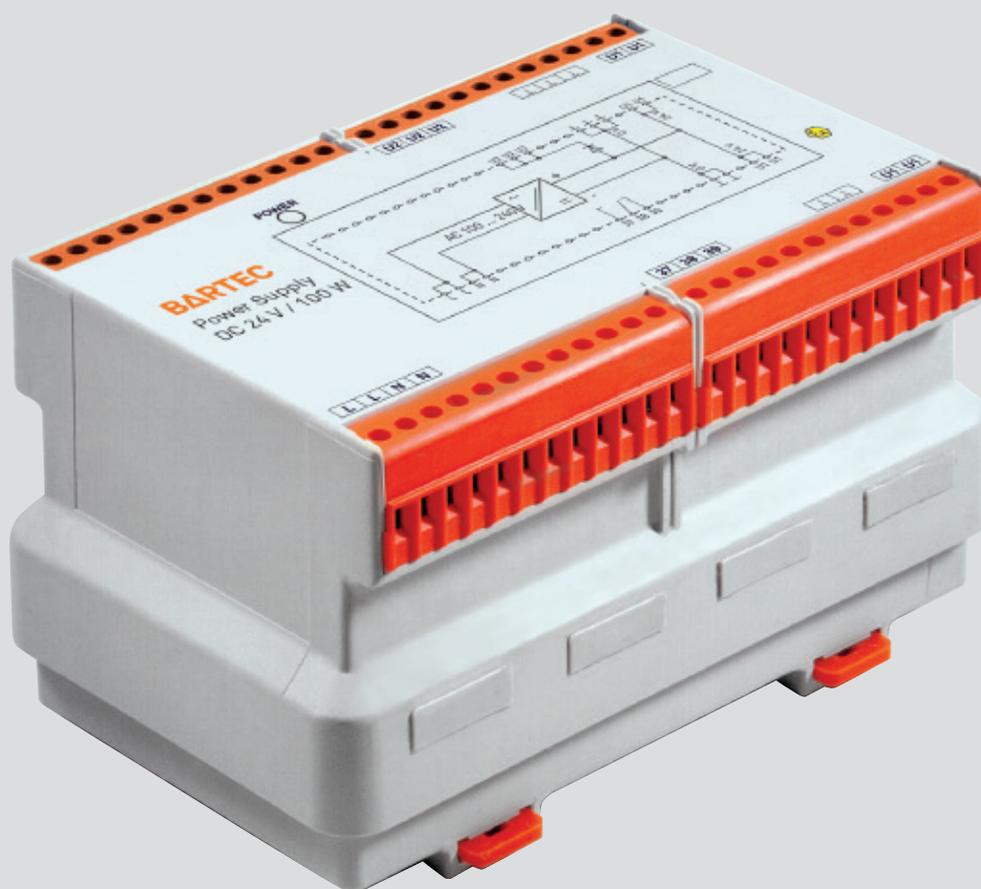


# Operating Instruction

## Power Supply DC 24 V/100 W

Typ 07-7331-1202/0000



# Power Supply DC 24 V/100 W Typ 07-7331-1202/0000



## 1. Definition

The „Power pack DC 24 V/100 W is a built-in power supply unit with wide-range input. It is used for supplying electronic and/or electrical loads and devices up to a maximum total current consumption of 4.1 A or 100 W.

The output voltage is stabilized, electrically isolated and sustained short-circuit protected. The state of the output voltage is indicated via an LED.

Where high requirements are set on the operating reliability several power packs can be connected in parallel via a separate output. This gives a redundant power supply for the connected devices.

### Intended Use

The MODEX modules are designed to meet the industrial requirements in hazardous (potentially explosive) areas.

### Industrial Requirements in Zone 1

The control and regulating components are approved as “Ex d flameproof enclosures” with terminals in “Ex e increased safety”. Since the open connecting terminals are Ex e, the modules are given a partial certificate with the “U” marking.

### Special Note concerning the “U” marking

The control and regulating components must be built into enclosures which conform to the requirements of a recognized type of protection in compliance with EN/IEC 60079-0.

## 2. Type of Protection

ATEX Certification	PTB 97 ATEX 1066 U
Marking ATEX	Ex II 2G Ex db e IIC Gb Ex I M2 Ex db e I Mb
Standards	See EU Declaration of Conformity
IECEx Certification	IECEx PTB 11.0082U
Marking IECEx	Ex db e IIC Gb Ex db e I Mb
Special conditions	<ol style="list-style-type: none"> <li>1. When installing in an enclosure with an increased safety class of protection “e” in accordance with EN 60079-7:2007, the clearance and creepage distances set out under Section 4.3, Section 4.4 and Table 1 must be complied with.</li> <li>2. The component can be used in Group I and II because the requirements of the standard are identical in this case.</li> <li>3. The MODEX modules must be installed in an enclosure which corresponds to the requirements of a recognised class of protection in accordance with EN 60 079-0.</li> </ol>
CE marking	0044
Directives	2014/34/EU
Further certificates	bartec.com
Co-applicable documents	Data sheet for the MODEX modules Declaration of EC conformity

**The retention of these documents is mandatory!**

### 3. Safety Instructions

The „Power pack DC 24 V/2 A“ may be operated only if it is clean and not damaged in any way and may be used only within the specified temperature class and the temperature range indicated for them (see type label).

The MODEX control component may be assembled and disassembled only by qualified personnel who are authorized and trained to install electric components in hazardous areas.

Utilization in areas other than those specified or the modification of the product will exempt BARTEC from liability for defects and any further liability. It is not permissible to alter or modify the module. Built-in components and changes to the product are not permitted.

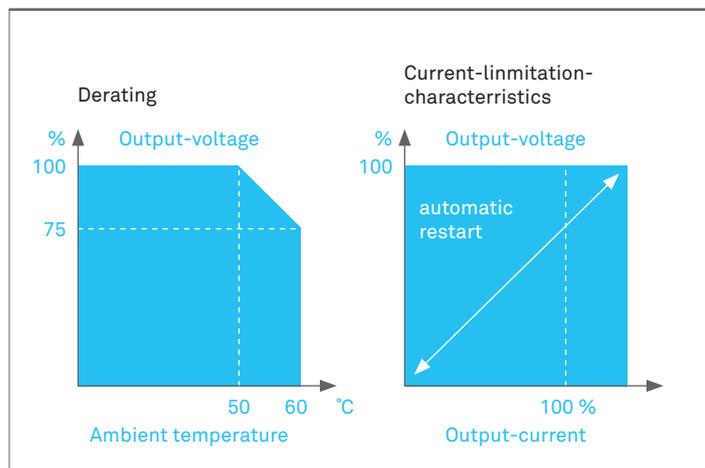
The generally applicable statutory rules and other binding directives relating to workplace safety, accident prevention and environmental protection must be observed.

### Danger, Warning and Note Symbols

Safety instructions and warnings are specially highlighted in these operating instructions and marked by symbols.

	<b>DANGER</b> draws attention to a direct threat which if not avoided will lead to death or very serious injuries.
	<b>WARNING</b> draws attention to a possible threat which if not avoided can lead to death or very serious injuries.
	<b>CAUTION</b> draws attention to a possible danger which if not avoided can lead to slight or minor injuries.
	<b>ATTENTION</b> draws attention to a potentially damaging situation which if not avoided can cause damage to the equipment or to objects in its vicinity.
	<b>NOTE</b> Important instructions and information on effective, economical & environmentally compatible handling.

### Characteristics



### 4. Technical Data

Construction	Flameproof snap-on housing for TH35
Enclosure material	high-quality thermoplastics
Protection class (IEC 60529)	
Electronic module	IP 66
Terminals	IP 20
Terminals with cover	IP 30
Electric connections	terminals 2.5 mm <sup>2</sup> , fine-stranded
Attachment onto mounting rail	TH 35 x 15 (7,5) EN 60715
Terminal marking	inscription label
Mounting position	any
Ambient temperature	-40 °C to +60 °C T4
Storage/transport temperature	-40 °C to +60 °C T4
Weight	2,1 kg
Dimensions (width x height x depth)	170 x 102 x 96 mm (see illustration on page 5)
<b>Electrical Data</b>	
Input voltage range	AC 110 to 250 V / 47 to 63 Hz Rated voltage range: AC 90 to 264 V
Input rated current	0.6 A at AC 230 V 1.1 A at AC 120 V
Power consumption	P = 109 W (max.)
Power dissipation	P <sub>v ges</sub> = < 8,8 W
Galvanic isolation	Supply // Output
<b>Indicators</b>	
Operation LED green	Green
Overload/short circuit	LED green-flashing (I > 5 A)
<b>Outputs</b>	
Output voltage	U <sub>1</sub> = DC 24,5 V ± 3 %
Redundancy output	U <sub>2</sub> = DC 24,0 V ± 3 %
Output current (max.)	4,1 A at Tu < +50 °C (230 V) Tu < +40 °C (115 V)
Overvoltage protection	Max. 135 % of U <sub>1</sub> and U <sub>2</sub>
Power derating	2,5 % / K > +50 °C (230 V) 2,0 % / K > +40 °C (115 V)
Output rated power	P <sub>a</sub> = 100 W
Residual ripple	typ. 160 mV at Tu = -10 °C to +60 °C
Protection and monitoring	Permanently short-circuit proof, (switch-off with automatic short-circuit check, automatic return to normal operation)
Signal contact (potential free)	37/38 closed with Output DC 24 V
<b>Redundant Power Supply ( 2 Power Supply)</b>	
Redundancy output	U <sub>2</sub> = DC 24,0 V ± 3 %
Output current (max.)	P <sub>a</sub> = 100 W
<b>Uprating Output current (2 Power Supply)</b>	
Redundancy output	U <sub>2</sub> = DC 24,0 V ± 3 %
Output current (max.)	P <sub>a</sub> = max.180 W
<b>Uprating Output current (3 Power Supply)</b>	
Redundancy output	U <sub>2</sub> = DC 24,0 V ± 3 %
Output current (max.)	P <sub>a</sub> = max.250 W

## 5. Transport and Storage

### ATTENTION

#### Damage due to incorrect storage!

- Adhere to storage and transport temperatures.
- Condensation can form on the components in a cold environment.
- Use the original packaging for transport/storage.

## 6. Assembly, Installation and Commissioning

### DANGER

#### Open live parts. Risk of fatal injury from electric shock!

- Do not mount components or put them into operation in a cold environment. Take condensation into account!
- Before starting assembly, make sure the component is in perfect condition.
- Disconnect components from voltage before doing any work on the modules.

### DANGER

#### Formation of hot spots endangers the explosion protection. A hot surface with inflammable mixture constitutes a life-threatening situation!

- Clearance of at least 40 mm must be maintained around the power supply.

### WARNING

- All connecting screws and terminals should be tightened with a torque wrench, taking into account the recommended connection torque of 0.4 Nm to 0.7 Nm for connecting screws and terminals. This should be guaranteed by means of suitable measures.

### WARNING

#### Danger in the event of incorrect procedures!

- Assembly, disassembly, installation and commissioning work may be done only by qualified personnel who are authorized and trained to assemble electric components in hazardous areas.
- The relevant installation and operating regulations, such as e.g. Directive 1999/92/EC, Directive 94/9/EC, BetrSichV (the German industrial health and safety ordinance), EN 60079-14, the DIN VDE 0100 series and other applicable national standards or ordinances, must be observed when setting up or operating explosion-proof electric systems.

### ATTENTION

#### Redundant power supply!

- The total current consumption must be completely covered by one power supply.

## 7. Wiring diagram/Characteristics

See page 6.

## 8. Fault Clearance, Repair

If no supply voltage, or insufficient supply voltage, is applied to the electronic and/or electrical loads when the mains supply is switched on, please check the following points:

1. Is the connection between power pack and load(s) correct?
2. Have all screw terminals been tightened correctly?
3. Is the supply voltage within the tolerance values given for the power pack?
4. Check wiring and connections.
5. The MODEX control and regulating component is faulty if this no longer transmits any signals or the enclosure is damaged. Replace the module.
6. No repair can be carried out.

Table – Fault diagnosis

Diagnosis	Operation LED	Cause	Remedy
No voltage on the output	OFF	No mains connection	- Check wiring - Check screw connections, tighten if necessary
		No mains voltage	- Check back-up fuse - Check mains supply
		Internal fuse defective	Replace devices, if necessary return to BARTEC
	Short-circuit on output ( $R_{last} \leq 3 \Omega$ )	Eliminate fault causing the short-circuit	
	ON	Screw connection(s) loose	Check screw connections, tighten if necessary
	Green-flashing	Load current > 5 A, Overcurrent interruption	Reduce load current by readjusting the load

## 9. Maintenance, Inspection

Only authorised and qualified personnel may do any work on the control and regulating component.

### Maintenance

If operated correctly in accordance with the installation instructions and ambient conditions, it does not require maintenance.

### Inspection

Under EN/IEC 60079-17 and EN/IEC 60079-19 the owner/managing operator of electric installations in hazardous areas is obliged to have these installations checked by a qualified electrician to ensure that they are in a proper condition.

## 10. Disposal

If no or insufficient supply voltage is applied to the electronic and/or electrical consumers to be supplied when the mains supply is switched on, please check the following points:

**NOTE** Our devices are intended as professional electronic equipment exclusively for commercial use. They are classed as B2B devices under the WEEE Directive. The WEEE Directive provides the framework for the applicable treatment of waste electronics throughout the EU. This means that you are not permitted to dispose of these products with other household waste. You must ensure environmentally sound disposal in a separate collection. Also it is not allowed to place the equipment in the collection points operated by public waste disposal authorities.

Our customers can return all products procured from our company to us for disposal. We ensure disposal in accordance with valid statutory provisions.

The costs for postage and packaging are borne by the sender. The statutory requirements relating to electrical and electronic waste must be complied with during disposal, for example disposal by an approved authorised treatment facility.

## 11. Amendments to the Document

BARTEC GmbH reserves the right to change the contents of this document without notification. We assume no guarantee for the correctness of the information. In cases of doubt the German safety instructions apply because it is not possible to rule out errors during printing and translation. The „General Terms and Conditions of Business“ of the BARTEC Group moreover apply in the event of legal disputes.

The current version of data sheets, operating instructions, certificates and EC declarations of conformity can be downloaded from [www.bartec-group.com](http://www.bartec-group.com) under „Products & Solutions“ in the product area „Automation Technology“ or can be requested directly from BARTEC GmbH.

## 12. Order numbers

### Order number

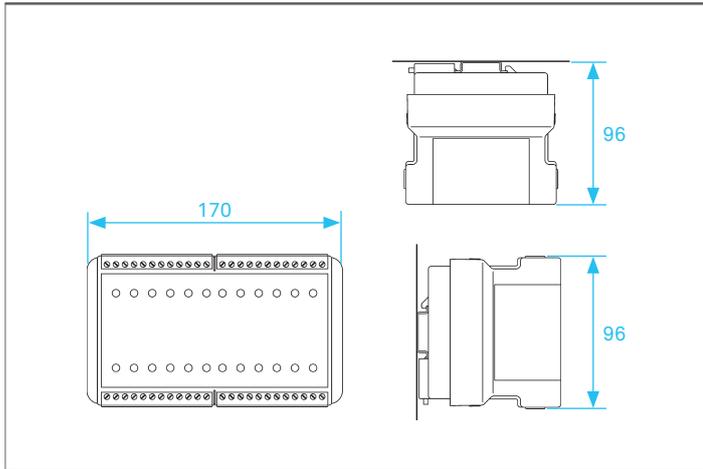
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## 13. Service Address

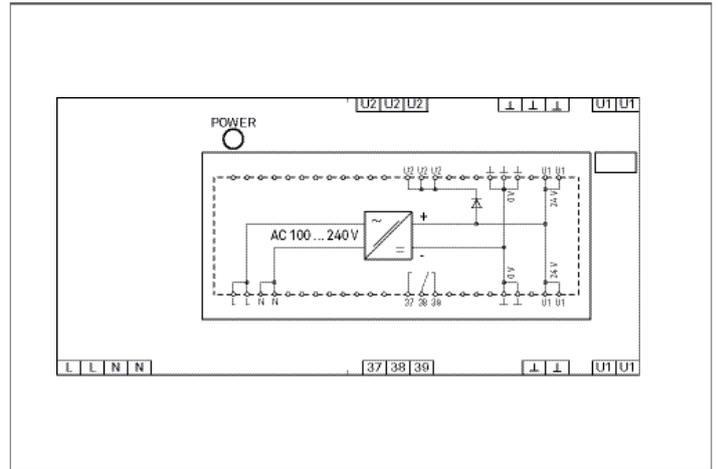
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[www.bartec.com](http://www.bartec.com)

**Dimensions**

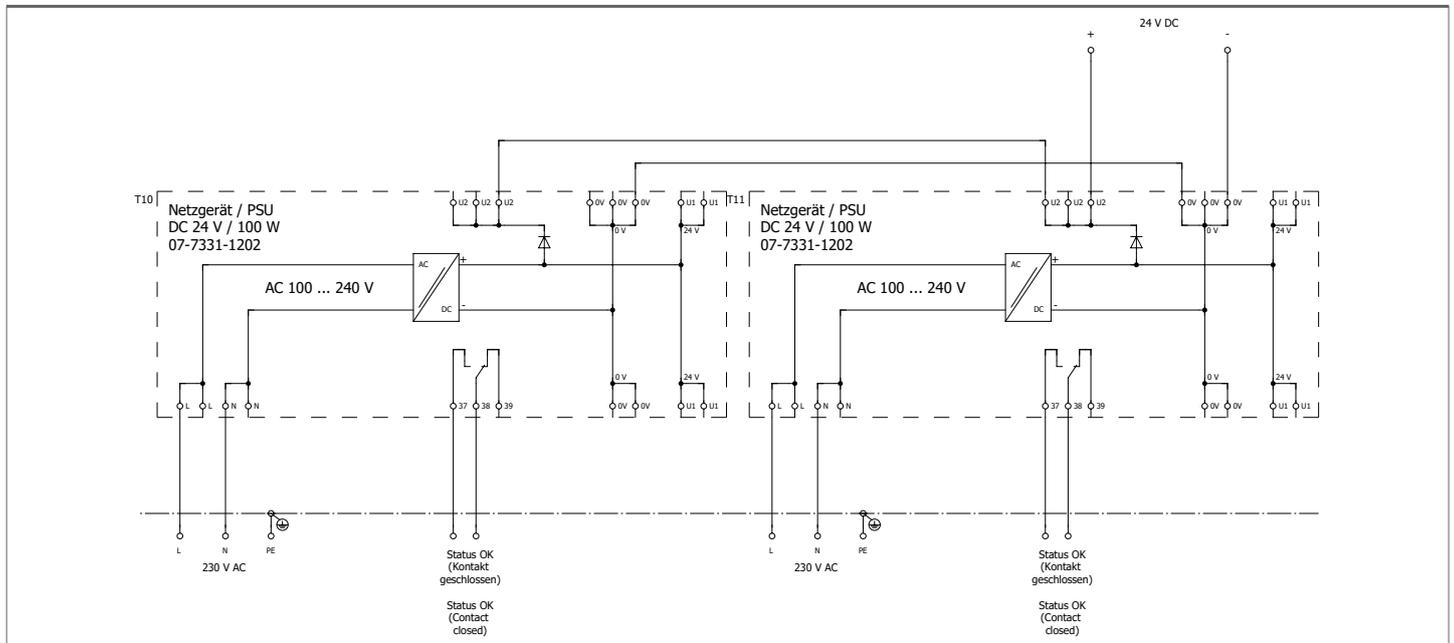


**Wiring diagram/Terminal assignment**



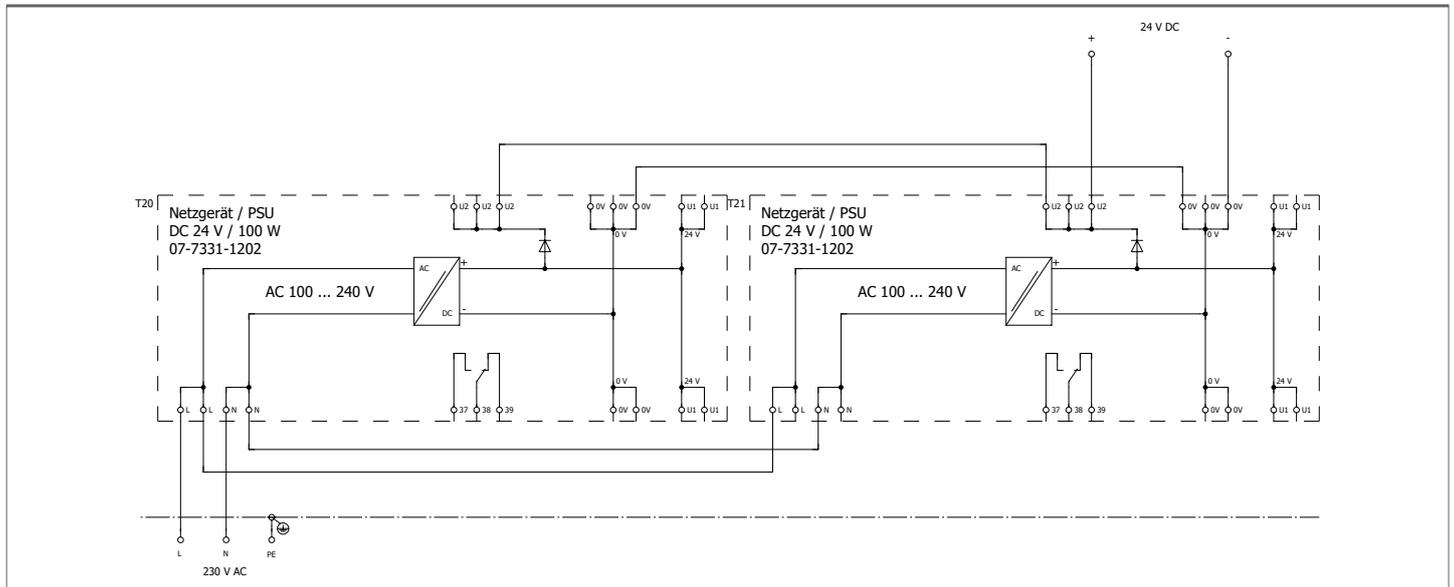
**Example of Application**

Redundant power supply 100 W



**Example of Application**

Redundant power supply DC 24V and 180 W



Wir	We	Nous
<b>BARTEC GmbH</b> Max-Eyth-Straße 16 97980 Bad Mergentheim Germany		
erklären in alleiniger Verantwortung, dass das Produkt  <b>Steuer- und Regel-            Komponente</b>	declare under our sole responsibility that the product  <b>Control Component</b>	attestons sous notre seule responsabilité que le produit  <b>Composants de commande            et de regulation</b>

**07-7331-\*\*\*\*/\*\*\*\***

auf das sich diese Erklärung bezieht den Anforderungen der folgen- den <b>Richtlinien (RL)</b> entspricht  <b>ATEX-Richtlinie 2014/34/EU</b> <b>EMV-Richtlinie 2014/30/EU</b> <b>RoHS-Richtlinie 2011/65/EU</b>	to which this declaration relates is in accordance with the provision of the following <b>directives (D)</b>  <b>ATEX-Directive 2014/34/EU</b> <b>EMC-Directive 2014/30/EU</b> <b>RoHS-Directive 2011/65/EU</b>	se référant à cette attestation correspond aux dispositions des <b>direct-            tives (D)</b> suivantes  <b>Directive ATEX 2014/34/UE</b> <b>Directive CEM 2014/30/UE</b> <b>Directive RoHS 2011/65/UE</b>
und mit folgenden Normen oder nor- mativen Dokumenten übereinstimmt	and is in conformity with the following standards or other normative documents	et est conforme aux normes ou docu- ments normatifs ci-dessous

**EN 60079-0:2018**  
**EN 60079-1:2014**  
**EN 60079-7:2015**  
**EN 60079-11 :2012**

**EN 61000-6-2:2005**  
**EN 61000-6-4:2007 + A1:2011**  
**EN 60529:1991+A1:2000+**  
**A2:2013**

<b>Verfahren der EU-Baumuster-            prüfung / Benannte Stelle</b>	<b>Procedure of EU-Type Examination /            Notified Body</b>	<b>Procédure d'examen UE de type /            Organisme Notifié</b>
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Bad Mergentheim, 02.07.2021

  
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