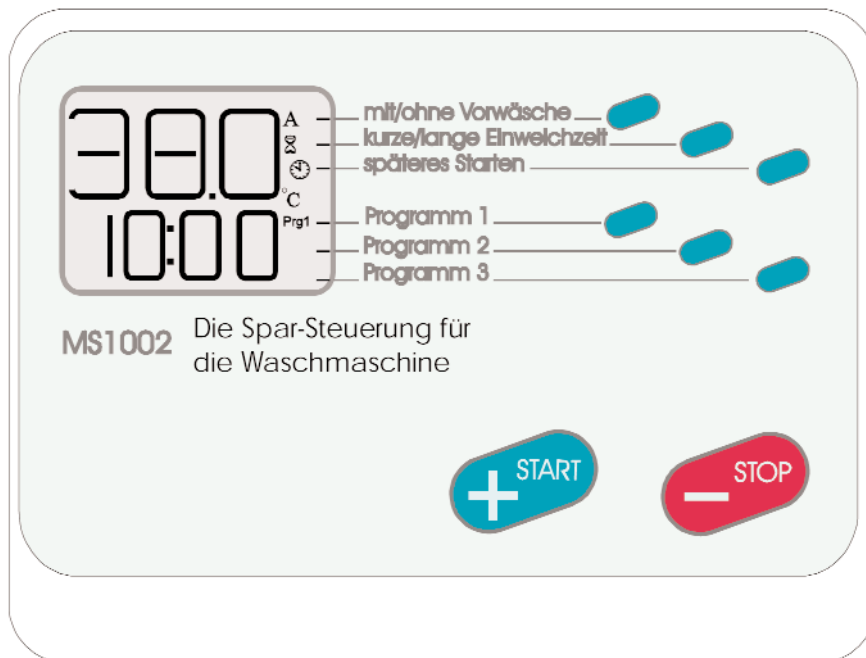


MS 1002

Washing machine control gear

User Manual



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Washing machine control gear MS 1002

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1. Important notes

Before starting use your MS1002 please read this instruction manual exactly. That will help you to operate the device safe and without any errors.

The MS1002 matches the relevant safety norms. Only experts in electric are allowed to repair electric-devices. By improper repair or use the device not according to its original purpose there can occur serious harms for your safety and the safety of the persons around you. If the cable for the power supply (230 V) is damaged let it restore immediatly! If you notice any damage at the casing or at the plug of the MS1002, send the device for an inspection to the manufacturer, to avoid damage to come.

The MS1002 is only to be used with a washing machine for home use. Do not use the MS1002 for anything else! Never put the MS1002 in water or similar liquids. You can clean the device with a moist cloth. Please pull the plug (230 V) before each cleaning. When a power failure happens the MS1002 will switch to its "emergency-program" to guaranty that the washing machine can finish its program. By pressing the "Stop" button the device switches back into the normal program.



If there is no hot water tap but a sink with a hot water connection near to the washing machine you can use the hot water connection by a "Eckfix" piece. You can purchase the "Eckfix" piece by us.

2. Assembly and connection

1. Pull the plug of your washing machine.
2. Unscrew the water hose of the washing machine at the water tap and even at the washing machine.
3. **Remove the sieve**, even if you use "Aqua-Stop", or it could happen that the valve at the return flow inhibitor can not open properly and the inflow of cold water is handicapped.
4. Now you can screw the mixing chamber together with the square hose and the Y-Piece to your washing machine.



When using "Aqua Stop" remove the square hose and put your Ypiece together with the "Aqua Stop" piece by using a hoseconnector (2 x 3/4" external screw thread). If you are using a washing machine with "Aqua-Stop" you need an additional hose.

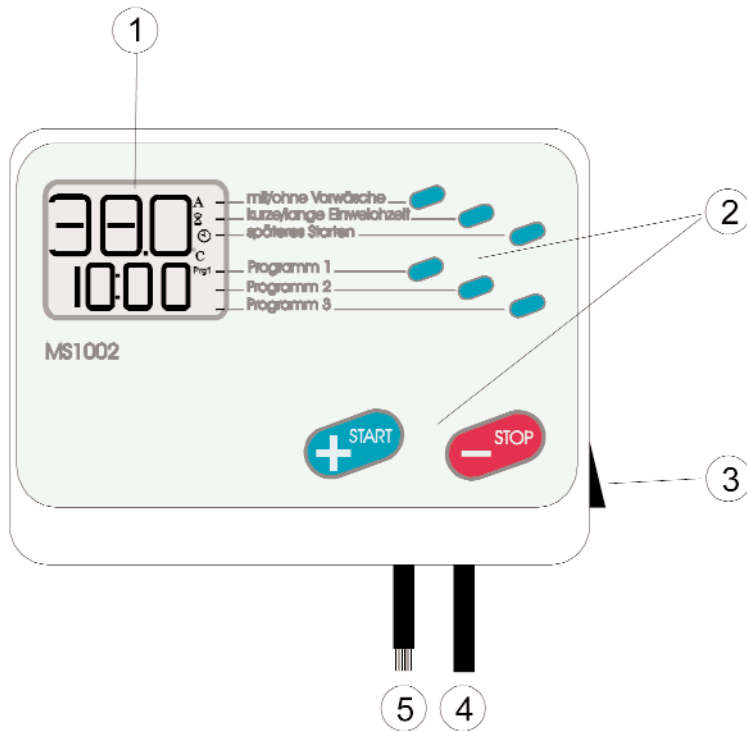
5. The magnetic valve and the mixing chamber have to be assembled, that the hose is faced downwards. (If not it could happen that the inflow is handicapped).
6. Screw the cold water hose and the hot water hose each with the Ypiece of the mixing chamber (see drawing Drilling Jig, on page 11).
7. Screw the existing washing machine hose to the return flow inhibitor.
8. Mount the magnetic valve via the metallic coupler and the return flow inhibitor (which is pre-assembled) at the cold water tap. You can disassemble the adaptor at the water tap (see drawing on page 10 and 11).
9. Proceed alike with the hot water tap. You must use the delivered hose.

Service note:

Calcareous or polluted water makes casual cleaning of the sieve in the magnetic valves necessary.

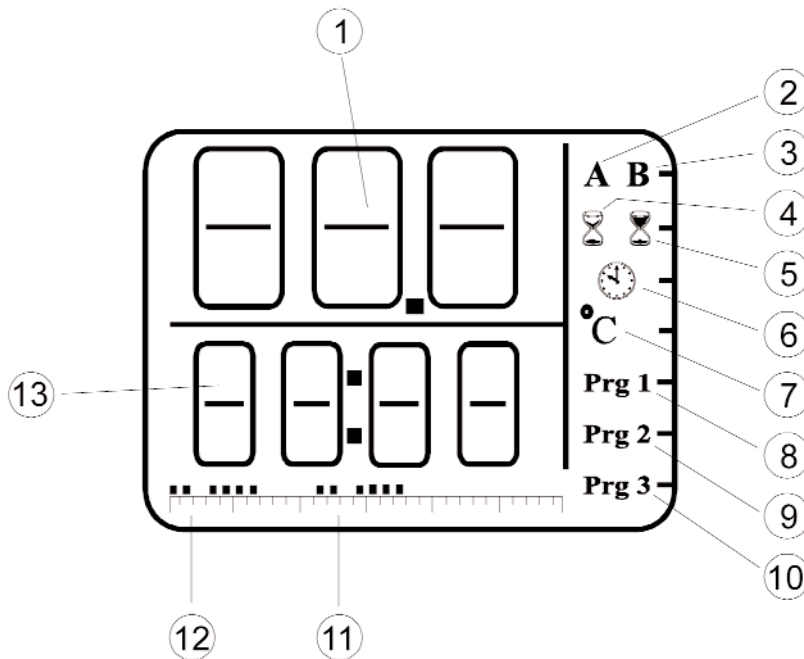
The Water inflow temperature must not exceed 60° C!

3. Explanations



- 1 Display
- 2 Enter keys
- 3 On/off switch
- 4 Power cord 230 V
- 5 Connection cold water valve (blue)
- Connection hot water valve (red)
- Connection feeler gauge at the mixing chamber
- Connection humidity sensor

4. Display



- 1 Display for temperature and amount of breaks
- 2 Prewash on
- 3 Prewash off (only main washing program)
- 4 Short time for soaking
- 5 Long time for soaking
- 6 Starting later
- 7 °C
- 8 Programm1 active
- 9 Programm2 active
- 10 Programm3 active
- 11 Display for hot water magnetic valve
- 12 Display for cold water magnetic valve
- 13 Display for duration of soaking, starting later, setting parameter an remaining time

5. Shipment MS1002

- 1 **piece MS1002** (operating unit) with adapter plug
- 1 **piece hot water** hose 1,5 m length, $\frac{3}{4}$ " , 60 °C
- 1 **piece mixing chamber**, consisting of connection bracket, Y-piece and brass sleeve with temperature sensor.
- 2 **pieces magnetic valve 24 V** with return flow inhibitor and connection for water tap $\frac{3}{4}$ "
- 1 **piece humidity sensor** with fixing by a vacuum cup
- 2 **pieces dowels** 6 mm and bolts
- 5 **pieces gaskets** (rubber)

6. Assembly MS 1002

1. Mark the position of the holes on the wall by using the drilling jig (horizontal).
2. Drill a hole for the dowels by using a 6 mm stone drill and put the dowels succinct in it. (Dowels are suitable with brickwork, finery, and concrete). When assembling at cavity walls, for example plasterboard, please use special dowels for cavity walls.
3. Turn the bolts in until a gap of 3-4 mm between wall and bolt head inside is reached.
4. Hook MS1002 in.
5. Establish the electric connection between the magnetic valves and the MS1002 (Attach plug fix on the connection clip).
6. Put the humidity sensor via the vacuum cup at the washing machine in the way that the plastic housing contact the floor (pins faced downwards to the floor).
7. Plug in the power plug (adapter plug) of the control gear in the power socket.
8. Put the washing-machine plug in the adapter plug of the control gear.
9. At first starting, check all compression couplings for leak tightness and if necessary retighten.
10. If your washing machine uses "Aqua-Stop", it's necessary to order an extra hose connector and an extra hose.

7. Initiation MS1002

1. Turn on MS1002 by using the on/off switch Now program 1 without prewash is chosen

2. Press button "mit/ohne Vorwäsche" to switch pre-wash on or off (A = on, B = off)
.. choose the washing program (Programm 1, Programm 2, Programm 3)

3. Fill your washing machine like you are used to do (Put laundry in, fill washing agent in, adjust your washing machine and switch it on)

4. Press the start button on the MS1002. The washing machine starts now. The MS 1002 controls now with the standard settings .

After about 26 min. delay at the main washing programm (without breaks) the hot water valve close itself and the cold water valve will be opened at least for 2 hours. Soonest now a 2 hour remaining time will be shown at the display. After that the display will show "Aus", what means that the MS1002 is finished but the power is still on. The programm for your washing machine will end earlier so you can at that time take your clothes out of the washing machine. Now you can press the "Stop" button and switch the device out or press the "Stop" button and continue washing clothes. If you forget to press "Stop" after the washing machine has ended its programm before switching the MS1002 off, at the next start the error code E-6 will appear but you can delete this error by pressing the "Stop" button.

8. Urgent notes for programming MS1002

1. If the display is flashing, you're at the programming mode.

2. Programmed values will only be saved if at least one stage of the washing program has been finished before the device is switched off.

3. The soaking time arise from setted time of breaks multiplied with the sum of breaks.
Example: 10 min x 4 breaks = 40 min soaking-time.

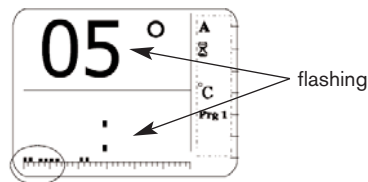
Please program not more than 4 breaks.

Positioning of pre-wash temperature

At factory setting a temperature of 5 °C is set in "Programm 1" and a temperature of 30 °C is set in "Programm 2" and "Programm 3"

If you want to change the temperature please do the following:

1. Press and hold button "mit/ohne Vorwäsche".
2. Press and hold button "Programm 1".
3. Change value by pressing buttons +/-.
4. Release buttons and press "Stop".



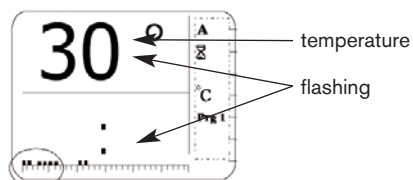
The programmed value is the same for "Programm 1", "Programm 2 and "Programm 3".

Positioning of main-wash temperature

At factory setting a temperature of 30°C is set in "Programm 1" a temperature of 40°C is set in "Programm 2" and a temperature of 60°C is set in "Programm 3"

If you want to change the temperature please do the following:

1. Press and hold button "Programm 1".
2. Change value by pressing buttons +/-.
3. Release buttons and press "Stop".



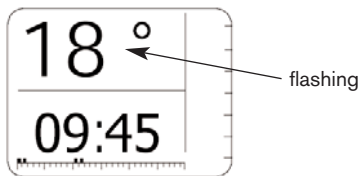
If you want to change settings in "Programm 2" and "Programm 3" then repeat the Steps 1 to 3 by pressing the corresponding button. The temperature setting is changed in 1°C steps.

Positioning "späteres Startens" (= "starting later")

At factory setting the time for starting later (späteres Starten) is 0 minutes. The delay you want the machine starting later is expressed in hours and minutes. For example 9:45 means that 9 hours and 45 minutes will pass before the washing machine will start.

If you want to change the time please do the following:

1. Press and hold button "späteres Starten".
2. Change value by pressing buttons +/- in steps of 5 minutes.
3. Release buttons and press "Stop".



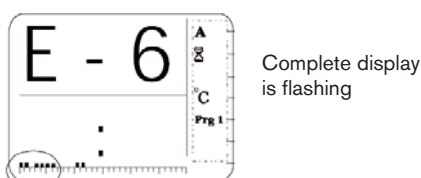
The programmed value is the same for "Programm 1", "Programm 2" and "Programm 3".

If "starting later" is active you can see a clock in the display. If you want to activate starting later press the button "späteres Starten". If you want to start the machine immediately after you've first time pressed the button press button a second time. (There will be no more clock showed in the display).

Turning into the emergency program (device switches into the emergency program after a blackout itself)

If there is a error or defect part at any time, you can turn the Ms1002 into a emergency program, so you can use your washing machine, like the MS1002 weren't installed. In this program the cold water valve is open and the power is always on.

To activate the emergency program, just press the buttons "Programm 1", "Programm 2" and



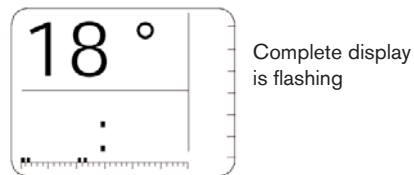
Only the cold water valve is opened

"Programm3" at the same time.

Reset

With that, all parameter will be restored to the default settings.

1. Switch of MS1002
2. Press button "Start" and "Stop" at the same time and hold both
3. Switch MS1002 back on again and wait until the display will appear again
4. Release the buttons



Errorcodes

E-1 = Short-circuit

E-2 = The connection to the temperature sensor has been cut, for example the plug isn't installed properly.

E-3 = Humidity sensor has triggered

E-6 = Emergency program or after a blackout

E-7 = Short-circuit in the magnetic valve(s)



Remedy the error and press the "Start" button before restarting, to delete the error-message.

If the water is colder than 5°C the temperature sensor has to be deactivated, or the error code "E" will appear. For that switch off the MS1002, press and hold the "Programm 2" key, and switch the MS1002 back on. Release the button not until the temperature is shown in the display. After 60 seconds the setting is saved. Press, while a program is running, the button "Programm 2" to switch the temperature sensor off. An "A" will appear in the lower half of the display, which means that the temperature sensor is switched off. The temperature sensor can even be activated by doing that steps again.

9. Technical data

MS1002:

VDE-certified Nr. 119634

Voltage 230 V, 50 Hz

Wattage 0,6-13 W, casing IP44

Breaking capacity 16 A

Measures:

180 mm x 140 mm x 58 mm, weight 1,8 kg

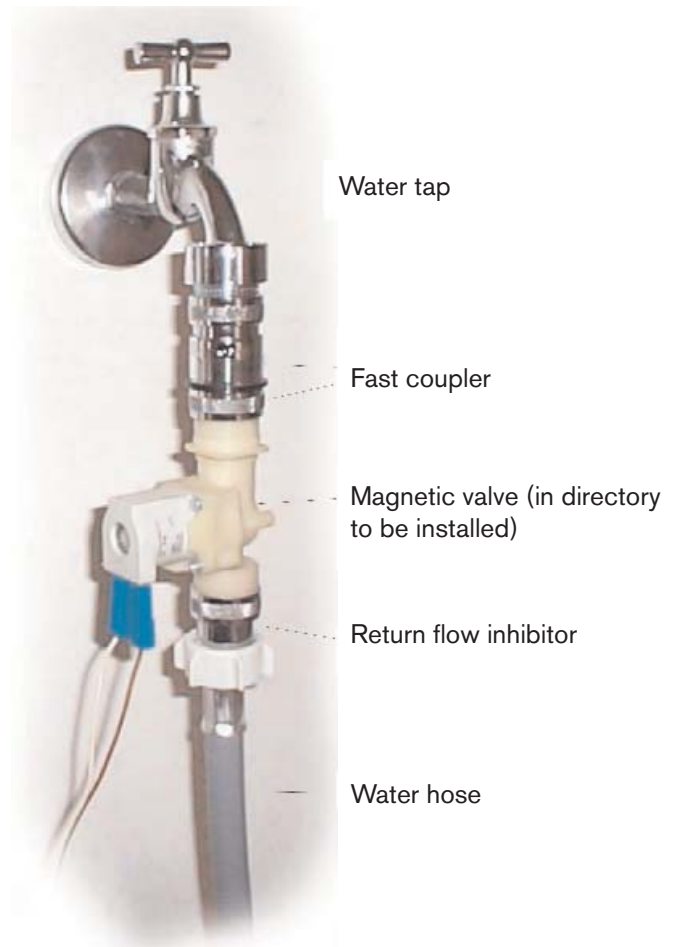
Magnetic valve:

24 V AC, 5 W, 3/4" thread

Technical claim:

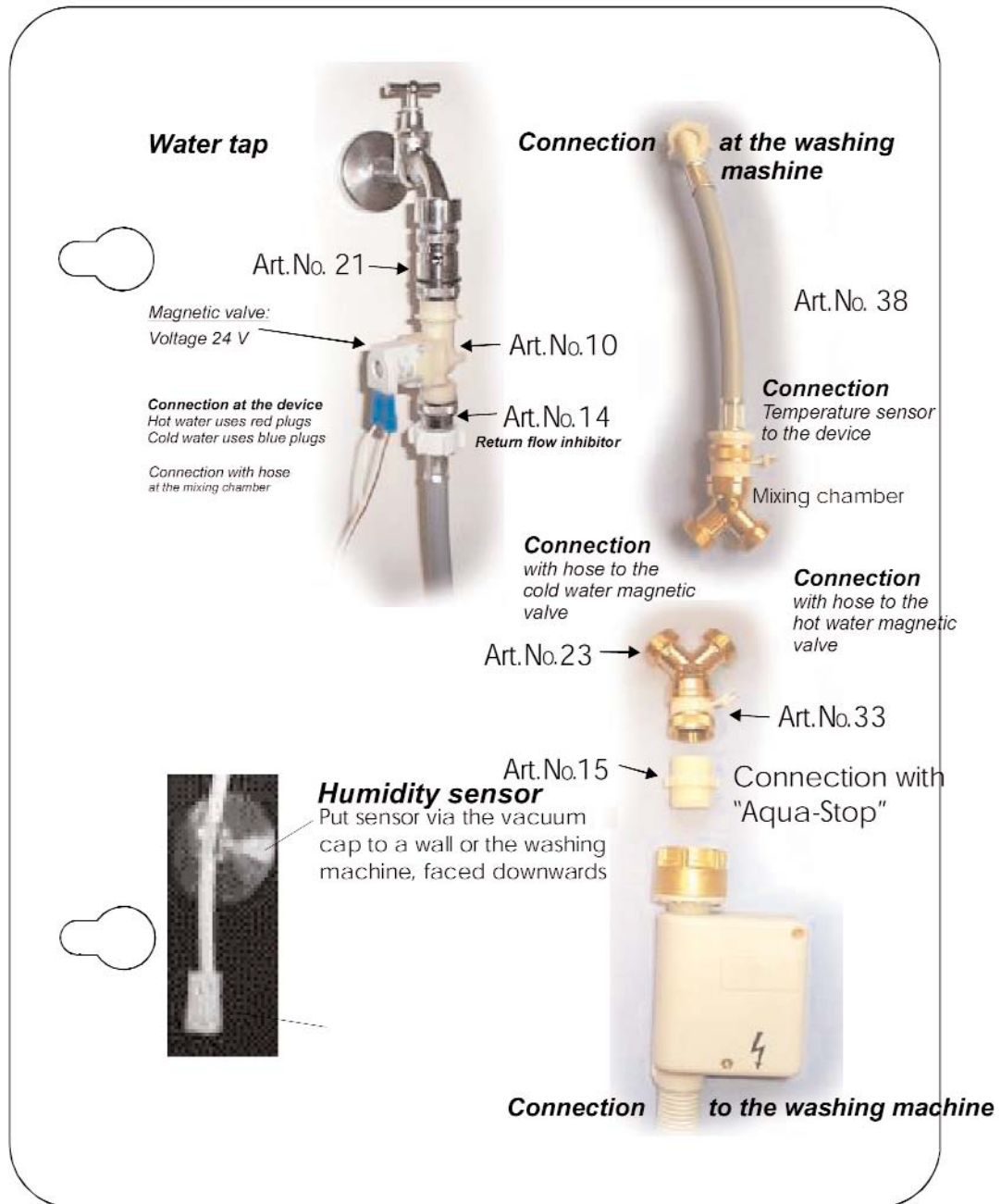
There must exist an automatic circuit breaker 16 A.

All changes, serve the technical advance, reserved.



Drilling jig

Drilling jig



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