



Model Number

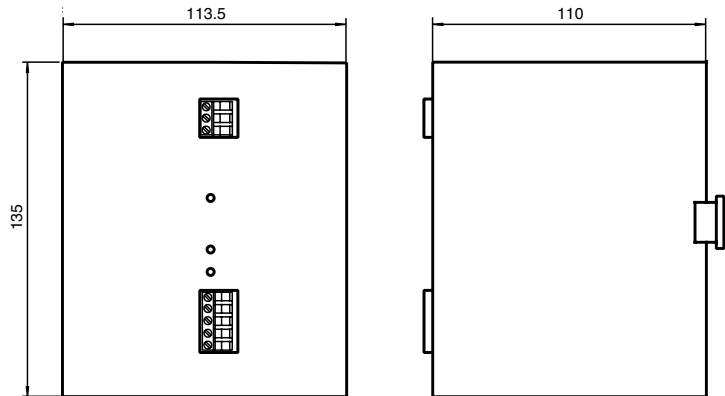
VAN-115/230AC-K14-EFD

AS-Interface power supply

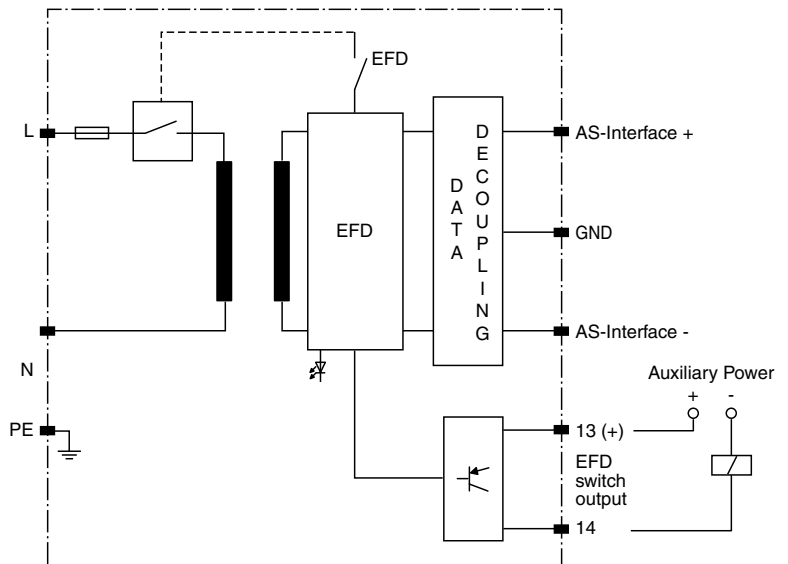
Features

- AS-Interface certificate
- PELV
- LED operating display
- 4.8 A output load
- 115 V AC to 230 V AC
- AS-Interface filter integrated
- Power factor correction
- Earth fault detection

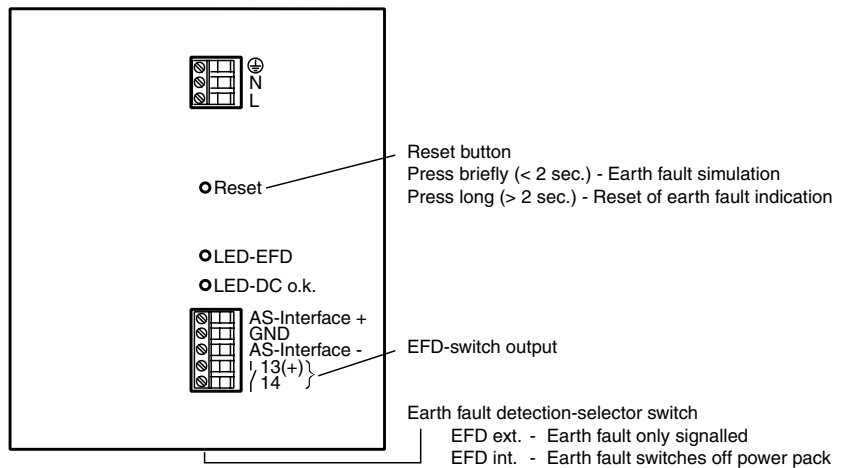
Dimensions



Electrical connection



Indicating / Operating means



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Technical data**General specifications**

UL File Number	E223176
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Indicators/operating means

Reset push button switch	earth fault simulation/reset of earth fault display
Ground fault monitor selection switch	int: Switch-off of power supply for earth fault ext: no switch-off with earth fault
LED PWR	operating display; LED green flashing: overload
LED EFD	earth fault display; LED red

Electrical specifications

Capacity factor	approx. 0.95
Mains frequency	47 ... 63 Hz
Efficiency	approx. 88 %
Rated operational voltage	U_e nominal: 100 ... 240 V AC permissible: 85 ... 265 V AC
Rated operational current	I_e approx. 0.7 A
Ripple	according to AS-Interface specification

Output

Current limit	approx. 7.6 A
Current	4.8 A
Voltage	29.5 ... 31.6 V DC
Switch-on delay	t_{on} < 2000 ms

Ambient conditions

Ambient temperature	-25 ... 60 °C (248 ... 333 K)
Storage temperature	-40 ... 85 °C (233 ... 358 K)

Mechanical specifications

Protection degree	IP20 according to EN 60529
Mass	1000 g

Notes

The spring terminal "GND" must be connected to ground. Otherwise, earth faults cannot be detected. Owing to the passive measuring principle, only asymmetric insulation faults can be detected. Equal insulation faults of the "AS-Interface +"- and "AS-Interface -" cables to earth are not detected.

This AS-Interface power supply does not represent an insulation monitoring in accordance with EN 61557-8.

Function

The primary switched-mode power supply unit was designed for field bus applications, which transmit both energy and data via a two-wire cable (AS-Interface design). It provides power to a fully developed AS-Interface system with an output current of 4.8 A. The sinusoidal draw of current from the mains power prevents harmonics. The power-factor correction ensures that the current is in phase with the voltage, so the capacity factor of $\cos \varphi > 0.97$ prevents reactive power.

In this case, the power supply unit provides the energy, decouples data of the power source and balances the two output cables (AS-Interface + and AS-Interface -) in relation to ground (screen connection). The precise and transformer coupling permits the use of unshielded load lines.

Fuse:

The power supply unit is electronically protected against external short circuits. In case of a defect, the internal fuse disconnects the power supply unit from the supply.

Earth Fault Detection EFD:

The switch output of the earth fault detection is used for evaluating the detected earth fault in the AS-Interface system. By means of the potential free transistor output, the system can be stopped directly via the control program. The output which is normally closed, is opened permanently due to detection of an earth fault. An earth fault is also signalled by means of the "EFD" LED. The output does not close again until the power supply is restarted or the reset button is pressed (> 2 seconds). The transistor output is reverse-polarity protected and can be loaded to a maximum of 150 mA. The earth fault detection can also be configured so that the power supply disconnects automatically when an earth fault is detected in the AS-Interface system. This setting can be activated by means of the selector switch, located on the lower side of the device.

Check of the earth fault detection:

To simulate an earth fault in the device, the reset button is pressed for less than 2 seconds. This makes it possible to test the earth fault detection and evaluation, the signalling as well as the switch output at regular intervals. To reset the earth fault, the reset button is pressed again for more than 2 seconds.