

Charging Instructions for Knegt Electric Tractors

Models Without an On-Board Charger – North American Market

Important Safety Instructions

- Always use the charger supplied or approved by Knegt International for your tractor.
- Always charge the tractor when it is not in use.
- Make sure the electrical plug, charging connector and all connections are clean and dry before charging.
- Do not use damaged chargers, cables, plugs or connectors.
- Protect the charger from excessive moisture, water and extreme temperatures.
- Connect the charger only to a suitable and properly grounded AC power supply.
- Do not modify the charger, charging cable or electrical connections.
- Do not use an extension cord unless it is suitable for the charger's electrical requirements.

Supplied and Optional Chargers

Standard Charger – Zivan NG3

The standard charger supplied with the Knegt electric tractor is a Zivan NG3 intelligent battery charger.

The Zivan NG3 accepts an AC input voltage of:

110–240V AC

This allows the charger to be used with suitable electrical outlets throughout North America and other markets.

Optional Fast Charger

An optional fast charger may be available depending on the tractor model and battery configuration. Please use only the charger specified and approved by Knegt International for your tractor.

Step-by-Step Charging Instructions

1. Preparation

Before charging:

1. Park the tractor on a stable, level and dry surface.
2. Fully switch off the tractor.
3. Remove the ignition key.

4. Make sure the battery system is switched on, if applicable to your model.
5. Check that the charger, charging cable and connectors are clean and dry.
6. Inspect the charger and charging cable for visible damage.

2. Connecting the Zivan NG3 Charger

1. Make sure the charger is switched OFF before connecting it to the tractor.
2. Connect the Zivan NG3 to a suitable 110–240V AC power supply.
3. Connect the charger's charging connector to the charging connection on the tractor.
4. Switch the charger ON.
5. Check the charger display to confirm that charging has started.

The charging process has started when the charger display shows battery voltage and charging current.

During normal charging, the display may typically show:

- Battery voltage: approximately 85–107V
- Charging current: approximately 1–20A

The actual voltage and charging current depend on the battery's state of charge and the charging phase.

If charging does not start, check:

- Is the tractor completely switched off?
- Has the ignition key been removed?
- Is the battery system switched on?
- Is the charging connector fully inserted into the tractor?
- Is the charger switched on?
- Is the charger properly connected to the AC power supply?
- Is the charger showing an error or fault indication?

3. During Charging

- Leave the charger connected until the battery is fully charged.
- Check periodically that the charger is operating normally.
- Keep the charging cable away from moving parts, sharp edges and sources of heat.

- Do not allow the cable to become pinched or damaged.
- Do not disconnect the charger while charging unless necessary.

The approximate charging time with the standard Zivan NG3 charger is:

Approximately 7 hours for a complete charging cycle.

Actual charging time depends on battery capacity, battery state of charge, battery temperature and other operating conditions.

4. Finishing the Charging Process

When charging is complete:

1. Switch the charger OFF.
2. Disconnect the charging connector from the tractor.
3. Disconnect the charger from the AC power supply.
4. Store the charger and cable in a clean and dry location.

Important – Keeping the Tractor Connected

When the tractor is not in use, it is recommended to leave the tractor connected to the approved charger.

The Zivan NG3 is an intelligent battery charger and is designed to manage the charging process and prevent overcharging when used correctly.

Keeping the tractor connected helps maintain the battery at the appropriate state of charge and helps prevent unnecessary battery discharge.

Long-Term Storage

If the tractor is going to be out of service for an extended period:

- Leave the tractor connected to the approved charger whenever possible.
- At least once a month, switch the tractor on and allow the electrical system to remain active for a minimum of 30 minutes.
- After this period, switch the tractor off and reconnect the charger.
- This helps prevent the high-voltage battery from entering a deep-sleep state and helps prevent discharge of the 12V auxiliary battery.

For long-term storage, always follow the specific battery and tractor storage recommendations supplied by Knekt International.

Troubleshooting – Charging

If the tractor does not begin charging:

- 1. Make sure the tractor is completely switched off.**
- 2. Remove the ignition key.**
- 3. Check that the battery system is switched on, if applicable.**
- 4. Check that the charging connector is fully inserted.**
- 5. Check the AC power connection.**
- 6. Make sure the Zivan NG3 is switched on.**
- 7. Check the charger display for battery voltage and charging current.**
- 8. Check for any fault or error indication on the charger.**
- 9. If charging still does not start, disconnect the charger and contact your Knekt dealer or Knekt International.**

Do not open, modify or attempt to repair the Zivan NG3 charger yourself.

For additional charging instructions and troubleshooting information:

