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HEINZMANN®

Electronic Speed Governors




Power Supply with Backup Battery

NG 01-2 + NSV 01-2



 <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>



 <p>Warning</p>	<p>Electronically controlled injection (MVC) will in addition require to observe the following:</p> <p>With Common Rail systems a separate mechanical flow limiter must be provided for each injector pipe.</p> <p>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.</p>
 <p>Warning</p>	<p>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.</p>
 <p>Danger</p>	<p>Independent testing and verification are especially important in any application in which malfunction might result in personal injury or damage to property.</p>
	<p>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.</p>
	<p>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.</p>
	<p>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.</p>
	<p>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.</p>

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1. Application

The power supply with backup battery NG 01-2 + NSV 01-2 is mainly used for the Heinzmann range of speed governors up to the E-30 size. This type of power supply should be used when a break-free governor operation is required in case of mains failure (e.g. marine applications).

For governors of the size E-64 and E-90 the unit NG02 + NSV02 should be used. This unit is designed for higher capacity.

If no battery backup is needed, the units NG01 and NG02 may be used.



2. Technical data

Voltage input	3 × 440V~ ±10% phase to phase or 3 × 380V~ ±10% phase to phase or 3 × 220V~ ±10% phase to phase or 3 × 190V~ ±10% phase to phase
frequency	50/60 Hz
power consumption	max. 320 VA per phase
output voltage	approx. 25 V=
output current	max. 8 amps
ripple	< 10%
battery voltage	22 V=
battery charge	5 Ah (amperes × hours)
battery life	200 charging cycles @ 100% decharging 700 charging cycles @ 60% decharging 8 years when fully charged
temperature range	- 40 °C to + 45 °C for a short time up to + 55 °C
humidity	up to 100%
protection grade	IP44
weight	approx 36 kg (80 lbs)
alarm output	phase failure mains failure charging failure battery voltage low
rating for alarm relay contacts	5 amps @ 250 V~ 2 amps @ 380 V~ 5 amps @ 30V=



3. Method of operation

The power supply with battery backup NG01-2 + NSV01-2 transforms the mains voltage to a lower voltage. This voltage is rectified and then put through a voltage controller to get a stabilised voltage.

In case of mains failure the unit will automatically switch over to battery operation. This is monitored with a relay and may be used for alarming a central control station. In normal operation the battery will be charged automatically with an internal charging circuit.

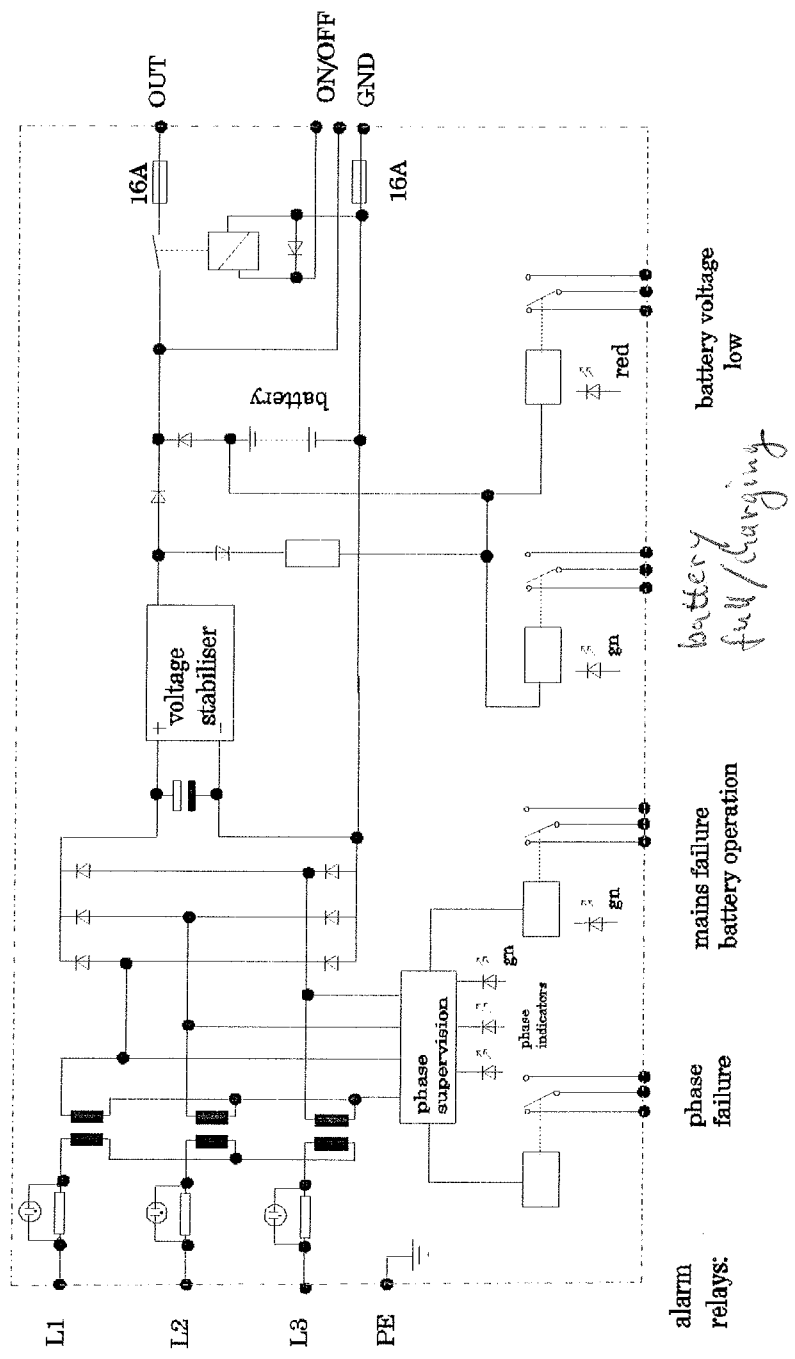
If a failure occurs it will be detected by an internal alarm circuit and the failure will be monitored with alarm relays. This information may then be transferred to a central control station. The alarm indication is done for protection of the battery and works with on/off-switch in position "ON" only.

Alarm output relays: phase failure
 mains failure / battery operation
 battery voltage low
 battery full / charging

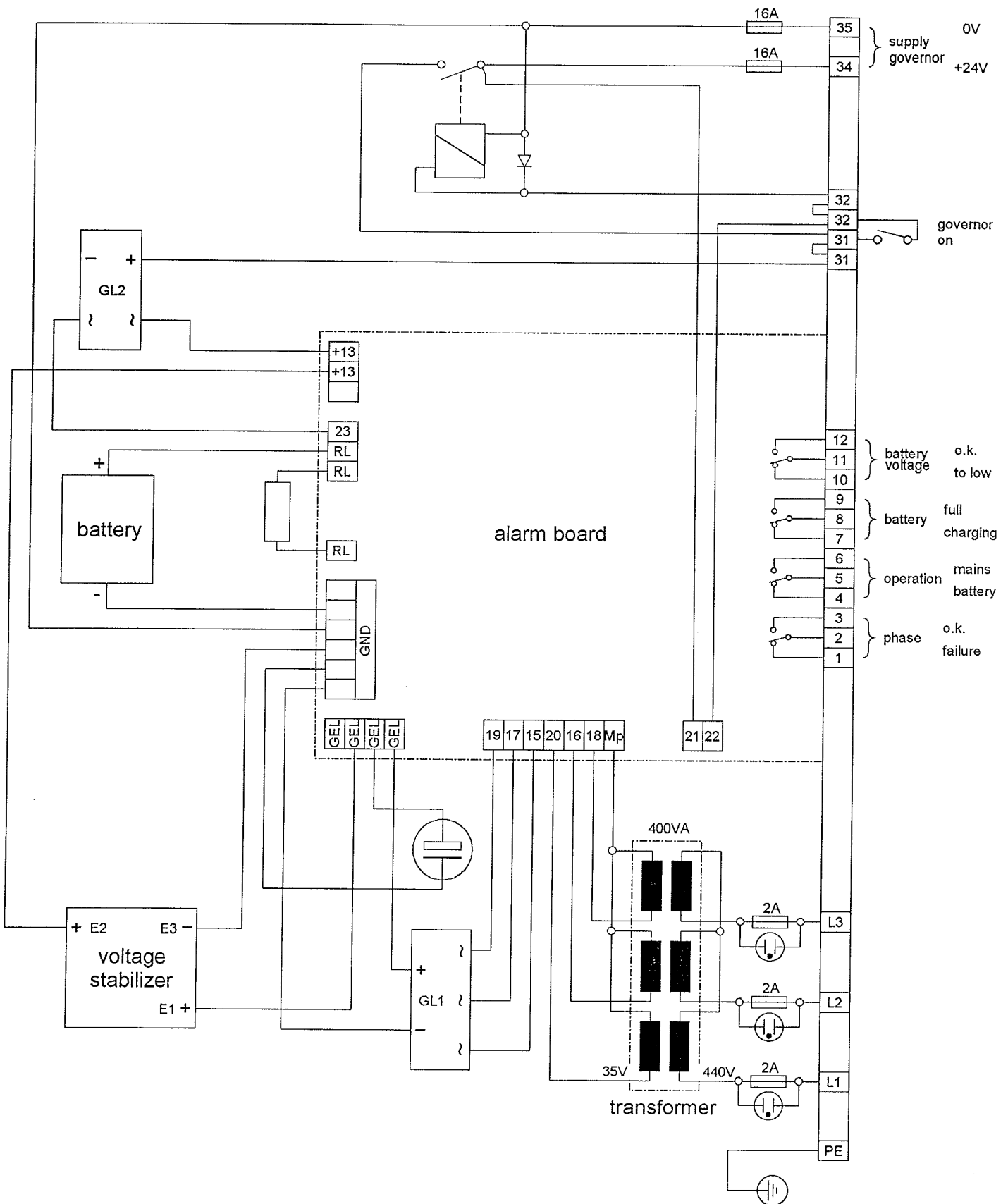
CAUTION

Always switch off the governor when the mains are disconnected or lost due to other reasons. This will protect from unintentionally discharging the battery.

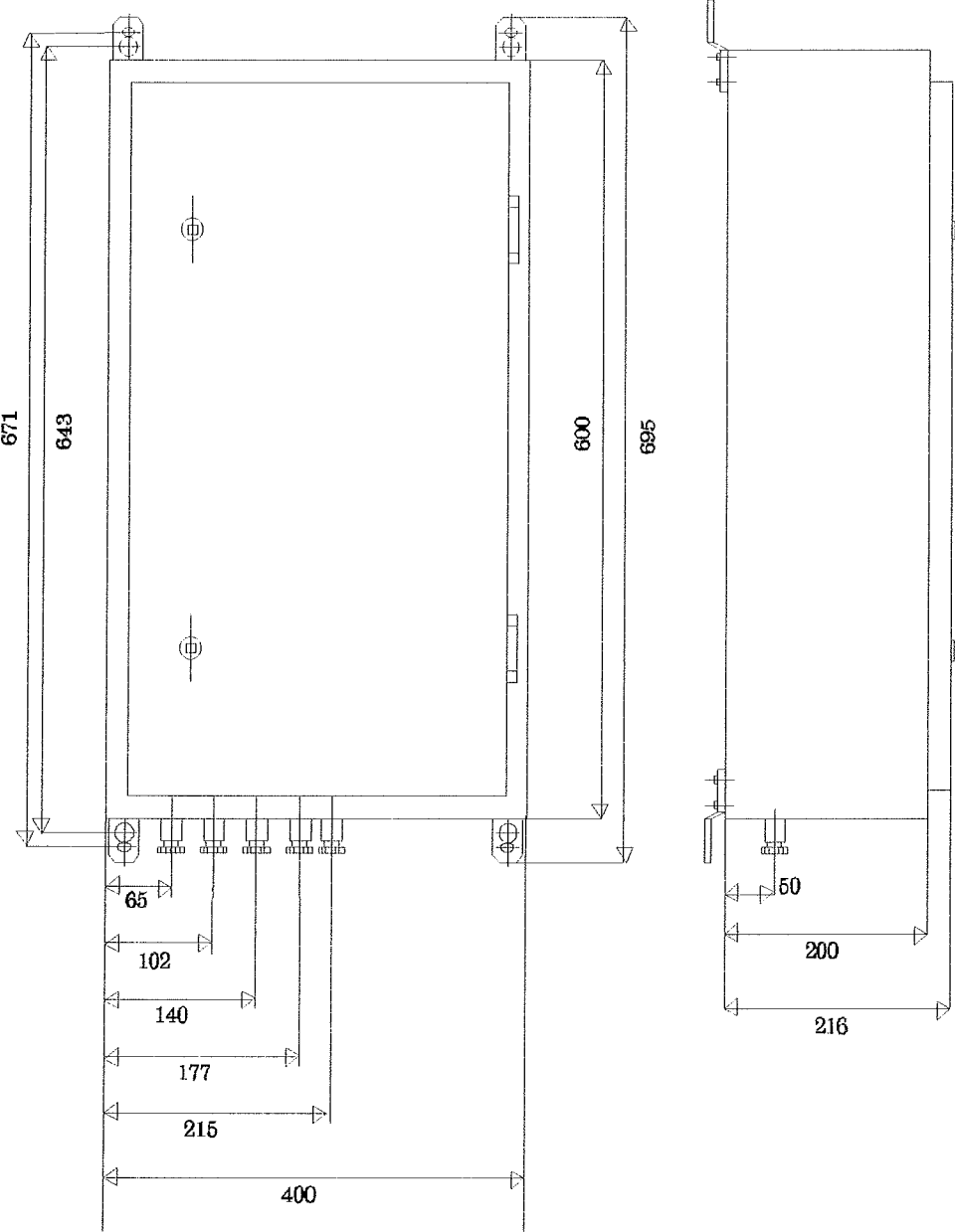
4. Block diagram



5. Electrical wiring



6. Dimensions



7. Adjustments

The unit is factory adjusted and needs no further adjustments.

CAUTION

Never try to re-adjust the unit without detailed circuit information. Wrong adjustments may result in personal injury or loss of life or damage to property due to high voltages and possible battery defects.

8. Service

The unit itself and the included batteries are maintenance-free. Service procedure to be done from time to time is to check the battery's charge.

Every three months run the set for at least 24 hours in normal operation, then switch to battery operation by removing the fuses. The set will continue to run with the governor supplied by the backup batteries. Keep the set running for 40 minutes in this mode, then switch back to normal operation by inserting the fuses.

If the alarm "battery voltage low" is given during this battery operated time, the batteries need to be changed.

CAUTION

Always switch off the governor when the mains are disconnected or lost due to other reasons. This will protect from unintentionally discharging the battery.

9. How to order

Please add the phase-to-phase supply voltage to the order code as follows:

$$\begin{array}{ccc} \text{NG 01-2} + \text{NSV 01-2} - 440\text{V} & & \\ \downarrow & & \downarrow \\ \text{order code} & & \text{phase-to-phase voltage} \end{array}$$