User Manual
POWER PACK for yoke
PP-110 and PP-230

HUIJSKES-NDT.NU BV
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Preface

Read this manual carefully, before transporting, installing or using this Power Pack.

This unit is compliant to the CE requirements regarding safety and health and is labelled with the CE marking.

The manufacturer and CE/holder are not responsible for unsafe situations, accidents and damage caused by:

- Neglecting or disregarding safety precautions or procedures as described on the unit or in the manual
- Removal or adaption of safety features on the Power Pack
- Insufficient maintenance
- Use for other purposes than intended use described in Paragraph 1.2
- Modifications made to the unit by a third party.

This user manual contains relevant information regarding transport, installation, use, maintenance and removal. These directions must be followed.

1 Introduction

1.1 Suppliers Profile

Manufacurer:	Huijskes NDT.NU b.v.
Adress:	Pieter Calandweg 34
Postcode / City:	6827 BK Arnhem
Country:	The Netherlands
Phone:	0031-653485664
e-mail:	info@NDT.nu

Machinename:	Power Pack for yoke
Year:	2016
Type number:	PP-230
Serial number:	3094

Information on CE- type plate

Year:	2016
Type number:	PP-230
Serial number:	3489
Power:	Output 230VAC

CE-Plate

1.2 Intended use of the Power Pack

The Power Pack is intended to be used with only 1 portable electromagnetic yoke for magnetic inspection on site, where it's use is allowed by the local and national regulations.

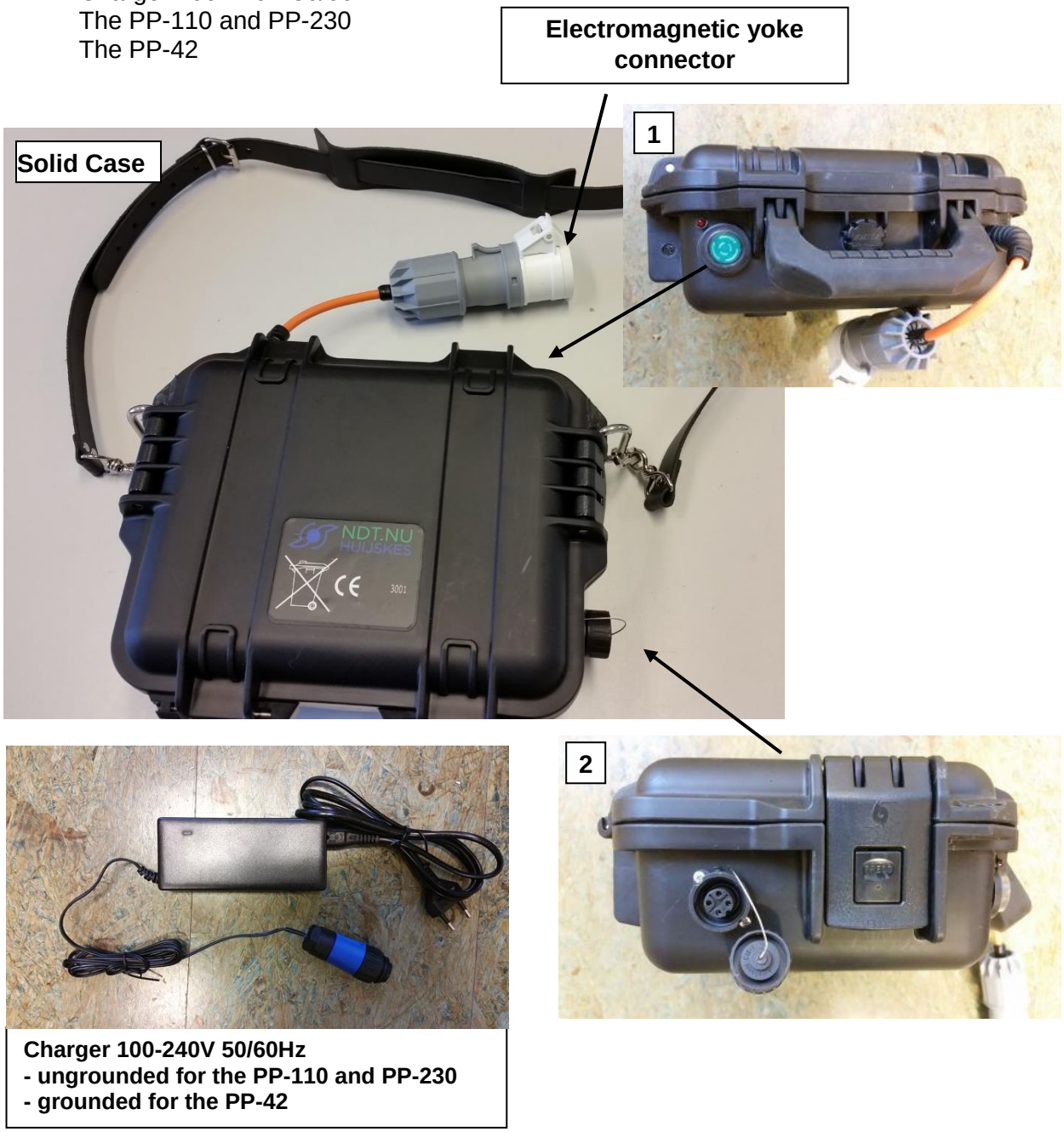
ANY OTHER USE IS NOT ALLOWED

Damage and injuries caused by any other use than allowed are solely the responsibility of the user.

1.3 Overview of the main components

This Power Pack consists of the following main components:

- Solid Case containing battery and electronics
  with on/off Switch (1)
  and charger connector (2)
- Charger 100-240V 50/60Hz
  The PP-110 and PP-230
  The PP-42



Charger 100-240V 50/60Hz
- ungrounded for the PP-110 and PP-230
- grounded for the PP-42

1.4 General description of the Power Pack

General description
De Power Pack is developed as an alternative power source for electromagnetic yoke is intended for magnetic inspection with electromagnetic yokes working on 110V (PP- working on 110V (PP-110), 230V (PP-230) or 42V (PP-42). Output is AC, comparable to conventional AC mains operation. For the PP-110 the output is a true sinewave, for the PP-230 and PP-42 the output is a modified sinewave.

Power Pack
After connecting the electromagnetic yoke to the output, the Power Pack can be switched on (Led next to Switch will light up). The electromagnetic yoke can now be used as in normal operation.
Note! During operation the charger must always be disconnected.

Charger
When a charger is connected the LED of the charger will light up red when charging and green when fully charged.
During charging the electromagnetic yoke must be disconnected from the Power Pack and the Power Pack switched off.

During operation the charger must be disconnected from the Power Pack.

2 Responsibility and safety

2.1 Responsibility

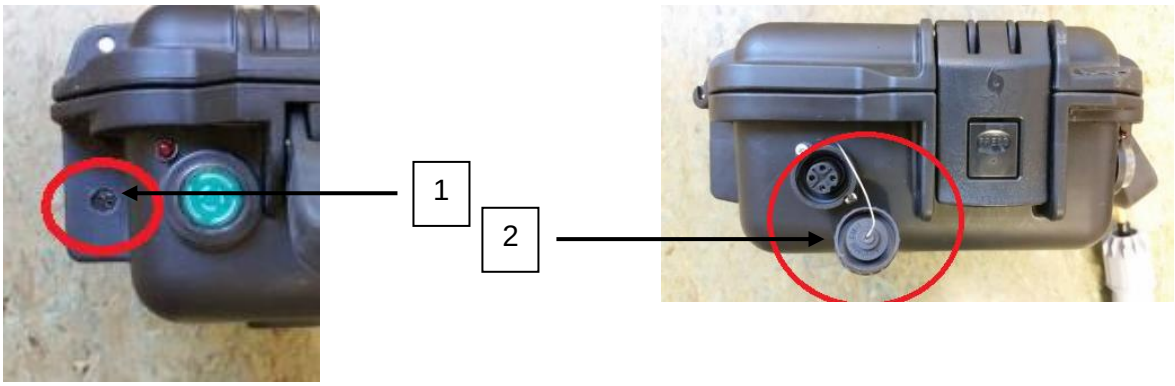
Read the manual thoroughly, before operating, charging, service or maintenance on the Power Pack.
This manual contains information vital for an optimal and safe operation and handling of the Power Pack.
Without prior authorisation of the manufacturer no adaptations / changes on the Power Pack may be made. Changes and/or adaptations will cancel the CE-approval and could severely jeopardise safety.
The Power Pack may be operated by one person only.
When operating the Power Pack local safety regulations and precautions must be maintained, as well as prescribed personal safety precautions.

2.2 Safety precautions

To prevent danger during operation several measures have been taken to insure safety. These measures may only be removed by a qualified and authorised technician for maintenance or service purposes, and only when strictly necessary.
Check if safety precautions are in place before switching on and operate the Power Pack.

On the Power Pack the following safety precautions are mounted:

1. Safety-screw in both opening clips of the cover, preventing it from opening.
2. Cover for charging socket to protect against dirt and moisture.



3. Several safety instructions.

- **CAUTION Connect only to electromagnetic yoke.**
- **Don't use / charge when dropped or damaged.**

4. The charger is provided with a mains cord with connector and should be connected to a suitable power supply (100-240VAC 50/60Hz).

3 Operating Instructions

Regularly use a 4.5 Kg weight test as a mandatory functional test to monitor the performance of the electromagnetic yoke. A suitable operating procedure for the test should be followed e.g. BS EN ISO 9934-1:2001 or similar. It is good common practice to use a test weight to assure conformity in regular intervals, but at least before and after an inspection shift.
Although the unit is fitted in a Pelicase, the unit should not be used in poor weather conditions. The unit can get slightly warm with prolonged use or with use at high ambient temps. It is thermally protected and will stop working if too hot. Allow to cool before re use.

3.1 Normal operation of the Power Pack

Note! Only operate the Power Pack with the charger disconnected.
Note! Do not use a defect electromagnetic yoke.
Note! Do not open the Power Pack.

The Power Pack has an on-off switch.

Unit Off During Breaks, not use and storage of the Power Pack, this off position must be selected.

Unit On Led will light up. The unit will also use some current when the Power Pack is not in use or connected. Make sure that the unit is switched off during shorter and longer breaks.

Step 1 **Place the Power Pack on the ground, a stable base, or work a bench.**
Don't place the Power Pack near a radiator or other heat source.
Don't operate the Power Pack in rain or near water.
Make sure that the power cable cannot be clamped.

Step 2 **Check the Power Pack has no damaging and check the electromagnetic yoke is clean and without dirt.**

Step 3 **Connect the electromagnetic yoke to the Power Pack.**

3.2 Important safety and handling instruction

Internal damage:
The PP-42, PP-110 and PP-230 are resistant to abrasion and impact damage. However if dropped from a considerable height, internal damage could result and a qualified electrician must check the unit.

Certification and technical safety check:
Huijskes NDT.NU offers a repair and re-certification service if required. Undertake a safety check at a frequency proportional to its use. The Power Pack itself is not suitable for PAT testing.
When inspecting large structures ensure other operations e.g. welding, are not being undertaken. This could result in heavy currents flowing to the Power Pack and thereby damaging the unit.

Modification:

The Power Pack system should not be modified in any way without prior consultation with Huijskes-NDT.NU. Modifications can impair performance and compromise safety. We are happy to advise on unusual applications.
Any alteration to the equipment without written permission from the manufacturer should not be undertaken and could revoke any guarantee or safety liability.

Operator / user:
Operators must be trained and qualified in MPI Inspection Standards or have a suitable level of competence.

Avoid water:
The Power Pack should not be used in extended rain. If exposed to damp humid conditions it must be disconnected from the Power Pack and dried before re-use.

Working at height:
If working at height, a risk assessment should be undertaken as to the necessity of using approved safety lanyards for the equipment. The customer must undertake their own risk assessment on the use of the equipment within the surroundings it is to be used.

Electromagnetic yoke:
Use only electromagnetic yoke recommended by the manufacturer (Huijskes NDT.NU bv). Only operators trained in MPI by an approved authority should use this equipment. Do not use defect electromagnetic yoke and electromagnetic yoke without PAT certification. Highly recommended to check the condition and certificate of the electromagnetic yoke regularly to avoid dangerous situations.

Transport warning:
Transported Lithium batteries are classed as hazardous goods and as such should be correctly packaged and labelled. This battery is over 100Wh and may not be allowed on passenger planes. Please contact your airline for confirmation and acceptance criteria.

Sunshine and heat:
Excessive heat will degrade the Power Pack. Do not store in sunshine or a in a hot vehicle. Storage in a cool and dry location is recommendable.

3.3 Power Pack charging instruction

Double check if the Power Pack is switched off and disconnected from the electromagnetic yoke.
Always charge under supervision in an isolated area, away from other flammable materials like a wooden bench or a carpet unattended.
Remove dust cap from charger inlet and connect the charger.
Plug the charger into the mains socket
The LED charging indicator on the charger will turn red indicating charging is in progress.
The LED charging indicator on the charger will turn green indicating charging is completed.
Full charge from empty will take approx. 5 hours.

Do not leave the charger connected to the Power Pack for longer period.
Power Pack is best stored in a fully charged state. If not used within 6 months re-charge.
General: - Power Pack is best re-charged as soon as is practicably possible when empty-.

3.4 Technical and calibration support

Please contact your NDT agent or visit the website WWW.NDT.NU for support and calibration.

4 Transport, Installation and Storage

4.1 Transport

Switch off the Power Pack before transporting and ensure the on/off switch is secured. Only transport the Power Pack in a good packaging, avoiding shocks and dropping.

Transport warning:
Transported Lithium batteries are classed as hazardous goods and as such should be correctly packaged and labelled. This battery is over 100Wh and may not be allowed on passenger planes. Please contact your airline for confirmation and acceptance criteria.

4.2 First time use and use after transport

Check the Power Pack, charger and power cable for any damage, before putting it into operation.

4.3 Storage of the Power Pack

Only store in a conditioned room with a temperature of -10°C-45°C and a relative humidity of 0-80% R.H. Do not store near a heat source or water.

5 Service/Maintenance

During service or maintenance the charger must be disconnected and the Power Pack must be switched off.

There are no user serviceable parts inside and **the lid of the case must not be opened**.
When this warning is disregarded and the lid is opened anyway dangerous situations may occur and warranty can be voided.
The manufacturer will not be liable for any consequences resulting from ignoring this warning.
In case of defects, damage or malfunctioning the manufacturer or sales agent must be contacted. If this consultation results in part(s) to be replaced this must always be done by a trained and qualified technician.
Daily maintenance and checks by the operator of the Power Pack before an during operating consists of keeping the Power Pack and near environment clean. Periodically wipe the case with a damp cloth and detergent, do not use abrasives or solvents.

6 Dismantling and Waste disposal

Do not throw the Power Pack away with regular household waste. The Power Pack should be disposed of via the council waste disposal organization in your city or region. These organizations have the required procedures and system for the correct handling of the Power Pack.
Waste electrical products and batteries should not be disposed of with household waste. Please recycle where facilities exist. Check with your local authority or retailer for recycling advice.
We will happily dispose of these batteries for you as a service. The client can send the batteries to us (Postal charges for his or her account), and we will take care of a proper waste disposal. Batteries should be returned in a discharged condition.

7 Warranty

The Power Pack and charger are warranted for a period of 12 months after purchase. The warranty is void if the equipment is used in a non- professional manner, or used with unintended equipment and so gets damaged, or if repairs are carried out without the supplier’s consent.

8 Technical specifications PP-42, PP-110 and PP-230 Power Packs

Working temperature	5°C-35°C (< 50% R.H.)	
Storage temperature	-10°C-45°C (0-80% R.H.)	
Output	PP-42	42-44VAC modified sine wave, max 7A
	PP-110	110VAC pure sine wave, max 5A
	PP-230	230V modified sine wave, max. 3.7A
Intended use	For PP-230 and PP-110, Electromagnet in maximum 25% duty cycle with 25 sec continuous operation. For the PP-42, Electromagnet in maximum 15-20% duty cycle with 25 sec continuous operation. For the PP-42, depending on ambient temperature a thermal protection may be activated. Unit will work again after cooling down period.	
Power	12.6V LiFePo battery, ca. 1 day use on 110V or 230V, 4-8 hours on 42V. Use depends on type of Electromagnet and intensity.	
Low battery indicator	Power Pack beeps when battery is almost empty. Always recharge as soon as possible.	
Dimensions	31 x 12 x 25 cm (L x W x H)	
Weight (approx.)	PP-42 5,2 Kg	
	PP-110 4,2 Kg	
	PP-230 4,2 Kg	
Protection class	IP 20, limited by power plug.	
Charging cycles	Up to 2000 to 80% capacity, Depending on type of Electromagnet, temperature and use.	

See intended use below

Technical changes reserved

9 Appendices

9.1 EC-Declaration of Conformity

NDT.NU HUIJSKES

EC-Declaration of Conformity

Manufacturer HUIJSKES-NDT.NU BV
Graaf Lodewijkstraat 138
6821 EJ ARNHEM
The Netherlands

Hereby declares that this:
Product name: Power Pack for yoke
Intended for : Supply energy to one Magnet/Yoke
Type : XXXX
Serial number : XXXX
Year : 2016

is in compliance with the provisions of the Low Voltage Directive 2014/35/EU and EMC directive 2014/30/EU and the national legislation implementing these Directives.

and that following (parts of) harmonized standards are applied:
NEN-EN-ISO 12100:2010
EN 55022:2011
EN 50561-1:2013
EN-IEC 61000-6-3:2007 / A1:2011 / C11:2012
EN-IEC 61000-3-2:2014
EN-IEC 61000-3-3:2013

Signed in: Arnhem (The Netherlands)
Date: XXXX

E. Huijskes
Director