INSTALLATION INSTRUCTIONS

AC500 Product Family
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---
1 TB51x-TB54x

- TB511-ARCNET
- TB511-ETH
- TB511-ETH-XC
- TB521-ARCNET
- TB521-ETH
- TB521-ETH-XC
- TB523-2ETH
- TB541-ETH
- TB541-ETH-XC

**CAUTION!**

Risk of injury and damaging the product!
Improper installation and maintenance may result in injury and can damage the product!
- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by skilled electricians.
**Extreme conditions**

Terminal bases for use in extreme ambient conditions have no sign for XC version.

*The figure 3 in the Part No. 1SAP3... (label) identifies the XC version.*

### 1.1 Assembly

![Assembly Diagram]

### 1.2 Disassembly

![Disassembly Diagram]
1.3 Assembly with Screws

**NOTICE!**

Damage to the modules without using wall mounting accessory!

Wall mounting accessories (TA526) prevent bending and damaging the modules during assembly with screws.

Inserting the wall mounting accessories TA526 is mandatory.

1. TA526 are snapped on the rear side of the module like DIN rails. One TA526 is turned by 180°.
2. Fasten module with screws (M4, max 1.2 Nm) from the front side.

1.4 Dimensions

The dimensions are in mm and in brackets in inch.
1.5 Connection

1.5.1 Power Supply

<table>
<thead>
<tr>
<th>Pin Assignment</th>
<th>Label</th>
<th>Function</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Terminal block removed</td>
<td>L+</td>
<td>+24 VDC</td>
<td>Positive pin of the power supply voltage</td>
</tr>
<tr>
<td>Terminal block inserted</td>
<td>L+</td>
<td>+24 VDC</td>
<td>Positive pin of the power supply voltage</td>
</tr>
<tr>
<td></td>
<td>M</td>
<td>0 V</td>
<td>Negative pin of the power supply voltage</td>
</tr>
<tr>
<td></td>
<td>M</td>
<td>0 V</td>
<td>Negative pin of the power supply voltage</td>
</tr>
<tr>
<td></td>
<td>FE</td>
<td></td>
<td>Functional earth</td>
</tr>
</tbody>
</table>
### 1.5.2 Serial Interface COM1

#### Pin assignment

<table>
<thead>
<tr>
<th>Pin</th>
<th>Signal</th>
<th>Interface</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Terminator P</td>
<td>RS-485</td>
<td>Terminator P</td>
</tr>
<tr>
<td>2</td>
<td>RxD/TxD-P</td>
<td>RS-485</td>
<td>Receive/Transmit, positive</td>
</tr>
<tr>
<td>3</td>
<td>RxD/TxD-N</td>
<td>RS-485</td>
<td>Receive/Transmit, negative</td>
</tr>
<tr>
<td>4</td>
<td>Terminator N</td>
<td>RS-485</td>
<td>Terminator N</td>
</tr>
<tr>
<td>5</td>
<td>RTS</td>
<td>RS-232</td>
<td>Request to send (output)</td>
</tr>
<tr>
<td>6</td>
<td>TxD</td>
<td>RS-232</td>
<td>Transmit data (output)</td>
</tr>
<tr>
<td>7</td>
<td>SGND</td>
<td>Signal Ground</td>
<td>Signal Ground</td>
</tr>
<tr>
<td>8</td>
<td>RxD</td>
<td>RS-232</td>
<td>Receive data (input)</td>
</tr>
<tr>
<td>9</td>
<td>CTS</td>
<td>RS-232</td>
<td>Clear to send (input)</td>
</tr>
</tbody>
</table>

**NOTICE!**

Unused connector!
Make sure that the terminal block is always connected to the terminal base, even if you do not use the interface.

---

### 1.5.3 Serial Interface COM2

#### Pin assignment

<table>
<thead>
<tr>
<th>Serial Interface</th>
<th>Pin</th>
<th>Signal</th>
<th>Interface</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>FE</td>
<td>-</td>
<td>Functional earth</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>TxD</td>
<td>RS-232</td>
<td>Transmit data Output</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>RxD/TxD-P</td>
<td>RS-485</td>
<td>Receive/Transmit Positive</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>RTS</td>
<td>RS-232</td>
<td>Request to send Output</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>SGND</td>
<td>Signal ground</td>
<td>0 V supply out</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>+5 V</td>
<td>-</td>
<td>5 V supply out</td>
</tr>
<tr>
<td></td>
<td>7</td>
<td>RxD</td>
<td>RS-232</td>
<td>Receive data Input</td>
</tr>
<tr>
<td></td>
<td>8</td>
<td>RxD/TxD-N</td>
<td>RS-485</td>
<td>Receive/Transmit Negative</td>
</tr>
<tr>
<td></td>
<td>9</td>
<td>CTS</td>
<td>RS-232</td>
<td>Clear to send Input</td>
</tr>
</tbody>
</table>

**NOTICE!**

Risk of corrosion!
Unused connectors and slots may corrode if XC devices are used in salt-mist environments.

Protect unused connectors and slots with TA535 protective caps for XC devices TA535.
1.5.4 ARCNET Network Interface

ARCNET connection of the processor modules PM5xx-ARC.

1.5.5 Ethernet Network Interface

<table>
<thead>
<tr>
<th>Pin</th>
<th>Signal</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>TxD+</td>
<td>Transmit Data +</td>
</tr>
<tr>
<td>2</td>
<td>TxD-</td>
<td>Transmit Data -</td>
</tr>
<tr>
<td>3</td>
<td>RxD+</td>
<td>Receive Data +</td>
</tr>
<tr>
<td>4</td>
<td>NU</td>
<td>Not used</td>
</tr>
<tr>
<td>5</td>
<td>NU</td>
<td>Not used</td>
</tr>
<tr>
<td>6</td>
<td>RxD-</td>
<td>Receive Data -</td>
</tr>
<tr>
<td>7</td>
<td>NU</td>
<td>Not used</td>
</tr>
<tr>
<td>8</td>
<td>NU</td>
<td>Not used</td>
</tr>
<tr>
<td>Shield</td>
<td>Cable shield</td>
<td>Functional earth</td>
</tr>
</tbody>
</table>

**NOTICE!**
Risk of corrosion!
Unused connectors and slots may corrode if XC devices are used in salt-mist environments.
Protect unused connectors and slots with TA535 protective caps for XC devices TA535.

1.5.6 Fieldbus-neutral Interface

<table>
<thead>
<tr>
<th>FieldBusPlug</th>
<th>Pin</th>
<th>Signal</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>+24 V</td>
<td>Standard power supply</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Diagnosis pin</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>0 V</td>
<td>Standard power supply</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>Serial data</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>Serial data</td>
<td></td>
</tr>
</tbody>
</table>

**NOTICE!**
Risk of corrosion!
Unused connectors and slots may corrode if XC devices are used in salt-mist environments.
Protect unused connectors and slots with TA535 protective caps for XC devices TA535.
1.6 Cleaning

Cleaning instruction
Do not use cleaning agent for cleaning the device.
Use a damp cloth instead.

1.7 Certification

MSIP-REI-Abb-AC500

<table>
<thead>
<tr>
<th>en</th>
<th>Devices with KCC sign on product sticker and packaging</th>
</tr>
</thead>
<tbody>
<tr>
<td>ko</td>
<td>제품 스티커 및 포장에 KCC 표시가 된 기기</td>
</tr>
</tbody>
</table>

Note
These devices correspond to:

- KN61000-6-2 “Immunity for industrial environments”
- KN61000-6-4 “Emission standard for industrial environments”

1.8 Recycling

Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union’s Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user’s responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.
2 TB56xx-2ETH

- TB5600-2ETH
- TB5600-2ETH-XC
- TB5610-2ETH
- TB5610-2ETH-XC
- TB5620-2ETH
- TB5620-2ETH-XC
- TB5640-2ETH
- TB5640-2ETH-XC

CAUTION!
Risk of injury and damaging the product!
Improper installation and maintenance may result in injury and can damage the product!
- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by skilled electricians.

Processor modules PM56xx-2ETH can only be used with TB56xx-2ETH terminal bases.
**Extreme conditions**

Terminal bases for use in extreme ambient conditions have no \( \overset{\circ}{C} \) sign for XC version.

*The figure 3 in the Part No. 1SAP3... (label) identifies the XC version.*

### 2.1 Assembly

![Assembly Diagram]

### 2.2 Disassembly

![Disassembly Diagram]
2.3 Assembly with Screws

NOTICE!
Damage to the modules without using wall mounting accessory!
Wall mounting accessories (TA526) prevent bending and damaging the modules during assembly with screws.
Inserting the wall mounting accessories TA526 is mandatory.

1. TA526 are snapped on the rear side of the module like DIN rails. One TA526 is turned by 180°.
2. Fasten module with screws (M4, max 1.2 Nm) from the front side.

2.4 Dimensions

The dimensions are in mm and in brackets in inch.
2.5 Connection

1. I/O bus
2. Slot for processor module
3. Slots for communication modules
4. Interface for CAN
5. Power supply 24 VDC
6. Serial interface COM1
7. Ethernet network interfaces
8. Holes for wall mounting

2.5.1 CAN Interface

<table>
<thead>
<tr>
<th>Interface</th>
<th>Pin</th>
<th>Signal</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAN</td>
<td>1</td>
<td>CAN_GND</td>
<td>CAN reference potential</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>CAN_L</td>
<td>Bus line, receive/transmit line, LOW</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>CAN_SHLD</td>
<td>Shield of the bus line</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>CAN_H</td>
<td>Bus line, receive/transmit line, HIGH</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>NC</td>
<td>Not connected</td>
</tr>
</tbody>
</table>

Pin Assignment

Terminal block removed
Terminal block inserted
2.5.2 Power Supply

<table>
<thead>
<tr>
<th>Pin Assignment</th>
<th>Label</th>
<th>Function</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>24V</td>
<td>L+</td>
<td>+24 VDC</td>
<td>Positive pin of the power supply voltage</td>
</tr>
<tr>
<td>24V</td>
<td>L+</td>
<td>+24 VDC</td>
<td>Positive pin of the power supply voltage</td>
</tr>
<tr>
<td>24V</td>
<td>M</td>
<td>0 V</td>
<td>Negative pin of the power supply voltage</td>
</tr>
<tr>
<td>24V</td>
<td>M</td>
<td>0 V</td>
<td>Negative pin of the power supply voltage</td>
</tr>
<tr>
<td></td>
<td>FE</td>
<td></td>
<td>Functional earth</td>
</tr>
</tbody>
</table>

2.5.3 Serial Interface COM1

<table>
<thead>
<tr>
<th>Pin</th>
<th>Signal</th>
<th>Interface</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Terminator P</td>
<td>RS-485</td>
<td>Terminator P</td>
</tr>
<tr>
<td>2</td>
<td>RxD/TxD-P</td>
<td>RS-485</td>
<td>Receive/Transmit, positive</td>
</tr>
<tr>
<td>3</td>
<td>RxD/TxD-N</td>
<td>RS-485</td>
<td>Receive/Transmit, negative</td>
</tr>
<tr>
<td>4</td>
<td>Terminator N</td>
<td>RS-485</td>
<td>Terminator N</td>
</tr>
<tr>
<td>5</td>
<td>RTS</td>
<td>RS-232</td>
<td>Request to send (output)</td>
</tr>
<tr>
<td>6</td>
<td>TxD</td>
<td>RS-232</td>
<td>Transmit data (output)</td>
</tr>
<tr>
<td>7</td>
<td>SGND</td>
<td>Signal Ground</td>
<td>Signal Ground</td>
</tr>
<tr>
<td>8</td>
<td>RxD</td>
<td>RS-232</td>
<td>Receive data (input)</td>
</tr>
<tr>
<td>9</td>
<td>CTS</td>
<td>RS-232</td>
<td>Clear to send (input)</td>
</tr>
</tbody>
</table>
### 2.5.4 Ethernet Network Interface

<table>
<thead>
<tr>
<th>Pin</th>
<th>Signal</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>TxD+</td>
<td>Transmit Data +</td>
</tr>
<tr>
<td>2</td>
<td>TxD-</td>
<td>Transmit Data -</td>
</tr>
<tr>
<td>3</td>
<td>RxD+</td>
<td>Receive Data +</td>
</tr>
<tr>
<td>4</td>
<td>NU</td>
<td>Not used</td>
</tr>
<tr>
<td>5</td>
<td>NU</td>
<td>Not used</td>
</tr>
<tr>
<td>6</td>
<td>RxD-</td>
<td>Receive Data -</td>
</tr>
<tr>
<td>7</td>
<td>NU</td>
<td>Not used</td>
</tr>
<tr>
<td>8</td>
<td>NU</td>
<td>Not used</td>
</tr>
</tbody>
</table>

| Shield | Cable shield | Functional earth |

---

**NOTICE!**
Risk of corrosion!

Unused connectors and slots may corrode if XC devices are used in salt-mist environments.

Protect unused connectors and slots with TA535 protective caps for XC devices TA535.

---

### 2.6 Cleaning

**Cleaning instruction**

Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

---

### 2.7 Certification

<table>
<thead>
<tr>
<th>Note</th>
<th>Device with KCC sign on product sticker and packaging</th>
</tr>
</thead>
<tbody>
<tr>
<td>en</td>
<td>Devices with KCC sign on product sticker and packaging</td>
</tr>
<tr>
<td>ko</td>
<td>제품 스티커 및 포장에 KCC 표시가 된 기기</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Note</th>
<th>KN61000-6-2 &quot;Immunity for industrial environments&quot;, KN61000-6-4 &quot;Emission standard for industrial environments&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>en</td>
<td>These devices correspond to:</td>
</tr>
<tr>
<td>ko</td>
<td>참고 이기기에는 &quot;산업 환경에 대한 내성&quot;, &quot;산업 환경 뉴출 기준&quot;에 적합함</td>
</tr>
</tbody>
</table>
2.8 Recycling

**Disposal and recycling information**

This symbol on the product (and on its packaging) is in accordance with the European Union’s Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user’s responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.
3 PM5xx (-y)

- PM572
- PM573-ETH
- PM573-ETH-XC
- PM582
- PM582-XC
- PM583-ETH
- PM583-ETH-XC
- PM585-ETH
- PM590-ARCNET
- PM590-ETH
- PM591-ETH
- PM591-ETH-XC
- PM592-ETH
- PM592-ETH-XC
CAUTION!
Risk of injury and damaging the product!
Improper installation and maintenance may result in injury and can damage the product!
- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by skilled electricians.

Processor module PM591-2ETH can only be used with TB523-2ETH.

Processor modules PM57x-ETH, PM58x-ETH and PM59x-ETH with ordering No. 1SAPxxxxxxR0271 can only be used with terminal bases TB5xx with ordering No. 1SAPxxxxxxR0270.

The processor modules PM59x-ETH can only be used with terminal bases TB5xx with product index C6 or higher. Otherwise, they should be updated to that index.
3.1 Assembly
3.2 Disassembly

3.3 Dimensions

The dimensions are in mm and in brackets in inch.
3.4 Connection

1. Status displays (7-segment)
2. Triangle displays for "Item"
3. Square displays for "Status"
4. Status LEDs
5. Function keys
6. MC: Slot for the SD Memory Card
7. TA525: Label
8. The connection part may be different on various terminal base types. See installation instructions of the specific terminal base suitable for this CPU for connection specifications.

Sign for XC version

3.5 Cleaning

Cleaning instruction
- Do not use cleaning agent for cleaning the device.
- Use a damp cloth instead.
3.6 Certification

| MSIP-REI-Abb-AC500
| en | Devices with KCC sign on product sticker and packaging
| ko | 제품 스티커 및 포장에 KCC 표시가 된 기기

| Note |
| en | These devices correspond to: |
| ko | 참고 |
| | 이러한 기기는 |

3.7 Recycling

Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

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The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.
CAUTION!
Risk of injury and damaging the product!
Improper installation and maintenance may result in injury and can damage the product!
– Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
– Only by skilled electricians.

NOTICE!
Damage to the modules without using screw mounting accessory!
Screw mounting accessories TA543 prevent bending and damaging the processor modules PM595.
Without using DIN rail inserting the screw mounting accessories TA543 is mandatory.
4.1 Assembly

4.2 Disassembly
The dimensions are in mm and in brackets in inch.
4.4 Connection

1. I/O bus for connection of I/O modules
2. 2x 5 LEDs to display the states of the fieldbuses
3. Cover for battery and display
4. 5 LEDs to display the states of the processor module
5. 5 LEDs (reserved)
6. 2x2 RJ45 interfaces for fieldbuses
7. Slot for memory card
8. Reset button
9. Button (reserved)
10. RUN/STOP switch
11. Label
12. Slots for communication modules (max 2; unused slots must be covered with TA524)
13. 2 RJ45 interfaces for Ethernet connection
14. 5-pin terminal block (reserved)
15. Serial interface COM2 (D-sub 9)
16. Serial interface COM1 (9-pin terminal block, removable)
17. Power supply (5-pin terminal block, removable)
18. 4 holes for wall mounting
19. Sign for XC version
### 4.4.1 Power Supply

#### Pin Assignment

<table>
<thead>
<tr>
<th>Pin Assignment</th>
<th>Label</th>
<th>Function</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Terminal block</td>
<td>L+</td>
<td>+24 VDC</td>
<td>Positive pin of the power supply voltage</td>
</tr>
<tr>
<td>Terminal block</td>
<td>L+</td>
<td>+24 VDC</td>
<td>Positive pin of the power supply voltage</td>
</tr>
<tr>
<td>Terminal block</td>
<td>M</td>
<td>0 V</td>
<td>Negative pin of the power supply voltage</td>
</tr>
<tr>
<td>Terminal block</td>
<td>M</td>
<td>0 V</td>
<td>Negative pin of the power supply voltage</td>
</tr>
</tbody>
</table>

### 4.4.2 Serial Interface COM1

#### Pin assignment

<table>
<thead>
<tr>
<th>Pin</th>
<th>Signal</th>
<th>Interface</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Terminator P</td>
<td>RS-485</td>
<td>Terminator P</td>
</tr>
<tr>
<td>2</td>
<td>RxD/TxD-P</td>
<td>RS-485</td>
<td>Receive/Transmit, positive</td>
</tr>
<tr>
<td>3</td>
<td>RxD/TxD-N</td>
<td>RS-485</td>
<td>Receive/Transmit, negative</td>
</tr>
<tr>
<td>4</td>
<td>Terminator N</td>
<td>RS-485</td>
<td>Terminator N</td>
</tr>
<tr>
<td>5</td>
<td>RTS</td>
<td>RS-232</td>
<td>Request to send (output)</td>
</tr>
<tr>
<td>6</td>
<td>TxD</td>
<td>RS-232</td>
<td>Transmit data (output)</td>
</tr>
<tr>
<td>7</td>
<td>SGND</td>
<td>Signal Ground</td>
<td>Signal Ground</td>
</tr>
<tr>
<td>8</td>
<td>RxD</td>
<td>RS-232</td>
<td>Receive data (input)</td>
</tr>
<tr>
<td>9</td>
<td>CTS</td>
<td>RS-232</td>
<td>Clear to send (input)</td>
</tr>
</tbody>
</table>

**NOTICE!**

*Unused connector!*

Make sure that the terminal block is always connected to the terminal base, even if you do not use the interface.

### 4.4.3 Serial Interface COM2

<table>
<thead>
<tr>
<th>Pin</th>
<th>Signal</th>
<th>Interface</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>FE</td>
<td>-</td>
<td>Functional earth</td>
</tr>
<tr>
<td>2</td>
<td>TxD</td>
<td>RS-232</td>
<td>Transmit data</td>
</tr>
<tr>
<td>3</td>
<td>RxD/TxD-P</td>
<td>RS-485</td>
<td>Receive/Transmit</td>
</tr>
<tr>
<td>4</td>
<td>RTS</td>
<td>RS-232</td>
<td>Request to send</td>
</tr>
<tr>
<td>5</td>
<td>SGND</td>
<td>Signal ground</td>
<td>0 V supply out</td>
</tr>
</tbody>
</table>
### Serial Interface

<table>
<thead>
<tr>
<th>Pin</th>
<th>Signal</th>
<th>Interface</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>+5 V</td>
<td>-</td>
<td>5 V supply out</td>
</tr>
<tr>
<td>7</td>
<td>RxD</td>
<td>RS-232</td>
<td>Receive data</td>
</tr>
<tr>
<td>8</td>
<td>RxD/TxD-N</td>
<td>RS-485</td>
<td>Receive/Transmit</td>
</tr>
<tr>
<td>9</td>
<td>CTS</td>
<td>RS-232</td>
<td>Clear to send</td>
</tr>
<tr>
<td>Shield</td>
<td>FE</td>
<td>-</td>
<td>Functional earth</td>
</tr>
</tbody>
</table>

**NOTICE!**

**Risk of corrosion!**

Unused connectors and slots may corrode if XC devices are used in salt-mist environments.

Protect unused connectors and slots with TA535 protective caps for XC devices TA535.

### 4.4.4 Ethernet Network Interface

#### Pin Assignment

<table>
<thead>
<tr>
<th>Pin</th>
<th>Signal</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>TxD+</td>
<td>Transmit Data +</td>
</tr>
<tr>
<td>2</td>
<td>TxD-</td>
<td>Transmit Data -</td>
</tr>
<tr>
<td>3</td>
<td>RxD+</td>
<td>Receive Data +</td>
</tr>
<tr>
<td>4</td>
<td>NU</td>
<td>Not used</td>
</tr>
<tr>
<td>5</td>
<td>NU</td>
<td>Not used</td>
</tr>
<tr>
<td>6</td>
<td>RxD-</td>
<td>Receive Data -</td>
</tr>
<tr>
<td>7</td>
<td>NU</td>
<td>Not used</td>
</tr>
<tr>
<td>8</td>
<td>NU</td>
<td>Not used</td>
</tr>
<tr>
<td>Shield</td>
<td>Cable shield</td>
<td>Functional earth</td>
</tr>
</tbody>
</table>

**NOTICE!**

**Risk of corrosion!**

Unused connectors and slots may corrode if XC devices are used in salt-mist environments.

Protect unused connectors and slots with TA535 protective caps for XC devices TA535.

### 4.5 Cleaning

**Cleaning instruction**

*Do not use cleaning agent for cleaning the device.*

*Use a damp cloth instead.*
4.6 Certification

[Image]

Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union’s Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user’s responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.
5 PM56xx-2ETH

- PM5630-2ETH
- PM5630-2ETH-XC
- PM5650-2ETH
- PM5650-2ETH-XC
- PM5670-2ETH
- PM5670-2ETH-XC
- PM5675-2ETH
- PM5675-2ETH-XC

**CAUTION!**
Risk of injury and damaging the product!
Improper installation and maintenance may result in injury and can damage the product!
- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by skilled electricians.

*Processor modules PM56xx-2ETH can only be used with TB56xx-2ETH terminal bases.*
5.1 Assembly
5.2 Disassembly

5.3 Dimensions

The dimensions are in mm and in brackets in inch.
### 5.4 Connection

1. Status displays (7-segment)
2. Triangle displays for "Item"
3. Square displays for "Status"
4. Status LEDs
5. Function keys
6. MC: Slot for the SD Memory Card
7. TA525: Label
8. The connection part may be different on various terminal base types. See installation instructions of the specific terminal base suitable for this CPU for connection specifications.

*Sign for XC version*

---

*For PM5630-2ETH, the maximum number of communication modules is limited to 2.*

**Only following terminal bases can be used:**

- TB5600-2ETH
- TB5610-2ETH
- TB5620-2ETH
5.5 Cleaning

Cleaning instruction
Do not use cleaning agent for cleaning the device.
Use a damp cloth instead.

5.6 Certification

<table>
<thead>
<tr>
<th>en</th>
<th>Devices with KCC sign on product sticker and packaging</th>
</tr>
</thead>
<tbody>
<tr>
<td>ko</td>
<td>제품 스티커 및 포장에 KCC 표시가 된 기기</td>
</tr>
</tbody>
</table>

Note

These devices correspond to:

- KN61000-6-2 "Immunity for industrial environments",
- KN61000-6-4 "Emission standard for industrial environments"

5.7 Recycling

Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

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It is the end user’s responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.
6 CM582-DP

- CM582-DP
- CM582-DP-XC

CAUTION!
Risk of injury and damaging the product!
Improper installation and maintenance may result in injury and can damage the product!
- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by skilled electricians.
6.1 Assembly

6.2 Disassembly
6.3 Dimensions

The dimensions are in mm and in brackets in inch.
6.4 Connection

1 CPU
2 The connection part may be different on various terminal base types. See installation instructions of the specific terminal base suitable for this CPU for connection specifications.
3 5 LEDs for state display
4 Label
5 Interface for PROFIBUS
6 TA524 Dummy Communication Module
7 Sign for XC version
6.4.1 Interface for PROFIBUS

<table>
<thead>
<tr>
<th>Pin</th>
<th>Signal</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>NC</td>
<td>Not connected</td>
</tr>
<tr>
<td>2</td>
<td>NC</td>
<td>Not connected</td>
</tr>
<tr>
<td>3</td>
<td>RxD/TxD-P</td>
<td>Receive/Transmit positive</td>
</tr>
<tr>
<td>4</td>
<td>CNTR-P</td>
<td>Control signal for repeater, positive</td>
</tr>
<tr>
<td>5</td>
<td>DGND</td>
<td>Reference potential for data exchange and +5 V</td>
</tr>
<tr>
<td>6</td>
<td>VP</td>
<td>+5 V (power supply for the bus terminating resistors)</td>
</tr>
<tr>
<td>7</td>
<td>NC</td>
<td>Not connected</td>
</tr>
<tr>
<td>8</td>
<td>RxD/TxD-N</td>
<td>Receive/Transmit negative</td>
</tr>
<tr>
<td>9</td>
<td>NC</td>
<td>Not connected</td>
</tr>
</tbody>
</table>

In corrosive environment, please protect unused connectors using the TA535 accessory.
Not supplied with this device.

6.5 Cleaning

Cleaning instruction
Do not use cleaning agent for cleaning the device.
Use a damp cloth instead.

6.6 Certification

![KCC Certification](image)

<table>
<thead>
<tr>
<th>en</th>
<th>Devices with KCC sign on product sticker and packaging</th>
</tr>
</thead>
<tbody>
<tr>
<td>ko</td>
<td>제품 스티커 및 포장에 KCC 표시가 된 기기</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Note</th>
<th>Devices with KCC sign on product sticker and packaging</th>
</tr>
</thead>
<tbody>
<tr>
<td>en</td>
<td>These devices correspond to:</td>
</tr>
<tr>
<td>ko</td>
<td>이러한 기기는</td>
</tr>
</tbody>
</table>

| en    | KN61000-6-2 “Immunity for industrial environments”, KN61000-6-4 “Emission standard for industrial environments” |
| ko    | KN61000-6-2 "산업 환경에 대한 내성", KN61000-6-4 "산업 환경 뉴출 기준"에 적합함 |

2019/02/27
6.7 Recycling

**Disposal and recycling information**

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.
7 CM589-PNIO(-4)

- CM589-PNIO
- CM589-PNIO-XC
- CM589-PNIO-4
- CM589-PNIO-4-XC

CAUTION!
Risk of injury and damaging the product!
Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by skilled electricians.
7.1 Assembly

7.2 Disassembly
7.3 Dimensions

The dimensions are in mm and in brackets in inch.
7.4 Connection

1. CPU
2. The connection part may be different on various terminal base types. See installation instructions of the specific terminal base suitable for this CPU for connection specifications.
3. 5 LEDs for state display
4. 2 rotary switches for setting the I/O device identifier
5. Label
6. Ethernet network interfaces
7. TA524 Dummy Communication Module
### 7.4.1 Ethernet Network Interface

<table>
<thead>
<tr>
<th>Pin</th>
<th>Signal</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>TxD+</td>
<td>Transmit data +</td>
</tr>
<tr>
<td>2</td>
<td>TxD-</td>
<td>Transmit data -</td>
</tr>
<tr>
<td>3</td>
<td>RxD+</td>
<td>Receive data +</td>
</tr>
<tr>
<td>4</td>
<td>NC</td>
<td>Not used</td>
</tr>
<tr>
<td>5</td>
<td>NC</td>
<td>Not used</td>
</tr>
<tr>
<td>6</td>
<td>RxD-</td>
<td>Receive data -</td>
</tr>
<tr>
<td>7</td>
<td>NC</td>
<td>Not used</td>
</tr>
<tr>
<td>8</td>
<td>NC</td>
<td>Not used</td>
</tr>
<tr>
<td>Shield</td>
<td>Cable shield</td>
<td>Functional earth</td>
</tr>
</tbody>
</table>

In corrosive environment, please protect unused connectors using the TA535 accessory.

Not supplied with this device.

---

### 7.5 Cleaning

**Cleaning instruction**

Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

---

### 7.6 Certification

<table>
<thead>
<tr>
<th>en</th>
<th>Devices with KCC sign on product sticker and packaging</th>
</tr>
</thead>
<tbody>
<tr>
<td>ko</td>
<td>제품 스티커 및 포장에 KCC 표시가 된 기기</td>
</tr>
</tbody>
</table>

**Note**

These devices correspond to:

- KN61000-6-2 “Immunity for industrial environments”
- KN61000-6-4 “Emission standard for industrial environments”

**Note**

참고

이러한 기기는

- KN61000-6-2 “산업 환경에 대한 내성”
- KN61000-6-4 “산업 환경 누출 기준”에 적합합니다
7.7 Recycling

Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user's responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.
8 TU5xx

- ① TU515 24 VDC
- ① TU531 230 VAC
- ① TU541 24 VDC
- ② TU516(-XC) 24 VDC
- ② TU532(-XC) 230 VAC
- ② TU542(-XC) 24 VDC
- ③ TU516-H(-XC) 24 VDC
- ③ TU532-H(-XC) 230 VAC
- ③ TU542-H(-XC) 24 VDC

CAUTION!
Risk of injury and damaging the product!
Improper installation and maintenance may result in injury and can damage the product!
- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by skilled electricians.
**Hot swap**

Preconditions for hot swapping I/O modules:
- Hot-swappable terminal units have the appendix TU5xx-H.
- I/O modules as of index F0.
- Communication interface modules CI5xx as of index F0.

**NOTICE!**
Risk of damage to I/O modules!
- Modules with index below F0 can be damaged when inserted or removed from the terminal unit in a powered system.

**NOTICE!**
Hot swapping is only allowed for I/O modules.
- Processor modules and communication interface modules must not be removed or inserted during operation.

**NOTICE!**
Risk of damage to I/O modules!
- Do not perform hot swapping if any I/O module with firmware version lower than 3.0.14 is part of the decentralized I/O station.
  
  For min. required device index see table below.
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<thead>
<tr>
<th>Device</th>
<th>Min. required device index for I/O module as of FW Version 3.0.14</th>
</tr>
</thead>
<tbody>
<tr>
<td>DO573, FM562, DI572</td>
<td>A1</td>
</tr>
<tr>
<td>DO526 DC562 DO562</td>
<td>A2</td>
</tr>
<tr>
<td>DO526 (-XC)</td>
<td>A0</td>
</tr>
<tr>
<td>CD522 (-XC)</td>
<td>D1</td>
</tr>
<tr>
<td>DO524 (-XC)</td>
<td>A3</td>
</tr>
<tr>
<td>AI531</td>
<td>D4</td>
</tr>
<tr>
<td>DA501 (-XC), DI524 (-XC), DC532 (-XC), DC523 (-XC), DC522 (-XC), AX521 (-XC), AO523 (-XC), AI523 (-XC), AX522 (-XC), AI531-XC, DX531, DX522 (-XC),</td>
<td>D2</td>
</tr>
<tr>
<td>AI561, AI562, AO561, AX561, DC561, DI561, DI562, DI571, DO561, DO572, DX561</td>
<td>B2</td>
</tr>
<tr>
<td>AI563, DO571, DX571</td>
<td>B3</td>
</tr>
</tbody>
</table>
Extreme conditions

Terminal units for use in extreme ambient conditions have no "e" sign for XC version.

The figure 4 in the Part No. 1SAP4... (label) identifies the XC version.

8.1 Assembly
8.2 Disassembly

8.3 Assembly with Screws

NOTICE!
Damage to the modules without using wall mounting accessory!
Wall mounting accessories (TA526) prevent bending and damaging the modules during assembly with screws.
Inserting the wall mounting accessories TA526 is mandatory.

1. TA526 is snapped on the rear side of the module like DIN rails.
2. Fasten module with screws (M4, max 1.2 Nm) from the front side.
8.4 Dimensions

The dimensions are in mm and in brackets in inch.
8.5 Connection

Fig. 1: TU516 for example

1 I/O bus (10 pins, male) to electrically connect the previous terminal unit, the CPU terminal base or the communication interface module to the terminal unit
2 I/O bus (10 pins, female) to electrically connect other terminal units
3a Plug (2x 25 pins) to electrically connect the inserted I/O modules
3b For TU515, TU516(-H)(-XC), TU541 and TU542(-H)(-XC): Plug (2x 19 pins) to electrically connect the inserted I/O modules
3c For TU531 and TU532(-H)(-XC): Plug (3x 19 pins) to electrically connect the inserted I/O modules
4 With a screwdriver inserted in this place, the terminal unit and the adjacent terminal unit can be shoved from each other
5 Holes for wall mounting
6 40 screw terminals or spring terminals for signals and process supply voltage

8.6 Cleaning

Cleaning instruction
Do not use cleaning agent for cleaning the device.
Use a damp cloth instead.
8.7 Certification

<table>
<thead>
<tr>
<th>en</th>
<th>Note</th>
<th>ko</th>
</tr>
</thead>
<tbody>
<tr>
<td>These devices correspond to:</td>
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<td></td>
</tr>
<tr>
<td>Devices with KCC sign on product sticker and packaging</td>
<td>제품 스티커 및 포장에 KCC 표시가 된 기기</td>
<td></td>
</tr>
</tbody>
</table>

8.8 Recycling

Disposal and recycling information
This symbol on the product (and on its packaging) is in accordance with the European Union’s Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user’s responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.
9 TU582-S

- TU582-S 24 VDC
- TU582-S-XC 24 VDC

CAUTION!
Risk of injury and damaging the product!
Improper installation and maintenance may result in injury and can damage the product!
- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by skilled electricians.

XC Version

XC = eXtreme Conditions

Extreme conditions
Terminal units for use in extreme ambient conditions have no z:\ sign for XC version.
The figure 4 in the Part No. 1SAP4... (label) identifies the XC version.
9.1 Assembly

9.2 Disassembly
9.3 Assembly with Screws

1. TA526 is snapped on the rear side of the module like DIN rails.
2. Fasten module with screws (M4, max 1.2 Nm) from the front side.

9.4 Dimensions

---

**NOTICE!**

Damage to the modules without using wall mounting accessory!

Wall mounting accessories (TA526) prevent bending and damaging the modules during assembly with screws.

Inserting the wall mounting accessories TA526 is mandatory.
9.5 Connection

1. I/O bus (10 pins, male) to electrically connect the previous terminal unit, the CPU terminal base or the communication interface module to the terminal unit
2. I/O bus (10 pins, female) to electrically connect other terminal units
3. Plug (1x 50 pins and 2x 57 pins) to electrically connect the inserted I/O modules
4. With a screwdriver inserted in this place, the terminal unit and the adjacent terminal unit can be shoved from each other
5. Holes for wall mounting
6. 40 spring terminals for signals and process supply voltage

AC500-S Safety User Manual
For a detailed description of the electrical connection of the module, please refer to the “AC500-S Safety User Manual”. 
9.6 Cleaning

Cleaning instruction
Do not use cleaning agent for cleaning the device.
Use a damp cloth instead.

9.7 Recycling

Disposal and recycling information
This symbol on the product (and on its packaging) is in accordance with the European Union’s Waste Electrical and Electronic Equipment (WEEE) Directive.
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The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.
For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.
10 DC522

- DC522
- DC522-XC

CAUTION!
Risk of injury and damaging the product!
Improper installation and maintenance may result in injury and can damage the product!
- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by skilled electricians.
Hot swap
Preconditions for hot swapping I/O modules:
- Hot-swappable terminal units have the appendix TU5xx-H.
- I/O modules as of index F0.
- Communication interface modules CI5xx as of index F0.

The index of the module is in the right corner of the label.

NOTICE!
Risk of damage to I/O modules!
- Modules with index below F0 can be damaged when inserted or removed from the terminal unit in a powered system.

Hot swapping is only allowed for I/O modules.
Processor modules and communication interface modules must not be removed or inserted during operation.

NOTICE!
Risk of damage to I/O modules!
- Do not perform hot swapping if any I/O module with firmware version lower than 3.0.14 is part of the decentralized I/O station.
- For min. required device index see table below.
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<tr>
<td>DO562</td>
<td></td>
</tr>
<tr>
<td>DO526 (-XC)</td>
<td>A0</td>
</tr>
<tr>
<td>CD522 (-XC)</td>
<td>D1</td>
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<tr>
<td>DO524 (-XC)</td>
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<tr>
<td>AI531</td>
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<tr>
<td>AI563, DO571, DX571</td>
<td>B3</td>
</tr>
</tbody>
</table>
10.1 Assembly

CLICK

CLICK
10.2 Disassembly

10.3 Dimensions

The dimensions are in mm and in brackets in inch.
10.4 Connection

1. I/O bus
2. Allocation between terminal number and signal name
3. Sensor power supply 24 VDC / 0.5 A
4. 16 yellow LEDs to display the signal states at the digital inputs/outputs (C0 - C15)
5. 1 green LED to display the state of the process supply voltage UP
6. 4 red LEDs to display errors
7. Label
8. Terminal unit

*: Sign for XC version

All I/O channels (digital and analog) are protected against reverse polarity, reverse supply and continuous overvoltage up to 30 VDC.
10.4.1 Process Supply Voltage

CAUTION!
The process supply voltage must be included in the earthing concept (e.g. earthing of the minus pole).

10.4.2 Inputs/Outputs

Example for connection as an input
Example for connection as an output

10.5 Cleaning

Cleaning instruction
Do not use cleaning agent for cleaning the device.
Use a damp cloth instead.
10.6 Certification

<table>
<thead>
<tr>
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MSIP-REI-Abb-AC500

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<th>참고</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>이러한 기기는</td>
</tr>
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</table>

10.7 Recycling

Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union’s Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user’s responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.
11 DC523

- DC523
- DC523-XC

CAUTION!
Risk of injury and damaging the product!
Improper installation and maintenance may result in injury and can damage the product!
- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by skilled electricians.
**Hot Swap**

$H = \text{Hot swap}$

---

**Hot swap**

Preconditions for hot swapping I/O modules:

- Hot-swappable terminal units have the appendix TU5xx-H.
- I/O modules as of index F0.
- Communication interface modules CI5xx as of index F0.

---

**NOTICE!**

Risk of damage to I/O modules!

Modules with index below F0 can be damaged when inserted or removed from the terminal unit in a powered system.

---

**NOTICE!**

Hot swapping is only allowed for I/O modules.

Processor modules and communication interface modules must not be removed or inserted during operation.

---

**NOTICE!**

Risk of damage to I/O modules!

Do not perform hot swapping if any I/O module with firmware version lower than 3.0.14 is part of the decentralized I/O station.

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<td>A2</td>
</tr>
<tr>
<td>DO526 (-XC), CD522 (-XC), DO524 (-XC)</td>
<td>A0, D1</td>
</tr>
<tr>
<td>AI531</td>
<td>D4</td>
</tr>
<tr>
<td>DA501 (-XC), DI524 (-XC), DC532 (-XC), DC523 (-XC), DC522 (-XC), AX521 (-XC), AO523 (-XC), AI523 (-XC), AX522 (-XC), AI531-XC, DX531, DX522 (-XC), AI561, AI562, AO561, AX561, DC561, DI561, DI562, DI571, DO561, DO572, DX561</td>
<td>D2</td>
</tr>
<tr>
<td>AI563, DO571, DX571</td>
<td>B3</td>
</tr>
</tbody>
</table>
11.1 Assembly
11.2 Disassembly

11.3 Dimensions

The dimensions are in mm and in brackets in inch.
11.4 Connection

1. I/O bus
2. Allocation between terminal number and signal name
3. Sensor power supply 24 VDC / 0.5 A
4. 24 yellow LEDs to display the signal states at the digital inputs/outputs (C0 - C23)
5. 1 green LED to display the state of the process supply voltage UP
6. 4 red LEDs to display errors
7. Label
8. Terminal unit

\(\text{\textsuperscript{\*,\*}}\) Sign for XC version

---

All I/O channels (digital and analog) are protected against reverse polarity, reverse supply and continuous overvoltage up to 30 VDC.
11.4.1 Process Supply Voltage

CAUTION!
The process supply voltage must be included in the earthing concept (e.g. earthing of the minus pole).

11.4.2 Inputs/Outputs

Example for connection as an input
Example for connection as an output

11.5 Cleaning

Cleaning instruction
Do not use cleaning agent for cleaning the device.
Use a damp cloth instead.
11.6 Certification

**Disposal and recycling information**

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user’s responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.
CAUTION!
Risk of injury and damaging the product!
Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by skilled electricians.
**Hot swap**

Preconditions for hot swapping I/O modules:
- Hot-swappable terminal units have the appendix TU5xx-H.
- I/O modules as of index F0.
- Communication interface modules CI5xx as of index F0.

*Notice!

Risk of damage to I/O modules!
- Modules with index below F0 can be damaged when inserted or removed from the terminal unit in a powered system.

Hot swapping is only allowed for I/O modules.
- Processor modules and communication interface modules must not be removed or inserted during operation.

*Notice!

Risk of damage to I/O modules!
- Do not perform hot swapping if any I/O module with firmware version lower than 3.0.14 is part of the decentralized I/O station.
- For min. required device index see table below.
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<td>DO526, DC562, DO562</td>
<td>A2</td>
</tr>
<tr>
<td>DO526 (-XC)</td>
<td>A0</td>
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<tr>
<td>CD522 (-XC)</td>
<td>D1</td>
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<tr>
<td>DO524 (-XC)</td>
<td>A3</td>
</tr>
<tr>
<td>AI531</td>
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</tr>
<tr>
<td>DA501 (-XC), DI524 (-XC), DC532 (-XC), DC523 (-XC), DC522 (-XC), AX521 (-XC), AO523 (-XC), AI523 (- XC), AX522 (-XC), AI531-XC, DX531, DX522 (-XC), AI561, AI562, AO561, AX561, DC561, DI561, DI562, DI571, DO561, DO572, DX561</td>
<td>D2</td>
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<tr>
<td>AI561, AI562, AO561, AX561, DC561, DI561, DI562, DI571, DO561, DO572, DX561</td>
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<tr>
<td>AI563, DO571, DX571</td>
<td>B3</td>
</tr>
</tbody>
</table>
12.1 Assembly
12.2 Disassembly

12.3 Dimensions

The dimensions are in mm and in brackets in inch.
12.4 Connection

1 I/O bus
2 Allocation between terminal number and signal name
3 16 yellow LEDs to display the signal states at the digital inputs (I0 - I15)
4 16 yellow LEDs to display the signal states at the digital outputs (C16 - C31)
5 1 green LED to display the state of the process supply voltage UP
6 4 red LEDs to display errors
7 Label
8 Terminal unit
9: Sign for XC version

All I/O channels (digital and analog) are protected against reverse polarity, reverse supply and continuous overvoltage up to 30 VDC.
### 12.4.1 Process Supply Voltage

**CAUTION!**

The process supply voltage must be included in the earthing concept (e.g., earthing of the minus pole).

### 12.4.2 Inputs

![Example for connection input Ix](image)

*Fig. 2: Example for connection input Ix*

### 12.4.3 Inputs/Outputs
12.5 Cleaning

*Cleaning instruction*

*Do not use cleaning agent for cleaning the device.*

*Use a damp cloth instead.*

12.6 Certification

<table>
<thead>
<tr>
<th>en</th>
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**Note**

These devices correspond to:

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<tr>
<th>en</th>
<th>KN61000-6-2 “Immunity for industrial environments”, KN61000-6-4 “Emission standard for industrial environments”</th>
</tr>
</thead>
<tbody>
<tr>
<td>ko</td>
<td>KN61000-6-2 “산업 환경에 대한 내성”?, KN61000-6-4 “산업 환경 누출 기준”에 적합함</td>
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</table>

12.7 Recycling

*Disposal and recycling information*

This symbol on the product (and on its packaging) is in accordance with the European Union’s Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user’s responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.
CAUTION!
Risk of injury and damaging the product!
Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by skilled electricians.
**Hot Swap**  

H = Hot swap

---

**Hot swap**  
Preconditions for hot swapping I/O modules:

- Hot-swappable terminal units have the appendix TU5xx-H.
- I/O modules as of index F0.
- Communication interface modules CI5xx as of index F0.

---

**NOTICE!**  
Risk of damage to I/O modules!

- Modules with index below F0 can be damaged when inserted or removed from the terminal unit in a powered system.

---

**NOTICE!**  
Hot swapping is only allowed for I/O modules.

- Processor modules and communication interface modules must not be removed or inserted during operation.

---

**NOTICE!**  
Risk of damage to I/O modules!

- Do not perform hot swapping if any I/O module with firmware version lower than 3.0.14 is part of the decentralized I/O station.

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<td>A0</td>
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<tr>
<td>DO524 (-XC)</td>
<td>A3</td>
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<td>AI531</td>
<td>D4</td>
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<td></td>
</tr>
<tr>
<td>AI563, DO571, DX571</td>
<td>B3</td>
</tr>
</tbody>
</table>
13.1 Assembly
13.2 Disassembly

13.3 Dimensions

The dimensions are in mm and in brackets in inch.
13.4 Connection

1. I/O bus
2. Allocation between terminal number and signal name
3. 32 yellow LEDs to display the signal states at the digital inputs I0 to I31
4. 1 green LED to display the states of the process supply voltage UP
5. 4 red LEDs to display errors
6. Label
7. Terminal unit
8. Sign for XC version

All I/O channels (digital and analog) are protected against reverse polarity, reverse supply and continuous overvoltage up to 30 VDC.
13.4.1 Process Supply Voltage

CAUTION!
The process supply voltage must be included in the earthing concept (e.g. earthing of the minus pole).

13.4.2 Outputs

Example

Fig. 3: Example for connection input Ix

13.5 Cleaning

Cleaning instruction
Do not use cleaning agent for cleaning the device.
Use a damp cloth instead.
13.6 Certification

| en | Devices with KCC sign on product sticker and packaging |
| ko | 제품 스티커 및 포장에 KCC 표시가 된 기기 |

MSIP-REI-Abb-AC500

en | Note |
<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>These devices correspond to:</td>
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<table>
<thead>
<tr>
<th>ko</th>
<th>참고</th>
</tr>
</thead>
<tbody>
<tr>
<td>이러한 기기는</td>
<td></td>
</tr>
</tbody>
</table>

13.7 Recycling

Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user’s responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.
CAUTION!

Risk of injury and damaging the product!
Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by skilled electricians.
14.1 Assembly
14.2 Disassembly

14.3 Dimensions

The dimensions are in mm and in brackets in inch.
14.4 Connection

1 I/O bus
2 System LED
3 Allocation between terminal number and signal name
4 16 yellow/red LEDs to display the signal states of the digital inputs I0 to I15
5 8 Test pulse outputs T0 to T7
6 2 rotary switches for setting the PROFIsafe address
7 1 green LED to display the state of the process supply voltage UP
8 2 red LEDs to display errors
9 Label
10 Terminal unit TU582-S(-XC)

**Note:** Sign for XC version
14.4.1 Process Supply Voltage

CAUTION!
The process supply voltage must be included in the earthing concept (e.g., earthing of the minus pole).

14.4.2 Inputs

For a detailed description of the electrical connection of the module, please refer to the "AC500-S Safety User Manual".

Fig. 4: Example for connection input lx
14.5 Cleaning

Cleaning instruction
Do not use cleaning agent for cleaning the device.
Use a damp cloth instead.

14.6 Certification

<table>
<thead>
<tr>
<th>MSIP-REI-Abb-AC500</th>
<th>en</th>
<th>Devices with KCC sign on product sticker and packaging</th>
</tr>
</thead>
</table>

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<tr>
<th>Note</th>
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</thead>
<tbody>
<tr>
<td>en</td>
<td>These devices correspond to:</td>
<td>KN61000-6-2 &quot;Immunity for industrial environments&quot;, KN61000-6-4 &quot;Emission standard for industrial environments&quot;</td>
</tr>
</tbody>
</table>
| ko   | 참고 | KN61000-6-2 “산업 환경에 대한 내성”
|      | 이외한 기기는 | KN61000-6-4 “산업 환경 뉴솔 기준”에 적합함 |

14.7 Recycling

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Improper installation and maintenance may result in injury and can damage the product!
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- Only by skilled electricians.
Hot Swap

H = Hot swap

---

**Hot swap**

Preconditions for hot swapping I/O modules:

- Hot-swappable terminal units have the appendix TU5xx-H.
- I/O modules as of index F0.
- Communication interface modules CI5xx as of index F0.

---

**NOTICE!**

Risk of damage to I/O modules!

- Modules with index below F0 can be damaged when inserted or removed from the terminal unit in a powered system.

---

**NOTICE!**

Hot swapping is only allowed for I/O modules.

- Processor modules and communication interface modules must not be removed or inserted during operation.

---

**NOTICE!**

Risk of damage to I/O modules!

- Do not perform hot swapping if any I/O module with firmware version lower than 3.0.14 is part of the decentralized I/O station.
- For min. required device index see table below.
<table>
<thead>
<tr>
<th>Device</th>
<th>Min. required device index for I/O module as of FW Version 3.0.14</th>
</tr>
</thead>
<tbody>
<tr>
<td>DO573, FM562, DI572</td>
<td>A1</td>
</tr>
<tr>
<td>DO526</td>
<td>A2</td>
</tr>
<tr>
<td>DC562</td>
<td></td>
</tr>
<tr>
<td>DO562</td>
<td></td>
</tr>
<tr>
<td>DO526 (-XC)</td>
<td>A0</td>
</tr>
<tr>
<td>CD522 (-XC)</td>
<td>D1</td>
</tr>
<tr>
<td>DO524 (-XC)</td>
<td>A3</td>
</tr>
<tr>
<td>AI531</td>
<td>D4</td>
</tr>
<tr>
<td>DA501 (-XC), DI524 (-XC), DC532 (-XC), DC523 (-XC), DC522 (-XC), AX521 (-XC), AO523 (-XC), AI523 (-XC), AX522 (-XC), AI531-XC, DX531, DX522 (-XC),</td>
<td>D2</td>
</tr>
<tr>
<td>AI561, AI562, AO561, AX561, DC561, DI561, DI562, DI571, DO561, DO572, DX561</td>
<td>B2</td>
</tr>
<tr>
<td>AI563, DO571, DX571</td>
<td>B3</td>
</tr>
</tbody>
</table>
15.1 Assembly
15.2 Disassembly

15.3 Dimensions

The dimensions are in mm and in brackets in inch.
15.4 Connection

1 I/O bus
2 Allocation between terminal number and signal name
3 32 yellow LEDs to display the signal states at the digital outputs (O0 to O31)
4 1 green LED to display the state of the process supply voltage UP
5 4 red LEDs to display errors
6 Label
7 Terminal unit
8 Sign for XC version

All I/O channels (digital and analog) are protected against reverse polarity, reverse supply and continuous overvoltage up to 30 VDC.
15.4.1 Process Supply Voltage

CAUTION!
The process supply voltage must be included in the earthing concept (e.g. earthing of the minus pole).

15.4.2 Outputs

Example

![Connection Diagram]

Fig. 5: Example for connection output

15.5 Cleaning

Cleaning instruction
Do not use cleaning agent for cleaning the device.
Use a damp cloth instead.

15.6 Certification

<table>
<thead>
<tr>
<th>en</th>
<th>Devices with KCC sign on product sticker and packaging</th>
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<tbody>
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</tbody>
</table>

en Note
These devices correspond to:

ko 참고
이러한 기기는

- KN61000-6-2 “Immunity for industrial environments”
- KN61000-6-4 “Emission standard for industrial environments”

- KN61000-6-2 “산업 환경에 대한 내성”
- KN61000-6-4 “산업 환경 누출 기준”에 적합함
### Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

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It is the end user’s responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.
CAUTION!
Risk of injury and damaging the product!
Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by skilled electricians.
**Hot swap**

**Preconditions for hot swapping I/O modules:**
- Hot-swappable terminal units have the appendix TU5xx-H.
- I/O modules as of index F0.
- Communication interface modules CI5xx as of index F0.

---

**NOTICE!**

**Risk of damage to I/O modules!**
- Modules with index below F0 can be damaged when inserted or removed from the terminal unit in a powered system.

---

**NOTICE!**

**Hot swapping is only allowed for I/O modules.**
- Processor modules and communication interface modules must not be removed or inserted during operation.

---

**NOTICE!**

**Risk of damage to I/O modules!**
- Do not perform hot swapping if any I/O module with firmware version lower than 3.0.14 is part of the decentralized I/O station.
  - For min. required device index see table below.
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</tr>
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</tr>
<tr>
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<td>D1</td>
</tr>
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<td>DO524 (-XC)</td>
<td>A3</td>
</tr>
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<td>D2</td>
</tr>
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<td>AI561, AI562, AO561, AX561, DC561, DI561, DI562, DI571, DO561, DO572, DX561</td>
<td>B2</td>
</tr>
<tr>
<td>AI563, DO571, DX571</td>
<td>B3</td>
</tr>
</tbody>
</table>
16.1 Assembly
16.2 Disassembly

16.3 Dimensions

The dimensions are in mm and in brackets in inch.
16.4 Connection

1 I/O bus
2 Allocation between terminal number and signal name
3 8 yellow LEDs to display the signal states of the outputs O0 to O7
4 3 green LEDs to display the states of the process supply voltage UP, UP3 and UP4
5 2 red LEDs to display errors
6 Label
7 Terminal unit

All I/O channels (digital and analog) are protected against reverse polarity, reverse supply and continuous overvoltage up to 30 VDC.
16.4.1 Process Supply Voltage

CAUTION!
The process supply voltage must be included in the earthing concept (e.g. earthing of the minus pole).

16.4.2 Outputs

```
| 1.0 | 2.0 | 3.0 | 4.0 |
| 1.1 | 2.1 | 3.1 | 4.1 |
| 1.2 | 2.2 | 3.2 | 4.2 |
| 1.3 | 2.3 | 3.3 | 4.3 |
| 1.4 | 2.4 | 3.4 | 4.4 |
| 1.5 | 2.5 | 3.5 | 4.5 |
| 1.6 | 2.6 | 3.6 | 4.6 |
| 1.7 | 2.7 | 3.7 | 4.7 |
| 1.8 UP +24 V | 2.8 UP +24 V | 3.8 UP3 +24 V | 4.8 UP4 +24 V |
| 1.9 ZP 0 V | 2.9 ZP 0 V | 3.9 ZP3 0 V | 4.9 ZP4 0 V |
```

Example

Fig. 6: Example for connection output

16.5 Cleaning

Cleaning instruction
Do not use cleaning agent for cleaning the device.
Use a damp cloth instead.
16.6 Certification

<table>
<thead>
<tr>
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MSIP-REI-Abb-AC500

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<td>참고</td>
</tr>
<tr>
<td></td>
<td>이러한 기기는</td>
</tr>
</tbody>
</table>

| en | KN61000-6-2 “Immunity for industrial environments”,
| ko | KN61000-6-2 “산업 환경에 대한 내성”,
|    | KN61000-6-4 “산업 환경 누출 기준”에 적합함 |

16.7 Recycling

**Disposal and recycling information**

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For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.
CAUTION!
Risk of injury and damaging the product!
Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by skilled electricians.
Hot swap

Preconditions for hot swapping I/O modules:

- Hot-swappable terminal units have the appendix TU5xx-H.
- I/O modules as of index F0.
- Communication interface modules CI5xx as of index F0.

NOTICE!
Risk of damage to I/O modules!

Modules with index below F0 can be damaged when inserted or removed from the terminal unit in a powered system.

Hot swapping is only allowed for I/O modules.
Processor modules and communication interface modules must not be removed or inserted during operation.

NOTICE!
Risk of damage to I/O modules!

Do not perform hot swapping if any I/O module with firmware version lower than 3.0.14 is part of the decentralized I/O station.

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</thead>
<tbody>
<tr>
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</tr>
<tr>
<td>DO526, DC562, DO562</td>
<td>A2</td>
</tr>
<tr>
<td>DO526 (-XC)</td>
<td>A0</td>
</tr>
<tr>
<td>CD522 (-XC)</td>
<td>D1</td>
</tr>
<tr>
<td>DO524 (-XC)</td>
<td>A3</td>
</tr>
<tr>
<td>AI531</td>
<td>D4</td>
</tr>
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<td>D2</td>
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<td>B2</td>
</tr>
<tr>
<td>AI563, DO571, DX571</td>
<td>B3</td>
</tr>
</tbody>
</table>
17.1 Assembly
17.2 Disassembly

17.3 Dimensions

The dimensions are in mm and in brackets in inch.
17.4 Connection

1. I/O bus
2. Allocation between terminal number and signal name
3. 8 yellow LEDs to display the signal states at the digital inputs (I0 - I7)
4. 8 yellow LEDs to display the signal states at the digital relay outputs (R0 - R7)
5. 1 green LED to display the state of the process supply voltage UP
6. 2 red LEDs to display errors
7. Label
8. Terminal unit

Sign for XC version

*All I/O channels (digital and analog) are protected against reverse polarity, reverse supply and continuous overvoltage up to 30 VDC.*
17.4.1 Process Supply Voltage

CAUTION!
The process supply voltage must be included in the earthing concept (e.g. earthing of the minus pole).

17.4.2 Inputs

Example

Fig. 7: Example for connection input

17.4.3 Outputs

If the relay outputs have to switch inductive DC loads, free-wheeling diodes must be circuited in parallel to these loads.
17.5 Cleaning

**Cleaning instruction**

Do not use cleaning agent for cleaning the device.

Use a damp cloth instead.

17.6 Certification

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Risk of injury and damaging the product!
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- Only by skilled electricians.
**Hot swap**

Preconditions for hot swapping I/O modules:

- Hot-swappable terminal units have the appendix TU5xx-H.
- I/O modules as of index F0.
- Communication interface modules CI5xx as of index F0.

---

**NOTICE!**

Risk of damage to I/O modules!

Modules with index below F0 can be damaged when inserted or removed from the terminal unit in a powered system.

---

**NOTICE!**

Hot swapping is only allowed for I/O modules.

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---

**NOTICE!**

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</tr>
</thead>
<tbody>
<tr>
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<td>A1</td>
</tr>
<tr>
<td>DO526 DC562 DO562</td>
<td>A2</td>
</tr>
<tr>
<td>DO526 (-XC)</td>
<td>A0</td>
</tr>
<tr>
<td>CD522 (-XC)</td>
<td>D1</td>
</tr>
<tr>
<td>DO524 (-XC)</td>
<td>A3</td>
</tr>
<tr>
<td>AI531</td>
<td>D4</td>
</tr>
<tr>
<td>DA501 (-XC), DI524 (-XC), DC532 (-XC), DC523 (-XC), DC522 (-XC), AX521 (-XC), AO523 (-XC), AI523 (-XC), AX522 (-XC), AI531-XC, DX531, DX522 (-XC),</td>
<td>D2</td>
</tr>
<tr>
<td>AI561, AI562, AO561, AX561, DC561, DI561, DI562, DI571, DO561, DO572, DX561</td>
<td>B2</td>
</tr>
<tr>
<td>AI563, DO571, DX571</td>
<td>B3</td>
</tr>
</tbody>
</table>
18.1 Assembly
18.2 Disassembly

18.3 Dimensions

The dimensions are in mm and in brackets in inch.
18.4 Connection

All I/O channels (digital and analog) are protected against reverse polarity, reverse supply and continuous overvoltage up to 30 VDC.
## 18.4.1 Process Supply Voltage

**CAUTION!**
The process supply voltage must be included in the earthing concept (e.g., earthing of the minus pole).

### Diagram

<table>
<thead>
<tr>
<th>UP</th>
<th>1.8 2.8 3.8 4.8</th>
<th>+24 V</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZP</td>
<td>1.9 2.9 3.9 4.9</td>
<td>0 V</td>
</tr>
</tbody>
</table>

## 18.4.2 Inputs

### Diagram

<table>
<thead>
<tr>
<th>2.0 I0</th>
<th>2.1 I2</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.0 I1</td>
<td>3.1 I3</td>
</tr>
<tr>
<td>4.0 N01</td>
<td>4.1 N23</td>
</tr>
<tr>
<td>2.2 I4</td>
<td>2.3 I6</td>
</tr>
<tr>
<td>3.2 I5</td>
<td>3.3 I7</td>
</tr>
<tr>
<td>4.2 N45</td>
<td>4.3 N67</td>
</tr>
</tbody>
</table>

## 18.4.3 Outputs

### Diagram

<table>
<thead>
<tr>
<th>4.4 NC0</th>
<th>2.4 RD</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.4 NO0</td>
<td>3.5 NO1</td>
</tr>
<tr>
<td>4.6 NC2</td>
<td>2.6 R2</td>
</tr>
<tr>
<td>3.6 NO2</td>
<td>3.7 NO3</td>
</tr>
<tr>
<td>4.5 NC1</td>
<td>2.5 R1</td>
</tr>
<tr>
<td>2.7 R3</td>
<td></td>
</tr>
</tbody>
</table>

**If the relay outputs have to switch inductive DC loads, free-wheeling diodes must be circuited in parallel to these loads.**

**If the relay outputs have to switch inductive AC loads, spark suppressors are required.**
18.5 Cleaning

Cleaning instruction
Do not use cleaning agent for cleaning the device.
Use a damp cloth instead.

18.6 Certification

MSIP-REI-Abb-AC500

en Devices with KCC sign on product sticker and packaging

ko 제품 스티커 및 포장에 KCC 표시가 된 기기

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For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.
CAUTION!
Risk of injury and damaging the product!
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- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by skilled electricians.
19.1 Assembly
19.2 Disassembly

19.3 Dimensions

The dimensions are in mm and in brackets in inch.
19.4 Connection

1. I/O bus
2. System LED
3. Allocation between terminal number and signal name
4. 8 yellow/red LEDs to display the signal states of the digital inputs I0 to I7
5. 4 Test pulse outputs T0 to T3
6. 8 yellow/red LEDs to display the signal states of the digital outputs O0 to O7
7. 2 rotary switches for setting the PROFIsafe address
8. 1 green LED to display the state of the process supply voltage UP
9. 2 red LEDs to display errors
10. Label
11. Terminal unit TU582-S(-XC)

*Sign for XC version
19.4.1 Process Supply Voltage

CAUTION!
The process supply voltage must be included in the earthing concept (e.g., earthing of the minus pole).

19.4.2 Inputs/Outputs

![Diagram of Inputs/Outputs]

Examples

*Fig. 8: Example for connection input Ix*
Fig. 9: Example for connection output Ox

AC500-S Safety User Manual
For a detailed description of the electrical connection of the module, please refer to the "AC500-S Safety User Manual".

19.5 Cleaning

Cleaning instruction
Do not use cleaning agent for cleaning the device.
Use a damp cloth instead.

19.6 Certification

| en | Devices with KCC sign on product sticker and packaging |
| ko | 제품 스티커 및 포장에 KCC 표시가 된 기기 |

Note
These devices correspond to:

- KN61000-6-2 “Immunity for industrial environments”,
- KN61000-6-4 “Emission standard for industrial environments”

| en | Note |
| ko | 참고 |
| 이전 기기는 |

- KN61000-6-2 “산업 환경에 대한 내성”,
- KN61000-6-4 “산업 환경 누출 기준”에 적합함
19.7 Recycling

Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user’s responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.
CAUTION!
Risk of injury and damaging the product!
Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by skilled electricians.
**Hot Swap**

**H = Hot swap**

---

**Hot swap**

Preconditions for hot swapping I/O modules:

- Hot-swappable terminal units have the appendix TU5xx-H.
- I/O modules as of index F0.
- Communication interface modules CI5xx as of index F0.

---

**NOTICE!**

Risk of damage to I/O modules!

- Modules with index below F0 can be damaged when inserted or removed from the terminal unit in a powered system.

---

**NOTICE!**

Hot swapping is only allowed for I/O modules.

- Processor modules and communication interface modules must not be removed or inserted during operation.

---

**NOTICE!**

Risk of damage to I/O modules!

- Do not perform hot swapping if any I/O module with firmware version lower than 3.0.14 is part of the decentralized I/O station.

For min. required device index see table below.
<table>
<thead>
<tr>
<th>Device</th>
<th>Min. required device index for I/O module as of FW Version 3.0.14</th>
</tr>
</thead>
<tbody>
<tr>
<td>DO573, FM562, DI572</td>
<td>A1</td>
</tr>
<tr>
<td>DO526 DC562 DO562</td>
<td>A2</td>
</tr>
<tr>
<td>DO526 (-XC)</td>
<td>A0</td>
</tr>
<tr>
<td>CD522 (-XC)</td>
<td>D1</td>
</tr>
<tr>
<td>DO524 (-XC)</td>
<td>A3</td>
</tr>
<tr>
<td>AI531</td>
<td>D4</td>
</tr>
<tr>
<td>DA501 (-XC), DI524 (-XC), DC532 (-XC), DC523 (-XC), DC522 (-XC), AX521 (-XC), AO523 (-XC), AI523 (-XC), AX522 (-XC), AI531-XC, DX531, DX522 (-XC),</td>
<td>D2</td>
</tr>
<tr>
<td>AI561, AI562, AO561, AX561, DC561, DI561, DI562, DI571, DO561, DO572, DX561</td>
<td>B2</td>
</tr>
<tr>
<td>AI563, DO571, DX571</td>
<td>B3</td>
</tr>
</tbody>
</table>
20.1 Assembly
20.2 Disassembly

20.3 Dimensions

The dimensions are in mm and in brackets in inch.
20.4 Connection

1. I/O bus
2. Allocation between terminal number and signal name
3. 16 yellow LEDs to display the signal states at the analog inputs (I0 - I15)
4. 1 green LED to display the state of the process supply voltage UP
5. 2 red LEDs to display errors
6. Label
7. Terminal unit

All I/O channels (digital and analog) are protected against reverse polarity, reverse supply and continuous overvoltage up to 30 VDC.
20.4.1 Process Supply Voltage

UP
1.8 2.8 3.8 4.8
+ 24 V
0 V
1.9 2.9 3.9 4.9
ZP

CAUTION!
The process supply voltage must be included in the earthing concept (e.g. earthing of the minus pole).

20.4.2 Inputs

Example

Fig. 10: Example for connection input
20.5 Cleaning

Cleaning instruction
Do not use cleaning agent for cleaning the device.
Use a damp cloth instead.

20.6 Certification

<table>
<thead>
<tr>
<th>en</th>
<th>Devices with KCC sign on product sticker and packaging</th>
</tr>
</thead>
<tbody>
<tr>
<td>ko</td>
<td>제품 스티커 및 포장에 KCC 표시가 된 기기</td>
</tr>
</tbody>
</table>

**MSIP-REI-Abb-AC500**

<table>
<thead>
<tr>
<th>en</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>ko</td>
<td>참고</td>
</tr>
</tbody>
</table>

These devices correspond to:

- KN61000-6-2 "Immunity for industrial environments",
- KN61000-6-4 "Emission standard for industrial environments"

- KN61000-6-2 "산업 환경에 대한 내성",
- KN61000-6-4 "산업 환경 누출 기준"에 적합함

20.7 Recycling

Disposal and recycling information
This symbol on the product (and on its packaging) is in accordance with the European Union’s Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user’s responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.
CAUTION!
Risk of injury and damaging the product!
Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by skilled electricians.
**Preconditions for hot swapping I/O modules:**

- Hot-swappable terminal units have the appendix TU5xx-H.
- I/O modules as of index F0.
- Communication interface modules CI5xx as of index F0.

**NOTICE!**

Risk of damage to I/O modules!

Modules with index below F0 can be damaged when inserted or removed from the terminal unit in a powered system.

**NOTICE!**

Hot swapping is only allowed for I/O modules.

Processor modules and communication interface modules must not be removed or inserted during operation.

**NOTICE!**

Risk of damage to I/O modules!

Do not perform hot swapping if any I/O module with firmware version lower than 3.0.14 is part of the decentralized I/O station.

For min. required device index see table below.
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<tr>
<th>Device</th>
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<tr>
<td>DO526, DC562, DO562</td>
<td>A2</td>
</tr>
<tr>
<td>DO526 (-XC)</td>
<td>A0</td>
</tr>
<tr>
<td>CD522 (-XC)</td>
<td>D1</td>
</tr>
<tr>
<td>DO524 (-XC)</td>
<td>A3</td>
</tr>
<tr>
<td>AI531</td>
<td>D4</td>
</tr>
<tr>
<td>DA501 (-XC), DI524 (-XC), DC532 (-XC), DC523 (-XC), DC522 (-XC), AX521 (-XC), AO523 (-XC), AI523 (-XC), AX522 (-XC), AI531-XC, DX531, DX522 (-XC),</td>
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<td>AI563, DO571, DX571</td>
<td>B3</td>
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</table>
21.1 Assembly
21.2 Disassembly

21.3 Dimensions

The dimensions are in mm and in brackets in inch.
21.4 Connection

<table>
<thead>
<tr>
<th>Number</th>
<th>Description</th>
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<tbody>
<tr>
<td>1</td>
<td>I/O bus</td>
</tr>
<tr>
<td>2</td>
<td>Allocation between terminal number and signal name</td>
</tr>
<tr>
<td>3</td>
<td>4 yellow LEDs to display the states at the inputs (I0 - I3)</td>
</tr>
<tr>
<td>4</td>
<td>4 yellow LEDs to display the states at the inputs (I4 - I7)</td>
</tr>
<tr>
<td>5</td>
<td>1 green LED to display the state of the process supply voltage UP</td>
</tr>
<tr>
<td>6</td>
<td>2 red LEDs to display errors</td>
</tr>
<tr>
<td>7</td>
<td>Label</td>
</tr>
<tr>
<td>8</td>
<td>Terminal unit</td>
</tr>
</tbody>
</table>

*Sign for XC version*

---

All I/O channels (digital and analog) are protected against reverse polarity, reverse supply and continuous overvoltage up to 30 VDC.
21.4.1 Process Supply Voltage

CAUTION!
The process supply voltage must be included in the earthing concept (e.g. earthing of the minus pole).

21.4.2 Inputs
21.5 Cleaning

Cleaning instruction

Do not use cleaning agent for cleaning the device.
Use a damp cloth instead.

21.6 Certification

<table>
<thead>
<tr>
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<tbody>
<tr>
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<tr>
<td>en/ko</td>
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<td>en/ko</td>
</tr>
</tbody>
</table>

Fig. 11: Example for connection input
21.7 Recycling

**Disposal and recycling information**

This symbol on the product (and on its packaging) is in accordance with the European Union’s Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user’s responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.
CAUTION!
Risk of injury and damaging the product!
Improper installation and maintenance may result in injury and can damage the product!
- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by skilled electricians.
22.1 Assembly
22.2 Disassembly

22.3 Dimensions

The dimensions are in mm and in brackets in inch.
22.4 Connection

1. I/O bus
2. System LED
3. Allocation between terminal number and signal name
4. 4 yellow/red LEDs to display the signal states of the analog inputs
5. 2 rotary switches for setting the PROFi-safe address
6. 1 green LED to display the state of the process supply voltage UP
7. 2 red LEDs to display errors
8. Label
9. Terminal unit TU582-S(-XC)

*Sign for XC version*
22.4.1 Process Supply Voltage

CAUTION!
The process supply voltage must be included in the earthing concept (e.g. earthing of the minus pole).

22.4.2 Inputs

Example

Fig. 12: Example for connection input

**AC500-S Safety User Manual**
For a detailed description of the electrical connection of the module, please refer to the “AC500-S Safety User Manual”.
22.5 Cleaning

Cleaning instruction
Do not use cleaning agent for cleaning the device.
Use a damp cloth instead.

22.6 Certification

<table>
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<tr>
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Note
These devices correspond to:

- KN61000-6-2 “Immunity for industrial environments”
- KN61000-6-4 “Emission standard for industrial environments”

22.7 Recycling

Disposal and recycling information
This symbol on the product (and on its packaging) is in accordance with the European Union’s Waste Electrical and Electronic Equipment (WEEE) Directive.

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- Only by skilled electricians.
Hot swap

Preconditions for hot swapping I/O modules:

- Hot-swappable terminal units have the appendix TU5xx-H.
- I/O modules as of index F0.
- Communication interface modules CI5xx as of index F0.

NOTICE!

Risk of damage to I/O modules!

Modules with index below F0 can be damaged when inserted or removed from the terminal unit in a powered system.

NOTICE!

Hot swapping is only allowed for I/O modules.

Processor modules and communication interface modules must not be removed or inserted during operation.

NOTICE!

Risk of damage to I/O modules!

Do not perform hot swapping if any I/O module with firmware version lower than 3.0.14 is part of the decentralized I/O station.

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</tr>
<tr>
<td>DC562</td>
<td></td>
</tr>
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<td>DO562</td>
<td></td>
</tr>
<tr>
<td>DO526 (-XC)</td>
<td>A0</td>
</tr>
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<tr>
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</tr>
</tbody>
</table>
23.1 Assembly
23.2 Disassembly

23.3 Dimensions

The dimensions are in mm and in brackets in inch.
23.4 Connection

1 I/O bus
2 Allocation between terminal number and signal name
3 16 yellow LEDs to display the signal states at the analog outputs (O0 - O15)
4 1 green LED to display the state of the process supply voltage UP
5 2 red LEDs to display errors
6 Label
7 Terminal unit

**Tip:** Sign for XC version

---

All I/O channels (digital and analog) are protected against reverse polarity, reverse supply and continuous overvoltage up to 30 VDC.
23.4.1 Process Supply Voltage

CAUTION!
The process supply voltage must be included in the earthing concept (e.g. earthing of the minus pole).

23.4.2 Outputs

Example

Fig. 13: Example for connection output
23.5 Cleaning

Cleaning instruction
Do not use cleaning agent for cleaning the device.
Use a damp cloth instead.

23.6 Certification

<table>
<thead>
<tr>
<th>en</th>
<th>Devices with KCC sign on product sticker and packaging</th>
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<tr>
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MSIP-REI-Abb-AC500

<table>
<thead>
<tr>
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<th>Note</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>These devices correspond to:</td>
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<tr>
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<table>
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<td>KN61000-6-4 &quot;산업 환경 누출 기준&quot;에 적합함</td>
</tr>
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23.7 Recycling

Disposal and recycling information
This symbol on the product (and on its packaging) is in accordance with the European Union’s Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

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The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.
24  AX521

- AX521
- AX521-XC

CAUTION!
Risk of injury and damaging the product!
Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by skilled electricians.
**Hot Swap**

**H = Hot swap**

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**Hot swap**

Preconditions for hot swapping I/O modules:

- Hot-swappable terminal units have the appendix TU5xx-H.
- I/O modules as of index F0.
- Communication interface modules CI5xx as of index F0.

---

**NOTICE!**

Risk of damage to I/O modules!

- Modules with index below F0 can be damaged when inserted or removed from the terminal unit in a powered system.

---

**The index of the module is in the right corner of the label.**

---

**NOTICE!**

Hot swapping is only allowed for I/O modules.

- Processor modules and communication interface modules must not be removed or inserted during operation.

---

**NOTICE!**

Risk of damage to I/O modules!

- Do not perform hot swapping if any I/O module with firmware version lower than 3.0.14 is part of the decentralized I/O station.

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<tr>
<td>AI563,</td>
<td>B3</td>
</tr>
<tr>
<td>DO571,</td>
<td></td>
</tr>
<tr>
<td>DX571</td>
<td></td>
</tr>
</tbody>
</table>
24.1 Assembly
24.2 Disassembly

24.3 Dimensions

The dimensions are in mm and in brackets in inch.
24.4 Connection

1 I/O bus
2 Allocation between terminal number and signal name
3 4 yellow LEDs to display the signal states at the analog inputs (I0 - I3)
4 4 yellow LEDs to display the signal states at the analog outputs (O0 - O3)
5 1 green LED to display the state of the process supply voltage UP
6 2 red LEDs to display errors
7 Label
8 Terminal unit
9 Sign for XC version

All I/O channels (digital and analog) are protected against reverse polarity, reverse supply and continuous overvoltage up to 30 VDC.
24.4.1 Process Supply Voltage

CAUTION!
The process supply voltage must be included in the earthing concept (e.g. earthing of the minus pole).

24.4.2 Inputs

Example

Fig. 14: Example for connection input

24.4.3 Outputs
24.5 Cleaning

**Cleaning instruction**
Do not use cleaning agent for cleaning the device.
Use a damp cloth instead.

24.6 Certification

<table>
<thead>
<tr>
<th>en</th>
<th>Devices with KCC sign on product sticker and packaging</th>
</tr>
</thead>
<tbody>
<tr>
<td>ko</td>
<td>제품 스티커 및 포장에 KCC 표시가 된 기기</td>
</tr>
</tbody>
</table>

**Note**
These devices correspond to:
- KN61000-6-2 "Immunity for industrial environments"
- KN61000-6-4 "Emission standard for industrial environments"

<table>
<thead>
<tr>
<th>en</th>
<th>참고</th>
</tr>
</thead>
<tbody>
<tr>
<td>ko</td>
<td>이러한 기기는</td>
</tr>
</tbody>
</table>

24.7 Recycling

**Disposal and recycling information**
This symbol on the product (and on its packaging) is in accordance with the European Union’s Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

*It is the end user’s responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.*

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

*For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.*
CAUTION!
Risk of injury and damaging the product!
Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by skilled electricians.
Hot swap

Preconditions for hot swapping I/O modules:

- Hot-swappable terminal units have the appendix TU5xx-H.
- I/O modules as of index F0.
- Communication interface modules CI5xx as of index F0.

NOTICE!
Risk of damage to I/O modules!

- Modules with index below F0 can be damaged when inserted or removed from the terminal unit in a powered system.

NOTICE!
Hot swapping is only allowed for I/O modules.

- Processor modules and communication interface modules must not be removed or inserted during operation.

NOTICE!
Risk of damage to I/O modules!

- Do not perform hot swapping if any I/O module with firmware version lower than 3.0.14 is part of the decentralized I/O station.

For min. required device index see table below.
<table>
<thead>
<tr>
<th>Device</th>
<th>Min. required device index for I/O module as of FW Version 3.0.14</th>
</tr>
</thead>
<tbody>
<tr>
<td>DO573, FM562, DI572</td>
<td>A1</td>
</tr>
<tr>
<td>DO526</td>
<td>A2</td>
</tr>
<tr>
<td>DC562</td>
<td></td>
</tr>
<tr>
<td>DO562</td>
<td></td>
</tr>
<tr>
<td>DO526 (-XC)</td>
<td>A0</td>
</tr>
<tr>
<td>CD522 (-XC)</td>
<td>D1</td>
</tr>
<tr>
<td>DO524 (-XC)</td>
<td>A3</td>
</tr>
<tr>
<td>AI531</td>
<td>D4</td>
</tr>
<tr>
<td>DA501 (-XC), DI524 (-XC), DC532 (-XC), DC523 (-XC), DC522 (-XC), AX521 (-XC), AO523 (-XC), AI523 (-XC), AX522 (-XC), AI531-XC, DX531, DX522 (-XC),</td>
<td>D2</td>
</tr>
<tr>
<td>AI561, AI562, AO561, AX561, DC561, DI561, DI562, DI571, DO561, DO572, DX561</td>
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</tr>
<tr>
<td>AI563, DO571, DX571</td>
<td>B3</td>
</tr>
</tbody>
</table>
25.1 Assembly
25.2 Disassembly

25.3 Dimensions

The dimensions are in mm and in brackets in inch.
25.4 Connection

1 I/O bus
2 Allocation between terminal number and signal name
3 8 yellow LEDs to display the signal states at the analog inputs (I0 - I7)
4 8 yellow LEDs to display the signal states at the analog outputs (O0 - O7)
5 1 green LED to display the state of the process supply voltage UP
6 2 red LEDS to display errors
7 Label
8 Terminal unit
9* Sign for XC version

All I/O channels (digital and analog) are protected against reverse polarity, reverse supply and continuous overvoltage up to 30 VDC.
25.4.1 Process Supply Voltage

**CAUTION!**
The process supply voltage must be included in the earthing concept (e.g. earthing of the minus pole).

25.4.2 Inputs

**Example**

25.4.3 Outputs

Fig. 16: Example for connection input
25.5 Cleaning

Cleaning instruction
Do not use cleaning agent for cleaning the device.
Use a damp cloth instead.

25.6 Certification

<table>
<thead>
<tr>
<th>en</th>
<th>Devices with KCC sign on product sticker and packaging</th>
</tr>
</thead>
<tbody>
<tr>
<td>ko</td>
<td>제품 스티커 및 포장에 KCC 표시가 된 기기</td>
</tr>
</tbody>
</table>

Note
These devices correspond to:

<table>
<thead>
<tr>
<th>en</th>
<th>Devices matching with &quot;Immunity for industrial environments&quot;, &quot;Emission standard for industrial environments&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>ko</td>
<td>산업 환경에 대한 내성&quot;, &quot;산업 환경 누출 기준&quot;에 적합한 기기</td>
</tr>
</tbody>
</table>

25.7 Recycling

Disposal and recycling information
This symbol on the product (and on its packaging) is in accordance with the European Union’s Waste Electrical and Electronic Equipment (WEEE) Directive. The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user’s responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.
CAUTION!
Risk of injury and damaging the product!
Improper installation and maintenance may result in injury and can damage the product!
- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by skilled electricians.
Hot swap

Preconditions for hot swapping I/O modules:

- Hot-swappable terminal units have the appendix TU5xx-H.
- I/O modules as of index F0.
- Communication interface modules CI5xx as of index F0.

NOTICE!

Risk of damage to I/O modules!

- Modules with index below F0 can be damaged when inserted or removed from the terminal unit in a powered system.

NOTICE!

Hot swapping is only allowed for I/O modules.

Processor modules and communication interface modules must not be removed or inserted during operation.

NOTICE!

Risk of damage to I/O modules!

- Do not perform hot swapping if any I/O module with firmware version lower than 3.0.14 is part of the decentralized I/O station.

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<tr>
<td>DC562</td>
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<tr>
<td>DO562</td>
<td></td>
</tr>
<tr>
<td>DO526 (-XC)</td>
<td>A0</td>
</tr>
<tr>
<td>CD522 (-XC)</td>
<td>D1</td>
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<tr>
<td>DO524 (-XC)</td>
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<tr>
<td>DO571,</td>
<td></td>
</tr>
<tr>
<td>DX571,</td>
<td></td>
</tr>
</tbody>
</table>
26.1 Assembly
26.2 Disassembly

The dimensions are in mm and in brackets in inch.

26.3 Dimensions

The dimensions are in mm and in brackets in inch.
26.4 Connection

1. I/O bus
2. Allocation between terminal number and signal name
3. 16 yellow LEDs to display the signal states of the digital inputs DI0 - DI15
4. 4 yellow LEDs to display the signal states of the analog inputs AI0 to AI3
5. 2 yellow LEDs to display the signal states of the analog outputs AO0 to AO1
6. 8 yellow LEDs to display the signal state of the configurable digital inputs/outputs DC16 to DC23
7. 1 green LED to display the state of the process supply voltage UP
8. 4 red LEDs to display errors
9. Label
10. Terminal unit

*Note: Sign for XC version

All I/O channels (digital and analog) are protected against reverse polarity, reverse supply and continuous overvoltage up to 30 VDC.
26.4.1 Process Supply Voltage

CAUTION!
The process supply voltage must be included in the earthing concept (e.g., earthing of the minus pole).

26.4.2 Inputs/Outputs

Examples

Fig. 18: Example for connection input Dlx

Fig. 19: Example for connection input Alx
26.5 Cleaning

Cleaning instruction
Do not use cleaning agent for cleaning the device.
Use a damp cloth instead.

26.6 Certification

<table>
<thead>
<tr>
<th>en</th>
<th>Devices with KCC sign on product sticker and packaging</th>
</tr>
</thead>
<tbody>
<tr>
<td>ko</td>
<td>제품 스티커 및 포장에 KCC 표시가 된 기기</td>
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<table>
<thead>
<tr>
<th>en</th>
<th>Note</th>
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<td></td>
<td>These devices correspond to:</td>
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<tr>
<td></td>
<td>KN61000-6-2 &quot;Immunity for industrial environments&quot;, KN61000-6-4 &quot;Emission standard for industrial environments&quot;</td>
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<tr>
<th>ko</th>
<th>참고</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>이러한 기기는</td>
</tr>
<tr>
<td></td>
<td>KN61000-6-2 &quot;산업 환경에 대한 내성&quot;, KN61000-6-4 &quot;산업 환경 누출 기준&quot;에 적합함</td>
</tr>
</tbody>
</table>

Fig. 20: Example for connection output AOx

1 Example for connection as an input
2 Example for connection as an output
26.7 Recycling

Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union’s Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user’s responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.
CAUTION!
Risk of injury and damaging the product!
Improper installation and maintenance may result in injury and can damage the product!
- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by skilled electricians.
27.1 Assembly
27.2 Disassembly

27.3 Dimensions

The dimensions are in mm and in brackets in inch.
27.4 Connection

1. I/O bus
2. Allocation between terminal number and signal name
3. 3 yellow LEDs to display the signal states of the encoder 0 input
4. 3 yellow LEDs to display the signal states of the encoder 1 input
5. 2 green LEDs to display the 5-V-power-supply states
6. 2 yellow LEDs to display the signal state of the digital input I3 and I11
7. 8 yellow LEDs to display the input/output signal states
8. 2 yellow LEDs to display the signal states of the PWM/pulse outputs
9. 1 green LED to display the process supply voltage UP
10. 3 red LEDs to display errors
11. Label
12. Terminal unit

All I/O channels (digital and analog) are protected against reverse polarity, reverse supply and continuous overvoltage up to 30 VDC.
27.4.1 Process Supply Voltage

CAUTION!
The process supply voltage must be included in the earthing concept (e. g. earthing of the minus pole).

5V0

5V1

27.4.2 Inputs

Example

1 Example for connection input lx
27.4.3 Inputs/Outputs

Example

1. Example for connection as an input
2. Example for connection as an output

27.4.4 Outputs

Push-pull outputs
27.5 Cleaning

Cleaning instruction
Do not use cleaning agent for cleaning the device.
Use a damp cloth instead.

27.6 Certification

<table>
<thead>
<tr>
<th>MSIP-REI-Abb-AC500</th>
</tr>
</thead>
<tbody>
<tr>
<td>en          Devices with KCC sign on product sticker and packaging</td>
</tr>
<tr>
<td>ko          제품 스티커 및 포장에 KCC 표시가 된 기기</td>
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</tbody>
</table>

<table>
<thead>
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<tbody>
<tr>
<td>en   These devices correspond to:</td>
</tr>
<tr>
<td>ko   이러한 기기는</td>
</tr>
</tbody>
</table>

| en          KN61000-6-2 "Immunity for industrial environments", KN61000-6-4 "Emission standard for industrial environments" |
| ko          KN61000-6-2 "산업 환경에 대한 내성",
KN61000-6-4 "산업 환경 누출 기준"에 적합함 |
27.7 Recycling

Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union’s Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user’s responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.
CAUTION!
Risk of injury and damaging the product!
Improper installation and maintenance may result in injury and can damage the product!
- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by skilled electricians.
**Hot swap**

Preconditions for hot swapping I/O modules:

- Hot-swappable terminal units have the appendix TU5xx-H.
- I/O modules as of index F0.
- Communication interface modules CI5xx as of index F0.

**NOTICE!**

Risk of damage to I/O modules!

Modules with index below F0 can be damaged when inserted or removed from the terminal unit in a powered system.

**NOTICE!**

Hot swapping is only allowed for I/O modules.

Processor modules and communication interface modules must not be removed or inserted during operation.

**NOTICE!**

Risk of damage to I/O modules!

Do not perform hot swapping if any I/O module with firmware version lower than 3.0.14 is part of the decentralized I/O station.

For min. required device index see table below.
<table>
<thead>
<tr>
<th>Device</th>
<th>Min. required device index for I/O module as of FW Version 3.0.14</th>
</tr>
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<tbody>
<tr>
<td>DO573, FM562, DI572</td>
<td>A1</td>
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</tr>
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<td>DC562</td>
<td></td>
</tr>
<tr>
<td>DO562</td>
<td></td>
</tr>
<tr>
<td>DO526 (-XC)</td>
<td>A0</td>
</tr>
<tr>
<td>CD522 (-XC)</td>
<td>D1</td>
</tr>
<tr>
<td>DO524 (-XC)</td>
<td>A3</td>
</tr>
<tr>
<td>AI531</td>
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</tr>
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<td>DA501 (-XC), DI524 (-XC), DC532 (-XC), DC523 (-XC), DC522 (-XC), AX521 (-XC), AO523 (-XC), AI523 (-XC), AX522 (-XC), AI531-XC, DX531, DX522 (-XC),</td>
<td>D2</td>
</tr>
<tr>
<td>AI561, AI562, AO561, AX561, DC561, DI561, DI562, DI571, DO561, DO572, DX561</td>
<td></td>
</tr>
<tr>
<td>AI563, DO571, DX571</td>
<td>B3</td>
</tr>
</tbody>
</table>
NOTICE!

The section "Hot Swap" is only valid for CI501-PNIO(-XC) and CI521-MODTCP(-XC).

28.1 Assembly
28.2 Disassembly

28.3 Dimensions

The dimensions are in mm and in brackets in inch.
28.4 Connection

Fig. 21: CI501-PNIO (example)

1 I/O bus
2 Allocation between terminal number and signal name
3 6 yellow LEDs to display the signal states of the analog inputs/outputs (AI0 - AI3, AO0 - AO1)
4 8 yellow LEDs to display the signal states of the digital inputs (DI0 - DI7)
5 8 yellow LEDs to display the signal states of the digital outputs (DO0 - DO7)
6 2 green LEDs to display the supply voltage UP and UP3
7 3 red LEDs to display errors (CH-ERR1, CH-ERR2, CH-ERR3)
8 5 system LEDs: PWR/RUN, STA1 ETH, STA2 ETH, S-ERR, I/O-Bus
9 Label
10 2 rotary switches for setting the I/O device identifier (CI501-PNIO(-XC), CI521-MODTCP(-XC))
11 Ethernet network interfaces (ETH1, ETH2) on the terminal unit
12 Terminal unit

All I/O channels (digital and analog) are protected against reverse polarity, reverse supply and continuous overvoltage up to 30 VDC.
28.4.1 Process Supply Voltage

**CAUTION!**
The process supply voltage must be included in the earthing concept (e.g., earthing of the minus pole).

28.4.2 Inputs/Outputs

**Example Analog Input**

---

*Fig. 22: Example for connection input AIx*
Fig. 23: Example for connection output AOx

Fig. 24: Example for connection input DIx

Fig. 25: Example for connection output DOx

28.5 Cleaning

Cleaning instruction
Do not use cleaning agent for cleaning the device.
Use a damp cloth instead.

28.6 Certification

<table>
<thead>
<tr>
<th>en</th>
<th>Devices with KCC sign on product sticker and packaging</th>
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<tbody>
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MSIP-REI-Abb-AC500

<table>
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<tr>
<td></td>
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Disposal and recycling information

This symbol on the product (and on its packaging) is in accordance with the European Union’s Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user’s responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.
CAUTION!
Risk of injury and damaging the product!
Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by skilled electricians.
**Preconditions for hot swapping I/O modules:**

- Hot-swappable terminal units have the appendix TU5xx-H.
- I/O modules as of index F0.
- Communication interface modules CI5xx as of index F0.

**NOTICE!**

Risk of damage to I/O modules!

Modules with index below F0 can be damaged when inserted or removed from the terminal unit in a powered system.

**NOTICE!**

Hot swapping is only allowed for I/O modules.

Processor modules and communication interface modules must not be removed or inserted during operation.

**NOTICE!**

Risk of damage to I/O modules!

Do not perform hot swapping if any I/O module with firmware version lower than 3.0.14 is part of the decentralized I/O station.

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<tbody>
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<td>DO573, FM562, DI572</td>
<td>A1</td>
</tr>
<tr>
<td>DO526, DC562, DO562</td>
<td>A2</td>
</tr>
<tr>
<td>DO526 (-XC)</td>
<td>A0</td>
</tr>
<tr>
<td>CD522 (-XC)</td>
<td>D1</td>
</tr>
<tr>
<td>DO524 (-XC)</td>
<td>A3</td>
</tr>
<tr>
<td>AI531</td>
<td>D4</td>
</tr>
<tr>
<td>DA501 (-XC), DI524 (-XC), DC532 (-XC), DC523 (-XC), DC522 (-XC), AX521 (-XC), AO523 (-XC), AI523 (-XC), AX522 (-XC), AI531-XC, DX531, DX522 (-XC),</td>
<td>D2</td>
</tr>
<tr>
<td>AI561, AI562, AO561, AX561, DC561, DI561, DI562, DI571, DO561, DO572, DX561</td>
<td>B2</td>
</tr>
<tr>
<td>AI563, DO571, DX571</td>
<td>B3</td>
</tr>
</tbody>
</table>
29.1 Assembly

NOTICE!
The section "Hot Swap" is only valid for CI502-PNIO(-XC) and CI522-MODTCP(-XC).
29.2 Disassembly

29.3 Dimensions

The dimensions are in mm and in brackets in inch.
29.4 Connection

![Diagram of CI502-PNIO](image)

Fig. 26: CI502-PNIO (example)

1. I/O bus
2. Allocation between terminal number and signal name
3. 8 yellow LEDs to display the signal states of the configurable digital inputs/outputs (DC0 - DC7)
4. 8 yellow LEDs to display the signal states of the digital inputs (DI8 - DI15)
5. 8 yellow LEDs to display the signal states of the digital outputs (DO8 - DO15)
6. 2 green LEDs to display the supply voltage UP and UP3
7. 3 red LEDs to display errors (CH-ERR1, CH-ERR2, CH-ERR3)
8. 5 system LEDs: PWR/RUN, STA1 ETH, STA2 ETH, S-ERR, I/O-Bus
9. Label
10. 2 rotary switches for setting the I/O device identifier (CI502-PNIO(-XC), CI522-MODTCP(-XC))
11. Ethernet network interfaces (ETH1, ETH2) on the terminal unit
12. Terminal unit

*Sign for XC version

All I/O channels (digital and analog) are protected against reverse polarity, reverse supply and continuous overvoltage up to 30 VDC.
29.4.1 Process Supply Voltage

CAUTION!
The process supply voltage must be included in the earthing concept (e.g. earthing of the minus pole).

29.4.2 Inputs/Outputs

Example Input or Output

1 Example for connection as an input
2 Example for connection as an output
29.5 Cleaning

**Cleaning instruction**
Do not use cleaning agent for cleaning the device.
Use a damp cloth instead.

29.6 Certification

<table>
<thead>
<tr>
<th>MSIP-REI-Abb-AC500</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>en</strong> Devices with KCC sign on product sticker and packaging</td>
</tr>
<tr>
<td><strong>ko</strong> 제품 스티커 및 포장에 KCC 표시가 된 기기</td>
</tr>
</tbody>
</table>

**Note**
These devices correspond to:
- KN61000-6-2 "Immunity for industrial environments",
- KN61000-6-4 "Emission standard for industrial environments"

| **en** 참고 |
| **ko** 이러한 기기는 |
| **en** 이 기기는 |
| **ko** 이 기기는 |

29.7 Recycling

**Disposal and recycling information**
This symbol on the product (and on its packaging) is in accordance with the European Union’s Waste Electrical and Electronic Equipment (WEEE) Directive.

The symbol indicates that this product must be recycled/disposed of separately from other household waste.

It is the end user’s responsibility to dispose of this product by taking it to a designated WEEE collection facility for the proper collection and recycling of the waste equipment.

The separate collection and recycling of waste equipment will help to conserve natural resources and protect human health and the environment.

For more information about recycling, please contact your local environmental office, an electrical/electronic waste disposal company or the store where you purchased the product.
CAUTION!
Risk of injury and damaging the product!
Improper installation and maintenance may result in injury and can damage the product!

- Installation and maintenance have to be performed according to the technical rules, codes and relevant standards, e.g. EN 60204-1.
- Only by skilled electricians.
Hot swap

Preconditions for hot swapping I/O modules:

- Hot-swappable terminal units have the appendix TU5xx-H.
- I/O modules as of index F0.
- Communication interface modules CI5xx as of index F0.

NOTICE!
Risk of damage to I/O modules!

Modules with index below F0 can be damaged when inserted or removed from the terminal unit in a powered system.

NOTICE!
Hot swapping is only allowed for I/O modules.

Processor modules and communication interface modules must not be removed or inserted during operation.

NOTICE!
Risk of damage to I/O modules!

Do not perform hot swapping if any I/O module with firmware version lower than 3.0.14 is part of the decentralized I/O station.

For min. required device index see table below.

The index of the module is in the right corner of the label.
<table>
<thead>
<tr>
<th>Device</th>
<th>Min. required device index for I/O module as of FW Version 3.0.14</th>
</tr>
</thead>
<tbody>
<tr>
<td>DO573, FM562, DI572</td>
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</tr>
<tr>
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<td>A2</td>
</tr>
<tr>
<td>DO526 (-XC), CD522 (-XC)</td>
<td>A0</td>
</tr>
<tr>
<td>DO524 (-XC), AI531</td>
<td>D1</td>
</tr>
<tr>
<td>DO524 (-XC), AI531</td>
<td>A3</td>
</tr>
<tr>
<td>AI531, DA501 (-XC), DI524 (-XC), DC532 (-XC), DC523 (-XC), DC522 (-XC), AX521 (-XC), AO523 (-XC), AI523 (-XC), AX522 (-XC), AI531-XC, DX531, DX522 (-XC), AI561, AI562, AI563, AI561, AO561, AX561, DC561, DI561, DI562, DI571, DO561, DO572, DO571, DX561, DX571</td>
<td>B2</td>
</tr>
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<td>B3</td>
</tr>
</tbody>
</table>
30.1 Assembly
30.2 Disassembly

30.3 Dimensions

The dimensions are in mm and in brackets in inch.
30.4 Connection

1. I/O bus
2. Allocation between terminal number and signal name
3. 6 yellow LEDs to display the signal states of the analog inputs/outputs (AI0 - AI3, AO0 - AO1)
4. 8 yellow LEDs to display the signal states of the digital inputs (DI0 - DI7)
5. 8 yellow LEDs to display the signal states of the digital outputs (DO0 - DO7)
6. 2 green LEDs to display the supply voltage UP and UP3
7. 3 red LEDs to display errors (CH-ERR1, CH-ERR2, CH-ERR3)
8. 5 system LEDs: PWR/RUN, STA1 DP, STA2 DP, S-ERR, I/O-Bus
9. Label
10. 2 rotary switches for setting the PROFIBUS ID
11. Interface for PROFIBUS
12. Terminal unit

*+ Sign for XC version

All I/O channels (digital and analog) are protected against reverse polarity, reverse supply and continuous overvoltage up to 30 VDC.
30.4.1 Process Supply Voltage

CAUTION!
The process supply voltage must be included in the earthing concept (e.g. earthing of the minus pole).

30.4.2 Inputs/Outputs

Example Analog Input

Fig. 29: Example for connection input Alx
Fig. 30: Example for connection output AOx

Example Digital Input

Fig. 31: Example for connection input DIx

Example Digital Output

Fig. 32: Example for connection output DOx

30.5 Cleaning

Cleaning instruction
Do not use cleaning agent for cleaning the device.
Use a damp cloth instead.

30.6 Certification

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참고
이러한 기기는

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