

The TwinMotion-RF (TwiMo-RF) System

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Features

- Very fine movements on the X and Y axis
- Dynamic control speed
- Silent motor operation
- Extended range of functions
- Radio transmission to the sliding table
- Monitoring of the radio link
- Visual status indication on the control unit
- Additional line-laser module
- Additional bullseye spirit level
- Also available with cable connection (TwiMo-K)

NEW with laser module and bullseye level

Multi-function button

- ON/OFF (in OFF the motors draw no power)
- Reverse motor direction of rotation
- Swap the X-Y axes

3-way DIP switch

- 1 = Reverse joystick axes
- 2 = Timer ON = 10 sec
- 3 = Timer ON = 20 sec

Available models

TwiMo-K

- 1 control unit complete with cable connection to the X/Y mechanics
- 1 plug-in power supply 12V
- 1 base plate with box for cable connection and motor connections, including 3 rubber feet
- 1 X-Y sliding table, 50mm travel
- 1 splash guard cover with M4 nut for nozzle mounting
- 1 ring magnet to slide into a prepared mount, for the magnetic attachment of nozzles or other parts
- 4 holding magnets for automatic centring of the laser module
- 1 line-laser module
- 1 bullseye spirit level

TwiMo-RF

- 1 control unit complete with radio link to the X/Y mechanics. Battery operation, 4x AA
- 1 On/Off switch to disconnect the battery
- 1 base plate with receiver electronics and 3 rubber feet
- 1 plug-in power supply 12V
- 1 X-Y sliding table, 50mm travel
- 1 splash guard cover with M4 nut for nozzle mounting
- 1 ring magnet to slide into a prepared mount, for the magnetic attachment of nozzles or other parts
- 1 line-laser module
- 1 bullseye spirit level

TwMo-RF-S/E

- 1 control unit complete with radio link to the receiver. Battery operation, 4x AA
- 1 On/Off switch to disconnect the battery
- 1 box with receiver electronics, 3 connections for X/Y stepper motors and DC power
- NO X/Y sliding table
- NO further mechanical parts

Functional description

Control unit power supply

The control unit requires 4x AA batteries.

Insert the batteries into the holder with the flat side facing up, then push the holder into the compartment until it clicks into the counterpart.

To change the batteries, remove the battery compartment door and push the battery holder out from the back through the hole using a small screwdriver.



On/Off

1. Flip the toggle switch upward = the batteries are connected to the control unit.
2. If not in use for a longer period, disconnect the batteries.



Multi-function button on the control unit

1. ON

Press the button briefly = switches the control unit on. The green LED lights up.

Press the button briefly = switches the control unit off. The green LED goes out.

The X/Y motors are only powered while ON. While OFF they have no function.

2. INV

Press and hold the button until the yellow LED flashes, then release within 1.5 sec = the direction of rotation of the motors is reversed. The yellow LED lights up.

Press and hold again until the yellow LED flashes, then release within 1.5 sec = the reversal is switched off.

This can be used to match the joystick's direction of movement to the direction of movement of the sliding table when the control unit and the sliding table do not share the same mechanical orientation.

3. X/Y / Y/X

Press and hold the button until the red LED flashes, then release within 1.5 sec = the X and Y axes are fully swapped. The red LED lights up.

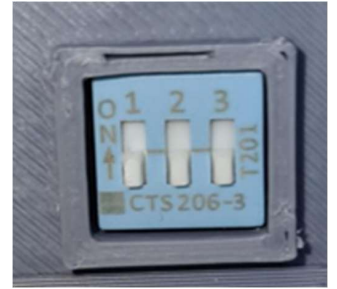
Press and hold again until the red LED flashes, then release within 1.5 sec = the X and Y axes return to normal.

Settings 2 and 3 are stored in the electronics and are restored after switching on again. This storage is retained even when the power supply is disconnected.



DIP switch on the control unit

- DIP 1 ON = The joystick axis movements are swapped (up-down controls the X axis, left-right controls the Y axis). A change made via the multi-function button remains in effect.
- DIP 2 ON = The on-time of the control unit is limited to 10 seconds. The green LED flashes once per second. After 10 seconds it switches off automatically.
- DIP 3 ON = The on-time of the control unit is limited to 20 seconds. The green LED flashes twice per second. After 20 seconds it switches off automatically.
- DIP 2 + 3 ON = The on-time of the control unit is limited to 30 seconds. The green LED flashes three times per second. After 30 seconds it switches off automatically.



This automatic shutdown protects the electronics, motor drivers and stepper motors. There is no need to keep them running continuously and generate unnecessary heat. Switching on briefly with the button is enough each time the axes need to move.

Twimo-RF monitoring function

- On the Twimo-RF models the radio transmission is actively monitored. If the receiver electronics have no power, or the radio link is otherwise disrupted, the green LED on the transmitter unit flashes rapidly and continuously. As soon as the radio link is established, the fast flashing stops.

Difference between TwiMo / TwiMo-RF / TwiMo-RF-S/E

The **TwiMo** system consists of the control unit, which is connected to the motor unit by a cable. A shielded RJ-45 patch cable must be used (the connectors have a visible metal shell). The 12V power supply is plugged into the control unit. The box on the base plate contains no active electronics, only the necessary connection terminals.

The **TwiMo-RF** system consists of the control unit, which is connected to the motor unit via a radio link, i.e. without a cable. The box on the base plate houses the receiver electronics together with the motor control. The 12V power supply is also connected to this box. Transmission distances of over 10m are not a problem.

The control unit runs on 4x AA batteries. For longer periods of non-use it is recommended to disconnect the batteries with the On/Off switch.

The **TwiMo-RF-S/E** system is identical to the TwiMo-RF system. However, it is not fitted with a base plate for the sliding mechanics. On the receiving side there is only a box for the electronics with 3 rubber grommets for the cables of the stepper motors and the power supply. Screw terminals for the corresponding cables are provided inside.

The TwiMo-RF-S/E is intended to drive X/Y sliding tables that are already available or self-designed.

The splash guard

Parts of the splash guard

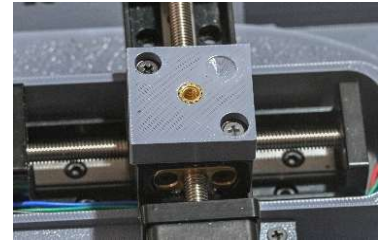
- 1 splash guard
- 1 adapter piece with M4 nut
- 1 ring magnet

Adapter piece

An assembly adapter piece is fitted to the YX sliding carriage on delivery. If it is removed, it must be screwed back on in the same orientation so that the splash guard can extend in all directions without hitting anything.

The splash guard can only be fitted onto the adapter piece in one orientation (cone & pin).

An M4 nut is embedded in the centre of the adapter piece. Nozzle mounts or other parts can be screwed onto it.



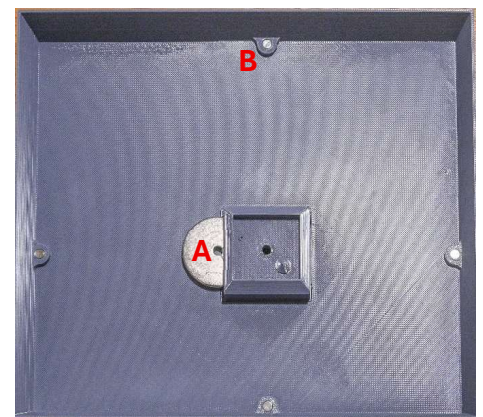
Magnetic mounts

The supplied disc magnet **A** is inserted into the prepared slot in the splash guard. The magnetisation of the magnet is oriented horizontally.



It matches the counterpart included with certain trick nozzles from www.Tropfenshop.ch. The orientation must match the existing counterpart. The magnet is accessible from both sides, so it can be pushed out.

The magnetic mount saves you having to screw equipment on.



Data of the supplied disc magnet, for purchasing counterparts yourself:



Laser module



With the laser module the TWIMO can initially be precisely aligned under the centre valve. It also makes it possible to align the centre valve exactly vertical on both axes. The laser beam reaches a display height of approx. 80cm above the central mounting screw.

The embedded magnets **B** automatically hold and centre the laser module on all four sides of the splash guard.

