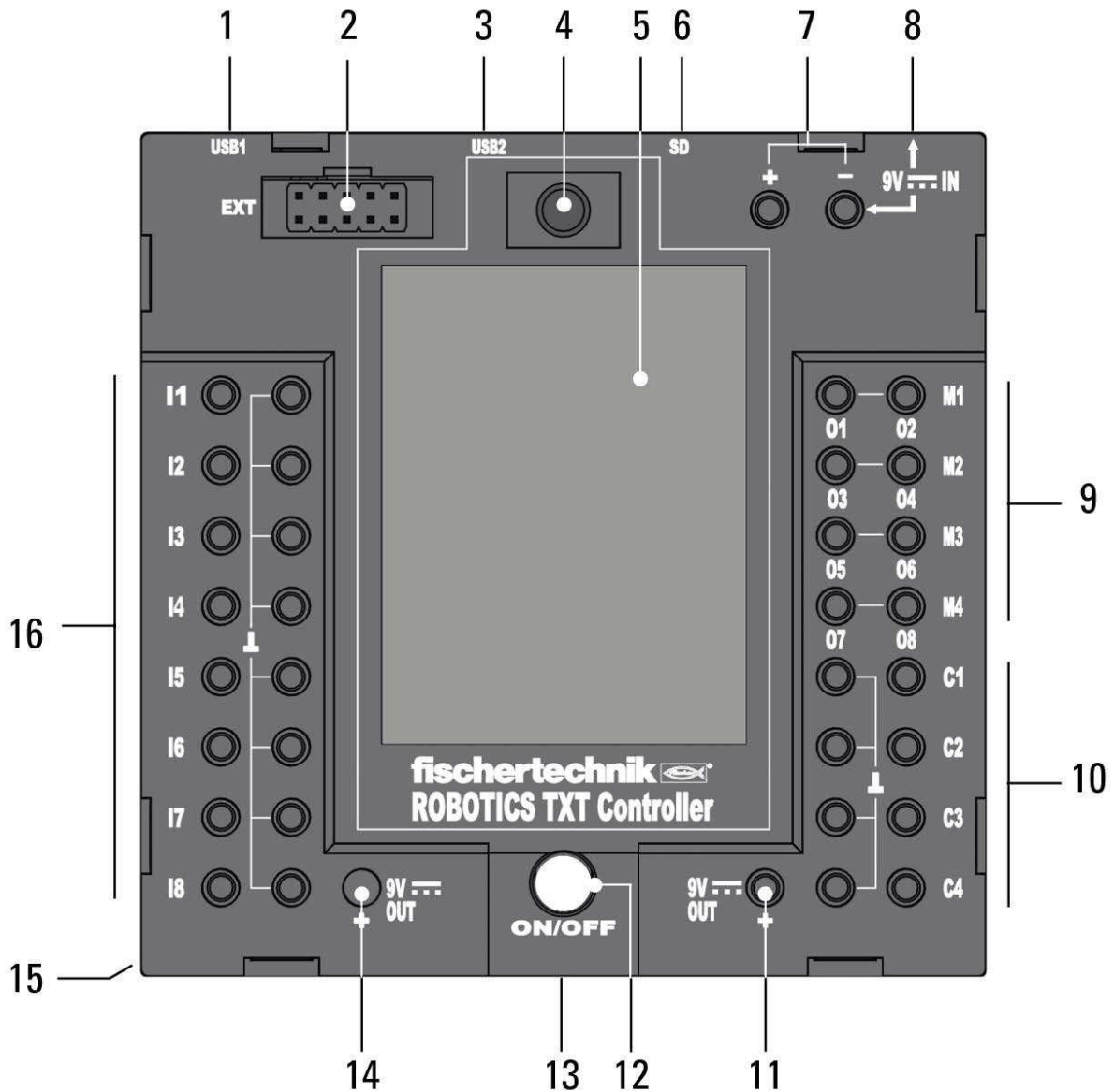


Overview of connections	4
Safety instructions	5
Intended use	5
The ROBOTICS TXT Controller	6
Devices that are compatible with the ROBOTICS TXT Controller	7
Actuators	7
Sensors	7
ROBOTICS TXT Controller / Extensions	8
fischertechnik USB camera	8
Radio transmission	8
Uses for the jack sockets, connector plugs and pushbutton switches	8
Software requirements	11
Powering the Controller	11
Switching the Controller on and off	11
Switching on	11
Switching off	12
Configuring the Controller	12
Menu overview	12
Menu in detail	13
Status bar	13
Control elements	14
Main menu	15
File selection	15
Settings	15
Test	16

TXT Controller

Program files	16
Role	17
Languages	17
Network	17
Time	18
INFO display	18
Sound	18
Connecting the Controller to the PC	19
Selecting and starting a program	19
Extensions (EXT connection)	20
Bluetooth/Wi-Fi connections	21
Faults	26
Electromagnetic interference	26
Technical data	27
Proper disposal	29
Warranty	29
Liability	30
Declaration of Conformity	31

Overview of connections



- | | |
|--|-----------------------------------|
| 1. USB-A port (USB-1) | 9. Outputs M1 to M4 or O1 to O8 |
| 2. EXT connection for extensions | 10. Inputs C1 to C4 |
| 3. Mini USB port (USB-2) | 11. 9V OUT |
| 4. IR receiver diode | 12. ON/OFF switch |
| 5. Touch display | 13. Speaker |
| 6. Micro SD card slot | 14. 9V OUT (positive terminal) |
| 7. 9V IN, rechargeable battery pack connection | 15. Coin cell battery compartment |
| 8. 9V IN, DC socket | 16. Universal inputs I1 to I8 |

Safety instructions

- Check the battery charger regularly for damage.
- If damage is found, do not use the battery charger until it is completely repaired.
- Do not insert wires into the electrical outlet.
- Do not attempt to charge non-rechargeable batteries.
- Remove the rechargeable batteries from the battery compartment before charging.
- Only charge rechargeable batteries under the supervision of an adult.
- Ensure the polarity is correct when inserting the batteries.
- Do not short-circuit the connecting terminals.
- Only operate the ROBOTICS TXT Controller with a fischertechnik power supply such as the rechargeable battery pack 35537.
- When connecting the rechargeable battery pack to the controller, pay special attention to the following:
 - Connect the positive terminal of the "9 V IN" connection to the positive terminal (+) of the rechargeable battery pack.
 - Connect the negative terminal of the "9 V IN" connection to the negative terminal (–) of the rechargeable battery pack.
- The maximum permissible operating temperature is 40 °C.
- Do not allow sharp or pointed objects to come in contact with the touch display. You risk damaging the equipment.

Intended use

The controller is intended only to be used for the operation and control of fischertechnik models.

The ROBOTICS TXT Controller

The compact ROBOTICS TXT Controller can be conveniently controlled with the color touch display. The combined Bluetooth/Wi-Fi wireless module provides the perfect, wireless interface for numerous applications. The numerous interfaces also include a USB host port for additional components such as the fischertechnik USB camera. With its powerful processor, Linux operating system and large RAM and flash memory capacity, the ROBOTICS TXT Controller is a high-performance control unit for all fischertechnik ROBOTICS models. The integrated micro SD card slot allows for expansion of the memory capacity.

With the fischertechnik grooves on five sides and the compact dimensions, the space-saving ROBOTICS TXT Controller can be installed in fischertechnik systems and models.

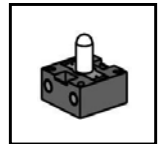
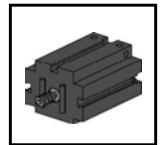
Devices that are compatible with the ROBOTICS TXT Controller

The following devices can be connected or controlled. Additional devices can also be used to expand the capabilities of the controller.

Actuators

(9 V, 250 mA)

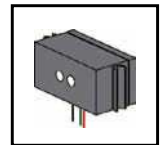
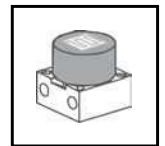
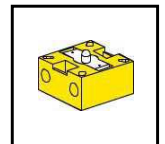
- Electric motors
- Bulbs
- Buzzers
- Electromagnets
- Solenoid valves (from the pneumatic construction sets)



Sensors

(digital: 5 kΩ, 10 V; analog: 0 – 5 kΩ, 0 – 10 V)

- Pushbutton switch
- Magnetic sensors (reed contacts)
- Light sensors (phototransistors, photo resistors)
- Heat sensors (NTC resistors)
- Ultrasonic sensors (TX art. no. 133009 with three-wire connection version only)
- Color sensors
- Infrared sensors (trail sensors)
- Potentiometers
- Magnetic encoders



ROBOTICS TXT Controller / Extensions

Two controllers can be connected via the 10-pin expansion plug (2). This plug is also used to connect I²C components and to extend number of inputs and outputs.

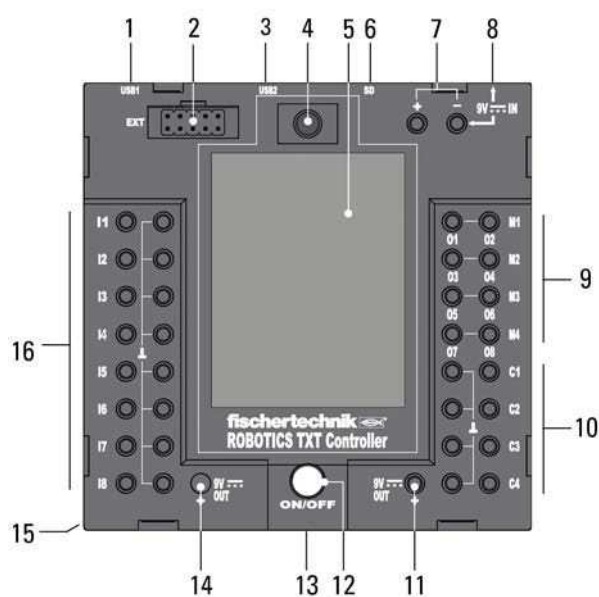
fischertechnik USB camera

The camera can be connected to the USB host interface (USB-1) (1).

Radio transmission

Bluetooth or Wi-Fi provides the ability to connect to other devices such as a PC, other ROBOTICS TXT Controllers and smartphones.

Uses for the jack sockets, connector plugs and pushbutton switches



1. USB-A port (USB-1):

USB 2.0 host connection for components such as the fischertechnik USB camera, art. no. 152522

2. EXT connection for extensions

With this connection, an additional ROBOTICS TX Controller can be connected to extend the number of inputs and outputs. In addition, it includes a I²C interface and serves as a connection for future extension modules.

3. Mini USB port (USB-2):

The USB 2.0 port (USB 1.1 compatible) is used to connect to the PC. The appropriate USB cable is included.

4. IR receiver diode

The infrared receiver diode can receive signals from the fischertechnik Control Set transmitter. These signals can be read into the control program via special inputs and analyzed (e.g. using the ROBO Pro software). The transmitter joysticks also provide the ability to control the ROBOTICS models remotely.

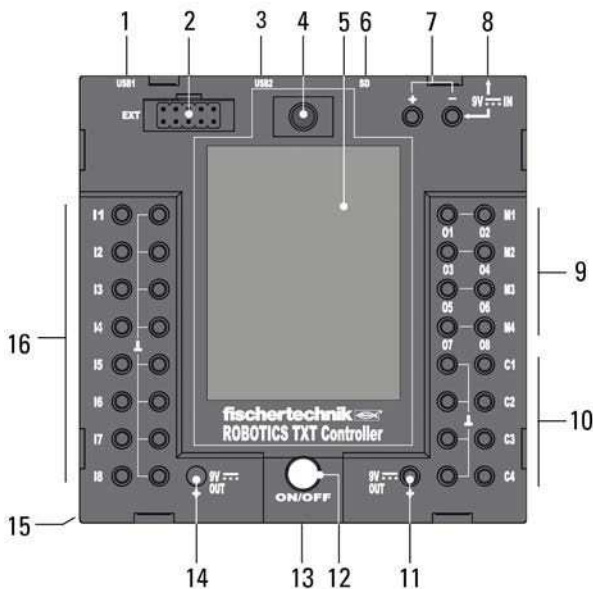


5. Touch display

The color touch display shows the status of the controller, which programs are loaded, and where you are in the menu. Functions and programs can be selected, activated and deactivated. When a program is running, you can view values of variables or values of analog sensors. A useful menu overview is shown under "Configuring the controller (menu overview)."

6. Micro SD card slot

A micro SD card (not included in the scope of delivery) can be inserted in this slot to provide additional storage space.



7. 9 V IN rechargeable battery pack connection

This connection allows mobile power supply through the fischertechnik rechargeable battery pack (not included in the scope of delivery) as an alternative to the power unit.

8. 9 V IN DC socket

(3.45 mm, center positive terminal)

This is where the power unit from the Power Set is connected (not included in the scope of delivery).

9. Outputs M1 to M4 or O1 to O8

Four motors can be connected to the outputs. Alternatively, you can connect eight lamps or electromagnets whose second terminal is connected to a ground connection (⊥).

10. Inputs C1 to C4

Quick counter inputs record counts up to 1 kHz (1000 pulses per sec.), such as from fischertechnik encoder motors. Can also be used as digital inputs, for example, for pushbutton switches.

11. 9 V OUT

Supplies sensors such as color sensors, trail sensors, ultrasonic distance sensors and magnetic encoders with the required 9 V+ operating voltage.

12. ON/OFF switch

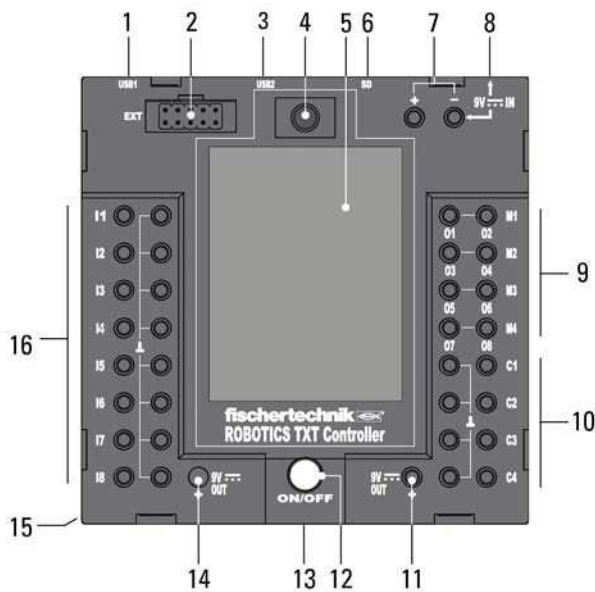
Switches the power supply to the controller on or off.

13. Speaker

The speaker plays back noises or sounds stored on the controller or memory card.

14. 9 V OUT

Supplies sensors such as color sensors, trail sensors, ultrasonic distance sensors and magnetic encoders with the required 9 V+ operating voltage.



15. Coin cell battery compartment

The controller contains a real-time clock that is powered by a CR 2032 coin cell battery. The controller can then output the measured data with the time. Should the battery die, you can open the battery compartment cover and replace the battery.

16. Universal inputs I1 to I8

These are the all-purpose signal inputs. They can be set with the ROBO Pro software for:

- Digital sensors (pushbutton switches, reed switch contacts, phototransistors) – digital 5 kΩ
- Infrared trail sensors – digital 10 V
- Analog sensors, 0–5 kΩ (NTC resistors, photo resistors and potentiometers)
- Analog sensors, 0–10 V (color sensors) display of value in millivolts (mV)
- Ultrasonic distance sensors (only the TX version with three-wire connection, art. no. 133009)