# YourDyno Eddy current power supply

## Installation and operating instructions

# Introduction

Congratulations on your purchase or consideration of the Eddy Current power supply from YourDyno.com. This manual describes the installation and the safe operation of the power supply.

# Contents

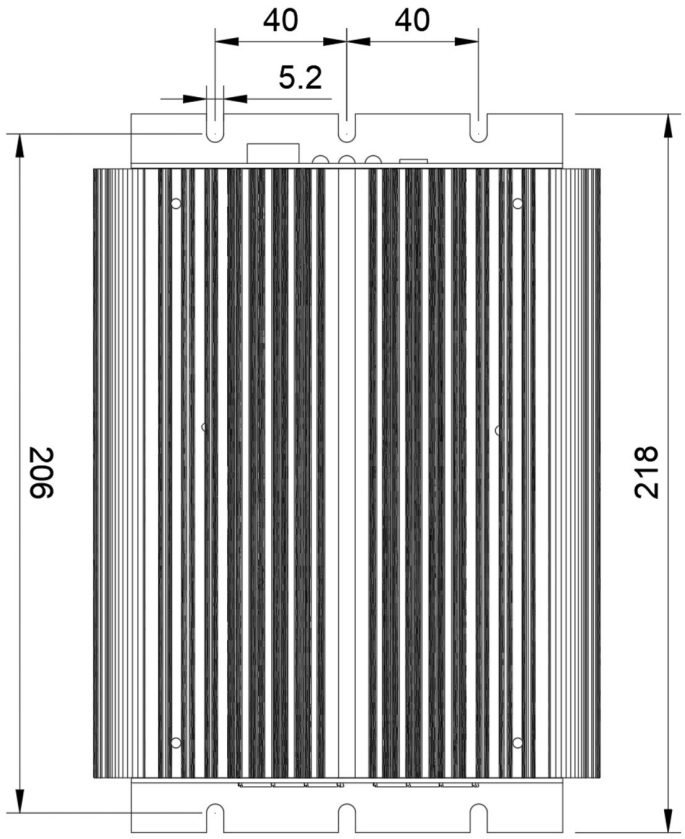
## Specifications

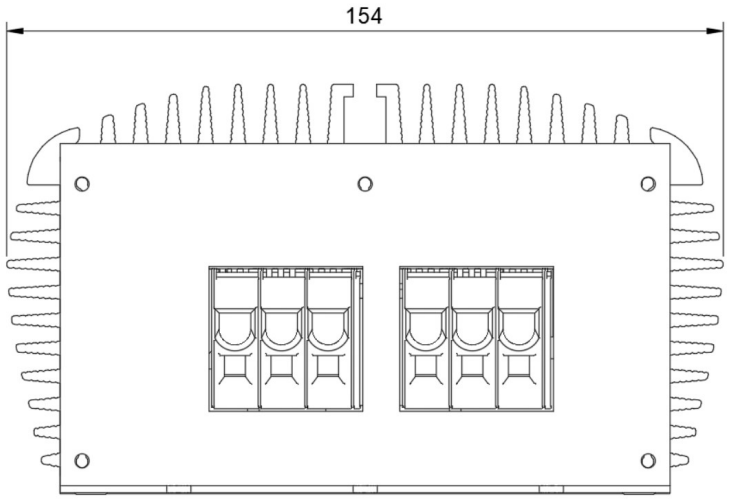
- Input: 220 – 240VAC, 50-60Hz
- Output: 0 – 200V DC, 30Amp max
- Modulation method: Silicon controlled rectifier @ 100-120Hz
- Control input: 5V Pulse Width Modulation 50-100Hz, 0-92% duty cycle, compatible with YourDyno instrument kit
- Linearized current control
- Over temperature protection (100 degC) and LED indicators
- Internal fuse for over current protection
- No jumpers
- Spring loaded high power connectors, suitable for 4-18 AWG wires.
- Box with integrated heat sink, no fan
- Line and load filters to minimize noise generation
- Oversized components with respect to current and voltage ratings
- Very fast and reliable operation

## Dimensions

All numbers in mm.

Weight: ca 2kg



## YourDyno general warranty disclaimer

YourDyno is a generic dyno data acquisition system, made to support many different types and brands of dynos. It is impossible to test all combinations of settings and setups, so each install must be verified by a qualified dyno operator/installer.

New software is released regularly, both beta versions and released versions. Although the goal is continuous improvements, you must always make sure the new version works in your setup as intended. Software bugs can be introduced, and hardware errors can also occur.

**All risk of damage and accidents in all aspects is assumed by you as the end user, even if the cause of the problem can be deemed to be a software or hardware issue in the YourDyno system.**

## General safety risks

Dyno systems come with many inherent risks. It is your responsibility to understand the applicable safety concerns in your setup, be it electrical shocks, cars coming off the dyno, tires exploding, engine catastrophic failure, etc.

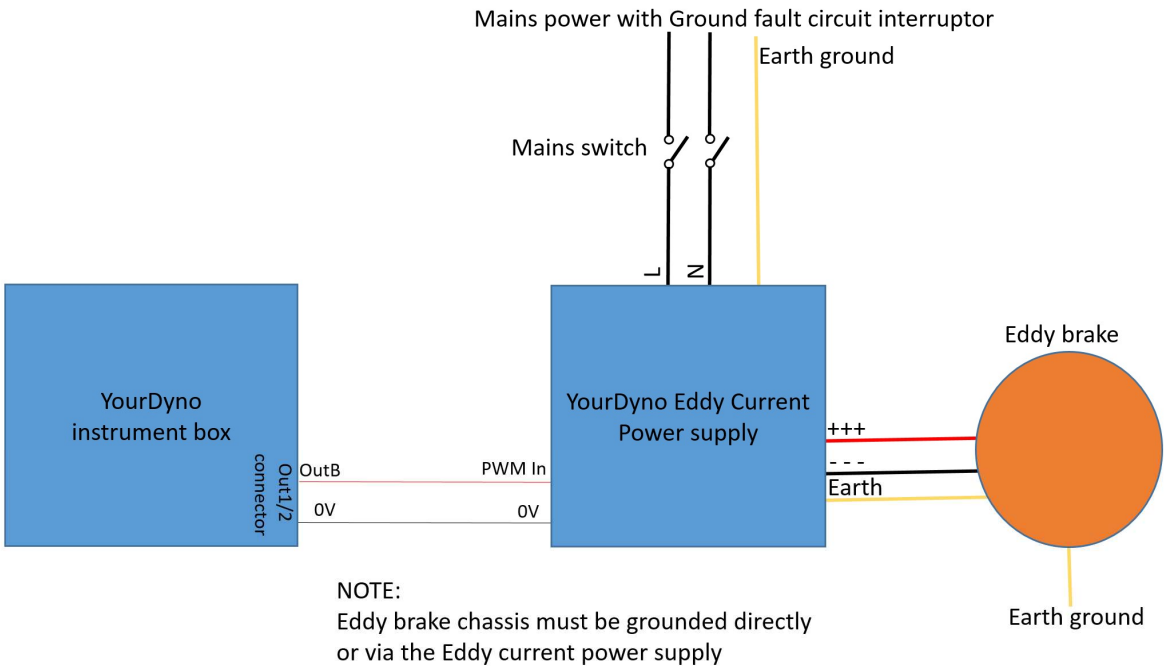
Take safety seriously, always expect that something can happen during a run.

## YourDyno Power supply installation instructions

Electrical installation shall be performed by a qualified electrician or similar according to applicable laws in the country of install.

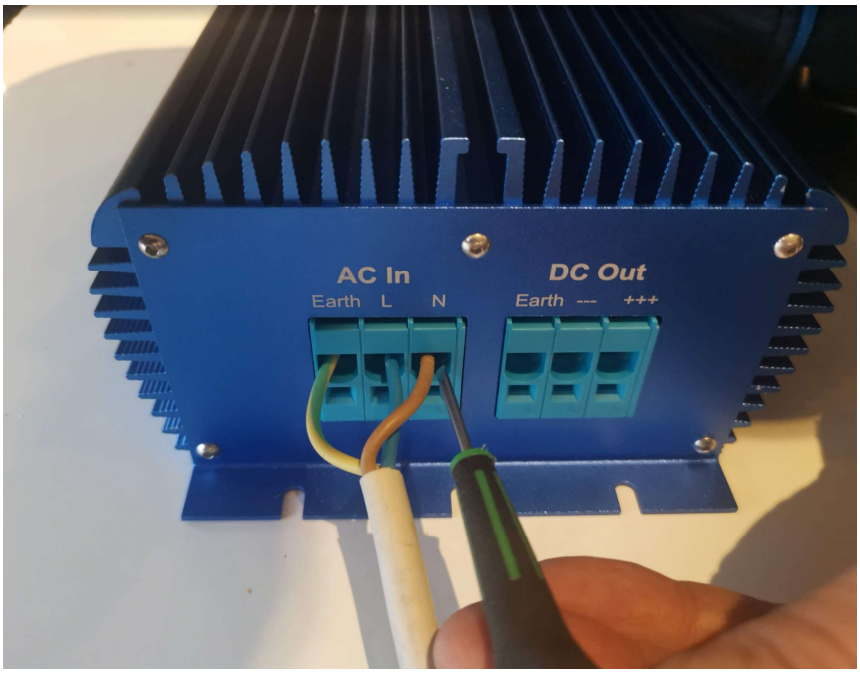
- Install the power supply unit in a dry location, free from dirt and dust and condensing moisture. The location shall be free of strong vibrations.
- The Power supply will get warm in very long runs. The installation location shall be non-flammable
- Always install the brake power supply with a mains switch in case of permanent connection to the grid, or mains plugs such that input power can be removed when the power supply is not in use
- The mains system SHALL have an earth leakage circuit breaker. Eddy brakes, in particular old brakes, may have current leakage. The mains' earth leakage circuit breaker must trip when current leakage is present, otherwise there is risk of electrical shock
- ALWAYS connect the brake chassis to earth ground
- ALWAYS connect the brake power supply to earth ground
- Ensure to size the power wires correctly to fit your brake's current consumption. The power supply connectors support wire thickness range from 18 to 4 AWG, 0.75 to 16 mm2
- Strip an appropriate length of the wires (ca 18mm) and ensure no part of the stripped wire is exposed after mounting in the connector
- If necessary, use a smooth thin screwdriver or similar to pry open the springs for ease of insertion of the wires into the connector (see video in YourDyno.com's YouTube channel for demonstration)
- Ensure the power wires are tight after mounting to the box. You shall be able to pull on the wires and feel they are really mounted hard in the box
- Ensure the Eddy brake is wired for 96V or 192V operation. **24V brakes must be rewired!**

## Connection diagram




## Connecting the power wires

The power connectors are spring loaded and the springs are stiff. If you use soft wires, you will need to pry open the springs with for example a smooth screw driver. Like this:




*Prying open the connector springs to fit the power wires*

## Control signal wiring

The power supply output is controlled via the PWM In connector. Create a suitable signal cable between the YourDyno instrument box and the power supply using the supplied screw connectors, like this:


There are no particular requirements for the control wire thickness or cable length.

## Operating safety

- **Mains power shall be turned off then system is not in use**. Software or Windows may crash and the output could inadvertently be turned on. If that happens and mains power is on, the brake will eventually melt and short or could catch fire
- The power supply includes a 25A fuse inside. The fuse is of type Schurter Inc., part number 8020.5082. It can be changed to a similar spec fuse maximum 30Amp.
- There is no need to open the box, except to change the fuse
- The fuse will not blow under normal circumstances, so ensure to inspect your setup if the fuse blows
- Always ensure power is off when opening the box
- If the unit is not operating properly, it spells or becomes excessively hot, contact YourDyno.com or an authorized dealer