Precautions

**WARNING**

Use of this equipment in a manner not specified by the manufacturer may impair protection provided by the equipment.

In addition to presenting a potential fire hazard, high voltage and high temperature can damage equipment and cause severe injury or death. When installing or using this instrument, follow all instructions carefully and use approved safety controls.

Hazardous potentials exist on components inside the controller. Always disconnect AC power and AC or DC signal input to the mainframe when servicing the controller.

Because these controllers or associated equipment may not always be fail safe, an approved safety control should be used for safe operation.

Turn off power to the controller before cleaning the exterior of the controller.

Failure to observe these precautions can result in exposure to a potentially lethal shock hazard.

All wiring should be done by an experienced technician. The controller and wiring should be installed in accordance with national and local electrical codes. To avoid serious personal injury and damage to equipment, follow all warnings and cautions provided in the hardware setup instructions.

---

**CAUTION**

If a controller shows signs of having been damaged during shipping, do not power up or install the controller. Save all packing materials and report any damage to the carrier immediately.

Do not locate this instrument where it may be subjected to excessive shock, vibration, dirt, moisture, oil, or other liquids.

This is a Class A product. In domestic environments this product may cause radio interference in which case the user may be required to take adequate measures.
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1.0 Features and Benefits

1.1 Uses

The Sequential Controller GTV8 provides a means of controlling the mould filling sequence when using Valve Gate Hot Runner Systems.

GTV8 enables the Valve Gates of a Hot Runner System to be individually controlled to provide the following benefits:

1.1.1 Removal or Positioning of Weld Lines

Quality of the moulded part can be improved by removing or repositioning weld lines or visual surfaces or sections where a weld line would cause a weakness.

1.1.2 Regulation of the Injection Quantity by Gate Operation

Flash occurrence or short moulding is improved by the regulation of the Injection Quantity from each individual gate.

1.1.3 Reduction of Clamping Force

Injection is performed with minimum clamping force because all of the gates are not opened simultaneously.

1.1.4 Reduction of Flow Marks

Flow marks are minimised by being able to raise the injection rate of the gate.

2.0 Power Supply

<table>
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<tr>
<th>Mains Power Supply (Timer case)</th>
<th>Single Phase AC 220V (50/60 Hz)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Injection Signal Input Power Supply</td>
<td>24VDC, 220VAC</td>
</tr>
<tr>
<td>Solenoid Output Power Supply</td>
<td>Signal Voltage, 100mA/Zone</td>
</tr>
<tr>
<td>Operating Temperature Range</td>
<td>-10°C to 50°C</td>
</tr>
</tbody>
</table>
3.0 Control Panel Layout

1. POWER Button – Controller Power on / off
2. MODE Button – Mode Setting Adjustment
3. OPEN Button – Manual Gate Actuation
4. Gate Signal - LED
5. MODE A – LED
6. MODE B – LED
7. Arrow Buttons – Moving within menu settings
8. ENTER Button – Setting Confirmation
9. Output Voltage – Signal Voltage to solenoid
10. SIGNAL Input – LED
4.0 Functions

4.1 Setup
1) Mount unit securely and away from heat sources to avoid damage during use.
2) Connect Signal Input wire to injection moulding machine.
3) Connect Signal Output cable wires to solenoid (refer wiring section 6.1).
4) Connect mains power supply, turn on power supply. Power LED should now flash.

4.2 Mode Setting
1) Press the POWER button to activate the unit. The OPEN, DEL and Mode LED should now be displayed.
2) Press and hold the MODE button for 4 seconds to activate the Timer Mode settings, the LED Mode light on Gate 1 should now flash.
3) Use the up and down Arrow Buttons to move between MODE A, MODE B or turn off the Gate when both Mode LED and flash.
4) Use the left and right arrow buttons to move between the Gate numbers, and set all the Gate modes required.

4.3 Units Setting (999 / 99.9 / 9.99)
1) Use the up and down Arrow Buttons to move to the required Gate. The DEL or OPEN display for the selected Gate will flash.
2) Press and hold the MODE button for 4 seconds. The DEL display on the Gate selected will now display “UnI”, and the OPEN display will now display the Units [999 / 99.9 / 9.99].
3) Use the up and down Arrow Buttons to select the units required for that Gate.
4) Use the left and right Arrow Buttons to move to other Gates if you wish to change the units.
5) Press Enter Button to save setting, or keep idle for 4 seconds to auto save.

4.4 Manual Gate Actuation
1) Without selecting a Gate, press the OPEN Button to open all gates.
2) Use the Arrow Buttons to select a specific Gate, and press the OPEN Button to open only the selected Gate.

4.5 Set the Start Signal Delay Time (DEL)
1) Use the Arrow Buttons to select the required Gate DEL panel required, press the ENTER Button to confirm. The right side digit in the DEL panel should now flash.
2) Use the Up and Down Arrow buttons to increase or decrease the digit value, or use the left and right Arrow Buttons to move to the digit to change.
3) Press the ENTER Button to save setting, or keep idle for 4 seconds to auto save.

4.6 Set the Solenoid Open Time (OPEN)
1) Use the Arrow Buttons to select the required Gate OPEN panel required, press the ENTER Button to confirm. The right side digit in the OPEN panel should now flash.
2) Use the Up and Down Arrow buttons to increase or decrease the digit value, or use the left and right Arrow Buttons to move to the digit to change.
3) Press the ENTER Button to save setting, or keep idle for 4 seconds to auto save.
5.0 Mode Specifications

5.1 Mode Specification

The GTV8 has 2 mode specifications.

5.2 MODE A (Continuous Sequence)

Selecting Mode A - After the injection signal has been received, the gate remains closed during the DEL time. After the DEL time has elapsed, the gate opens and remains open until the end of the injection signal.

Example: Injection time 10 seconds/DEL time: 3 seconds. Gate opens 3 seconds after receiving the injection signal and remains open for 7 seconds and then closes.

5.3 MODE B (Intermittent Sequence)

Selecting Mode B - After injection signal has been received, the gate remains closed during the DEL time. After the DEL time has elapsed, the gate opens for the OPEN time setting. After the OPEN time has elapsed, the gate closes and remains closed.

Example: Injection time 10 seconds/DEL time 3 seconds/OPEN time 4 seconds. Gate opens 3 seconds after receiving the injection signal and remains in the open condition for 4 seconds and then closes.
### 6.1 Wiring Solenoid Output Connectors

<table>
<thead>
<tr>
<th>Connector Pin No.</th>
<th>Solenoid Valve No.</th>
<th>Gate Output Connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>+</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>1 (Black)</td>
<td>2 (Black+Stripe)</td>
<td>No. 1 Solenoid</td>
</tr>
<tr>
<td>3 (Brown)</td>
<td>4 (Brown+Stripe)</td>
<td>No. 2 Solenoid</td>
</tr>
<tr>
<td>5 (Red)</td>
<td>6 (Red+Stripe)</td>
<td>No. 3 Solenoid</td>
</tr>
<tr>
<td>7 (Orange)</td>
<td>8 (Orange+Stripe)</td>
<td>No. 4 Solenoid</td>
</tr>
<tr>
<td>9 (Yellow)</td>
<td>10 (Yellow+Stripe)</td>
<td>No. 5 Solenoid</td>
</tr>
<tr>
<td>11 (Green)</td>
<td>12 (Green+Stripe)</td>
<td>No. 6 Solenoid</td>
</tr>
<tr>
<td>13 (Blue)</td>
<td>14 (Blue+Stripe)</td>
<td>No. 7 Solenoid</td>
</tr>
<tr>
<td>15 (Purple)</td>
<td>16 (Purple+Stripe)</td>
<td>No. 8 Solenoid</td>
</tr>
</tbody>
</table>

HAN 16A [250V 16A]  
MALE P/N:09 20 016 2612  
FEMALE P/N:09 20 016 2812
7.0 Composition

Signal Input from Injection Moulding Machine
Signal Output to solenoid
220VAC Power Supply
8.0 General Schematic

- **Air Lines**: Air output to mould, cylinder open/closed

- **Power Signals**: Output signal to solenoid pack 24VDC

- **Injection signal from moulding machine 24VDC**

- **Moulding Machine Control Centre**

- **Sequential Controller**

- **Solenoid Pack**

- **Input Power 220VAC**
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