

INSTRUCTION MANUAL

FREQUENCY Converters

RF2 & RF4



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Foreword

These operating and maintenance instructions are part of your machine.

They provide necessary information to operate your machine safely and properly.

They also contain information on required operating, maintenance and repair measures.

Carefully read the operating and maintenance instructions before taking your machine into operation.

Please observe the safety regulations strictly and follow all instructions to ensure safe operation.

The description of the individual operating steps including the notes on safety to be followed can be found in chapter "Operation"

Ensure the compliance with the specified operating, maintenance and repair measures to maintain the functional safety of your machine.

Do not service or repair your machine by yourself to avoid harming persons or damaging material or environment.

The machine must only be serviced and repaired by qualified and authorised personnel.

Contact our customer service to carry out the required maintenance work or necessary repairs.

In case of operating errors, inadequate maintenance or the use of unapproved fuels and lubricants all warranty claims will become null and void.

For your own personal safety you should only use original parts from REDLINE.

For your machine we offer service kits to make maintenance easier.

In the course of technical development we reserve the right for technical modifications without prior notification.

These operating and maintenance instructions are also available in other languages.

Apart from that, you can also order the spare parts catalogue against the serial number of your machine.

The above notes do not constitute an extension of the warranty and liability conditions specified in the general sales and delivery conditions of REDLINE GmbH.

We wish you successful work with your REDLINE machine.

2.1 Safety Notes

This manual contains CAUTIONS and WARNINGS which must be followed to prevent the possibility of improper service, damaged to the equipment, or personal injury. Read and follow all the CAUTIONS and WARNINGS included in this instructions manual.



WARNING: Warnings warn of conditions or practices which could lead to personal injury.

2.2 Warning and Safety Instructions



WARNING

Read All Instructions!

When using electric tools, basic safety precautions should always be followed, to reduce the risk of fire, electric shock, and personal injury.

Guard against electric shock!

1. Never operate motor with damaged or worn electrical cords! When using an extension cord be sure to use one heavy enough to carry the current load. See Table 1.8-1 for correct cable size to use.
2. Prevent body contact with grounded surfaces, such as pipes, metal railings, radiators and metal ductwork.
3. When motor is used outdoors, use only extension cords intended for and marked for outdoor use.
4. Always keep power cord away from heat, oil and sharp edges which can damage it.
5. Make certain motor is in good working order and properly **grounded** before starting, as well as the **connection plug** where this will be connected.

Save these instructions!

Read All Instructions



WARNING

Familiarity and proper training are required for the safe operation of this equipment! Equipment operated or serviced improperly or by untrained personnel can be dangerous! Read all operating instructions and the safety notes below. Familiarize yourself with the proper use of this equipment before operating it.

- 1.Keep your work area clean and free of clutter.
- 2.Keep your work area well lit.
- 3.DO NOT allow children or people other than the operator to handle power cables, extension cords or the equipment.
- 4.DO NOT allow non-essential personnel or visitors in the work area.
- 5.NEVER carry Converter by cord or pull on it to disconnect it from receptacle. Keep cord away from heat, oil and sharp edges.
- 6.Stay alert! Watch what you are doing. Use common sense. NEVER operate the vibrator motor when you are tired or while under the influence of drugs, alcohol, or medication.
- 7.Keep hands, feet, hair and loose clothing away from moving parts. They can be caught in moving parts.
- 8.DO NOT operate equipment if switch does not operate properly.
- 9.DO NOT overreach! Keep proper footing and balance at all times. Make sure any supporting structures are strong enough and stable enough to support your weight and the weight of any equipment on it.
- 10.Wear protective clothing when operating equipment. Goggles or safety glasses will protect against eye damage caused by flying debris.
- 11.DO NOT force tool. Use the correct tool for which it is designed.
- 12.NEVER allow untrained personnel to operate or service the equipment.
- 13.Maintain tools with care. Keep vibrator unit clean for better and safer performance. Inspect Converter cord periodically and if damaged, have it repaired by an authorized service facility.
- 14.NEVER use the Converter with a defective switch. If the switch does not turn the motor "ON" or "OFF", have it repaired by an authorized service facility before using the motor.
- 15.Replace worn or damaged parts with replacement parts designed and recommended for use by **REDLINE Dynapac**
- 16.Any servicing, other than that covered in this instruction manual, should be performed by an authorized **REDLINE Dynapac** Service Representative.

Save these instructions!

2.3 Technical Data

Type	Input Tension and Frequency	Fuel	KVA	Output Voltage A.	Outlets	Output Tension and Frequency	Weight Kg. (lbs.)
RF-2	220 V. 50 Hz. Single-Phase	-----	2,0	30	2	42 V. 200 Hz.	17 (37)
RF-4	380/400 V. 50 Hz. Single-Phase	-----	6,0	65	4	42 V. 200 Hz.	58 (129)

2.4 General Characteristics

The Converters will be used by personnel trained for this job, it will only be used in specific jobs for which it has been technically developed, after having read the instructions contained in this manual and which must be followed correctly.

The manufacturer or authorised distributor must be consulted about any doubts.

The manufacturer **REDLINE Dynapac.**, will not accept any responsibility derived from incorrect installation, manipulation, or misuse of the vibrator.

2.5 Safety at work

The **FREQUENCY** Converters - model, fulfils the E.C. regulation of safety at work, low voltage and vibration in portable machines or hand driven, as well as ISO 6081 regulation, regarding noise at the place of work. However the use of hearing protection and rubber boots during the vibrating time.

However, remember that it is obligatory make use of instalation where the machine will be connected of a differential with a sentivity of 300 μ A.

The manufacturer will not accept responsibilities for accidents if they derive from structure modification.

In addition to our recommendations the safety regulations of each country in force.

2.6 Conditions of Use

The **FREQUENCY** Converters - model, is designed to give maximum satisfaction to the user and be used under the hardest conditions, both environmental as well as use as long as the instructions of use and maintenance contained in this manual.

The Converters are composed of an electrical motor, that may be Single-Phase or Three-Phase. Of internal combustion engine in both versions, Petrol and Diesel, and with a rotor of permanent magnets, maintenance-free.

To the exit of Generator are found the plugs for connecting the Transmissions, the number of the plugs depend on the model.

All the Three-Phase Converters, have thermal switch automatic It switch off once the motor reaches the maximum intensity allowed.

Although the motor is equipped with protector of motor does not mean that it not may burn, it would burn in the case that the thermal are higher than the especificated or would be broken down.

The electronic converters has composed by one electronic circuit frequency variator and threephase transformer.

2.7 Instructions of Use

Put the Converter the most move away possible of the zone to vibrate, to avoid possible projections of concrete, in the event of taking place they must be wiped with a wet cloth before that they are dry.

The electrical cable must be protected from electric heat, oils, grease. Objects with sharp edges, heavy machines and others objects which may cause its rupture.

The Converter must **NEVER** be stopped while it is introduced into the concrete, to stop it must be taken out the needles of the concrete and proceed to stops.

Under any circumstance the Converter must be moved pulling for the electric cable.

- **Starting of the “Electric Motors”**

The **FREQUENCY** Converters are designed to connect the Frequency Transmissions of 42 V. 200 Hz. Not connect it Transmissions of different tensions.

Before starting, the electric cable must be totally checked, as well as, plugs an tension line of the Transmissions, if there were some defect, it would nbe repaired. Check paying special attention, that the network tension coincides with the Converter voltage.

Once it has been revised, check that the Transmission is in position “0”, connect the plug up to the connection base of the converter and may be started moving the switch to the position “1”, and later you can starting the vibrant needle, moving the switch from the Transmission to the position “1”

NOT use converter’s plug for starting up or stopping it, always must be used with the corresponding switch.

Under **ANY** circumstances, have the arrange switch of the needle in position “1” (starting position) before that the Converter has been started, it means that the first the Converter must be started and then the vibrating needle, because it starts on loud may produce a fault in the motor of the Converter.

The Converter must **NOT** be started with the Transmissions connected or with the switch of them in position “1”.

The Converter must **NOT** be stopped before the **FREQUENCY** Transmissions connected to it.

Under ANY circumstances made any kind of operation or part substitution with the machine switch plugged in the network.

DO NOT allow personnel not capable to make use of the vibrator or manipulate the electric parts.

- **Starting of the “Petrol and Diesel Engines” (First time):**

- A) For measuring of security in the transport of shipment, all the machines **ARE GIVEN WITHOUT OIL AND WITHOUT FUEL IN THE TANKS.**
- B) **Fuel:** Filling the tank of fuel, all the petrol engine of the Converters, they use gasoline for automobile that is clean of 95 unleaded octanes. The Diesel engine it use Diesel-Petrol for automobile.
- C) **Oil:** Filling the tank of oil of the motor, following the instructions of respective lubrication of the maker of the motor that are attached to this manual.
- D) From factory, the motors are send with a regulation of output voltage of 50 V. (No load), check before starting that the voltage is correct.
- E) **ATTENTION:** Under any circumstance, the engine must not be speeded up, a higher turning speed, involve an increase of voltage and the frequency, if this exceed 10% of nominal value, it would produce the destruction of the vibrating needle.

- **Starting of the “Electronic Converters”:**

These Converters don't require any attention neither maintenance, however the connection cable from the network must be verified and it not have any rupture. Only a fault on the Converter or on the network, will produce a stopping, for knowing the reason because the Electronic Equipment disposes one LED, that according to the number of sparkles that makes, it will show to the operation of the circuit or its posible error.

<i>Nº Sparkles</i>	<i>Explanation</i>
1	Don't alarms
2	Failure control 1 limits feeding tension
3	Failure control 2 limits feeding tension
4	Failure control 3 limits feeding tension
5	Motor failure (from the signal the gives the power module)
6	Phase failure (from extreme difference square, channel 2)
7	Failure overloads motor during the last minute.

- All the failures stop the motor and disconnect the source of tension, supposing that we are not pressing the pulser ON. The failures of feeding tension disconnect the source low tension. The rearms after to failure: it is necessary to press OFF and after again ON

2.8 Maintenance Instructions



WARNING

Before performing any maintenance on this unit, ALWAYS MAKE CERTAIN that the switch is in the "OFF" position and the power cord is disconnected from the power source.

The Converter is free for maintenance, however the plug must be checked regularly as well as the electric cable.

In case the Converter should be repaired, the magnet's rotor **MUSN'T** take any special precautions due to quality of these, when the magnet are taken the Converter out they don't demagnetize.

The parts which are seen to have excessive wearing the loose bearings, heat up or make too much noise, must be substituted and always remember **ORIGINAL SPARE PARTS MUST BE USED.**

For safety reasons and so as to avoid accidental starting, **DO NOT** forget to disconnect the Converter from the network, when some kind of operation or part substitution is made.

2.9 Instructions for Ordering Spare Parts

Spare parts are on sale through the official services and in the brand distributors in your locality.

When you order spares do not forget to indicate:

- Type of Converter: if is electrical, petrol engine, Diesel engine or electronical.
- Units ordered, code and description of parts requested, and whenever possible, the series number of the machines
- When spare parts are required for petrol engine or Diesel engine furthermore give the make, model and Serial number of the engine.

When equipment or spare parts have to be returned to the factory its necessary to contact with **REDLINE Dynapac** for prior agreement, "**AN ABSOLUTE NECESSITY FOR THEIR RECEPTION**".

2.10 Transport and Storage

- **Conditions for transport and storage:**

The packaging of the - Converter allows its easy transport without taking any special precaution.

Its storage the - Converter if it is for a long period of time, its storage will be in a safe dry place.

Before store and after use the Converter must be perfectly clear outside with a wet cloth taking all the concrete leftovers off.

NEVER clear by hidro jet, neither leave in the open at night or when rain.

2.11 Guarantee

A) Period of Guarantee

REDLINE Dynapac., guarantees the products and components they manufacture, for a period of 6 months.

B) Coverage of Guarantee

The guarantee covers all the defects from manufacturing of the components of the product, as well as their replacement or substitution, on behalf of the Technical After Sales Service.

C) Cancellation of Guarantee

The guarantee does not cover the misuse or inadequate manipulation, on behalf of the use of the Converter, nor the incorrect connection, knocks, maltreatment or repairing by unauthorised personnel.

During the period of guarantee the breakdowns must be repaired by personnel from REDLINE Dynapac., authorised to do so, if this is not so the right given by the guarantee will be lost.

The equipment which has been dismantled or manipulated previously by personnel unauthorised by REDLINE Dynapac will not be in guarantee.

In all the cases of application for guarantee, **prior notice** must send the equipment to REDLINE Dynapac or where they indicate.

IMPORTANT NOTICE:

REDLINE Dynapac., are not responsible for damage caused to the product or persons due to their misuse or bad manipulation.

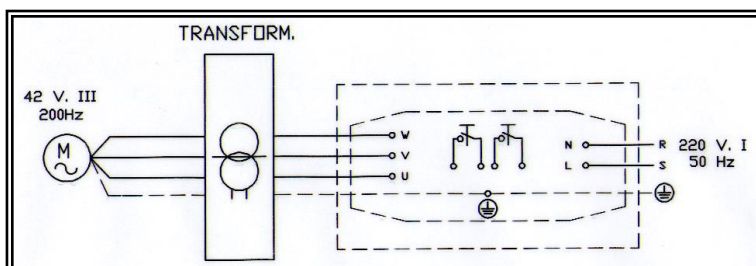
2.12 Troubleshooting

SYMPTOM	PROBABLE CAUSE	COUNTERMEASURE
The converter doesn't work.	-Fail of the line phase. -Electrical connections are let or broken. -Faulty switch.	-Checking and convert. -Checking and replace. -Replace.
The converter doesn't start and make noise.	-Fail of the line phase.	-Checking line, cable and plugs. -Replace if it is necessary.
The thermal switch, switch off.	-Fail of the line phase. -The generator has excessive charge.	-Checking cable and plug, replace if it is necessary. -Stop the some vibratin needle.
The general differential switch off.	-Fail of insulation, motor is burnt.	-Checking and stop.

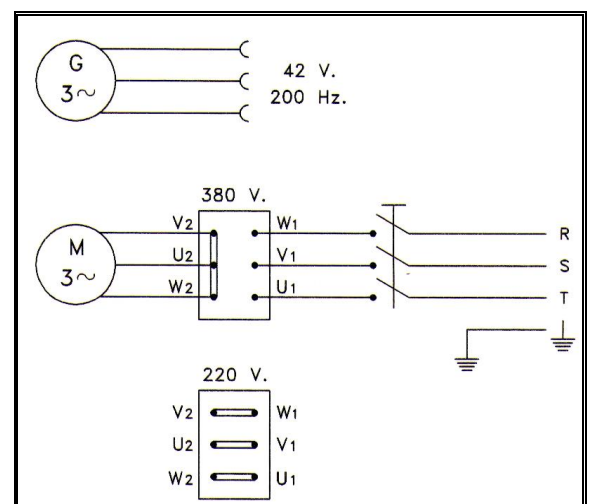
2.13 Wiring Schematics

Three-Phase Converters are send from factory connected to 380 V. for connecting to 220 V. the terminals plate must be operated on as is indicated in the wiring schematic, changing at the same time the regulation of the switch thermal according to table 1.7-1

WIRING SCHEMATIC MONOPHASE



WIRING SCHEMATIC THREE-PHASE



2.13 Do's & Don'ts RF Converters

- 1) To ensure the proper functioning of the converter, ensure that operators have received proper training in its management.
- 2) The converter should only be used for specific tasks as outlined in this manual.
- 3) Prior to connecting the converter to the electrical system, confirm that the voltage and frequency match the specifications listed on the equipment plate located on the top part.
- 4) Verify that all frame screws are tightened before commencing work.
- 5) Avoid exposing power tools to rainy or wet conditions.
- 6) Avoid exposing power tools to dust, blowing sand, or sandstorms.
- 7) Refrain from using the motor plug to start or stop the equipment.
- 8) Do not use the electrical feeding cable to remove the plug from the socket.
- 9) Take precautions to prevent the cable from being flattened by heavy machinery, which could lead to breakage.
- 10) Maintain the converter in a clean and dry condition.
- 11) Ensure that the electrical cable is of the correct size and is functioning correctly.
- 12) When performing maintenance work, disconnect the converter from the electrical system beforehand.
- 13) When connecting to a petrol generator, verify that the output voltage and frequency are stable, correct, and within the specified power limits.
- 14) The feeding voltage of the converter should not deviate more than +/- 5% from the value stated on the converter plate.
- 15) The converter is equipped with a socket for connecting vibrating rammers. Ensure that the ramer nut is securely fastened.

