

CÔNG TY CỔ PHẦN CÔNG NGHỆ HỢP LONG



INDUSTRIAL AUTOMATION

Automation for a Changing World

Delta Human Machine Interface DOP-100 Series



www.deltavw.com

Hotline: 1900.6536 - Website: HOPLONGTECH.COM

 **DELTA**
Smarter. Greener. Together.

Advanced Human Machine Interface for

The DOP-100 Series Human Machine Interfaces include a Basic HMI, Standard HMI and Advanced HMI for different applications. The HMIs adopt the latest Cortex-A8 / Dual Core high-speed processor and 65,536 color LCD screen with high brightness and contrast. In addition, they are equipped with the HMI programming software DOPSoft 4.0 and built-in Lua editor for easy programming as well as alarm / history log / user authority functions for highly efficient management.

With advanced communication capabilities and enhanced functions, the DOP-100 Series elevates machine efficiency to bring more value to our customers, and to achieve "Automation for a Changing World"!



Standard HMI

Features General and Ethernet Types for various applications

Advanced HMI

Features narrow frame design, supports various network communications, multilingual input and multimedia functions

Future Industry

Basic HMI

Simple operating structure for harsh environments

INDUSTRIAL AUTO

Handheld HMI

Customized for the teaching needs of various motion platforms such as robotic arms

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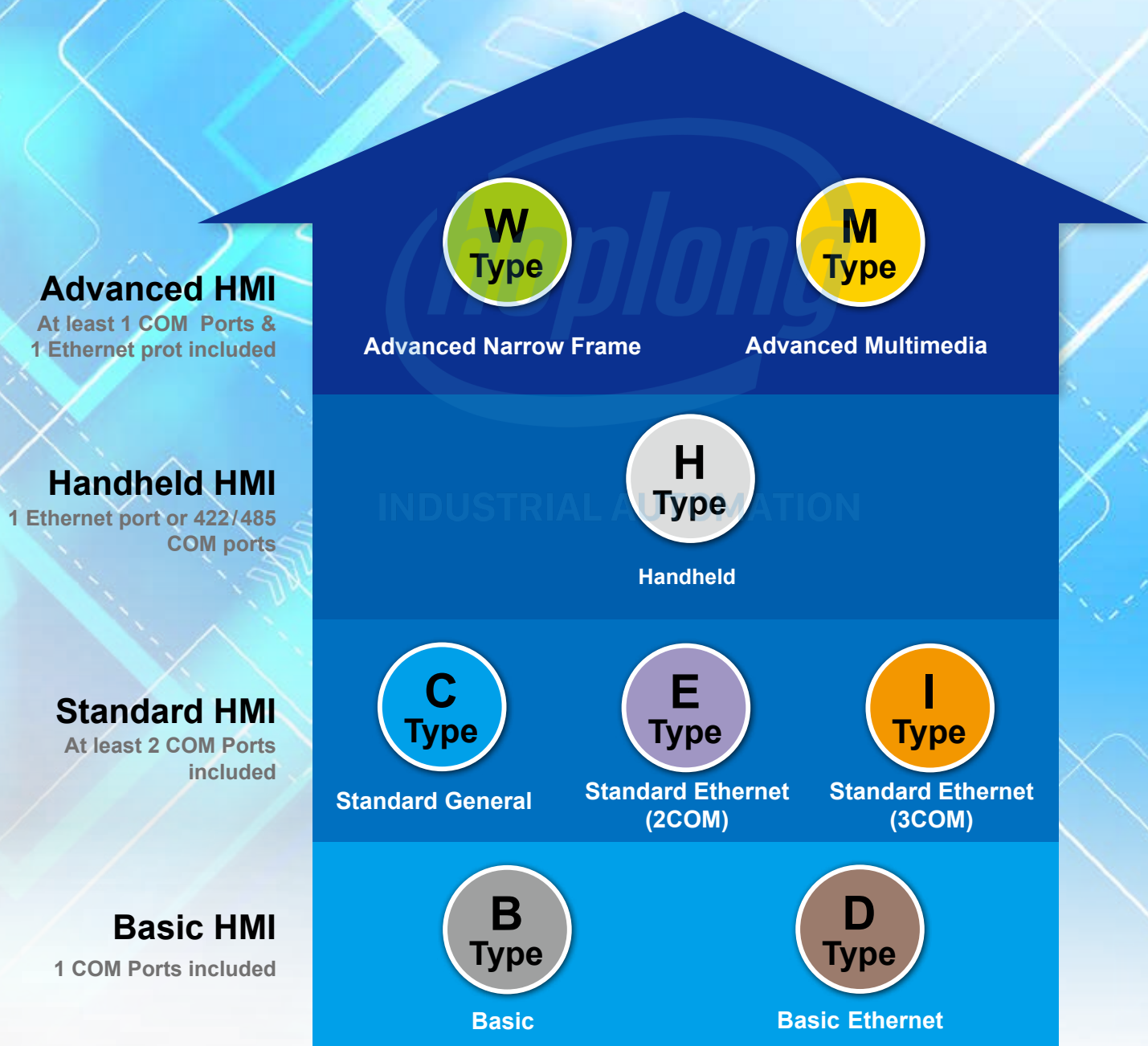
Easy Model Selection

The DOP-100 Series offers complete models for different applications. Users can easily select a suitable HMI based on size or function easily

B Type	1 COM port
D Type	1 COM port + 1 Ethernet port
C Type	2 COM ports
E Type	2 COM ports + 1 Ethernet port
I Type	3 COM ports + 1 Ethernet port
H Type	Handheld HMI + 1 Ethernet port or 422/485 COM ports
W Type	More than 1 COM port + 1 Ethernet port + Narrow frame design + Multi-language
M Type	2 COM ports + 2 Ethernet ports + Narrow frame design + Multi-language + Multi-media

Type Definition
DOP-107 W V





Advanced HMI

The Advanced HMI adopts a wide screen and narrow frame design. It supports Ethernet communication & multilingual inputs. The Multimedia Type DOP-112 / 115 offers multimedia functions to meet different applications.



Features



Narrow Frame

Enlarged visual display for better user experience



LUA Language

Simple and easy structural programming language to meet various demands



Pressing times >10,000,000

Effective pressing times increased through strict endurance tests



IP65 Rating

The front case protects the HMI from, rain, and dust



Multilingual Input

16 different languages input for easy operation



Diagnostics Function

Collects and solves issues remotely



Power Isolation

Protects the HMI from accidental surge interference



VNC Remote Monitoring

Remote control with mobile devices



QRcode Scanning

Generates QRcodes with self-defined content for mobile device identification



Supports GIF Graphic Elements

Easy setting to play vivid GIF elements



Embedded Linux System

Open system for flexible and stable program development



DOPSoft 4.0

New software DOPSoft 4.0 offers more complete functions and a better interface



Operating Temperature 0°C ~ 50°C

Compliant with industrial operating environments



CE / UL Certified

Compliant with CE and UL standards



Multimedia Functions

Captures image with an external camera or replays important recordings



Ethernet Communication

Connects to a master device or PLC with high-speed Ethernet communication



Communication Isolation

COM and Ethernet ports with built-in isolation circuits enhance communication stability



OPC UA

Supports M2M communication and data transmission among machines from various manufacturers for diverse industries



FTP/eMail Supported

Simple data transmission and real-time status report



Supports PDF and TXT Reader

PDF and TXT files supported

Camera & Video Play Multi-Media Functions



Analog Camera

Supports external camera via analog, suitable for capturing fast and short-distanced images

Applications: Textiles | Pharmaceutical | Rubber & Plastics



IP Camera

Supports IP Camera via Ethernet, suitable for capturing remote and wide-range images

Applications: Packaging | Logistics | Mining | Power Generation | Oil & Gas



VGA Input

Displays images from external devices such as machine vision systems, PCs or notebooks



Video Play

Views mpeg4 files captured by analog or IP camera from internal storage or USB disk/SD card



Event Trigger

HMI performs specific actions when an event condition occurs
Sets up event trigger conditions to capture images and archive as mpeg4 files

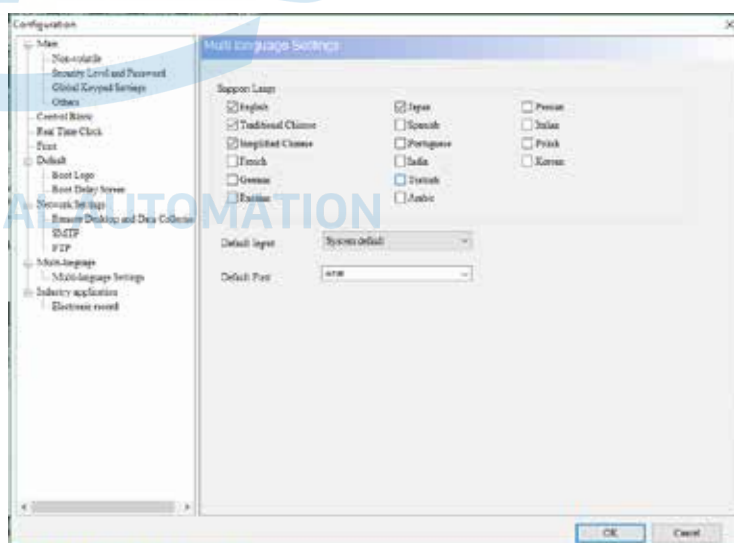


Multi-Language Input for Localization

- ▶ The Advanced HMI supports multilingual inputs for:

- Recipe Name (ENRCPG)
- Recipe Group Name (ENRCPNO)
- Recipe Content (Char)
- User Name

- ▶ Supports 16 languages: English, Traditional Chinese, Simplified Chinese, French, German, Russian, Japanese, Korean, Spanish, Portuguese, Hindi, Turkish, Arabic, Persian, Italian and Polish



Delta' HMI can implement M2M communication and data transmission for diverse industries by means of OPC UA. Communication among different manufacturers' machines is enabled through information modeling.

Standard HMI

The Standard HMI is equipped with 2 COM ports to meet most applications. It also offers Ethernet Types for fast and easy connection with other equipment.



Features



Embedded Linux System

Open system for flexible and stable program development



LUA Language

Simple and easy structural programming language to meet various demands



DOPSoft 4.0

New software DOPSoft 4.0 offers more complete functions and a better interface



Pressing times >10,000,000

Effective pressing times increased through strict endurance tests



Operating Temperature

0°C ~ 50°C

Compliant with industrial operation environments



IP65 Rating

The front case protects the HMI from rain, and dust



CE / UL Certified

Compliant with CE and UL standards



Diagnostics Function

Collects and solves issues remotely



Ethernet Communication

Connects to master device or PLC with high-speed Ethernet communication



Power Isolation

Protects the HMI from accidental surge interference



Communication Isolation

COM and Ethernet ports with built-in isolation circuits enhance communication stability



VNC Remote Monitoring

Remote control with mobile devices



FTP/eMail Supported

Simple data transmission and real-time status report



Supports PDF and TXT Reader

PDF and TXT files supported



Supports GIF Graphic Elements

Easy setting to play vivid GIF elements

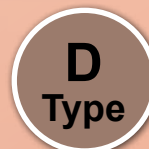
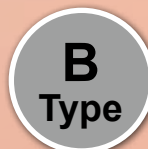


User-Friendly

Intuitive operation interfaces for users

Basic HMI

The Basic HMI features basic functions and easy installation for industrial applications. With an IP65 water-proof rating, it is suitable for harsh environments.



Features



Embedded Linux System

Open system for flexible and stable program development



LUA Language

Simple and easy structural programming language to meet various demands



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New software DOPSoft 4.0 offers more complete functions and a better interface



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Effective pressing times increased through strict endurance tests



Operating Temperature 0°C ~ 50°C

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Compliant with CE and UL standards



Diagnostics Function

Collects and solves issues remotely



Ethernet Communication

Connects to master device or PLC with high-speed Ethernet communication



FTP/eMail Supported

Simple data transmission and real-time status report



Communication Isolation

COM and Ethernet ports with built-in isolation circuits enhance communication stability



VNC Remote Monitoring

Remote control with mobile devices



Supports PDF and TXT Reader

PDF and TXT files supported



Diagnostics Function

Collects and solves issues remotely

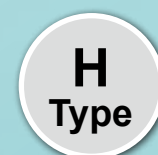


User-Friendly

Intuitive operation interfaces for users

Handheld HMI

The handheld human-machine interface adopts a lightweight handheld design and can choose to support Com communication (422/485) or Ethernet communication. Meet the teaching needs of various motion platforms such as robotic arms.



Features



Embedded Linux System

Open system for flexible and stable program development



LUA Language

Simple and easy structural programming language to meet various demands



DOPSoft 4.0

New software DOPSoft 4.0 offers more complete functions and a better interface



Pressing times >10,000,000

Effective pressing times increased through strict endurance tests



Operating Temperature

0°C ~ 50°C

Compliant with industrial operating environments



IP54 Rating

The front case protects the HMI from rain, and dust



CE Certified

Compliant with CE standards



Diagnostics Function

Collects and solves issues remotely



Ethernet Communication

Connects to a master device or PLC with high-speed Ethernet communication



Power Isolation

Protects the HMI from accidental surge interference



Communication Isolation

COM and Ethernet ports with built-in isolation circuits enhance communication stability



FTP/eMail Supported

Simple data transmission and real-time status report



Supports PDF and TXT Reader

PDF and TXT files supported



QRcode Scanning

Generates QRcodes with self-defined content for mobile device identification



User-Friendly

Intuitive operation interfaces for users



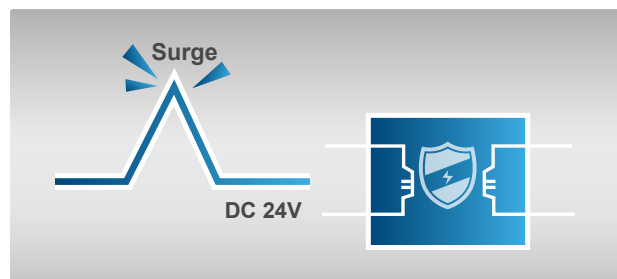
Diagnostics Function

Collects and solves issues remotely

Robust Hardware

Power Isolation

- Complete series with built-in power isolation circuits provides the most complete protection against accidental external spikes



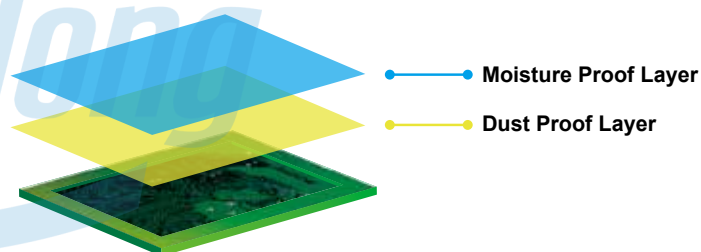
Fully Isolated Communication Interface

- Complete series has built-in COM and Ethernet isolation circuits to protect against noise that can occur from the grounding of various devices such as PLCs, servo drives, inverters and others



PCB Coating

- Complete series has PCB coating for enhanced durability and to protect against humidity and dust for applications in a range of environments

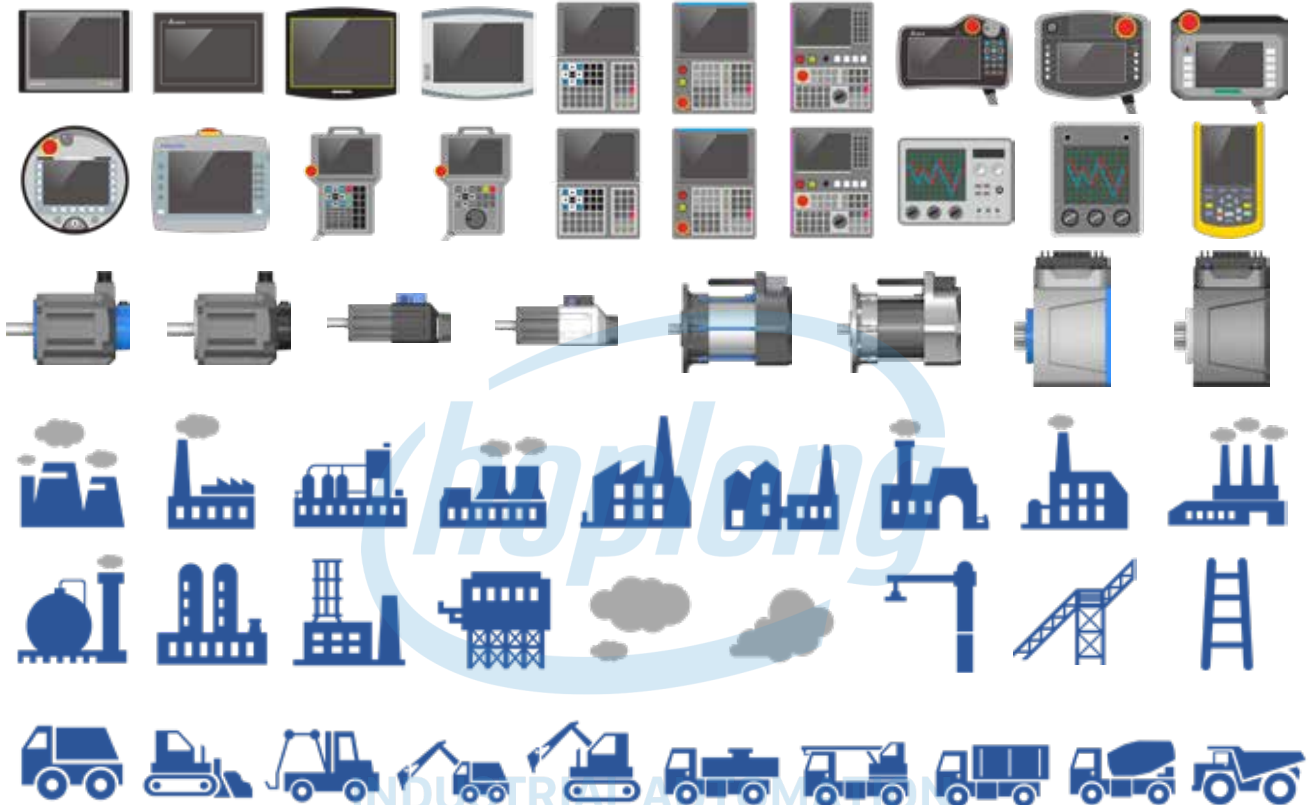


Model	Power Isolation	Communication Isolation
Advanced HMI (Multimedia Type)		
DOP-112/115 MX	Yes	Yes
Advanced HMI		
DOP-103WQ/107WV/110WS	Yes	Yes
DOP-112/115 WX	Yes	Yes
Handheld HMI		
DOP-107H	Yes	Yes
Standard HMI (Ethernet Type)		
DOP-107IV	Yes	Yes
DOP-108IG/110IG	Yes	Yes
DOP-110IS	Yes	Yes
DOP-107EV	Yes	Yes
DOP-107EG	Yes	Yes
Standard HMI		
DOP-105CQ	Yes	No
DOP-107CV	Yes	No
DOP-110CS	Yes	No
DOP-110CG	Yes	No
Standard HMI (General Type)		
DOP-107DV	No	No
Basic HMI		
DOP-103BQ	No	No
DOP-107BV	No	No

Programming Software – DOPSoft 4.0

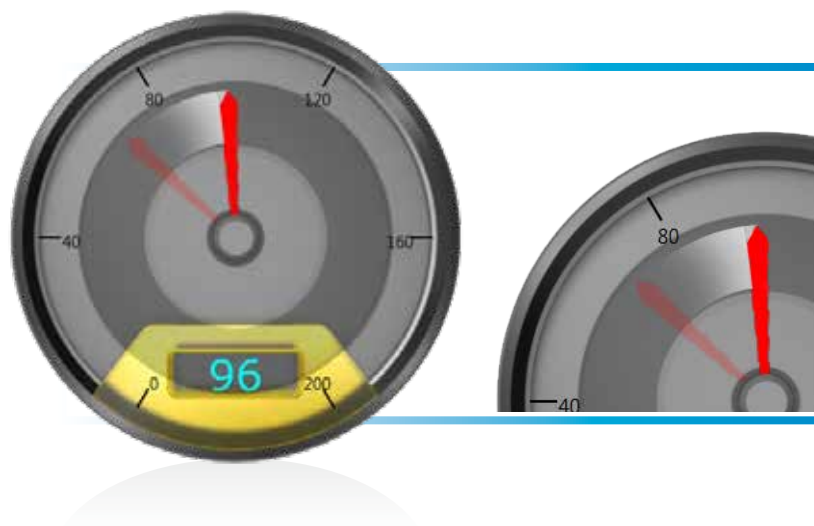
Abundant Elements

- ▶ Abundant built-in element graphics for vivid interface display for a variety of industrial applications



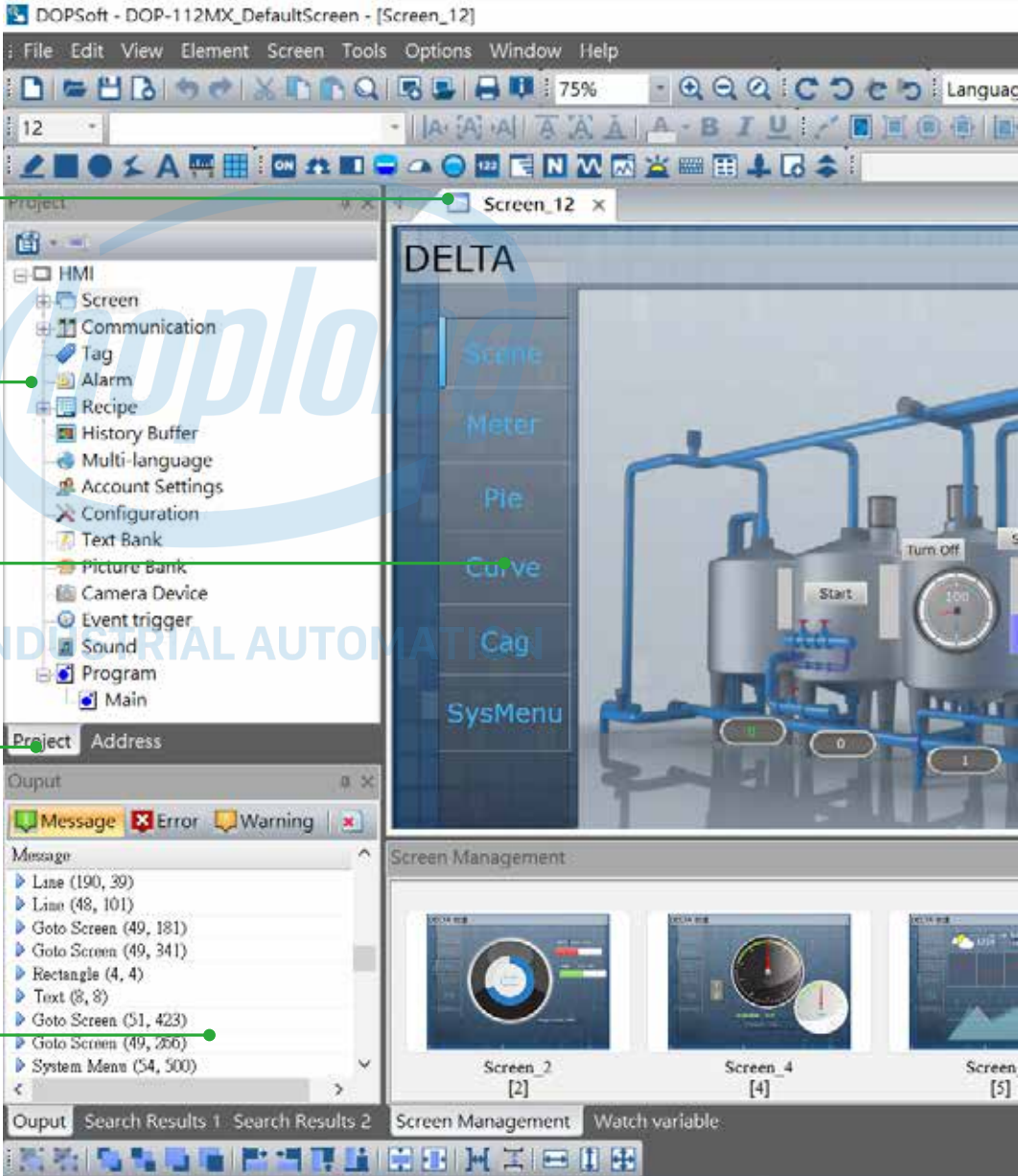
Smooth Animation

- ▶ New smooth animation technology for realistic dashboard display



Programming Software - DOPSoft 4.0

User-friendly Programming Interface



The screenshot displays the DOPSoft 4.0 programming environment. The interface includes a menu bar (File, Edit, View, Element, Screen, Tools, Options, Window, Help), a toolbar, and a project tree on the left. The main workspace shows a 3D industrial scene with a 'DELTA' label and various components like 'Start', 'Turn Off', and 'SysMenu'. A 'Screen Management' panel at the bottom shows thumbnails for 'Screen_2 [2]', 'Screen_4 [4]', and 'Screen [5]'. Annotations with green lines point to specific features:

- Bookmark Management**: A green box with the text 'Bookmark Management' and a line pointing to the 'Screen_12' tab in the project tree.
- Project Management Batch**: A green box with the text 'Project Management Batch' and a line pointing to the 'Project' tree structure.
- Editing Area**: A green box with the text 'Editing Area' and a line pointing to the main workspace area.
- Output List**: A green box with the text 'Output List' and a line pointing to the 'Output' panel showing a list of messages and errors.
- Edit Preview**: A green box with the text 'Edit Preview' and a line pointing to the 'Screen Management' panel.

Additional text annotations on the left side of the image describe the functions of these features:

- Bookmark Management**: Bookmark menu allows users to switch pages easily
- Project Management Batch**: Quickly switch items via the project branch feature
- Editing Area**: Provides real-time display of your edit
- Output List**: Automatically displays edit results of each screen. Users can review and resolve errors by clicking screens
- Edit Preview**: Quickly browses the overall project via edit preview

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Abundant accessories

Customized keyboard

Process paradigms

Field devices

General Tool

Shortcut icons help enhance working efficiency

Property

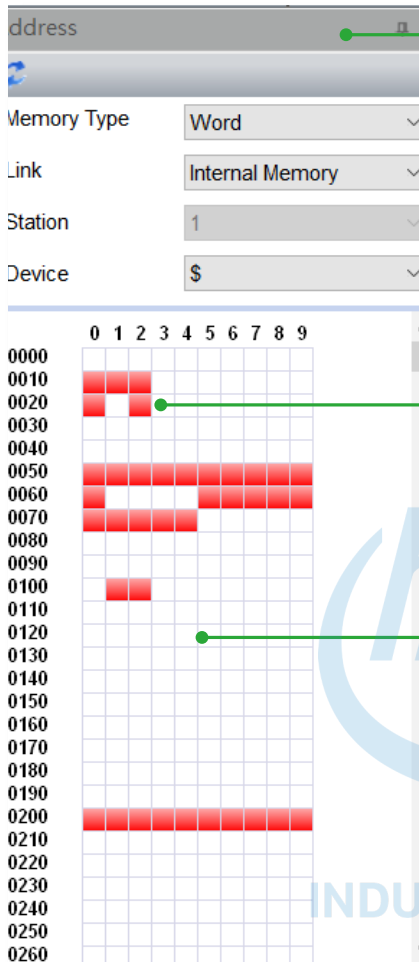
Provides easier property setup via group lists

Property Quick Window

Standard accessory dialog box adopts built-in preview and quick-edit functions

Programming Software - DOPSoft 4.0

Editing Windows



Register View Window

The color blocks of red and white allow users to view the memory register status



Red blocks indicate the used registers



White blocks indicate empty registers



Macro Management Window

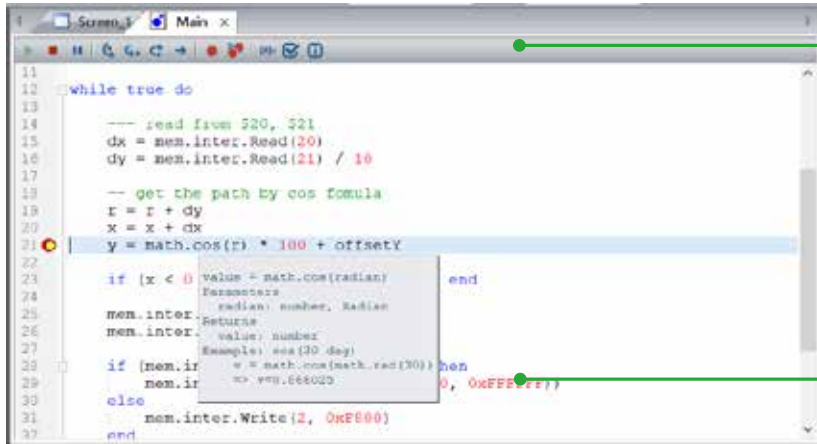
Users can view all types of macros in the project



Selected a macro via the list



Directly edit the macro after clicking



Lua Tool Bar

- Program Debugging
- Stops program debug
- Program break point

Online Coding Tips

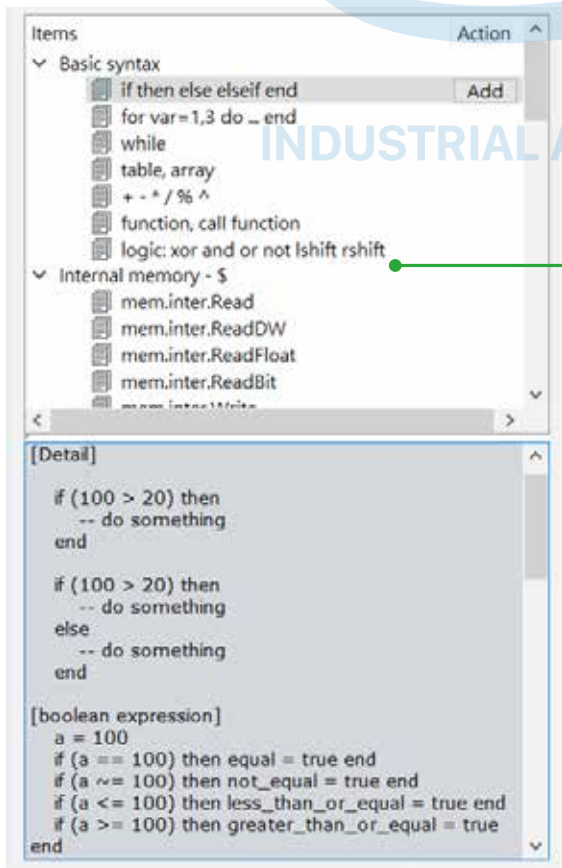
Lua editor displays tip windows of the codes when users move the mouse to selected codes

Watch variable

Name	Value	Global / Local	Type	Format
dx	3	Global	Number	DEC
dy	0.1	Global	Number	DEC
r	0.1	Global	Number	DEC
y	3	Global	Number	DEC
name	nil	Local		DEC

Parameter Monitoring Window

Allows users to monitor parameter variation during program development



Programming Assistance Window

Provides online assistance as follows:

- Lua code templates
- Program usage and properties
- Program samples

Advanced Alarm

- Strengthened alarm functions allow users to easily manage machine operations and quickly eliminate problems

- Alarm messages contain current register data for issue analysis

Detail		Properties
No.	Message Content	Category
1*	Temp. too High , PV is %d1	1
2*	Temp. too Low , PV is %d1	1
3*	PV is %d1 , ALM Mail	2
4		0
5		0

Message
Temp. too Low , PV is 12
Temp. too High , PV is 91
Temp. too Low , PV is 15
Temp. too Low , PV is 23

Alarm Sorting

Alarm sorting via a "Sorting" function based on alarm attributes for quick information inquiries

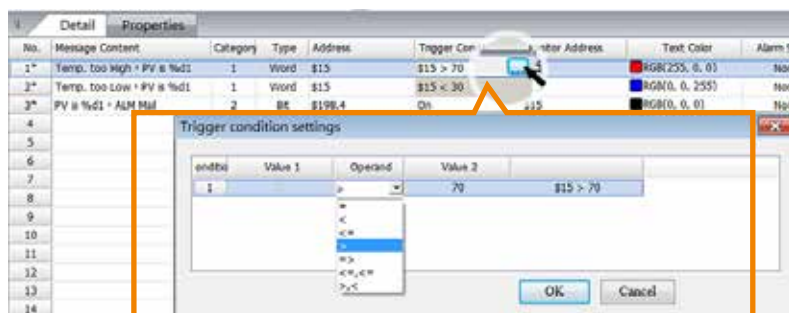
Supports Compound Address Monitoring

Able to monitor Word and Bit documents at the same time

Detail		INDUSTRIAL AUTOMATION				
Properties						
No.	Message Content	Category	Type	Address	Trigger Condition	Monitor Address
1*	Temp. too High , PV is %d1	1	Word	\$15	\$15 > 70	\$15
2*	Temp. too Low , PV is %d1	1	Word	\$15	\$15 < 30	\$15
3*	PV is %d1 , ALM Mail	2	Bit	\$198.4	On	\$15
4		0	Bit	None	On	None

Versatile Alarm Triggering Conditions

Triggering conditions can be setup via a built-in function, no external editing programs required



Alarm Notification

Automatically sends out alarm notification emails to logged-in recipients when alarms occur and supports the Secure Sockets Layer (SSL) protocol to ensure safe data transmission



- Indicates the alarm trigger and recovery time, and provides alarm acknowledge time / date (Ack) to confirm and monitor troubleshooting progress

Message	Trigger	Ack	Recovery
Temp. too Low • PV is 12	15:07:12 02/03/2017		15:07:15 02/03/2017
Temp. too High • PV is 91	15:07:15 02/03/2017	15:07:56 02/03/2017	15:07:22 02/03/2017
Temp. too Low • PV is 15	15:07:22 02/03/2017		15:07:25 02/03/2017
Temp. too Low • PV is 23	15:07:28 02/03/2017	15:07:58 02/03/2017	15:07:34 02/03/2017

Alarm Filtering

Advanced address control filtering allows users to find specified alarm messages according to user needs

Alarm Ordering

Able to display alarms in the order of Trigger Time / Confirm Time / Restore Time

Action	
Address control filtering allows users to find specified alarms	
No.	Action
0	Preset state, shows all triggered alarms
1	Hide alarms with "Restore Time" and "Confirm Time"
2	Hide alarms with "Restore Time"
3	Hide alarms with "Restore Time" or "Confirm Time"
4	Hide alarms with "Confirm Time"

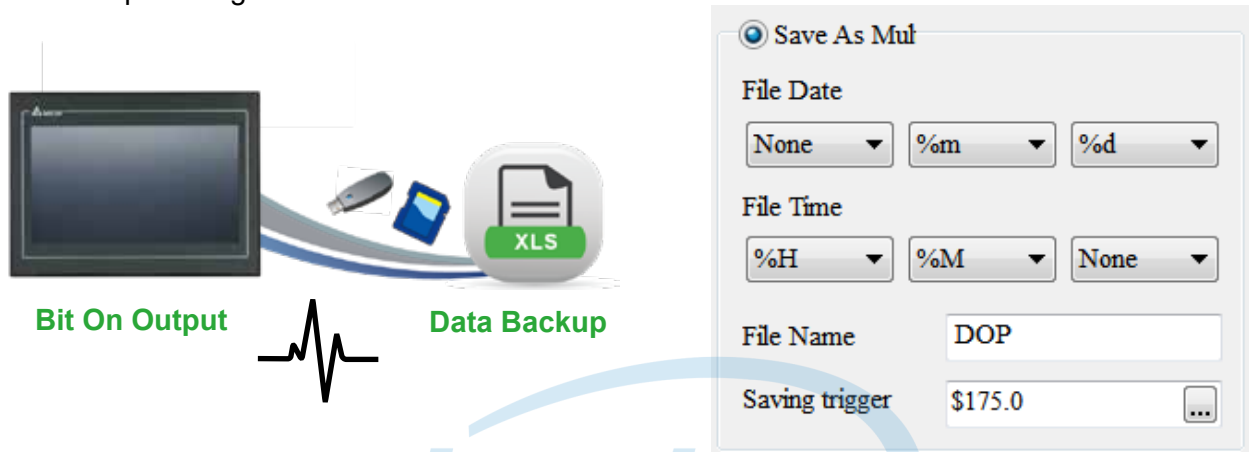
Order by Trigger time
Order by ACK time
Order by Recover time
Order by Recover time



Data Management

Historical Data

- ▶ Able to generate historical reports with user-defined file names and timestamps through Bit Control



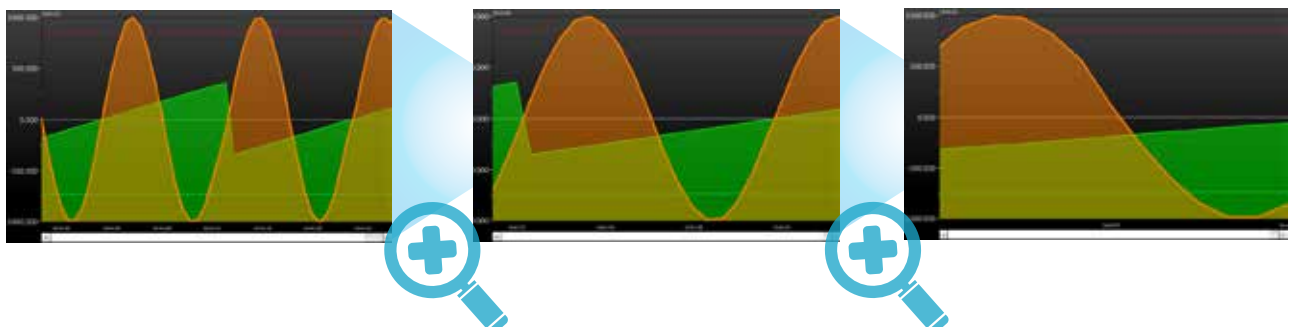
Historical Data Review

- ▶ Allows historical data review on backup in USB disk or SD cards



Zoom In / Out Display

- ▶ Zoom in / out function for convenient data viewing



Recipes

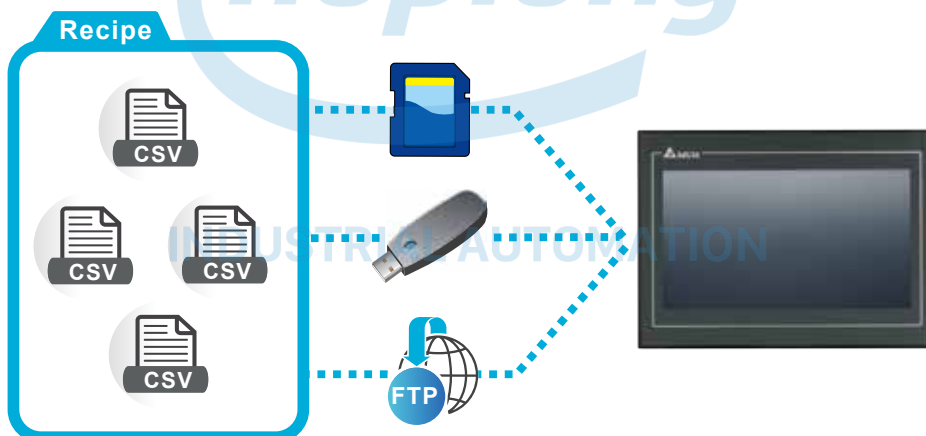
- ▶ Supports 2D and 3D recipe grouping, more flexible in building recipe database
- ▶ Various recipe formats, including text format (Unicode) which can also be used as formula notes

	D100	D101	D102	D103	D104	D105	D106	
	D100	D101	D102	D103	D104	D105	D106	50.7
Cake Recipe 1	Strawberry	300	0	0	221.56	533.1	150.7	63.9
Cake Recipe 2	Chocolate	0	300	0	387.98	490.8	163.9	79.8
Cake Recipe 3	Vanilla	0	0	300	120.14	505.3	279.8	
	Strawberry	Chocolate	Vanilla	Sugar	Flour	Milk		
	Char	Unsigned DEC			Floating			

Recipe Group 2

Recipe Group 1

- ▶ Recipes can be saved in CSV files for convenient editing on PCs
- ▶ Allows recipe update or backup through USB disks, SD cards or FTP



PDF for Data Review

- ▶ Saves manuals or instruction PDF files in USB disks or SD cards for reference anytime



User Authority Management

Account and Authorization Management

- ▶ Supports 8 levels of authority and allows 8 accounts (account name/password) for each level
- ▶ Different function and operation access for each authority level to enhance operation safety



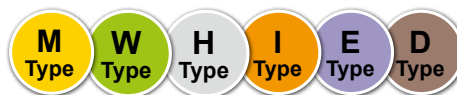
Operation Log

- ▶ Operation log for different user accounts to trace/analyze possible causes of malfunctions
- ▶ Provides comprehensive information for managers to analyze the operating habits of different users and improve efficiency

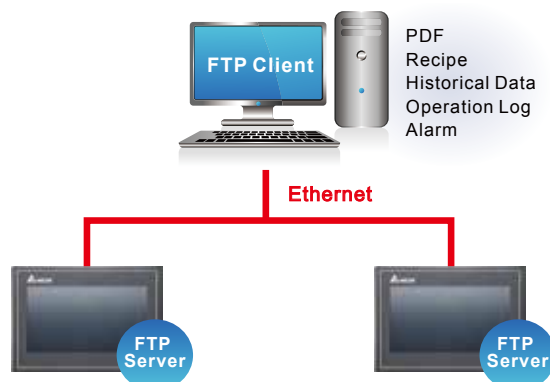
Time	Date	User	Level	Screen Description	Action	Address	Pre Value	Change
13:02:08	09/29/2020		0	Screen_Maintained_0	Set Val	\$0.0	0	1
13:02:20	09/29/2020		0	Screen_Maintained_0	Login	\$10.0		11
13:02:20	09/29/2020	11	1	Screen_Maintained_0	Set Val	\$10.0	0	1
13:02:23	09/29/2020	11	1	Screen_Numeric Entry	Set Val	\$100	0	99
13:02:28	09/29/2020	11	1	Screen_Maintained_0	Set Val	\$10.0	1	0
13:02:31	09/29/2020	11	1	Screen_Maintained_0	Set Val	\$10.0	0	1
13:02:34	09/29/2020	11	1	Screen_Numeric Entry	Set Val	\$100	99	88
13:02:37	09/29/2020	11	1	Screen_Maintained_0	Set Val	\$0.0	0	1
13:03:04	09/29/2020	11	1	Screen_Numeric Entry	Set Val	\$100	88	55
13:03:09	09/29/2020	11	1	Screen_Numeric Entry	Set Val	\$100	55	33
13:03:10	09/29/2020	11	1	Screen_Maintained_0	Set Val	\$10.0	1	0
13:03:12	09/29/2020	11	1	Screen_Maintained_0	Set Val	\$10.0	0	1
13:03:16	09/29/2020	11	1	Screen_Numeric Entry	Set Val	\$100	33	123

Cloud Integration

FTP Server

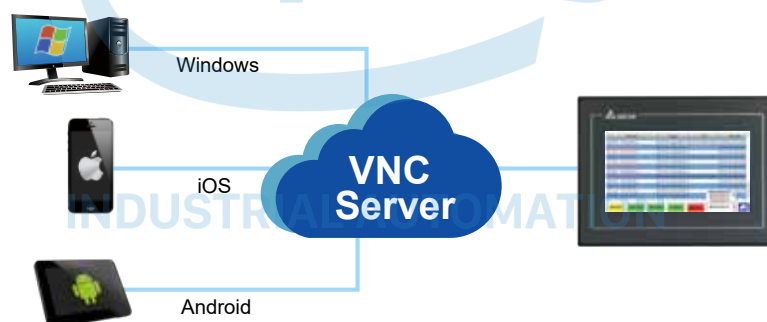


- ▶ Built-in FTP server to update recipes or PDF files, and backup historical data, operation log and alarms



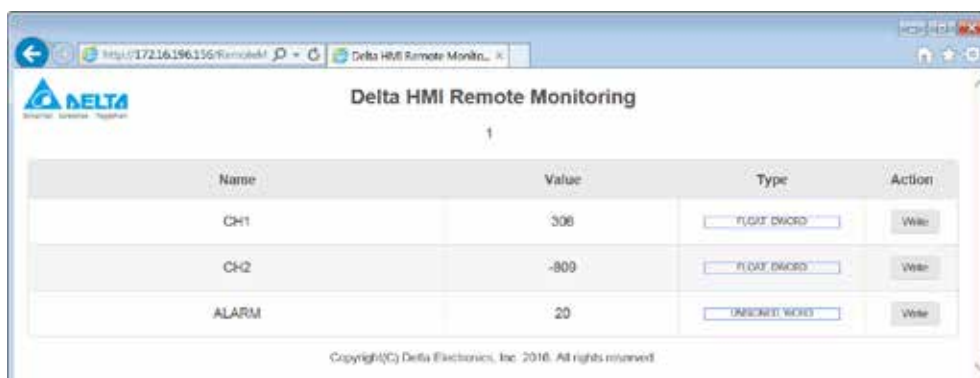
VNC Server

- ▶ Built-in VNC server allows remote monitoring and operating of the DOP-100 Series via VNC Client APP (Windows, iOS, Android)
- ▶ Lock function: block remote operation during on-site operation to avoid unsynchronized commands. VNC server allows remote monitoring but not remote operation when the lock function is on



Web Monitoring

- ▶ Allows direct monitoring of register data via web page, and requires no additional software installation



Hardware Specifications

Advanced HMI

Model		Advanced Narrow Frame Type		
		DOP-103WQ	DOP-107WV	DOP-110WS
LCD Module	Display	4.3" TFT LCD	7" TFT LCD	10.1" TFT LCD
	Color	65,536		
	Resolution (Pixels)	480 x 272	800 x 480	1024 x 600
	Back Light	LED Back Light		
	Back Light Brightness (cd/m²)	400	450	450
	Back Light Life (Hour) ¹	10,000	20,000	30,000
	Display Area	95.04 x 53.856 mm	154.08 x 85.92 mm	225.52 x 128.10 mm
MCU		ARM Cortex-A8 (800MHz)		
Flash ROM (Bytes)		256 MB		
RAM (Bytes)		512 MB		
Touch Panel		Four-wire resistor, over 10,000,000 pressing times		
Buzzer		Multi-Tone Frequency (2K ~ 4K Hz) / 80dB		
Ethernet Interface		1 Port ² , 10/100 Mbps auto-sensing		
USB		1 USB Slave Ver 2.0 / 1 USB Host Ver 2.0		
SD		N/A		SD x 1
Serial COM Port	COM1	RS-232 (supports hardware flow control) / RS-485 ²	RS-232 (supports hardware flow control)	
	COM2	RS-422 / RS-485 ²	RS-232 (supports hardware flow control) / RS-485 ²	
	COM3	N/A	RS-422 / RS-485 ²	
RTC		Built-in		
Cooling		Natural air circulation		
Certification		CE / UL		
Waterproof		IP65 / NEMA4 / UL Type 4X (indoor use only)		
Operation Voltage ³		DC +24V (-15% ~ 15%) ²		
Voltage Endurance		A599V for 1 minute (between charging DC24 terminal and FG terminals)		
Power Consumption ⁵		Max. 5.8W ³	Max. 8.4W ³	Max. 11W ³
Backup Battery		3V lithium battery CR2032 × 1		
Backup Battery Life		Depends on the temperature used and the conditions of usage, usually about 3 years or more at 25° C		
Operating Temperature		0°C ~ 50°C		
Storage Temperature		-20 °C ~ 60 °C		
Ambient Humidity		10% ~ 90% RH (0 ~ 40° C), 10% ~ 55% RH (41 ~ 50° C), Pollution Degree 2		
Vibration		IEC 61131-2 compliant 5Hz ~ 8.3Hz = Continuous: 3.5mm, 8.3Hz ~ 150Hz = Continuous: 1.0g		
Shock		IEC 60068-2-27 compliant 15g peak for 11ms duration, X, Y, Z, directions for 6 times		
Dimensions (W) x (H) x (D) mm		137 x 103 x 37.1	196 x 136 x 39	270 x 180.9 x 47.75
Mounting dimension (W) x (H) mm		118.8 x 92.8	186.8 x 126.8	255 x 170.5
Weight		280g	560g	1,100g

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

2) Built-in power isolation

3) An isolated power supply is recommended.

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 the HMI with no peripheral devices connected.

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Advanced HMI

Model		Advanced Narrow Frame Type		Advanced Multimedia Type	
		DOP-112WX	DOP-115WX	DOP-112MX	DOP-115MX
LCD Module	Display	12" TFT LCD	15" TFT LCD	12" TFT LCD	15" TFT LCD
	Color	24bit			
	Resolution (Pixels)	1024 x 768			
	Back Light	LED Back Light			
	Back Light Brightness (cd/m ²)	500	450	500	450
	Back Light Life (Hour) ¹	50,000			
	Display Area	245.76 x 184.32 mm	304.1 x 228.1 mm	245.76 x 184.32 mm	304.1 x 228.1 mm
MCU		Dual Core 1GHz			
Flash ROM (Bytes)		8GB			
RAM (Bytes)		DDR3 1000MHz 1GB			
Touch Panel		Four-wire resistor, over 10,000,000 pressing times			
Buzzer		Multi-Tone Frequency (2K ~ 4K Hz) / 85dB			
Ethernet Interface		2 Port, 100M bps x 2			
USB		1 Mini USB Slave Ver 2.0 / 1 USB Host Ver 2.0			
SD		SD x 1			
Serial COM Port	COM1	RS-232 (supporting flow control) / RS485 ²			
	COM2	RS-422 / RS485 ²			
	COM3	RS-232 (supporting flow control) / RS-485 ²			
	COM4	RS-422 / RS485			
RTC		Built-in			
Cooling		Natural air circulation			
Certification		CE / UL			
Waterproof		IP65 / NEMA4 / UL Type 4X (indoor use only)			
Operation Voltage ³		DC +24V (-15% ~ 15%) ²			
Voltage Endurance		A599V for 1 minute (between charging DC24 terminal and FG terminals)			
Power Consumption ⁵		Max. 16.08W	Max. 21.12W	Max. 16.08W	Max. 21.12W
Backup Battery		3V lithium battery CR2032 x 1			
Backup Battery Life		Depends on the temperature used and the conditions of usage, usually about 3 years or more at 25° C			
Operation Temperature		0°C ~ 50°C			
Storage Temperature		-20 °C ~ 60 °C			
Ambient Humidity		10% ~ 90% RH (0 ~ 40° C), 10% ~ 55% RH (41 ~ 50° C), Pollution Degree 2			
Vibration		IEC 61131-2 compliant 5Hz ~ 8.3Hz = Continuous: 3.5mm, 8.3Hz ~ 150Hz = Continuous: 1.0g			
Shock		IEC 60068-2-27 compliant 15g peak for 11ms duration, X, Y, Z, directions for 6 times			
Dimensions (W) x (H) x (D) mm		317.4 x 246.4 x 52.7	387.7 x 295.7 x 63.5	317.4 x 246.4 x 52.7	387.7 x 295.7 x 63.5
Mounting dimension (W) x (H) mm		302.7 x 228.7	372.4 x 283.7	302.7 x 228.7	372.4 x 283.7
Weight		2110g	3200g	2110g	3200g

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

4) Built-in power isolation

5) An isolated power supply is recommended.

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

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

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Hardware Specifications

Standard HMI

Model		Standard General Type			
		DOP-105CQ	DOP-107CV	DOP-110CS	DOP-110CG
LCD Module	Display	5.6" TFT LCD	7" TFT LCD	10" TFT LCD	10.4" TFT LCD
	Color	65,536			
	Resolution (Pixels)	320 x 234	800 x 480	1024 x 600	800 x 600
	Back Light	LED Back Light			
	Back Light Brightness (cd/m ²)	200	400	300	300
	Back Light Life (Hour) ¹	20000			
	Display Area	113.28 x 84.70 mm	154.08 X 85.92 mm	226 X 128.7 mm	211.2 x 158.4 mm
MCU		ARM Cortex-A8 (800MHz)			
Flash ROM (Bytes)		256 Mbytes			
RAM (Bytes)		256 Mbytes			
Touch Panel		Four-wire resistor, over > 10,000,000 pressing times			Four-wire resistor, over > 1,000,000 pressing times
Audio Output	Buzzer	Multi-Tone Frequency (2K ~ 4K Hz) / 80dB			
	AUX	N/A			
	USB	1 USB Slave Ver 2.0 / 1 USB Host Ver 2.0			
	SD	N/A			
Serial COM Port	COM1	RS-232 (supports hardware flow control) ²			
	COM2	RS-232 (supports hardware flow control) / RS-485 ²			
	COM3	RS-422 / RS-485 ²			
RTC		Built-in			
Cooling		Nature air circulation			
Certification		CE / UL (please equip shielding cables and linefilters with capacity of 300ohm/100MHz)			
Waterproof		IP65 / NEMA4 / UL Type 4X (indoor use only)			
Operation Voltage ³		DC +24V (-15% ~ +15%)(please equip isolated-type power supplies) Supplied by Class 2 or SELV circuit (isolated from MAINS by double insulation)			
Voltage Endurance		A500V for 1 minute (between charging DC24 terminal and FG terminals)			
Power Consumption ⁵		Max. 6.86 W ³	Max. 8.5W ³	Max. 10.4W ³	Max. 8W ³
Backup Battery		3V lithium battery CR2032 × 1			
Backup Battery Life		Depends on the temperature used and the conditions of usage, usually about 3 years or more at 25° C			
Operation Temperature		0°C ~ 50°C			
Storage Temperature		-20 °C ~ 60 °C			
Ambient Humidity		10% ~ 90% RH (0 ~ 40° C), 10% ~ 55% RH (41 ~ 50° C), Pollution Degree 2			
Vibration		IEC 61131-2 compliant 5Hz ~ 8.3Hz = Continuous: 3.5mm, 8.3Hz ~ 150Hz = Continuous: 1.0g			
Shock		IEC 60068-2-27 compliant 15g peak for 11ms duration, X, Y, Z, directions for 6 times			
Dimensions (W) x (H) x (D) mm		184 x 144 x 50	215 x 161 x 61.2	272 x 200 x 61	229 x 224 x 46.8
Mounting dimension (W) x (H) mm		172.4 x 132.4	196.9 x 142.9	261.3 x 189.3	285.2 x 210.2
Weight		670 g	970 g	1330g	1735 g

1) The half-life of a backlight is defined as the original luminance being reduced by 50% when the maximum driving current is supplied to an HMI.6

2) Built-in power isolation

3) An isolated power supply is recommended.

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 the HMI with no peripheral devices connected.

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Standard HMI

Model		Standard Ethernet Type (2 COM)	
		DOP-107EG	DOP-107EV
LCD Module	Display	7" TFT LCD	7" TFT LCD
	Color	65,536	
	Resolution (Pixels)	800 x 600	800 x 480
	Back Light	LED Back Light	
	Back Light Brightness (cd/m ²)	450	400
	Back Light Life (Hour) ¹	20000	20000
	Display Area	141 X 105.75 mm	154.08 X 85.92 mm
MCU		ARM Cortex-A8 (800MHz)	
Flash ROM (Bytes)		256 Mbytes	
RAM (Bytes)		256 Mbytes	
Touch Panel		Four-wire resistor, over > 10,000,000 pressing times	
Audio Output	Buzzer	Multi-Tone Frequency (2K ~ 4K Hz) / 80dB	
	AUX	Stereo output	N/A
Ethernet Interface		1 Port ² , 10/100 Mbps auto-sensing	
USB		1 USB Slave Ver 2.0; 1 USB Host Ver 2.0	
SD		SDx1	N/A
Serial COM Port	COM1	RS-232 (supports hardware flow control) ²	
	COM2	RS-232 (supports hardware flow control) / RS-485 ²	
	COM3	RS-422 / RS-485 ²	
RTC		Built-in	
Cooling		Natural air circulation	
Certification		CE / UL (please equip Shielding cables and linefilters with capacity of 300ohm/100MHz)	
Waterproof		IP65 / NEMA4 / UL Type 4X (indoor use only)	
Operation Voltage ³		DC +24V (-15% ~ +15%)(please equip isolated-type power supplies) Supplied by Class 2 or SELV circuit (isolated from MAINS by double insulation)	
Voltage Endurance		A500V for 1 minute (between charging DC24 terminal and FG terminals)	
Power Consumption ⁵		Max. 8.4 W ³	Max. 8.76 W ³
Backup Battery		3V lithium battery CR2032 × 1	
Backup Battery Life		Depends on the temperature used and the conditions of usage, usually about 3 years or more at 25° C	
Operating Temperature		0°C ~ 50°C	
Storage Temperature		-20°C ~ 60°C	
Ambient Humidity		10% ~ 90% RH (0 ~ 40° C), 10% ~ 55% RH (41 ~ 50° C), Pollution Degree 2	
Vibration		IEC 61131-2 compliant 5Hz ~ 8.3Hz = Continuous: 3.5mm, 8.3Hz ~ 150Hz = Continuous: 1.0g	
Shock		IEC 60068-2-27 compliant 15g peak for 11ms duration, X, Y, Z, directions for 6 times	
Dimensions (W) x (H) x (D) mm		184 x 144 x 51.5	215 x 161 x 61.2
Mounting dimension (W) x (H) mm		172.4 x 132.4	196.9 x 142.9
Weight		800 g	970g

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2) Built-in power isolation

3) An isolated power supply is recommended.

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

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Hardware Specifications

Standard HMI

Model		Standard Ethernet Type (3 COM)			
		DOP-107IV	DOP-108IG	DOP-110IS	DOP-110IG
LCD Module	Display	7" TFT LCD	8" TFT LCD	10.1" TFT LCD	10.4" TFT LCD
	Color	65,536			
	Resolution (Pixels)	800 x 480	800 x 600	1024 x 600	800 x 600
	Back Light	LED Back Light			
	Back Light Brightness (cd/m ²)	400	250	300	300
	Back Light Life (Hour) ¹	20000			
	Display Area	152.4 x 91.44 mm	162 x 121.5 mm	226 x 128.7 mm	211.2 x 158.4 mm
MCU		ARM Cortex-A8 (800MHz)			
Flash ROM (Bytes)		256 Mbytes			
RAM (Bytes)		256 Mbytes			
Touch Panel		Four-wire resistor, over > 10,000,000 pressing times			
Audio Output	Buzzer	Multi-Tone Frequency (2K ~ 4K Hz) / 80dB			
	AUX	N/A	Stereo output		
Ethernet Interface		1 Port ² , 10/100 Mbps auto-sensing			
USB		1 USB Slave Ver 2.0 / 1 USB Host Ver 2.0			
SD		SD x 1			
Serial COM Port	COM1	RS-232 (supports hardware flow control) ²			
	COM2	RS-232 (supports hardware flow control) / RS-485 ²			
	COM3	RS-232 (supports hardware flow control) / RS-422 / RS-485 ²			
RTC		Built-in			
Cooling		Nature air circulation			
Certification		CE / UL (please equip shielding cables and linefilters with capacity of 300ohm/100MHz)			
Waterproof		IP65 / NEMA4 / UL Type 4X (indoor use only)			
Operation Voltage ³		DC +24V (-15% ~ +15%)(please equip isolated-type power supplies) Supplied by Class 2 or SELV circuit (isolated from MAINS by double insulation)			
Voltage Endurance		A500V for 1 minute (between charging DC24 terminal and FG terminals)			
Power Consumption ⁵		Max. 12W ³	Max. 9.88W ³	Max. 9.6W ³	Max. 9.6W ³
Backup Battery		3V lithium battery CR2032 × 1			
Backup Battery Life		Depends on the temperature used and the conditions of usage, usually about 3 years or more at 25° C			
Operation Temperature		0°C ~ 50°C			
Storage Temperature		-20°C ~ 60°C			
Ambient Humidity		10% ~ 90% RH (0 ~ 40° C), 10% ~ 55% RH (41 ~ 50° C), Pollution Degree 2			
Vibration		IEC 61131-2 compliant 5Hz ~ 8.3Hz = Continuous: 3.5mm, 8.3Hz ~ 150Hz = Continuous: 1.0g			
Shock		IEC 60068-2-27 compliant 15g peak for 11ms duration, X, Y, Z, directions for 6 times			
Dimensions (W) x (H) x (D) mm		215 x 161 x 61.2	227.1 x 174.1 x 61	272.6 x 200.6 x 54	299 x 224 x 46.8
Mounting dimension (W) x (H) mm		196.9 x 142.9	219.4 x 166.5	261.3 x 189.3	285.2 x 210.2
Weight		970g	1226g	1130g	1600g

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2) Built-in power isolation

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Basic HMI

Model		Basic Type		Basic Ethernet Type
		DOP-103BQ	DOP-107BV	DOP-107DV
LCD Module	Display	4.3" TFT LCD	7" TFT LCD	7" TFT LCD
	Color	65,536		
	Resolution (Pixels)	480 x 272	800 x 480	800 x 400
	Back Light	LED Back Light		
	Back Light Brightness (cd/m ²)	400		
	Back Light Life (Hour) ¹	20000		
	Display Area	95.04 x 53.856 mm	154.08 x 85.92 mm	154.08 x 85.92 mm
MCU		ARM Cortex-A8 (800MHz)		
Flash ROM (Bytes)		256 Mbytes		
RAM (Bytes)		256 Mbytes		
Touch Panel		Four-wire resistor, over > 10,000,000 pressing times		
Audio Output	Buzzer	Multi-Tone Frequency (2K ~ 4K Hz) / 80dB		
	AUX	N/A		
Ethernet Interface		N/A	N/A	1 Port, 10/100 Mbps auto-sensing ²
USB		1 USB Slave Ver 2.0 / 1 USB Host Ver 2.0		
SD		N/A		
Serial COM Port	COM1	RS-232/RS-485 (supports hardware flow control) ²		
	COM2	RS-422 / RS-485 ²		
	COM3	N/A		
RTC		Built-in		
Cooling		Nature air circulation		
Certification		CE / UL (please equip shielding cables and linefilters with capacity of 300ohm/100MHz)		
Waterproof		IP65 / NEMA4 / UL Type 4X (indoor use only)		
Operation Voltage ³		DC +24V (-15% ~ +15%)(please equip isolated-type power supplies) Supplied by Class 2 or SELV circuit (isolated from MAINS by double insulation)		
Voltage Endurance		A500V for 1 minute (between charging DC24 terminal and FG terminals)		
Power Consumption ⁵		Max. 5.67W ³	Max. 8.6W ³	Max. 8.8W ³
Backup Battery		3V lithium battery CR2032 × 1		
Backup Battery Life		Depends on the temperature used and the conditions of usage, usually about 3 years or more at 25° C		
Operation Temperature		0°C ~ 50°C		
Storage Temperature		-20°C ~ 60°C		
Ambient Humidity		10% ~ 90% RH (0 ~ 40° C), 10% ~ 55% RH (41 ~ 50° C), Pollution Degree 2		
Vibration		IEC 61131-2 compliant 5Hz ~ 8.3Hz = Continuous: 3.5mm, 8.3Hz ~ 150Hz = Continuous: 1.0g		
Shock		IEC 60068-2-27 compliant 15g peak for 11ms duration, X, Y, Z, directions for 6 times		
Dimensions (W) x (H) x (D) mm		137 x 103 x 37.1	215 x 161 x 35.5	215 x 161 x 35.5
Mounting dimension (W) x (H) mm		118.8 x 92.8	196 x 142.9	196 x 142.9
Weight		280g	700g	700g

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2) Built-in power isolation

3) An isolated power supply is recommended.

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

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Hardware Specifications

Handheld HMI

Model		Handheld HMI			
		DOP-107HS4xx	DOP-107HE4xx	DOP-107HE4xxZM	DOP-107HE47xZD
LCD Module	Display	7" TFT LCD			
	Color	65536			
	Resolution (Pixels)	800 x 480			
	Back Light	LED Back Light			
	Back Light Brightness (cd/m ²)	400	450	450	
	Back Light Life (Hour) ¹	10,000	20,000	30,000	
	Display Area	154.08 x 85.92 mm			
MCU		ARM Cortex-A8 (800MHz)			
Flash ROM (Bytes)		256 MB			
RAM (Bytes)		512 MB			
Touch Panel		Four-wire resistor, over > 10,000,000 pressing times			
Buzzer		Multi-Tone Frequency (2K ~ 4K Hz) / 80dB			
Ethernet Interface		N/A	1 Port *2, 10/100 Mbps auto-sensing		1 Port *2, 10/100 Mbps auto-sensing
USB		1 USB Slave Ver 2.0			
SD		SD/SDHC			
Serial COM Port/Communication		RS-232/ RS-485	N/A		N/A
Emergency stopswitch		B contact x 2		A contact x 1/B contact x 1	
		Rated voltage: < DC 30V Maximum rated current: 1A Minimum allowable load: DC 5V / 1 mA Complies with IEC60947-5-1, EN60947-5-1, IEC60947-5-5, EN60947-5-5, UL 508, CSA C22.2 No.14, GB 14085.5			
3-position operation switch		A contact x 1			
		Rated voltage: < DC 30V Maximum rated current: 700 mA Minimum allowable load: DC 3V / 5 mA Complies with EN/ IEC60947-5-8, IEC60947-5-1, EN60947-5-1, JIS C8201-5-1, UL508, CSA C22.2 NO. 14 Applicable standards for use with ISO12100-1,-2/EN12100-1,-2, IEC60204-1/EN60204-1, ISO11161/prEN11161, ISO10218/EN775, ANSI/RIA R15.06, ANSI B11.19			
MPG		Rated voltage: < DC 24V Resolution: 50(P/R) Output waveform: square wave Output phase: A, B Phase difference between A and B: 90° ± 45° Maximum frequency response: 200 Hz			
Auxiliary keyboard		15 Function Keys			21 Function Keys
Cable length		5 m (when end of model name = 5) 10 m (when end of model name = A)			
Calendar		Built-in			
Cooling method		Natural cooling			
Certification		CE			
Protection rating		IP54			
Operating voltage ³		DC +24V (-15% ~ +15%) ² (supplied by SELV circuits (isolated from MAINS by double insulation))			
Leakage current		AC500V for one minute (between DC24 and FG terminals)			
Power consumption ⁵		4.896W			
Backup battery		3V lithium battery CR2450 × 1			
Backup battery life		About 5 years or more at 25°C (77°F)(subject to operation temperature and condition)			
Operation temperature		0°C ~ 40°C			
Storage temperature		-20°C ~ 60°C			
Operating environment		10% ~ 90% RH (0 ~ 40° C), 10% ~ 55% RH (41 ~ 50° C), Pollution Degree 2			
Vibration resistance		IEC 61131-2 compliant 5Hz ~ 8.3Hz = Continuous: 3.5mm, 8.3Hz ~ 150Hz = Continuous: 1.0g			
Shock resistance		IEC 60068-2-27 compliant 15g peak for 11ms duration, X, Y, Z, directions for 6 times			
Dimensions (W) x (H) x (D) mm		257.4 x 170.3 x 71.8 (emergency stop switch and hook included)			
Weight		750 g (cable excluded)			

1) The half-life of a backlight is defined as the original luminance being reduced by 50% when the maximum driving current is supplied to an HMI.6

2) Built-in power isolation

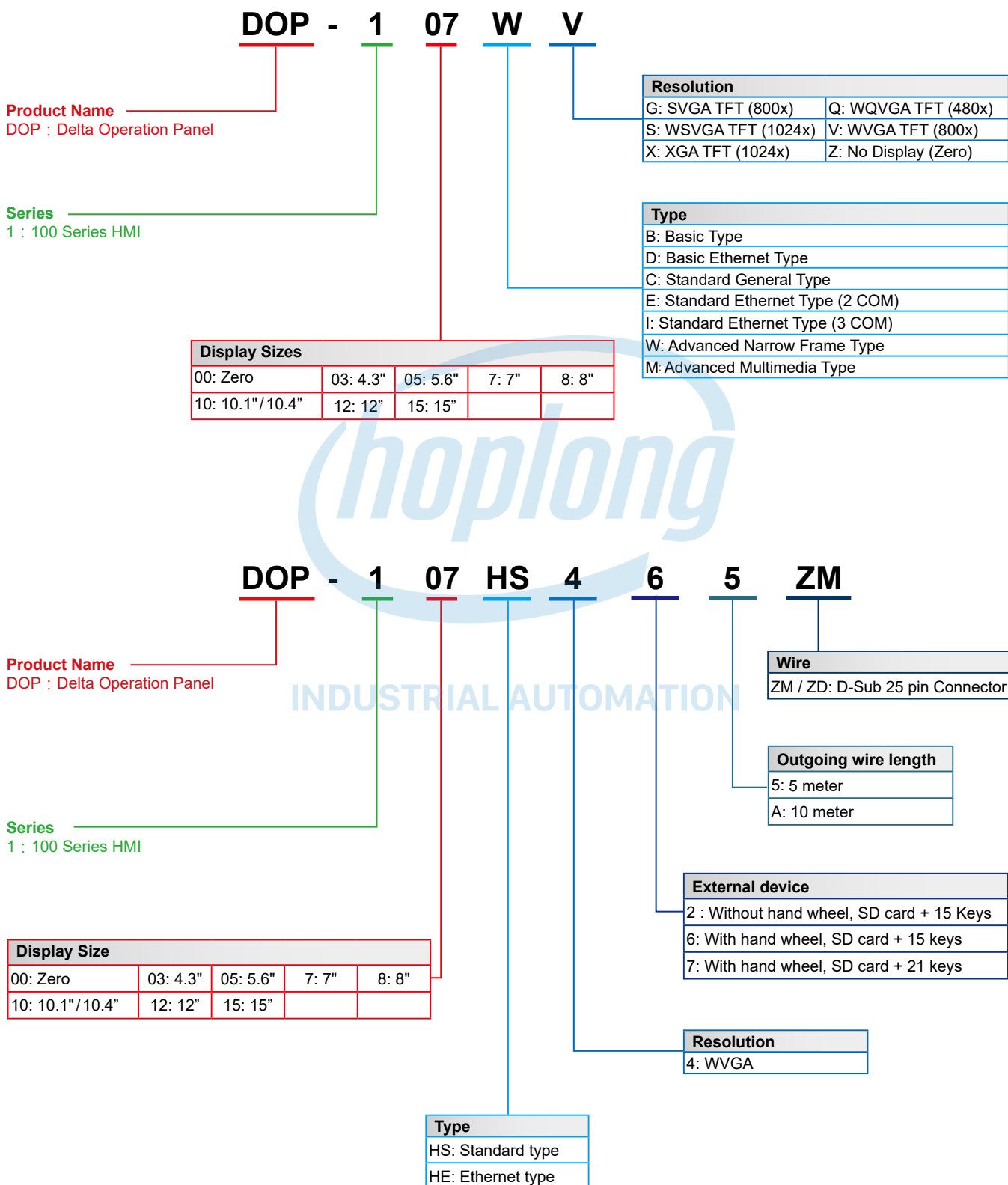
3) An isolated power supply is recommended.

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 the HMI with no peripheral devices connected.

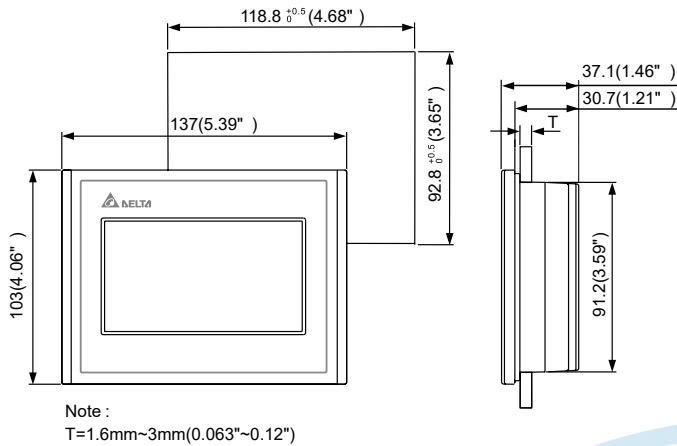
6) The content of this catalogue may be revised without prior notice. Please consult our distributors or download the most updated version at <http://www.deltaww.com>

Model Description

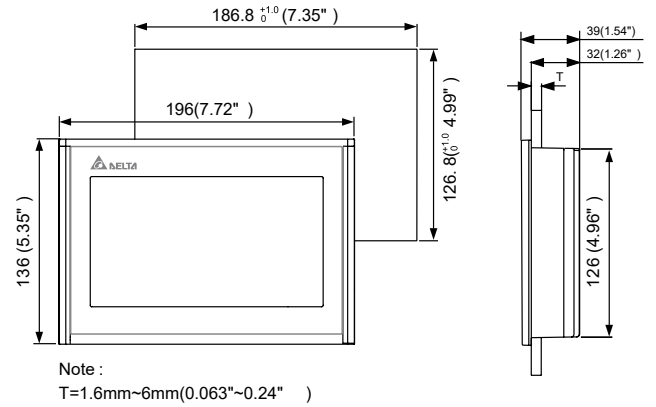


Dimensions Unit: mm (inches)

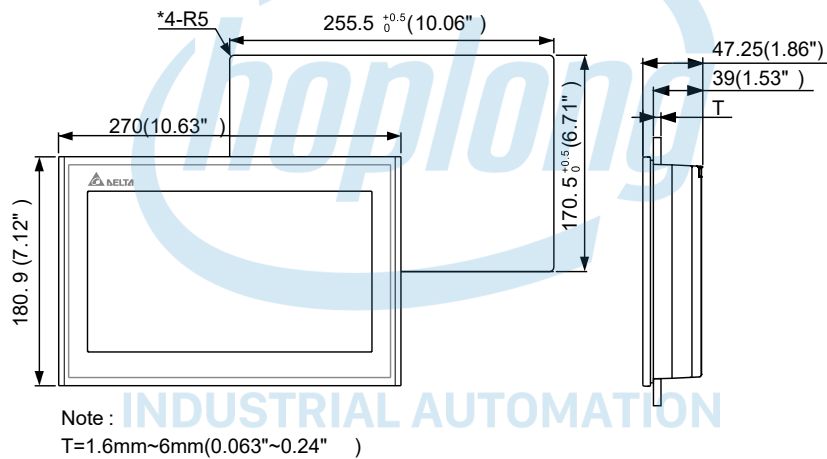
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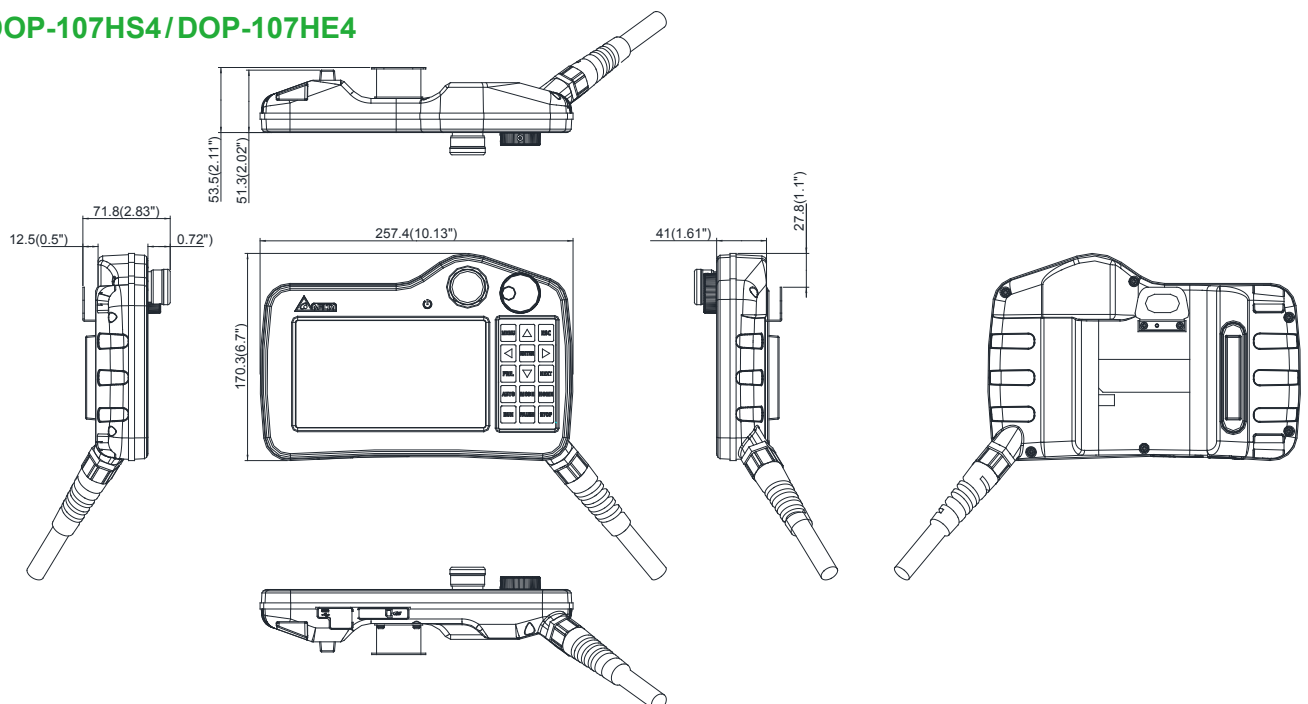
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• DOP-110WS

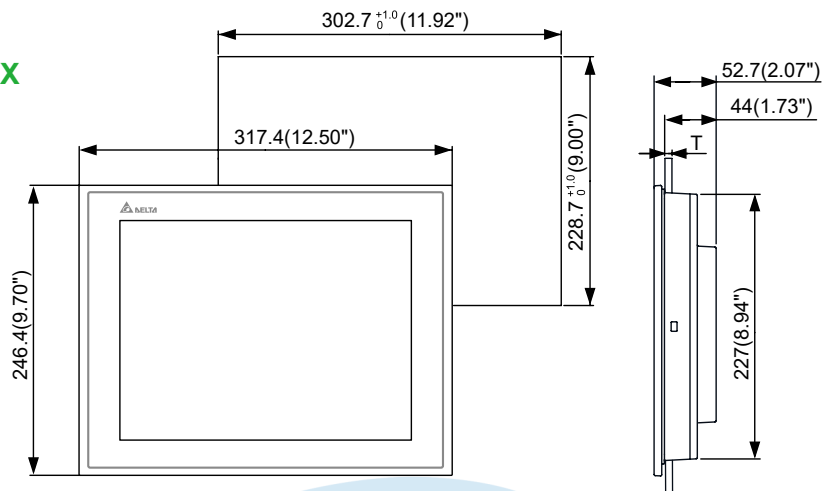


• DOP-107HS4/DOP-107HE4



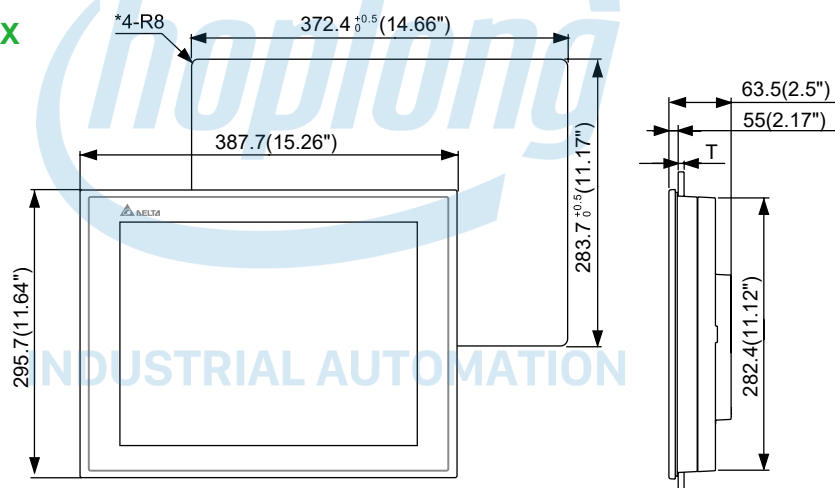
Dimensions Unit: mm (inches)

• DOP-112MX / DOP-112WX



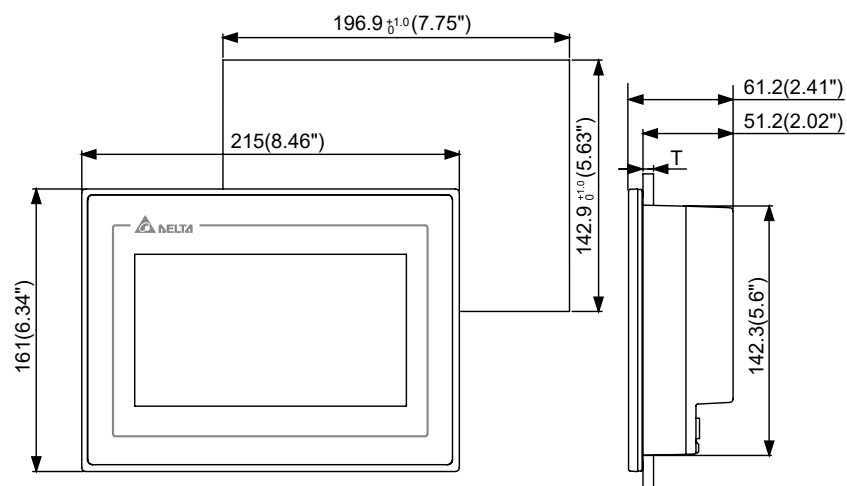
Note:
T=1.6 mm ~ 6 mm(0.063" ~ 0.24")

• DOP-115MX / DOP-115WX



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

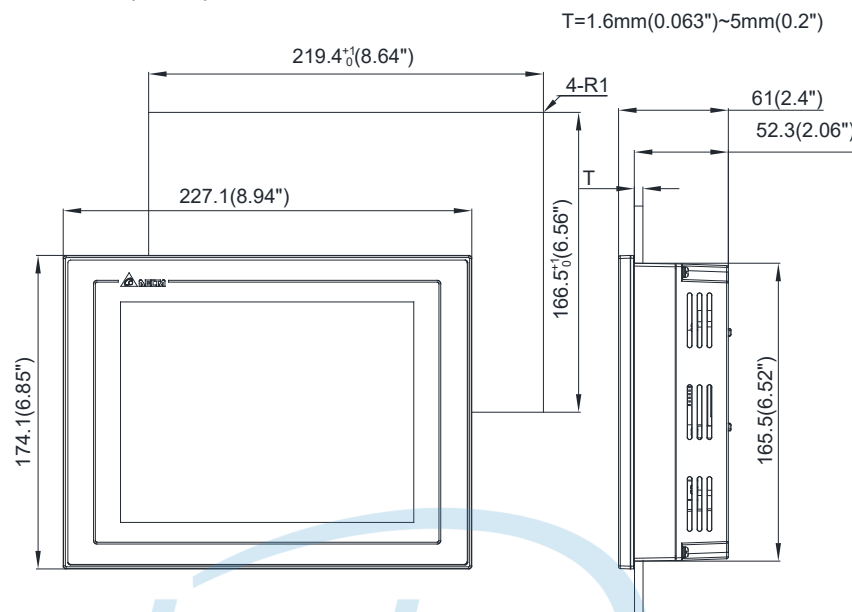
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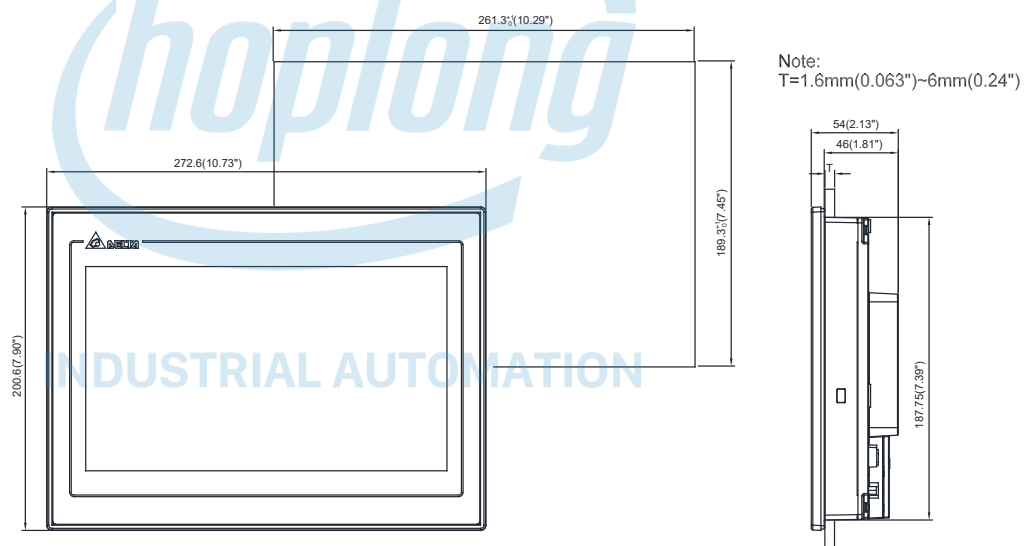
Note:
T=1.6 mm ~ 6 mm(0.063" ~ 0.24")

Dimensions Unit: mm (inches)

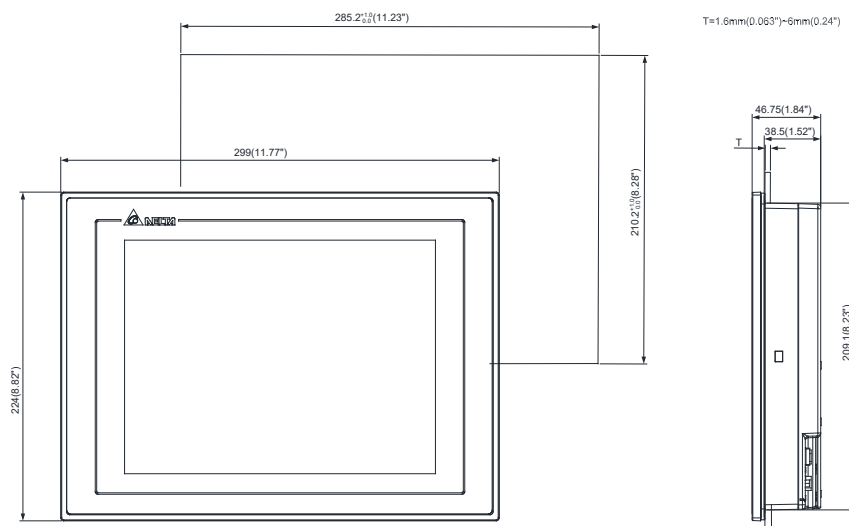
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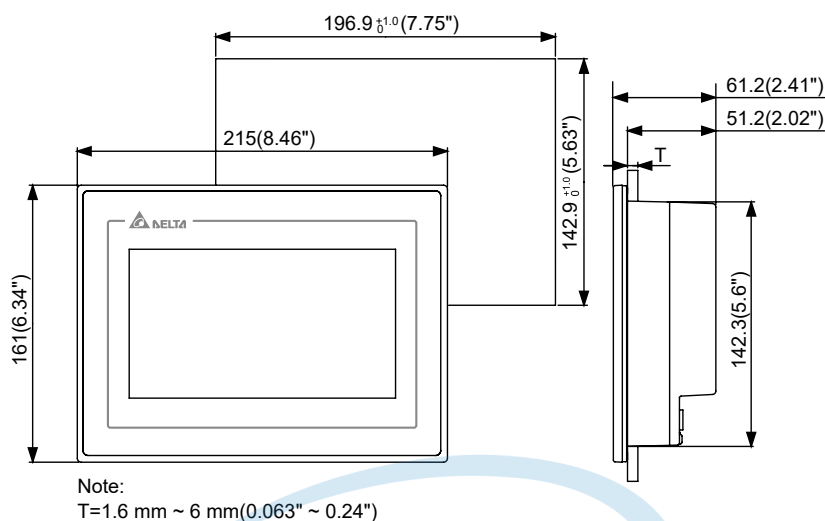
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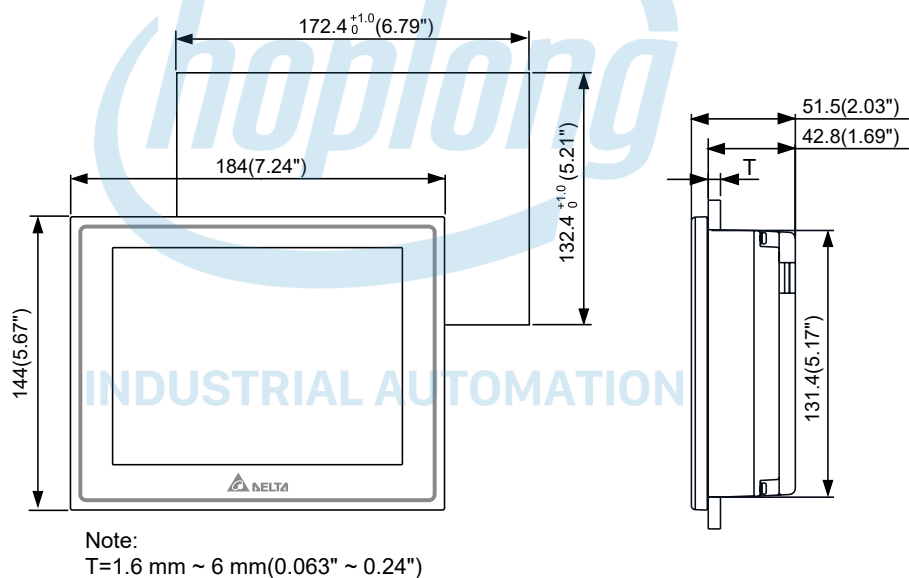
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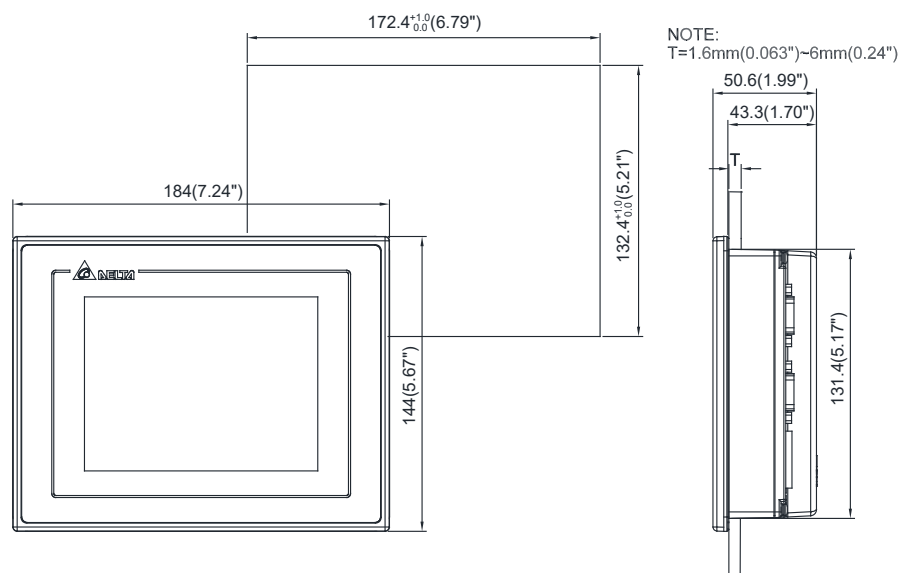
• DOP-107EV



• DOP-107EG

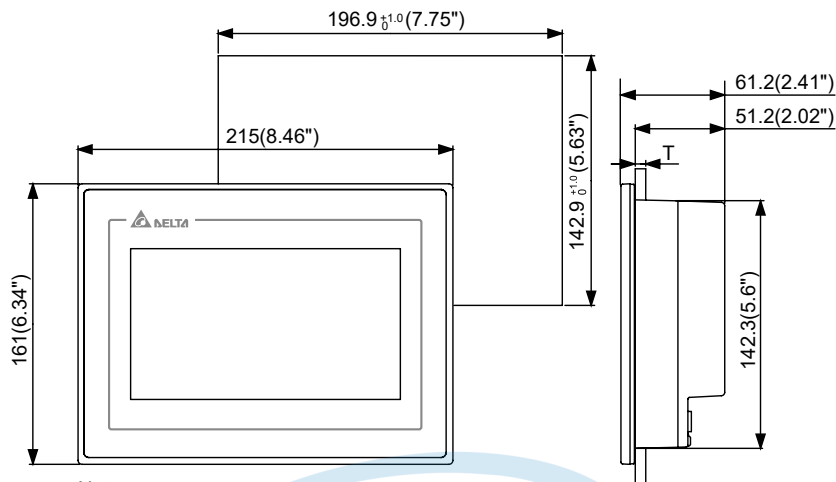


• DOP-105CQ



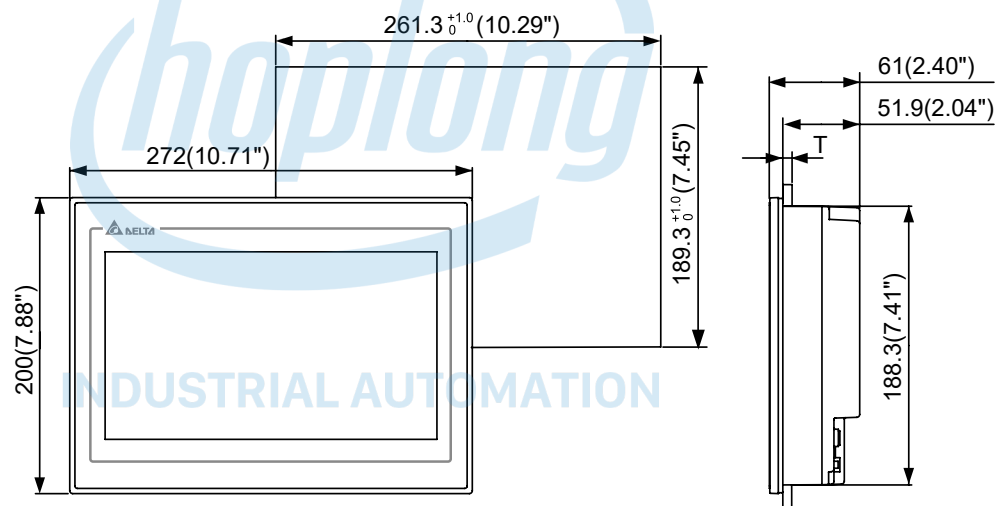
Dimensions Unit: mm (inches)

• DOP-107CV



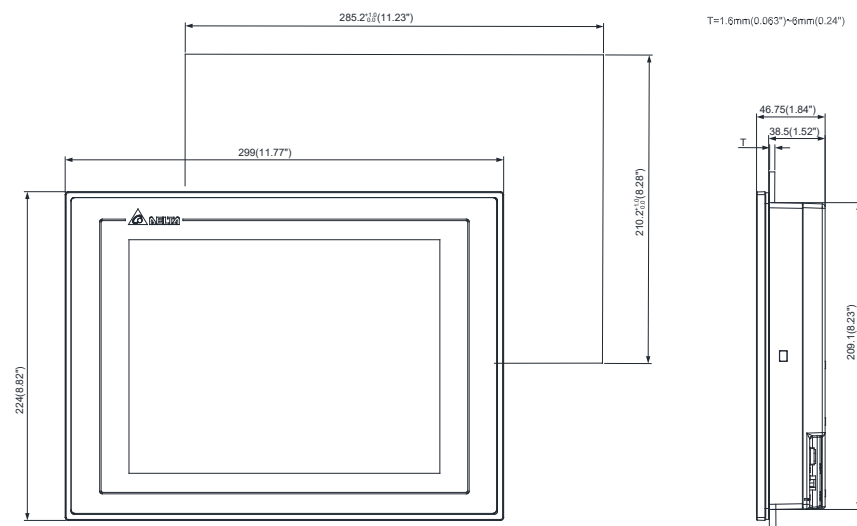
Note:
T=1.6 mm ~ 6 mm (0.063" ~ 0.24")

• DOP-110CS



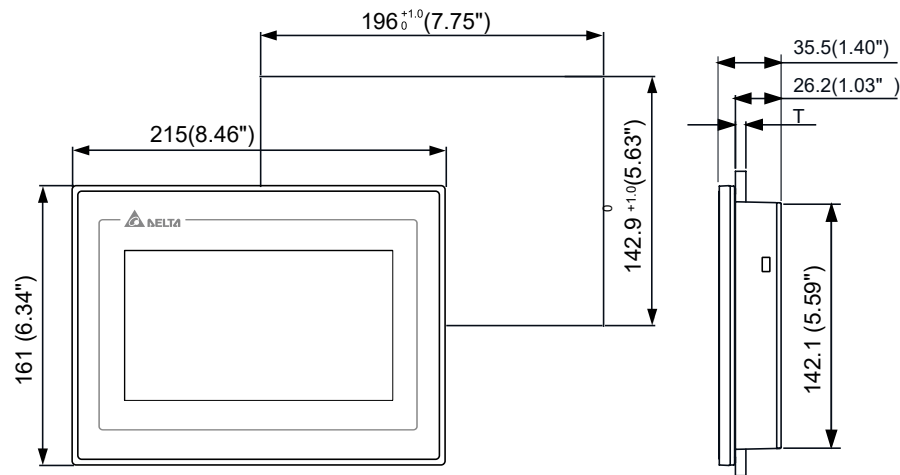
Note:
T=1.6 mm ~ 6 mm (0.063" ~ 0.24")

• DOP-110CG



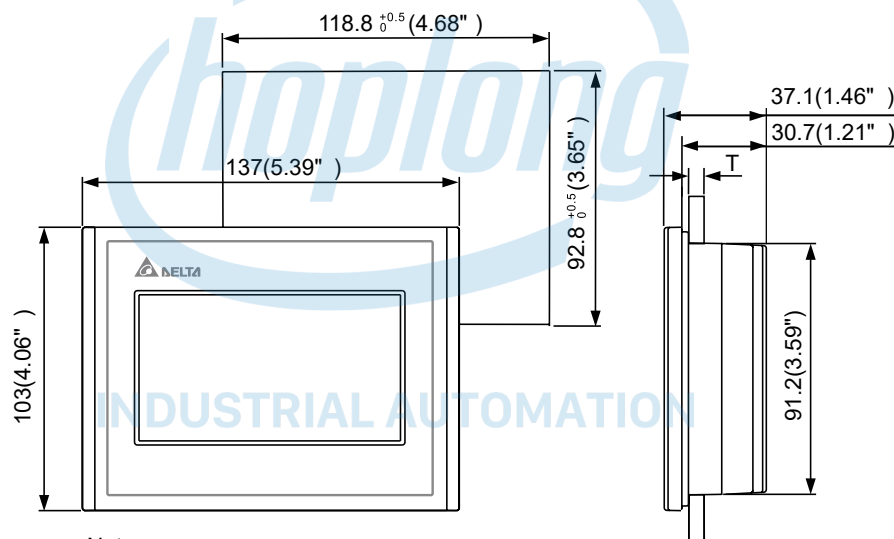
T=1.6mm(0.063")~6mm(0.24")

• DOP-107DV



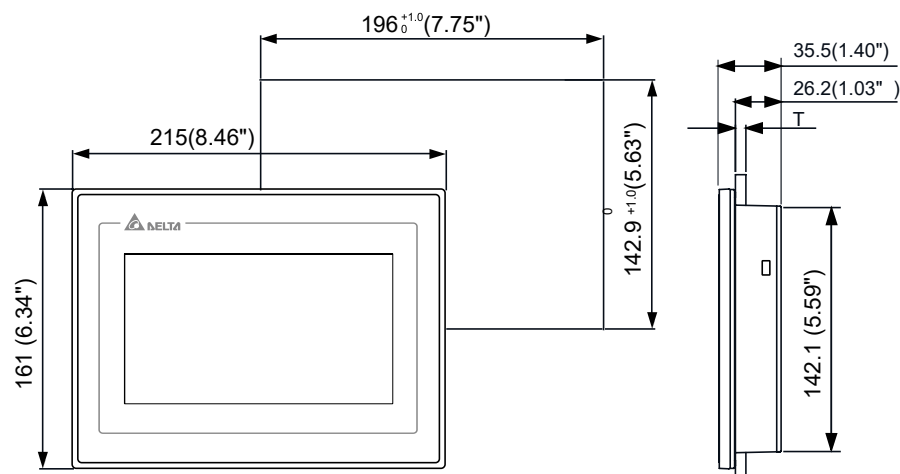
Note:
T=1.6 mm~6 mm(0.06"~0.24")

• DOP-103BQ



Note :
T=1.6mm~3mm(0.063"~0.12")

• DOP-107BV



Note:
T=1.6 mm~6 mm(0.06"~0.24")

CÔNG TY CỔ PHẦN CÔNG NGHỆ HỢP LONG



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

DELTA_IA-HMI-DOP-100_C_EN_20201230

Hotline: 1900.6536 - Website: HOPLONGTECH.COM



DOP-107SV

High color • Wide screen • User-friendly
Delta Electronics, Inc.
No.18, Xinglong Rd., Taoyuan City
33068, Taiwan

Instruction Sheet

(1) General precautions

Thank you for purchasing this product. This instruction sheet provides information about the DOP-100 series HMI. Before using this product, please read through this instruction sheet carefully to ensure the correct use of the product. Please keep this sheet handy for quick reference whenever needed. Before finishing reading this sheet, please follow the instructions below:

- Install the product in an indoor location, which is free of vapor, corrosive and inflammable gas and liquids.
- Please refer to the wiring diagram when connecting the wires.
- Ensure your HMI is correctly grounded. The grounding method must comply with the national electrical standard (please refer to NFPA 70: National Electrical Code, 2005 Ed.).
- Do not disassemble the HMI or change the wiring when power is on.
- Do not touch the power supply when power is on, or it may cause electric shock.
- When the HMI displays a low power notification and requires a battery change, please contact your local distributor or Delta Customer Service Center for the replacement. Do not change the batteries by yourself.
- This product can be used with other industrial automation equipment. Please read through this sheet carefully and install the product according to the instructions to avoid danger.
- Cleaning method: please use a dry cloth to clean the product.
- This product must be used at an altitude below 2,000 m.
- If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.
- For repair and maintenance, please contact Delta Electronics, Inc. Address: No.18, Xinglong Rd., Taoyuan City, Taiwan. TEL: +886-3-3626301.

If you have any inquiry during operation, please contact our local distributors or Delta sales representatives. The content of this instruction sheet may be revised without prior notice. Please consult our distributors or download the latest version at Delta's website (<https://www.deltaww.com/>).

(1) Précautions générales (FR)

Merci d'avoir acheté ce produit. Cette fiche d'instructions fournit des informations pour les IHM de la série DOP-100. Avant d'utiliser ce produit, lisez attentivement cette fiche d'instructions pour assurer une utilisation correcte du produit. Gardez cette fiche à portée de main pour pouvoir vous y référer rapidement en cas de besoin. Avant de terminer la lecture de cette fiche, suivez ces instructions :

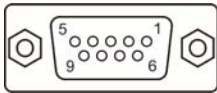
- Installez le produit dans un environnement exempt de vapeur, de gaz corrosifs et de gaz inflammables.
- Reportez-vous au schéma de câblage pour le raccordement des fils.
- Assurez-vous que ce produit est correctement mis à la terre. La méthode de mise à la terre doit être conforme aux directives des normes électriques nationales (voir NFPA 70 : National Electrical Code (Code électrique national), 2005 Ed.).
- Ne démontez pas l'IHM et ne changez pas le câblage, lorsque l'appareil est sous tension.
- Ne touchez pas à l'alimentation électrique lorsque l'appareil est sous tension, cela pourrait provoquer un choc électrique.
- Lorsque l'IHM affiche une information d'alimentation faible et nécessite un changement de batterie, contactez votre distributeur local ou le centre de service clientèle Delta pour le remplacement. Ne changez pas vous-même les batteries.
- Ce produit peut être utilisé avec d'autres équipements d'automatisation industrielle. Lisez attentivement cette fiche et installez le produit conformément aux instructions pour éviter tout danger.
- Méthode de nettoyage : nettoyez le produit à l'aide d'un chiffon sec.
- Utiliser ce produit à une altitude inférieure à 2 000 m (6,561.68 ft).
- Si l'équipement est utilisé d'une manière non spécifiée par le fabricant, la protection fournie par l'équipement risque d'être compromise.
- Pour les réparations et l'entretien, contactez Delta Electronics, Inc. Adresse : No. 18, Xinglong Rd., Taoyuan City, Taiwan. TÉL : +886-3-3626301.

Si vous avez des questions concernant le fonctionnement du programme, contactez nos distributeurs locaux ou le centre de service clientèle Delta. La fiche d'instructions peut être révisée sans préavis. Contactez nos distributeurs ou téléchargez la dernière version sur le site web de Delta à l'adresse <https://www.deltaww.com/>.

(2) Communication port pin assignment

DOP-107SV COM1

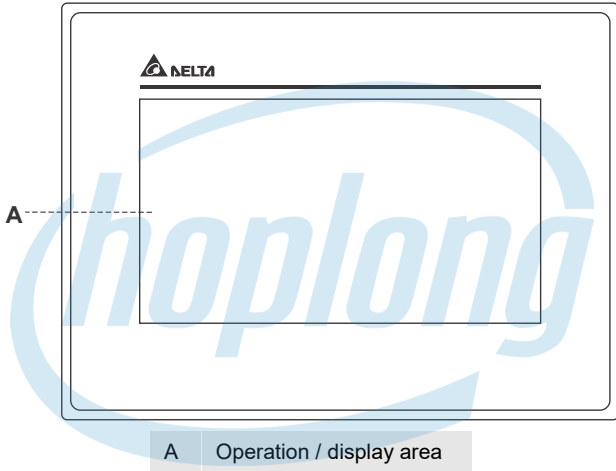
COM Port	Pin	MODE1		MODE2		MODE3	
		COM1	COM2	COM1	COM2	COM1	COM2
		RS-232	RS-485	RS-485	RS-485	RS-232	RS-422
	1	-	-	D+	-	-	TXD+
	2	RXD	-	-	-	RXD	-
	3	TXD	-	-	-	TXD	-
	4	-	D+	-	D+	-	RXD+
	5	GND		GND		GND	
	6	-	-	D-	-	-	TXD-
	7	RTS	-	-	-	RTS	-
	8	CTS	-	-	-	CTS	-
	9	-	D-	-	D-	-	RXD-



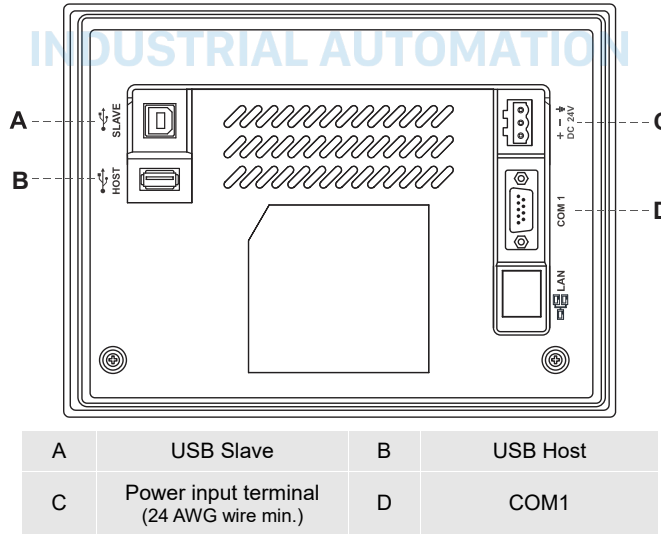
Note: mark "-" means connection is not required.

(3) Description of each part

DOP-107SV (front view)



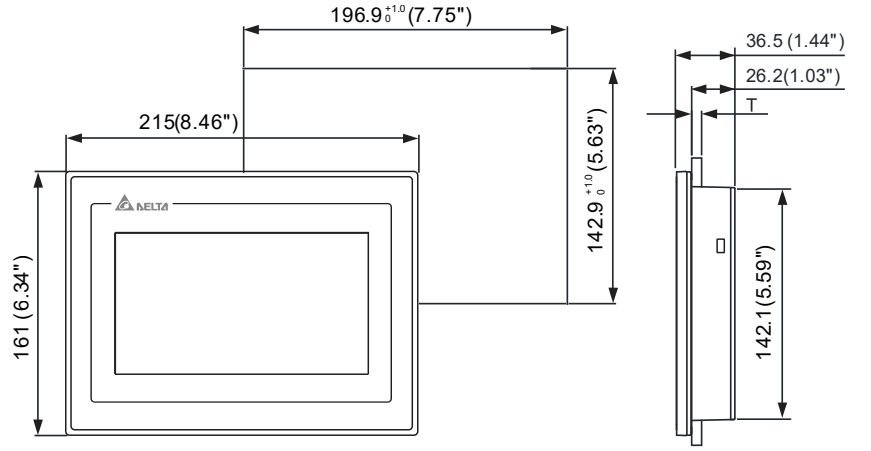
DOP-107SV (rear view)



A	USB Slave	B	USB Host
C	Power input terminal (24 AWG wire min.)	D	COM1

(4) Mounting dimensions

DOP-107SV



Note:
T=1.6 mm~6 mm(0.06"~0.24")

Unit: mm (inch)

Operation temperature: 0°C to 50°C (32°F to 122°F)
Storage temperature: -20°C to 60°C (-4°F to 140°F)

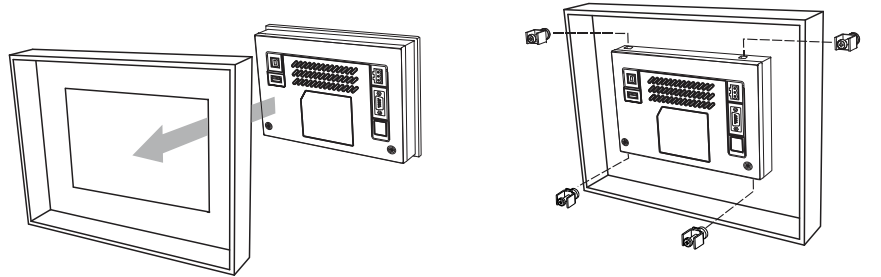
(5) Installation and wiring

Precautions:

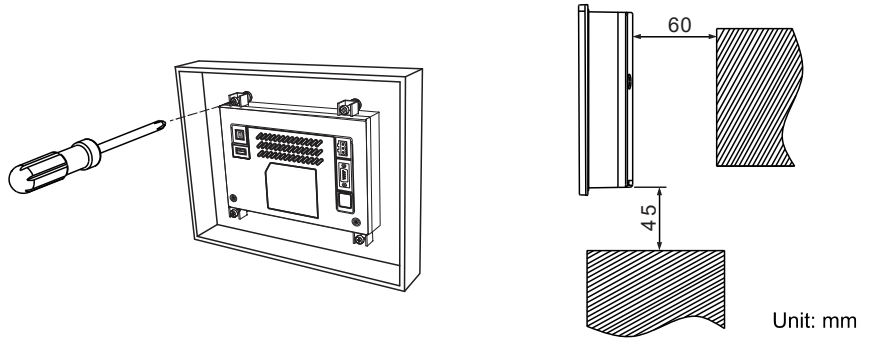
- Incorrect installation direction may result in malfunction.
- To ensure the HMI is well ventilated, make sure there is sufficient space between the HMI and the adjacent objects or walls.
- This product should be used on a case / platform which conforms to enclosure Type 4X standard (for indoor use only).
- The maximum panel thickness for mounting must be no greater than 5 mm.
- Copper conductor only.

Installation steps:

- Step 1: Put the waterproof gasket into the HMI and then insert the HMI into the panel cutout.
- Step 2: Place the fasteners into the slots and tighten the screws until reaching the panel cutouts.



- Step 3: Tighten the screws with the torque less than 0.5 N-M / 0.7 N-M to avoid damage to the plastic case.
DOP-107SV torque: 6.17 lb-inch (0.7 N-M)
- Step 4: For heat dissipation, please keep a minimum clearance of 60 mm on the rear of the HMI.



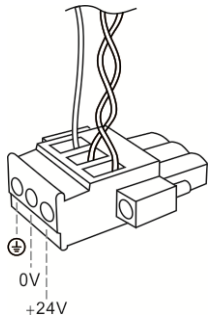
Unit: mm

Wiring:

Type	Wire gauge (AWG)	Stripped length	Torque
Solid	24 - 12	7 - 8 mm	5 kg-cm (4.3 lb-in)
Stranded	24 - 12	7 - 8 mm	5 kg-cm (4.3 lb-in)



Please refer to the following diagram when wiring the power connector. The temperature rating of the cable must be greater than 75°C (167°F).



(6) Hardware specifications

Model		DOP-107SV
Display	Panel type	7" TFT LCD (65535 colors)
	Resolution	800 x 480 pixels
	Backlight	LED backlight (half-life under room temperature 25°C > 20,000 hours) ^{*1}
	Display range	154.08 mm * 85.92 mm
	Brightness	400 cd / m² (Typ.)
CPU		ARM Cortex-A8 (800 MHz)
Flash ROM		128 Mbytes
RAM		128 Mbytes
Touchscreen		4-wire resistive touchscreen > 1,000,000 operated
Buzzer		Multi-tone frequency (2 K – 4 KHz) / 80 dB
Network interface		N/A
USB		1 USB Slave Ver 2.0; 1 USB Host Ver 2.0
SD		N/A
Serial communication port	COM1	RS-232 (supporting flow control) / RS-485 ^{*2}
	COM2	RS-422 / RS-485 ^{*2}
	COM3	N/A
Auxiliary function key		N/A
Calendar		Built-in
Cooling method		Natural cooling
Approvals		CE (please use shielding network cable and magnetic ring with the filter of 300 ohm / 100 MHz)
Panel waterproof level		IP65 (indoor use only)
Operation voltage ^{*2}		DC +24V (-15% to +15%) (please use an isolated power supply) Supplied by Class 2 or SELV circuit (isolated from MAINS by double insulation)
Leakage current		500 V _{AC} for 1 minute (between DC24V terminal and FG terminal)
Power consumption ^{*2}		8.6 W (Max) ^{*3}
Backup battery		3V lithium battery CR2032 × 1
Backup battery life		About 3 years or more at 25°C (subject to operation temperature and condition)
Operation temperature		0°C to 50°C (32°F to 122°F)
Storage temperature		-20°C to +60°C (-4°F to 140°F)
Operating environment		10% - 90% RH [0°C - 40°C], 10% - 55% RH [41°C - 50°C]; pollution degree: 2

Vibration resistance	Conforms to IEC61131-2: continuous vibration 5 Hz - 8.3 Hz with amplitude 3.5 mm; 8.3 Hz - 150 Hz with amplitude 1.0 mm
Shock resistance	Conforms to IEC60068-2-27: 11 ms, 15 G Peak, in X, Y, Z directions each for 6 times
Dimension (W) x (H) x (D) mm	215 x 161 x 36.5
Mounting dimension (W) x (H) mm	196.9 x 142.9
Weight	Approx. 700 g

Note:

1. The half-life of the backlight is defined as the maximum luminance being reduced by 50% when the maximum drive current is supplied to the HMI. The life of LED backlight shown here is estimated at the room temperature of 25°C with ambient humidity.
2. The withstand voltage of the isolated power circuit is 1500V peak for 1 minute.
3. The HMI power consumption is the power consumed when the HMI is not connecting with other peripheral devices. To ensure normal operation of the HMI, the recommended capacity of the power supply is 1.5 to 2 times of the specified power consumption.
4. Isolated power supply is recommended.
5. For DOPSoft programming software for the DOP-100 series and the user manual, you can download them at <http://www.delta.com.tw/ia>.
6. The DOP-100 series can be used with other industrial automation equipment. Please read through this sheet carefully and install the product according to the instructions to avoid danger.





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Delta Electronics, Inc.
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Bilgi Dokümanı

(1) Önsöz

Bu ürünü satın aldığınız için teşekkür ederiz. Bu bilgi dokümanı DOP-100 serileri için bilgiler sağlar. Ürünü kullanmadan önce, doğru şekilde kullanım sağlamak için lütfen dokümanı tamamen okuyunuz. Ayrıca daha sonra ihtiyaç duyulduğunda kullanabilmek için bu dokümanı iyi muhafaza ediniz. Bu dokümanı okumayı bitirdikten sonra lütfen aşağıda yazılı olan talimatları uygulayınız.

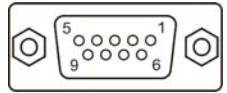
- Ürünün kurulumunu aşındırıcı, yanıcı gaz veya sıvılardan uzak, temiz ve kuru yerlere yapınız. Sadece iç mekânda kullanınız
- Tüm bağlantıların dokümanda belirtildiği gibi olduğuna emin olunuz.
- HMI toprak bağlantısının doğru olduğuna emin olunuz. Topraklama metodu uluslararası elektrik standardına uyumlu olmalıdır (NFPA 70: National Electrical Code, 2005 Ed).
- Ürün enerjili iken HMI'ı sökmeyiniz ve bağlantılara müdahale etmeyiniz.
- Çalışma sırasında güç kaynağına dokunmayınız. Aksi halde elektrik çarpması meydana gelebilir.
- HMI düşük pil uyarısı gösterirse ve pil değişimi gerekirse lütfen firmamız ile temasa geçiniz, kendiniz değiştirmeyiniz.
- DOP-100 serisi endüstriyel otomasyon ekipmanı olarak kullanılır. Lütfen bu dokümanı dikkatli okuyun ve tehlikeli durumları önlemek için ürünü belirtilen direktiflere uygun kurunuz.
- Temizleme metodu: Ürünü temizlemek için kuru bir bez kullanınız.
- Ürün 2000m altında bir rakımda kullanılmalıdır.
- Eğer ürün imalatçı tarafından belirtilmeyen bir şekilde kullanılıyorsa, ürün tarafından sağlanan koruma bozulabilir.
- Ürünle ilgili sorularınız için firmamız ile kontak kurabilirsiniz.

Ürünün kullanımı ile ilgili sorularınız için teknik servisimizle kontak kurabilirsiniz. Bu bilgi dokümanının içeriği herhangi bir bildirim gerekliliğinden değiştirilebilir. Dokümanın son versiyonunu internetten indirebilirsiniz. <http://www.deltaww.com/ta>.

(2) Haberleşme Pinleri

DOP-107SV COM1

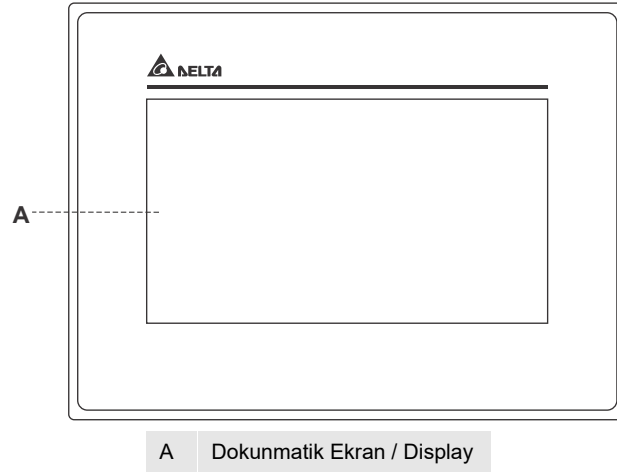
COM Port	Pin	MOD 1		MOD 2		MOD 3	
		COM1	COM2	COM1	COM2	COM1	COM2
		RS-232	RS-485	RS-485	RS-485	RS-232	RS-422
	1	-	-	D+	-	-	TXD+
	2	RXD	-	-	-	RXD	-
	3	TXD	-	-	-	TXD	-
	4	-	D+	-	D+	-	RXD+
	5	GND		GND		GND	
	6	-	-	D-	-	-	TXD-
	7	RTS	-	-	-	RTS	-
	8	CTS	-	-	-	CTS	-
	9	-	D-	-	D-	-	RXD-



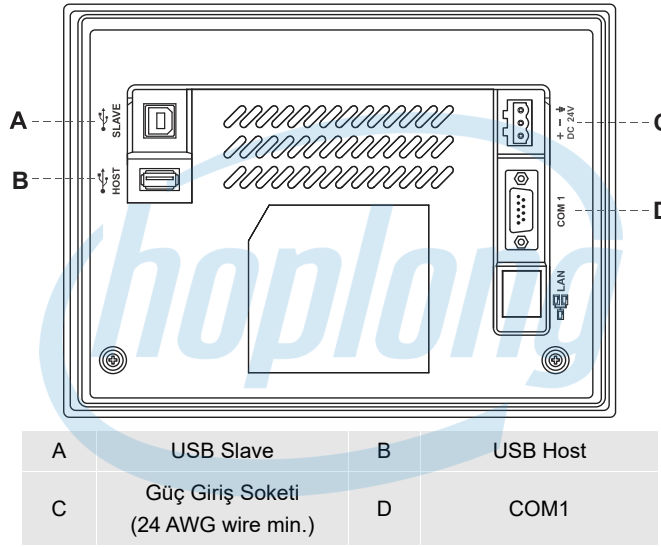
Not: “-” olarak yazılan pinlere bağlantı yapılmaz.

(3) Parça Açıklamaları

DOP-107SV (Öm Görünüm)

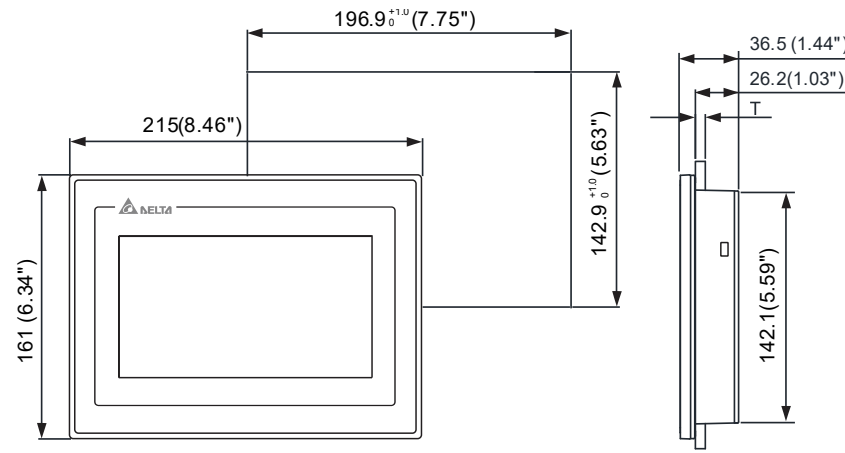


DOP-107SV (Arka Görünüm)



(4) Montaj Ölçüleri

DOP-107SV



Note:
T=1.6 mm~6 mm(0.06"~0.24")

Birim: mm (inch)

Çalışma Sıcaklığı: 0°C ~ 50°C (32°F ~ 122°F)

Depolama Sıcaklığı: -20°C ~ 60°C (-4°F ~ 140°F)

(5) Montaj ve Kablolama

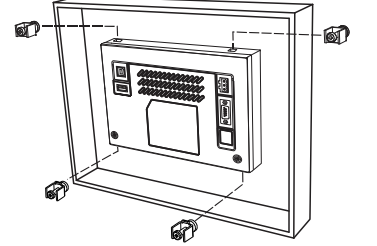
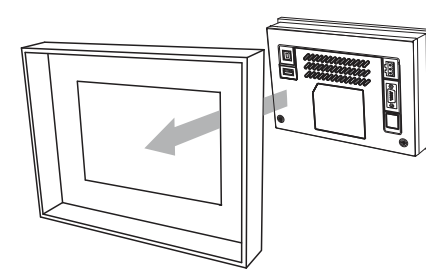
Önlemler:

- Yanlış kurulum arızalara sebep olabilir.
- HMI'in iyi havalandırıldığından emin olmak için, HMI ile yakın objeler veya duvarlar arasında yeterli boşluk olduğundan emin olun.
- Bu ürün, 4X standartına uygun bir kasa / platform (sadece kapalı alanda kullanım) üzerinde kullanılmalıdır.
- Montaj için kullanılan panelin kalınlığı 5 mm'den az olmalıdır.
- Sadece bakır kondansatör.

Montaj Adımları:

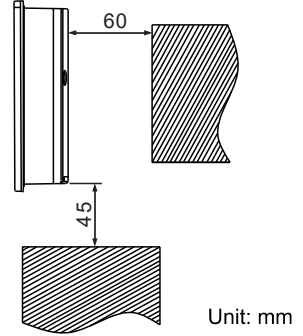
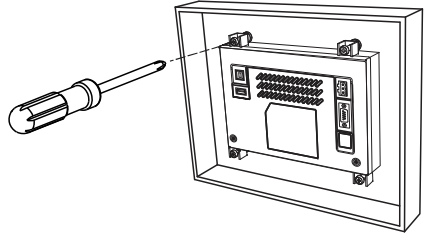
Adım 1:
HMI içine su geçirmez contanın takıldığına emin olunuz ve sonra pano boşluğuna yerleştiriniz.

Adım 2:
Montaj aparatlarını HMI'in yuvalarına yerleştiriniz ve sonra panoya değene kadar vidaları sıkınız.



Adım 3:
Plastik kasaya zarar vermemek için vidayı 0.5 N-M'den fazla 0.7 N-M'den az tork ile sıkınız. DOP-107SV Tork: 6.17 lb-inch (0.7N-M)

Adım 4:
Isı dağılımı sağlanabilmesi için HMI arka paneli ile duvar, kurulum yüzeyi veya başka kontrol cihazı ile arasında en ez 60 mm boşluk bırakınız.



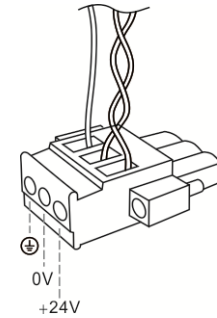
Unit: mm

Kablolama:

Tip	Kablo Ölçüsü (AWG)	Soyma Uzunluğu	Tork
Tek Damarlı	24 - 12	7 - 8 mm	5 kg-cm (4.3 lb-in)
Çok Damarlı	24 - 12	7 - 8 mm	5 kg-cm (4.3 lb-in)



Besleme konektörü bağlantısının aşağıdaki şekilde gösterildiği gibi yapıldığına emin olunuz. Kablo sıcaklık dayanım derecesi 75°C (167°F)'den yüksek olmalıdır. Please refer to the following diagram when wiring the power connector. The temperature rating of the cable must be greater than 75°C (167°F).



(6) Donanımsal Özellikler

Model		DOP-107SV
Ekran	Panel Tipi	7" TFT LCD (65535 Renk)
	Çözünürlük	800 x 480 Piksel
	Aydınlatma	LED Aydınlatma (Yarım ömürde 25°C'de 20,000 saatten az) *1
	Ekran Ölçüsü	154.08 mm * 85.92 mm
	Parlaklık	400 cd / m² (Tipik.)
CPU		ARM Cortex-A8 (800 MHz)
Flash ROM		128 Mbytes
RAM		128 Mbytes
Dokunmatik		4 kablolu Rezistif Dokunmatik Ekran > 1,000,000 dokunma
Buzzer		Multi-tone frequency (2 K – 4 KHz) / 80 dB
Ethernet Arabirimi		Yok
USB		1 USB Slave Ver 2.0; 1 USB Host Ver 2.0
SD		Yok
Seri Haberleşme Portu	COM1	RS-232 (Flow Kontrol Destekler) / RS-485 ²
	COM2	RS-422 / RS-485 ²
	COM3	Yok
Fonksiyon Tuşları		Yok
Takvim		Dahili
Soğutma Metodu		Doğal Soğutma
Sertifikalar		CE (Lütfen ekranlı Ethernet kablosu ve 300 ohm/100 MHz filtre ile manyetik halka kullanınız)
Su Geçirmezlik Seviyesi		IP65 (Bina içi kullanım içindir)
Çalışma Voltajı ²		DC +24V (-15% ~ +15%) (Lütfen dahili filtreli güç kaynağı kullanınız.) SELV ile beslenir. (Şebeke hattından çift yalıtım ile izole edilmiştir)
Kaçak Akım Dayanımı		1 dakika için 500 V _{AC} (DC24V terminal ve FG terminalleri arası)
Güç Tüketimi ²		8.6 W (Max) ³
Yedekleme Pili		3V lithium battery CR2032 × 1
Yedekleme Pil Ömrü		Normal koşullarda 25°C'de 3 yıl veya daha fazla.
Çalışma Sıcaklığı		0°C ~ 50°C (32°F ~ 122°F)
Depolama Sıcaklığı		-20°C ~ +60°C (-4°F ~ 140°F)
Çalışma Ortamı		10% ~ 90% RH [0°C - 40°C], 10% ~ 55% RH [41°C - 50°C]; Kirlenme Derecesi: 2
Titreşim Direnci		IEC61131-2 ile uyumlu; Sürekli: 5 Hz ~ 8.3 Hz 3.5 mm, 8.3 Hz ~ 150 Hz 1 G
Şok Direnci		IEC60068-2-27 ile uyumlu: 11 ms, 15 G Pik, X, Y, Z yönünde 6 kere
Ölçüleri (G) x (Y) x (D) mm		215 x 161 x 36.5
Kurulum Ölçüleri (G) x (Y) mm		196.9 x 142.9
Ağırlık		Yaklaşık. 700 g

- Not:
- Arka ışık yarı-ömrü maksimum besleme akımı HMI'ya uygulandığında orijinal parlaklığın %50 oranında azaltılmış olması olarak tanımlanır. Burada gösterilen LED aydınlatma ömrü 25°C normal sıcaklık ve nem koşullarında tahmini bir değerdir.
 - İzoleli güç devresi dayanma voltajı 1 dakika için 1500 V pik.
 - HMI güç tüketimi herhangi bir cihaza bağlı değil iken tükettiği güçtür. Normal çalışma için tavsiye edilen güç kaynağı tüketilen gücün 1.5 ~ 2 katıdır.
 - İzoleli güç kaynağı kullanılması tavsiye edilir.
 - DOP-100 serisi ürünlerin program editörü olan DOPSoft programı ve kullanıcı manuel'i web sayfamızdan indirilebilirsiniz. <http://www.deltaww.com/ia>.
 - DOP-100 serisi endüstriyel otomasyon donanımı olarak kullanılabilir. Tehlikeleri önlemek için bu bilgi dokümanını dikkatlice okuyun ve belirtilen direktiflere göre kurulumu gerçekleştirin.

Delta Greentech Elektronik San. Ltd. Şti.

Şerifali Mahallesi, Hendem Caddesi, Kule Sokak, No:16,
A Blok Ümraniye / İstanbul, Türkiye

TEL: +90 216 499 99 10 Fax: + 90 216 499 80 70

Website: www.delta-turkey.com

Factory information:

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Taiwan China*

31-1 Xingbang Road,
Gulshan Industrial Zone,
Taoyuan County 33370,
Taiwan
TEL: 886-3-362-6301
FAX: 886-3-362-7267

1686 Jiangxing East Road,
Wujiang Economic Development Zone
Wujiang City, Jiang Su Province,
People's Republic of China (Post code: 215200)
TEL: 86-512-6340-3006
FAX: 86-769-6340-7290

CÔNG TY CỔ PHẦN CÔNG NGHỆ HỢP LONG



INDUSTRIAL AUTOMATION

Hotline: 1900.6536 - Website: HOPLONGTECH.COM



2022-04-15



5014116901-SS01

高彩・寬螢幕・友善人機介面

Delta Electronics, Inc,
No.18, Xinglong Rd., Taoyuan City
33068, Taiwan

DOP-107SV

安裝說明

(1) 一般注意事項

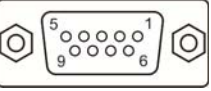
感謝您使用本產品，本人機介面安裝說明書提供 DOP-100 系列人機介面的相關資訊。在使用之前，請您仔細詳讀本說明書以確保正確使用本產品。此外，請妥善將本說明書放置在明顯的地點以便隨時查閱。在您尚未讀完本說明書前，請務必遵守下列事項：

- 安裝的環境必須為沒有水氣、腐蝕性氣體及可燃性氣體之室內安裝環境 (indoor use only)。
- 接線時，請依接線圖說明施工。
- 接地工程必須確實實施，接地時須遵照國家現行相關電工法規之規定施行 (請參考 NFPA 70: National Electrical Code, 2005 Ed.)。
- 在通電時，請勿拆解人機介面或更改配線。
- 在通電運作時，請勿接觸電源處，以免觸電。
- 當程式顯示電量不足時須更換電池並請聯絡台達電子或當地經銷商，請勿自行更換。
- 此產品適用於工業自動化設備，請詳細閱讀此說明，並依指示安裝避免產生危險。
- 清潔方式：請以乾布擦拭清潔。
- 適用之海拔高度為 2000 米以下。
- 若使用本設備時未遵循製造商所訂定之規格，將導致本設備所提供的保護功能受損。
- 維修請聯絡: 台達電子工業股份有限公司，台灣桃園市興隆路 18 號，TEL: 03-3626301。

如果您在使用上仍有問題，請洽詢經銷商或者本公司客服中心。由於產品精益求精，當內容規格有所修正時，請洽詢代理商或至台達網站(<http://www.deltaww.com/ia>)下載最新版本。

(2) 通訊腳位定義

DOP-107SV COM1 定義

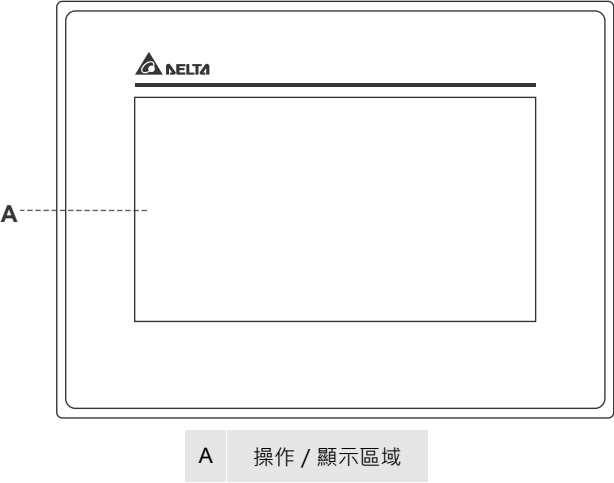
COM Port 示意图	脚位	MODE1		MODE2		MODE3	
		COM1	COM2	COM1	COM2	COM1	COM2
		RS-232	RS-485	RS-485	RS-485	RS-232	RS-422
	1	-	-	D+	-	-	TXD+
	2	RXD	-	-	-	RXD	-
	3	TXD	-	-	-	TXD	-
	4	-	D+	-	D+	-	RXD+
	5	GND		GND		GND	
	6	-	-	D-	-	-	TXD-
	7	RTS	-	-	-	RTS	-
	8	CTS	-	-	-	CTS	-
	9	-	D-	-	D-	-	RXD-

註：未標示處不需連接

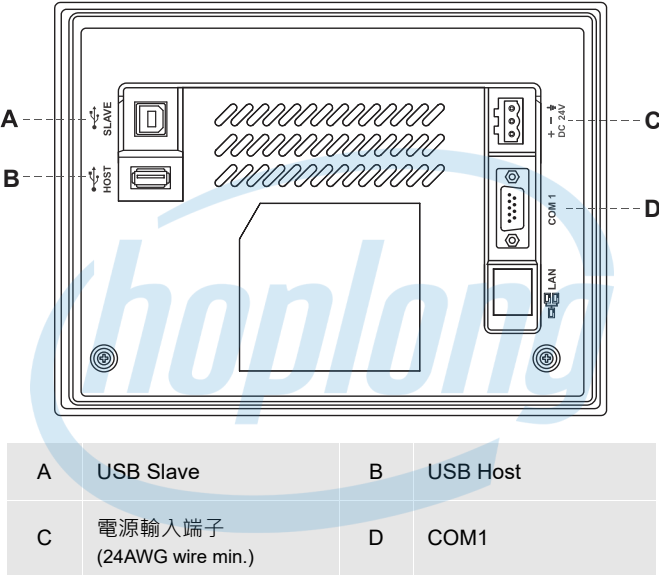
(3) 各部位說明

CÔNG TY CỔ PHẦN CÔNG NGHỆ HỢP LONG

DOP-107SV (正面)

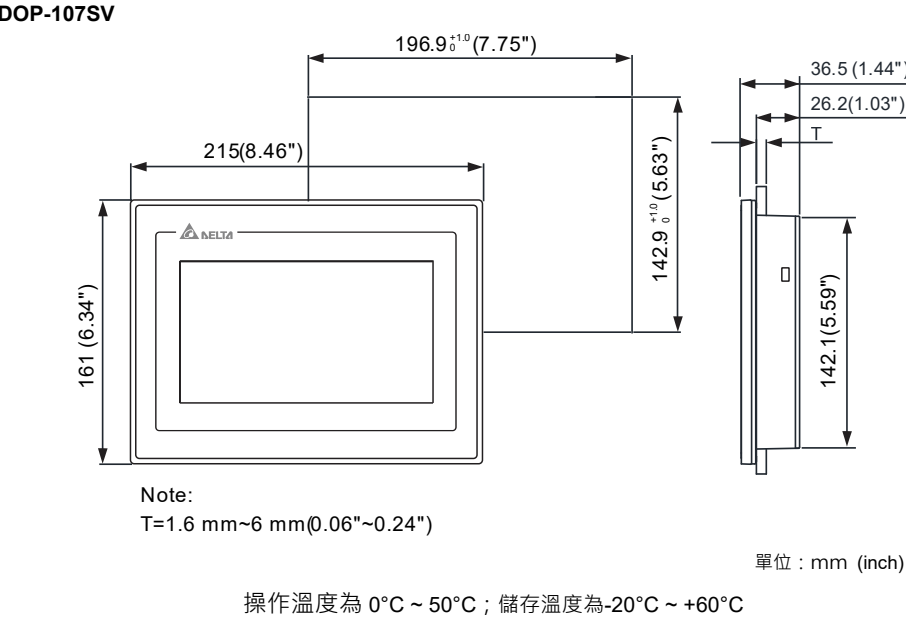


DOP-107SV (背面)



(4) 開孔尺寸

INDUSTRIAL AUTOMATION



(5) 安裝方向與配線

注意事項：

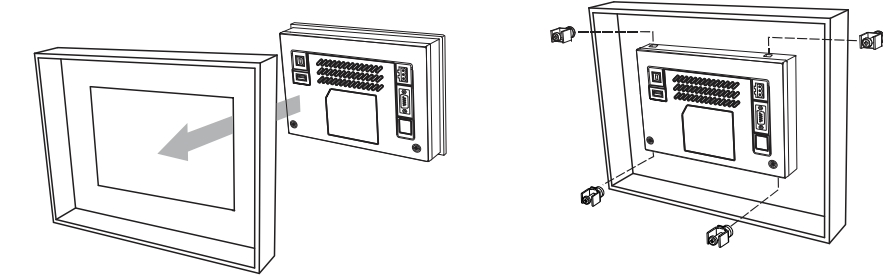
- 安裝方向必須依規定，否則會造成故障。
- 為了使冷卻循環效果良好，安裝人機介面時，其上下左右與相鄰的物品和擋板(牆)必須保持足夠的空間，否則會造成散熱不良。
- 使用於 Type 4X 室內用等級之外殼平面。
- 安裝面板最大板厚請勿超過 5 mm。
- 請用銅製導線。

安裝示意圖：

- 步驟一：

請確實將防水墊圈裝入，然後再安裝人機介面。
- 步驟二：

請確實將固定片螺絲組裝入內，然後下方鉤住前蓋螺絲頭頂住控制箱內側。

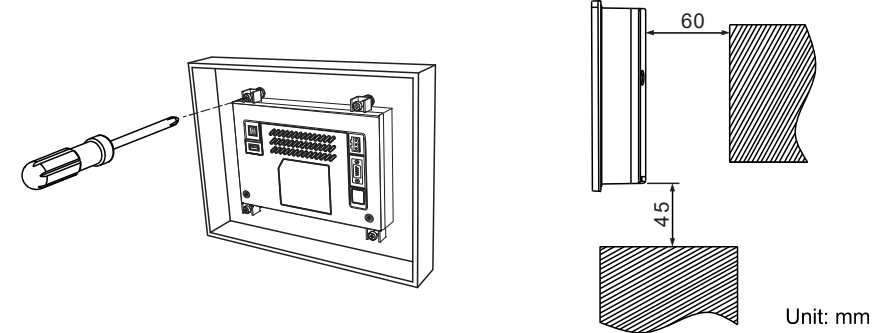


- 步驟三：

請以 0.5 N-M / 0.7 N-M 扭力鎖緊，切記不可超過此扭力，否則將造成塑膠外殼的損壞。

DOP-107SV 扭力：6.17 lb-inch (0.7N-M)
- 步驟四：

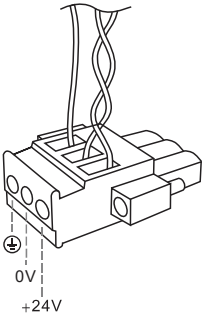
安裝時，人機後方及下方請各預留 60 mm 與 45 mm 的散熱空間。



配線：

種類	電源配線(AWG)	剝線長度	扭力
單芯線	24 ~ 12	7 ~ 8 mm	5 kg-cm (4.3 lb-in)
多芯線	24 ~ 12	7 ~ 8 mm	5 kg-cm (4.3 lb-in)

 請參考下圖電源接頭端子進行配線，安裝與配線要求至少使用耐溫等級 75°C 以上：



(6) 硬體規格

型號		DOP-107SV
顯示器	面板種類	7" TFT LCD (65535 色)
	解析度	800 x 480 pixels
	背光燈	LED Back Light (常溫 25°C 下半衰期 > 2 萬小時) ^{*1}
	顯示範圍	154.08 mm * 85.92 mm
	亮度	400 cd / m² (Typ.)
中央處理器		ARM Cortex-A8 (800MHz)
Flash ROM		128 Mbytes
RAM		128 Mbytes
觸控面板		四線電阻式 > 1,000,000 operated
蜂鳴器		Multi-Tone Frequency (2K ~ 4K Hz) / 80dB
網路介面		N/A
USB		1 USB Slave Ver 2.0 ; 1 USB Host Ver 2.0
SD		N/A
串列通訊埠	COM1	RS-232 (支援流量控制) / RS485 ^{*2}
	COM2	RS-422 / RS-485 ^{*2}
	COM3	N/A
輔助鍵		N/A
萬年曆		內建
冷卻方式		自然冷卻
安規認證		CE (請使用 shielding 網路線與使用磁環 300 ohm / 100 MHz 濾波)
面板防水等級		IP65 (僅限用於室內環境)
工作電壓 ^{*2}		DC +24V (-15% ~ +15%) (請使用隔離式電源供應器) Supplied by Class 2 or SELV circuit (isolated from MAINS by double insulation)
絕緣耐力		DC24V 端子與 FG 端子間：AC500V, 1 分鐘
消耗功率 ^{*3}		8.6 W (Max) ^{*3}
記憶體備份電池		3V 鋰電池 CR2032 × 1
備份電池壽命		依使用環境溫度及使用條件而不同・常溫 25°C 下壽命約三年以上
操作溫度		0°C ~ 50°C
儲存溫度		-20°C ~ +60°C
工作環境		10% ~ 90% RH [0 ~ 40°C]・10% ~ 55% RH [41 ~ 50°C]・污染等級 2
耐震動		IEC61131-2 規定連續震動 5 Hz ~ 8.3 Hz 3.5 mm, 8.3 Hz ~ 150 Hz 1G
耐衝擊		IEC60068-2-27 規定耐衝擊 11 ms, 15G Peak, X, Y, Z 方向各 6 次
尺寸 (W) x (H) x (D) mm		215 x 161 x 36.5
開孔尺寸 (W) x (H) mm		196.9 x 142.9
重量		約 700 g

- 註：
1. 背光模組半衰期的定義：最大驅動電流下，背光亮度衰退到最大亮度的一半時，即為半衰期。所標示之壽命時間為 25°C 常溫常濕工作環境下之預估值。
 2. 隔離電路耐受規格：可承受 1 分鐘 1500 V 高壓突波。
 3. 消耗功率為無外接週邊設備時，人機本體所消耗的功率。建議選用的電源供應器容量為標示消耗功率之 1.5 ~ 2 倍，以確保人機工作正常。
 4. 建議使用隔離式電源供應器。
 5. DOP-100 系列編輯軟體 DOPSoft 系列及其使用操作手冊，可由台達網站下載取得，網址為 <http://www.deltaww.com/ia>。
 6. DOP-100 系列適用於工業自動化設備，請詳細閱讀此說明，並依指示安裝避免產生危險。

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Hotline: 1900.6536 - Website: HOPLONGTECH.COM



2022-04-15



5014116901-SS01

高彩·宽屏幕·友好人机界面

Delta Electronics, Inc,
No.18, Xinglong Rd., Taoyuan City
33068, Taiwan

DOP-107SV

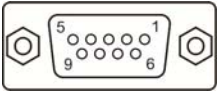
安装说明

- (1) 一般注意事项
- 感谢您使用本产品，本人机界面安装说明书提供 DOP-100 系列人机界面的相关信息。在使用之前，请您仔细阅读本说明书以确保正确使用本产品。此外，请妥善将本说明书放置在明显的地点以便随时查阅。在您尚未读完本说明书前，请务必遵守下列事项：
- 安装的环境必须为没有水气、腐蚀性气体及可燃性气体的室内安装环境 (indoor use only)。
 - 接线时，请依接线图说明施工。
 - 接地工程必须确认实施，接地时须遵照国家现行相关电工法规的规定施行 (请参考 NFPA 70: National Electrical Code, 2005 Ed.)。
 - 在通电时，请勿拆解人机界面或更改配线。
 - 在通电运作时，请勿接触电源处，以免触电。
 - 当程式显示电量不足时须更换电池并请联络台达电子或当地经销商，请勿自行更换。
 - 此产品适用于工业自动化设备，请仔细阅读此说明，并依指示安装避免产生危险。
 - 清洁方式：请用干布擦拭清洁。
 - 适用于海拔高度为 2000 米以下。
 - 若使用本设备时未遵循制造商所制定的规格，将导致本设备所提供的保护功能受损。
 - 维修请联络: 台达电子工业股份有限公司，台湾桃园市兴隆路 18 号，TEL: 03-3626301。

如果您在使用上仍有问题，请咨询经销商或者本公司客服中心。由于产品精益求精，当内容规格有所修改时，请咨询代理商或至台达网站(<http://www.deltaww.com/ia>)下载最新版本。

(2) 通讯脚位定义

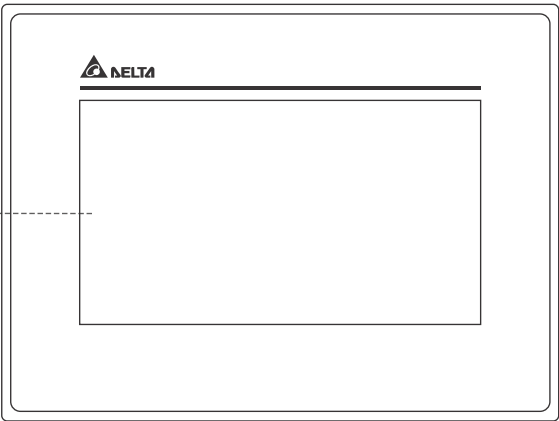
DOP-107SV COM1 定义

COM Port 示意图	脚位	MODE1		MODE2		MODE3	
		COM1	COM2	COM1	COM2	COM1	COM2
		RS-232	RS-485	RS-485	RS-485	RS-232	RS-422
	1	-	-	D+	-	-	TXD+
	2	RXD	-	-	-	RXD	-
	3	TXD	-	-	-	TXD	-
	4	-	D+	-	D+	-	RXD+
	5	GND		GND		GND	
	6	-	-	D-	-	-	TXD-
	7	RTS	-	-	-	RTS	-
	8	CTS	-	-	-	CTS	-
	9	-	D-	-	D-	-	RXD-

注：未标示处不需连接

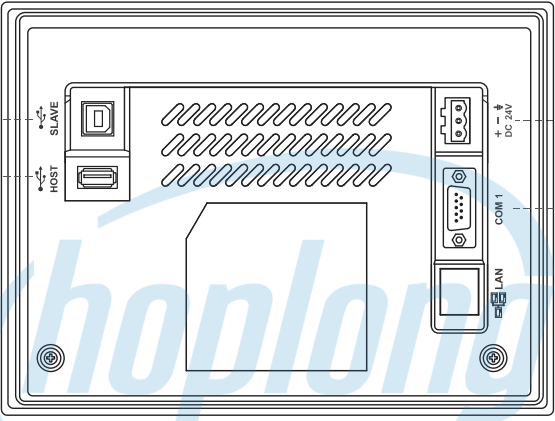
(3) 各部位说明

DOP-107SV (正面)



A 操作 / 显示区域

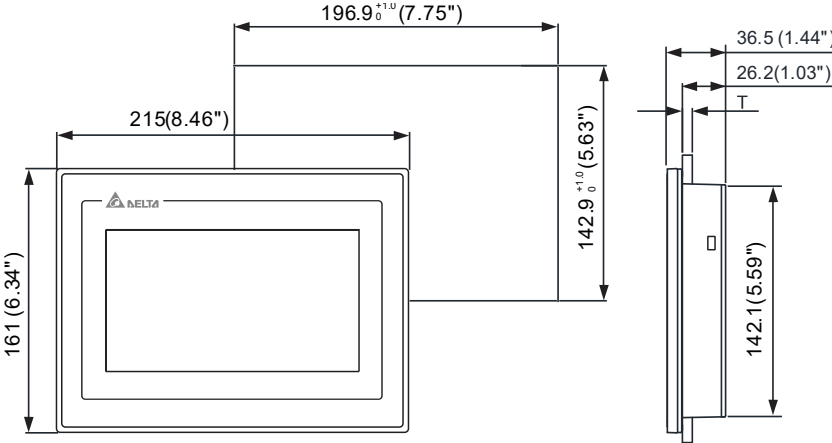
DOP-107SV (背面)



A	USB Slave	B	USB Host
C	电源输入端子 (24AWG wire min.)	D	COM1

(4) 开孔尺寸

DOP-107SV



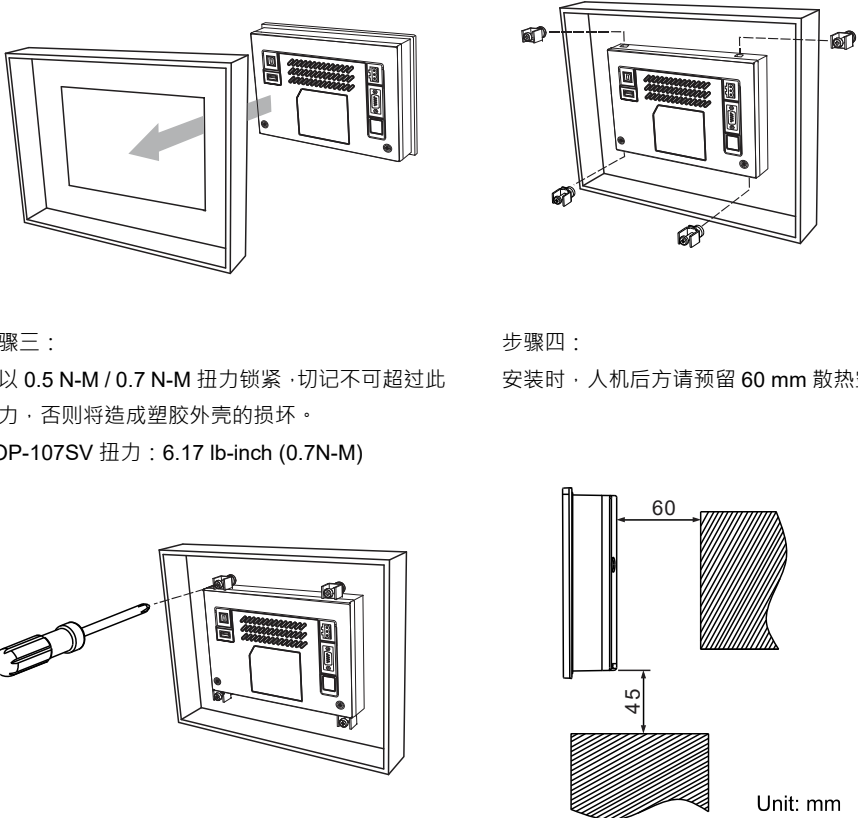
Note:
T=1.6 mm~6 mm(0.06"~0.24")

单位：mm (inch)

操作温度为 0℃ ~ 50℃；储存温度为-20℃ ~ +60℃

- (5) 安装方向与配线
- 注意事项：
- 安装方向必须依规定，否则会造成故障。
 - 为了使冷却循环效果良好，安装人机界面时，其上下左右与相邻的物品和挡板(墙)必须保持足够的空间，否则会造成散热不良。
 - 使用于 Type 4X 室内用等级的外壳平面。
 - 安装面板最大板厚请勿超过 5 mm。
 - 请用铜制导线。
- 安装示意图：
- 步骤一：
请确实将防水垫圈装入，然后再安装人机界面。

步骤二：
请确认将固定片螺丝组装入内，然后下方钩住前盖螺丝头顶住控制箱内侧。



步骤三：
请以 0.5 N-M / 0.7 N-M 扭力锁紧，切记不可超过此扭力，否则将造成塑胶外壳的损坏。

步骤四：
安装时，人机后方请预留 60 mm 散热空间。

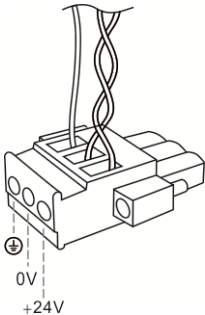
DOP-107SV 扭力：6.17 lb-inch (0.7N-M)

Unit: mm

配线：

种类	电源配线(AWG)	剥线长度	扭力
单芯线	24 ~ 12	7 ~ 8 mm	5 kg-cm (4.3 lb-in)
多芯线	24 ~ 12	7 ~ 8 mm	5 kg-cm (4.3 lb-in)

 请参考下图电源接头端子进行配线，安装与配线要求至少使用耐温等级 75℃ 以上：



(6) 硬体规格

型号		DOP-107SV
显示器	面板种类	7" TFT LCD (65535 色)
	解析度	800 x 480 pixels
	背光灯	LED Back Light (常温 25°C 下半衰期 > 2 万小时) ^{*1}
	显示范围	154.08mm * 85.92mm
	亮度	400 cd / m² (Typ.)
中央处理器		ARM Cortex-A8 (800MHz)
Flash ROM		128 Mbytes
RAM		128 Mbytes
触控面板		四线电阻式 > 1,000,000 operated
蜂鸣器		Multi-Tone Frequency (2K ~ 4K Hz) / 80dB
网络界面		N/A
USB		1 USB Slave Ver 2.0 ; 1 USB Host Ver 2.0
SD		N/A
串口通讯端口	COM1	RS-232 (支援流量控制) / RS485 ^{*2}
	COM2	RS-422 / RS-485 ^{*2}
	COM3	N/A
辅助键		N/A
实时时钟		内建
冷却方式		自然冷却
安规认证		CE (请使用 shielding 网络线与使用磁环 300 ohm / 100 MHz 滤波)
面板防水等级		IP65 (仅限用于室内环境)
工作电压 ^{*2}		DC +24V (-15% ~ +15%) (请使用隔离式电源供应器) Supplied by Class 2 or SELV circuit (isolated from MAINS by double insulation)
绝缘耐力		DC24V 端子与 FG 端子间：AC500V, 1 分钟
消耗功率 ^{*2}		8.6 W (Max) ^{*3}
存储器备份电池		3V 锂电池 CR2032 × 1
备份电池寿命		依使用环境温度及使用条件而不同・常温 25°C 下寿命约三年以上
操作温度		0°C ~ 50°C
储存温度		-20°C ~ +60°C
工作环境		10% ~ 90% RH [0 ~ 40°C]・10% ~ 55% RH [41 ~ 50°C]・污染等级 2
耐震动		IEC61131-2 规定连续震动 5 Hz ~ 8.3 Hz 3.5 mm, 8.3 Hz ~ 150 Hz 1G
耐冲击		IEC60068-2-27 规定耐冲击 11 ms, 15G Peak, X, Y, Z 方向各 6 次
尺寸 (W) x (H) x (D) mm		215 x 161 x 36.5
开孔尺寸 (W) x (H) mm		196.9 x 142.9
重量		约 700 g

- 注：
- 背光模组半衰期的定义：最大驱动电流下，背光亮度衰退到最大亮度的一半时，即为半衰期。所标示的寿命时间为 25°C 常温常湿工作环境下的预估值。
 - 隔离电路耐受规格：可承受 1 分钟 1500 V 高压突波。
 - 消耗功率为无外接周边设备时，人机本体所消耗的功率。建议选用的电源供应器容量为标示消耗功率的 1.5 ~ 2 倍，以确保人机工作正常。
 - 建议使用隔离式电源供应器。
 - DOP-100 系列编辑软体 DOPSoft 系列及其使用操作手册，可由台达网站下载取得，网址为 <http://www.deltaww.com/ia>。
 - DOP-100 系列适用于工业自动化设备，请仔细阅读此说明，并依指示安装避免产生危险。

有害物质 - Hazardous Substances						
部件名称 Part Name	铅(Pb)	汞(Hg)	镉(Cd)	六价铬 (Cr Vi)	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
金属部件 Metal Part	X	O	O	O	O	O
塑料部件 Plastic Part	O	O	O	O	O	O
电子件 Electronic	X	O	O	O	O	O
触点 Contacts	O	O	X	O	O	O
线缆和线缆附件 Cable & Cabling accessories	X	O	O	O	O	O
电池 Battery	O	O	O	O	O	O
本表格依据 SJ/T 11364 的规定编制。 O：表示该有害物质在该部件所有均质材料中的含量均在 GB/T 26572 规定的限量要求以下。 X：表示该有害物质至少在该部件的某一均质材料中的含量超出 GB/T 26572 规定的限量要求。 This table is made according to SJ/T 11364. O: Indicates that the concentration of hazardous substance in all of the homogeneous materials for this part is below the limit as stipulated in GB/T 26572. X: Indicates that concentration of hazardous substance in at least one of the homogeneous materials used for this part is above the limit as stipulated in GB/T 26572.  5014052100						