

# SITOP power supply

Technical data



## SITOP Power Supply

Answers for industry.

**SIEMENS**

# Selection table

## SITOP power supplies

| Input voltage                   | Output current | modular            | smart              | LOGO!Power     | "Special design, special use" | SIMATIC design     | Others        |
|---------------------------------|----------------|--------------------|--------------------|----------------|-------------------------------|--------------------|---------------|
| <b>Output voltage 24 V</b>      |                |                    |                    |                |                               |                    |               |
| <b>1-phase 120V AC, 230V AC</b> | 0.5 A          |                    |                    |                | 6EP1331-2BA10                 |                    |               |
|                                 | 1.3 A          |                    |                    | 6EP1 331-1SH02 |                               |                    |               |
|                                 | 2 A            |                    |                    |                |                               | 6ES7307-1BA00-0AA0 |               |
|                                 | 2.5 A          |                    | 6EP1332-2BA10      | 6EP1 332-1SH42 | 6EP1232-1AA00                 | 6EP1332-1SH71      | 6EP1332-1SH12 |
|                                 | 3.5 A          |                    |                    |                |                               | 6EP1332-1SH31      |               |
|                                 | 3.7 A          |                    |                    |                | 6EP1332-2BA00                 |                    |               |
|                                 | 4 A            |                    |                    | 6EP1332-1SH51  | 6EP1232-1AA10                 |                    | 6EP1332-1SH22 |
|                                 | 5 A            | 6EP1333-3BA00      | 6EP1333-2AA01      |                | 6EP1333-1AL12                 | 6ES7307-1EA80-0AA0 |               |
|                                 |                | 6EP1333-3BA00-8AC0 | 6EP1333-2BA01      |                |                               | 6ES7307-1EA00-0AA0 |               |
|                                 | 6 A            |                    |                    |                | 6EP1233-1AA00                 |                    |               |
|                                 | 10 A           | 6EP1334-3BA00      | 6EP1334-2AA01      |                | 6EP1334-1AL12                 | 6ES7307-1KA01-0AA0 | 6EP1334-1SH01 |
|                                 |                | 6EP1334-3BA00-8AB0 | 6EP1334-2BA01      |                |                               |                    |               |
|                                 |                |                    | 6EP1334-2AA01-0AB0 |                |                               |                    |               |
|                                 | 12 A           |                    |                    |                | 6EP1234-1AA00                 |                    |               |
|                                 | 20 A           | 6EP1336-3BA00      |                    |                |                               |                    |               |
|                                 |                | 6EP1336-3BA00-8AA0 |                    |                |                               |                    |               |
|                                 | 40 A           | 6EP1337-3BA00      |                    |                |                               |                    |               |

### Contents

|                                        |       |
|----------------------------------------|-------|
| Selection tables for power supplies    | 2–3   |
| SITOP modular 1-phase and 2-phase      | 4     |
| SITOP modular 3-phase                  | 5     |
| SITOP smart                            | 6     |
| LOGO!Power                             | 7     |
| Special design and uses                | 8–9   |
| SIMATIC design                         | 10    |
| SITOP expansion modules                | 11    |
| SITOP DC UPS with battery technology   | 12–13 |
| SITOP DC UPS with capacitor technology | 14–15 |



| Input voltage              | Output current | modular                                | "Special design,<br>special use" | SIMATIC design      | Others         |
|----------------------------|----------------|----------------------------------------|----------------------------------|---------------------|----------------|
| <b>Output voltage 24 V</b> |                |                                        |                                  |                     |                |
| 3-phase 400 to 500 V AC    | 5 A            | 6EP1333-3BA00 (...-8AC0) <sup>1)</sup> |                                  |                     |                |
|                            | 8 A            |                                        | 6EP1 433-2CA00                   | 6ES7 148-4PC00-0HA0 |                |
|                            | 10 A           | 6EP1334-3BA00 (...-8AB0) <sup>1)</sup> |                                  |                     | 6EP1434-2BA00  |
|                            | 20 A           | 6EP1436-3BA10                          |                                  |                     | 6EP1436-2BA00  |
|                            |                | 6EP1436-3BA00                          |                                  |                     |                |
|                            |                | 6EP1436-3BA00-8AA0                     |                                  |                     |                |
|                            | 30 A           |                                        |                                  |                     | 6EP1437-2BA00  |
|                            | 40 A           | 6EP1437-3BA10                          |                                  |                     | 6EP1437-2BA10  |
|                            |                | 6EP1437-3BA00                          |                                  |                     |                |
|                            |                | 6EP1437-3BA00-8AA0                     |                                  |                     |                |
| 48 to 220 V DC             | 0.375 A        |                                        | 6EP1731-2BA00                    |                     |                |
| 48 to 110 V DC             | 2 A            |                                        |                                  |                     | 6EP1732-0AA0   |
| 24 to 110 V DC             | 2 A            |                                        |                                  | 6ES7305-1BA80-0AA0  |                |
| 110 to 350 V DC            | 2.5 A          |                                        |                                  |                     | 6EP1332-1SH12  |
|                            | 4 A            |                                        |                                  |                     | 6EP1332-1SH22  |
|                            | 10 A           |                                        |                                  |                     | 6EP1 334-1SH01 |

<sup>1)</sup> Connection to 2 phases 230 to 500 V AC – see data sheet SITOP modular 1-/2-phase

| Input voltage                                 | Output current      | modular       | smart         | LOGO!Power     | "Special design,<br>special use" |
|-----------------------------------------------|---------------------|---------------|---------------|----------------|----------------------------------|
| <b>Output voltage 5, 12, 15, 48, ... V DC</b> |                     |               |               |                |                                  |
| 1-phase 120 V AC, 230 V AC                    | 5 V/3 A             |               |               | 6EP1 311-1SH02 |                                  |
|                                               | 5 V/6.3 A           |               |               | 6EP1 311-1SH12 |                                  |
|                                               | 12 V/1.9 A          |               |               | 6EP1 321-1SH02 |                                  |
|                                               | 12 V/4.5 A          |               |               | 6EP1 322-1SH02 |                                  |
|                                               | 15 V/1.9 A          |               |               | 6EP1 351-1SH02 |                                  |
|                                               | 15 V/4 A            |               |               | 6EP1 352-1SH02 |                                  |
|                                               | 3 to 52 V/2 to 10 A |               |               |                | 6EP1353-2BA00                    |
|                                               | 2 x 15 V/3.5 A      |               |               |                | 6EP1353-0AA00                    |
| 24 V DC                                       | 12 V/2.5 A          |               |               |                | 6EP1621-2BA00                    |
| 3-phase 400 to 500 V AC                       | 48 V/10 A           |               | 6EP1456-2BA00 |                |                                  |
|                                               | 48 V/20 A           | 6EP1457-3BA00 |               |                |                                  |

Gray: more information in Catalog KT10.1 or in Online Catalog CA01

# SITOP modular

## The modular power supply

|                                           |                     |  |  |  |
|-------------------------------------------|------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Technical data                            | SITOP modular 1-phase and 2-phase <sup>1)</sup>                                                      |                                                                                    |                                                                                     |                                                                                     |
| Output voltage/current                    | 24 V/5 A                                                                                             | 24 V/10 A                                                                          | 24 V/20 A                                                                           | 24 V/40 A                                                                           |
| Order no.                                 | 6EP1333-3BA00                                                                                        | 6EP1334-3BA00                                                                      | 6EP1336-3BA00                                                                       | 6EP1337-3BA00                                                                       |
| – with protection-coated PCB              | 6EP1333-3BA00-8AC0                                                                                   | 6EP1334-3BA00-8AB0                                                                 | 6EP1336-3BA00-8AA0                                                                  | –                                                                                   |
| Rated input voltage                       | 120 – 230/230 – 500 V AC                                                                             | 120 – 230/230 – 500 V AC                                                           | 120/230 V AC                                                                        | 120/230 V AC                                                                        |
| – Range                                   | 85...264/176...550 V AC                                                                              | 85...264/176...550 V AC                                                            | 93...132/183...264 V AC                                                             | 95...132/190...264 V AC                                                             |
| Mains buffering                           | > 25 ms (at 120/230 V)                                                                               | > 25 ms (at 120/230 V)                                                             | > 20 ms (at 230 V)                                                                  | > 20 ms (at 230 V)                                                                  |
| Rated line frequency                      | 50/60 Hz                                                                                             | 50/60 Hz                                                                           | 50/60 Hz                                                                            | 50/60 Hz                                                                            |
| Rated input current                       | 2.2 to 1.2/1.2 to 0.61 A                                                                             | 4.4 to 2.4/2.4 to 1.1 A                                                            | 7.7/3.5 A                                                                           | 15.0/8.0 A                                                                          |
| – Inrush current (25 °C)                  | < 35 A                                                                                               | < 35 A                                                                             | < 60 A                                                                              | < 125 A                                                                             |
| – Recommended miniature circuit breaker   | 6 A charact. C<br>or 3RV1021-1xA10                                                                   | 6 A charact. C<br>or 3RV1021-1xA10                                                 | 10 A charact. C<br>or 3RV1421-1xA10                                                 | 20 A charact. C<br>or 3RV1421-xxA10                                                 |
| Rated output voltage                      | 24 V DC                                                                                              | 24 V DC                                                                            | 24 V DC                                                                             | 24 V DC                                                                             |
| – Tolerance                               | ± 3 %                                                                                                | ± 3 %                                                                              | ± 3 %                                                                               | ± 3 %                                                                               |
| – Setting range                           | 24...28.8 V DC                                                                                       | 24...28.8 V DC                                                                     | 24...28.8 V DC                                                                      | 24...28.8 V DC                                                                      |
| Rated output current                      | 5 A                                                                                                  | 10 A                                                                               | 20 A                                                                                | 40 A                                                                                |
| Efficiency at rated values, approx.       | 87 %                                                                                                 | 87 %                                                                               | 89 %                                                                                | 88 %                                                                                |
| Switching in parallel                     | Yes, output characteristic can be switched to parallel operation                                     |                                                                                    |                                                                                     |                                                                                     |
| Brief overload characteristics            | Power boost: 3 x rated output current for 25 ms                                                      |                                                                                    |                                                                                     |                                                                                     |
| Electronic short-circuit protection       | Yes, constant current or latching shutdown selectable. Constant current: 1.15 x rated output current |                                                                                    |                                                                                     |                                                                                     |
| Radio interference suppression (EN 55022) | Class B                                                                                              | Class B                                                                            | Class B                                                                             | Class B                                                                             |
| Line harmonics limitation (EN 61000-3-2)  | Yes                                                                                                  | Yes                                                                                | Yes                                                                                 | No                                                                                  |
| Degree of protection (EN 60529)           | IP20                                                                                                 | IP20                                                                               | IP20                                                                                | IP20                                                                                |
| Ambient temperature                       | 0...+60 °C                                                                                           | 0...+60 °C                                                                         | 0...+60 °C                                                                          | 0...+60 °C                                                                          |
| Dimensions (W x H x D) in mm              | 70 x 125 x 125                                                                                       | 90 x 125 x 125                                                                     | 160 x 125 x 125                                                                     | 240 x 125 x 125                                                                     |
| Weight approx.                            | 1.2 kg                                                                                               | 1.4 kg                                                                             | 2.2 kg                                                                              | 2.9 kg                                                                              |
| Certification                             | CE, cULus, SEMI F47 <sup>2)</sup>                                                                    | CE, cULus, SEMI F47 <sup>2)</sup>                                                  | CE, cULus, SEMI F47 <sup>3)</sup>                                                   | CE, cULus, SEMI F47 <sup>4)</sup>                                                   |

<sup>1)</sup> Connection to 2 phases of a three-phase supply system

<sup>2)</sup> At input voltage 120 to 230 V AC

<sup>3)</sup> In conjunction with a buffer module

<sup>4)</sup> In conjunction with two buffer modules

|                                           |                                                                                                                     |                                                                                   |                                                                                     |                                                                                     |                                                                                     |
|-------------------------------------------|---------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|                                           | new!                                                                                                                |                                                                                   | new!                                                                                |                                                                                     |                                                                                     |
|                                           |                                    |  |  |  |  |
| <b>Technical data</b>                     | <b>SITOP modular 3-phase</b>                                                                                        |                                                                                   |                                                                                     |                                                                                     | <b>SITOP modular 3-phase, 48 V</b>                                                  |
| <b>Output voltage/current</b>             | <b>24 V/20 A</b>                                                                                                    | <b>24 V/20 A</b>                                                                  | <b>24 V/40 A</b>                                                                    | <b>24 V/40 A</b>                                                                    | <b>48 V/20 A</b>                                                                    |
| Order no.                                 | 6EP1436-3BA10                                                                                                       | 6EP1436-3BA00                                                                     | 6EP1437-3BA10                                                                       | 6EP1437-3BA00                                                                       | 6EP1457-3BA00                                                                       |
| – with protection-coated PCB              | –                                                                                                                   | 6EP1436-3BA00-8AA0                                                                | –                                                                                   | 6EP1437-3BA00-8AA0                                                                  | –                                                                                   |
| Rated input voltage                       | 400 – 500 V 3 AC                                                                                                    | 400 – 500 V 3 AC                                                                  | 400 – 500 V 3 AC                                                                    | 400 – 500 V 3 AC                                                                    | 400 – 500 V 3 AC                                                                    |
| – Range                                   | 320...575 V 3 AC                                                                                                    | 340...550 V 3 AC                                                                  | 320...575 V 3 AC                                                                    | 340...550 V 3 AC                                                                    | 340...550 V 3 AC                                                                    |
| Mains buffering                           | > 15 ms (at 400 V)                                                                                                  | > 6 ms (at 400 V)                                                                 | > 15 ms (at 400 V)                                                                  | > 6 ms (at 400 V)                                                                   | > 6 ms (at 400 V)                                                                   |
| Rated line frequency                      | 50/60 Hz                                                                                                            | 50/60 Hz                                                                          | 50/60 Hz                                                                            | 50/60 Hz                                                                            | 50/60 Hz                                                                            |
| Rated input current                       | 1.1 – 0.9 A                                                                                                         | 1.1 – 0.9 A                                                                       | 2.6 – 1.2 A                                                                         | 2.0 – 1.7 A                                                                         | approx. 2.2 A (at 400 V)                                                            |
| – Inrush current (25 °C)                  | < 18 A                                                                                                              | < 35 A                                                                            | < 56 A                                                                              | < 70 A                                                                              | < 70 A                                                                              |
| – Required miniature circuit breaker      | 6 – 16 A charact. C, 3-ph. coupled or 3RV1021-1DA10, 3RV1721-1DD10                                                  | 6 – 16 A charact. C, 3-ph. coupled or 3RV1021-1DA10, 3RV1721-1DD10                | 10 – 16 A charact. C 3-ph. coupled or 3 RV1021-1DA10, 3RV1721-1DD10                 | 10 – 16 A charact. C, 3-ph. coupled or 3RV1021-1DA10, 3RV1721-1DD10                 | 10 – 16 A char. C, 3-ph. coupled or 3RV1021-1DA10, 3RV1721-1DD10                    |
| Rated output voltage                      | 24 V DC                                                                                                             | 24 V DC                                                                           | 24 V DC                                                                             | 24 V DC                                                                             | 48 V DC                                                                             |
| – Tolerance                               | ± 3 %                                                                                                               | ± 3 %                                                                             | ± 3 %                                                                               | ± 3 %                                                                               | ± 3 %                                                                               |
| – Setting range                           | 24...28.8 V DC                                                                                                      | 24...28.8 V DC                                                                    | 24...28.8 V DC                                                                      | 24...28.8 V DC                                                                      | 42...56 V DC                                                                        |
| Rated output current                      | 20 A                                                                                                                | 20 A                                                                              | 40 A                                                                                | 40 A                                                                                | 20 A                                                                                |
| Efficiency at rated values, approx.       | 93 %                                                                                                                | 90 %                                                                              | 93 %                                                                                | 90 %                                                                                | 90 %                                                                                |
| Switching in parallel                     | Yes, output characteristic can be switched to parallel operation                                                    |                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Brief overload characteristics            | Power boost: 3 x rated output current for 25 ms, extra power <sup>1)</sup> : 1.5 x rated output current for 5 s/min |                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Electronic short-circuit protection       | Yes, constant current or latching shutdown selectable. Constant current: approx. 1.15 x rated output current        |                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Radio interference suppression (EN 55022) | Class B                                                                                                             | Class B                                                                           | Class B                                                                             | Class B                                                                             | Class B                                                                             |
| Line harmonics limitation (EN 61000-3-2)  | Yes                                                                                                                 | Yes                                                                               | Yes                                                                                 | Yes                                                                                 | Yes                                                                                 |
| Degree of protection (EN 60529)           | IP20                                                                                                                | IP20                                                                              | IP20                                                                                | IP20                                                                                | IP20                                                                                |
| Ambient temperature                       | –10...+60 °C                                                                                                        | 0...+60 °C                                                                        | –10...+60 °C                                                                        | 0...+60 °C                                                                          | 0...+60 °C                                                                          |
| Dimensions (W x H x D) in mm              | 70 x 125 x 125                                                                                                      | 160 x 125 x 125                                                                   | 150 x 125 x 150                                                                     | 240 x 125 x 125                                                                     | 240 x 125 x 125                                                                     |
| Weight approx.                            | 1.2 kg                                                                                                              | 2.0 kg                                                                            | 3.4 kg                                                                              | 3.2 kg                                                                              | 3.2 kg                                                                              |
| Certification                             | CE, cULus                                                                                                           | CE, UL, CSA, SEMI F47                                                             | CE, cULus                                                                           | CE, UL, CSA, SEMI F47                                                               | CE, UL, CSA                                                                         |

<sup>1)</sup> Extra power only available with 6EP1436-3BA10 and 6EP1437-3BA10

# SITOP smart

## The slim universal power supply

|                                                                                                             |                                                                                          |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                              |                                                                                                                |
|-------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|----------------------------------------------|----------------------------------------------------------------------------------------------------------------|
|                                                                                                             |         |  |  |  |  |                                              |                                                                                                                |
| Technical data                                                                                              | SITOP smart 1-phase                                                                      |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                              | SITOP smart 3-phase, 48V                                                                                       |
| Output voltage/current                                                                                      | 24 V/2.5 A                                                                               | 24 V/5 A                                                                          | 24 V/5 A                                                                            | 24 V/10 A                                                                           | 24 V/10 A                                                                           | 24 V/10 A Wallmount                          | 48 V/10 A                                                                                                      |
| Order no.                                                                                                   | 6EP1332-2BA10                                                                            | 6EP1333-2AA01                                                                     | 6EP1333-2BA01                                                                       | 6EP1334-2AA01                                                                       | 6EP1334-2BA01                                                                       | 6EP1334-2AA01-0AB0                           | 6EP1456-2BA00                                                                                                  |
| Rated input voltage<br>– Range                                                                              | 120/230 V AC<br>85...132/<br>170...264 V AC                                              | 120/230 V AC<br>85...132/<br>170...264 V AC                                       | 120/230 V AC<br>85...132/<br>170...264 V AC                                         | 120/230 V AC<br>85...132/<br>170...264 V AC                                         | 120/230 V AC<br>85...132/<br>170...264 V AC                                         | 120/230 V AC<br>85...132/<br>170...264 V AC  | 400 – 500 V 3 AC<br>360...550 V 3 AC                                                                           |
| Mains buffering                                                                                             | > 20 ms (at 93/187 V)                                                                    | > 20 ms (at 93/187 V)                                                             | > 20 ms (at 93/187 V)                                                               | > 20 ms (at 93/187 V)                                                               | > 20 ms (at 93/187 V)                                                               | > 20 ms (at 93/187 V)                        | > 7 ms (at 400 V)                                                                                              |
| Rated line frequency                                                                                        | 50/60 Hz                                                                                 | 50/60 Hz                                                                          | 50/60 Hz                                                                            | 50/60 Hz                                                                            | 50/60 Hz                                                                            | 50/60 Hz                                     | 50/60 Hz                                                                                                       |
| Rated input current<br>– Inrush current (25 °C)<br>– Recommended <sup>1)</sup> miniature<br>circuit breaker | 1.1/0.65 A<br>< 14 A<br>3 A characteristic C                                             | 2.1/1.15 A<br>< 32 A<br>6 A characteristic C                                      | 2.1/1.15 A<br>< 32 A<br>6 A characteristic C                                        | 4.1/2.4 A<br>< 65 A<br>10 A characteristic C                                        | 4.1/2.0 A<br>< 65 A<br>10 A characteristic C                                        | 4.1/2.0 A<br>< 65 A<br>10 A characteristic C | 1.1 to 0.9 A<br>< 18 A<br>From 6 – 16 A charact. C,<br>3-ph. coupled or<br>3 RV1021-1DA10 or<br>3 RV1721-1DD10 |
| Rated output voltage<br>– Tolerance<br>– Setting range                                                      | 24 V DC<br>± 3 %<br>22.8...28 V DC                                                       | 24 V DC<br>± 3 %<br>22.8...28 V DC                                                | 24 V DC<br>± 3 %<br>22.8...28 V DC                                                  | 24 V DC<br>± 3 %<br>22.8...28 V DC                                                  | 24 V DC<br>± 3 %<br>22.8...28 V DC                                                  | 24 V DC<br>± 3 %<br>22.8...28 V DC           | 48 V DC<br>± 3 %<br>42...56 V DC                                                                               |
| Rated output current                                                                                        | 2.5 A (3 A to +45 °C)                                                                    | 5 A (6 A to +45 °C)                                                               | 5 A (6 A to +45 °C)                                                                 | 10 A (12 A to +45 °C)                                                               | 10 A (12 A to +45 °C)                                                               | 10 A (12 A to +45 °C)                        | 10 A                                                                                                           |
| Efficiency at rated values<br>approx.                                                                       | 85 %                                                                                     | 87 %                                                                              | 87 %                                                                                | 90 %                                                                                | 91 %                                                                                | 90 %                                         | 93 %                                                                                                           |
| Switching in parallel                                                                                       | Yes                                                                                      | Yes                                                                               | Yes                                                                                 | Yes                                                                                 | Yes                                                                                 | Yes                                          | Yes                                                                                                            |
| Brief overload characteristics                                                                              | Extra power: 1.5 x rated output current for 5 s/min                                      |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                              |                                                                                                                |
| Electronic short-circuit<br>protection                                                                      | Yes, constant current                                                                    |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                              |                                                                                                                |
| Radio interference<br>suppression (EN 55022)                                                                | Class B                                                                                  | Class B                                                                           | Class B                                                                             | Class B                                                                             | Class B                                                                             | Class B                                      | Class B                                                                                                        |
| Line harmonics limitation<br>(EN 61000-3-2)                                                                 | Not applicable                                                                           | No                                                                                | Yes                                                                                 | No                                                                                  | Yes                                                                                 | Yes                                          | Yes                                                                                                            |
| Degree of protection (EN 60529)                                                                             | IP20                                                                                     | IP20                                                                              | IP20                                                                                | IP20                                                                                | IP20                                                                                | IP 20                                        | IP 20                                                                                                          |
| Ambient temperature                                                                                         | 0...+60 °C                                                                               | 0...+60 °C                                                                        | 0...+60 °C                                                                          | 0...+60 °C                                                                          | 0...+60 °C                                                                          | 0...+60 °C                                   | 0...+60 °C                                                                                                     |
| Dimensions (W x H x D) in mm                                                                                | 32.5 x 125 x 125                                                                         | 50 x 125 x 125                                                                    | 50 x 125 x 125                                                                      | 70 x 125 x 125                                                                      | 70 x 125 x 125                                                                      | 70 x 125 x 125                               | 70 x 125 x 125                                                                                                 |
| Weight approx.                                                                                              | 0.4 kg                                                                                   | 0.5 kg                                                                            | 0.5 kg                                                                              | 0.75 kg                                                                             | 0.8 kg                                                                              | 0.85 kg                                      | 1.2 kg                                                                                                         |
| Certification                                                                                               | CE, UL, CSA, GL, ATEX, Hazardous Location Class I Div 2 Groups A, B, C & D, T4 CE, cULus |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                              | CE, cULus                                                                                                      |

<sup>1)</sup> 6EP1456-2BA00: Fusing required

# LOGO!Power – the mini power packs

|                                                                                            |   |                                 |                             |                                                      |  |                                 |                             |                                                      |  |
|--------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|---------------------------------|-----------------------------|------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------|-----------------------------|------------------------------------------------------|-------------------------------------------------------------------------------------|
| Technical data                                                                             | 54 mm design                                                                       |                                 |                             |                                                      | 72 mm design                                                                        |                                 |                             |                                                      | 90 mm design                                                                        |
| <b>SITOP</b>                                                                               | <b>5 V/3 A</b>                                                                     | <b>12 V/1.9 A</b>               | <b>15 V/1.9 A</b>           | <b>24 V/1.3 A</b>                                    | <b>5 V/6.3 A</b>                                                                    | <b>12 V/4.5 A</b>               | <b>15 V/4 A</b>             | <b>24 V/2.5 A</b>                                    | <b>24 V/4 A</b>                                                                     |
| Order no.                                                                                  | 6EP1311-1SH02                                                                      | 6EP1321-1SH02                   | 6EP1351-1SH02               | 6EP1331-1SH02                                        | 6EP1311-1SH12                                                                       | 6EP1322-1SH02                   | 6EP1352-1SH02               | 6EP1332-1SH42                                        | 6EP1332-1SH51                                                                       |
| Rated input voltage<br>– Range                                                             | 100 – 240 V AC<br>85...264 V AC                                                    |                                 |                             |                                                      | 100 – 240 V AC<br>85...264 V AC                                                     |                                 |                             |                                                      | 100 – 240 V AC<br>85...264 V AC                                                     |
| Mains buffering                                                                            | > 40 ms (at 187 V)                                                                 |                                 |                             |                                                      | > 40 ms (at 187 V)                                                                  |                                 |                             |                                                      | > 40 ms (at 187 V)                                                                  |
| Rated line frequency                                                                       | 50/60 Hz                                                                           |                                 |                             |                                                      | 50/60 Hz                                                                            |                                 |                             |                                                      | 50/60 Hz                                                                            |
| Rated input current<br>– Inrush current (25 °C)<br>– Recommended miniature circuit breaker | 0.36 to 0.22 A<br>< 15 A<br>From 10 A characteristic C resp. 16 A characteristic B |                                 |                             |                                                      | 0.71 to 0.37 A<br>< 30 A<br>From 10 A characteristic C resp. 16 A characteristic B  |                                 |                             |                                                      | 1.95 to 0.97 A<br>< 30 A<br>From 10 A char. C<br>resp. 16 A char. B                 |
| Rated output voltage<br>– Tolerance<br>– Setting range                                     | 5 V DC<br>± 3 %<br>4.6...5.4 V DC                                                  | 12 V DC<br>10.5...16.1 V DC     | 15 V DC<br>10.5...16.1 V DC | 24 V DC<br>22.2...26.4 V DC                          | 5 V DC<br>± 3 %<br>4.6...5.4 V DC                                                   | 12 V DC<br>10.5...16.1 V DC     | 15 V DC<br>10.5...16.1 V DC | 24 V DC<br>22.2...26.4 V DC                          | 24 V DC<br>± 3 %<br>22.2...26.4 V DC                                                |
| Rated output current                                                                       | 3.0 A                                                                              | 1.9 A                           | 1.9 A                       | 1.3 A                                                | 6.3 A                                                                               | 4.5 A                           | 4.0 A                       | 2.5 A                                                | 4.0 A                                                                               |
| Efficiency at rated values, approx.                                                        | 76 %                                                                               | 80 %                            | 80 %                        | 82 %                                                 | 83 %                                                                                | 85 %                            | 85 %                        | 87 %                                                 | 89 %                                                                                |
| Switching in parallel                                                                      | Yes                                                                                |                                 |                             |                                                      | Yes                                                                                 |                                 |                             |                                                      | Yes                                                                                 |
| Electronic short-circuit protection                                                        | Yes, constant current                                                              |                                 |                             |                                                      | Yes, constant current                                                               |                                 |                             |                                                      | Yes, constant current                                                               |
| Radio interference suppression<br>(EN 55022)                                               | Class B                                                                            |                                 |                             |                                                      | Class B                                                                             |                                 |                             |                                                      | Class B                                                                             |
| Line harmonics limitation<br>(EN 61000-3-2)                                                | Not applicable                                                                     |                                 |                             |                                                      | Not applicable                                                                      |                                 |                             |                                                      | Yes                                                                                 |
| Degree of protection (EN 60529)                                                            | IP20                                                                               |                                 |                             |                                                      | IP20                                                                                |                                 |                             |                                                      | IP20                                                                                |
| Ambient temperature                                                                        | –20...+55 °C                                                                       |                                 |                             |                                                      | –20...+55 °C                                                                        |                                 |                             |                                                      | –20...+55 °C                                                                        |
| Dimensions (W x H x D) in mm                                                               | 54 x 90 x 55                                                                       |                                 |                             |                                                      | 72 x 90 x 55                                                                        |                                 |                             |                                                      | 90 x 90 x 55                                                                        |
| Weight approx.                                                                             | 0.17 kg                                                                            |                                 |                             |                                                      | 0.25 kg                                                                             |                                 |                             |                                                      | 0.34 kg                                                                             |
| Certification                                                                              | CE, cULus, FM,<br>GL, ATEX                                                         | CE, cULus, FM,<br>GL, ABS, ATEX | CE, cULus, FM,<br>GL, ATEX  | CE, cULus, FM,<br>GL, ABS, ATEX,<br>SEMI F47, Class2 | CE, cULus, FM,<br>GL, ATEX                                                          | CE, cULus, FM,<br>GL, ABS, ATEX | CE, cULus, FM,<br>GL, ATEX  | CE, cULus, FM,<br>GL, ABS, ATEX,<br>SEMI F47, Class2 | CE, cULus, FM, GL,<br>ABS, ATEX                                                     |

# SITOP

## in special design, for special uses



| Technical data                            | SITOP power 0.5        |                        | SITOP flat design           |                             | SITOP PSA100E                                                              |                     |                      |                    |
|-------------------------------------------|------------------------|------------------------|-----------------------------|-----------------------------|----------------------------------------------------------------------------|---------------------|----------------------|--------------------|
| Output voltage/current                    | 24 V/0.375 A           | 24 V/0.5 A             | 24 V/5 A                    | 24 V/10 A                   | 24 V/2,5 A                                                                 | 24 V/4 A            | 24 V/6 A             | 24 V/12 A          |
| Order no.                                 | 6EP1731-2BA00          | 6EP1331-2BA10          | 6EP1333-1AL12               | 6EP1334-1AL12               | 6EP1232-1AA00                                                              | 6EP1232-1AA10       | 6EP1233-1AA00        | 6EP1234-1AA00      |
| Rated input voltage                       | 48–220 V DC            | 120–230 V AC           | 120/230 V AC                | 120/230 V AC                | 230 V AC                                                                   | 230 V AC            | 230 V AC             | 230 V AC           |
| – Range                                   | 30–264 V DC            | 93–264 V AC            | 85...132/<br>170...264 V AC | 85...132/<br>170...264 V AC | 187...264 V AC                                                             | 187...264 V AC      | 187...264 V AC       | 187...264 V AC     |
| Mains buffering                           | > 10 ms (at 220 V DC)  | > 10 ms (at 230 V)     | > 20 ms (at 93/187 V)       | > 20 ms (at 93/187 V)       | > 10 ms (at 230 V)                                                         | > 10 ms (at 230 V)  | > 10 ms (at 230 V)   | > 10 ms (at 230 V) |
| Rated line frequency                      | 50/60 Hz               | 50/60 Hz               | 50/60 Hz                    | 50/60 Hz                    | 50/60 Hz                                                                   | 50/60 Hz            | 50/60 Hz             | 50/60 Hz           |
| Rated input current                       | 0.3–0.06 A             | 0.22–0.13 A            | 2.2/1.2 A                   | 4/2.5 A                     | 0.65 A                                                                     | 1.1 A               | 1.4 A                | 2.5 A              |
| – Inrush current (25°C)                   | < 35 A                 | < 23 A                 | < 32 A                      | < 65 A                      | < 30 A                                                                     | < 30 A              | < 35 A               | < 50 A             |
| – Recommended miniature circuit breaker   | From 3 A charact. C    | From 3 A charact. C    | From 6 A charact. C         | From 10 A charact. C        | From 6 A charact. C                                                        | From 6 A charact. C | From 10 A charact. C | 10 A charact. C    |
| Rated output voltage                      | 24 V DC                | 24 V DC                | 24 V DC                     | 24 V DC                     | 24 V DC                                                                    | 24 V DC             | 24 V DC              | 24 V DC            |
| – Tolerance                               | ± 3 %                  | ± 3 %                  | ± 1 %                       | ± 1 %                       | ± 3 %                                                                      | ± 3 %               | ± 3 %                | ± 3 %              |
| – Setting range                           | –                      | –                      | 22...29 V DC                | 22...29 V DC                | 23...26 V DC                                                               | 23...26 V DC        | 23...26 V DC         | 23...26 V DC       |
| Rated output current                      | 0.375 A                | 0.5 A                  | 5 A                         | 10 A                        | 2.5 A (+45°C)                                                              | 4 A (+45°C)         | 6 A (+45°C)          | 12 A (+45°C)       |
| Efficiency at rated values, approx.       | 68 %                   | 74 %                   | 88 %                        | 89 %                        | 84 %                                                                       | 87 %                | 87 %                 | 88 %               |
| Switching in parallel                     | No                     | No                     | Yes                         | Yes                         | Yes                                                                        | Yes                 | Yes                  | Yes                |
| Electronic short-circuit protection       | Yes, restart           | Yes, constant current  | Yes, restart                | Yes, restart                | Yes, restart                                                               | Yes, restart        | Yes, restart         | Yes, restart       |
| Radio interference suppression (EN 55022) | Class B                | Class B                | Class B                     | Class B                     | Class B                                                                    | Class B             | Class B              | Class B            |
| Line harmonics limitation (EN 61000-3-2)  | Not applicable         | Not applicable         | No                          | No                          | Not applicable                                                             | No                  | No                   | No                 |
| Degree of protection (EN 60529)           | IP20                   | IP20                   | IP20                        | IP20                        | IP20                                                                       | IP20                | IP20                 | IP20               |
| Ambient temperature                       | –25...+70°C            | –25...+70°C            | 0...+60°C                   | 0...+60°C                   | –10°C...+70°C (Derating 45°C...70°C)                                       |                     |                      |                    |
| Installation                              | Standard mounting rail | Standard mounting rail | Standard mounting rail      | Standard mounting rail      | Wall mounting and standard mounting rail, variFromle installation position |                     |                      |                    |
| Dimensions (W x H x D) in mm              | 22.5 x 80 x 91         | 22.5 x 80 x 91         | 160 x 130 x 60              | 160 x 130 x 60              | approx. 52 x 170 x 110 incl. mounting rail clip                            |                     |                      |                    |
| Weight approx.                            | 0.14 kg                | 0.11 kg                | 0.6 kg                      | 0.72 kg                     | 0.8 kg                                                                     | 0.8 kg              | 0.9 kg               | 0.9 kg             |
| Certification                             | CE, cULus              | CE, cULus              | CE, cULus                   | CE, cULus                   | CE, cULus                                                                  | CE, cULus           | CE, cULus            | CE, cULus          |

# SITOP

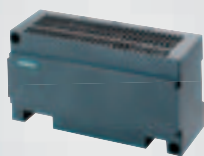
## in special design, for special uses

|                                           |  | new!<br> | new!<br> |  |  |
|-------------------------------------------|-----------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Technical data                            | Class2 approval                                                                   | SITOP PSU300P in IP67                                                                      | SITOP DC/DC                                                                                 | SITOP dual                                                                          | SITOP flexi                                                                         |
| Output voltage/current                    | 24 V/3.7 A                                                                        | 24 V/8 A                                                                                   | 12 V/2.5 A                                                                                  | 2 x 15 V/3.5 A                                                                      | 3...52 V/10 A                                                                       |
| Order no.                                 | 6EP1332-2BA00                                                                     | 6EP1 433-2CA00                                                                             | 6EP1621-2BA00                                                                               | 6EP1353-0AA00                                                                       | 6EP1353-2BA00                                                                       |
| Rated input voltage                       | 120/230 V AC                                                                      | 400 – 480 V 3 AC                                                                           | 24 V DC                                                                                     | 120 – 230 V AC                                                                      | 120/230 V AC                                                                        |
| – Range                                   | 93...132 V/187...264 V AC                                                         | 340...550 V 3 AC                                                                           | 18.5...30.2 V DC                                                                            | 93...264 V AC                                                                       | 85...132 V/170...264 V AC                                                           |
| Mains buffering                           | > 10 ms (at 93/187 V)                                                             | 15 ms (at 400 V)                                                                           | > 5 ms                                                                                      | > 10/40 ms (at 120/187 V)                                                           | > 10 ms (at 93/187 V)                                                               |
| Rated line frequency                      | 50/60 Hz                                                                          | 50/60 Hz                                                                                   | –                                                                                           | 50/60 Hz                                                                            | 50/60 Hz                                                                            |
| Rated input current                       | 1.8/0.7 A                                                                         | 2 A                                                                                        | 1.6 A                                                                                       | 1.6/1.0 A                                                                           | 2.2/0.9 A                                                                           |
| – Inrush current (25 °C)                  | < 32 A                                                                            | < 40 A                                                                                     | < 20 A for 20 ms                                                                            | < 30 A, < 3 ms                                                                      | < 32 A                                                                              |
| – Recommended miniature circuit breaker   | 6 A charact. C                                                                    | 3RV1021-1DA10                                                                              | 10 A charact. B                                                                             | 10 A characteristic C, 16 A characteristic B                                        |                                                                                     |
| Rated output voltage                      | 24 V DC                                                                           | 24 V DC                                                                                    | 12 V DC                                                                                     | 2 x 15 V DC                                                                         | 24 V DC                                                                             |
| – Tolerance                               | ± 3 %                                                                             | –5 %/+3 %                                                                                  | ± 3 %                                                                                       | ± 3 %                                                                               | ± 1 %                                                                               |
| – Setting range                           | 22.8...26.4 V DC <sup>1)</sup>                                                    | –                                                                                          | 12...14 V DC                                                                                | 14.5...17 V DC                                                                      | 3...52 V DC                                                                         |
| Rated output current                      | 3.7 A                                                                             | 8 A                                                                                        | 2.5 A                                                                                       | 2 x 3.5 A (2 x 2.5 A from 45 °C)                                                    | 2 to 10 A (max. 125 W)                                                              |
| Efficiency at rated values, approx.       | > 80 %                                                                            | 88 %                                                                                       | 80 %                                                                                        | 80 %                                                                                | 84 % (at 24 V/5 A)                                                                  |
| Switching in parallel                     | Yes <sup>1)</sup>                                                                 | No                                                                                         | Yes, 2 units                                                                                | Yes                                                                                 | Yes                                                                                 |
| Electronic short-circuit protection       | Yes, restart                                                                      | Yes, restart                                                                               | Yes, constant current                                                                       | Yes, restart                                                                        | Yes, constant current                                                               |
| Radio interference suppression (EN 55022) | Class B                                                                           | Class A                                                                                    | Class B                                                                                     | Class A                                                                             | Class B                                                                             |
| Line harmonics limitation (EN 61000-3-2)  | Yes                                                                               | No                                                                                         | Yes                                                                                         | No                                                                                  | Yes                                                                                 |
| Degree of protection (EN 60529)           | IP20                                                                              | IP67                                                                                       | IP20                                                                                        | IP20                                                                                | IP20                                                                                |
| Ambient temperature                       | 0...+60 °C                                                                        | –25 °C...+55 °C                                                                            | 0...+60 °C                                                                                  | 0...+60 °C (Derating from 45 °C)                                                    | 0...+60 °C                                                                          |
| Installation                              | DIN rail                                                                          | Screw-mounting on SIMATIC ET200pro system rail                                             | DIN rail                                                                                    | DIN rail                                                                            | DIN rail                                                                            |
| Dimensions (W x H x D) in mm              | 70 x 125 x 125                                                                    | 310 x 135.5 x 90 + plug connector                                                          | 32.5 x 125 x 125                                                                            | 75 x 125 x 125                                                                      | 75 x 125 x 125                                                                      |
| Weight approx.                            | 0.75 kg                                                                           | 2.8 kg                                                                                     | 0.26 kg                                                                                     | 0.75 kg                                                                             | 0.9 kg                                                                              |
| Certification                             | CE, cULus, Class2                                                                 | CE, UL 508 pending                                                                         | CE, cULus                                                                                   | CE                                                                                  | CE, cULus                                                                           |

<sup>1)</sup> Only permissible at an ambient temperature of 0 to 50 °C

# SITOP

## in SIMATIC design

|                                           | new!                                                                              |                                                                                   |                                                                                        |                                                                                     |                                                                                     | new!                                                                                |                                                |
|-------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|------------------------------------------------|
|                                           |  |  |       |  |  |  |                                                |
| Technical data                            | SIMATIC S7-1200 design                                                            | SIMATIC S7-200 design                                                             | SIMATIC S7-300 design                                                                  |                                                                                     |                                                                                     |                                                                                     | SIMATIC ET200pro PS                            |
| Output voltage/current                    | 24 V/2.5 A – PM1207                                                               | 24 V/3.5 A                                                                        | 24 V/2 A                                                                               | 24 V/5 A                                                                            | 24 V/5 A Outdoor <sup>1)</sup>                                                      | 24 V/10 A                                                                           | 24 V/8 A                                       |
| Order no.                                 | 6EP1332-1SH71                                                                     | 6EP1332-1SH31                                                                     | 6ES7307-1BA00-0AA0                                                                     | 6ES7307-1EA00-0AA0                                                                  | 6ES7307-1EA80-0AA0                                                                  | 6ES7307-1KA01-0AA0                                                                  | 6ES7 148-4PC00-0HA0                            |
| Rated input voltage                       | 120/230 V AC                                                                      | 120/230 V AC                                                                      | 120/230 V AC                                                                           | 120/230 V AC                                                                        | 120/230 V AC                                                                        | 120/230 V AC                                                                        | 400-480 V 3 AC                                 |
| – Range                                   | 85...132 V/176...264 V AC                                                         | 93...132 V/187...264 V AC                                                         | 85...132 V/170...264 V AC                                                              | 85...132 V/170...264 V AC                                                           | 93...132 V/187...264 V AC                                                           | 85...132 V/170...264 V AC                                                           | 340...550 V 3 AC                               |
| Mains buffering                           | > 20 ms (at 93/187 V)                                                             | > 20 ms (at 93/187 V)                                                             | > 20 ms (at 93/187 V)                                                                  | > 20 ms (at 93/187 V)                                                               | > 20 ms (at 93/187 V)                                                               | > 20 ms (at 93/187 V)                                                               | 15 ms (at 400 V)                               |
| Rated line frequency                      | 50/60 Hz                                                                          | 50/60 Hz                                                                          | 50/60 Hz                                                                               | 50/60 Hz                                                                            | 50/60 Hz                                                                            | 50/60 Hz                                                                            | 50/60 Hz                                       |
| Rated input current                       | 1.2/0.67 A                                                                        | 1.65/0.95 A                                                                       | 0.9/0.6 A                                                                              | 2.2/1.3 A                                                                           | 2.2/1.2 A                                                                           | 4.1/1.8 A                                                                           | 2 A                                            |
| – Inrush current (25°C)                   | < 13 A                                                                            | < 33 A                                                                            | < 20 A                                                                                 | < 45 A                                                                              | < 45 A                                                                              | < 55 A                                                                              | < 40 A                                         |
| – Recommended miniature circuit breaker   | 16 A charact. B, 10 A charact. C                                                  | 10 A charact. C, 6 A charact. D                                                   | 3 A charact. C                                                                         | 6 A charact. C                                                                      | 10 A charact. C                                                                     | 10 A charact. C                                                                     | 3RV1021-1DA15 or fuse max. 25 A, time-lag      |
| Rated output voltage                      | 24 V DC                                                                           | 24 V DC                                                                           | 24 V DC                                                                                | 24 V DC                                                                             | 24 V DC                                                                             | 24 V DC                                                                             | 24 V DC                                        |
| – Tolerance                               | ± 3 %                                                                             | ± 5 %                                                                             | ± 3 %                                                                                  | ± 3 %                                                                               | ± 3 %                                                                               | ± 3 %                                                                               | –5 %/+3 %                                      |
| – Setting range                           | –                                                                                 | –                                                                                 | –                                                                                      | –                                                                                   | –                                                                                   | –                                                                                   | –                                              |
| Rated output current                      | 2.5 A                                                                             | 3.5 A                                                                             | 2 A                                                                                    | 5 A                                                                                 | 5 A                                                                                 | 10 A                                                                                | 8 A                                            |
| Efficiency at rated values, approx.       | 83 %                                                                              | 84 %                                                                              | 83 %                                                                                   | 87 %                                                                                | 84 %                                                                                | 87 %                                                                                | 88 %                                           |
| Switching in parallel                     | Yes, 2 units                                                                      | Yes, up to 5 units                                                                | No                                                                                     | No                                                                                  | No                                                                                  | No                                                                                  | No                                             |
| Electronic short-circuit protection       | Yes, restart                                                                      | Yes, restart                                                                      | Yes, restart                                                                           | Yes, restart                                                                        | Yes, restart                                                                        | Yes, restart                                                                        | Yes, restart                                   |
| Radio interference suppression (EN 55022) | Class B                                                                           | Class B                                                                           | Class B                                                                                | Class B                                                                             | Class A                                                                             | Class B                                                                             | Class A                                        |
| Line harmonics limitation (EN 61000-3-2)  | Not applicable                                                                    | Yes                                                                               | Not applicable                                                                         | Yes                                                                                 | No                                                                                  | Yes                                                                                 | No                                             |
| Degree of protection (EN 60529)           | IP20                                                                              | IP20                                                                              | IP20                                                                                   | IP20                                                                                | IP20                                                                                | IP20                                                                                | IP67                                           |
| Ambient temperature                       | 0...+60 °C                                                                        | 0...+60 °C                                                                        | 0...+60 °C                                                                             | 0...+60 °C                                                                          | –25...+70 °C                                                                        | 0...+60 °C                                                                          | –25 °C...+55 °C                                |
| Installation                              | DIN rail                                                                          | DIN rail or wall mounting                                                         | Can be mounted on S7 rail. Mounting adapter for DIN rail 35 x15 mm: 6ES7390-6BA00-0AA0 |                                                                                     |                                                                                     |                                                                                     | Screw mounting on SIMATIC ET200pro system rail |
| Dimensions (W x H x D) in mm              | 70 x 100 x 75                                                                     | 160 x 80 x 62                                                                     | 50 x 125 x 120                                                                         | 80 x 125 x 120                                                                      | 80 x 125 x 120                                                                      | 120 x 125 x 120                                                                     | 310 x 135.5 x 90 + plug connector              |
| Weight approx.                            | 0.3 kg                                                                            | 0.5 kg                                                                            | 0.42 kg                                                                                | 0.74 kg                                                                             | 0.57 kg                                                                             | 1.1 kg                                                                              | 2.8 kg                                         |
| Certification                             | CE, UL, CSA                                                                       | CE, UL, CSA                                                                       | CE, UL, CSA                                                                            | CE, UL, CSA                                                                         | CE, UL, CSA                                                                         | CE, UL, CSA                                                                         | CE, UL 508 pending                             |

<sup>1)</sup> Condensation permissible, increased vibration and shock resistance

# SITOP expansion modules

## The range for all-round protection

|                                              |                                                                                                                                                                |                                                                                                                                                                          |                                                                                                                                                                       | new!<br>                                                                                                                                                                                                                       |                       |                   |
|----------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|------------------------------------------------------------------------------------------------------|
| Technical data                               | Signaling                                                                                                                                                                                                                                       | Mains buffering                                                                                                                                                                                                                                           | Redundancy                                                                                                                                                                                                                                               | Monitoring                                                                                                                                                                                                                                                                                                        |                       |                                                                                                      |
| <b>SITOP</b>                                 | <b>Signaling module <sup>1)</sup></b>                                                                                                                                                                                                           | <b>Buffer module <sup>2)</sup></b>                                                                                                                                                                                                                        | <b>Redundancy module</b>                                                                                                                                                                                                                                 | <b>SITOP PSE200U selectivity module</b>                                                                                                                                                                                                                                                                           |                       | <b>SITOP select diagnosis module</b>                                                                 |
| Order no.                                    | 6EP1961-3BA10                                                                                                                                                                                                                                   | 6EP1961-3BA00                                                                                                                                                                                                                                             | 6EP1961-3BA20                                                                                                                                                                                                                                            | 6EP1961-2BA10                                                                                                                                                                                                                                                                                                     | 6EP1961-2BA20         | 6EP1961-2BA00                                                                                        |
| Rated input voltage<br>– Range               | Contact rating<br>240V AC/6 A                                                                                                                                                                                                                   | 24 V DC<br>24...28.8 V DC                                                                                                                                                                                                                                 | 24 V DC<br>24...28.8 V DC                                                                                                                                                                                                                                | 24 V DC<br>22...30 V DC                                                                                                                                                                                                                                                                                           |                       | 24 V DC<br>22...30 V DC                                                                              |
| Brief description of product/<br>function    | Signaling module for snapping onto the side of the basic unit; automatic contacting, with floating signaling contacts for "Output voltage o.k." and "operating readiness o.k."; with signal input for switching the basic unit ON/OFF remotely. | Buffer module for mains buffering; connection by parallel switching at the output of the basic unit (6EP1x3x-3BA0x); buffer time 100 ms at 40 A to 800 ms at 5 A load current; multiplication possible using parallel switching; maximum buffer time 3 s. | Module for redundancy mode. Decoupling of two 5 A to 20 A power supplies or one 40 A power supply per redundancy module. Floating relay contact and green LED for signaling "Infeed 1 and 2 o.k.", switching threshold adjustable between 20 to 25 V DC. | Module for distributing the 24V supply over up to four load feeders and their monitoring for overload; selective shutdown of faulty feeders, rated current individually adjustable; with common signaling contact, universal use for all power supplies. Individual load feeders can be switched on sequentially. |                       | Status indication via 2-color LED per channel, common reset via pushbutton, plug-in fuse per channel |
| Rated output current<br>– Setting range      | Not applicable                                                                                                                                                                                                                                  | 40 A                                                                                                                                                                                                                                                      | 40 A (Total output current)                                                                                                                                                                                                                              | 4 x 3 A<br>0,5 to 3 A                                                                                                                                                                                                                                                                                             | 4 x 10 A<br>3 to 10 A | 4 x 10 A<br>2 to 10 A                                                                                |
| Efficiency at rated values, approx.          | Not applicable                                                                                                                                                                                                                                  | Not applicable                                                                                                                                                                                                                                            | 97 %                                                                                                                                                                                                                                                     | 97 %                                                                                                                                                                                                                                                                                                              |                       | 97 %                                                                                                 |
| Switching in parallel                        | Not applicable                                                                                                                                                                                                                                  | Yes                                                                                                                                                                                                                                                       | No                                                                                                                                                                                                                                                       | No                                                                                                                                                                                                                                                                                                                |                       | No                                                                                                   |
| Electronic short-circuit protection          | Not applicable                                                                                                                                                                                                                                  | Yes                                                                                                                                                                                                                                                       | No                                                                                                                                                                                                                                                       | Yes                                                                                                                                                                                                                                                                                                               |                       | Yes                                                                                                  |
| Radio interference suppression<br>(EN 55022) | Class B                                                                                                                                                                                                                                         | Class B                                                                                                                                                                                                                                                   | Class B                                                                                                                                                                                                                                                  | Class B                                                                                                                                                                                                                                                                                                           |                       | Class B                                                                                              |
| Degree of protection (EN 60529)              | IP20                                                                                                                                                                                                                                            | IP20                                                                                                                                                                                                                                                      | IP20                                                                                                                                                                                                                                                     | IP20                                                                                                                                                                                                                                                                                                              |                       | IP20                                                                                                 |
| Ambient temperature                          | 0...+60 °C                                                                                                                                                                                                                                      | 0...+60 °C                                                                                                                                                                                                                                                | 0...+60 °C                                                                                                                                                                                                                                               | 0...+60 °C                                                                                                                                                                                                                                                                                                        |                       | 0...+60 °C                                                                                           |
| Dimensions (W x H x D) in mm                 | 25 x 125 x 125                                                                                                                                                                                                                                  | 70 x 125 x 125                                                                                                                                                                                                                                            | 70 x 125 x 125                                                                                                                                                                                                                                           | 72 x 80 x 72                                                                                                                                                                                                                                                                                                      |                       | 72 x 90 x 90                                                                                         |
| Weight approx.                               | 0.15 kg                                                                                                                                                                                                                                         | 1.2 kg                                                                                                                                                                                                                                                    | 1.0 kg                                                                                                                                                                                                                                                   | 0.22 kg                                                                                                                                                                                                                                                                                                           |                       | 0.4 kg                                                                                               |
| Certification                                | CE, UL, CSA                                                                                                                                                                                                                                     | CE, UL, CSA                                                                                                                                                                                                                                               | CE, cULus, Hazardous Location Class I Div 2 Groups A, B, C & D, T4; ATEX                                                                                                                                                                                 | CE, cULus                                                                                                                                                                                                                                                                                                         |                       | CE, cULus, Hazardous Location Class I Div 2 Groups A, B, C & D, T4; ATEX                             |

<sup>1)</sup> Can only be combined with SITOP modular power supply 6EP1\_\_-3BA00

<sup>2)</sup> Can only be combined with SITOP modular power supply 24 V DC

# Uninterruptible power supplies

## SITOP DC UPS with battery modules for bridging longer power failures

|                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                         |                                                                                     |                                                  |
|--------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------|
|                                                              |  |  |  |      |  |                                                  |
| Technical data                                               | SITOP DC UPS, for longer power failures                                           |                                                                                    |                                                                                     |                                                                                         |                                                                                     |                                                  |
| SITOP<br>Output voltage/current                              | DC UPS module<br>24 V/6 A                                                         | DC UPS module<br>24 V/15 A                                                         | DC UPS module<br>24 V/40 A                                                          | DC UPS battery module<br>24 V/1.2 Ah <sup>1)</sup>                                      | DC UPS battery module<br>24 V/3.2 Ah <sup>1)</sup>                                  | DC UPS battery module<br>24 V/7 Ah <sup>1)</sup> |
| Order no.<br>– with serial interface<br>– with USB interface | 6EP1931-2DC21<br>6EP1931-2DC31<br>6EP1931-2DC42                                   | 6EP1931-2EC21<br>6EP1931-2EC31<br>6EP1931-2EC42                                    | 6EP1931-2FC21<br><br>6EP1931-2FC42                                                  | 6EP1935-6MC01                                                                           | 6EP1935-6MD11                                                                       | 6EP1935-6ME21                                    |
| Input voltage                                                | 24 V DC, 22...29 V, Infeed from 24 V SITOP power supply:<br>Any<br>From 24 V/5 A  |                                                                                    |                                                                                     | Recomm. end-of-charge voltage: 26.4...27.3 V DC (> +20 °C), 27.3...29.0 V DC (< +20 °C) |                                                                                     |                                                  |
| Rated input current                                          | 6 A + approx. 0.6 A<br>with empty battery                                         | 15 A + approx. 1 A<br>with empty battery                                           | 40 A + approx. 2.6 A<br>with empty battery                                          | Charging current max. 0.3 A                                                             | Charging current 0.7 A                                                              | Charging current max. 2.5 A                      |
| Rated output voltage                                         | 24 V DC (Upstream SITOP device or battery), charging voltage: 27.0 V              |                                                                                    |                                                                                     | 24 V DC, 22 to 27.0 V DC (No-load operation)                                            |                                                                                     |                                                  |
| Rated output current                                         | 6 A, Charging current:<br>typ. 0.4 A                                              | 15 A, Charging current:<br>typ. 0.7 A                                              | 40 A, Charging current:<br>typ. 2 A                                                 | 2.5 A                                                                                   | 10 A                                                                                | 20 A                                             |
| Efficiency at rated values,<br>approx.                       | Buffer mode: 94 %,<br>Standby mode: 95 %                                          | Buffer mode: 96 %,<br>Standby mode: 96 %                                           | Buffer mode: 97 %,<br>Standby mode: 97 %                                            | Not applicable                                                                          | Not applicable                                                                      | Not applicable                                   |
| Overload and short-circuit<br>protection                     | Electronic, automatic restart                                                     |                                                                                    |                                                                                     | Installed battery fuse<br>7.5 A/32 V                                                    | 15 A/32 V                                                                           | 7.5 A/32 V                                       |
| Switching in parallel                                        | No                                                                                | No                                                                                 | No                                                                                  | Yes                                                                                     | Yes                                                                                 | Yes                                              |
| Radio interference<br>suppression (EN 55022)                 | Class B                                                                           | Class B                                                                            | Class B                                                                             |                                                                                         |                                                                                     |                                                  |
| Degree of protection<br>(EN 60529)                           | IP20                                                                              | IP20                                                                               | IP20                                                                                | IP00                                                                                    | IP00                                                                                | IP00                                             |
| Ambient temperature                                          | 0...+60 °C                                                                        | 0...+60 °C                                                                         | 0...+60 °C                                                                          | +5...+40 °C                                                                             | +5...+40 °C                                                                         | +5...+40 °C                                      |
| Installation                                                 | DIN rail                                                                          | DIN rail                                                                           | DIN rail                                                                            | DIN rail                                                                                | DIN rail                                                                            | Wall mounting                                    |
| Dimensions (W x H x D)<br>in mm                              | 50 x 125 x 125                                                                    | 50 x 125 x 125                                                                     | 102 x 125 x 125                                                                     | 96 x 106 x 108                                                                          | 190 x 151 x 82                                                                      | 186 x 168 x 121                                  |
| Weight approx.                                               | 0.4 kg                                                                            | 0.4 kg                                                                             | 1.1 kg                                                                              | 2 kg                                                                                    | 3.5 kg                                                                              | 6.0 kg                                           |
| Certification                                                | CE, cULus                                                                         | CE, cULus                                                                          | CE, cULus                                                                           | CE, cULus                                                                               | CE, cULus                                                                           | CE, cULus                                        |

<sup>1)</sup> Also available: high-temperature battery module 24 V/2.5 Ah (6EP1935-6MD31) for ambient temperature –40 to +60 °C and battery module 24 V/12 Ah (6EP1935-6MF01)

## Selection table battery modules and power failure times

|              |  |  |  |  |  |
|--------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Load current | Battery module 1.2 Ah<br>(6EP1935-6MC01)                                          | Battery module 3.2 Ah<br>(6EP1935-6MD11)                                          | Battery module 7 Ah<br>(6EP1935-6ME21)                                              | Battery module 12 Ah<br>(6EP1935-6MF01)                                             | Battery module <sup>1)</sup> 2.5 Ah<br>(6EP1935-6MD31)                              |
| 1 A          | 30 min.                                                                           | 2.5 h                                                                             | 6 h                                                                                 | 11 h                                                                                | 2 h                                                                                 |
| 2 A          | 11 min.                                                                           | 45 min.                                                                           | 2.5 h                                                                               | 5 h                                                                                 | 45 min.                                                                             |
| 3 A          | 4 min.                                                                            | 25 min.                                                                           | 1.5 h                                                                               | 3 h                                                                                 | 30 min.                                                                             |
| 4 A          | 2 min.                                                                            | 20 min.                                                                           | 45 min.                                                                             | 2 h                                                                                 | 20 min.                                                                             |
| 6 A          | 1 min.                                                                            | 10 min.                                                                           | 30 min.                                                                             | 1 h                                                                                 | 13 min.                                                                             |
| 8 A          | –                                                                                 | 4 min.                                                                            | 20 min.                                                                             | 40 min.                                                                             | 9 min.                                                                              |
| 10 A         | –                                                                                 | 1.5 min.                                                                          | 15 min.                                                                             | 30 min.                                                                             | 7 min.                                                                              |
| 12 A         | –                                                                                 | 1 min.                                                                            | 10 min.                                                                             | 25 min.                                                                             | 5.5 min.                                                                            |
| 14 A         | –                                                                                 | 50 s                                                                              | 8 min.                                                                              | 20 min.                                                                             | 4.5 min.                                                                            |
| 16 A         | –                                                                                 | 40 s                                                                              | 6 min.                                                                              | 15 min.                                                                             | 4 min.                                                                              |
| 20 A         | –                                                                                 | –                                                                                 | 2 min.                                                                              | 11 min.                                                                             | –                                                                                   |

<sup>1)</sup> High temperature battery module for ambient temperature –40 to +60 °C

# Uninterruptible power supplies – SITOP UPS500 maintenance-free DC UPS with capacitor technology

|                                           |  |                 |                                                     |  |  |
|-------------------------------------------|-----------------------------------------------------------------------------------|-----------------|---------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Technical data                            |                                                                                   |                 | Maintenance-free DC UPS                                                                                                               |                                                                                     |                                                                                     |
| SITOP                                     | UPS500S – Basic unit 15 A                                                         |                 | UPS501 – Expansion module                                                                                                             | UPS500P – Basic unit 7 A, degree of protection IP65                                 |                                                                                     |
| Energy                                    | 2.5 kW                                                                            | 5 kW            | 5 kW                                                                                                                                  | 5 kW                                                                                | 10 kW                                                                               |
| Order no.                                 | 6EP1 933-2EC41                                                                    | 6EP1 933-2EC51  | 6EP1935-5PG01                                                                                                                         | 6EP1933-2NC01 <sup>1)</sup>                                                         | 6EP1933-2NC11 <sup>1)</sup>                                                         |
| Input voltage                             | 24 V DC, 22...29 V, Infeed from SITOP 24 V                                        |                 | Infeed from basic unit                                                                                                                | 24 V DC, 22.5...29 V, Infeed from SITOP 24 V                                        |                                                                                     |
| Rated input current                       | 15.2 A + approx. 2.3 A in charging mode                                           |                 | Description: expansion module for extending the buffering time, up to 3 units can be switched in parallel with one UPS500S basic unit | 7 A + approx. 2 A in charging mode                                                  |                                                                                     |
| Rated output voltage                      | In buffer mode and normal mode 24 V DC +/-3 %                                     |                 |                                                                                                                                       | In buffer mode and normal mode 24 V DC +/-3 %                                       |                                                                                     |
| Rated output current                      | 15 A, charging current 1 A (factory setting) or 2 A selectable                    |                 |                                                                                                                                       | 7 A,charging current 2 A                                                            |                                                                                     |
| Efficiency at rated values, approx.       | 97.50 %                                                                           |                 |                                                                                                                                       | 96.90 %                                                                             |                                                                                     |
| Overload and short-circuit protection     | Electronic, automatic restart                                                     |                 |                                                                                                                                       | Electronic, automatic restart                                                       |                                                                                     |
| Switching in parallel                     | No                                                                                |                 | Yes, up to 3 units                                                                                                                    | No                                                                                  | No                                                                                  |
| Radio interference suppression (EN 55022) | Class B                                                                           | Class B         | Class B                                                                                                                               | Class B                                                                             | Class B                                                                             |
| Degree of protection (EN 60529)           | IP20                                                                              | IP20            | IP20                                                                                                                                  | IP65                                                                                | IP65                                                                                |
| Ambient temperature                       | 0...+60 °C                                                                        | 0...+60 °C      | 0...+60 °C                                                                                                                            | 0...+55 °C                                                                          | 0...+60 °C                                                                          |
| Installation                              | DIN rail                                                                          | DIN rail        | DIN rail                                                                                                                              | Screw mounting in all mounting positions                                            |                                                                                     |
| Dimensions (W x H x D) in mm              | 120 x 125 x 125                                                                   | 120 x 125 x 125 | 70 x 125 x 125                                                                                                                        | 400 (without connector) x 80 x 80                                                   | 470 (without connector) x 80 x 80                                                   |
| Weight approx.                            | 1.0 kg                                                                            | 1.2 kg          | 0.7 kg                                                                                                                                | 1.9 kg                                                                              | 2.2 kg                                                                              |
| Certification                             | CE, UL 508/CSA C22.2, File E197259                                                |                 |                                                                                                                                       | CE, UL508 pending, File E179336                                                     |                                                                                     |

<sup>1)</sup> Connector set with input and output connector as well as prepared USB cable in 2 m length: Order no. 6EP1975-2ES00

# Buffer times and charging times

## SITOP UPS500



| SITOP UPS500S/501S UPS500P configurations |        |      |          |          |          |          |          |          | UPS500P |       |
|-------------------------------------------|--------|------|----------|----------|----------|----------|----------|----------|---------|-------|
| Basic unit                                | 2.5 kW | 5 kW | 2.5 kW   | 5 kW     | 2.5 kW   | 5 kW     | 2.5 kW   | 5 kW     | 5 kW    | 10 kW |
| Expansion modules                         | –      | –    | 1 x 5 kW | 1 x 5 kW | 2 x 5 kW | 2 x 5 kW | 3 x 5 kW | 3 x 5 kW | –       | –     |
| Total energy                              | 2.5 kW | 5 kW | 7.5 kW   | 10 kW    | 12.5 kW  | 15 kW    | 17.5 kW  | 20 kW    | 5 kW    | 10 kW |

| Buffer times |         |         |         |         |         |         |         |          |         |         |
|--------------|---------|---------|---------|---------|---------|---------|---------|----------|---------|---------|
| Load current |         |         |         |         |         |         |         |          |         |         |
| 0.5 A        | 134 sec | 236 sec | 390 sec | 478 sec | 632 sec | 748 sec | 851 sec | 1007 sec | 284 sec | 647 sec |
| 0.8 A        | 90 sec  | 167 sec | 266 sec | 346 sec | 440 sec | 527 sec | 580 sec | 706 sec  | 190 sec | 435 sec |
| 1 A          | 75 sec  | 138 sec | 219 sec | 296 sec | 365 sec | 414 sec | 490 sec | 572 sec  | 153 sec | 351 sec |
| 2 A          | 38 sec  | 76 sec  | 122 sec | 156 sec | 203 sec | 230 sec | 265 sec | 306 sec  | 80 sec  | 152 sec |
| 3 A          | 26 sec  | 52 sec  | 82 sec  | 106 sec | 136 sec | 159 sec | 186 sec | 213 sec  | 53 sec  | 108 sec |
| 4 A          | 19 sec  | 39 sec  | 61 sec  | 81 sec  | 101 sec | 120 sec | 139 sec | 160 sec  | 40 sec  | 84 sec  |
| 5 A          | 15 sec  | 31 sec  | 49 sec  | 65 sec  | 81 sec  | 95 sec  | 111 sec | 130 sec  | 30 sec  | 68 sec  |
| 6 A          | 12 sec  | 26 sec  | 40 sec  | 55 sec  | 67 sec  | 80 sec  | 94 sec  | 106 sec  | 25 sec  | 57 sec  |
| 7 A          | 10 sec  | 21 sec  | 34 sec  | 47 sec  | 58 sec  | 69 sec  | 81 sec  | 82 sec   | 21 sec  | 49 sec  |
| 8 A          | 8 sec   | 18 sec  | 29 sec  | 40 sec  | 50 sec  | 59 sec  | 69 sec  | 79 sec   | –       | –       |
| 10 A         | 6 sec   | 15 sec  | 23 sec  | 32 sec  | 39 sec  | 47 sec  | 54 sec  | 62 sec   | –       | –       |
| 12 A         | 4 sec   | 12 sec  | 19 sec  | 26 sec  | 32 sec  | 38 sec  | 44 sec  | 52 sec   | –       | –       |
| 15 A         | 3 sec   | 9 sec   | 14 sec  | 20 sec  | 25 sec  | 30 sec  | 35 sec  | 40 sec   | –       | –       |

| Charging times   |         |         |         |         |         |         |         |         |         |         |
|------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Charging current |         |         |         |         |         |         |         |         |         |         |
| 2 A              | 54 sec  | 120 sec | 158 sec | 223 sec | 263 sec | 318 sec | 355 sec | 417 sec | 130 sec | 360 sec |
| 1 A              | 110 sec | 205 sec | 311 sec | 425 sec | 503 sec | 625 sec | 695 sec | 816 sec | –       | –       |

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