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HEINZMANN®
Electronic Speed Governor

Power Unit with Emergency Supply Unit

NG 04

 <p>Warning</p>	<p>Read this entire manual and all other publications appertaining to the work to be performed before installing, operating or servicing your equipment.</p> <p>Practice all plant and safety instructions and precautions.</p>
 <p>Danger</p>	<p>Failure to follow instructions may result in personal injury and/or damage to property.</p> <p>HEINZMANN will refuse all liability for injury or damage which results from not following instructions</p>
 <p>Danger! High Voltage</p>  <p>Danger</p>	<p>Please note before commissioning the installation:</p> <p>Before starting to install any equipment, the installation must have been switched dead!</p> <p>Be sure to use cable shieldings and power supply connections meeting the requirements of the <i>European Directive concerning EMI</i>.</p> <p>Check the functionality of the existing protection and monitoring systems.</p>
 <p>Danger</p>	<p>To prevent damages to the equipment and personal injuries, it is imperative that the following monitoring and protection systems have been installed:</p> <p>Overspeed protection acting independently of the speed governor</p> <p>Overtemperature protection</p> <p>HEINZMANN will refuse all liability for damage which results from missing or insufficiently working overspeed protection</p> <p>Generator installation will in addition require:</p> <p>Overcurrent protection</p> <p>Protection against faulty synchronization due to excessive frequency, voltage or phase differences</p> <p>Reverse power protection</p>
	<p>Overspeeding can be caused by:</p> <p>Failure of the voltage supply</p> <p>Failure of the actuator, the control unit or of any accessory device</p> <p>Sluggish and blocking linkage</p>



Warning

Electronically controlled injection (MVC) will in addition require to observe the following:

With **Common Rail** systems a separate mechanical flow limiter must be provided for each injector pipe.

With **Pump-Pipe-Nozzle (PPN)** and **Pump Nozzle (PNE)** systems fuel release may be enabled only by the movement of control piston of the solenoid valve. This is to inhibit fuel from being delivered to the injection nozzle in case of seizure of the control piston.



Warning

The examples, data and any other information in this manual are intended exclusively as instruction aids and should not be used in any particular application without independent testing and verification by the person making the application.



Danger

Independent testing and verification are especially important in any application in which malfunction might result in personal injury or damage to property.

HEINZMANN make no warranties, express or implied, that the examples, data, or other information in this volume are free of error, that they are consistent with industry standards, or that they will meet the requirements for any particular application.

HEINZMANN expressly disclaim the implied warranties of merchantability and of fitness for any particular purpose, even if **HEINZMANN** have been advised of a particular purpose and even if a particular purpose is indicated in the manual.

HEINZMANN also disclaim all liability for direct, indirect, incidental or consequential damages that result from any use of the examples, data, or other information contained in this manual.

HEINZMANN make no warranties for the conception and engineering of the technical installation as a whole. This is the responsibility of the user and of his planning staff and specialists. It is also their responsibility to verify whether the performance features of our devices will meet the intended purposes. The user is also responsible for correct commissioning of the total installation.

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1 Safety Instructions and Related Symbols

This publication offers wherever necessary practical safety instructions to indicate inevitable residual risks when operating the engine. These residual risks imply dangers to

persons

product and engine

environment.

The symbols used in this publication are in the first place intended to direct your attention to the safety instructions!



Warning

This symbol is to indicate that there may exist dangers to the engine, to the material and to the environment.



Danger

This symbol is to indicate that there may exist dangers to persons. (Danger to life, personal injury))



Danger!
High
Voltage

This symbol is to indicate that there exist particular danger due to electrical high tension. (Mortal danger).



Note

This symbol does not refer to any safety instructions but offers important notes for better understanding the functions that are being discussed. They should by all means be observed and practiced. The respective text is printed in italics.

The primary issue of these safety instructions is to prevent personal injuries!

Whenever some safety instruction is preceded by a warning triangle labelled “Danger” this is to indicate that it is not possible to definitely exclude the presence of danger to persons, engine, material and/or environment.

If, however, some safety instruction is preceded by the warning triangle labelled “Caution” this will indicate that danger of life or personal injury is not involved.

The symbols used in the text do not supersede the safety instructions. So please do not skip the respective texts but read them thoroughly!

In this publication the Table of Contents is preceded by diverse instructions that among other things serve to ensure safety of operation. It is absolutely imperative that these hints be read and understood before commissioning or servicing the installation.

1.1 Basic Safety Measures for Normal Operation

- The installation may be operated only by authorized persons who have been duly trained and who are fully acquainted with the operating instructions so that they are capable of working in accordance with them.
- Before turning the installation on please verify and make sure that
 - only authorized persons are present within the working range of the engine;
 - nobody will be in danger of suffering injuries by starting the engine.
- Before starting the engine always check the installation for visible damages and make sure it is not put into operation unless it is in perfect condition. On detecting any faults please inform your superior immediately!
- Before starting the engine remove any unnecessary material and/or objects from the working range of the installation/engine.
- Before starting the engine check and make sure that all safety devices are working properly!

1.2 Basic Safety Measures for Servicing and Maintenance

- Before performing any maintenance or repair work make sure the working area of the engine has been closed to unauthorized persons. Put on a sign warning that maintenance or repair work is being done.
- Before performing any maintenance or repair work switch off the master switch of the power supply and secure it by a padlock! The key must be kept by the person performing the maintenance and repair works.
- Before performing any maintenance and repair work make sure that all parts of engine to be touched have cooled down to ambient temperature and are dead!
- Refasten loose connections!
- Replace at once any damaged lines and/or cables!
- Keep the cabinet always closed. Access should be permitted only to authorized persons having a key or tools.

- Never use a water hose to clean cabinets or other casings of electric equipment!

1.3 Before Putting an Installation into Service after Maintenance and Repair Works

- Check on all slackened screw connections to have been tightened again!
- Make sure the control linkage has been reattached and all cables have been reconnected.
- Make sure all safety devices of the installation are in perfect order and are working properly!

2 General Remarks

HEINZMANN electronic governors needs a voltage supply of 24 V. This voltage is provided by the power unit with emergency power supply NG 04. The power supply may be used for feeding one governor system E 6 up to E 30, E 2005 up to E 2080 and digital types with similar actuators.

This unit should be used for applications that require interrupt-free continuation of the governor's operation in case of mains failure (e.g., marine applications).

If the emergency supply is not necessary, the power supply NG 05 may be used.

The power supply is available in two versions: without housing for build-in applications and with housing for stand-alone applications.

3 Mode of Operation

By means of the power unit with emergency supply NG 04, one-phase supply voltage is reduced by a transformer to lower voltage and converted into DC voltage by a bridge rectifier. A downstream stabilized voltage regulator ensures constant output voltage.

In case of mains failure, an interrupt-free change-over to battery operation is automatically carried out. During normal operation, the battery is kept in charged state by a charging device.

By an alarm system, mains failure is indicated and may be transmitted to a control centre (bridge in case of ships).



Note

In case of mains disconnection, the governor switch is to be set to „Off“ in order to avoid discharging the battery!

4 Technical Data

Voltage input	1 x 110..127 V AC
	or 1 x 200..240 V AC
Frequency	50/60 Hz
Power input	200 VA
Output voltage in mains operation	27 V DC
Residual ripple	< 10%
Output voltage in battery operation	24 V DC
Output current	
governor supply	max. 5 A
accessory supply	max. 2 x 1 A
Battery capacity	5.7 Ah
Battery lifetime	
with 100% discharge	200 cycles
with 60% discharge	700 cycles
for fully charged state	up to 8 years
Alarm	Mains failure
max. switching voltage of alarm relais	440 V AC
max. constant current of alarm relais	8 A
Temperature range	-20°C up to +45°C short-term up to + 55°C
Humidity	up to 90 %
Protection grade	
build-in unit	IP 00
in housing	IP 55
Weight	
build-in unit	approx. 12.7 kg
in housing	approx. 18.5 kg

5 Block Diagram

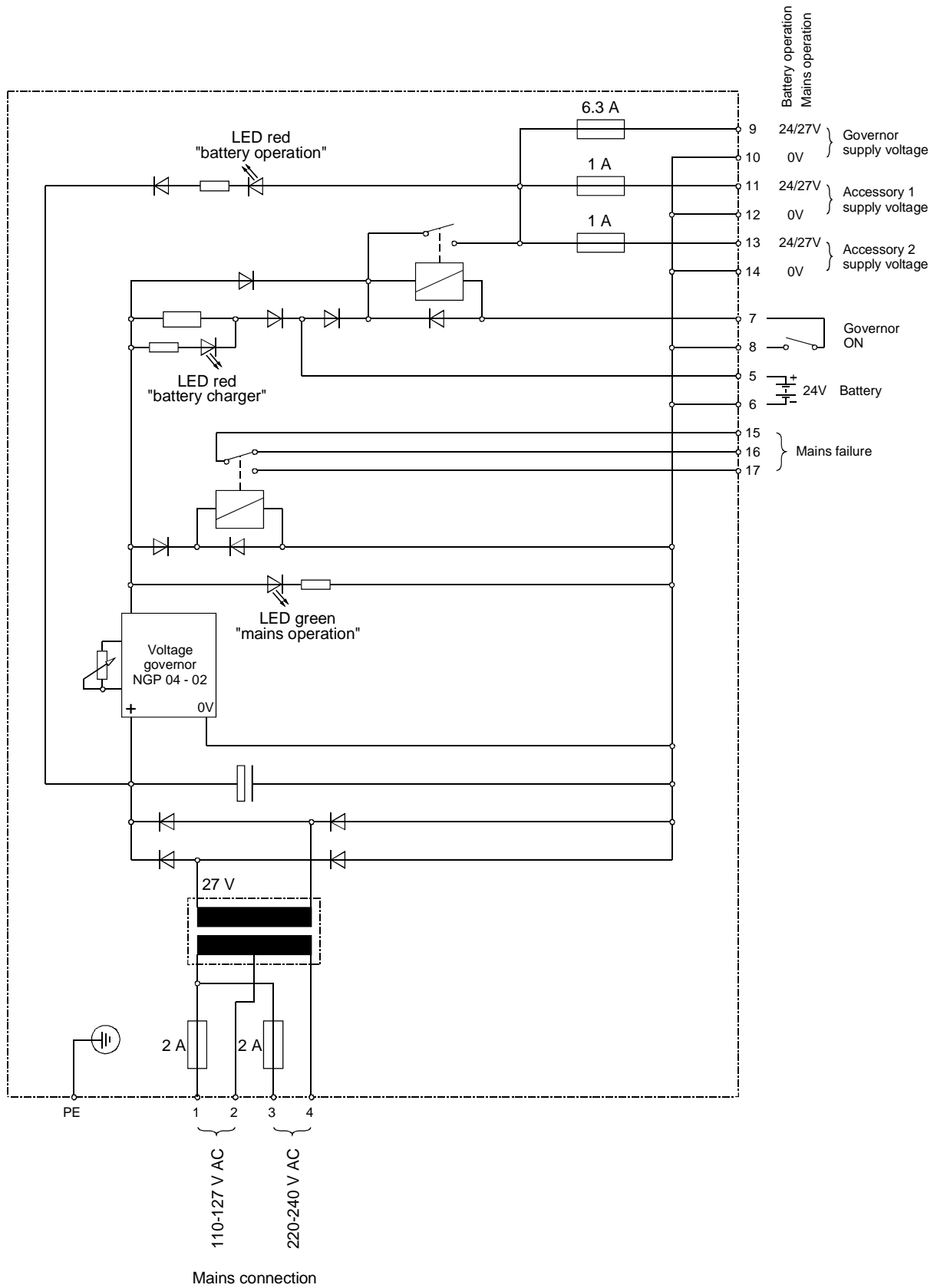


Figure 1: Block Diagram

6 Electrical Connection

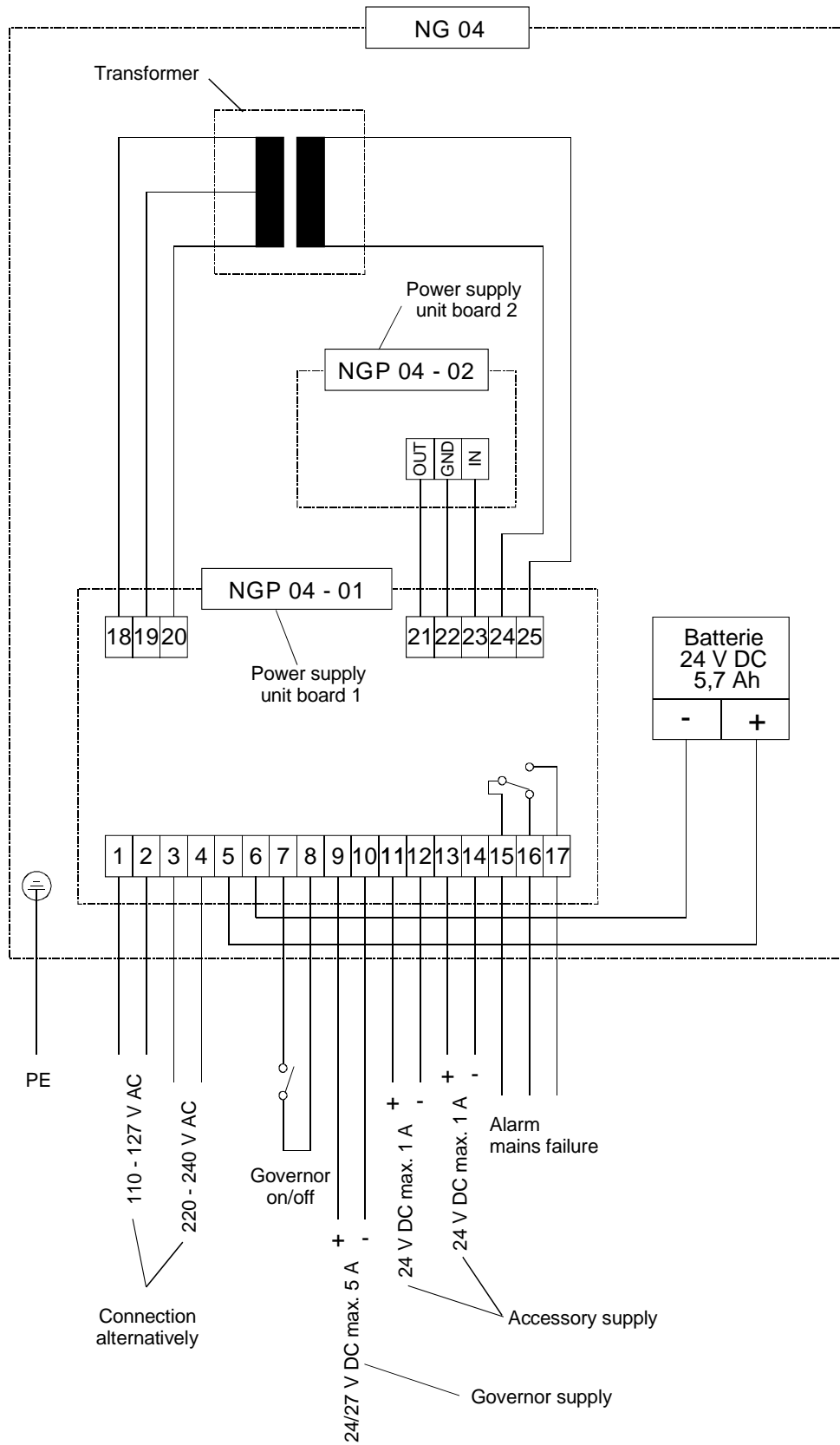


Figure 2: Electrical Connection

7 Arrangement of Alarm Lamps

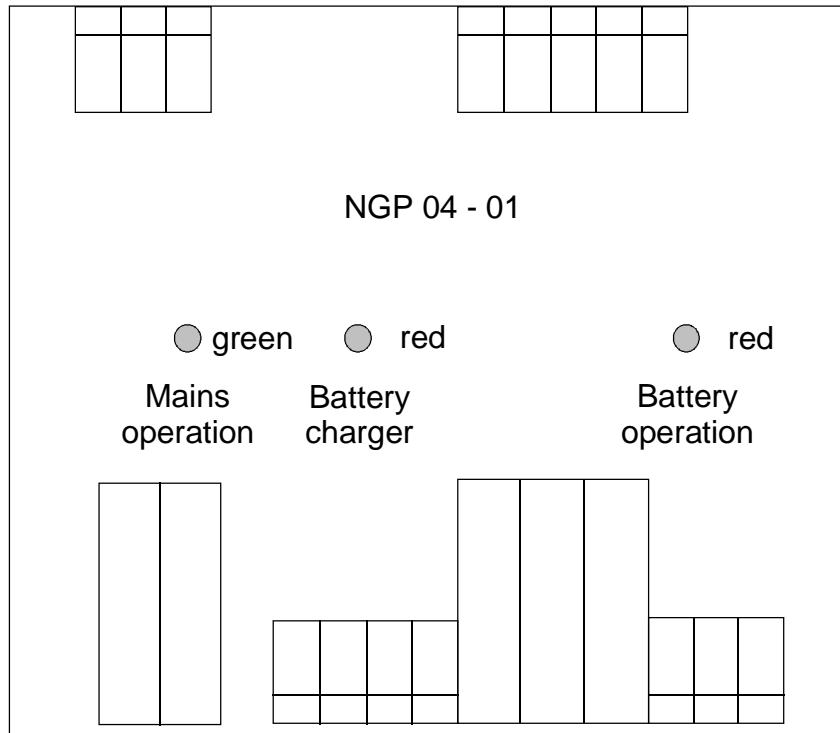


Figure 3: Arrangement of Alarm Lamps

8 Measurements

8.1 Power Supply in Housing

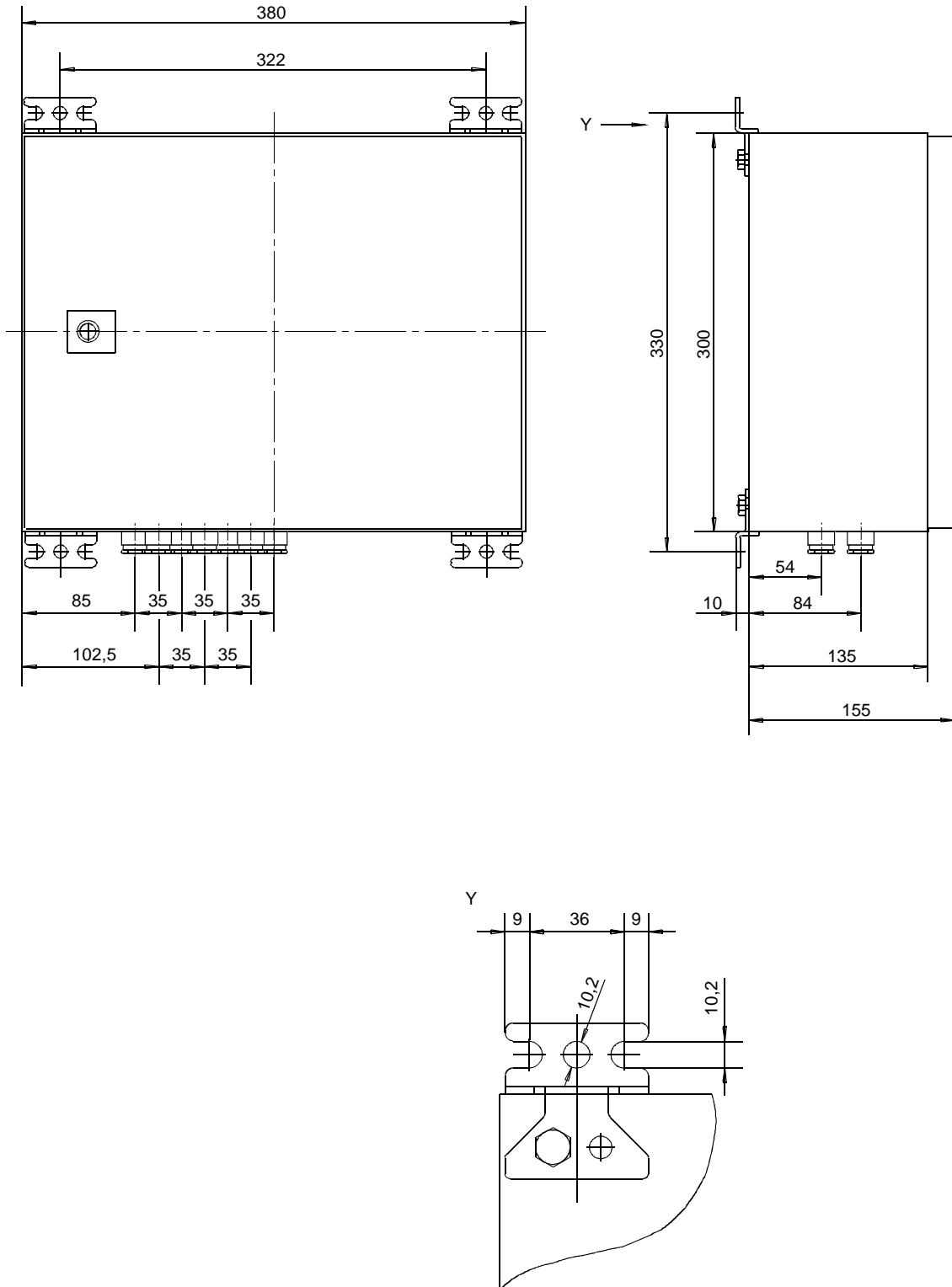


Figure 4: Measurements of Power Supply in Housing

8.2 Build-in Power Supply

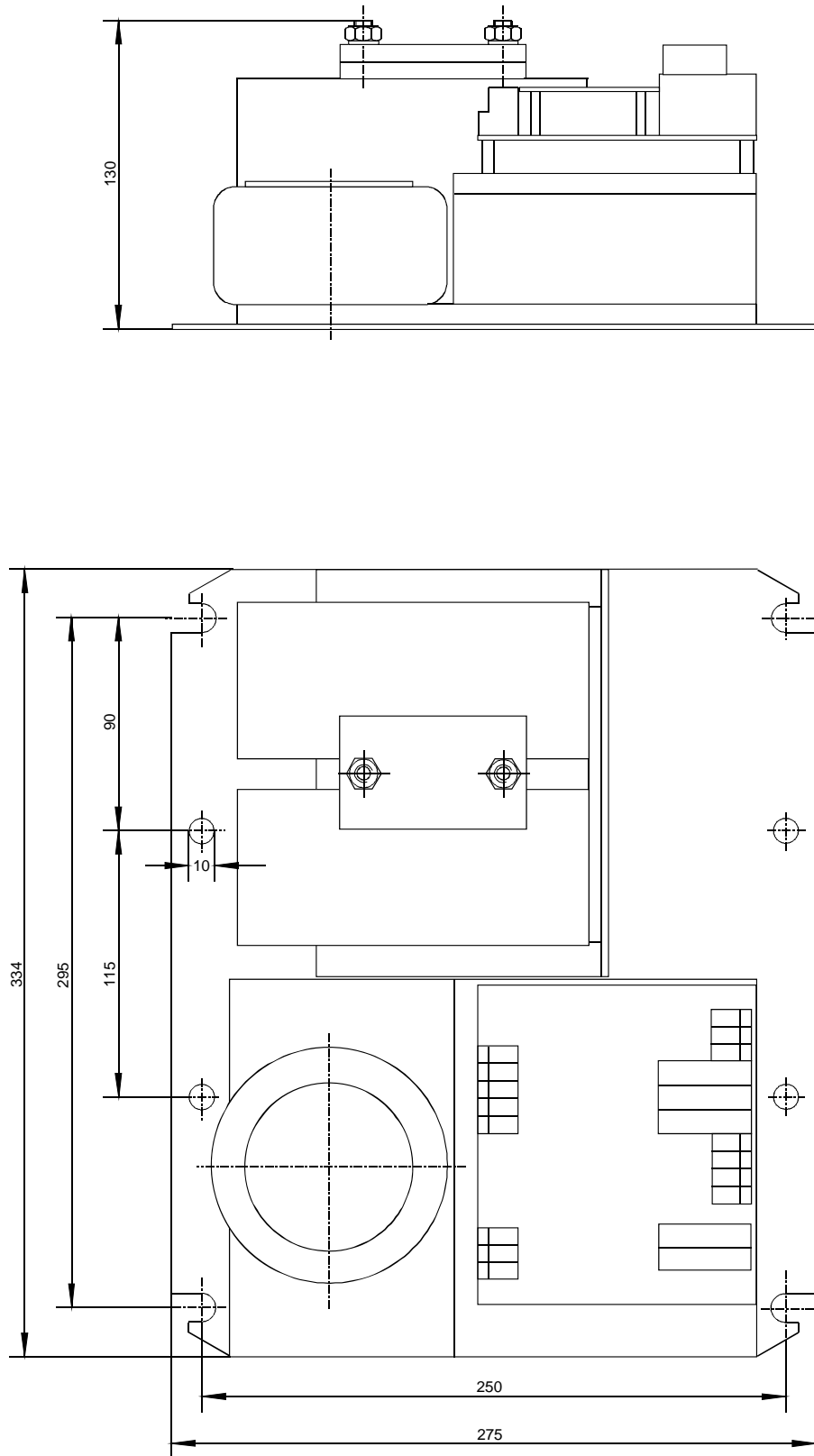


Figure 5: Measurements of Build-in Power Supply

9 Calibration

The device has been calibrated in the factory; there is neither need for further calibration nor should any such adjustment be carried out.

10 Maintenance

Both the power unit and the battery are maintenance-free. The batteries, however, must regularly be checked for their state.

To do so, it is required every three month to change over to battery operation for 40 minutes after at least 24 hours of normal operation (the fuses will have to be removed).

When the batteries need to be changed, the complete battery set has to be re-newed. It is not allowed to change single batteries.



Note

In case of mains disconnection, the governor switch is to be set to „Off“ in order to avoid discharging the battery!

11 Odering Specification

The ordering designation for the whole unit is:

NG 04

The power supply in housing has the ordering number: 604-80-025-00

The build-in power supply has the ordering number: 604-80-025-01

12 Order Specifications for Manuals

There is no charge for our technical manuals ordered in reasonable quantities.

Order the necessary manuals on our speed governors from your nearest

[HEINZMANN location](#).

(Please click on “HEINZMANN location” to see the list of our subsidiaries and agents in the world).

Please include the following information:

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