



Model number

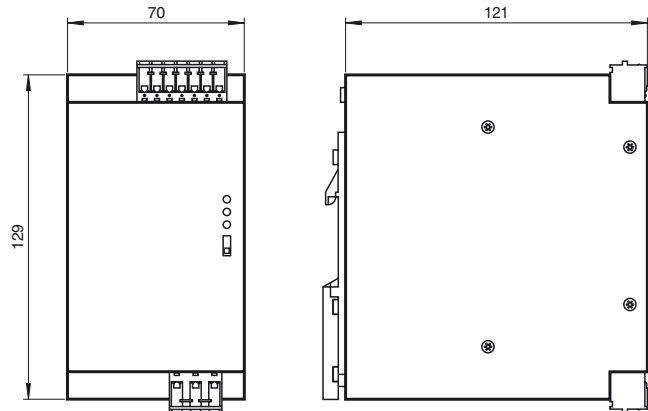
VAN-115/230AC-K22-EFD

AS-Interface power supply

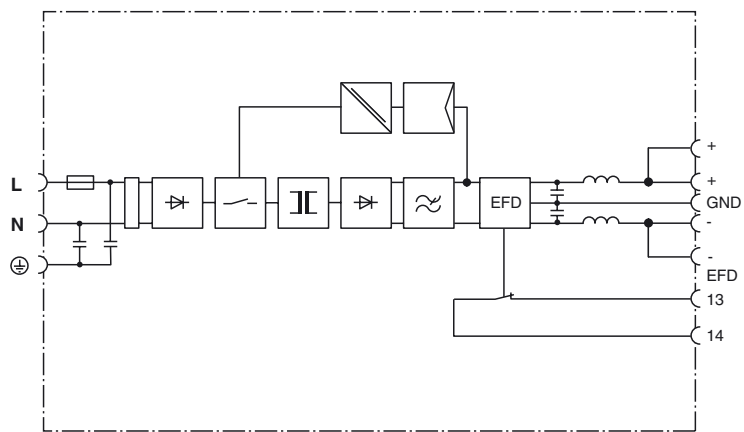
Features

- 4.8 A output load
- LED operating display
- 100 V AC up to 240 V AC
- AS-Interface filter integrated
- Power factor correction
- Earth fault detection

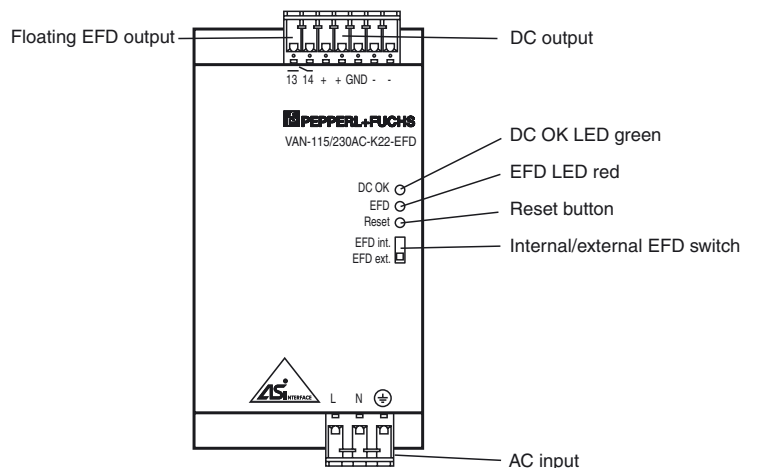
Dimensions



Electrical connection



Indicating / Operating means



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Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

Pepperl+Fuchs Group
www.pepperl-fuchs.com

USA: +1 330 486 0001
fa-info@us.pepperl-fuchs.com

Germany: +49 621 776 4411
fa-info@de.pepperl-fuchs.com

Singapore: +65 6779 9091
fa-info@sg.pepperl-fuchs.com

Technical data**General specifications**

UL File Number	E223176
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Functional safety related parameters

MTTF _d	360 a
Mission Time (T _M)	10 a
Diagnostic Coverage (DC)	0 %

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 DC OK	Functional display; LED green flashing: in operation, but error off: no power supply
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LED EFD	earth fault display; LED red
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Electrical specifications

Fusing	5 AT
Rated operating voltage	U _e nominal: 100 ... 240 V _{AC} permissible: 85 ... 264 V _{AC} / 90 ... 350 V _{DC}
Rated operating current	I _e 1.8 A at 120 V AC 1 A at 230 V AC
Supply frequency	45 ... 65 Hz
Efficiency	≥ 86 %

Output

Current limit	approx. 6 A
Current	4.8 A
Voltage	29.5 ... 31.6 V DC
Switch-on delay	t _{on} < 500 ms
Residual ripple	≤ 100 mVss, 0 ... 10 kHz

Ambient conditions

Ambient temperature	-25 ... 70 °C (-13 ... 158 °F)
Storage temperature	-40 ... 85 °C (-40 ... 185 °F)
Shock and impact resistance	30 g, in all spatial axes in accordance with IEC 68-2-27
Vibration resistance	< 15 Hz, Amplitude ± 2.5 mm 15 ... 25 Hz, 2.3 g, t _V = 90 min.
Pollution Degree	2

Mechanical specifications

Protection degree	IP20
Protection class	I, Protective conductor connection necessary
Connection	Connection terminals, max. conductor cross-section 0.5 ... 2.5 mm ² stripped length 10 mm
Material	
Housing	AluNox (AlMg1), closed
Mass	approx. 900 g
Mounting	DIN mounting rail

Compliance with standards and directives

Directive conformity	
Low Voltage Directive 73/23/EEC	EN 61000-6-2, EN 50081-2
EMC Directive 89/336/EEC	EN 61000-6-2, EN 50081-2
Standard conformity	
Pollution Degree	EN 50178

Notes

In an AS-Interface network only one device can be operated earth fault detection. If there are many devices in an AS-Interface network, this can lead to the earth fault monitoring response threshold becoming less sensitive.

Function

The primary switched-mode power supply unit has been conceived for field bus applications, in which the power and data are commonly transferred over a two-wire cable (AS-Interface concept). It supplies a fully-populated AS-Interface system with an output current of 4.8 A. Due to the sinusoidal current drawn from the power supply harmonics are avoided.

By this means the power supply unit provides the energy, the data decoupling from the supply source and the balancing of the two output cables (AS-Interface + and AS-Interface -) vis-a-vis the machine earth (Screen connection). The exact and transformation coupling enables the use of unscreened load cables.

In addition to the harmonic filtering, the power factor correction provides for a power supply failure buffering of more than 40 ms over the full input voltage range.

The power supply unit is protected by an internal fuse, an additional circuit breaker device is not required.

Earth Fault Detection (EFD):

The switch output of the EFD monitor is used to evaluate a detected earth fault in the AS-Interface system. The system can be shut down in a targeted manner with the potential-free transistor output via the control program. The output is closed in the normal case and is held open on the detection of an earth fault. In addition, an earth fault is signalled via the "EFD" LED. This output is not closed again until the power supply is restarted or the reset button is actuated (> 2 seconds). If required the EFD monitor can be configured such that the power supply automatically switches off on detection of the earth fault in the AS-Interface system. This setting can be activated with the selector switch on the underside of the device

Earth fault monitor test:

A brief actuation (< 1 second) of the reset button causes an earth fault to be simulated in the device. Earth fault detection, evaluation, signalling and the switch output can be tested by this means at appropriate intervals. The earth fault simulated in this manner can be reset by once more actuating the reset button (> 2 seconds).

Accessories**AS-Interface Power Calculator**

AS-Interface Power supply and network checking utility