Remote On/Off Control sequence for Presse-Hell printer Tempf 14 *

Condition: Hell printer not powered

* Same principle applies to Hell printers Typ 39, 40, 44

©2014 Frank Döenberg
Remote On/Off Control sequence for Presse-Hell printer Tempf 14 *

**Action:** power-up the printer

**Sequence:**
- apply main power (110-220 Vac)
- → secondary 110 Vdc is activated
- since no tone pulse is being received, magnet M is deenergized and contact m is closed
- → relay A is energized via contact m;
- → contact a2 closes and contact a1 opens
- since contact b3 is closed, relay B is bypassed = not energized → b1 remains open → motor remains off.

* Same principle applies to Hell printers Typ 39, 40, 44
Remote On/Off Control sequence for Presse-Hell printer Tempf 14 *

Action: send start pulse (tone pulse > 0.5 sec) to printer

Sequence:
- the tone pulse energizes magnet $M$ → the magnet armature is rotated against the spindle
- → contact $m$ is opened (and capacitor $C$ is charged via resistor $R$)
- → relay $A$ is de-energized
- → contact $a_2$ opens (and contact $a_1$ closes)
- → relay $B$ is no longer bypassed → relay $B$ is energized after a short time delay
- → contact $b_1$ opens, $b_3$ closes → motor is turned on
- contact $b_3$ opens, which prevents contact $a_2$ from deenergizing relay $B$ (i.e., relay $B$ is latched „on“); contact $b_2$ closes.

* Same principle applies to Hell printers T typ 39, 40, 44

©2014 Frank Dörenberg
Remote On/Off Control sequence for Presse-Hell printer Tempf 14 *

Action: **end** the start pulse (tone pulse > 0.5 sec) to printer

Sequence:
- start pulse ends → magnet \( M \) de-energizes → the magnet armature is rotated away from the spindle
- → contact \( m \) is closed (and capacitor \( C \) is discharged via resistor \( R \))
- → relay \( A \) is energized
- → contact \( a_2 \) closes (and contact \( a_1 \) opens)
- contact \( b_3 \) remains open → relay \( B \) remains energized
- → motor remains **energized**

* Same principle applies to Hell printers T typ 39, 40, 44
Remote On/Off Control sequence for Presse-Hell printer Tempf 14 *

Action: normal printer operation, no tone pulses received
Sequence:
• motor turns continuously

* Same principle applies to Hell printers Typ 39, 40, 44
Remote On/Off Control sequence for Presse-Hell printer Tempf 14 *

Action: normal printer operation, „pixel“ tone pulses received
Sequence:
- pixel tone pulses briefly energize magnet $M \rightarrow$ contact $m$ is opened briefly
- (and capacitor $C$ is discharged via resistor $R$)
- the time-constant of the resistor/capacitor is such that relay $A$ remains energized during normal pixel pulses.
- $\rightarrow$ contact $a_2$ remains closed, and contact $a_3$ remains open during normal pixel pulses.
- $\rightarrow$ motor remains „on“ during normal pixel pulses.

* Same principle applies to Hell printers Tempf 39, 40, 44
Remote On/Off Control sequence for Presse-Hell printer Tempf 14 *

Sequence:
1. The tone pulse energizes magnet M → the magnet armature is rotated against the spindle
2. Contact m is opened → relay A is de-energized
3. Contact a₁ closes (and contact a₂ opens)
4. Contact b₂ is still closed → thermal timer relay Th is energized
5. After ca. 6 sec of energization → contact th closes → relay B is bypassed and deenergizes
6. Contact b₂ opens → motor is turned off
7. Contact b₃ closes (but contact a₂ is now open); contact b₂ opens → thermal relay Th deenergizes

Action: send stop pulse (tone pulse > 7 sec) to printer

* Same principle applies to Hell printers T typ 39, 40, 44

©2014 Frank Dörenberg
Remote On/Off Control sequence for Presse-Hell printer Tempf 14 *

**Action:** end the stop pulse (tone pulse > 7 sec)

**Sequence:**
- stop pulse ends → magnet $M$ de-energizes → the magnet armature is rotated away from the spindle
- → contact $m$ is closed (and capacitor $C$ is discharged via resistor $R$)
- → relay $A$ is energized
- → contact $a_2$ closes (and contact $a_1$ opens)
- contact $b_3$ is still closed → relay $B$ remains de-energized (i.e., relay $B$ is latched „on“) → motor remains off.
- → situation as in slide nr. 2

* Same principle applies to Hell printers Typ 39, 40, 44

©2014 Frank Dörenberg