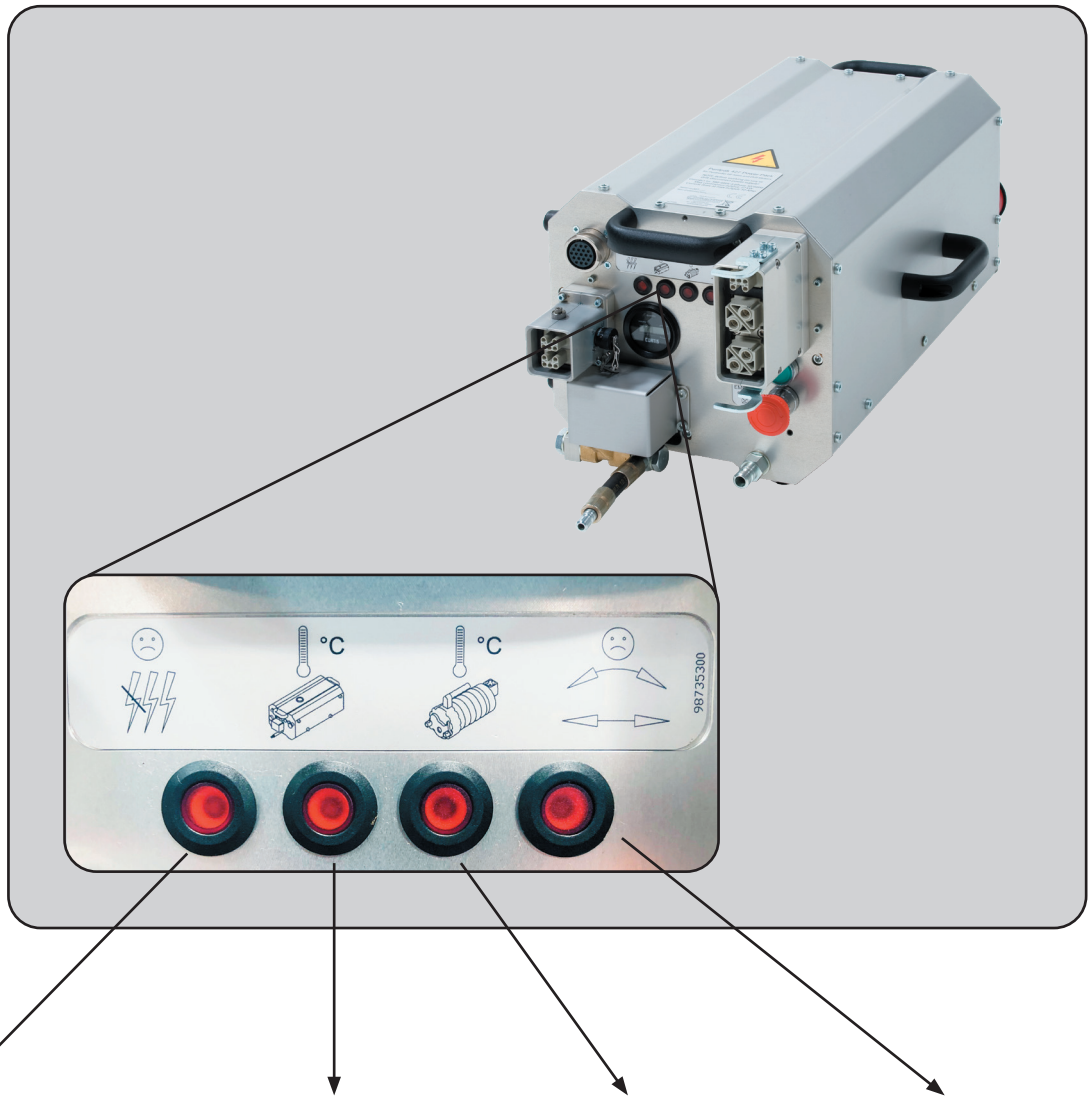
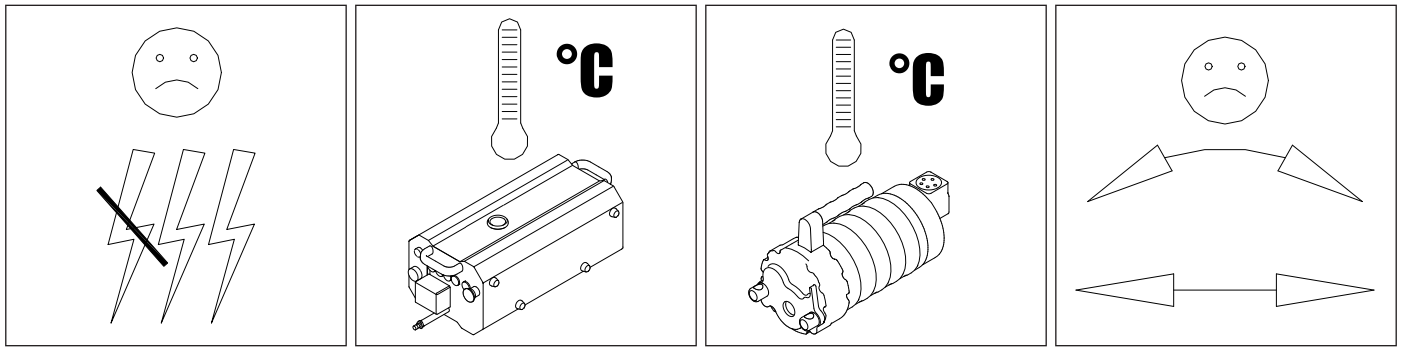
Pentruder®
CONCRETE CUTTING SYSTEMS

Pentruder Pentpak LED Warning lights





Loss of one or more phases

Status for Pentpak

Status for HF-Motor

Status for feed and travel drive system

For technical assistance: 503.905.5111

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One blink

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Loss of phase from power supply. This can be caused by a blown fuse, faulty cords,faulty plugs or receptacles, or other problems. Check fuses, input voltage, cords etc.

Two blinks

•• •• •• •• ••

Too low incoming voltage. Can be caused by too long and/or too small extension cables. Check voltage, connectors, cords and generator if applicable.

Three blinks

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Too high incoming voltage. Connect only to 3-phase 380 – 480V. Check voltage, connectors, cords and generator if applicable.

With one phase missing from the power supply, feed and travel may work, but the blade will not start.

General advice to eliminate any of the above fault conditions:
Eliminate the cause of the problem, i.e. replace blown fuses, repair cords, repair or replace plugs and receptacles. If possible, test with replacing the cable.

A voltage meter doesn't always show a voltage drop in one of the phase lines because this cannot be measured without electrical load applied. A voltage meter can show normal voltage even though there are voltage losses when the machine is running.

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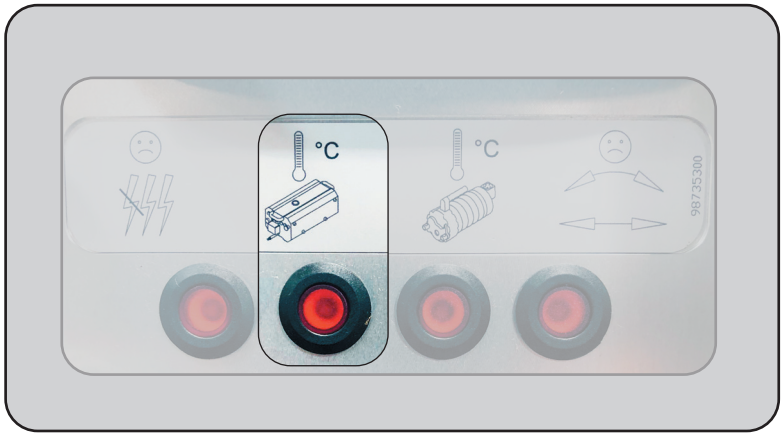

One blink

Overcurrent alarm. May occur if the blade is jammed in the cut, Press start blade switch to reset or unplug the unit for 60 seconds.

Two blinks

Unknown device connected to Pentpak. Software update needed in Pentpak.

Three blinks

Other internal alarm for frequency inverter. Unplug the unit from the power supply, wait at least one minute and plug it in again. If the alarm has gone away you can proceed as normal.

Four blinks

Frequency inverter alarm. The Pentpak needs to be checked by the authorized Pentruder service workshop.

Quick blinks

Temperature in the frequency inverter has risen to a too high level. Protect from direct sunlight, increase water flow.

Continuously on

The Pentpak is shut off due to over temperature.

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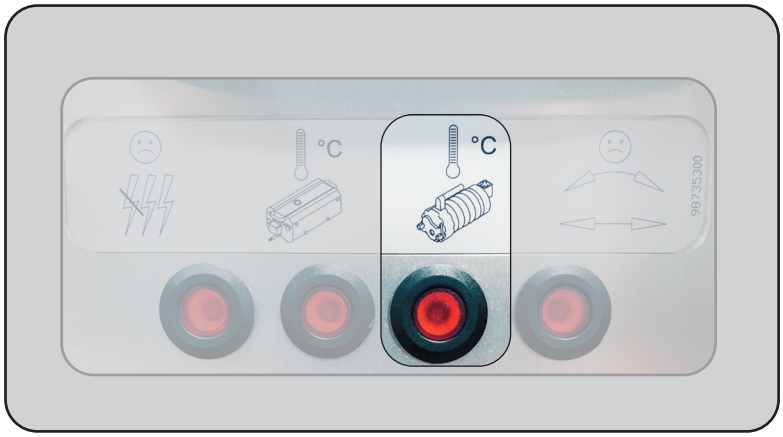

1) Pentpak is powered, but the green start button on the Pentpak has <u>not yet</u> been pressed.
A test is made for the digital communication to the HF-motor and the machine.

One blink

● ● ● ● ● ●

Short circuit in the digital communication system. The fault can be in the HF-motor, motor cable or inside the Pentpak.

a) *Disconnect motor cable from Pentpak. If the alarm disappears, go on to b). If the alarm remains the same the Pentpak is faulty.*

b) *Connect motor cable again to Pentpak and now disconnect the motor cable from HF-motor. If the alarm disappears, go on to c). If the alarm appears when connecting, the cable is faulty.*

c) *Connect motor cable to Pentpak and HF-motor. If the alarm appears when connecting, the connector on the HF-motor is faulty.*

- *The motor will be switched off automatically when the motor winding temperature is over 140°C (284°F). The coolant water should then be left running through the power pack and HF motor to avoid terminal overheating.*
- *If the water is turned off after the motor has been switched off automatically, and when the warning light is on, terminal damage to the motor windings may occur.*
- *The outside temperature of the motor is no indication of the inside temperature of the motor. The temperature sensor is placed inside the motor windings and does not monitor the outside temperature of the motor. The windings can be working at a high temperature even if the motor is cold on the outside.*
- *The warning light will be off when the temperature has gone down to a temperature below 110°C. The motor cannot be restarted until the warning light goes off.*

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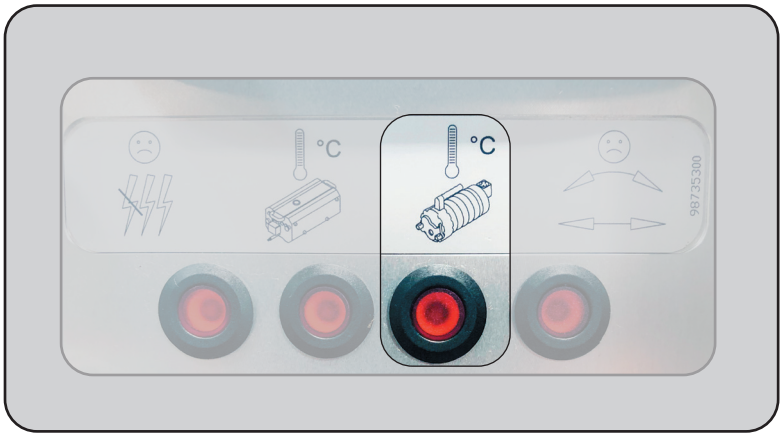

2) Pentpak is powered, and the green start button on the Pentpak has been pressed.

One blink

● ● ● ● ● ●

The HF-motor ID is wrong. Nothing is broken, but the HF-motor is incompatible with the Pentpak or the machine. For example, trying to use a 22 kW HF-motor with a Pentruder 6-12HF saw head (invalid combination). Another example would be that a newer model of HF-motor is introduced that didn't exist when the Pentpak was delivered. If this is the case, a software update is required.

Two blinks

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HF-motor temperature sensor in windings is not working correctly. Repair is required.

Three blinks

●●● ●●● ●●● ●●●

HF-motor or motor cable is not working correctly. Short circuit or open circuit. If possible, try another motor cable and/or HF-motor. If the problem remains, a repair is required.

Quick blinks

● ● ● ● ● ● ● ● ● ●

HF-motor temperature is high, output power is automatically reduced. Increase water flow.

Continuously on

HF-motor has been shut off due to over temperature. This can also indicate that no HF-motor is connected or that the powerpack doesn't find a motor on the digital bus, e.g. damaged motor-ID chip or motor cable.

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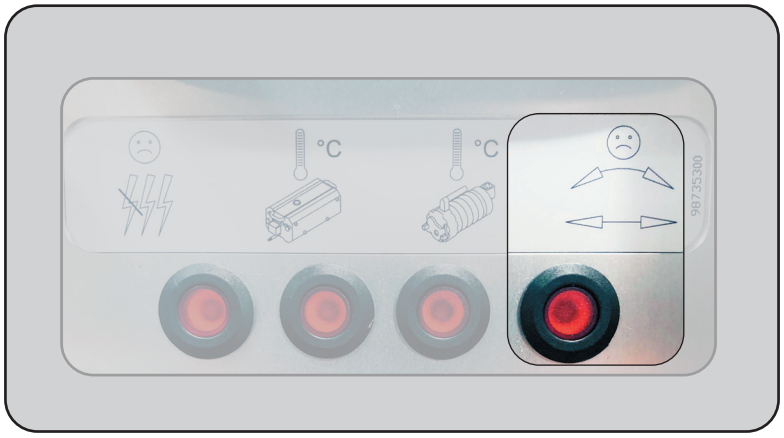

1) Pentpak is powered, but the green start button on the Pentpak has <u>not yet</u> been pressed.
A test is made for the digital communication to the HF-motor and the machine.

Three blinks

● ● ● ● ● ● ● ● ● ● ● ●

Short circuit in the digital communication system. The fault can be in the machine,24V cable or inside the Pentpak.

a) *Disconnect 24V cable from Pentpak. If the alarm disappears, go on to b). If the alarm remains the same, the Pentpak is faulty.*

b) *Connect 24V cable to Pentpak and disconnect machine. If the alarm disappears, go on to c). If the alarm appears when connecting, the cable is faulty.*

c) *Connect 24V cable to Pentpak and machine. If the alarm appears when connecting, the connector on the machine needs repair.*

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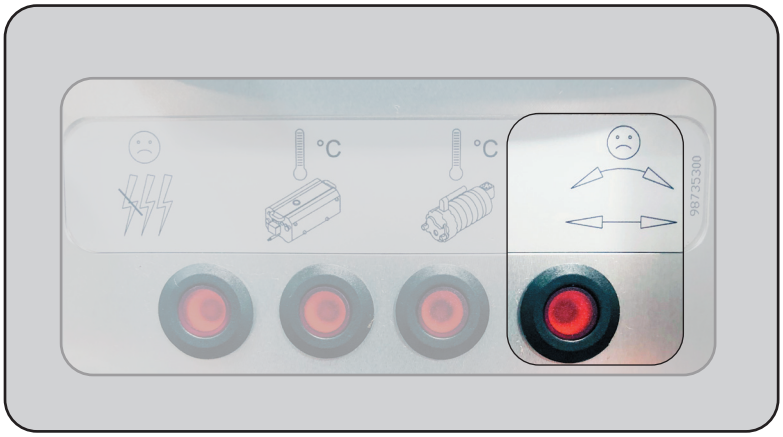

2) Pentpak is powered, and the green start button on the Pentpak has been pressed.

One blink

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Short circuit in the 24V cable, machine or any of the feed motors in the machine.

Two blinks

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24V under voltage alarm. The voltage has dropped below 18V (internally in the Pentpak). Repair at an authorized Pentruder service workshop is required.

Three blinks

●●● ●●● ●●● ●●●

Automatic identification of machine type not working correctly. The chassis-ID is wrong. Nothing is broken, but the HF-motor is incompatible with the Pentpak or the machine. For example trying to use a 22 kW HF-motor with a Pentruder 6-12HF saw head (invalid combination). Another example would be that a newer model /type of machine is introduced that didn't exist when the Pentpak was delivered. If this is the case, a software update is required.

Four blinks

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No digital servo found. Digital servo is defective. Repair at an authorized Pentruder service workshop is required.

Continuously on

The digital servo has shut off due to over temperature. Push the emergency stop button to reset.This can also indicate that no machine is connected or that the powerpack doesn't find a machine on the digital bus, e.g. damaged chassis-ID chip or 24V cable.

For technical assistance: 503.905.5111