Automation for a Changing World

Delta Advanced Ethernet Human Machine Interface DOP-100 Series

Smarter. Greener. Together.

Connect Your Work, Step into the Cloud

The new advanced Delta Ethernet Human Machine Interface DOP-100 Series adopts the
panel with high brightness, high contrast and high color. With the coming era of Ind
popular. For customers that are beginning to step into the cloud, the complete DOP-100
communication functions, including FTP, e-mail, VCN remote monitoring, and NTP (Net
16 languages* input to achieve localized operation for global customers.

With advanced communication capabilities and enhanced functions, the DOP-100 Series
to bring "Automation for a Changing World" to our customers.

* Supports 16 languages input: English, Traditional Chinese, Simplified Chinese, French, German, Russian, Japanese, Kore

e latest Cortex-A8 high-speed processor and display
dustrial 4.0, cloud applications are becoming more
0 Series features built-in Ethernet and other network
work Time Protocols). The DOP-100 Series supports

s elevates machine efficiency with more value-added

ean, Spanish, Portuguese, Hindi, Turkish, Arabic, Persian, Italian and Polish

Table of Contents

DELTA

Design

Compact Design

▶ More compact with narrow frame and lighter case to save installation space

30% Narrowed Frame
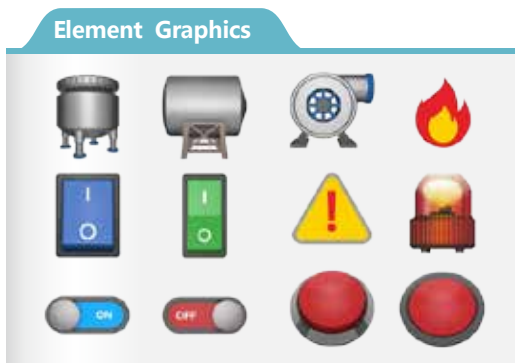
30.1mm   20.8mm

Old HMI Model

Bright and Colorful Display

▶ New LCD panel with high brightness and high contrast display for colorful and vivid operation

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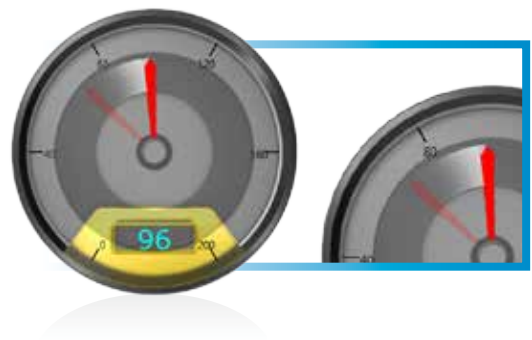
▶ Abundant built-in element graphics for vivid interface display for a variety of industrial applications

Element Graphics

Smooth Animation

▶ New smooth animation technology for realistic dashboard display

Power Isolation

▶ Complete series with built-in power isolation circuits provides the most complete protection against accidental external spikes
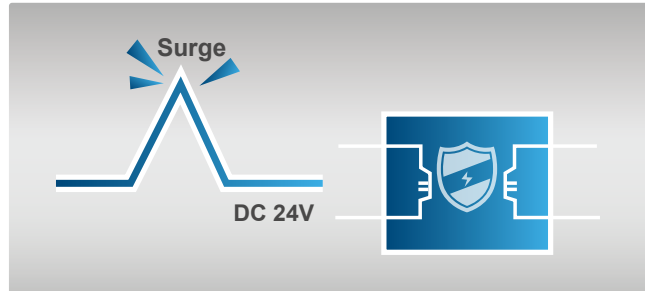
Fully Isolated Communication Interface

▶ 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

▶ Ensures stable operation and communication quality

PCB Coating

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

Moisture Proof Layer

Dust Proof Layer
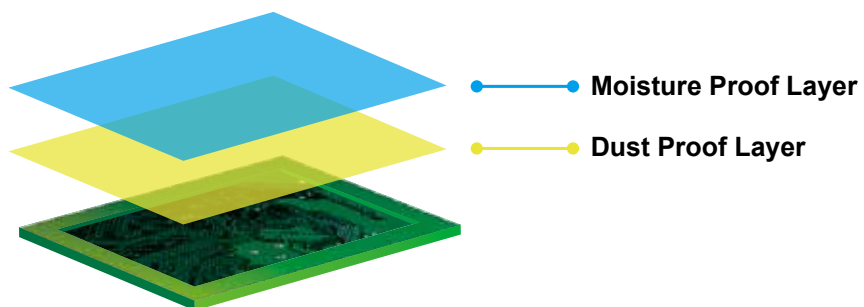
Strengthened Functions

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

Alarm Sorting
Alarm sorting via "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

Versatile Alarm Triggering Conditions
Triggering conditions can be setup via 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

Alarm

Email

SSL

Office

▶ 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

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"

Alarm Ordering

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

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

Order by Recover time
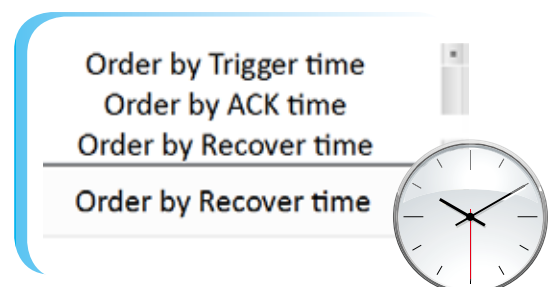
Historical Data

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

Bit On Output   **Data Backup**
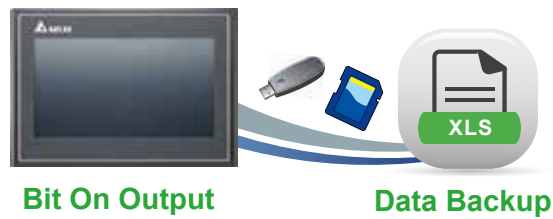
⊙ Save As Mul		
File Date		
None ▼	%m ▼	%d ▼
File Time		
%H ▼	%M ▼	None ▼
File Name	DOP	
Saving trigger	$175.0	...

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
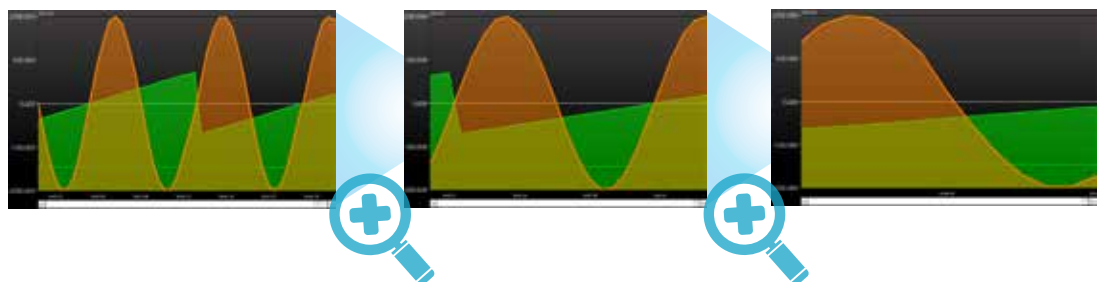
Recipes

▶ 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
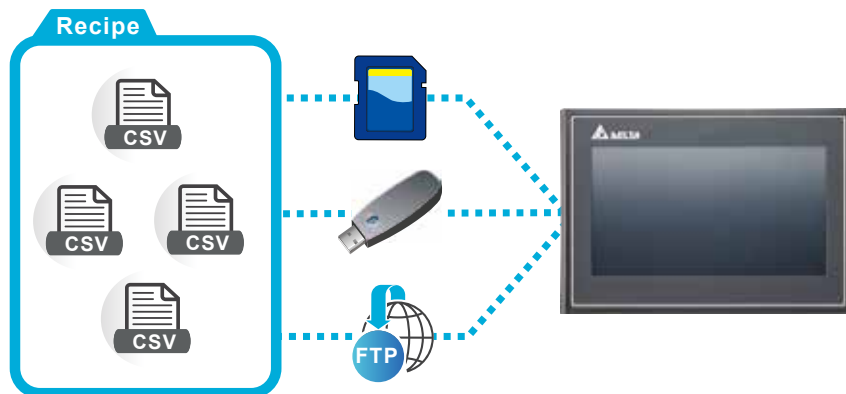
PDF for Data Review

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

Strengthened Functions

Multi-language Input

▶ Localized operation with 16 languages input for recipe context / note and account / password

Supports English, Traditional Chinese, Simplified Chinese, French, German, Russian, Japanese, Korean, Spanish, Portuguese, Hindi, Turkish, Arabic, Persian, Italian and Polish input

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

Account and Password

7

Number	Account	Password
1	MANAGER	7777
2	GERENTE	7777
3	經理	7777
4	MÜDÜR	7777
5	課長	7777

Login

☐ Security Login

Account   manager

Password   *********

OK

Operation Log

▶ Operation log for different user accounts to trace/analyze possible causes of malfunctions

▶ Provides a comprehensive information for managers to analyze the operating habits of different users and improve efficiency

Time	Date	User	Level	Screen	Action	Address	Pre Value	Change Value	Description
19:22:18	2016.12.02	MANAGER	7	Screen_6	Goto Scrn		6	1	换道旦_006
19:22:20	2016.12.02	MANAGER	7	Screen_1	Goto Scrn		1	10	换道旦_001
19:22:24	2016.12.02	MANAGER	7	Screen_10	Set Val	$S1.1	1	0	交件型_003
19:22:27	2016.12.02	MANAGER	7	Screen_10	Goto Scrn		10	1	换道旦_006
19:22:30	2016.12.02	MANAGER	7	Screen_1	Goto Scrn		1	7	换道旦_001
19:22:57	2016.12.02	MANAGER	7	Screen_7	Set Val	$20	-730	-698	數值輸入_0
19:23:02	2016.12.02	MANAGER	7	Screen_7	Goto Scrn		7	1	换道旦_006
19:23:05	2016.12.02	MANAGER	7	Screen_1	Goto Scrn		1	6	换道旦_001
19:23:47	2016.12.02	MANAGER	7	Screen_6	Level Switch		7	4	密码輸入_0
19:23:52	2016.12.02	OPERATOR	4	Screen_6	Goto Scrn		6	1	换道旦_006
19:23:55	2016.12.02	OPERATOR	4	Screen_1	Goto Scrn		1	3	换道旦_001
19:24:03	2016.12.02	OPERATOR	4	Screen_3	Set Val	ENRCP10	12ED	65AE	數值輸入_0
19:24:09	2016.12.02	OPERATOR	4	Screen_3	Set Val	ENRCP11	456.32	125.93	數值輸入_0
19:24:14	2016.12.02	OPERATOR	4	Screen_3	Set Val	ENRCP17	400	452	數值輸入_0
19:24:15	2016.12.02	OPERATOR	4	Screen_3	Goto Scrn		3	1	换道旦_006
19:24:17	2016.12.02	OPERATOR	4	Screen_1	Goto Scrn		1	6	换道旦_001

Cloud Integration

## FTP Server

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

FTP Client

PDF
Recipe
Historical Data
Operation Log
Alarm

Ethernet

FTP Server

FTP Server
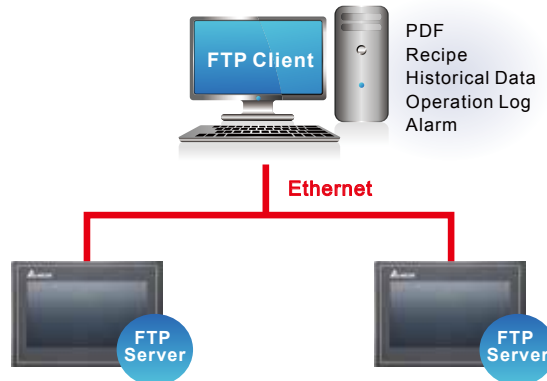
VNC Server

▶ 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

Windows

iOS

VNC Server

Android
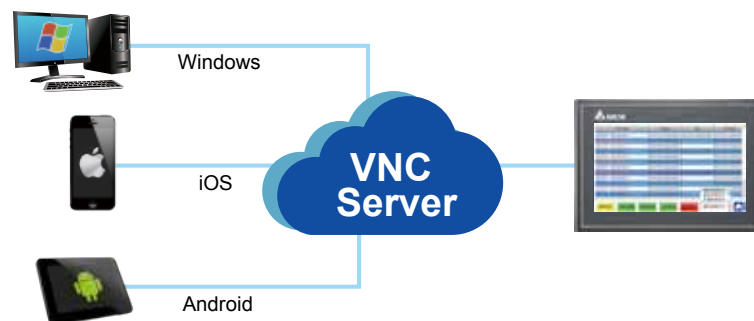
Web Monitoring

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

Name	Value	Type	Action
CH1	306	FLOAT DWORD	Write
CH2	-800	FLOAT DWORD	Write
ALARM	20	UNSIGNED WORD	Write

Delta HMI Remote Monitoring
1

Copyright(C) Delta Electronics, Inc. 2016. All rights reserved

DELTA

Ordering Information

DOP - 1 07 WV

【Product Name】
DOP: Delta Operation Panel

【Series】
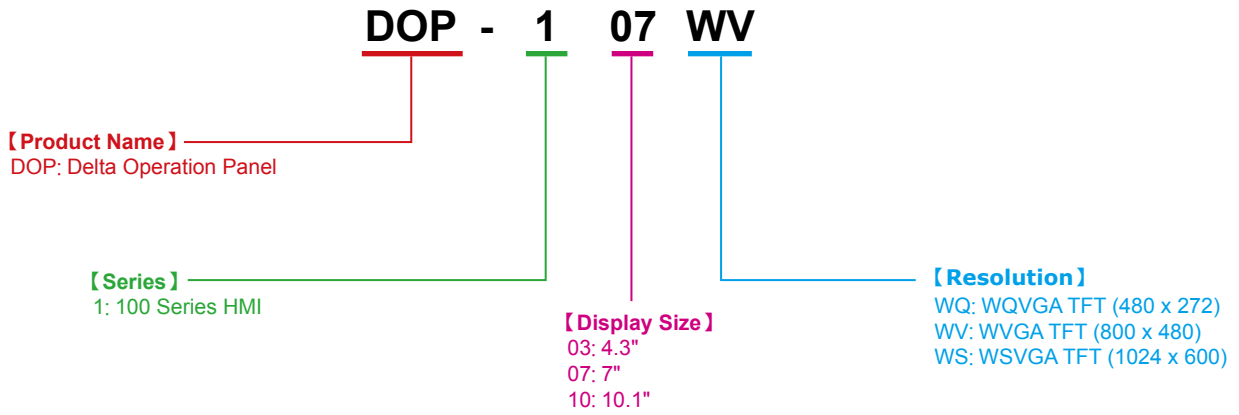1: 100 Series HMI

【Display Size】
03: 4.3"
07: 7"
10: 10.1"

【Resolution】
WQ: WQVGA TFT (480 x 272)
WV: WVGA TFT (800 x 480)
WS: WSVGA TFT (1024 x 600)
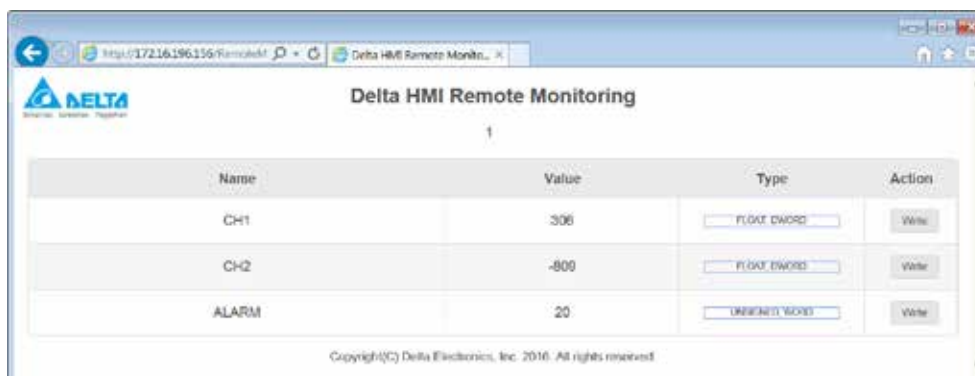
Dimensions Unit: mm (inches)

• DOP-103WQ

118.8(4.68")
137(5.39")
92.8(3.65")
103(4.06")
NOTE:
T=1. 6mm(0. 063") ~6mm(0. 24")
30.7(1.21")
91.2(3.64")

• DOP-107WV

186.8(7.35")
196(7.72")
136(5.35")
126.8(4.99")
T=1.6mm(0.063")~6mm(0.24")
32

• DOP-110WS

*4-R5
255(10.06")
270(10.63")
180.9(7.12")
170(6.71")
NOTE:
T=1.6mm ~ 6mm (0.06" ~ 0.24
47.75
6

11
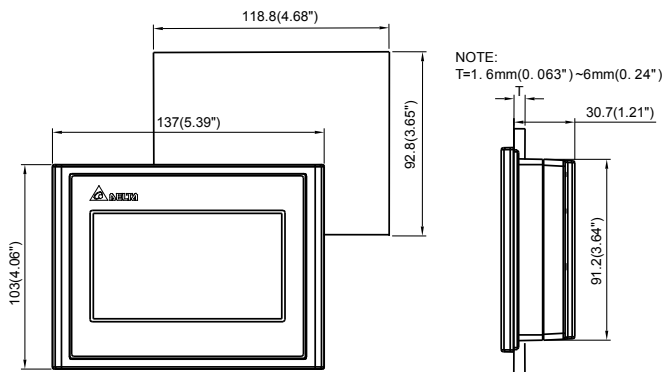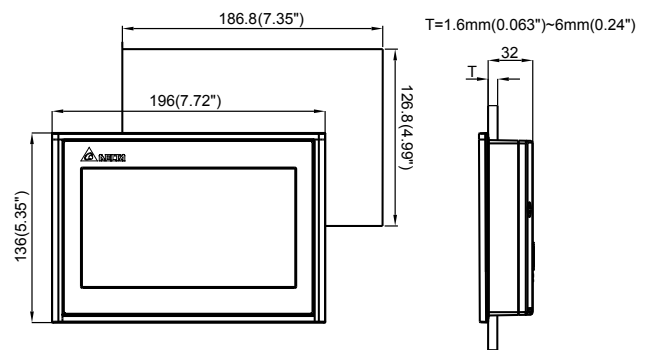
Specifications

Model		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/m^2)	400	450	450
	Back Light Life (Hour) (Note 1)	10,000	30,000	30,000
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 (Note 2), 10/100 Mbps auto-sensing	
USB			1 USB Slave Ver 2.0 / 1 USB Host Ver 2.0	
SD		N/A	N/A	SD x 1
Serial COM Port	COM1	RS-232 (supports hardware flow control) / RS-485 (Note 2)	RS-232 (supports hardware flow control)	
	COM2	RS-422 / RS-485 (Note 2)	RS-232 (supports hardware flow control) / RS-485 (Note 2)	
	COM3	N/A	RS-422 / RS-485 (Note 2)	
RTC			Yes	
Cooling			Nature air circulation	
Certification			CE / UL	
Waterproof			IP65 / NEMA4 / UL Type 4X (indoor use only)	
Operation Voltage (Note3)			DC +24V (-15% ~ +15%) (Note 2)	
Voltage Endurance			A599V for 1 minute (between charging DC24 terminal and FG terminals)	
Power Consumption (Note 5)		5.8 W (Max)	8.4W (Max)	11 W (Max)
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℃ ~ 50℃	
Storage Temperature			-20℃ ~ +60℃	
Ambient Humidity			10% ~ 90% RH (0 ~ 40° C), 10% ~ 55% RH (41 ~ 50° C), Pollution Degree 2	
Viberation			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
Dimensions (W) x (H) mm		118.8 x 92.8	186.8 x 126.8	255.5 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 the HMI
2) Built-in power isolation
3) It is recommended to adopt an isolated power supply.
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