TOX®-Pressing Monitors

Real-time monitoring of production processes

The TOX®-Pressing Monitors monitor processes where a precisely defined functional correlation between forces and distances must be examined. This equipment is used widely to monitor joining, riveting, pressfitting and caulking processes and leads to continuous improvement of quality in production.

Here, during measuring, the devices read force-path data pairs belonging together from two measuring channels 'X' and 'Y'. The data are stored in a memory and can be displayed graphically. The resulting force-path function is compared with specified maximum ratings of the configured window values or envelope. If the maximum ratings are complied with, an IO message is issued, otherwise an NIO message.

Configuration
Thanks to the built-in display and the understandable menu the device can be comfortably configurated and parameterized. The complete production-data is stored and can be edited and displayed easily.

The change of piece parts is quickly performed due to 64 specific parameter settings, which can be selected either directly by the touch screen or by PLC.

Features
- Real-time monitoring of production processes
- Provides important data about process sequence
- Special monitoring by using window technique and envelopes
- Individual measuring programs can be selected
- User interface language can be switched
- Backup of measurement data and final values
- Various password levels
- Colour touchscreen

The EPW 400 monitors pressing processes and is available as built-in device and wall mounted version.

Extensions
- TOX®-Evaluation Box with extended display and acceptance function
- Fieldbus interfaces

EPW 500FP: the economical alternative is available as wall mounted version.

Compact design
- Swivelling housing
- Compatible with Rittal CP60 and VESA 75x75mm fixtures
<table>
<thead>
<tr>
<th>Technical data</th>
<th>EPW 400</th>
<th>EPW 500FP</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Application</strong></td>
<td>Monitoring of pressing processes</td>
<td>Monitoring of pressing processes, particularly for the bench top presses TOX®-FinePress</td>
</tr>
<tr>
<td><strong>Supply voltage</strong></td>
<td>24 V DC</td>
<td>24 V DC</td>
</tr>
<tr>
<td><strong>Current consumption</strong></td>
<td>≤ 1 A</td>
<td>≤ 1 A</td>
</tr>
<tr>
<td><strong>Display</strong></td>
<td>5.7” colour touchscreen</td>
<td>7” colour touchscreen</td>
</tr>
<tr>
<td></td>
<td>TFT LCD 640 x 480 (VGA)</td>
<td>LCD 800 x 480 (WVGA)</td>
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<tr>
<td></td>
<td>Colour depth 16 bit</td>
<td>Colour depth 16 bit</td>
</tr>
<tr>
<td><strong>Inputs / Outputs</strong></td>
<td>- Digital: 16 inputs / 8 outputs</td>
<td>- Digital: 13 inputs / 8 outputs</td>
</tr>
<tr>
<td></td>
<td>- Analogue: 2 outputs</td>
<td>- Analogue: 3 outputs</td>
</tr>
<tr>
<td><strong>Number of measuring programs</strong></td>
<td>64</td>
<td>128</td>
</tr>
<tr>
<td><strong>Dimensions W x H x D (mm)</strong></td>
<td>Built-in version: 210 x 185 x 123.5 (D99 for two slots)</td>
<td>Housing dimensions: 244 x 207 x 75</td>
</tr>
<tr>
<td></td>
<td>Wall mounted version: 320 x 305 x 149</td>
<td></td>
</tr>
<tr>
<td><strong>Weight</strong></td>
<td>Built-in version: 1.5 kg</td>
<td>2.5 kg</td>
</tr>
<tr>
<td></td>
<td>Wall mounted version: 4 kg</td>
<td></td>
</tr>
<tr>
<td><strong>Interfaces connections</strong></td>
<td>Ethernet, USB, Digital In/Out</td>
<td>USB, Digital In/Out</td>
</tr>
<tr>
<td><strong>Fieldbus interfaces</strong></td>
<td>Ethernet, PROFIBUS DP, PROFINET CU, DeviceNet, Ethernet IP, CANopen, PROFINET LWL, EtherCAT</td>
<td>–</td>
</tr>
<tr>
<td><strong>Protection class</strong></td>
<td>Built-in device</td>
<td>IP 67 front panel</td>
</tr>
<tr>
<td></td>
<td>IP54 front panel</td>
<td>IP 40 rear of housing</td>
</tr>
<tr>
<td></td>
<td>Wall mounted version</td>
<td></td>
</tr>
<tr>
<td><strong>Measuring channels:</strong></td>
<td>Force DMS</td>
<td>(1.1 mV/V)</td>
</tr>
<tr>
<td></td>
<td>Force standard signal</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Path standard signal</td>
<td></td>
</tr>
<tr>
<td><strong>Measuring channel resolution</strong></td>
<td>16 bit</td>
<td>16 bit</td>
</tr>
<tr>
<td><strong>Max. sampling rate</strong></td>
<td>2000 Hz</td>
<td>2000 Hz</td>
</tr>
<tr>
<td><strong>Monitoring by means of window and/or envelope technology</strong></td>
<td>max. 10 windows</td>
<td>max. 10 windows</td>
</tr>
<tr>
<td><strong>Password protection</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Display of last measured curves in diagram</strong></td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td><strong>Number of last final values in memory</strong></td>
<td>1000</td>
<td>1000</td>
</tr>
<tr>
<td><strong>Number of last measured curves in memory</strong></td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td><strong>Backup</strong></td>
<td>100 measured curves and 1000 final values transferrable to USB memory stick as CSV file</td>
<td>100 measured curves and 1000 final values transferrable to USB memory stick as CSV file</td>
</tr>
<tr>
<td></td>
<td>Backup with TOX® softWare</td>
<td></td>
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</tbody>
</table>
TOX®-Pressing Monitor EPW 400

Connections and Dimensions

Connections wall mounted version

1 Digital input/output
2 Fieldbus interface (option)
3 Reserve
4 Travel transducer X1
5 Force transducer Y1
6 Main switch
7 Supply voltage 24 V DC
8 USB interface
9 Ethernet interface

Dimensions wall mounted version

Dimensions build-in version

Dimensions built-in version
TOX®-Pressing Monitor EPW 500FP

Connections and Dimensions

Connections

Connections and Dimensions

Dimensions

1 DMS force signal
2 Standard signal force
3 Analog output
4 USB interface
5 Ethernet interface
6 Power supply
7 Digital input/output
Travel sensor potentiometric
and with standard signal output

Subject to technical modifications.