

# Power supply CP-T 24/20.0

## Primary switch mode power supply

The CP-T range of three-phase power supply units is the youngest member of ABB's power supply family. In terms of design and functionality, the new range perfectly supplements the existing products and extends the range appropriately. The devices can be supplied with a three-phase voltage as well as with two-phase mains. Here, ABB offers a power supply unit with 24 V DC output with 20 A and efficiency of up to 90 %. As in the case of all products, they are designed for an ambient temperature of up to 70 °C.

### Characteristics

- Rated output voltage 24 V DC
- Output voltage adjustable via front-face rotary potentiometer "OUTPUT Adjust"
- Configurable output behavior (U/I mode, hiccup mode)
- Rated output current 20 A
- Rated output power 480 W
- Wide supply voltage range 3 x 400-500 V AC (340-575 V AC, 480-820 V DC)
- Two-phase supply with a derating of the output to 75 % possible / permitted
- High efficiency of up to 90 %
- Low power dissipation and low heating
- Free convection cooling (no forced cooling with ventilators)
- Ambient temperature range during operation -30...+70 °C
- Open-circuit, overload and short-circuit stable
- Integrated input fuse
- Redundancy unit CP-A RU offering true redundancy, available as accessory
- Signalling contact "13-14" (solid-state) for output voltage OK

### Order data

#### Power supply

Type	Input voltage range	Rated output voltage	Rated output current	Order code
CP-T 24/20.0	340-575 V AC 480-820 V DC	24 V DC	20 A	1SVR 427 056 R0000

#### Accessory

Type	Description	Order code
CP-A RU	The redundancy unit CP-A RU provides decoupling of two 24 V DC CP power supply units.	1SVR 427 071 R0000



2CDC 271 047 S0009

### Approvals

- UL<sup>1)</sup> UL 508, CAN/CSA C22.2 No. 107.1<sup>1)</sup>
- ANSI/ISA-12.12, CAN/CSA C22.2 No. 213<sup>1)</sup>  
(Class I, Div. 2, Hazardous Locations)
- UL 60950, CAN/CSA C22.2 No. 60950<sup>1)</sup>
- CQC
- EAC EAC

<sup>1)</sup> Approvals refer to rated input voltage  $U_n$

### Marks

- CE CE
- RCM RCM

2C0DC 271 047 S0009.



### 1 Circuit diagram

### 2 Output

OUTPUT L+, L+, L-, L-: terminals - output

### 3 Adjustable output voltage

OUTPUT Adjust: potentiometer

The CP-T range types feature a continuously adjustable output voltage. Thus, they can be optimally adapted to the application, e.g. compensating the voltage drop caused by a long cable length.

### 4 Indication of operational states

OUTPUT LOW: red LED - output voltage too low

OUTPUT OK: green LED - output voltage OK

### 5 Signalling contact

OUTPUT 13-14: terminals - signalling contact

### 6 Configuration of single or parallel operation

Sliding switch

### 7 Configuration of U/I mode/hiccup mode

Sliding switch

### 8 Wide input range

INPUT L1, L2, L3, PE: terminals - input

Optimised for worldwide applications: The CP-T power supply units can be supplied for a wide range of AC and DC voltages. Both kinds of power supply (three-phase and two-phase) are possible.

## Application

The primary switch mode power supply offers a three-phase supply voltage range of 3 x 400-500 V AC. A two-phase power supply is also possible and it can also be supplied by 480-820 V DC. Furthermore, this power supply unit is equipped with two generous capacitors, which ensure mains buffering of at least 20 ms. That is why the devices can be used worldwide also in high fluctuating networks and battery-powered plants.

## Operating mode

By means of the potentiometer "OUTPUT Adjust" the output voltage can be adjusted within a range of 22.5-28.5 V DC. Thus, the power supply can be optimally adapted to the application, e.g. compensating the voltage drop caused by a long line length.

The green LED "OUTPUT OK" is lightening during proper operation, i. e. when the output voltage exceeds 75 %.

The red LED "OUTPUT LOW" is lightening when the output voltage is less than 70 % of the rated output voltage.

Two-phase supply is permissible with a derating of the output to 75 %.

Signalling contact "13-14" (max. 60 V DC / 0.3 A) is ON when the output voltage exceeds 19.4 V.