



Model number

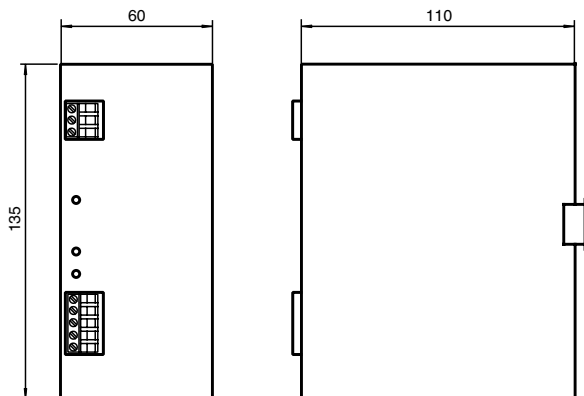
VAN-115/230AC-K13-EFD

AS-Interface power supply

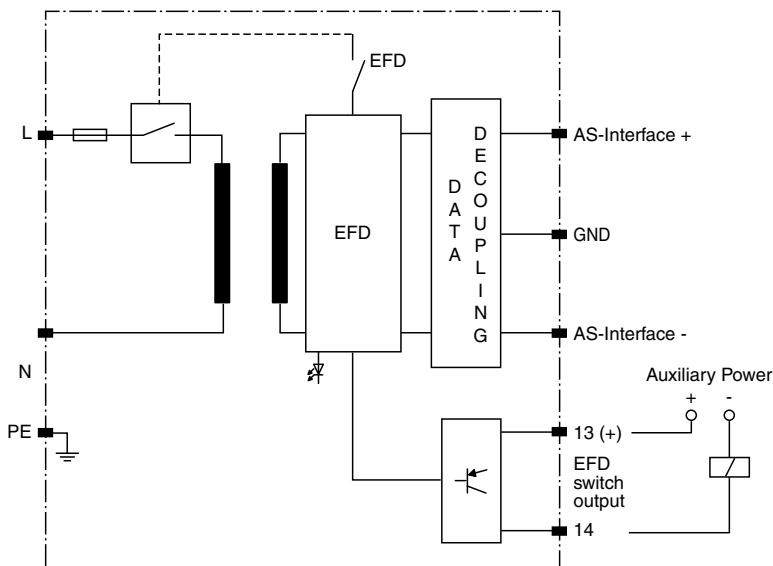
Features

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

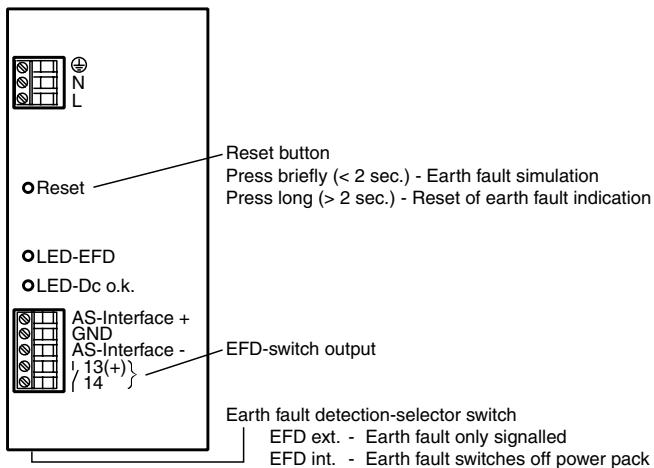
Dimensions



Electrical connection



Indicating / Operating means



Release date: 2019-01-09 10:26 Date of issue: 2019-01-09 110096_eng.xml

Technical data

General specifications

UL File Number E223176

Indicators/operating means

Reset push-button switch earth fault simulation/reset of earth fault display
Ground fault monitor selection switch int:shutoff power supply on ground fault
ext: doesn't shut off on ground fault

LED PWR operating display; LED green
flashing: overload

LED EFD earth fault display; LED red

Electrical specifications

Capacity factor approx. 0.95

Rated operating voltage U_e nominal: 100 ... 240 V AC
permissible: 85 ... 265 V AC

Rated operating current I_e approx. 0.5 A

Ripple according to AS-Interface specification

Supply frequency 47 ... 63 Hz

Efficiency approx. 88 %

Output

Current limit 3.8 A

Current 2.4 A

Voltage 29.5 ... 31.6 V DC

Ambient conditions

Ambient temperature -25 ... 60 °C (-13 ... 140 °F)

Storage temperature -40 ... 85 °C (-40 ... 185 °F)

Mechanical specifications

Degree of protection IP20 according to EN 60529

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 2.4 A. The sinusoidal draw of current from the mains power prevents harmonics. The powerfactor 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.



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