Power & Signal Quality TRABTECH

PLUGTRAB PT-IQ

Intelligent and systematic surge protection
Why use surge protection for measurement and control technology?

Signal interfaces are at far greater risk of surge voltages than power supply systems. This is a result of a) the numerous cables laid in parallel and b) the more sensitive input and output interfaces.

Based on the risk potential and safety level the interface claims to have, a variety of surge protective devices are used.

These are installed directly upstream of the signal inputs to be protected. The circuits of these surge protective devices are adapted to the relevant signal types.

Hazard

Unexpected device damage or system failures in measurement and control technology and data technology are often caused by surge voltages. These occur as a result of lightning effects or switching operations in the power supply network. Time-consuming troubleshooting, replacements, repairs, and downtimes can result in considerable follow-up costs.
Surge protection provides an effective method of limiting high-energy transients. This type of protective measure significantly increases the availability and operability of your devices and systems. Plug-in and self-monitoring protective systems are particularly convenient.

PLUGTRAB PT-IQ provides intelligent and systematic surge protection:

- Permanent and error-free installation
- Forward-looking monitoring
- Limitless extension
PLUGTRAB PT-IQ is a new, forward-looking surge protection system with a variety of new features. Each voltage-limiting component of the protective circuit is intelligently monitored. This enables previous damage as a result of powerful surge voltages to be detected immediately. The function status is indicated and signaled remotely in multiple stages.

A controller manages a strip with protective devices. At the same time, it is the power supply unit and the central evaluation unit for all status signals.

As soon as each module is snapped on, the power supply and the status signal are connected. This considerably minimizes the amount of cabling required.

Energy efficiency
The green LEDs on all protection modules can be switched off centrally via the controller.

Forward-looking monitoring
PLUGTRAB PT-IQ performs multi-stage monitoring of the protective devices and issues group messages via the controller. A yellow status signal indicates that the performance limit has been reached as a result of frequent surge voltages. The arresters continue to function and your system is still protected. A replacement is, however, recommended in order to avoid unnecessary service operations. Remote signaling enables you to check how well your system is being protected at any time and place.
Individual DIN rail connectors can be converted into a bus. This transmits the power supply and status information. Conventional wiring is not used.

**Permanent installation**

A controller supplies up to 28 protection modules with voltage via the T-BUS. You can bridge the T-BUS across DIN rails to supply additional protective devices. After 28 modules an additional controller must be installed in order to supply voltage.

**Limitless extension**

Voltage keying and protection against polarity reversal. Incorrect connection is not possible.

**Error-free installation**

Up to five signal lines can be protected with one device. This requires a design width of just 17.5 mm on the DIN rail.

**Space-saving installation**

The new latching guarantees a secure fit for installations in harsh environments. It holds the plug in place in the base element.

**Vibration-resistant installation**
Indirect or direct grounding – the choice is yours

PLUGTRAB PT-IQ protective devices are available with various ground connections for the widest range of applications. They make contact when snapped onto the DIN rail in a way that is resistant to surge currents. You can choose between products with a direct or indirect ground connection.

<table>
<thead>
<tr>
<th>Controller for power supply and remote signaling</th>
<th>2800768</th>
<th>PT-IQ-PTB-UT</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Protection for two conductors</th>
<th>Indirect grounding</th>
<th>Direct grounding</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2800779</td>
<td>PT-IQ-2X1+5DC-UT</td>
</tr>
<tr>
<td></td>
<td>2800781</td>
<td>PT-IQ-2X1+12DC-UT</td>
</tr>
<tr>
<td></td>
<td>2800788</td>
<td>PT-IQ-2X1+24DC-UT</td>
</tr>
<tr>
<td></td>
<td>2800790</td>
<td>PT-IQ-2X1+48DC-UT</td>
</tr>
<tr>
<td></td>
<td>2800778</td>
<td>PT-IQ-2X1-5DC-UT</td>
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<tr>
<td></td>
<td>2800780</td>
<td>PT-IQ-2X1-12DC-UT</td>
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<tr>
<td></td>
<td>2800787</td>
<td>PT-IQ-2X1-24DC-UT</td>
</tr>
<tr>
<td></td>
<td>2800789</td>
<td>PT-IQ-2X1-48DC-UT</td>
</tr>
</tbody>
</table>

Indirect grounding
In the PT-IQ-...+F...UT protection modules, the connection terminal blocks for the shield or the reference potential are indirectly connected to the metal mounting foot and therefore the DIN rail via a gas-filled surge arrester.

Direct grounding
In the PT-IQ-...-UT protection modules, the connection terminal blocks for the shield or the reference potential are directly connected to the DIN rail via the metal mounting foot.
<table>
<thead>
<tr>
<th>Protection for four conductors</th>
<th>Indirect grounding</th>
<th>Direct grounding</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Binary switching signals" /></td>
<td>2800983 PT-IQ-4X1+F-24DC-UT</td>
<td>2800982 PT-IQ-4X1-24DC-UT</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Protection for a double conductor</th>
<th>Indirect grounding</th>
<th>Direct grounding</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image2.png" alt="Standard signals" /> 0...10 V 0/4...20 mA</td>
<td>2800792 2800972 2800977 2800979 PT-IQ-1X2+F-5DC-UT PT-IQ-1X2+F-12DC-UT PT-IQ-1X2+F-24DC-UT PT-IQ-1X2+F-48DC-UT</td>
<td>2800791 2800793 2800976 2800978 PT-IQ-1X2-5DC-UT PT-IQ-1X2-12DC-UT PT-IQ-1X2-24DC-UT PT-IQ-1X2-48DC-UT</td>
</tr>
</tbody>
</table>

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<thead>
<tr>
<th>Protection for two double conductors</th>
<th>Indirect grounding</th>
<th>Direct grounding</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image3.png" alt="Standard signals" /> 0...10 V 0/4...20 mA</td>
<td>2800981 PT-IQ-2X2+F-24DC-UT</td>
<td>2800980 PT-IQ-2X2-24DC-UT</td>
</tr>
</tbody>
</table>
Protection of a binary signal input and actuator circuit with PLUGTRAB PT-IQ, floating reference potential (negative pole).

Material:
1 x PT-IQ PTB-UT
Order No. 2800989
n x PT-IQ 4x1+F-24DC-UT
Order No. 2800983

Protection of a binary signal input and actuator circuit with PLUGTRAB PT-IQ, grounded reference potential (negative pole).

Material:
1 x PT-IQ PTB-UT
Order No. 2800989
n x PT-IQ 2x1+F-24DC-UT
Order No. 2800788

Material:
1 x PT-IQ PTB-UT
Order No. 2800989
n x PT-IQ 4x1-24DC-UT
Order No. 2800982
Protection of passive analog measurement with PLUGTRAB PT-IQ.

Material:
- 2 x PT-IQ-PTB-UT  
  Order No. 2800989
- 2 x PT-IQ 1x2-24DC-UT  
  Order No. 2800976

Protection of a 6-wire measurement with PLUGTRAB PT-IQ.

Material:
- 1 x PT-IQ-PTB-UT  
  Order No. 2800989
- 2 x PT-IQ-4x1+F-24DC-UT  
  Order No. 2800983
- 2 x PT-IQ-2x1+F-24DCUT  
  Order No. 2800788

Protection of passive analog measurement with SURGETRAB and PLUGTRAB PT-IQ.

Material:
- 1 x PT-IQ-1x2-24DC-UT  
  Order No. 2800976
- 1 x S-PT-1x2-24DC  
  Order No. 2880668
Surge protection – perfectly equipped for remote monitoring

TRABTECH surge protective devices with remote indication contacts are ideal for integration into any remote indication concept. Phoenix Contact offers solutions for this from a single source.

Everything from a single source
In addition to professional surge protection, Phoenix Contact also offers innovative solutions for the most diverse transmission technologies.
Wireless transmission technologies

Controller → Access point

GSM modem

GSM modem → PLC

High-performance controller

GPRS modem

Wireless modem

Wireless modem → Controller
Further information on the products presented here and on the world of solutions from Phoenix Contact can be found at [www.phoenixcontact.net/catalog](http://www.phoenixcontact.net/catalog)

Or contact us directly.

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