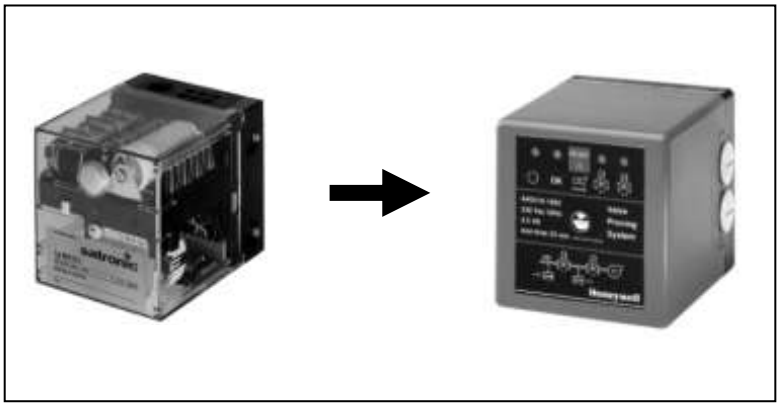
# SATRONIC MDP720 TO A4021 CONVERSION



## SUMMARY

The diagrams and instructions contained in this sheet are for converting the Satronic MP720 electromechanical valve proofing system to A4021A microprocessor based valve proofing system.

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***IMPORTANT NOTES***

- Take care that installer is a trained experienced service person.
- Turn off gas supply and disconnect power supply before starting installation to prevent electrical shock and/or equipment damage.
- Improper configuration may cause a fire or explosion hazard.
- Voltage and frequency of the connected power supply must agree with the specifications as shown on the device label.
- Perform all required checkout tests after installation is complete.

**OS numbers involved:**

| Old Satronic device | New device |
|---|---|
| 08905 (MDP720-1)<br>08906 (MDP720-1 Mod.NL) | A4021A1002 + mounting sub base ZL030001 |

Note:
08905 has test time of 120s
08906 has test time of 60s
A4021A1002 uses test time of 60s

Vacuum pump operation is not possible using the A4021A.

For more detailed configuration details refer to the Product Handbook of A4021 document number EN2R--9023

| Satronic MDP720 series | | | Honeywell A4021 series | | | Remarks |
|---|---|---|---|---|---|---|
| **MDP720** | **Description MDP720** | **Direction** | **A4021** | **Description A4021** | **Direction** | |
| 1 | Leaktest in progress. | Output | | | | A4021 shows status on front by LED's. |
| 2 | Normally open valve output (vent valve) | Output | 13 | Normally open valve output (vent valve) | Output | |
| 3 | Vacuum pump | Output | | | | Vacuum pump configuration not provided in A4021 |
| 4 | Fan control from burner control | Input | | | | A4021 does not interact with blower fan |
| 5 | First valve in gastrain (VA1=BV1, upstream). To valve. | Output | 16 | First valve in gastrain (VA1=V1, upstream). To valve. | Output | |
| 6 | Second valve in gastrain (VA2=BV2, upstream). To valve. | Output | 8 | Second valve in gastrain (VA2=V2, upstream). To valve. | Output | |
| 7 | Alarm | Output | 11 | Alarm (potential free output, see terminal 10) | Output | |
| 8 | Neutral line | Input | 4 | Neutral line | Input | |
| 9 | Heat demand from thermostat or temperature controller | Input | 9 | Heat demand from thermostat or temperature controller | Input | |
| 10 | Heat demand to burner controller | Output | 12+14 | Heat demand to burner controller (pre-start leak test config) | Output | |
| 11 | Remote reset | Input | 2 | Remote reset | Input | Line voltage input |
| 12 | Burner fan | Output | | | | A4021 does not interact with blower fan |
| 13 | GPS connection (bypass valve config) | Output | | | | A4021 is controlled from SPST NO contact from GPS |
| 14 | GPS connection (bypass valve or vacuum config) | Input | | | | A4021 is controlled from SPST NO contact from GPS |
| 15 | GPS connection (bypass valve or vacuum config) | Input | 1 | NO contact from GPS (switches to Line Voltage) | Input | |
| 16 | GPS connection (vacuum config) | Input | | | | Vacuum pump configuration not provided in A4021 |
| 17 | Vacuum pump configuration (jumper to 18) | Input | | | | Vacuum pump configuration not provided in A4021 |
| 18 | Configuration common | Output | | | | Vacuum pump configuration not provided in A4021 |
| 19 | Bypass valve configuration (jumper to 18) | Input | | | | Vacuum pump configuration not provided in A4021 |
| | | | 3 | Line voltage | Input | |
| | | | 5 | Neutral line for VA1 or VA2 | Output | |
| | | | 6 | Neutral line for VA1 or VA2 | Output | |
| | | | 7 | Second valve in gastrain (VA2, upstream). From burner control | Input | If burner controller has 1 output for main valve then connect both pins 7 & 15 to this terminal. |
| | | | 10 | Alarm (potential free input, see terminal 11) | Input | Enables feedback of alarm to low voltage device like PLC |
| | | | 15 | First valve in gastrain (VA1, upstream). From burner control | Input | If burner controller has 1 output for main valve then connect both pins 7 & 15 to this terminal. |

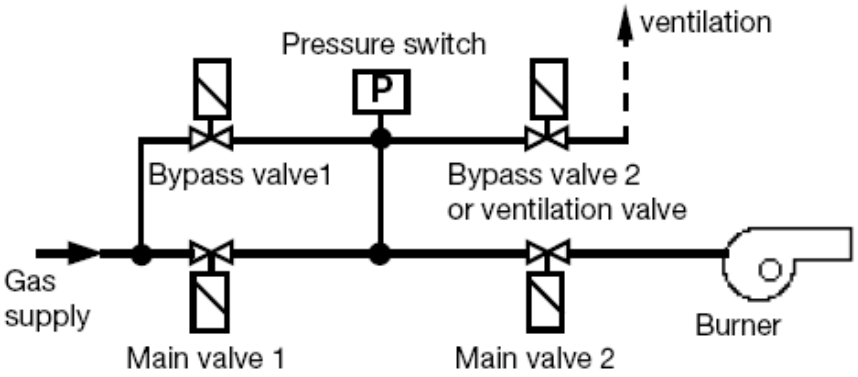


**Fig 1: Example of Gas Train**

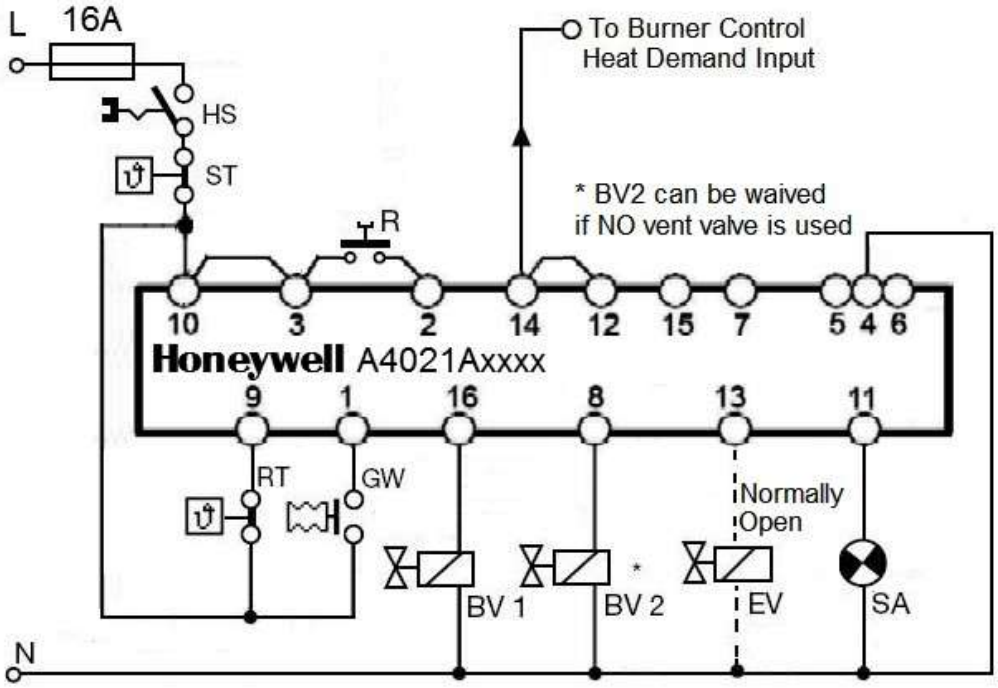


**Fig 2: Block Diagram Honeywell A4021A**

HS=Main Switch
ST=Safety Thermostat
RT=Heat Demand
GW=Low Gas Pressure Switch
DW=Test Gas Pressure Switch
BM=Blower
SA=Alarm
SL=VPS Working
R=Reset
EV=Vent Valve (NO)
BV=Bypass Valve

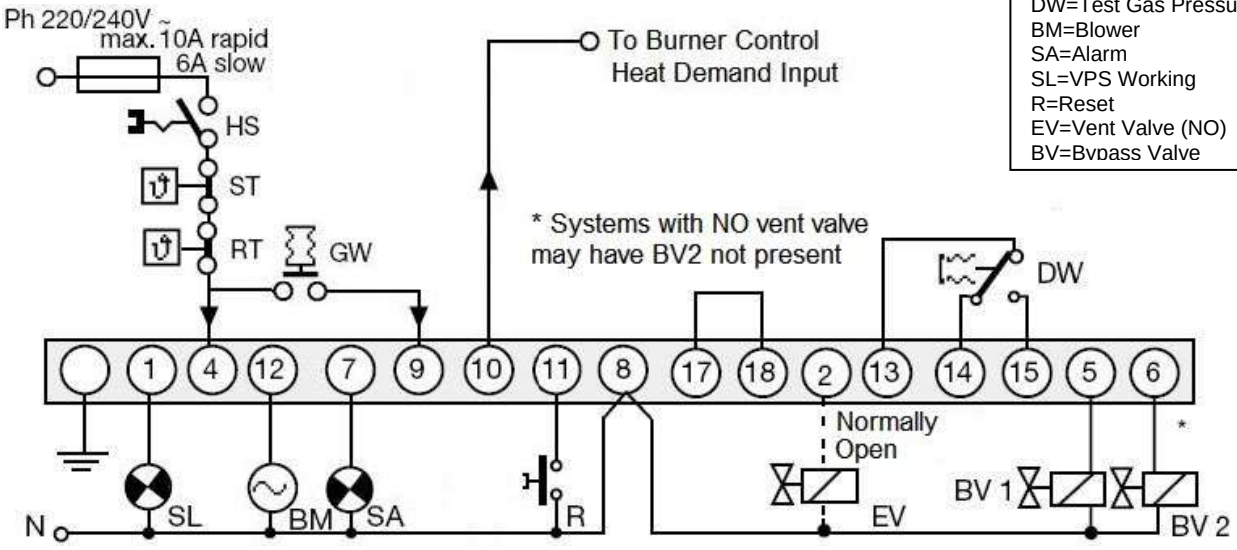


**Fig 3: Block Diagram Satronic MDP720**

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