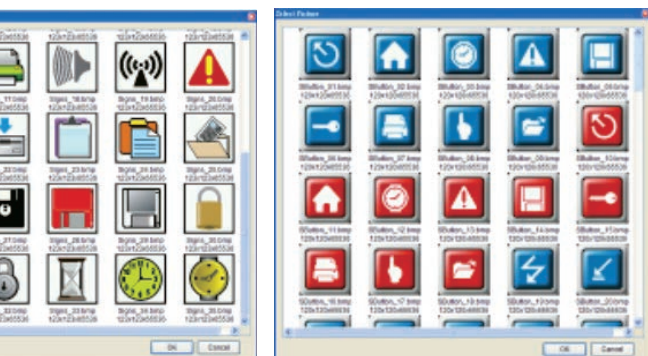
Convenient Screen Data Conversion

Compatible with the existing Screen Editor software, the project file created by Screen Editor can be easily upgraded and converted to DOPSoft format.



Picture Bank

A designed picture bank offers more colorful and diverse elements.



Minimum System Requirements of DOPSoft

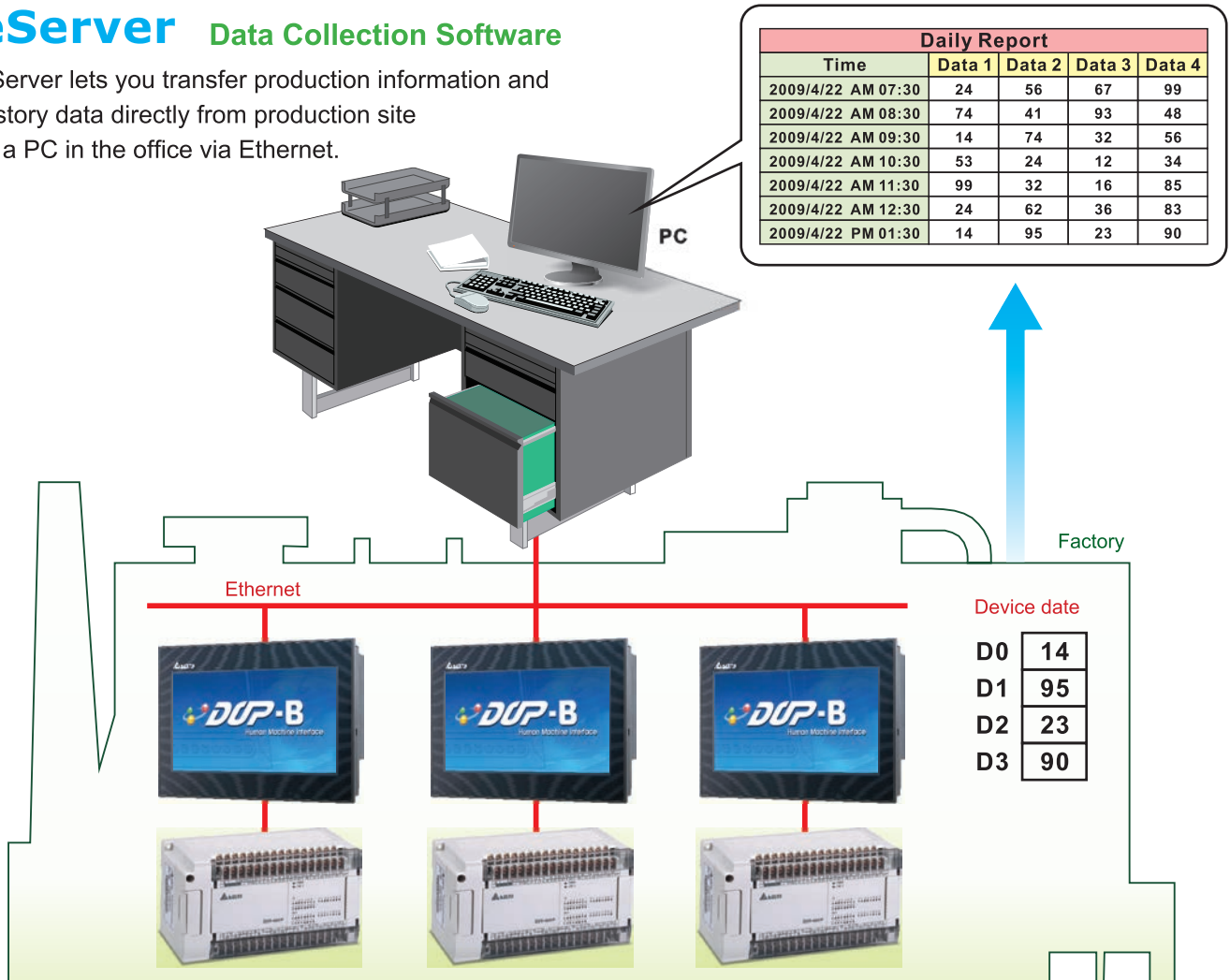
| Hardware / Software | System Requirements |
|---------------------|---|
| CPU | Pentium4 1.6GHz or greater is recommended |
| Memory | 2G MB and above is recommended |
| Hard Disk | Capacity: 400MB and above |
| Monitor | Supports resolution: 800 x 600 or higher full-color display |
| Printer | Printer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

*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 and monthly reports, and more automatically under different settings.

2 Database Sampling Data

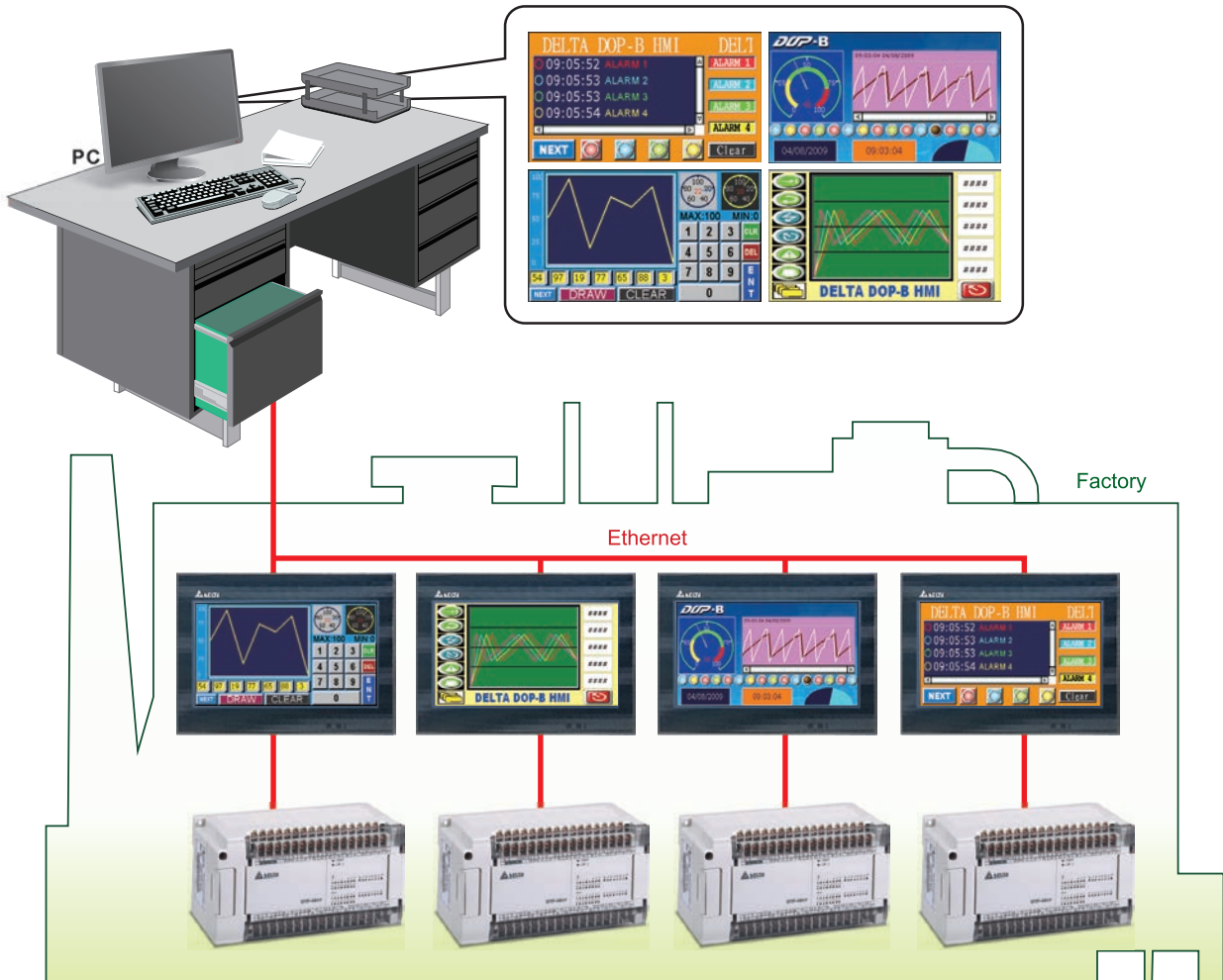
- ▶ Users can access any database via ODBC (Open Database Connectivity) interface

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.



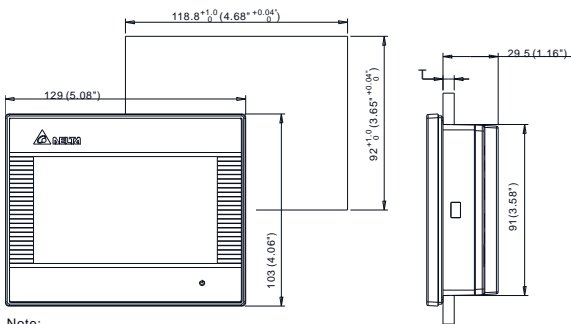
Minimum System Requirements for eServer / eRemote

| Hardware / Software | System Requirements |
|-------------------------|---|
| CPU | Pentium 4, 1.6GHz or greater is recommended |
| Memory | 2G MB and above is recommended |
| Hard Disk | Capacity: 100MB 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 |

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

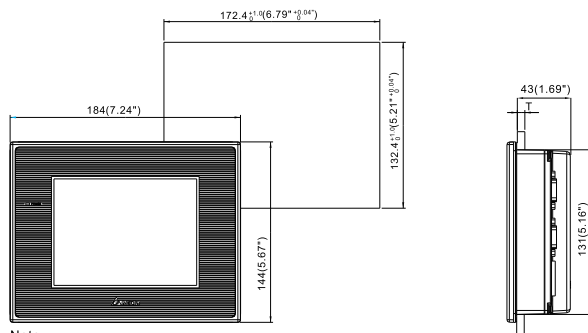
Dimensions Unit: mm (inches)

▪ DOP-B03S(E)211



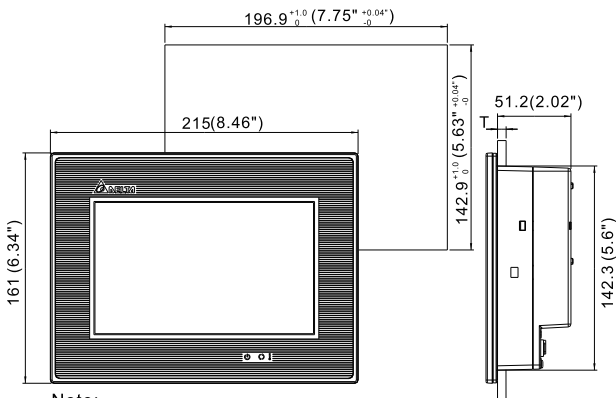
Note:
T=1.6mm(0.063")~6mm(0.24")

▪ DOP-B05S111



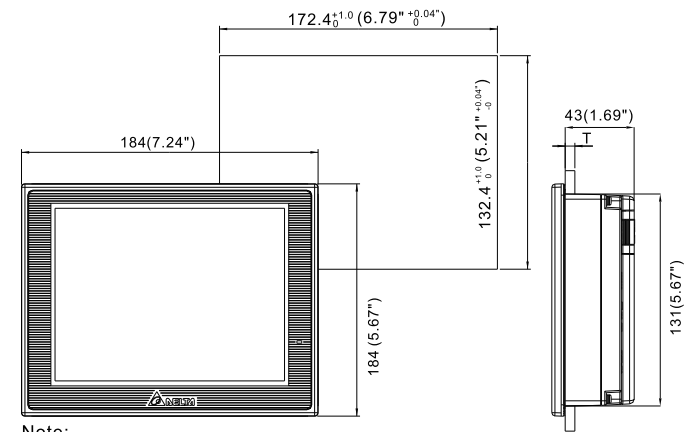
Note:
T=1.6mm(0.063")~6mm(0.24")

▪ DOP-B07S401K / DOP-B07S411(K) DOP-B07S(E)415 / DOP-B07PS415



Note:
T=1.6mm(0.063")~6mm(0.24")

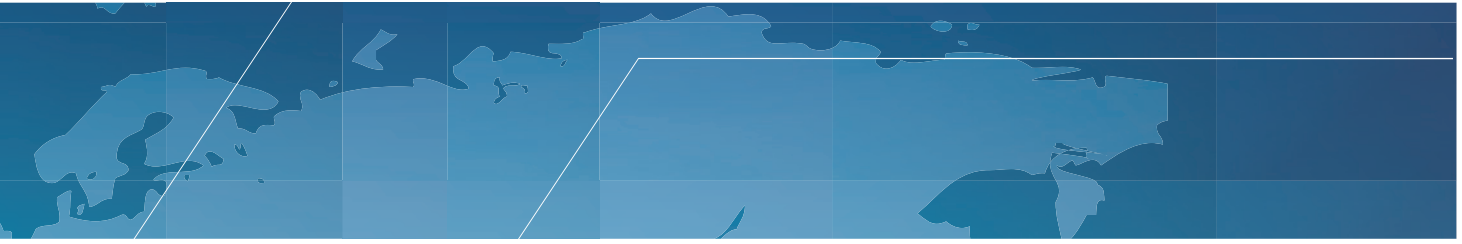
▪ DOP-B07S(E)515 / DOP-B07PS515



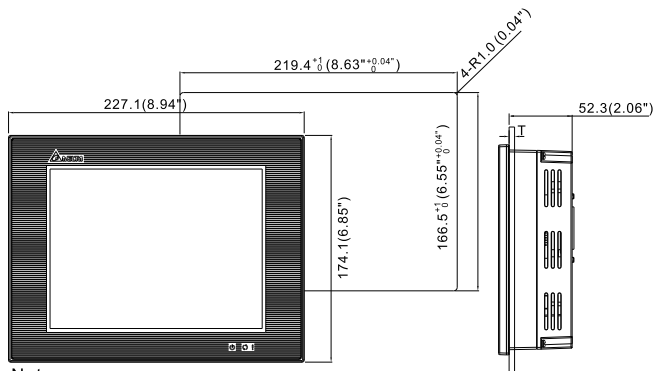
Note:
T=1.6mm(0.063")~6mm(0.24")

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 |

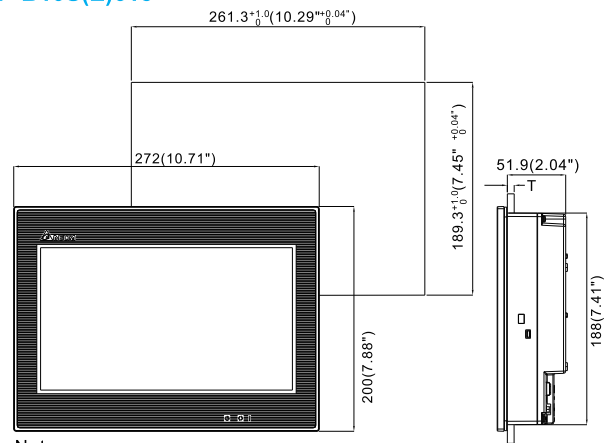


▪ DOP-B08S(E)515



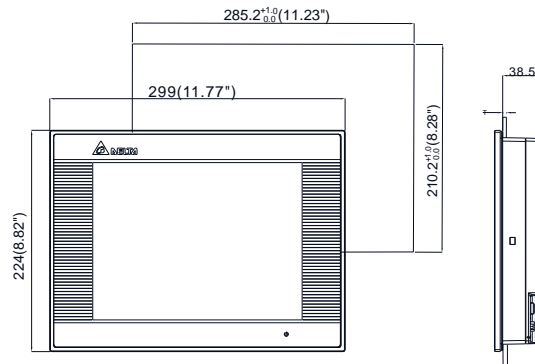
Note:
T=1.6mm(0.06")~5.0mm(0.19")

▪ DOP-B10S411
DOP-B10S(E)615



Note:
T=1.6mm(0.063")~6mm(0.24")

▪ DOP-B10S511
DOP-B10E515



Note:
T=1.6mm(0.063")~6mm(0.24")

Ordering Information

DOP - B 07 S 4 1 1 K

<Product Name>

DOP: Delta Operation Panel

<Series>

B: B Series HMI

<Display Size>

03: 4.3 inches / 05: 5.6 inches

07: 7 inches / 08: 8 inches

10: 10.1 / 10.4 inches

<Type>

S: Standard Type

E: Ethernet

PS: Standard with Professional function

<Function Code>

K: Keypad

<Peripheral Interface>

0: None

1: USB Host only

5: USB Host and SD

<Appearance>

0: Without Printing Nameplate

1: With Printing Nameplate

<Resolution>

1: QVGA 4: WVGA

5: SVGA 6: WXGA

Specifications

| MODEL | | DOP-B03S211 | DOP-B03E211 | DOP-B05S111 | DOP-B07S411 | DOP-B07S401K DOP-B07S411K | DOP-B07S415 DOP-B07PS415 | DOP-B07E415 | DOP-B07E415 | |
|---------------------------------------|--------------|--|---|---|--------------------------------------|------------------------------|-----------------------------|---|--|--|
| LCD MODULE | Display Type | 4.3" TFT LCD (65536 colors) | | 5.6" TFT LCD (65536 colors) | 7" Widescreen TFT LCD (65536 colors) | | | | | |
| | Resolution | 480 x 272 pixels | | 320 x 234 pixels | 800 x 480 pixels | | | | | |
| | Backlight | LED Back Light (less than 10,000 hours half-life at 25°C) ^(Note 1) | | | | | | | | |
| | Display Size | 95.04 x 53.856mm | | 113.28 x 84.70mm | 154.08 x 85.92mm | | 152.4 x 91.44mm | | | |
| Operating System | | Delta Real Time OS | | | | | | | | |
| MCU | | 32-bit RISC Micro-controller | | | | | | | | |
| Flash ROM | | Flash ROM 128 MB(OS System: 30MB / Backup: 16MB / User Application: 82MB) | | | | | | | | |
| SDRAM | | 64Mbytes | | | | | | | | |
| Backup Memory | | 16Mbytes | | | | | | | | |
| Sound Effect Output | Buzzer | Multi-Tone Frequency (2K ~ 4K Hz) / 85dB | | | | | | | | |
| | AUX | N/A | N/A | N/A | N/A | N/A | N/A | Stereo output | | |
| Ethernet Interface | | N/A | IEEE 802.3, IEEE 802.3u 10/100 Mbps Auto-sensing (has built-in isolated power circuit) ^(Note 3) | 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) ^(Note 3) | | |
| Memory Card | | N/A | N/A | N/A | N/A | N/A | SD card (support SDHC) | | | |
| USB | | 1 USB Host ^(Note 2) 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) | | | | | | |
| | COM2 | RS-422 / RS-485 | | RS-232 / RS-485 | | | RS-232 / RS-422 RS-485 | RS-232 / RS-422 RS-485 (has built-in isolated power circuit) ^(Note 3) | | |
| | COM3 | N/A | | RS-422 / RS-485 | | | RS-232 / RS-422 RS-485 | RS-232 / RS-422 RS-485 (has built-in isolated power circuit) ^(Note 3) | | |
| Function Key | | N/A | | | | 8 | | N/A | | |
| Perpetual Calendar (RTC) | | Built-in | | | | | | | | |
| Cooling Method | | Natural air circulation | | | | | | | | |
| Safety Approval | | CE / UL ^(Note 4) / KCC ^(Note 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) ^(Note 3) | (-10% ~ +15%) (please use isolated power supply) | |
| Voltage Endurance | | AC500V for 1 minute (between charging DC24 terminal and FG terminals) | | | | | | | | |
| Power Consumption ^(Note 5) | | 2.64W | 2.64W | 3.0W | 4W | 4W | 5W | 7.5W | | |
| 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 / Shock | | 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 | | | | | | | | |
| 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 50 | 215 x 161 x 50 | 215 x 161 x 50 | 215 x 161 x 50 | 184 x 144 x 50 | |
| Panel Cutout (W) x (H) mm | | 118.8x 92.8 | 118.8x 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 | 118.8x 92.8 | |
| Weight | | Approx. 230g | Approx. 264g | Approx. 670g | Approx. 820g | Approx. 820g | Approx. 970g | Approx. 970g | Approx. 230g | |

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 DOPSoft, the program editor of Delta HMI products and the user manual via the following link: <http://www.deltaww.com>

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.deltaww.com>

| | | | | | | | | | |
|---|---|---|--|---|--|---|---|------------------------|---|
| DOP-B07S515 | DOP-B07PS515 | DOP-B07E515 | DOP-B08S515 | DOP-B08E515 | DOP-B10S511 | DOP-B10E515 | DOP-B10S411 | DOP-B10S615 | DOP-B10E615 |
| 7" TFT LCD (65536 colors) | | | 8" TFT LCD (65536 colors) | | 10.4" TFT LCD (65536 colors) | | 10.1" Widescreen TFT LCD (65536 colors) | | |
| 800 x 600 pixels | | | | | | | 800 x 480 pixels | 1024 x 600 pixels | |
| LED Back Light (less than 10,000 hours half-life at 25°C) ^(Note 1) | | | | | | | | | |
| 141 x 105.75mm | | | 162 x 121.5mm | | 211.2 x 158.4mm | | 219.6 x 131.76mm | 226 x 128.7mm | |
| Delta Real Time OS | | | | | | | | | |
| 32-bit RISC Micro-controller | | | | | | | | | |
| Flash ROM 128 MB(OS System: 30MB / Backup: 16MB / User Application: 82MB) | | | | | | | | | |
| 64Mbytes | | | | | | | | | |
| 16Mbytes | | | | | | | | | |
| Multi-Tone Frequency (2K ~ 4K Hz) / 85dB | | | | | | | | | |
| N/A | N/A | Stereo output | N/A | Stereo output | N/A | Stereo output | N/A | N/A | Stereo output |
| N/A | N/A | IEEE 802.3, IEEE 802.3u | N/A | IEEE 802.3, IEEE 802.3u | N/A | IEEE 802.3, IEEE 802.3u | N/A | N/A | IEEE 802.3, IEEE 802.3u |
| | | 10/100 Mbps Auto-sensing (has built-in isolated power circuit ^(Note 3)) | | 10/100 Mbps Auto-sensing (has built-in isolated power circuit ^(Note 3)) | | 10/100 Mbps Auto-sensing (has built-in isolated power circuit ^(Note 3)) | | | 10/100 Mbps Auto-sensing (has built-in isolated power circuit ^(Note 3)) |
| SD card (support SDHC) | | | | | N/A | SD card (support SDHC) | N/A | SD card (support SDHC) | |
| 1 USB Host ^(Note 2) Ver 1.1 / 1 USB Client Ver 2.0 | | | | | | | | | |
| RS-232 (supports hardware flow control) | | | | | | | | | |
| RS-232 / RS-422 / RS-485 | RS-232 / RS-422 / RS-485 (has built-in isolated power circuit ^(Note 3)) | RS-232 / RS-422 / RS-485 | | | RS-232 / RS-485 (has built-in isolated power circuit ^(Note 3)) | | RS-232 / RS-422 / RS-485 (has built-in isolated power circuit ^(Note 3)) | | |
| RS-232 / RS-422 / RS-485 | RS-232 / RS-422 / RS-485 (has built-in isolated power circuit ^(Note 3)) | RS-232 / RS-422 / RS-485 | RS-232 / RS-485 (has built-in isolated power circuit ^(Note 3)) | | | | | | |
| N/A | | | | | | | | | |
| Built-in | | | | | | | | | |
| Natural air circulation | | | | | | | | | |
| CE / UL ^(Note 4) / KCC ^(Note 4) | | | | | | | | | |
| IP65 / NEMA4 | | | | | | | | | |
| DC +24V (-10% ~ +15%) (please use isolated power supply) | DC +24V (-10% ~ +15%) (has built-in isolated power circuit ^(Note 3)) | DC +24V (-10% ~ +15%) (please use isolated power supply) | DC +24V (-10% ~ +15%) (has built-in isolated power circuit ^(Note 3)) | DC +24V (-10% ~ +15%) (has built-in isolated power circuit ^(Note 3)) | | | | | |
| AC500V for 1 minute (between charging DC24 terminal and FG terminals) | | | | | | | | | |
| 7.68W | 7.68W | 7.68W | 5.2W | 7.8W | 6.1W | 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 | | | | | | | | | |
| 144 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 | 299 x 224 x 51.1 | 299 x 224 x 51.1 | 272 x 200 x 61 | 272 x 200 x 61 | 272 x 200 x 61 |
| 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 | 285.2 x 210.2 | 285.2 x 210.2 | 261.3 x 189.3 | 261.3 x 189.3 | 261.3 x 189.3 |
| Approx. 800g | Approx. 800g | Approx. 800g | Approx. 1226g | Approx. 1228g | Approx. 1700g | Approx. 1700g | Approx. 1520g | Approx. 1520g | Approx. 1520g |

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- 2) USB Host port can provide up to 5V/ 500mA of power.
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Industrial Automation Headquarters

Delta Electronics, Inc.

Taoyuan Technology Center
No.18, Xinglong Rd., Taoyuan City,
Taoyuan County 33068, Taiwan
TEL: 886-3-362-6301 / FAX: 886-3-371-6301

Asia

Delta Electronics (Jiangsu) Ltd.

Wujiang Plant 3
1688 Jiangxing East Road,
Wujiang Economic Development Zone
Wujiang City, Jiang Su Province, P.R.C. 215200
TEL: 86-512-6340-3008 / FAX: 86-769-6340-7290

Delta Greentech (China) Co., Ltd.

238 Min-Xia Road, Pudong District,
ShangHai, P.R.C. 201209
TEL: 86-21-58635678 / FAX: 86-21-58630003

Delta Electronics (Japan), Inc.

Tokyo Office
2-1-14 Minato-ku Shibadaimon,
Tokyo 105-0012, Japan
TEL: 81-3-5733-1111 / FAX: 81-3-5733-1211

Delta Electronics (Korea), Inc.

1511, Byucksan Digital Valley 6-cha, Gasan-dong,
Geumcheon-gu, Seoul, Korea, 153-704
TEL: 82-2-515-5303 / FAX: 82-2-515-5302

Delta Electronics Int'l (S) Pte Ltd.

4 Kaki Bukit Ave 1, #05-05, Singapore 417939
TEL: 65-6747-5155 / FAX: 65-6744-9228

Delta Electronics (India) Pvt. Ltd.

Plot No 43 Sector 35, HSIIDC
Gurgaon, PIN 122001, Haryana, India
TEL : 91-124-4874900 / FAX : 91-124-4874945

Americas

Delta Products Corporation (USA)

Raleigh Office
P.O. Box 12173, 5101 Davis Drive,
Research Triangle Park, NC 27709, U.S.A.
TEL: 1-919-767-3800 / FAX: 1-919-767-8080

Delta Greentech (Brasil) S.A.

Sao Paulo Office
Rua Itapeva, 26 - 3° andar Edificio Itapeva One-Bela Vista
01332-000-São Paulo-SP-Brazil
TEL: 55 11 3568-3855 / FAX: 55 11 3568-3865

Europe

Deltronics (The Netherlands) B.V.

Eindhoven Office
De Witbogt 20, 5652 AG Eindhoven, The Netherlands
TEL: 31-40-2592850 / FAX: 31-40-2592851

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