

24 V DC protection

Electronic circuit breakers are used in machines and systems whose top priority is maximum operational reliability. The modules are able to shut down faulty 24 V DC current paths selectively regardless of line impedance.

PVFE 24 Electronic circuit breaker Economy

Electronic circuit breaker with 4 integrated channels, features current and voltage monitoring, extensive signalling options, RS-232 interface and LCD.



PVFB 24 Electronic circuit breaker Basic

Electronic circuit breaker with 4 integrated channels and additional active current limiting in the event of errors, features current and voltage monitoring, extensive signalling options, RS-232 interface and LCD.



A key for the symbols appears on the fold-out section of the last page of this document.



PVFE 24

Electronic circuit breaker, Economy version



Current monitoring and shutdown in the event of an error

4 current channels

Two rating classes: 4 x 6 A and 4 x 10 A

Delayed switching-in of channels

Reactivation of tripped channels via external signal

Isolated signal contact

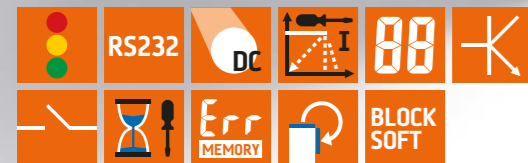
Service-friendly spring-loaded connector system

LCD

Current and voltage monitoring

Active signal outputs for watchdog functions

RS-232 interface



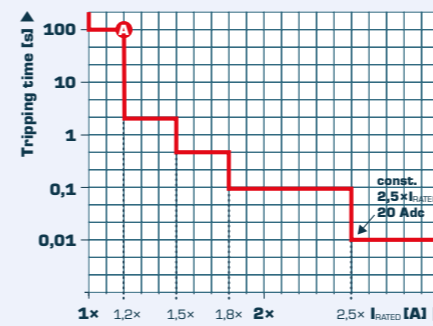
ECONOMY Order description

PVFE 24

■ Version Economy
Rated output current 4 x 6 A: PVFE 24/24-24
Rated output current 4 x 10 A: PVFE 24/24-40

Tripping characteristics

Rated currents can be set separately for each channel in 1 A increments. Depending on the level of a possible overcurrent, the affected channel will be shut down safely and reset in accordance with a memorised protection characteristic. The flexibility of the PVFE module is to the fore here, since there is some scope to configure the tripping time taken to shut down a current path. Once a channel has been shut down, it can be reactivated either via the keys on the module or by means of an external signal.



Integrated monitoring unit for maximum reliability

The PVFE module monitors current and voltage continuously. Key information can be read directly from the display. The integrated monitoring unit is able to detect potential faults affecting current paths at an early stage, output signals accordingly and store the associated data for subsequent analysis.

Potential faults the PVFE module is able to detect:

- Overcurrent**
When the output current of a channel exceeds the rated current.
- Channel tripped**
When at least one channel shuts down due to an overcurrent.
- Undervoltage**
When the input voltage falls below a configurable limit value.
- Hardware fault**
When the device's internal self-testing function fails.

Economy PowerVision electronic circuit breaker for selective protection of 24 V DC circuits

A reliable means of detecting faults on power supply circuits: the circuit breaker with additional current and voltage monitoring. Since overcurrents are detected quickly and reliably, even in the case of long cables, just the affected circuit can be shut down. The functions supported by the integrated monitoring unit include voltage and current monitoring. The devices feature a display, function keys, several signal outputs and an RS-232 interface.

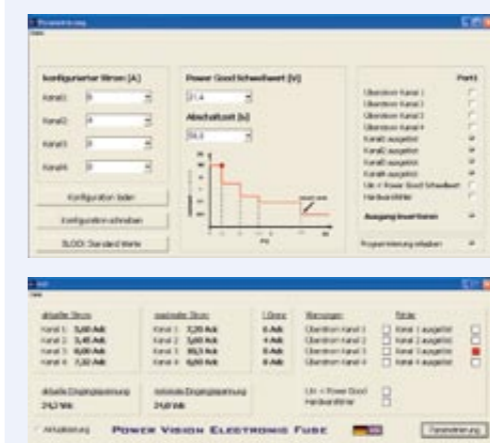
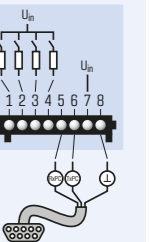


Communication with the user

Via the LEDs: The output voltages of the 4 channels are indicated continuously on the display along with the input voltage. In the event of a fault, the device features an integrated fault memory for self-diagnostics.

Via the display: The output voltages of the 4 channels are indicated continuously on the display along with the input voltage. The device features an integrated fault manager for self-diagnostics. The precise nature of any potential faults can be easily identified thanks to the display's system of flashing segments.

Via the signal outputs: The PVFE module has four active signal outputs and one isolated signal contact which function as a watchdog. The states of the signal outputs can be transferred to the higher-level control system. Because the active signal outputs switch the input voltage, they do not need to be conditioned prior to digital signal processing. Output 1 is linked to an isolated signal contact on the underside of the device. It can be user-defined using the free parameterisation software, e.g. for the purpose of generating a group signal for tripped circuits.



Via the interface: The module can communicate with a PC or higher-level control system via the serial interface. Cyclic transfer means that the user can both view relevant data and respond to faults affecting connected circuits. Parameter settings can also be made via this interface. The PowerVision software packages required for communication can be downloaded free of charge from www.pv400.de.

Key information that can be obtained via the display:

Output current of each channel	Min. input voltage
Input voltage	Type of fault
Max. output current of each channel	

PVFB 24

Electronic circuit breaker, Basic version



Active current limiting in the event of an error

Current monitoring and shutdown in the event of an error

4 current channels

Delayed switching-in of channels

Service-friendly spring-loaded connector system

LCD

Current and voltage monitoring

Active signal outputs for watchdog functions

RS-232 interface



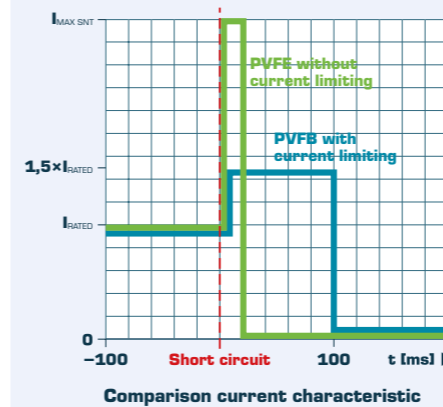
BASIC Order description

PVFB 24

Version Basic
Rated output current 4 × 8 A: PVFB 24/24-32

Tripping characteristics

Rated currents can be set separately for each channel in 1 A increments. In the event of an overcurrent, the current is limited and the affected channel is shut down safely and reset. Active current limiting is the only way to ensure that in the event of a short circuit affecting an individual consumer, all other circuits will remain unaffected and a voltage dip will not occur. The flexibility of the PVFB module is to the fore here, since there is some scope to configure the tripping time taken to shut down a current path. Once a channel has been shut down, it can be reactivated using the keys on the module.



Integrated monitoring unit for maximum safety

The PVFB module monitors current and voltage continuously. Key information can be read directly from the display. The integrated monitoring unit is able to detect potential faults affecting current paths at an early stage, output signals accordingly and store the associated data for subsequent analysis.

Potential faults the PVFB module is able to detect:

- Overcurrent**
When the output current of a channel exceeds the rated current.
- Channel tripped**
When at least one channel shuts down due to an overcurrent.
- Undervoltage**
When the input voltage falls below a configurable limit value.
- Hardware fault**
When the device's internal self-testing function fails.

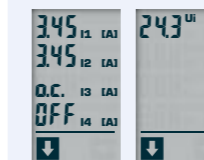
Basic PowerVision electronic circuit breaker with active current limiting

The PVFB module is the key to maximum system availability and process reliability. What is really special about this module is its integrated current limiting. This feature is activated in the event of an error and prevents a transient voltage dip on circuits not affected by a short circuit on an individual consumer. Accordingly, it safeguards the continued operation of vital system components. The functions supported by the integrated monitoring unit include voltage and current monitoring. The devices feature a display, function keys, active signal outputs and an RS-232 interface.



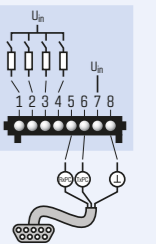
Communication with the user

1 Via the LEDs: Non-critical faults such as minor overcurrents or an undervoltage at the device input are classed as warnings and signalled by the yellow LED, while critical faults such as a circuit shutting down are indicated by the red LED.

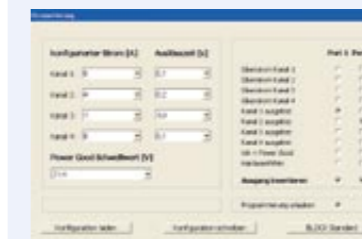


2 Via the display: The output voltages of the 4 channels are indicated continuously on the display along with the input voltage. In the event of a fault, the device features an integrated fault manager for self-diagnostics.

3 Via the signal outputs: There are four active signal outputs on the PVFB module which function as watchdogs. The states of the signalling outputs can be transferred to the higher-level control system. Because the active signal outputs switch the input voltage, they do not need to be conditioned prior to digital signal processing. Two outputs can be user-defined using the free parameterisation software, e.g. for the purpose of generating a group signal for tripped circuits.



4 Via the interface: The module can communicate with a PC or higher-level control system via the serial interface. Cyclic transfer means that the user can both view relevant data and respond to faults affecting connected circuits. Parameter settings can also be made via this interface. The PowerVision software packages required for communication can be downloaded free of charge from www.pv400.de.



Key information that can be obtained via the display:

Output current of each channel	Min. input voltage
Input voltage	Type of fault
Max. output current of each channel	