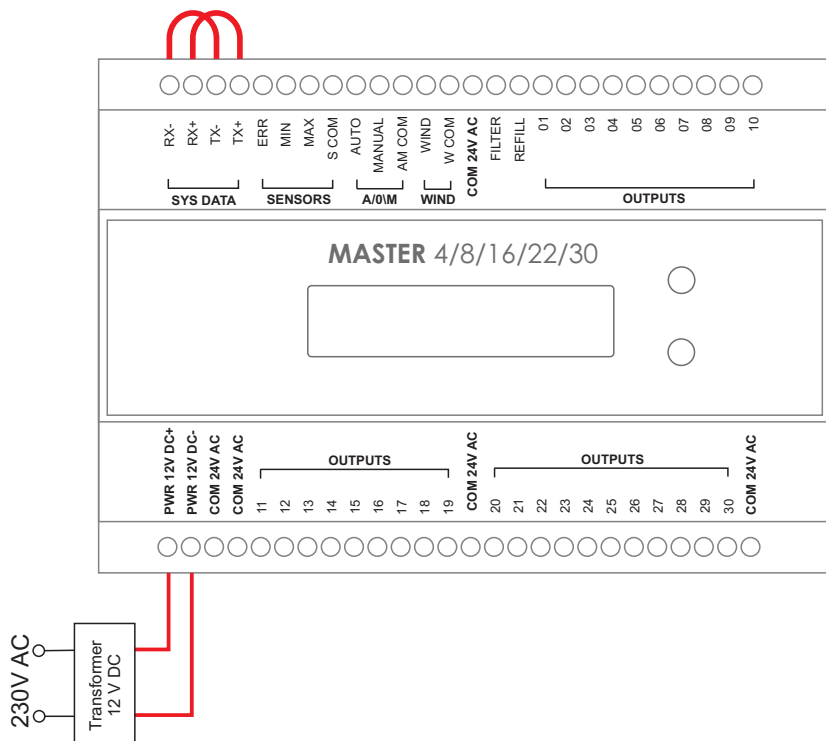


# Magic



## THE FOUNTAIN CONTROLLER MASTER WIRING MANUAL

WWW.GARDEMATIC.COM





# 1

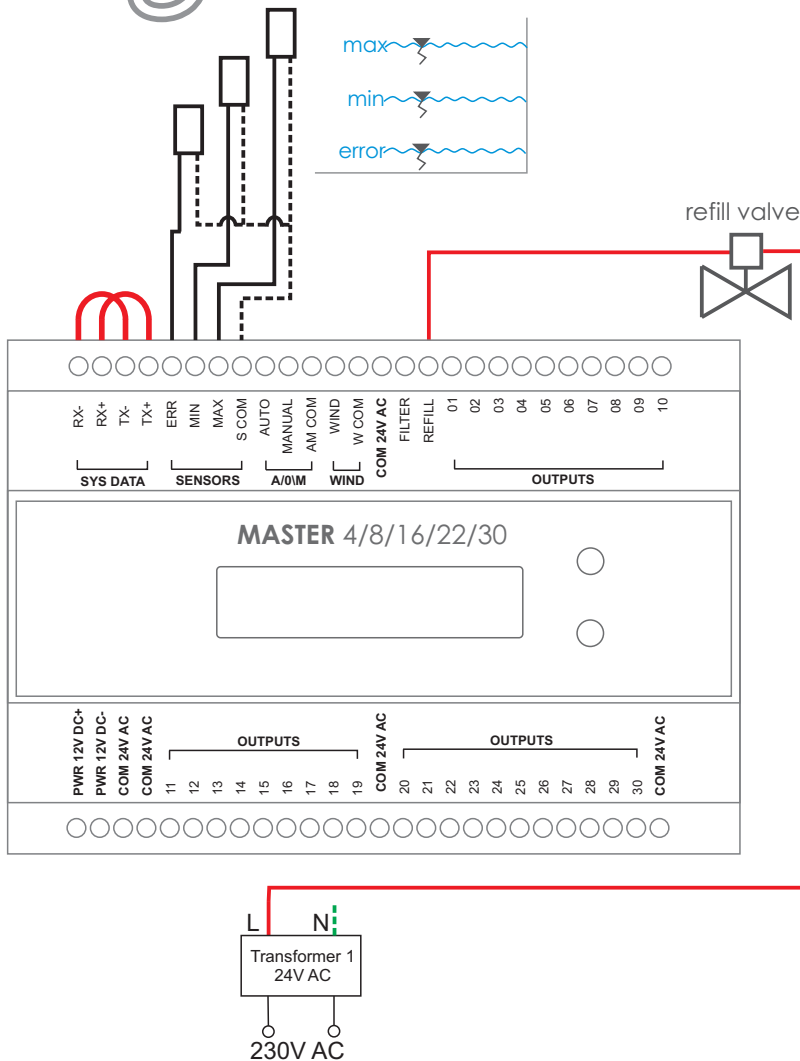
## 1. Power supply

Connect the stabilized **DC 12 V 1,2A** power supply as shown on the figure:

**PWR 12V DC+**  
**PWR 12V DC-**

DO NOT REMOVE THE **RX-TX** TWO SHORTCUTS!

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# 2

## 2. Connect water level sensors

The water level sensors are needed for the REFILL output.

**MAX - Maximum water level (normally closed):**the refill valve will stop the refill, when the water level reaches the MAX sensor.

**MIN - Minimum water level (normally closed):**if the water level drops below the MIN sensor, the system will start to refill the pool ( REFILL output) untill the water level reaches the MAX sensor.

**ERR - Error water level (normally closed):** when this sensor is signaling, the pool is running out of water, the system could not refill it automatically. This is a Safety sensor to protect the water pumps. While an error is detected, all operations are paused.

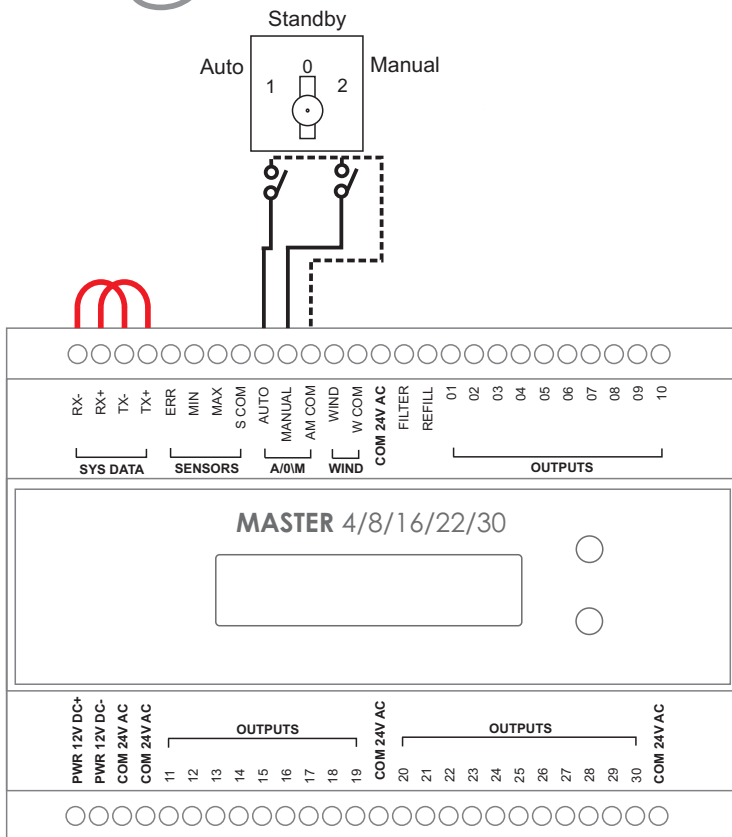
**REFILL** - connect the refill valve (24 V AC) to the refill output. This output is controlled by the Water level sensors. Connect the other side of the Refill valve to the common collector bus.

Visit [gardematic.com](http://gardematic.com) to reach GardeMatic water level control system:

- LA-series
- LB-series
- All in One series

DO NOT REMOVE THE **RX-TX** TWO SHORTCUT!

# Manna Magic





# 3

## 3. Connect the Auto/Standby/Manual switch

Connect the Auto/Standby/Manual three way switch:

**STANDBY:** both the AUTO and MANUAL switches are open, the NanoMagic controller turns in interactive mode.

Note: you can ONLY use the menu in Standby mode!

**AUTO:** if the AUTO switch is closed the controller will play the show as specified in the program. This is the normal operation mode for the controller.

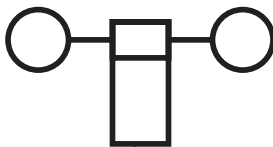
**MANUAL:** close the MANUAL switch to turn on all outputs after 5 seconds. It is a simple testing mode.

IMPORTANT: USE A **3 WAY SWITCH** (1/0/2)!

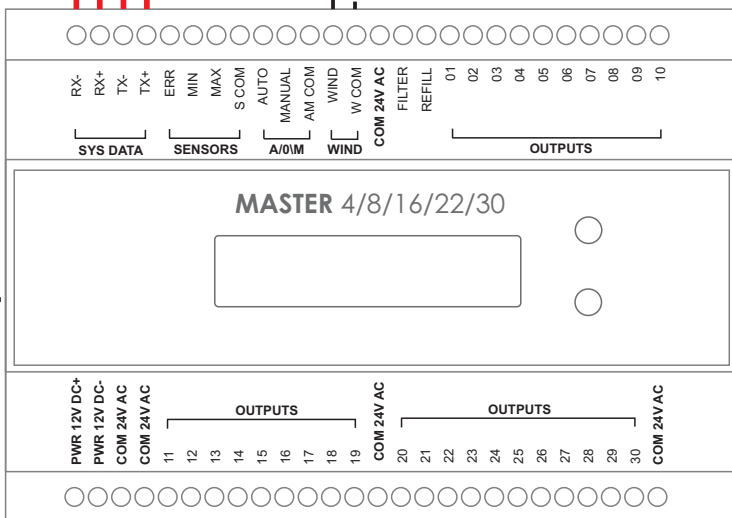
DO NOT SWITCH THE AUTO AND MANUAL SWITCH AT THE **SAME TIME!**

DO NOT REMOVE THE **RX-TX** SHORTCUTS!

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Wind receiver  
I/O output



Music line out



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# 4


## 4. Connect the Wind sensor and the Music output\*

**Wind Sensor: normally open** connector. If closed due to high wind, the LCD display will display "High wind" and pause the show. If the wind settles, the show will resume after 5 minutes.

DO NOT CONNECT TO DIRECT ANEMOMETER OR DIRECT VOLTAGE!  
USE ONLY TOGETHER WITH WIND RECEIVER SWITCH!

**Music output:** assuming you have a controller with the music feature enabled, you can connect the 3,5 Jack connector to the audio system. The connector is a high quality line output, so you will need an amplifier or active speakers.

\* Note that all Master controllers are shipped with a Jack output, but it is not enabled on all models.

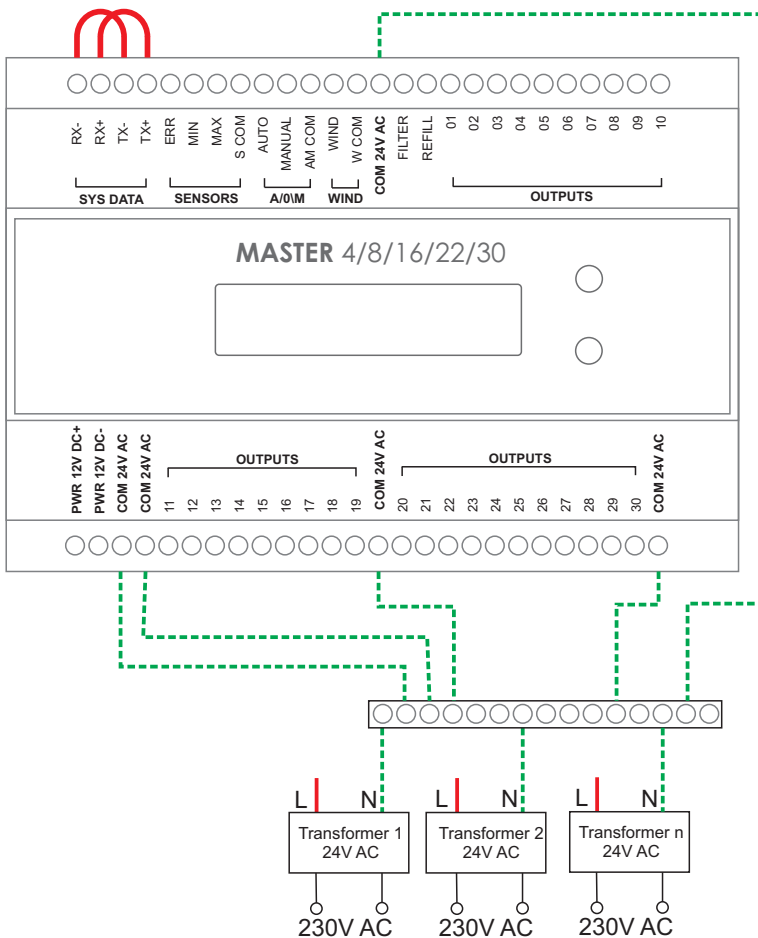
See a sticker on the device, showing a with-music: 

or without-music  icon.

Should it not be enabled on your controller, you can upgrade and enable it with a firmware update. Visit: [gardematic.com](http://gardematic.com)

DO NOT REMOVE THE **RX-TX** SHORTCUTS!

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# 5

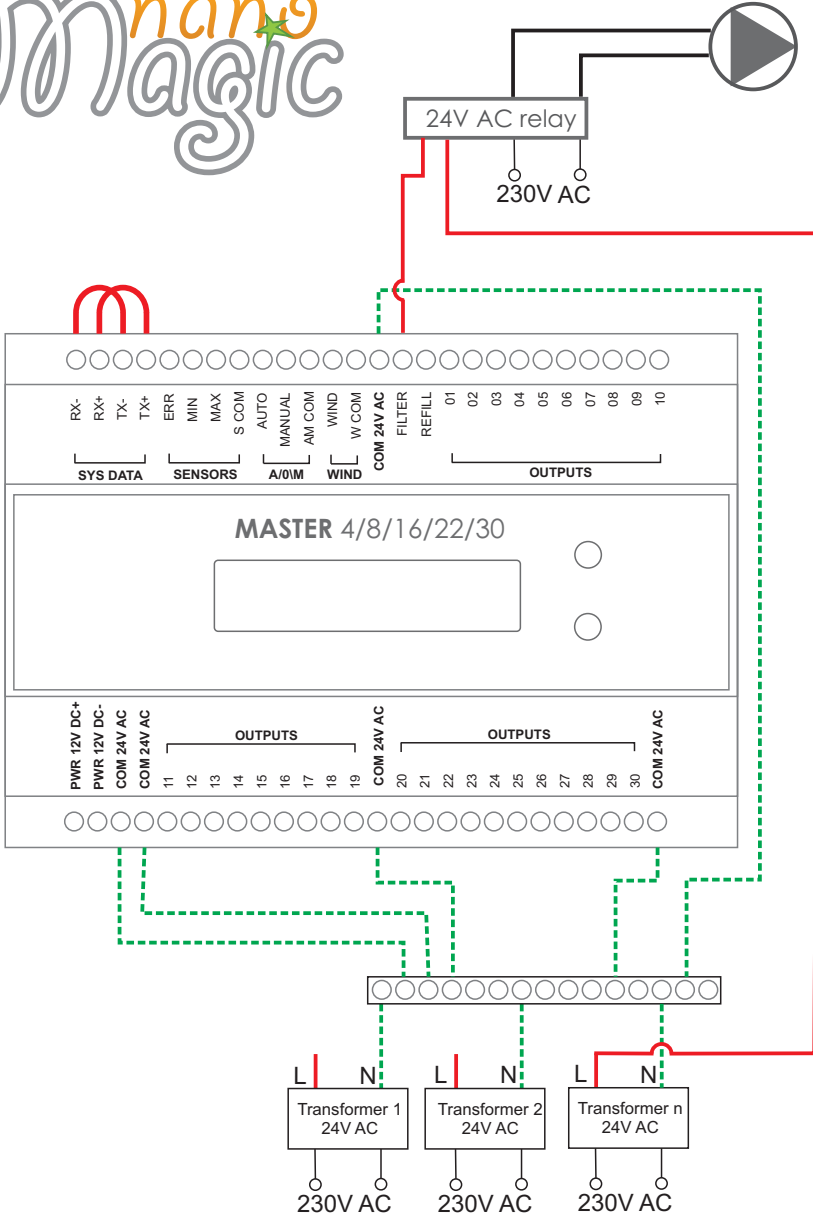
## 5. Connect the AC COM's

Connect all 24V AC transformer „N” wire and all inputs marked **COM 24V AC** to a common collector bus. It is VITAL that you connect all **COM 24V AC** inputs of the NanoMagic controller to maximize its lifespan!

DO NOT CONNECT THE TRANSFORMER GROUNDS DIRECTLY TO THE CONTROLLER!

DO NOT REMOVE THE **RX-TX** SHORTCUTS!

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# 6

## 6. Filtering System

Connect the filtering system.

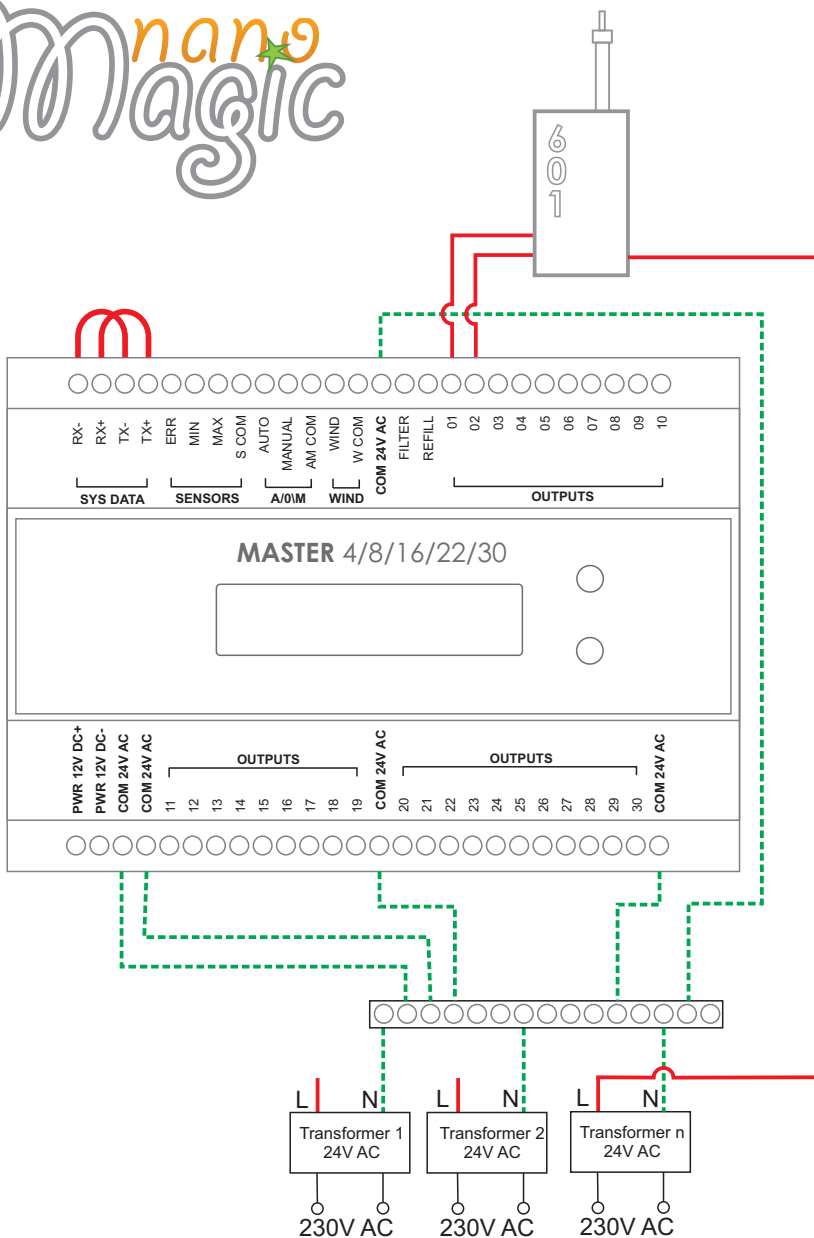
**Filtering System:** connect the controller's FILTER output (**normally open**) to an 24V AC relay (not included) driving the Filter pump and an UV-C lamp. Connect the relay's primer side to the filter output and to the common collector bus.

DO NOT CONNECT ANY HIGH VOLTAGE DEVICE TO THE NANOMAGIC CONTROLLER!

DO NOT CONNECT THE TRANSFORMER „N" DIRECTLY TO THE CONTROLLER!

DO NOT REMOVE THE **RX-TX** SHORTCUTS!

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# 7

## 7. Connect the programmable outputs

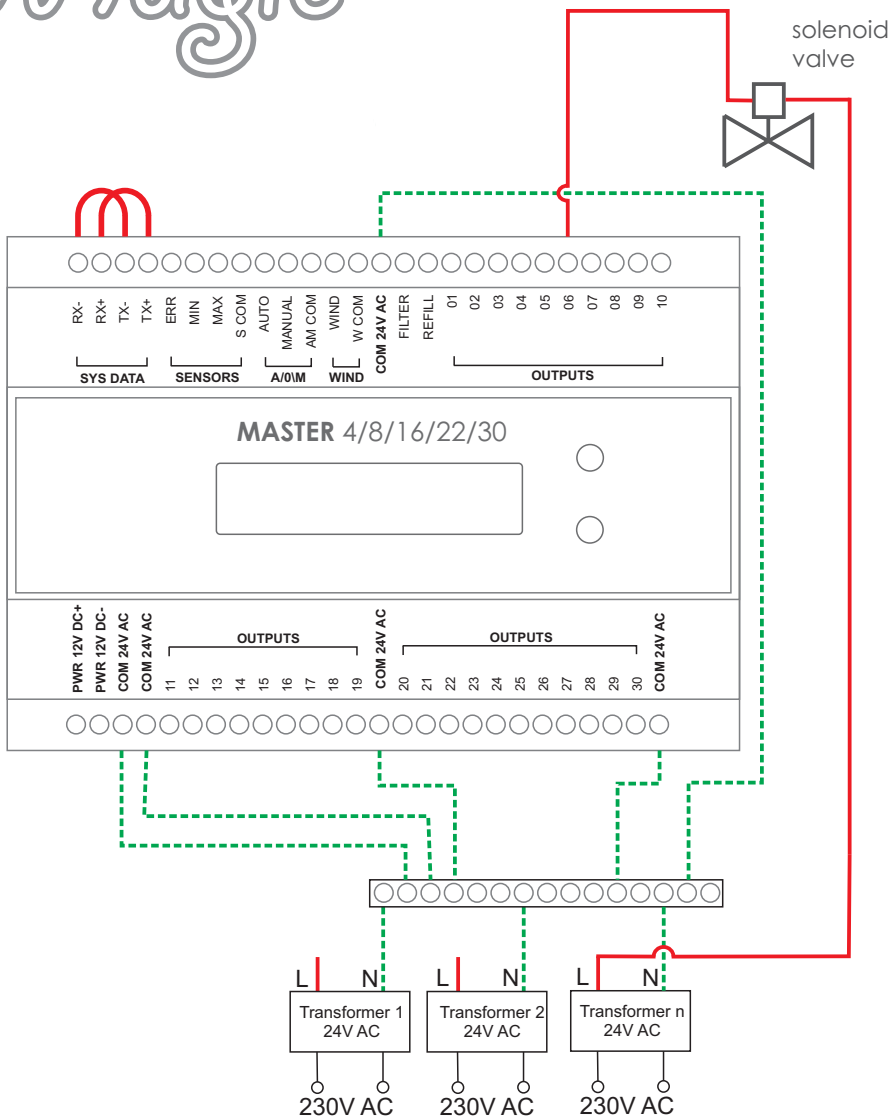
### 7.1 Connect the WaterSwitch 601 nozzles

One WaterSwitch 601 nozzle needs 2 valve outputs (Output). When designing the show, make sure that the 2 outputs for the same WaterSwitch 601 nozzle are inverted:

Example: when one is ON(Nozzle), the other is OFF(Exhaust)

DO NOT REMOVE THE **RX-TX** SHORTCUTS!

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# 7

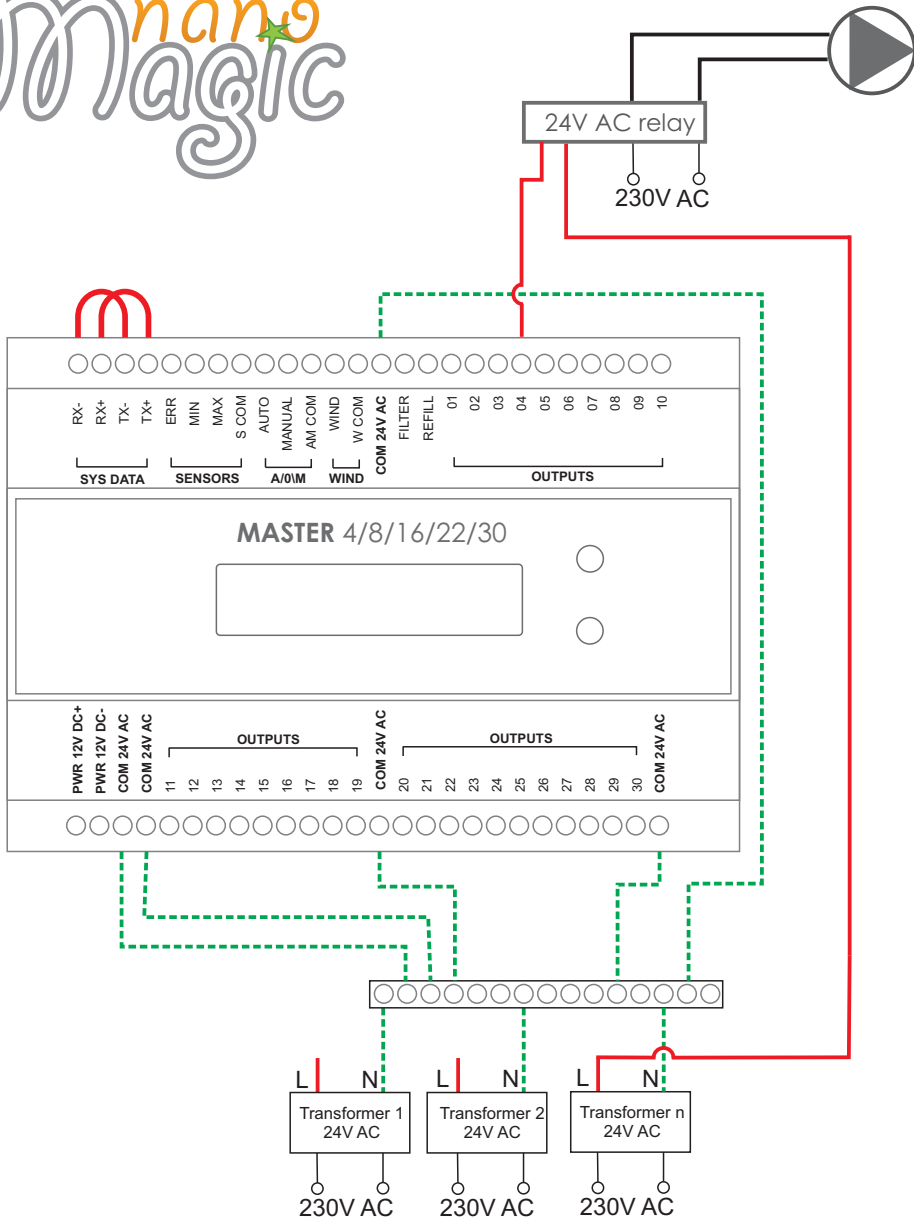
## 7. Connect the programmable outputs

7.2 Connect any solenoid valves or other 24VAC devices

You can connect any 24VAC devices up to 2A (48W)

DO NOT REMOVE THE **RX-TX** SHORTCUTS!

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# 7

## 7. Connect the programmable outputs

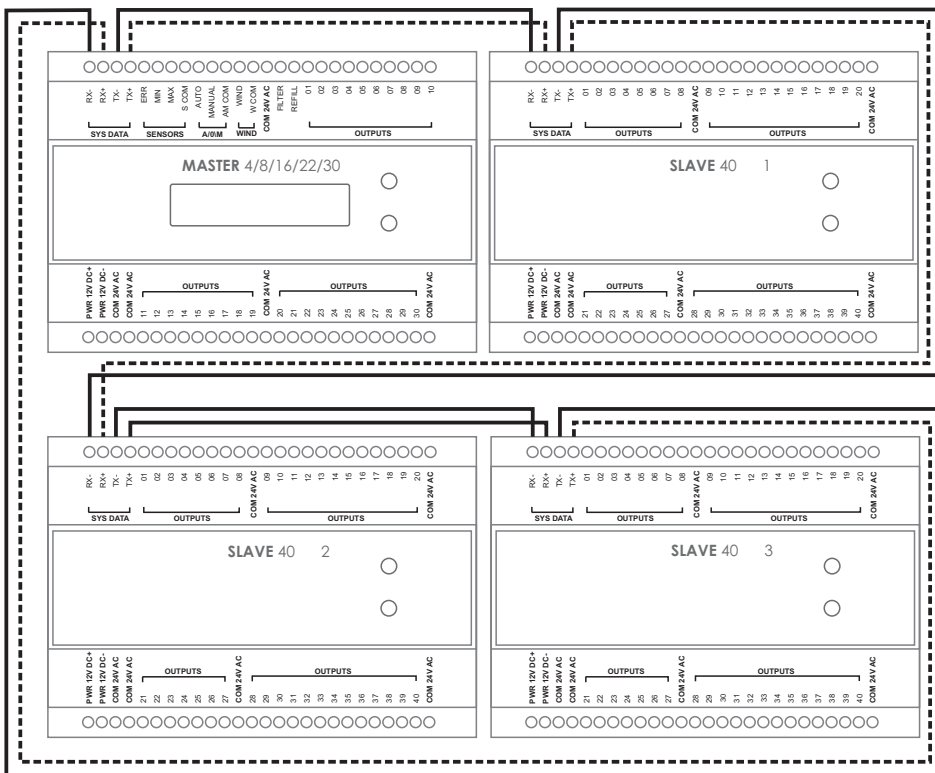
### 7.3 Connecting high voltage devices

High voltage devices (eg. pumps) MUST BE electrically detached from the NanoMagic controllers by using 24VAC relays. Instead of controlling the high voltage devices directly, the NanoMagic controller will control the relays, which in turn control the high voltage devices.

This figure shows how to connect a 230VAC pump, but you can switch any high performance device this way.

**DO NOT CONNECT HIGH VOLTAGE DIRECTLY TO THE NANOMAGIC CONTROLLER!**

**DO NOT REMOVE THE **RX-TX** SHORTCUTS!**



# 8

## 8. Optionally connect the Slave controllers

You can increase the number of controlled outputs by attaching Slave devices to the Master. You can connect up to 100 Slaves.

The communication happens on the **RX-/RX+/TX-/TX+** connectors, called the **Bus**. When connecting the Slaves, you **MUST** use twisted pair cables for the RX-/RX+ and TX-/TX+ cables respectively. "T" stands for Transfer, "R" stands for Receive, watch out to always connect the Transfer outputs of one device to the Receive inputs of the next device.

### Follow these steps:

1. Remove the **TX-RX** shortcut
2. Lay out the controllers sequentially. Master first, then the Slaves.
3. Connect the TX- output of each device to the RX- input of the next device.
4. Connect the TX+ output of each device to the RX+ input of the next device.
5. Connect the TX- output of the last Slave to the RX- input of the Master. This way the Bus forms a ring.
6. Connect the TX+ output of the last Slave to the RX+ input of the Master.

The sequence of the Slave devices is **NOT** important. The outputs of the Slaves are enumerated after powering up the system, thus the first output of the first Slave will be 31, the first output of the second Slave will be 71, and so on.







N A N O M A G I C . G A R D E M A T I C . C O M

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