xEffect - Industrial
Switchgear Range
Electronic Protective Devices for 24 V DC circuits
PXS24
Description

- The highest standards of safety and reliability at 24 V DC circuits
- Direct connection of up to 3 loads
- Simple and quick installation with push-in terminals and busbars
- Active current limitation
- Sequence control - easy linking of channels
- Modular system
- Individual and collective fault messages
- ON-OFF remote reset function
- Subsequent switching of system in fault situation
- PLC compatible conform to IEC/EN 61131-2
- Local sliding switch
- UL approval
## 1.2 Protective Devices

### PXS24 - Electronic Protective Devices for 24 V DC circuits

<table>
<thead>
<tr>
<th>Rated current $I_r$ (A)</th>
<th>Rated voltage $U_r$ (V)</th>
<th>Type Designation</th>
<th>Article No.</th>
<th>Units per package</th>
</tr>
</thead>
</table>

#### PXS24...F/ORT-IT
**Standard with feed-in terminals (with Communication plug)**
- 2 24 PXS24S-e2/F/ORT-IT PXS24S02A001 1/42
- 4 24 PXS24S-e4/F/ORT-IT PXS24S04A001 1/42
- 6 24 PXS24S-e6/F/ORT-IT PXS24S06A001 1/42
- 8 24 PXS24S-e8/F/ORT-IT PXS24S08A001 1/42
- 10 24 PXS24S-e10/F/ORT-IT PXS24S10A001 1/42
- 13 24 PXS24S-e13/F/ORT-IT PXS24S13A001 1/42
- 16 24 PXS24S-e16/F/ORT-IT PXS24S16A001 1/42

#### PXS24...F/ORT
**Standard without feed-in terminals (with Communication plug)**
- 2 24 PXS24S-e2/F PXS24S02A002 1/42
- 4 24 PXS24S-e4/F PXS24S04A002 1/42
- 6 24 PXS24S-e6/F PXS24S06A002 1/42
- 8 24 PXS24S-e8/F PXS24S08A002 1/42
- 10 24 PXS24S-e10/F PXS24S10A002 1/42
- 13 24 PXS24S-e13/F PXS24S13A002 1/42
- 16 24 PXS24S-e16/F PXS24S16A002 1/42

#### PXS24E...F-IT
**Economy with feed-in terminals (without Communication plug)**
- 2 24 PXS24E-e2/F-IT PXS24E02A001 1/42
- 4 24 PXS24E-e4/F-IT PXS24E04A001 1/42
- 6 24 PXS24E-e6/F-IT PXS24E06A001 1/42
- 8 24 PXS24E-e8/F-IT PXS24E08A001 1/42
- 10 24 PXS24E-e10/F-IT PXS24E10A001 1/42

#### PXS24E...F
**Economy without feed-in terminals (without Communication plug)**
- 2 24 PXS24E-e2/F PXS24E02A002 1/42
- 4 24 PXS24E-e4/F PXS24E04A002 1/42
- 6 24 PXS24E-e6/F PXS24E06A002 1/42
- 8 24 PXS24E-e8/F PXS24E08A002 1/42
- 10 24 PXS24E-e10/F PXS24E10A002 1/42
## Protective Devices

### PXS24 - Accessories

<table>
<thead>
<tr>
<th>Operating voltage</th>
<th>Length</th>
<th>Type Designation</th>
<th>Article No.</th>
<th>Units per package</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. 30 V</td>
<td>1 m</td>
<td>PXS24-BB/80A/1M</td>
<td>PXS24BB00001</td>
<td>1/1</td>
</tr>
<tr>
<td>Max. 30 V</td>
<td>4 TE (approx. 70 mm)</td>
<td>PXS24-BB/80A/4TE</td>
<td>PXS24BB00004</td>
<td>1/1</td>
</tr>
<tr>
<td>Max. 30 V</td>
<td>8 TE (approx. 140 mm)</td>
<td>PXS24-BB/80A/8TE</td>
<td>PXS24BB00008</td>
<td>1/1</td>
</tr>
<tr>
<td>Max. 30 V</td>
<td>12 TE (approx. 210 mm)</td>
<td>PXS24-BB/80A/12TE</td>
<td>PXS24BB00012</td>
<td>1/1</td>
</tr>
</tbody>
</table>

### Busbar cover

- Can be cut
- Module with no electrical function

<table>
<thead>
<tr>
<th>Length</th>
<th>Type Designation</th>
<th>Article No.</th>
<th>Units per package</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 m</td>
<td>PXS24-BBC</td>
<td>PXS24ACC0002</td>
<td>1/1</td>
</tr>
</tbody>
</table>

### Placeholder

- Module with no electrical function

<table>
<thead>
<tr>
<th>Type Designation</th>
<th>Article No.</th>
<th>Units per package</th>
</tr>
</thead>
<tbody>
<tr>
<td>PXS24-PCH</td>
<td>PXS24ACC0000</td>
<td>1/42</td>
</tr>
</tbody>
</table>
### Protective Devices

**PXS24 - Accessories**

1.4

<table>
<thead>
<tr>
<th>Operating voltage</th>
<th>Length</th>
<th>Type Designation</th>
<th>Article No.</th>
<th>Units per package</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td><strong>Feed-In terminals (insulated)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• 2 pieces per power supply are required!</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Terminal capacity 1.5 - 16 mm²</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>AKI16/10</td>
<td>184515</td>
<td>1/1</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Feed-In terminals (not insulated)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• 2 pieces per power supply are required!</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Terminal capacity 1.5 - 16 mm² with or without end-sleeves, rigid and flexible</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Max. load current: 60 A (at 55 °C ambient temperature, only in connection with PXS24-BB...)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>PKS24-IT</td>
<td>PXS24ACC0001</td>
<td>1/1</td>
</tr>
</tbody>
</table>

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EATON CORPORATION CA003022EN
Technical Data

Mark: CE
Certification: UL508 + UL2367 (Section 10 and 12)
Product Standard: Applicable sections of: EN60947-1, EN60947-5-1, EN61009-1, EN61131-2 and EN61000-4-2 Details see In-House Standard WN-PXS24

Electrical

Operating voltage: 24 V DC (15…30 V DC)
Rated current: $I_N$
Overload and short circuit current protection:
Typ. $1.3 \times I_N$, with active current-limiting up to $1.25 \times I_N$
Trip characteristic: see time / current table
Capacitive Loads: up to $20,000 \mu F$
Inductive Loads:
- $I_N \leq 6 \ A \ldots \tau_{\max} \leq 60 \ ms$
- $6 \ A < I_N \leq 10 \ A \ldots \tau_{\max} \leq 12 \ ms$
- $10 \ A < I_N \leq 16 \ A \ldots \tau_{\max} \leq 7.5 \ ms$

Service life when used as a relay: see Time / Current Table

Mechanical

Number of Channels: 1
Width: 17.5 (1MU)
Height: 92.5 mm
Depth: 119.2 mm
Type of terminals: Push-In terminals
Line terminals (optional): 3x LINE (+) and 3x GND (-)
Load terminals: 2x LOAD (+) and 3x GND (-)
Terminal capacity Input/Output terminals:
- Flexible: 2.5 mm² (with wire end sleeve)
- Rigid: 4 mm²
Terminal capacity Communication plug:
- Flexible: 1 mm² (with wire end sleeve)
- Rigid: 1.5 mm²
Communication plug:
- Internal linked:
  - 2x control output (internal linked)
  - 2x control input (internal linked)
  - 1x GND
Busbar: LINE (+) and GND (-); max. 80 A in various length up to 1 m
Montage: Snapping on DIN rail TH35 (EN 60715)
Status LED:
- Bi-colour;
- Green = OK; Red = tripped;
- OFF = channel not in use
Sliding switch: ON/OFF/Reset
Control output:
- Tripped; about Communication plug (according to IEC 61131-2);
- Class: 0.1 A; Typ1/Typ2 and Typ3
- Digital Inputs:
  - Max. 30 PXS24V
  - Other indication devices up to 0.2 A @ 24 V (EATON RMO series,…)
Control input:
- ON/OFF/Reset; about Communication plug (according to IEC 61131-2) Type1/Type3;
  - Max. 30 PXS24
Sequencer: About Communication plug
Text field: 17.5 x 6 mm
Degree of protection: IP20
Operation temperature: -30 °C to +55 °C
Storage Temperature: -40 °C to +100 °C

Time / Current Table

| Rated current $I_N$ | Shut-off time $\tau_{\text{off}}$ [ms] | Active current limiting $1.25 \times I_N$ | Service life when used as a relay $t_{\text{寿}} = 0.05 \ s$ / $\tau_{\text{寿}} = 10 \ s$
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>470</td>
<td>1.25 x $I_N$</td>
<td>&gt; 10,000,000</td>
</tr>
<tr>
<td>4</td>
<td>280</td>
<td>1.25 x $I_N$</td>
<td>&gt; 10,000,000</td>
</tr>
<tr>
<td>6</td>
<td>170</td>
<td>1.25 x $I_N$</td>
<td>&gt; 10,000,000</td>
</tr>
<tr>
<td>8</td>
<td>110</td>
<td>1.25 x $I_N$</td>
<td>400,000</td>
</tr>
<tr>
<td>10</td>
<td>90</td>
<td>1.25 x $I_N$</td>
<td>10,000</td>
</tr>
<tr>
<td>13</td>
<td>80</td>
<td>1.25 x $I_N$</td>
<td>no usage as relay - only protection</td>
</tr>
<tr>
<td>16</td>
<td>70</td>
<td>1.25 x $I_N$</td>
<td>no usage as relay - only protection</td>
</tr>
</tbody>
</table>
Overview of the PXS24 features

<table>
<thead>
<tr>
<th>Feature</th>
<th>Economy</th>
<th>Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rated current (fixed, 2, 4, 6, 8, 10, 13, 16 A)</td>
<td>0-10 A</td>
<td>0-16 A</td>
</tr>
<tr>
<td>Active current limiting</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Modular system</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>3 load connections (+/-)</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Push-in terminals</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Busbar (+/-)</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Local status LED</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Local switch (on/off/reset)</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Sequencer</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Digital control outputs (on/off/reset)</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Digital control inputs (on/off/reset)</td>
<td>x</td>
<td></td>
</tr>
</tbody>
</table>

Note for UL applications: The PXS solid state overcurrent protector has been tested in accordance to UL 508 and CSA 22.2 No. 14 for DC general use. Temperature, overload and endurance, dielectric and breakdown of component tests were conducted. Calibration and overloaded operation tests were conducted in accordance with UL 2367.
Eaton's mission is to improve the quality of life and the environment through the use of power management technologies and services. We provide sustainable solutions that help our customers effectively manage electrical, hydraulic, and mechanical power – more safely, more efficiently, and more reliably. Eaton's 2019 revenues were $21.4 billion, and we sell products to customers in more than 175 countries. We have approximately 97,000 employees.

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