



台達電子

- **DOP-B Series HMI**

Project Manager
Pere Roura

Agenda

- Current products review
- New products introduction
- Ethernet solutions
- DVP series PLC with DOP-B series HMI

DOP-B Current Products

B05S101



- 5.6"
- 65,536 colors TFT
- 6MB Flash ROM
- 128k SRAM
- USB Client/Host
- RS-232/485/422
- No function keys design

B07S201



- 7"
- 65,536 colors TFT
- 2MB Flash ROM
- 256k SRAM
- USB Client/Host
- RS-232/485/422

B07S211



- 7"
- 65,536 colors TFT
- 2MB Flash ROM
- 256k SRAM
- USB Client/Host
- RS-232/485/422
- Flat panel design

New Products Introduction



reddot design award
winner 2010

DOP-B10

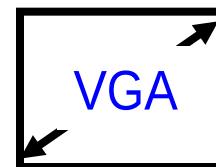
B10S615
Standard

B10E615
Ethernet

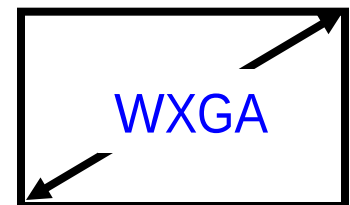


New Products

- 10.1" 65536 colors TFT
- WXGA (1,024 x 600)
- 128MB Flash ROM
 - 30MB for system
 - 82MB for user application
 - 16MB backup memory
- USB Host (v1.1)
- USB Client (v2.0 high-speed)
- RS-232/485/422
- SDHC Card
- Ethernet (Ethernet Type)
- Audio (Ethernet Type)



640X480



1024X600

DOP-B07 (WVGA)

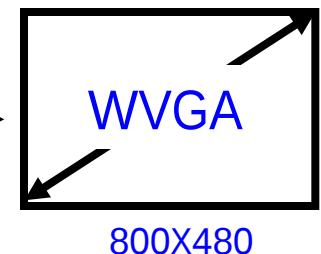
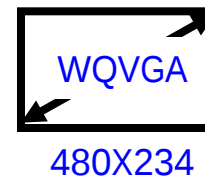
B07S415
Standard

B07E415
Ethernet



New Products

- 7" 65536 colors TFT
- WVGA (800 x 480)
- 128MB Flash ROM
 - 30MB for system
 - 82MB for user application
 - 16MB Backup memory
- USB Host (v1.1)
- USB Client (v2.0 high-speed)
- RS-232/485/422
- SDHC Card
- Ethernet (Ethernet Type)
- Audio (Ethernet Type)



Comparison Table for B07



	B07S201 B07S211	B07S415	B07E415
Resolution	480x234	800x480	800x480
Flash ROM	4 MB	128 MB	128 MB
SDRAM	16 MB	64 MB	64 MB
Function keys	8	N/A	N/A
SD card	N/A	Yes	Yes
USB Client	v1.1	v2.0	v2.0
Audio	N/A	N/A	Yes
Ethernet	N/A	N/A	Yes
Panel cutout	196.9 x 142.9mm	196.9 x 142.9mm	196.9 x 142.9mm

DOP-B08

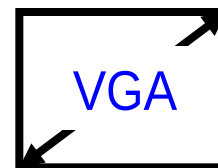
B08S515
Standard

B08E515
Ethernet

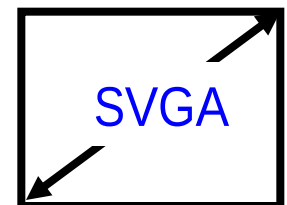


Jan., 2011

- 8" 65536 colors TFT
- SVGA (800 x 600)
- 128MB Flash ROM
 - 30MB for system
 - 82MB for user application
 - 16MB backup memory
- USB Host (v1.1)
- USB Client (v2.0 high-speed)
- RS-232/485/422
- SDHC Card
- Ethernet (Ethernet Type)
- Audio (Ethernet Type)



640X480

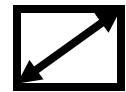


800X600

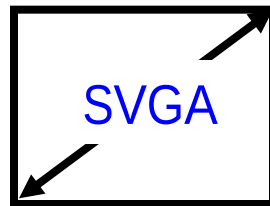
DOP-B07 (SVGA)

B07S515
Standard

B07E515
Ethernet



QVGA
320X240

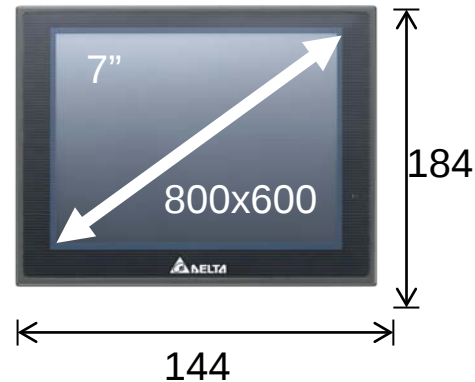


SVGA
800X600

- 7" 65,536 colors TFT
- **5.6" panel cut-out**
- SVGA (800 x 600)
- 128MB Flash ROM
 - 30MB for system
 - 82MB for user application
 - 16MB backup memory
- USB Host (v1.1)
- USB Client (v2.0 high-speed)
- RS-232/485/422
- SDHC Card
- Ethernet (Ethernet Type)
- Audio (Ethernet Type)

Mar., 2011

Comparison Table



	B05S101	B07S515	B07E515
Display size	5.6"	7"	7"
Resolution	320x234	800x600	800x600
Flash ROM	8 MB	128 MB	128 MB
SDRAM	16 MB	64 MB	64 MB
Function keys	8	N/A	N/A
SD card	N/A	Yes	Yes
USB Client	v1.1	v2.0	v2.0
Audio	N/A	N/A	Yes
Ethernet	N/A	N/A	Yes
Panel cutout	172.4 x 132.4mm	172.4 x 132.4mm	172.4 x 132.4mm

DOP-B12 / B15

B12E715
Ethernet

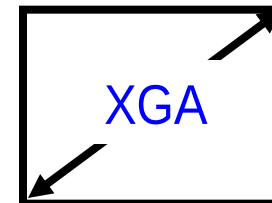
B15E715
Ethernet



- 12"/15" 65536 colors TFT
- XGA (1024 x 768)
- 128MB Flash ROM
 - 30MB for system
 - 82MB for user application
 - 16MB backup memory
- USB Host (v1.1)
- USB Client (v2.0 high-speed)
- RS-232/485/422
- SDHC Card
- Ethernet (Ethernet Type)
- Audio (Ethernet Type)



Jun., 2011



1024X768

DOP-B04

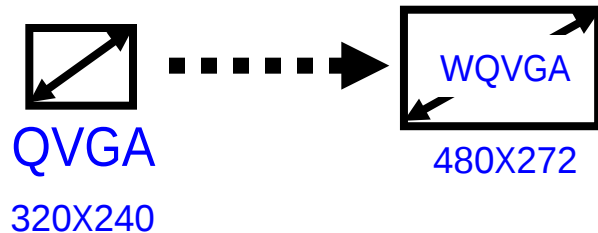
B04S211
Standard



- 4.7" 65,536 colors TFT
- WQVGA (480 x 272)
- 4MB Flash ROM
- USB Host (v1.1)
- USB Client (v1.1)
- 1 Serial port (RS-232/485/422)



Apr., 2011



2011 DOP Products Line-Up



DOP-AE



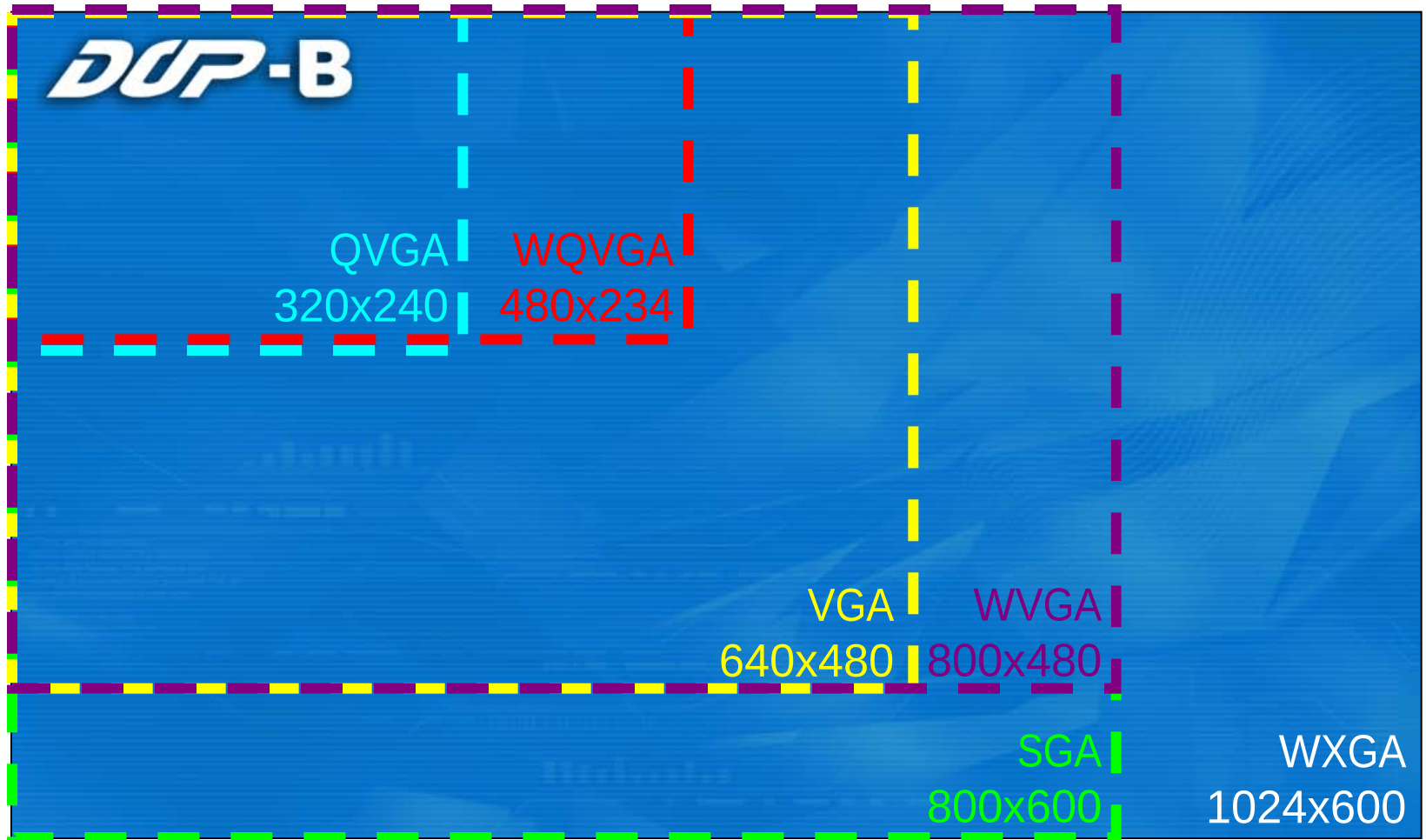
DOP-A



DOP-AS



High Resolution Displays

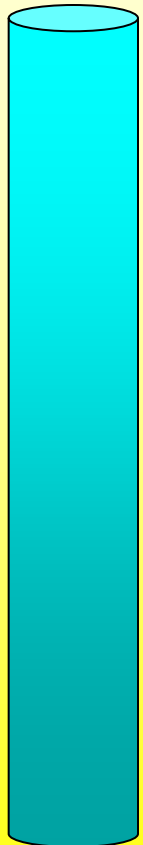


The latest 2D accelerator technology greatly enhances resolution to WXGA and enlarges the editing area to double the size (compared with VGA). You will be able to design more screen elements and create more colorful and attractive displays.

High Capacity Memory

Flash ROM

82MB

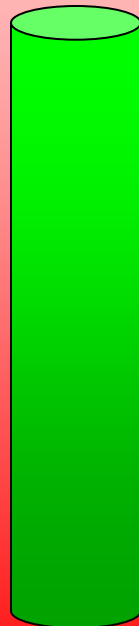


6MB



Backup memory

16MB



512k

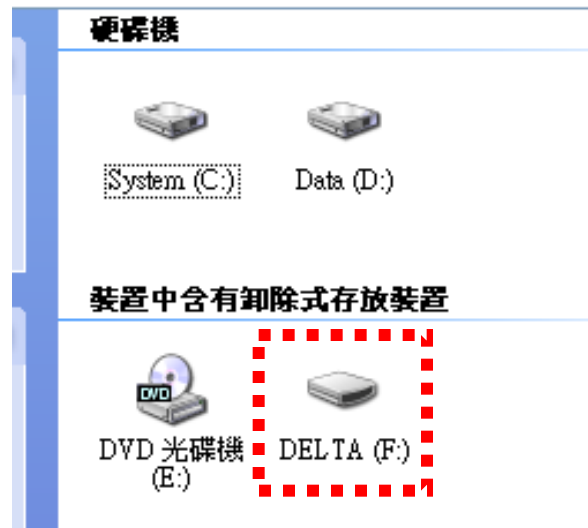


The new DOP-B series HMI features high-capacity memory capable of storing more images and collecting more historical data.

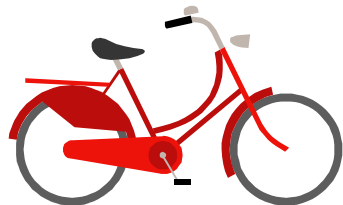


New USB Transfer Mode

Compatible with Windows Vista/Windows 7



USB High-speed Transfer



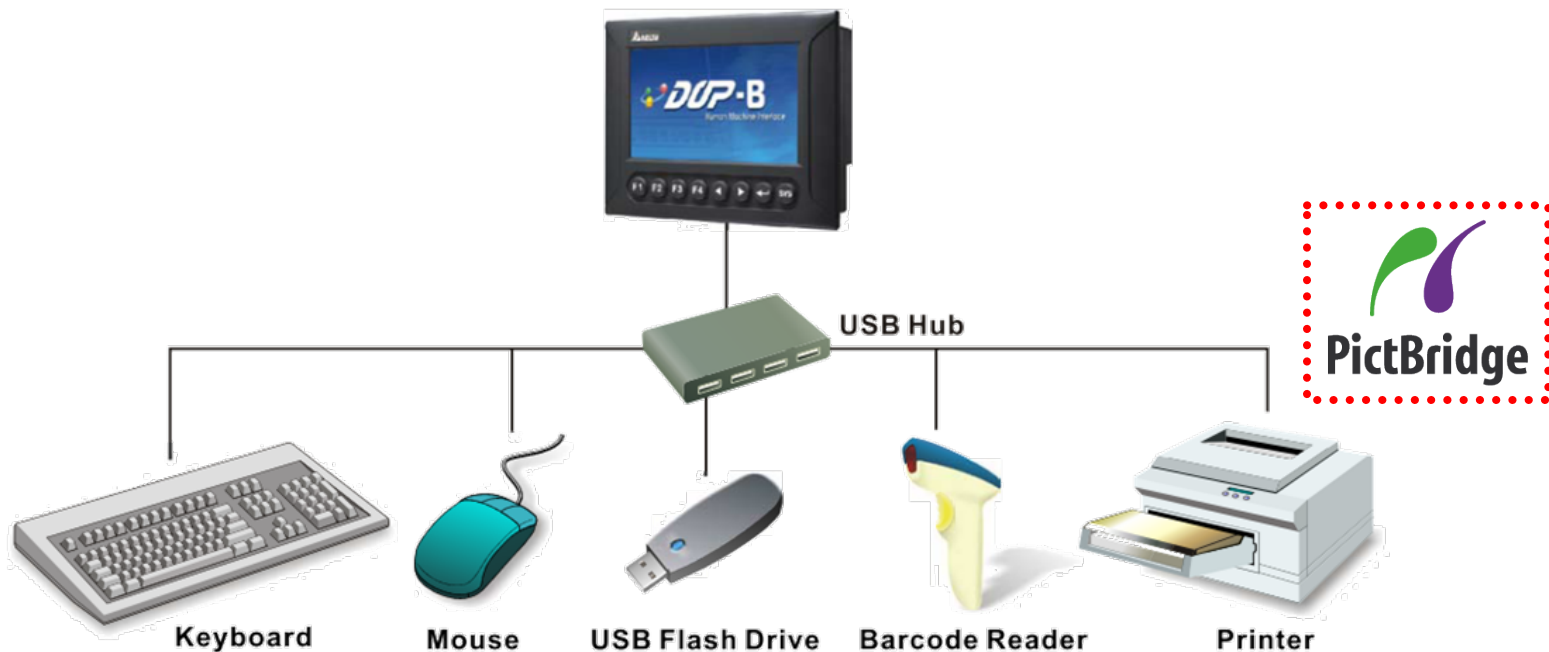
USB v1.1 12Mbps



USB v2.0 480Mbps

USB Devices

- Various USD devices can be connected via the USB Hub
 - Keyboards, mice
 - USB Flash drives
 - Barcode readers
 - Printers, and *PictBridge compatible* printers



SD Card / USB Flash Drive (1)

- Convenience of SD/USB flash drive: Quick screen data transfer and collection and expanded HMI storage capacities. No need to worry about excessive historic and recipe data.
 - Recipe data are saved in CSV format and easily edited on an external PC using Excel files, which saves PLC memory.

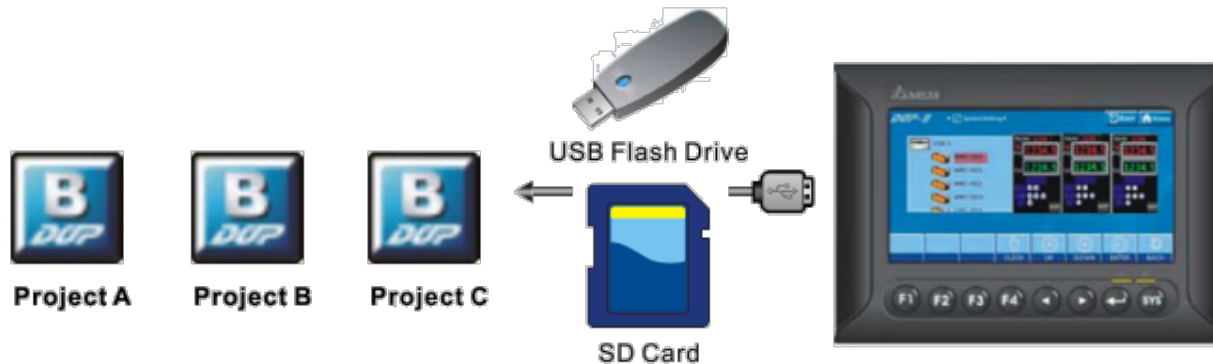


SD Card / USB Flash Drive (2)

- History and alarm information can be saved in CSV format and stored on a USB flash drive.

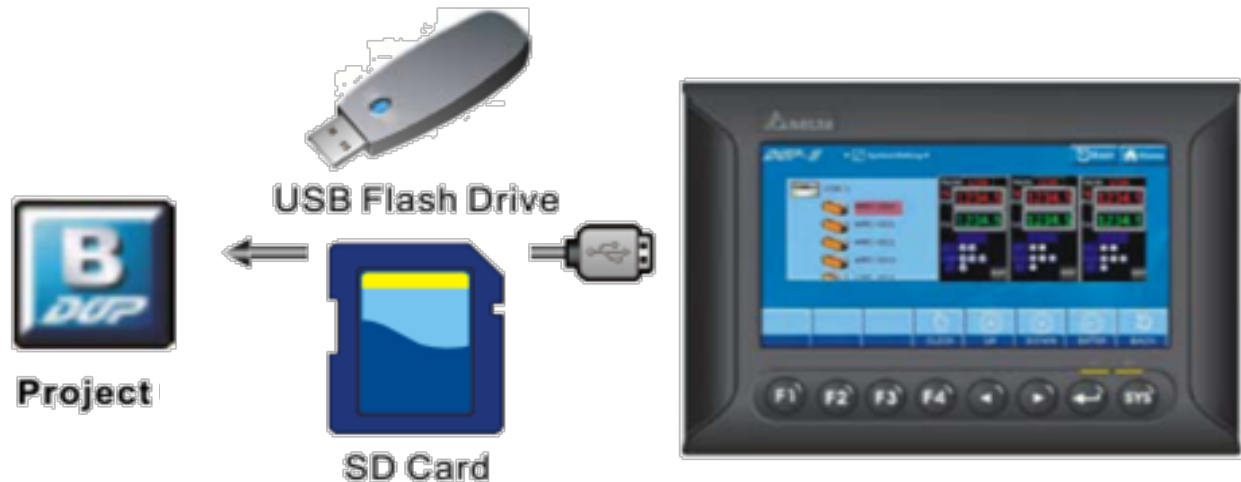


- Much project screen data can be saved on the USB flash drive simultaneously and transferred to the HMI.



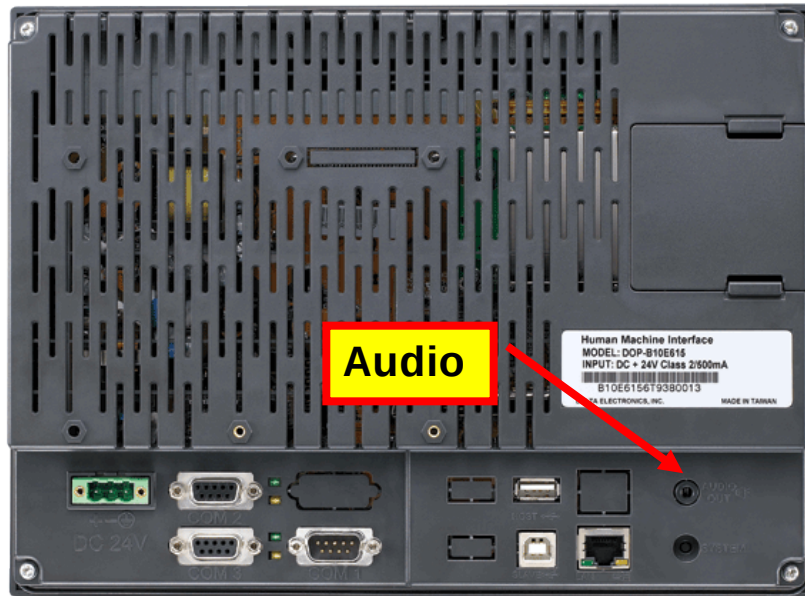
File Encryption

- “File Encryption” is a new function which allows users to encrypt screen data. To protect screen data in a safer and more flexible way, you can use this new function to set up the copy times of the screen data.



Encrypt

Audio Output (1)



- Supports MP3/WAV files for alarms
- Supports 3.5mm socket

Applications:

Alarm notifications

Audio operation instructions



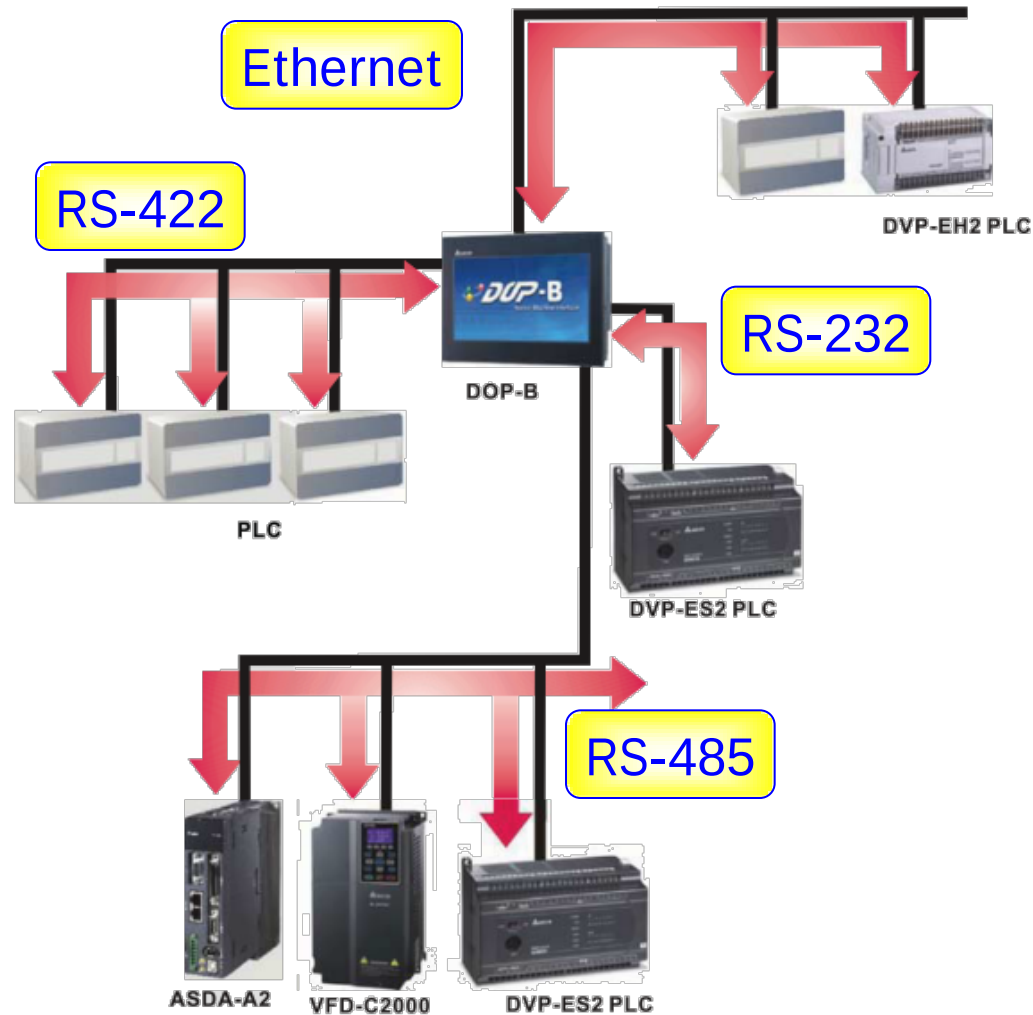
Audio Output (2)

Alarm broadcast is triggered by the corresponding bit. The alarm messages can be played and output in different sound files through set values in the word registers.



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

Communication



Supports RS-232/RS-485/RS-422/Ethernet

The 4 communication interfaces can be used at the same time!

Drivers Supported

- The DOP Series supports not only Delta's industrial automation products (frequency inverters, servos, temperature controllers and PLCs) but also PLCs of other brands, such as Mitsubishi, Siemens, Omron, and more.

The Siemens logo, consisting of the word "SIEMENS" in a bold, teal, sans-serif font.

Allen-Bradley

The Hitachi logo, with the word "HITACHI" in bold black letters above the tagline "Inspire the Next" in a smaller font.The NAiS logo, with the letters "NAiS" in a bold, blue, sans-serif font.The Mitsubishi Electric logo, featuring a red three-diamond symbol above the Japanese text "三菱电机" and the English text "MITSUBISHI ELECTRIC" below it.The Omron logo, with the word "OMRON" in white on a blue rectangular background, and the tagline "Sensing tomorrow" in white below it.The Schneider Electric logo, with the word "Schneider" in black above the word "Electric" in a smaller font, and a green stylized "E" symbol to the left.The Nikkidenso logo, featuring a blue stylized "N" symbol to the left of the words "NIKKI" and "DENSO" stacked vertically.The Koyo Keyence logo, with the word "Koyo" in a bold, blue, sans-serif font, followed by a red stylized "K" symbol and the word "KEYENCE" in a bold, black, sans-serif font.

- New drivers supported
 - Siemens S7-300 Direct MPI
 - Siemens S7-1200
 - Mitsubishi FX3U/3G, QnU, QnUDE (built-in Ethernet)
 - Allen-Bradley EtherNet/IP

Picture Bank



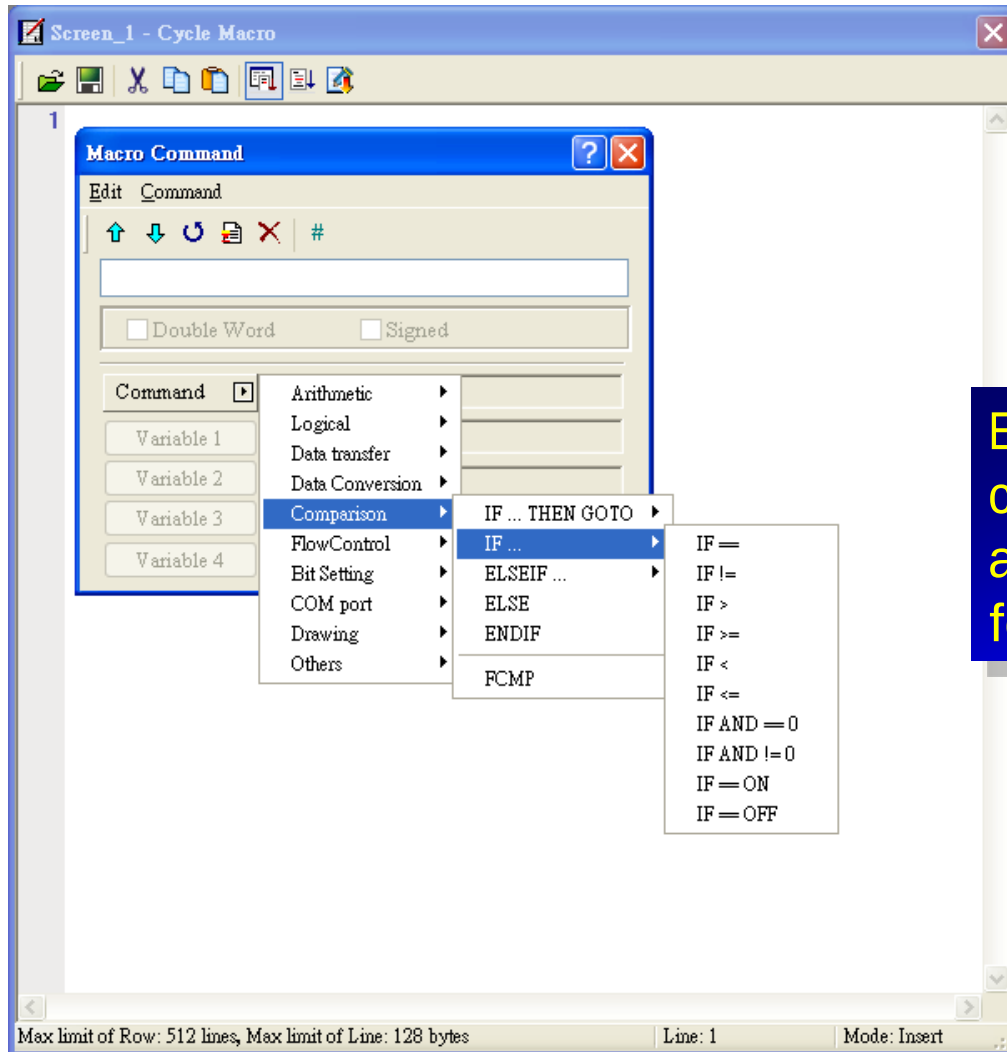
The new picture bank offers even more colorful and useful elements!

Multilingual Displays

- Max. 16 user-defined languages can be displayed on the HMI



Macro Commands



Easy-to-learn macro commands provide flexibility and can reduce editing tasks for PLC programs.

Alarm



- Supports 2,048 alarm messages
- Supports alarm sub-windows
- Supports alarm moving-signs

Screen Data Conversion

- Convenient screen data conversion
 - Project files created by Screen Editor 1.05 can be opened with Screen Editor 2.00.



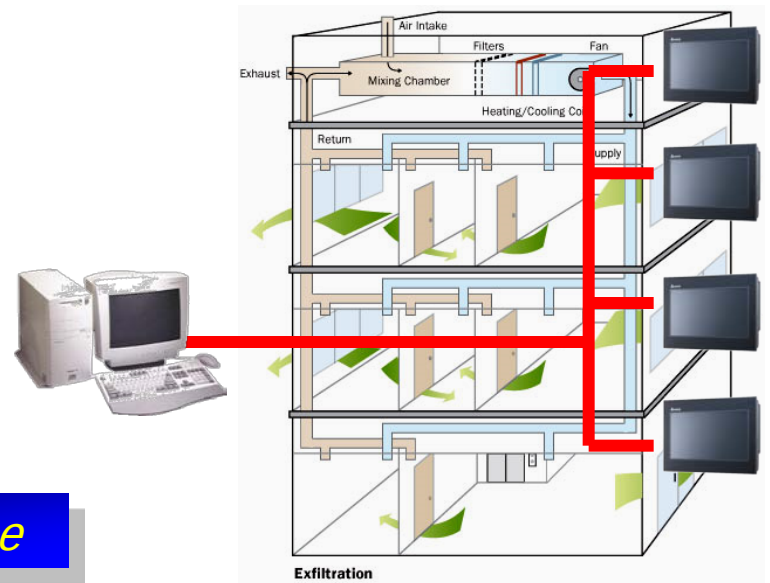
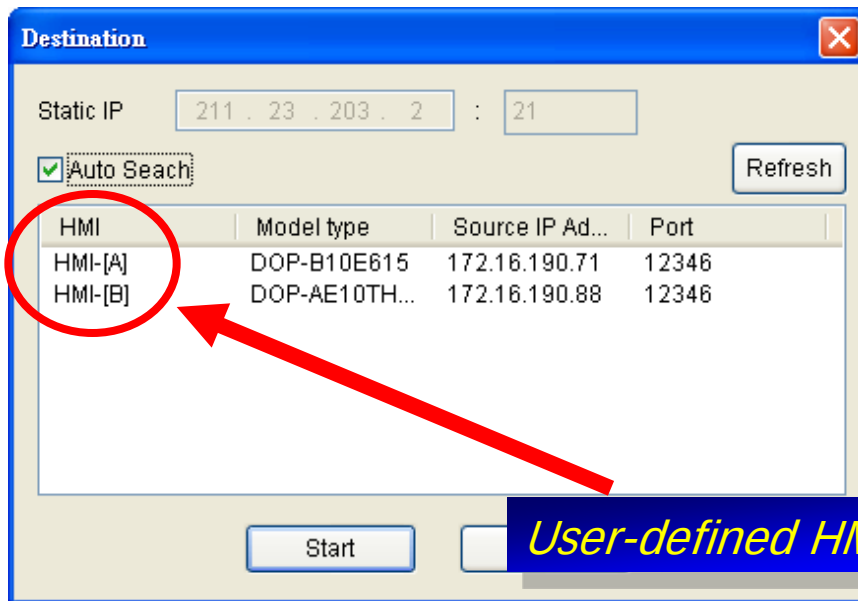
- It's easy to upgrade and convert projects from DOP-A to DOP-B.



Ethernet Download

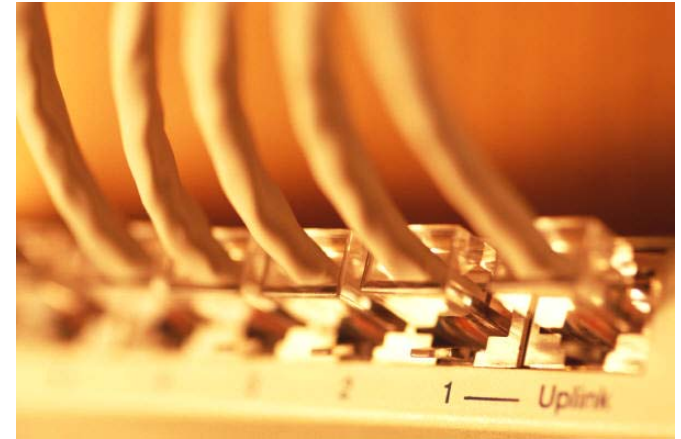


Easy to maintain and upgrade programs no matter where you are in the world.





Delta Ethernet Solutions

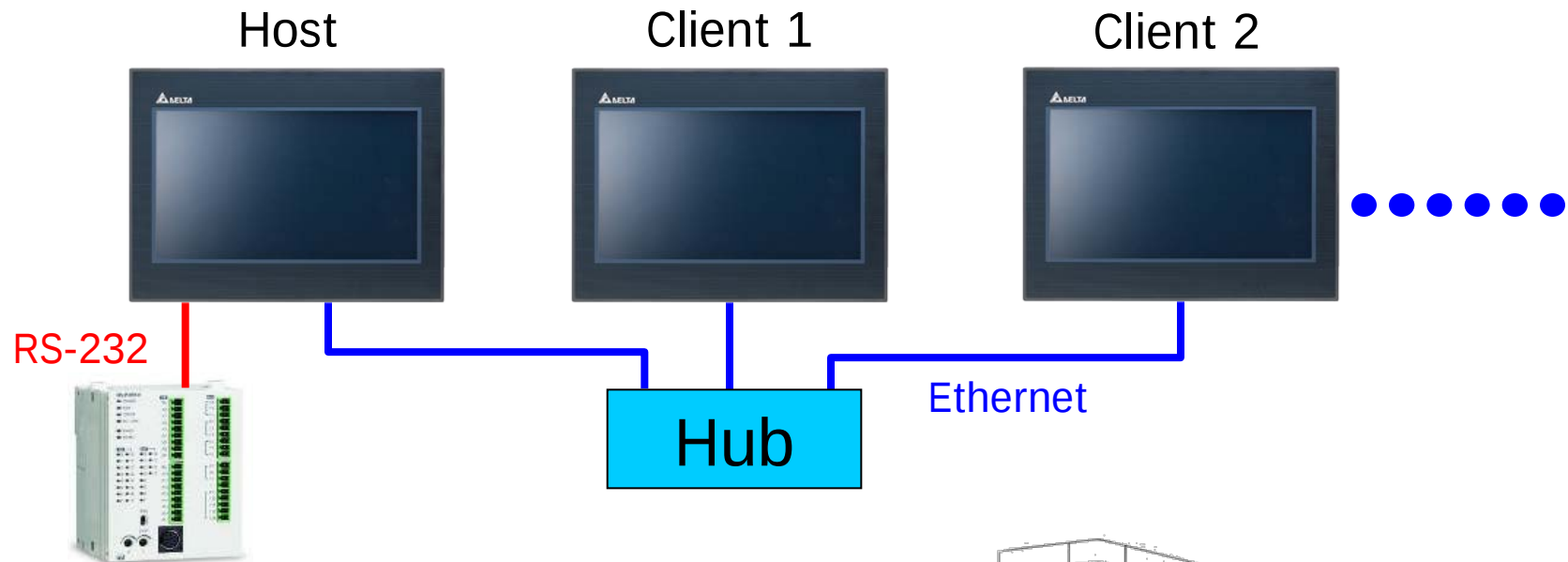


Delta's DOP series **E**thernet solutions make your systems more **E**fficient, **E**nvironmentally-friendly and **E**xcellent.



Ethernet Multi-Link

- Multi-Link allows you to connect multiple display units to a single external device via Ethernet communication
 - Supports N:1/N:N communications



- Applications: printing machines



eServer & eRemote



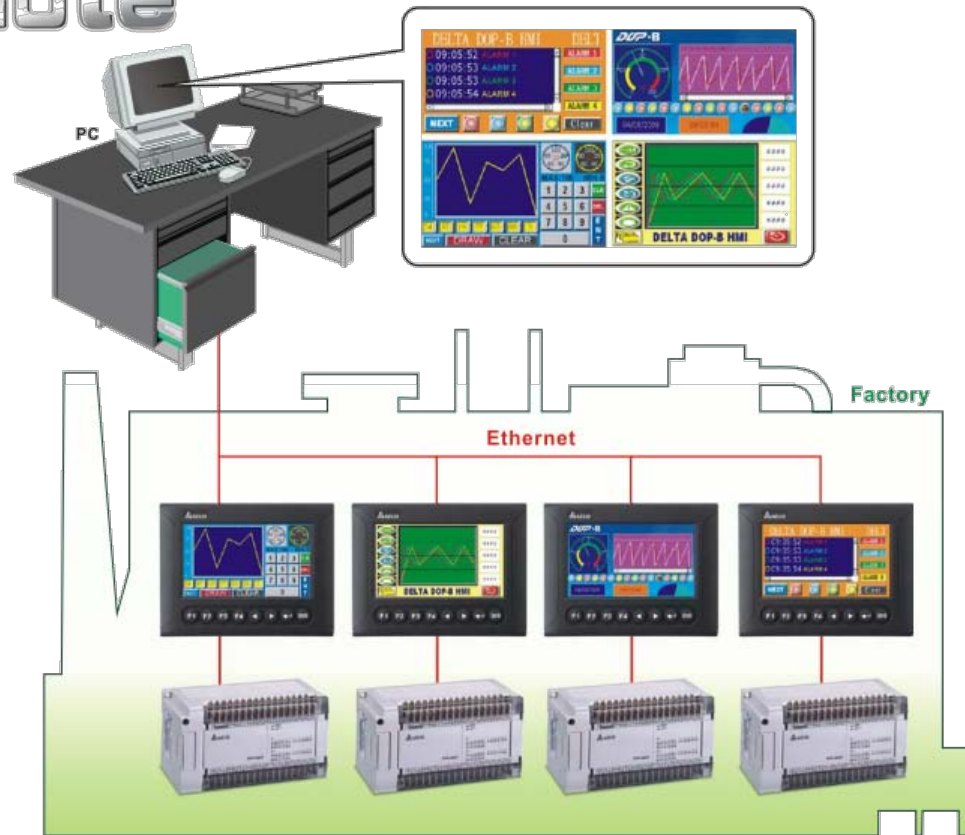
DOP-eRemote

DOP-eServer



Remote Control

DUP eRemote



eRemote is used to view and check the HMI screen at the production site and to control the manufacturing process via the Ethernet.

Data Collection (1)

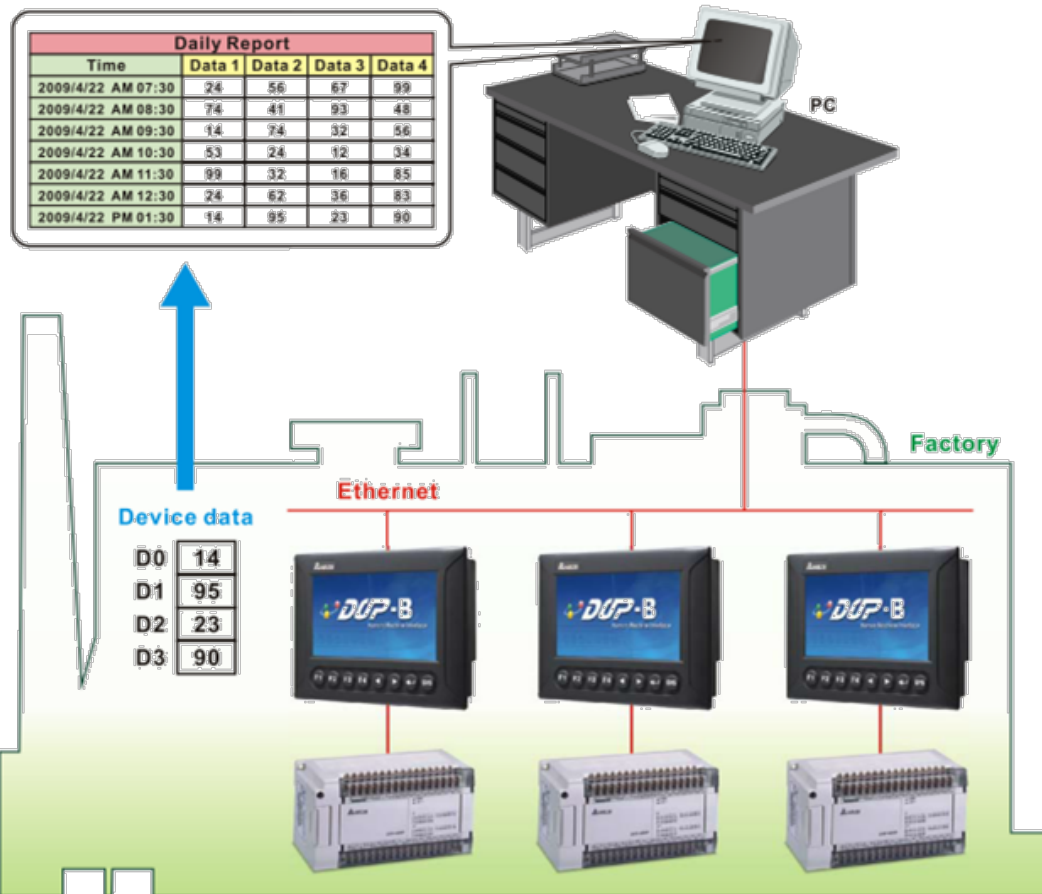
 Will be released soon!

 **eServer**

- eServer is used to transfer production and history data from the production site to a PC in the office via the Ethernet.
- Production data can be saved in daily reports or weekly reports automatically under different settings.
- Applications:
 - FA: Used to calculate defect rates, average working hours and capacity utilization rates...
 - BA: Used to record the data of air-conditioner operation and monitor the calculation of power consumption.

Data Collection (2)

! Will be released soon!



DVP eServer



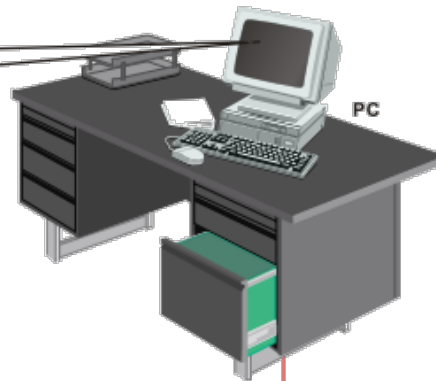
- Excel 2000 / 2003 / 2007 / 2010
- The collected data are saved in **user-defined** Excel files of different purposes for you to easily create a production report.

Data Collection (3)

! Will be released soon!

Database

Time	Data1	Data2
08/26/2009 13:24:51	52	52
08/26/2009 13:24:52	61	61
08/26/2009 13:24:53	71	71
08/26/2009 13:24:54	81	81
08/26/2009 13:24:55	90	91
08/26/2009 13:24:56	65436	0
08/26/2009 13:24:57	65446	10
08/26/2009 13:24:58	65456	20
08/26/2009 13:24:59	65466	30
08/26/2009 13:25:00	65475	39
08/26/2009 13:25:01	65484	48
08/26/2009 13:25:02	65494	58



DUP eServer



MySQL

ORACLE®

The collected data can be saved in Database via the ODBC interface.





Perfect Connections to DVP Series PLC



DirectLink

- Use the DirectLink function to monitor and modify the PLC program through a USB cable.
- Operate the HMI and monitor the PLC at the same time!



PLC Ladder Transfer

- A PLC ladder can be transferred and backed up via SD cards or USB flash drives.
- Even at a location where an external PC is not available!
- SD cards/USB flash drives are capable of storing many PLC ladders.



Ladder Transfer



Q & A
