

Vanbase Fuse



The Vanbase Fuse is a compact fuse holder for protecting up to 12 fused DC outputs in a vehicle.

It is intended for use in electrical systems from 10 V to 30 V DC and provides clearly arranged, space-saving and easily serviceable fuse protection for individual circuits.

- Very space-saving design
- Installation with a screwdriver only, without cable lugs or ferrules
- All connections are located on the underside
- Extra-large input terminals up to 35 mm²
- 12 automotive blade fuses, one for each fused output

The safety instructions must be read in full and observed before installation.

Intended use

The Vanbase Fuse is intended for protecting suitable DC circuits within the technical data specified in this manual. Operation is permitted only in DC electrical systems that have been professionally planned and installed.

Scope of delivery

Component	Description
Device	1 x Vanbase Fuse
Documentation	Operating manual in digital form

Before starting the installation, the delivery must be checked for completeness and the device must be checked for visible transport damage. A damaged device must not be installed or operated.

Safety

These safety instructions must be read in full before installation and commissioning. Improper installation can lead to malfunctions, damage to the device and hazards to persons and electrical systems.

This operating manual must be kept and made available to everyone who installs, inspects or services the device.



WARNING

Incorrectly dimensioned cables, unsuitable fuses, loose terminal connections or reversed polarity can lead to overheating, short circuits and fire hazards.

Personnel qualification

- The device must be installed by qualified personnel only.
- Work on the electrical system must be carried out only by persons with the necessary professional qualifications.

Intended use

- The device must be operated with direct current (DC) only.
- The permissible voltage range is 10 V to 30 V DC.
- Operation outside this voltage range is not permitted and can damage the device.
- The device is intended exclusively for protecting suitable electrical loads within the specified technical data.
- The device must only be installed and operated in technically perfect condition.
- Improper modifications or use other than as intended are not permitted.

Mounting requirements

- All screws of the four mounting points must be used.
- Suitable and professional tools must be used for the installation.
- The device must not be used if it shows visible damage.
- The device must only be mounted on a suitable surface with sufficient load-bearing capacity.
- The device must not be mounted on readily flammable materials.
- Highly flammable materials must not be located in the immediate vicinity of the device or the connected cables.
- Suitable cable strain relief is mandatory.

Electrical connection requirements

- The power supply must be switched off before any work is carried out.
- The power supply must be switched off before inserting, removing or replacing fuses.
- The connection must be made with flexible cables only.
- Cable cross-sections and fuse ratings must be dimensioned correctly.
- The specified tightening torque of the terminals must be observed when connecting.
- Cables must be prepared with the correct stripping length.
- The connected cables must additionally be secured by external strain relief so that no mechanical forces act on the terminals.
- The installation must comply with the applicable national regulations and the recognised rules of engineering practice.

Fuse protection requirements



WARNING

- The fuse rating must not exceed 30 A per fuse.
- Only approved ATO type fuses must be used.
- The supply cable fuse must not exceed 80 A.
- Defective fuses must only be replaced by fuses of the same type and the same rating.
- Fuses must not be bypassed or replaced by unsuitable components.

Service and repair

- The device contains no parts that can be serviced or repaired by the user.
- Repairs and interventions on the device must be carried out by qualified personnel only.
- In the event of visible damage, fuses tripping repeatedly without an identifiable cause, or thermal abnormalities, the device must be taken out of service and inspected.

Installation

The safety instructions must be read in full and observed before starting the installation.

Mounting the device

The device must first be mounted on the intended wall or floor surface. Suitable screws must be used that match the substrate and the installation situation. Care must be taken that the device is securely fastened and that all four mounting points are used.

The device may be mounted in any orientation.

The mounting location must be dry, clean and mechanically suitable. The device must only be installed in places where it cannot be damaged by loose objects, strong vibration or direct heat.

If fuses are already inserted, they must be removed before starting the installation. This prevents the device from being loaded unintentionally during mounting and electrical connection.

Connecting the supply cable

The supply cable must not be connected until the device has been securely mounted and the power supply has been switched off.



WARNING

Incorrect connection of positive and negative or an unsuitable upstream fuse can lead to damage to the device as well as short circuit and fire hazards.

It is essential to observe the correct polarity when connecting the supply:

- The labelling of the connection terminals on the device must be observed.
- The supply must only be connected in accordance with the markings for positive **+** and negative **-**.

The permissible conductor cross-section of the **VIN** terminal is 0.5 mm² to 35 mm².

For a safe connection, the cables must be prepared appropriately and the screw terminals must be tightened with the correct tightening torque. The tightening torque specifies how firmly the terminal screw must be tightened.

Values for the **VIN** terminal

Property	Value
Permissible conductor cross-section	0.5 mm ² to 35 mm ²
Stripping length	18 mm
Tightening torque	2.5 Nm to 4.5 Nm

For cables with a cross-section below 25 mm², the tightening torque is 2.5 Nm. From a conductor cross-section of 25 mm² upwards, the tightening torque is 4.5 Nm.

The upstream fuse of the supply cable must be selected to match the cable cross-section used.

Cable cross-section	Maximum fuse rating
4 mm ²	30 A
6 mm ²	40 A
10 mm ²	60 A
16 mm ²	80 A
25 mm ²	80 A
35 mm ²	80 A

The values given in the table are guide values only. They are based on a cable length of approx. 1 m.

Responsibility for the correct dimensioning of the upstream fuse remains with the installer. The fuse protection actually required must be verified in each individual case, taking into account the actual cable length, the installation method, the ambient temperature and the connected loads.

Regardless of the cable cross-section used, the maximum upstream fuse of the device must not exceed 80 A.

Connecting the fused outputs

A conductor cross-section of 0.2 mm² to 6 mm² is permissible for the fused output terminals.



WARNING

If fused outputs are operated with oversized fuses, unsuitable cable cross-sections or terminals that are not tightened sufficiently, there is a risk of overheating and fire.

For the fused output terminals too, the cables must be prepared appropriately and the screw terminals must be tightened with the correct tightening torque.

Values for the fused output terminals

Property	Value
Permissible conductor cross-section	0.2 mm ² to 6 mm ²
Stripping length	8 mm
Tightening torque	0.5 Nm to 0.6 Nm

The upper terminal row is marked **+**. The positive cables of the loads are connected here. This is also the side on which each fused output is protected.

The lower terminal row is marked **-**. The negative cables of the loads are connected here.

Only suitable ATO type fuses must be used. Fuses must not be inserted until all connections have been fully checked.

Operation

The Vanbase Fuse is a passive fuse holder. In normal operation, use is limited to checking the inserted fuses and the LED indicators.

Fuse status via LED indicator

The fuse holder has LED indicators that signal a defective fuse.

The respective LED only lights up when all of the following conditions are met:

- A load is connected.
- Voltage is present at the input terminal.
- The associated fuse is defective.

If an LED lights up, the affected fuse should be checked and replaced if necessary.

The power supply must be switched off before replacing a fuse. Only fuses of the same type and the same rating must be used.



WARNING

Fuses must never be replaced while energised, bypassed or replaced by unsuitable fuse types. Otherwise there is a risk of arcing, short circuit and fire.

Note on measuring voltage without a fuse

If no fuse is inserted, a voltage of up to approx. 10 V can still be measured at a fused output.

This is normal and inherent to the design. The cause lies in the LED indicator and does not indicate a malfunction of the device in this case.

Operating information

- Operation is only permitted within the technical data given in the specification.
- Before switching on again after any work on the system, all terminals, cables and fuses must be checked for correct seating and proper condition.
- Fuses that trip repeatedly are not a normal operating condition and indicate an overload, a fault in the load or a wiring error.

Maintenance and inspection

The Vanbase Fuse requires very little maintenance. Regular visual and function checks are nevertheless necessary for safe and reliable operation.

Regular visual inspection

The following must be checked at regular intervals:

- whether the device is securely fastened
- whether all cables are seated firmly in the terminals
- whether the external strain relief is still effective
- whether fuses, cables or terminals show visible damage
- whether there are discolourations, scorch marks or other signs of thermal overload

Checking the fuses

Fuses must be checked regularly for proper condition. Defective fuses must only be replaced by fuses of the same type and the same rating.

The power supply must be switched off before inserting, removing or replacing fuses.

Checking the terminal connections

Terminal connections must be checked regularly for firm seating and proper condition. Loose terminals can lead to increased contact resistance, heating and, subsequently, to malfunctions or fire hazards.

When cables are reconnected, the stripping lengths and tightening torques specified in the installation instructions must be observed.

What to do in case of abnormalities

The device must be taken out of service and inspected by qualified personnel if:

- fuses trip repeatedly without an identifiable cause
- unusual heating occurs
- damage to the housing, terminals or cables is detected
- a burning smell, discolourations or scorch marks are apparent

Cleaning

Cleaning must only be carried out when the device is de-energised. Use a dry or slightly damp, lint-free cloth. Aggressive cleaning agents, solvents and the ingress of moisture into the device must be avoided.

Troubleshooting

In the event of a fault, the power supply must be switched off first. Work on the electrical system must be carried out by qualified personnel only.

Typical faults, causes and checks

Symptom	Possible cause	Check / measure
A fused output does not work	- associated fuse defective - load defective - cable interrupted or not connected correctly - terminal not tightened sufficiently	- check the fuse and replace it if necessary - check the load separately - check the wiring of the affected fused output - check the terminal connections for firm seating
An LED lights up	- associated fuse defective	- switch off the power supply - check the fuse - determine the cause of the tripping before inserting a new fuse
A fuse trips repeatedly	- overload of the affected fused output - short circuit in the wiring - fault in the connected load - unsuitable or incorrectly dimensioned fuse	- check the current consumption of the load - check the cable routing and wiring - check the load for defects - compare the fuse rating with the technical requirements
Voltage at the fused output although no fuse is inserted	- measurement voltage inherent to the LED indicator	- not a malfunction - no action required

Taking the device out of service in case of unexplained faults

If the cause of a fault cannot be clearly identified, the device must be taken out of service and inspected by qualified personnel. Operation with unexplained faults is not permitted.

Specification

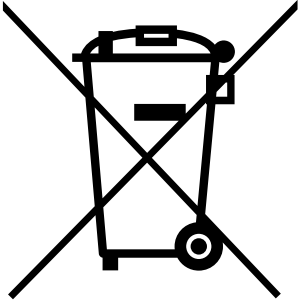
Technical data

Property	Value
Input voltage	10 - 30 V DC
Fused outputs	12
Total current	80 A
Current per fused output	30 A
Fuse	automotive blade fuse (ATO)
Vin terminal	0.5 - 35 mm ²
Fused output terminal	0.2 - 6 mm ²
Degree of protection	IP20
CAN bus	not included
Operating temperature	-20 °C to +50 °C
Dimensions (L x W x H)	12.1 cm x 11.7 cm x 5 cm

Manufacturer and registration details

Property	Value
Manufacturer	Flextronic GmbH
Address	Mehrstedter Str. 3, 99994 Nottertal-Heilingen Höhen OT Schlotheim, Germany
Contact	service@flextronic.net
CE marking	present

Property	Value
RoHS compliance	compliant
WEEE reg. no.	DE 55988634

CE	Grüner Punkt	WEEE
		 

Disclaimer and disposal

Disclaimer

The Vanbase Fuse must be installed and operated in accordance with this operating manual, the technical data and the applicable national regulations.



WARNING

- Improper installation, commissioning or use can lead to damage to property, short circuits, overheating and fire.
- No liability is accepted, as far as legally permissible, for damage resulting from failure to observe this operating manual, incorrect installation, unsuitable fuse protection, incorrect dimensioning of cables or use other than as intended.
- This also applies to damage caused by unauthorised modifications to the device, the use of unsuitable components or operation outside the specified technical data.
- Responsibility for professional installation and for the correct dimensioning of the entire electrical system lies with the installing specialist.

Mandatory statutory claims, in particular under product liability law, remain unaffected.

Disposal

Electrical and electronic equipment must not be disposed of with household waste.



DISPOSAL INFORMATION

The crossed-out wheeled bin symbol indicates that the device must be collected separately and taken to a suitable collection point for waste electrical and electronic equipment.

End-of-life devices must be handed in at suitable collection points for waste electrical and electronic equipment, for example:

- at municipal recycling centres
- at public-sector collection points
- at other take-back points that accept waste electrical and electronic equipment

Separate collection and proper disposal protect the environment and health and return valuable raw materials to the recycling process.