HARTING charging socket, type 2

61 13 213 0371 / 61 13 213 0381

General information

HARTING's type 2 charging socket was designed for charging electric vehicles with alternating current. It is only suitable for installing in an AC charging station or wall box. Use this product only to charge electric vehicles with AC power for the European market. This type 2 charging socket may only be used together with the charging cables provided with type 2 charging plugs, in accordance with IEC 61851-1 and IEC 62196-2.

Construction of the charging socket

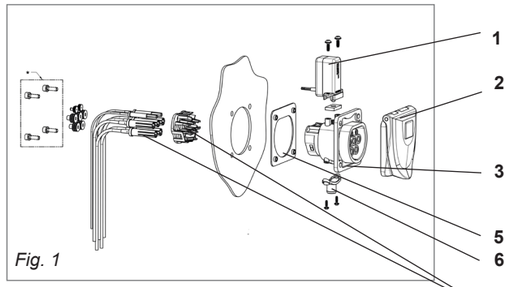

Fig. 1

1	Locking actuator	**4**	Connecting wire strands / retaining plate
2	Hinged cover	**5**	Flange gasket
3	Charging socket	**6**	Water drainage

General safety instructions

Requirements for staff
Any work on installation and maintenance of this type 2 charging socket may only be carried out by appropriately qualified staff. In the EU, only qualified technicians, in accordance with DIN EN 50110-1/-2 and IEC 60 364 may carry out such work. The relevant national accident prevention regulations must also be observed.

Protection against electric shock
There is a risk posed by exposed electrical components during any assembly, maintenance and dismantling work carried out on the type 2 charging socket.

Danger to life due to electric shock! Risk of death, severe injuries and burns.
- Connectors are electrical components which may only be installed by specialist staff.
- Never plug or unplug connectors while they are live (energised)!
- Users must ensure that the charging socket is properly installed and that it protects against electric shock.
- Improper use of the type 2 charging socket can cause explosions, electric shocks and short circuits.

Special safety instructions

When installing, maintaining and removing the type 2 charging socket, be sure to observe the following safety instructions:

- The type 2 charging socket may only be installed and serviced by qualified electricians.
- The type 2 charging socket is only suitable for installation in charging stations used for electric vehicles.
- Never connect the type 2 charging socket directly to a live (energised) cable. Failure to observe this can damage the charging socket or cause personal injury.
- Install the type 2 charging socket only along with protection and switching technology, as well as CP signal communication (IEC 61851-1).
- The type 2 charging socket may only be used together with personal and overload protective equipment. Make sure that the charging socket is connected to a switching element (a contactor). Please observe the national installation standards!
- Before the initial commissioning, check that the lock is working properly. Make sure the locking pin moves in and out.
- Make sure that the charging plug can only be unlocked and removed after the infrastructure charging outlet has been de-energised. Under no circumstances should it be possible to pull out the connector while it is live (under load).
- The contacts are pre-assembled and must not be replaced or changed.
- Note that the communication contacts (CP and PP) are only designed for voltages up to 30 V and 2 A (IEC 61851-1).

Contact assignments

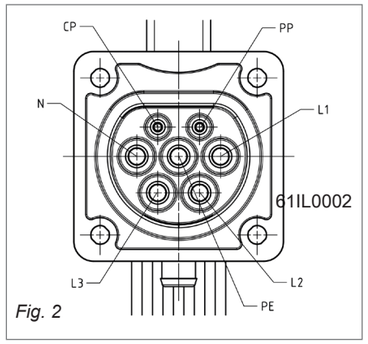

Fig. 2

Mating side according to IEC 62196-1/-2 (refer to Fig. 2)

L1	L2	L3	N	PE	CP	PP
brown	black	grey	blue	green/	red	white

Front-side installation

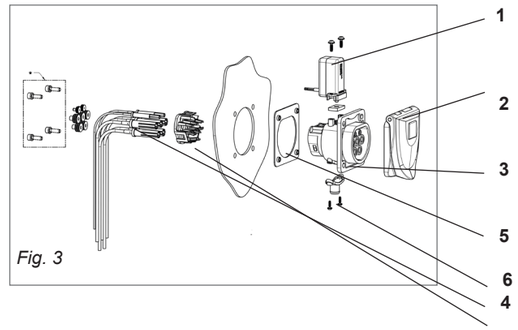

Fig. 3

Wall thickness with locking actuator: maximum of 5.5 mm (refer to Fig. 3)

Step 1:	Remove the locking actuator (1) and the water drainage (6).
Step 2:	Make sure that the flange gasket (5) rests against the rear of the charging socket (3). Mount the flange gasket (5) on the rear of the charging socket (3) (refer to Fig. 3).
Step 3:	Carefully guide the charging socket (3) through the wall cut-out from the front. Make sure that the flange gasket (5) is seated properly on the charging socket.
Step 4:	Attach the charging socket (3) and the hinged cover (2) from the inside to the mounting wall using the pan head screws and washers. Note that the length of the screws depends on the thickness of the mounting wall: • M5 pan head screws • Washer, according to DIN 934 • Screw length: from 10 mm to max. 13 mm, plus wall thickness • Max. torque: 4 Nm
Step 5:	Mount the locking actuator (1) and the water drainage (6). Locking actuator (1) -> max. torque 1.7 Nm Water drainage (6) -> max. torque 1.2 Nm.

Rear installation

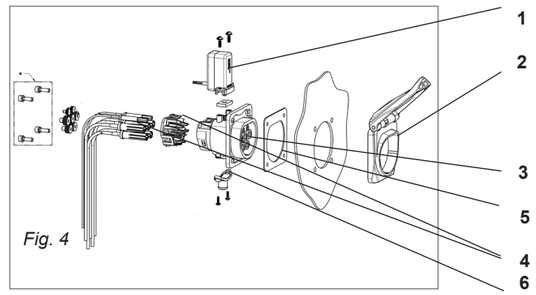

Fig. 4

Wall thickness with locking actuator: max. 45 mm (refer to Fig. 4).

Step 1:	Check the position of the flange gasket. Make sure that the flange gasket is seated properly on the socket.
Step 2:	Carefully guide the socket through the wall cut-out from the rear.
Step 3:	Place the hinged cover on the socket.
Step 4:	Screw on the charging socket and the hinged cover from the inside using the pan head screws and washers. Note that the length of the screws depends on the thickness of the mounting wall: • M5 pan head screws • Washer, according to DIN 934 • Screw length: from 10 mm to max. 13 mm, plus wall thickness • Max. torque: 4 Nm

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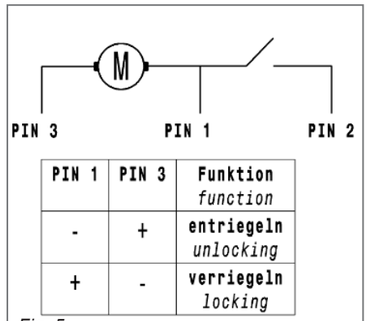
Operating the motorised locking actuator

The type 2 charging socket is equipped with a motorised locking actuator that locks the plugged-in charging socket into place during the charging process.

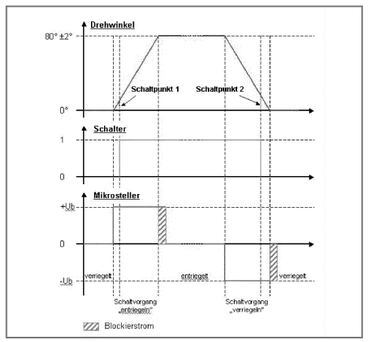
- Apply the voltage. The locking pin comes out, thus locking the charging plug in the charging socket.
- You can evaluate the locking status by checking the signal cables (blue cable) (refer to Fig. 5).
- Connect the cable from the locking actuator to the charging controller.
  ATTENTION! Exceeding the activation time leads to an overload of the motorised locking actuator (max. activation time is 200 ms).

Contact assignments	Pin 1: motor (red)	Pin 2: signal (blue)	Pin 3: motor (black)
Nominal voltage 12 VDC		Average running current: ≤ 250 mA	Maximum current consumption (blocking current): ≤ 2.4 A.



PIN 1	PIN 3	Funktion *function*
-	+	entriegeln *unlocking*
+	-	verriegeln *locking*

Fig. 5



Locking the charging plug into position

Lock the charging plug by changing the polarity.

Black cable	Red cable	Activation time	Max. activation time	Pause time
Minus	Plus 12 VDC	≤ 200 ms	3 s	8 x activation time

By short-circuiting the motor cable, you prevent the actuator from turning back.

Unlocking the charging plug

Unlock the charging plug by changing the polarity.

Black cable	Red cable	Activation time	Max. activation time	Pause time
Plus 12 VDC	Minus	≤ 200 ms	3 s	8 x activation time

By short-circuiting the motor cable, you can prevent the actuator from rotating.

Operating the magnetic locking actuator

- Apply voltage to the solenoid. The locking pin moves out of the solenoid. This ensures that the charging plug is locked into the charging socket.
- Note that the voltage must be permanently applied to the solenoid for the locking mechanism to function. You can evaluate the locking status or the position of the locking pin using the micro-switch.
- If the voltage at the solenoid drops, the locking pin retracts and the charging plug becomes unlocked. Remove the charging plug from the charging socket (refer to Fig. 6).

Contact assignments	Solenoid plus (red)	Solenoid minus (blue)	Micro-switch signal (white and yellow)	
Nominal voltage: 12 VDC		Max. current consumption of solenoid: 200 mA	Max. switching voltage of micro-switch (signal): 250 VAC	Max. current consumption of micro-switch (signal): 100 mA

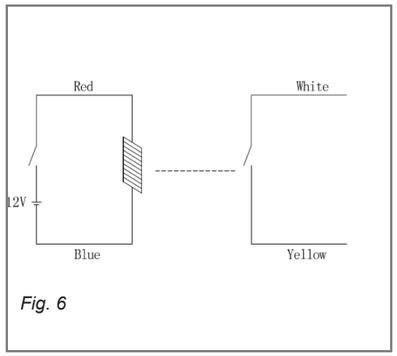


Fig. 6

Operations

Requirements for staff!
Any work relating to the installation, commissioning and maintenance may only be carried out by appropriately qualified staff.

NOTE!:
Mount the charging socket firmly into a charging column (the housing)
(Refer to the general / special safety instructions)
- Make sure that the charging socket is protected so that the user cannot accidentally contact it.

Contamination, dirt, moisture or damage can lead to electric shock!
- Make sure that you check the charging socket for contamination, dirt, moisture and possible damage before the initial commissioning.
- Before the commissioning, make sure that the charging socket is in perfect working order.
- Use only undamaged and dry charging cables.
- Note that the functional safety of the charging socket is not ensured if there are suspicious or defective components.
- **ATTENTION! Remember that a defective charging socket may never be used. They cannot be repaired.**
- Replace a damaged charging socket immediately.

Risk of material damage!
- Check the proper functionality of the locking system at regular intervals.
- Make sure that the charging socket is handled properly. Otherwise, improper usage may destroy the locking system.

NOTE! Only use components that conform to IEC 62196-2 for the charging socket.

Risk of injury! Risk of material damage!
- Ensure that the charging socket is handled properly before each use.
- Check the charging socket regularly for damage. If the charging socket emits smokes or melts, do not touch the charging cable, charging plug or charging socket.
- Immediately stop the charging process on the vehicle.
- Press the emergency stop button if there is one available at the charging station.

Risk of injury! Risk of material damage!
- Make sure that the charging plug is always properly and completely inserted into the charging socket.
- Note that the charging plug may only be removed when it is unlocked.
- Only unlock the charging plug after the charging process has ended. The required unlocking time varies according to the manufacturer of the charging station.
- Improper use of the charging socket (e.g. pulling the charging plug out of the charging socket with great force) can cause severe damage from electric arcs and personal injury.
  Electric arcs can result in death or serious injury.

Cleaning

Clean the charging socket regularly to ensure that it functions correctly and has a long service life.

- When cleaning, avoid harsh cleaning agents, water jets or steam jet cleaners. Never immerse the individual components in water.
- Always clean the charging socket including the contacts with a dry cloth.

Storage

Store the charging socket only in a dry, clean place.

Troubleshooting

If you discover malfunctions while maintaining the charging socket, take the following measures to identify abnormalities and defective / damaged components:

- If damage is detected, replace the entire charging socket. Repair is not permitted.
- If individual components are defective (such as the hinged cover and locking actuator or lifting magnet), you can replace such damaged parts.
- Send conspicuous assemblies back to the manufacturer for repair.
- **NOTE!** All installation, initial commissioning and maintenance work may only be carried out by appropriately qualified staff.
  Always disconnect the charging socket from the power supply before starting your work.
  Observe the maximum tightening torque of the fastening screws during the assembly!