

Gas-actuated fastening tool GX 3 / GX 3-ME

Intended use

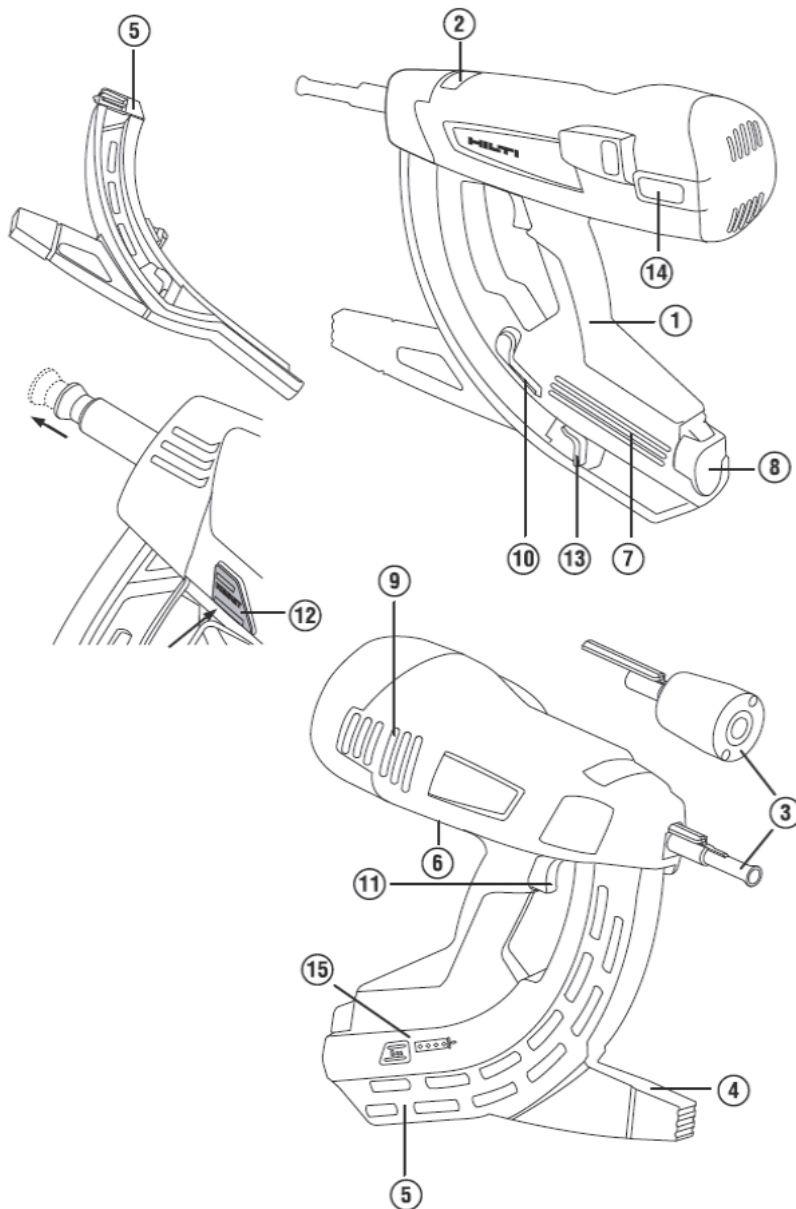
The intended use of the gas-actuated fastening tool is the driving of suitable fasteners into concrete, steel, sand-lime block, concrete block masonry, rendered masonry and other materials suitable for the direct fastening technique.

The fastening tool is designed for professional use in drywall construction, general construction work and in various installation trades.

A typical application for this kind of tools is setting nails in different kinds of base material.



Overview & description



- 1 Grip
- 2 Slider for fastener driving depth adjustment and for releasing the fastener guide
- 3 Fastener guide
- 4 Support leg
- 5 Magazine
- 6 Type identification plate
- 7 Gas can compartment
- 8 Gas can compartment cover
- 9 Cooling air slots
- 10 Magazine lock button
- 11 Trigger
- 12 **„RESET“** button
- 13 Nail pusher
- 14 Belt hook
- 15 Gas can status indicator
- 16 Inlet/outlet valve

Activation of the radio communication

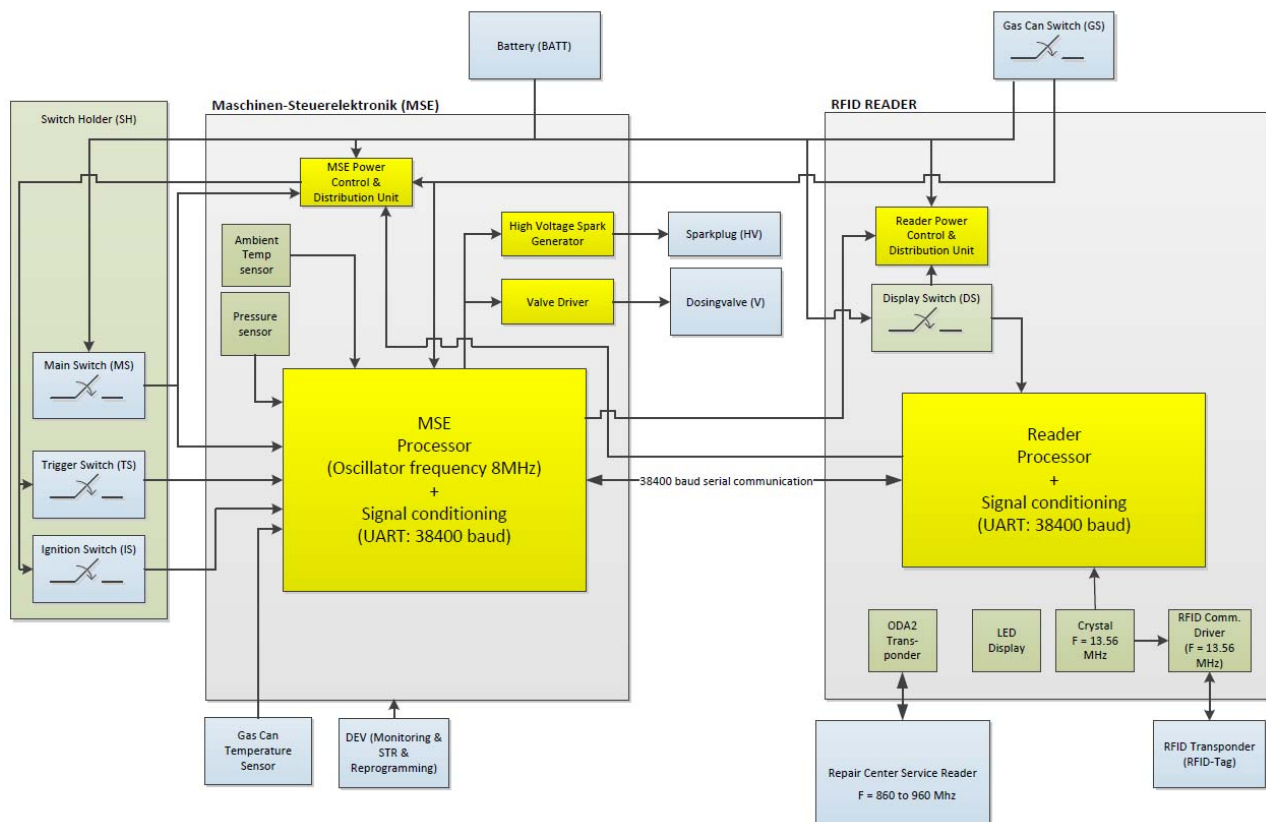
To activate the radio communication between the tool and the gas can the steps need to be done:

1. Insert the gas can (empty, without gas) in the tool. This will start automatically the communication. Thereby the tool reads data from the gas can by activating the RF-communication. This overall process will last about 1 second with several communication sequences.
2. Insert nails in the tool.
3. Press the tool against the base material until the trigger can be pulled.
4. Pulling the trigger will cause a spark. The communication between the tool and the gas can will be started a few milliseconds after the spark. This communication will last around 200 milliseconds with several communication sequences.
5. Release the trigger and the tool from the base material.
6. Reactivating the radio communication requires the repetition of steps 3 to 5.

The detailed description for inserting the gas can and nails, and further information for the tool can be found in the operating instructions provided with the tool.

Block diagram of the electronics

The block diagram of the tool's electronics is the following:



Electronics:

In general the electronics controls a combustion driven fastening tool. A fastener is driven in base material with the energy of combustion. Therefore fuel and air are mixed in a certain amount and are ignited whereby the combustion happened.

Maschinen-Steuerelektronik (MSE):

The main control unit (master) calculates the opening time of dosing valve in dependence of temperature and pressure and parameter values stored on RFID transponder. Therefore it drives the communication with the RFID reader. Additionally it drives the dosing valve and it controls the spark generation. It is steered by mechanical switches.

RFID Reader:

The reader control unit (slave) drives the communication with the RFID transponder on request of the main control unit. In addition it communicates on request with a service reader (not part of the electronics). Although it shows the status of RFID transponder data (filling level of fuel cartridge) on an LED display triggered by a pressed display switch.

RFID Transponder:

The RFID transponder is mounted on the fuel cartridge and holds data for the calculation of the opening time of the dosing valve which is the filling level of the cartridge.

Battery:

The Battery is the energy source of the electronics.

Switch holder:

It holds the switches which steers the main control unit.

Gas can switch:

It is activated by the fuel cartridge and shows the presence of it.

Spark plug:

The spark plug generates the spark for ignition.

Dosing valve:

The dosing valve dose the right amount of fuel to the fastening tool. It is driven by the main control unit for a calculated time.

Gas Can Temperature Sensor:

It measures the temperature of the fuel cartridge.

DEV (Monitoring & STR & Reprogramming):

This is an electrical plug where the firmware of the electronics can be programmed.

Repair Center Service Reader:

It is used for reading out of data for servicing the fastening tool in HILTI service centers and is not part of the electronics.