User Manual

Mini Power Backup Unit 20V 1A

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Mini Power Backup Unit 20V 1A

Technical User Guide

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Version 1.0

Big Dutchman

1 Product Description

The mini power backup unit is designed to be installed at the side of and connected to a house controller.
At 115 V / 230 V mains failure the mini power backup unit safeguards the house controller against disturbances from brief power failures, when the house controller would otherwise require a restart. The mini power backup unit is typically used when there is no emergency opening.

A mini power backup unit must only be connected to one house controller in the **Viper Touch series** if:

- the house controller has a maximum of 6 I/O modules.
- nothing is connected to the main module and the I/O modules' + 24 V terminals.
- there is only consumption of up to 0.8 A from the loop module's + 24 V terminals.

A mini power backup unit may only be connected to one **235Pro** house controller if:

- the house controller has a maximum of 6 I/O modules.
- the total consumption from the main module and I/O modules does not exceed 0.4 A + 24 V terminals.
- a built-in lightning protection module protects the house controller against minor lightning transients.

2 Mounting Guide

2.1 Electrical Connection

Expert personnel must carry out installation, servicing and troubleshooting of electrical equipment in compliance with applicable national regulations – in Europe, this would be the EN 60204-1 or other current EU regulations.

The installation of a power supply isolator is required for each motor and power supply to facilitate voltage-free work on the electrical equipment. Power supply isolator is not supplied by Big Dutchman.

2.2 Mounting/Connection of Mini Power Backup Unit

1) Mount the mini power backup unit on the wall, next to the house controller, using the screws enclosed.
2) Disconnect the 230 V power supply to the house controller.
3) Connect wires to A5 and A6 **(A)** on the power supply.
4) Connect wires to A1, A2 and A4 **(B)** on the power supply to terminals L, N and earth on the lightning protection module **(C)**, using three short wires.

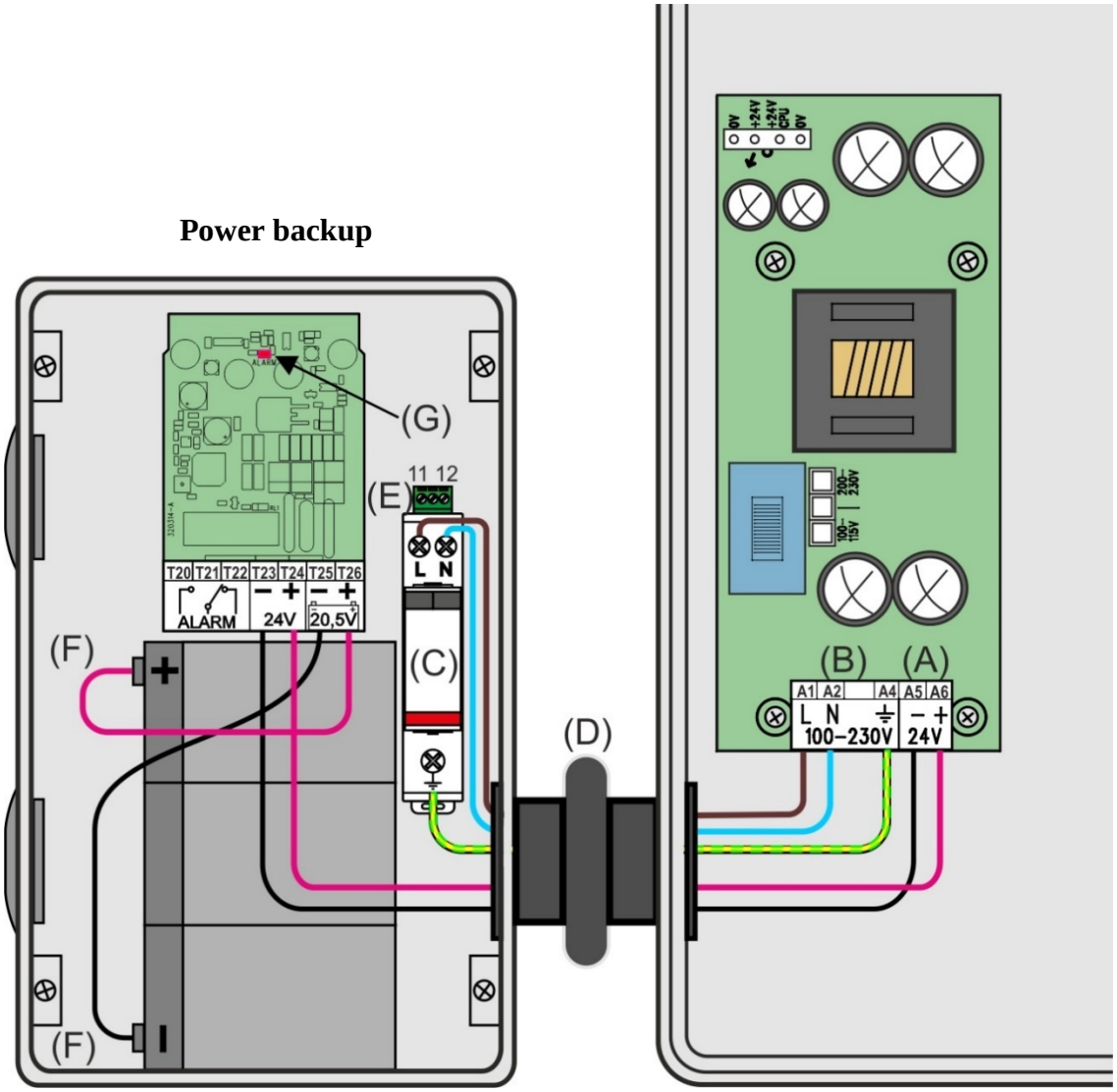
! The three short wires should be kept separate from the two 24 V DC wires in the rubber sleeve **(D)**.

5) The remote indicator switch **(E)** on terminals 11 and 12 interrupt if the lightning protection module becomes worn out. The remote indicator switch may be connected to an alarm system but it is not indispensable for the function.
6) Reconnect the power supply 230 V.
7) Connect the battery wires: **(F)**:
   - Red to red battery pole
   - Black to black battery pole

2.3 Connection diagram

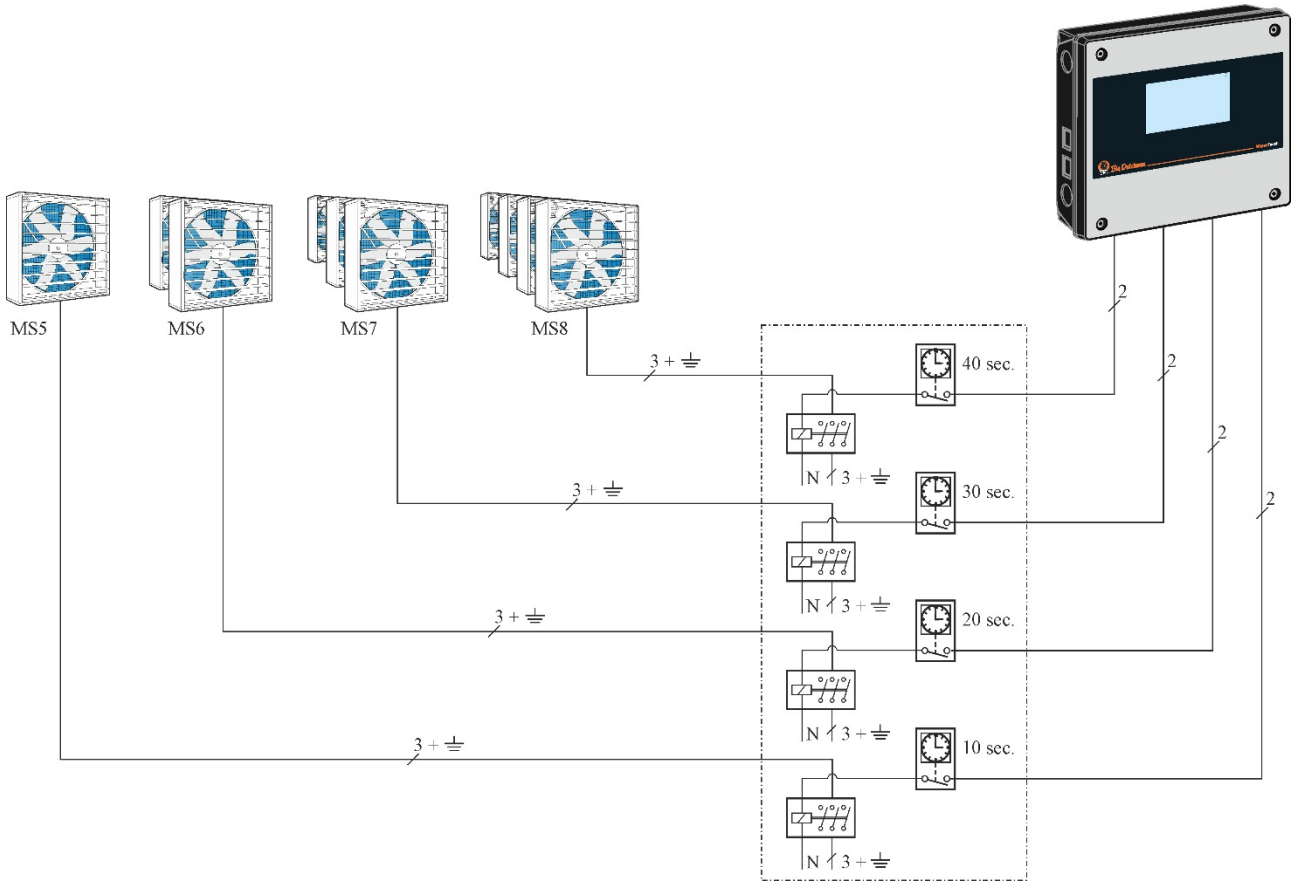
Power supply in house controller

Power backup



2.4 Fan Groups 400 V with ON-Delay Timers

The ON-Delay timers are available in many varieties.



When using the mini power backup unit, all fan groups must not start at the same time, as this will overload the emergency generator in the event of power failure – depending on its type, size and load.

Use the ON-Delay timers with different settings (e.g. 10-20-30-40 secs.) for the fan groups so as to obtain a sequential start-up that will secure the emergency generator against overload.

2.5 Test of Mini Power Backup Unit

The test is performed once weekly in order to ensure that the mini power backup unit is functioning correctly.

A mini power backup unit can only supply power to one house controller. All unauthorised connected loads, for example motors, from the power supply of the house controller (terminals A5 and A6) must be moved to +24 V max. 0.8 A loop module or an external power supply.

1) In the case of hot climates or houses with larger animals, assess whether testing now would be a risk for the animals!
2) Disconnect the power 230 V.
3) Check that:
   - The RED lamp **(G)** is lighting on the power backup module
   - The display of the house controller remains on.
4) Reconnect the power supply 230 V.
5) Check that the red lamp **(G)** switches off again on the power backup module.
6) Attach the cover on the house controller and the mini power backup unit.

3 Functional Characteristics

The Mini Power Backup Unit does not need servicing. At 115 V / 230 V mains failure the house controller is safeguarded against disturbances caused by brief power failures, when the house controller would otherwise restart after a couple of minutes once the 115 V / 230 V supply returns. On average, the mini power backup unit can keep the house controller running for up to 5 minutes per hour.

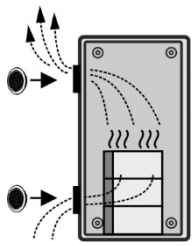
A fully charged new battery will only keep the house controller running for 0,5 - 3 hours at a time, depending on the size of the house controller.

If the house controller is turned off for several days, the one battery wire on the mini power backup unit must be dismantled in order to avoid complete discharge of the battery, which is detrimental to it.

Red lamp ON = power backup is active (relay in rest position at 115 V / 230 V power failure).

3.1 Maintenance

Replace the battery module at least every 3 years.



Replace the two ventilation plugs at the same time as the battery.

3.2 Lightning Protection

The built-in lightning protection module **(C)** protects the house controller against minor lightning transients.

If the green status light on the lightning protection module turns off or becomes red, the lightning protection is worn out and should be replaced. The light is only on when 230 V is connected.

When testing insulation, the lightning protection module must be disconnected.

If there are often severe thunderstorms in the area, the lightning protection module **(C)** should be supplemented with more powerful lightning protection in the distribution board and by the power supply to the farm.

4 Technical Data

Electrical Setup		
Voltage [V]	24 (22 – 32)	
Supply current max. [A]	0.7	
Battery module [V]	18	
Battery module [Ah]	4	
Output voltage [V]	20	
Output current max. [A]	1	
Size of house controller and max. 24 V consumption	Viper Touch series Max. 6 x I/O modules 0 A from main and I/O modules Max. 0.8 A from loop module	235Pro Max. 6 x I/O modules Max. 0.4 A from main and I/O modules
Alarm relay NO-C-NC, max. [V] Alarm relay NO-C-NC, max. [A] Average backup time Max. backup time	24 1 5 minutes per hour 0.5 – 3 hours with fully charged battery	
Lightning protection module L/N and PE Voltage [V] Max. protection level [kV] Max. discharge current [kA]	 230 1.25 40	
Environment		
Ambient temperature, operating [°C]	-10 to +45	
Ambient temperature, warehouse [°C]	-25 to +60	
Consignment		
Dimensions, H x W x D: [mm]	145 x 162 x 260	
Packing dimensions, H x W x D: [mm]	200 x 290 x 370	
Shipping weight [g]	2500	

EU - DECLARATION OF CONFORMITY

Manufacturer: **SKOV A/S**
Address: Hedelund 4, DK-7870 Roslev, Denmark
Telephone: +45 72 17 55 55

This declaration of conformity is issued under the sole responsibility of the manufacturer.

Product: Mini Power Backup Unit

Type, model: Backup

EU directives: 2014/35/EU (Low Voltage Directive (LVD))
2014/30/EU (Electromagnetic Compatibility (EMC)
2011/65/EU (RoHS Directive)

Standards: EN 61000-6-2:2005 + AC:2005
EN 61000-6-4:2007 + A1:2011

We declare as manufacturer
that the products meet the requirements of the listed directives and standards.

Location: Hedelund 4, DK-7870 Roslev

Date: 2016.12.05

Jesper Mogensen
CTO

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Big Dutchman International GmbH • Calveslage • Auf der Lage 2 • 49377 Vechta; Germany
Tel. +49(0)4447/801-0 • Fax +49(0)4447/801-237 • big@bigdutchman.com