(1) Preface

Thank you for purchasing DELTA's DOP-B series. This instruction sheet will be helpful in the installation, wiring and inspection of Delta HMI. Before using the product, please read this instruction sheet to ensure correct use. You should thoroughly understand all safety precautions before proceeding with the installation, wiring and operation. Place this instruction sheet in a safe location for future reference. Please observe the following precautions:

- Install the product in a clean and dry location free from corrosive and inflammable gases or liquids.
- Ensure that all wiring instructions and recommendations are followed.
- Ensure that both terminals of the power source are connected to the ground. The ground terminal must comply with the electrical standard of the country. (Please refer to NFPA 70: National Electrical Code, 2005 Ed.)
- Do not disassemble the HMI, modify or remove wiring when power is applied to the HMI.
- Do not touch the power supply during operation. Otherwise, it may cause electric shock.

If you have any questions 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 most updated version at http://www.delta.com.tw/ia/

(2) Safety Precautions

Careful note and observe the following safety precautions when receiving, inspecting, installing, operating, maintaining and disassembling. The following words, DANGER, WARNING and STOP are used to mark safety precautions when using the Delta's HMI product. Failure to observe these precautions may void the warranty!

Installation

- Comply with quick start for installation. Otherwise it may cause equipment damage.
- Do not install the product in a location that is outside the stated specification for the HMI. Failure to observe this caution may result in electric shock, fire, or explosion.
- Do not install the product in a location where temperatures will exceed specification for the HMI. Failure to observe this caution may result in abnormal operation or damage the product.
- Please note that this equipment has obtained EMC registration for commercial use. In the event that it has been mistakenly sold or purchased, please exchange it for equipment certified for home use.
- Do not use this product as an alarm device for disaster early warning that may result in personal injury, equipment damage, or system emergency stop.

Wiring

- Connect the ground terminals to a class-3 ground (Ground resistance should not exceed 100Ω). Improper grounding may result in communication error, electric shock or fire.
- The users should use Delta Screen Editor software to perform setting in Delta's HMI product. To perform editing and confirming HMI programs without using Delta Screen Editor software in Delta's HMI product may result in abnormal operation. 
- To prevent the personal injury and equipment damage, when designing HMI programs, please ensure that a communication error occurred between Delta's HMI product and the connecting controller or equipment will not result in system failure or malfunction.
- Please be sure to backup the screen data and HMI programs in case they are lost, accidentally deleted or wrong.
- Do not modify wiring during operation. Otherwise it may result in electric shock or personal injury.
- Never use a hard or pointed object to hit or strike the screen as doing this may damage the screen and let the screen has not respond to the input, and then cause the HMI to work abnormally.

Maintenance and Inspection

- Do not touch any internal or exposed parts of the HMI as electrical shock may result.
- Do not remove operation panel while power is on. Otherwise electrical shock may result.
- Wait at least 10 minutes after power has been removed before touching any HMI terminals or performing any wiring and/or inspection as an electrical charge still may remain in the HMI with hazardous voltages even after power has been removed.
- Turn the power off before changing backup battery and check system settings after finishing change. (all data will be cleared after changing battery)
- Be sure the ventilation holes are not obstructed during operation. Otherwise malfunction may result due to bad ventilation or overheating troubles.

Wiring Method

- Do not use a voltage that will exceed specification for the HMI. Failure to observe this caution may result in electric shock or fire.
- Remove the terminal block from the HMI before wiring.
- Insert only one wire into one terminal on the terminal block.
- If the wiring is in error, perform the wiring again with proper tools. Never use force to remove the terminals or wires. Otherwise, it may result in malfunction or damage.
- For the power line that forced to take out, ensure to check wiring again and restart.

Communication Wiring

- Comply with communication wiring specifications for wiring.
- Wiring length should comply with the stated specification for the communication cable.
- Proper grounding to avoid bad communication quality.
- To avoid noise and interference, the communication cable, all power cables, and motor power cable should be placed in separate conduits.

Operation

- Do not use a voltage that will exceed specification for the HMI. Failure to observe this caution may result in electric shock or fire.
- Do not install the product in a location which is outside the stated specification for the HMI. Failure to observe this caution may result in electric shock, fire, or explosion.
- Do not install the product in a location where temperatures will exceed specification for the HMI. Failure to observe this caution may result in abnormal operation or damage the product.
- Please note that this equipment has obtained EMC registration for commercial use. In the event that it has been mistakenly sold or purchased, please exchange it for equipment certified for home use.
- Do not use this product as an alarm device for disaster early warning that may result in personal injury, equipment damage, or system emergency stop.

(3) Pin Definition of Serial Communication

DOP-B03211 / DOP-B03E211 COM1 and COM2 Port

<table>
<thead>
<tr>
<th>PIN</th>
<th>COM Port</th>
<th>MODE1</th>
<th>MODE2</th>
<th>MODE3</th>
</tr>
</thead>
<tbody>
<tr>
<td>RXD</td>
<td>COM1</td>
<td>RS-232</td>
<td>RS-485</td>
<td>RS-422</td>
</tr>
<tr>
<td>TXD</td>
<td>COM2</td>
<td>RS-232</td>
<td>RS-485</td>
<td>RS-422</td>
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<tr>
<td>TxD</td>
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<td>RXD</td>
<td>TXD</td>
<td>TxD</td>
</tr>
<tr>
<td>RxD</td>
<td>COM2</td>
<td>TxD</td>
<td>RXD</td>
<td>TxD</td>
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<tr>
<td>GND</td>
<td>COM1</td>
<td>GND</td>
<td>GND</td>
<td>GND</td>
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<tr>
<td>PS</td>
<td>COM2</td>
<td>GND</td>
<td>GND</td>
<td>GND</td>
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</tbody>
</table>

Note: 1. Blank = No Connection.

(4) Parts Names

DOP-B03211 / DOP-B03E211 (Front View)

A Touch Screen / Display
B Power LED Indicator ( ) Note: Lights in green when HMI works normally.
C System Key
D USB Host Interface
E USB Slave
F COM 1

DOP-B03211 (Rear View)

A System Key
B USB Host Interface
C USB Slave
D Power Input Terminal
E COM 1

(5) Dimensions

DOP-B03211 / DOP-B03E211

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Width</td>
<td>129 x 103 (2 mm)</td>
</tr>
<tr>
<td>Height</td>
<td>118.8 x 92.8</td>
</tr>
<tr>
<td>Weight</td>
<td>Approx. 230g</td>
</tr>
</tbody>
</table>

1. The half-life of backlight is defined as original luminescence being reduced by 50% when the maximum driving current is supplied to HMI. The life of LED backlight shown here is an estimated value under 25°C normal temperature and humidity conditions.
2. The value of the power consumption indicates the electrical power consumed by HMI only without connecting to any peripheral device. In order to ensure the normal operation, it is recommended to use a power supply which the capacity is 1.5 times of rated input.
3. Some models are in the process of application to certification. For more information, please consult our distributors.
4. The content of this instruction sheet may be revised without prior notice. Please consult our distributors or download the most updated version at http://www.delta.com.tw/ia/