

# Stabilised switched mode power supplies

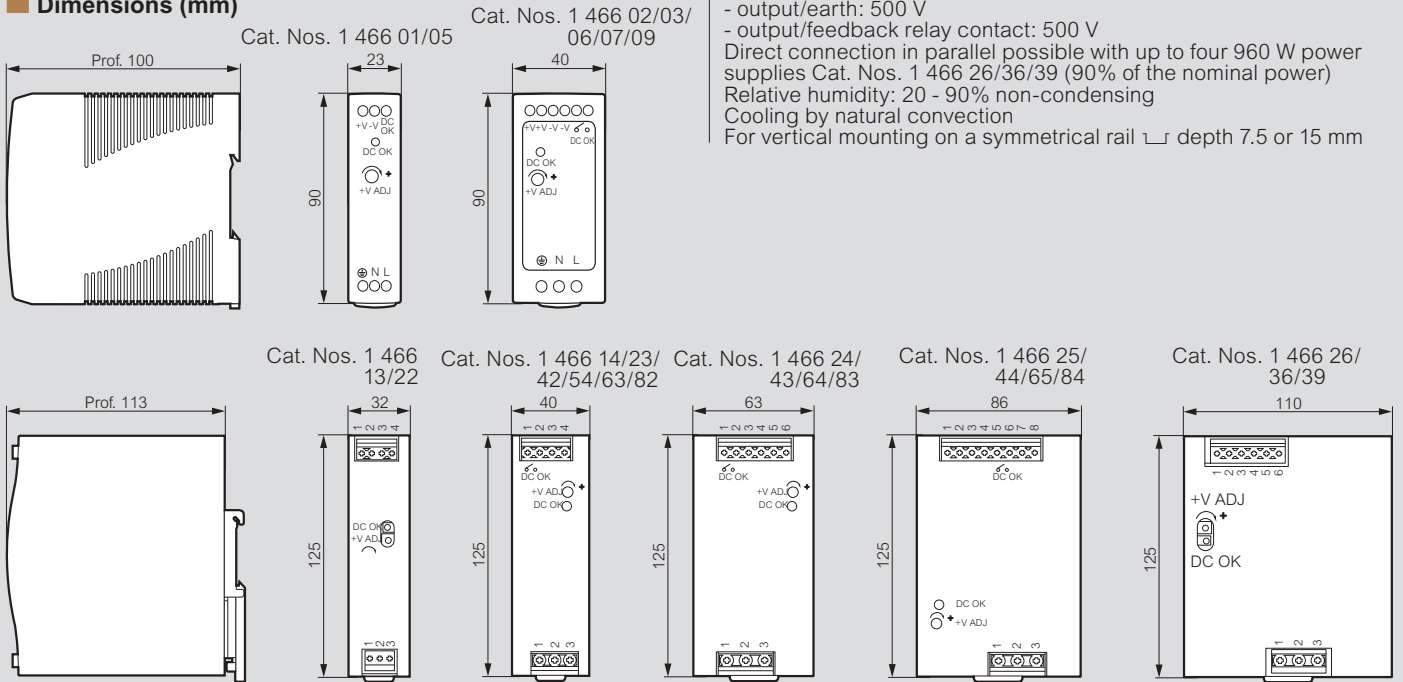
single-phase, single/two-phase and three-phase

## Characteristics

AC (47 to 63 Hz) or DC input voltage  
 Adjustable 12 V<sub>DC</sub>, 24 V<sub>DC</sub> or 48 V<sub>DC</sub> output voltage  
 Conforming to standards:  
 - IEC EN 60950-1  
 - UL 508 (CAN/CSA C22.2 No. 14-M91)  
 - EN 55022 class B  
 - EN 61000-4-2, 3, 4, 5, 6, 8, 11 and EN 61000-3-2, -3  
 - EN 61204-3  
 Input at the bottom and output at the top  
 Double operating terminal (single for 20 W - 24 W - 120 W, triple for 960 W)  
 Output voltage variation: ± 1%

Output voltage variation/variations of the network: ± 1%  
 Output voltage variation/variations in the load: ± 1%  
 Power Factor Correction (PFC) limiting harmonic pollution on the network  
 Feedback function:  
 - Cat. Nos 1 466 01, signal 9 - 13.5 V<sub>DC</sub> 40 mA  
 - Cat. Nos 1 466 05, signal 18 - 27 V<sub>DC</sub> 20 mA  
 - Cat. Nos. 1 466 13/22, function not present  
 - other catalogue numbers, relay contact 30 V<sub>DC</sub> 1 A  
 Protection class I  
 Overvoltage category II, pollution degree 2  
 Insulation voltage:  
 - input/output: 3000 V min  
 - input/earth: 1500 V min  
 - output/earth: 500 V  
 - output/feedback relay contact: 500 V  
 Direct connection in parallel possible with up to four 960 W power supplies Cat. Nos. 1 466 26/36/39 (90% of the nominal power)  
 Relative humidity: 20 - 90% non-condensing  
 Cooling by natural convection  
 For vertical mounting on a symmetrical rail depth 7.5 or 15 mm

## Dimensions (mm)



| Cat.Nos  | Output      |                    |                         |                      |   | Input             |           |                          |   | Efficiency (%) | Starting time at Pn (s)  | Holding time at Pn (ms) | Operating temperatures w/o derating (°C) <sup>(5)</sup> | Derating MAX temperature and coefficient <sup>(5)</sup> |      | Depth (mm) | Weight (kg) |
|----------|-------------|--------------------|-------------------------|----------------------|---|-------------------|-----------|--------------------------|---|----------------|--------------------------|-------------------------|---|---|------|------------|-------------|
|          | Voltage (V) | Nominal rating (A) | Nominal power (Pn in W) | Peak power (3 s) (W) | Flexible copper conductor size (mm <sup>2</sup> ) | Voltage Min - Max |           | Current consumption (A)  | Flexible copper conductor size (mm <sup>2</sup> ) |                |                          |                         |   | °C  | W/°C |            |             |
|          |             |                    |                         |                      |   | (V~)              | (V=)      |                          |   |                |                          |                         |   |   |      |            |             |
| 1 466 01 | 12          | 1.67               | 20                      | -                    | 2.5   | 85 - 264          | 120 - 370 | 0.55/0.35 <sup>(2)</sup> | 2.5   | 80             | 1.03/0.53 <sup>(2)</sup> | 20/50 <sup>(2)</sup>    | -20 to +50  | +70   | 0.55 | 100        | 0.19        |
| 1 466 02 | 12          | 3.33               | 40                      | -                    | 2.5   | 85 - 264          | 120 - 370 | 1.1/0.7 <sup>(2)</sup>   | 2.5   | 86             | 0.53/0.53 <sup>(2)</sup> | 20/50 <sup>(2)</sup>    | -20 to +60  | +70   | 1.6  | 100        | 0.3         |
| 1 466 03 | 12          | 5                  | 60                      | -                    | 2.5   | 85 - 264          | 120 - 370 | 1.8/1 <sup>(2)</sup>     | 2.5   | 86             | 0.53/0.53 <sup>(2)</sup> | 20/50 <sup>(2)</sup>    | -20 to +55  | +70   | 1.6  | 100        | 0.33        |
| 1 466 05 | 24          | 1                  | 24                      | -                    | 2.5   | 85 - 264          | 120 - 370 | 0.55/0.35 <sup>(2)</sup> | 2.5   | 84             | 1.03/0.53 <sup>(2)</sup> | 20/50 <sup>(2)</sup>    | -20 to +50  | +70   | 0.65 | 100        | 0.19        |
| 1 466 06 | 24          | 1.7                | 40                      | -                    | 2.5   | 85 - 264          | 120 - 370 | 1.1/0.7 <sup>(2)</sup>   | 2.5   | 88             | 0.53/0.53 <sup>(2)</sup> | 20/50 <sup>(2)</sup>    | -20 to +60  | +70   | 1.6  | 100        | 0.3         |
| 1 466 07 | 24          | 2.5                | 60                      | -                    | 2.5   | 85 - 264          | 120 - 370 | 1.8/1 <sup>(2)</sup>     | 2.5   | 88             | 0.53/0.53 <sup>(2)</sup> | 20/50 <sup>(2)</sup>    | -20 to +55  | +70   | 1.6  | 100        | 0.33        |
| 1 466 09 | 48          | 1.25               | 60                      | -                    | 2.5   | 85 - 264          | 120 - 370 | 1.8/1 <sup>(2)</sup>     | 2.5   | 87             | 0.53/0.53 <sup>(2)</sup> | 20/50 <sup>(2)</sup>    | -20 to +55  | +70   | 1.6  | 100        | 0.33        |
| 1 466 13 | 12          | 6.3                | 75                      | 112.5                | 2.5   | 88 - 264          | 124 - 370 | 1.4/0.85 <sup>(2)</sup>  | 2.5   | 88.5           | 3.06/1.56 <sup>(2)</sup> | 20/80 <sup>(2)</sup>    | -25 to +55  | +70   | 1.27 | 102        | 0.51        |
| 1 466 14 | 12          | 10                 | 120                     | 180                  | 4   | 88 - 264          | 124 - 370 | 1.4/0.7 <sup>(2)</sup>   | 4   | 89             | 3.06/1.56 <sup>(2)</sup> | 20/20 <sup>(2)</sup>    | -25 to +55  | +70   | 2    | 114        | 0.67        |
| 1 466 22 | 24          | 3.2                | 75                      | 112.5                | 2.5   | 88 - 264          | 124 - 370 | 1.4/0.85 <sup>(2)</sup>  | 2.5   | 89             | 3.06/1.56 <sup>(2)</sup> | 20/80 <sup>(2)</sup>    | -25 to +60  | +70   | 1.9  | 102        | 0.51        |
| 1 466 23 | 24          | 5                  | 120                     | 180                  | 4   | 88 - 264          | 124 - 370 | 1.4/0.7 <sup>(2)</sup>   | 4   | 91             | 3.06/1.56 <sup>(2)</sup> | 20/20 <sup>(2)</sup>    | -25 to +60  | +70   | 3    | 114        | 0.67        |
| 1 466 24 | 24          | 10                 | 240                     | 360                  | 4   | 88 - 264          | 124 - 370 | 2.6/1.3 <sup>(2)</sup>   | 4   | 94             | 3.06/1.56 <sup>(2)</sup> | 20/20 <sup>(2)</sup>    | -25 to +60  | +70   | 6    | 114        | 1.03        |
| 1 466 25 | 24          | 20                 | 480                     | 720                  | 4   | 88 - 264          | 124 - 370 | 5/2.5 <sup>(2)</sup>     | 4   | 94             | 3.15/1.65 <sup>(2)</sup> | 14/14 <sup>(2)</sup>    | -25 to +60  | +70   | 9.6  | 129        | 1.6         |
| 1 466 26 | 24          | 40                 | 960                     | 1248                 | 4   | 180 - 264         | 254 - 370 | 6 (230 V~)               | 4   | 94             | 1.1 (230 V~) 14 (230 V~) | -30 to +50              | +70   | 19.2  | 150  | 2.47       |             |
| 1 466 42 | 48          | 2.5                | 120                     | 180                  | 4   | 88 - 264          | 124 - 370 | 1.4/0.7 <sup>(2)</sup>   | 4   | 90.5           | 3.06/1.56 <sup>(2)</sup> | 20/20 <sup>(2)</sup>    | -25 to +60  | +70   | 3    | 114        | 0.67        |
| 1 466 43 | 48          | 5                  | 240                     | 360                  | 4   | 88 - 264          | 124 - 370 | 2.6/1.3 <sup>(2)</sup>   | 4   | 94             | 3.06/1.56 <sup>(2)</sup> | 20/20 <sup>(2)</sup>    | -25 to +60  | +70   | 6    | 114        | 1.03        |
| 1 466 44 | 48          | 10                 | 480                     | 720                  | 4   | 88 - 264          | 124 - 370 | 5/2.5 <sup>(2)</sup>     | 4   | 94             | 3.15/1.65 <sup>(2)</sup> | 14/14 <sup>(2)</sup>    | -25 to +60  | +70   | 9.6  | 129        | 1.6         |
| 1 466 54 | 12          | 10                 | 120                     | -                    | 4   | 180 - 550         | 254 - 780 | 1.2/0.55 <sup>(3)</sup>  | 4   | 89.5           | 2.07/2.07 <sup>(3)</sup> | 10/50 <sup>(3)</sup>    | -25 to +50  | +60   | 4.8  | 114        | 0.65        |
| 1 466 63 | 24          | 5                  | 120                     | -                    | 4   | 180 - 550         | 254 - 780 | 1.2/0.55 <sup>(3)</sup>  | 4   | 91             | 2.07/2.07 <sup>(3)</sup> | 10/50 <sup>(3)</sup>    | -25 to +60  | +70   | 4.8  | 114        | 0.65        |
| 1 466 64 | 24          | 10                 | 240                     | -                    | 4   | 180 - 550         | 254 - 780 | 2/1 <sup>(3)</sup>       | 4   | 91             | 1.65/0.95 <sup>(3)</sup> | 18/18 <sup>(3)</sup>    | -30 to +50  | +70   | 4.8  | 114        | 1.06        |
| 1 466 65 | 24          | 20                 | 480                     | -                    | 4   | 180 - 550         | 254 - 780 | 4/1.6 <sup>(3)</sup>     | 4   | 92             | 2.15/0.95 <sup>(3)</sup> | 16/18 <sup>(3)</sup>    | -30 to +50  | +70   | 9.6  | 129        | 1.7         |
| 1 466 82 | 48          | 2.5                | 120                     | -                    | 4   | 180 - 550         | 254 - 780 | 1.2/0.55 <sup>(3)</sup>  | 4   | 92             | 2.07/2.07 <sup>(3)</sup> | 10/50 <sup>(3)</sup>    | -25 to +60  | +70   | 4.8  | 114        | 0.65        |
| 1 466 83 | 48          | 5                  | 240                     | -                    | 4   | 180 - 550         | 254 - 780 | 2/1 <sup>(3)</sup>       | 4   | 91             | 1.65/0.95 <sup>(3)</sup> | 18/18 <sup>(3)</sup>    | -30 to +50  | +70   | 4.8  | 114        | 1.06        |
| 1 466 84 | 48          | 10                 | 480                     | -                    | 4   | 180 - 550         | 254 - 780 | 4/1.6 <sup>(3)</sup>     | 4   | 92             | 2.15/0.95 <sup>(3)</sup> | 16/18 <sup>(3)</sup>    | -30 to +50  | +70   | 9.6  | 129        | 1.7         |
| 1 466 36 | 24          | 40                 | 960 <sup>(1)</sup>      | -                    | 4   | 340 - 550         | 480 - 780 | 2/1.4 <sup>(4)</sup>     | 4   | 94             | 1.1/0.9 <sup>(4)</sup>   | 12/14 <sup>(4)</sup>    | -30 to +50  | +70   | 19.2 | 150        | 2.47        |
| 1 466 39 | 48          | 20                 | 960 <sup>(1)</sup>      | -                    | 4   | 340 - 550         | 480 - 780 | 2/1.4 <sup>(4)</sup>     | 4   | 94.5           | 1.1/0.9 <sup>(4)</sup>   | 12/14 <sup>(4)</sup>    | -30 to +50  | +70   | 19.2 | 150        | 2.47        |

1: 80% of the nominal power in the event of power supply on 2 phases  
 2: 115 V~ / 230 V~  
 3: 230 V~ / 400 V~  
 4: 400 V~ / 500 V~  
 5: Example: power for Cat. Nos 1 466 24 at an ambient temperature of 65°C: 240 - (5 x 6) = 210 W

# Stabilised switched mode power supplies

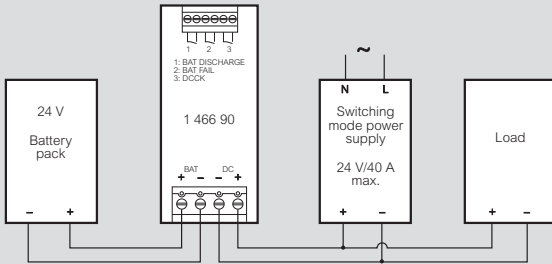
## additional functions

### Backup function module

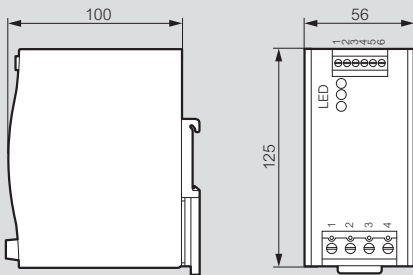
Module Cat.Nos 1 466 90 charges the associated battery pack and manages the power supply in the event of a power supply failure on a 24 V<sub>DC</sub> system

LED indicators and relay contacts indicate the following faults:

- "DC OK": normal operation  
Green LED on  
Contact closed if  $21\text{ V} < V_{DC} < 29\text{ V}$  ( $\pm 3\%$ )
- "Battery fail": battery problem  
Red LED on  
Contact closed if  $V_{DC} < 21.9\text{ V}$  ( $\pm 3\%$ ) or battery not working
- "Battery discharge": battery operation  
Yellow LED on if discharge current  $> 2\text{ A}$   
Contact closed



- Max. continuous rating: 40 A
- Relay contacts: 30 V<sub>DC</sub> max.



### Battery pack for backup function

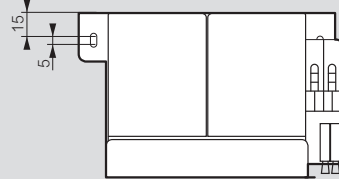
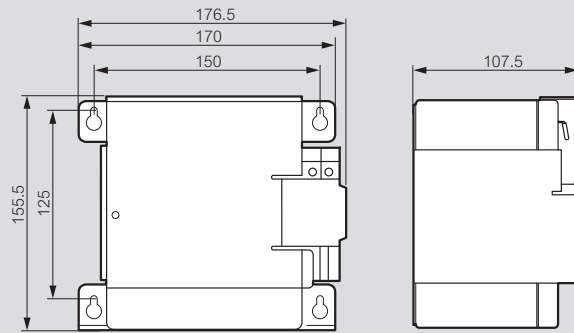
The battery pack Cat.No 1 466 93 is associated with module Cat.No 1 466 90.

The table below gives the holding time according to the rating to be backed up, with a fully-charged battery:

| Rating to be backed up (A) | Dwell time |   |    |    |         |   |   |   |   |   |   |   |    |    |    |    |       |    |   |   |     |   |
|----------------------------|------------|---|----|----|---------|---|---|---|---|---|---|---|----|----|----|----|-------|----|---|---|-----|---|
|                            | Seconds    |   |    |    | Minutes |   |   |   |   |   |   |   |    |    |    |    | Hours |    |   |   |     |   |
|                            | 1          | 5 | 10 | 30 | 2       | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 15 | 20 | 30 | 40    | 50 | 1 | 2 | 3   | 5 |
| 1                          |            |   |    |    |         |   |   |   |   |   |   |   |    |    |    |    |       |    |   |   |     |   |
| 3                          |            |   |    |    |         |   |   |   |   |   |   |   |    |    |    |    |       |    |   |   | (1) |   |
| 5                          |            |   |    |    |         |   |   |   |   |   |   |   |    |    |    |    |       |    |   |   | (1) |   |
| 7                          |            |   |    |    |         |   |   |   |   |   |   |   |    |    |    |    |       |    |   |   | (1) |   |
| 9                          |            |   |    |    |         |   |   |   |   |   |   |   |    |    |    |    |       |    |   |   | (1) |   |
| 10                         |            |   |    |    |         |   |   |   |   |   |   |   |    |    |    |    |       |    |   |   | (1) |   |
| 15                         |            |   |    |    |         |   |   |   |   |   |   |   |    |    |    |    |       |    |   |   | (1) |   |
| 20                         |            |   |    |    |         |   |   |   |   |   |   |   |    |    |    |    |       |    |   |   | (1) |   |
| 25                         |            |   |    |    |         |   |   |   |   |   |   |   |    |    |    |    |       |    |   |   | (1) |   |
| 30                         |            |   |    |    |         |   |   |   |   |   |   |   |    |    |    |    |       |    |   |   | (1) |   |
| 40                         |            |   |    |    |         |   |   |   |   |   |   |   |    |    |    |    |       |    |   |   | (1) |   |

1: use of 2 battery packs Cat.Nos 1 466 93 in parallel

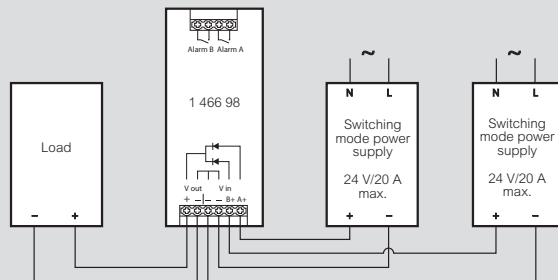
- Equipped with fuses (2 x 25A AT0 type)



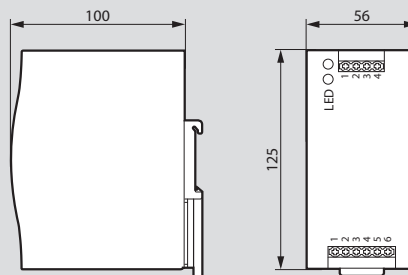
### Redundancy function module

Module Cat.Nos 1 466 98 controls two 24 V<sub>DC</sub> switching mode power supplies

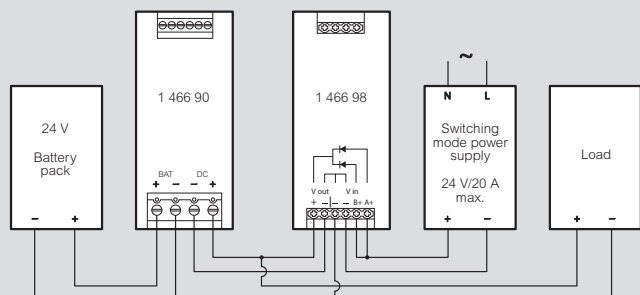
In the event of failure of one of the power supplies, it switches over to the operational power supply and indicates the fault via LED indicators and relay contacts.



- Max. continuous rating: 20 A
- Relay contacts: 30 V<sub>DC</sub> max.



### Example of combined use of a backup function module and a redundancy module



## Protection devices at the input of power supplies

### Protection devices to be combined at the input of Stabilised switched mode power supplies

|                  | Power (W) | Cat.Nos         | Fuse             | Circuit breaker |          |
|------------------|-----------|-----------------|------------------|-----------------|----------|
|                  |           |                 |                  | Rating          | Cat.Nos  |
| Single-phase     | 20        | 1 466 01        | T2A H (250 V)    | 2 A - curve C   | 4 076 93 |
|                  | 24        | 1 466 05        |                  |                 |          |
|                  | 40        | 1 466 02        | T2.5A H (250 V)  | 3 A - curve C   | 4 076 94 |
|                  |           | 1 466 06        |                  |                 |          |
|                  |           | 1 466 03        |                  |                 |          |
|                  | 60        | 1 466 07        | T3.15A H (250 V) | 4 A - curve C   | 4 076 95 |
|                  |           | 1 466 09        |                  |                 |          |
|                  |           | 1 466 13        |                  |                 |          |
|                  | 75        | 1 466 22        | T4A H (250 V)    | 6 A - curve C   | 4 076 96 |
|                  |           | 1 466 14        |                  |                 |          |
| 1 466 23         |           |                 |                  |                 |          |
| 120              | 1 466 42  | T5A H (250 V)   | 8 A - curve C    | 4 076 97        |          |
|                  | 1 466 24  |                 |                  |                 |          |
|                  | 1 466 43  |                 |                  |                 |          |
| 240              | 1 466 25  | T8A H (250 V)   | 10 A - curve C   | 4 076 98        |          |
|                  | 1 466 44  |                 |                  |                 |          |
|                  | 1 466 26  |                 |                  |                 |          |
| Single/two-phase | 120       | 1 466 54        | T4A H (500 V)    | 4 A - curve C   | 4 077 79 |
|                  |           | 1 466 63        |                  |                 |          |
|                  |           | 1 466 82        |                  |                 |          |
|                  | 240       | 1 466 64        | T6.3A H (500 V)  | 6 A - curve C   | 4 077 80 |
|                  |           | 1 466 83        |                  |                 |          |
|                  |           | 1 466 65        |                  |                 |          |
| 480              | 1 466 84  | T6.3A H (500 V) | 6 A - curve C    | 4 078 36        |          |
|                  | 1 466 36  |                 |                  |                 |          |
|                  | 1 466 39  |                 |                  |                 |          |

### Circuit breaker protection devices to be combined at the input of filtered rectified power supplies

| Filtered   |          |                   |          |
|------------|----------|-------------------|----------|
| 24 V range |          |                   |          |
| Rating     | Cat.Nos  | D circuit breaker |          |
|            |          | 230 V             | 400 V    |
| 0.5 A      | 0 470 20 |                   |          |
| 1 A        | 0 470 21 |                   |          |
| 2.5 A      | 0 470 22 | 4 080 08          | 4 080 08 |
| 5 A        | 0 470 23 | 4 080 09          | 4 080 09 |
| 10 A       | 0 470 24 | 4 080 12          | 4 080 10 |
| 15 A       | 0 470 25 | 4 080 12          | 4 080 12 |
| 25 A       | 0 470 26 | 4 080 14          | 4 080 12 |
| 40 A       | 0 470 28 | 4 080 15          | 4 080 14 |
| 50 A       | 0 470 29 | 4 080 15          | 4 080 14 |

### Fuse protection devices to be combined at the input of filtered rectified power supplies for UL conformity

230 V voltage: 250 V time-delayed fuse, high breaking capacity,

UL recognised Category Code JDYX2

400 V voltage: 500 V time-delayed fuse, high breaking capacity,

UL recognised Category Code JDYX

| Output voltage | 24 V     |                    |
|----------------|----------|--------------------|
|                | 230 V~   | 400 V~             |
| Input voltage  |          |                    |
| Supply         | 0 470 20 |                    |
| Cartridge      | 0.315 A  | 2/10 A             |
| Supply         | 0 470 21 |                    |
| Cartridge      | 0.4 A    | 2/10 A             |
| Supply         | 0 470 22 |                    |
| Cartridge      | 1 A      | 6/10 A             |
| Supply         | 0 470 23 |                    |
| Cartridge      | 2 A      | 1 A                |
| Supply         | 0 470 24 |                    |
| Cartridge      | 4 A      | 2 <sup>1/4</sup> A |
| Supply         | 0 470 25 |                    |
| Cartridge      | 6.3 A    | 3 A                |

Note for approval: operation in vertical position (mounting support), class A and ambient temperature 25°C

# Protection devices at the output of power supplies

## Protection devices at the output

### Switched mode, stabilised

|            |            | Single-phase, stabilised |                   |      |                  |                 | Single/two-phase and three-phase, stabilised |                |                        |      |      |      |  |  |  |  |  |  |  |  |
|------------|------------|--------------------------|-------------------|------|------------------|-----------------|--|----------------|------------------------|------|------|------|--|--|--|--|--|--|--|--|
| I          | Us         | Combinable protections   | 12 V              |      | 24 V             |                 | 48 V   |                |                        |      |      |      |  |  |  |  |  |  |  |  |
|            |            |                          | 12 V              | 24 V | 24 V             | 48 V            | I  | Us             | Combinable protections | 12 V | 24 V | 48 V |  |  |  |  |  |  |  |  |
| 1 A        | 1 A        | Supply                   |                   |      | 1 466 05         |                 |  |                |                        |      |      |      |  |  |  |  |  |  |  |  |
|            |            | Breaker                  |                   |      |                  | 4 077 76 (1 A)  |  |                |                        |      |      |      |  |  |  |  |  |  |  |  |
| 1.25 A     | 1.25 A     | Supply                   |                   |      |                  |                 | 1 466 09                                     |                |                        |      |      |      |  |  |  |  |  |  |  |  |
|            |            | Breaker                  |                   |      |                  |                 |  | 4 077 77 (2 A) |                        |      |      |      |  |  |  |  |  |  |  |  |
| 1.67 A     | 1.67 A     | Supply                   |                   |      | 1 466 01         |                 |  |                |                        |      |      |      |  |  |  |  |  |  |  |  |
|            |            | Breaker                  |                   |      | 4 077 77 (2 A)   |                 |  |                |                        |      |      |      |  |  |  |  |  |  |  |  |
| 1.7 A      | 1.7 A      | Supply                   |                   |      |                  | 1 466 06        |  |                |                        |      |      |      |  |  |  |  |  |  |  |  |
|            |            | Breaker                  |                   |      |                  |                 | 4 077 77 (2 A)                               |                |                        |      |      |      |  |  |  |  |  |  |  |  |
| 2.5 A      | 2.5 A      | Supply                   |                   |      |                  | 1 466 07        |  | 1 466 42       |                        |      |      |      |  |  |  |  |  |  |  |  |
|            |            | Breaker                  |                   |      |                  |                 | 4 077 78 (3 A)                               |                | 4 077 78 (3 A)         |      |      |      |  |  |  |  |  |  |  |  |
| 3.33/3.2 A | 3.33/3.2 A | Supply                   | 1 466 02 (3.33 A) |      | 1 466 22 (3.2 A) |                 |  |                |                        |      |      |      |  |  |  |  |  |  |  |  |
|            |            | Breaker                  | 4 077 79 (4 A)    |      | 4 077 79 (4 A)   |                 |  |                |                        |      |      |      |  |  |  |  |  |  |  |  |
| 5 A        | 5 A        | Supply                   | 1 466 03          |      | 1 466 23         |                 | 1 466 43                                     |                |                        |      |      |      |  |  |  |  |  |  |  |  |
|            |            | Breaker                  | 4 077 80 (6 A)    |      | 4 077 80 (6 A)   |                 | 4 077 80 (6 A)                               |                | 4 077 80 (6 A)         |      |      |      |  |  |  |  |  |  |  |  |
| 6.3 A      | 6.3 A      | Supply                   | 1 466 13          |      |                  |                 |  |                |                        |      |      |      |  |  |  |  |  |  |  |  |
|            |            | Breaker                  | 4 077 81 (8 A)    |      |                  |                 |  |                |                        |      |      |      |  |  |  |  |  |  |  |  |
| 10 A       | 10 A       | Supply                   | 1 466 14          |      | 1 466 24         |                 | 1 466 44                                     |                |                        |      |      |      |  |  |  |  |  |  |  |  |
|            |            | Breaker                  | 4 077 82 (10 A)   |      | 4 077 82 (10 A)  |                 | 4 077 82 (10 A)                              |                | 4 077 82 (10 A)        |      |      |      |  |  |  |  |  |  |  |  |
| 20 A       | 20 A       | Supply                   |                   |      | 1 466 25         |                 |  |                |                        |      |      |      |  |  |  |  |  |  |  |  |
|            |            | Breaker                  |                   |      |                  | 4 077 85 (20 A) |  |                |                        |      |      |      |  |  |  |  |  |  |  |  |
| 40 A       | 40 A       | Supply                   |                   |      | 1 466 26         |                 |  |                |                        |      |      |      |  |  |  |  |  |  |  |  |
|            |            | Breaker                  |                   |      |                  | 4 077 88 (40 A) |  |                |                        |      |      |      |  |  |  |  |  |  |  |  |

### Rectified power supplies

|       |       | Single-phase, filtered<br>Primary 230/400 V ± 15 V |                         |                      |                         |                      |                         |                      |
|-------|-------|--|-------------------------|----------------------|-------------------------|----------------------|-------------------------|----------------------|
| I     | Us    | Protections  | 12 V                    |                      | 24 V                    |                      | 48 V                    |                      |
|       |       |  | integral fuse           | combine with breaker | integral fuse           | combine with breaker | integral fuse           | combine with breaker |
| 0.5 A | 0.5 A | Supply   |                         |                      | 0 470 20                |                      |                         |                      |
|       |       | Breaker  |                         |                      | T 0.5 AL <sup>(2)</sup> | 4 077 74 (0.5 A)     |                         |                      |
| 1 A   | 1 A   | Supply   | 0 470 01                |                      | 0 470 21                |                      | 0 470 41                |                      |
|       |       | Breaker  | T 1 AL <sup>(2)</sup>   | 4 077 76 (1 A)       | T 1 AL <sup>(2)</sup>   | 4 088 80 (1 A)       | T 1 AL <sup>(2)</sup>   | 4 077 76 (1 A)       |
| 2.5 A | 2.5 A | Supply   | 0 470 02                |                      | 0 470 22                |                      | 0 470 42                |                      |
|       |       | Breaker  | T 2.5 AL <sup>(2)</sup> | 4 077 78 (3 A)       | T 2.5 AL <sup>(2)</sup> | 4 077 78 (3 A)       | T 2.5 AL <sup>(2)</sup> | 4 089 54 (3 A)       |
| 5 A   | 5 A   | Supply   | 0 470 03                |                      | 0 470 23                |                      | 0 470 43                |                      |
|       |       | Breaker  | T 5 AL <sup>(2)</sup>   | 4 077 80 (6 A)       | T 5 AL <sup>(2)</sup>   | 4 077 80 (6 A)       | T 5 AL <sup>(2)</sup>   | 4 089 56 (6 A)       |
| 10 A  | 10 A  | Supply   | 0 470 04                |                      | 0 470 24                |                      | 0 470 44                |                      |
|       |       | Breaker  | T 10 AL <sup>(2)</sup>  | 4 077 82 (10 A)      | T 10 AL <sup>(2)</sup>  | 4 077 82 (10 A)      | T 10 AL <sup>(2)</sup>  | 4 077 82 (10 A)      |
| 15 A  | 15 A  | Supply   |                         |                      | 0 470 25                |                      | 0 470 45                |                      |
|       |       | Breaker  |                         |                      | 0 133 16 <sup>(3)</sup> | 4 077 84 (16 A)      | 0 133 16 <sup>(3)</sup> | 4 077 84 (16 A)      |
| 25 A  | 25 A  | Supply   | 0 470 06                |                      | 0 470 26                |                      | 0 470 46                |                      |
|       |       | Breaker  | 0 133 25 <sup>(3)</sup> | 4 077 86 (25 A)      | 0 133 25 <sup>(3)</sup> | 4 077 86 (25 A)      | 0 133 25 <sup>(3)</sup> | 4 077 86 (25 A)      |
| 40 A  | 40 A  | Supply   |                         |                      | 0 470 28                |                      |                         |                      |
|       |       | Breaker  |                         |                      | 0 133 40 <sup>(3)</sup> | 4 077 88 (40 A)      |                         |                      |
| 50 A  | 50 A  | Supply   |                         |                      | 0 470 29                |                      |                         |                      |
|       |       | Breaker  |                         |                      | 0 133 50 <sup>(3)</sup> | 4 077 89 (50 A)      |                         |                      |