G5RL-TV8 Introduction

Omron Relay & Devices
C&C relay Division
### G5RL-TV8 Rating model Released

**TV8 Rating (Inrush current: 117A) 1a contact 16A Switching Relay Released**

<table>
<thead>
<tr>
<th>Item</th>
<th>Spec</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>G5RL-1A(4)-E-TV8</td>
</tr>
<tr>
<td>Rated coil voltage</td>
<td>DC5, 12, 24, 48 V</td>
</tr>
<tr>
<td>Size (mm)</td>
<td>12.7(W) × 29.0(L) × 12.5(H)</td>
</tr>
<tr>
<td>Contact form</td>
<td>1a</td>
</tr>
<tr>
<td>Rated load</td>
<td>AC 250V/DC 24V 16A</td>
</tr>
<tr>
<td>Power consumption</td>
<td>Approx. 400mW*</td>
</tr>
<tr>
<td>Approved standards</td>
<td>UL (TV-8) / CSA / VDE</td>
</tr>
<tr>
<td>Ambient operating temperature</td>
<td>−40 ～ +85°C</td>
</tr>
<tr>
<td>Release date</td>
<td>Aug. 2016</td>
</tr>
</tbody>
</table>

* Approx. 430mW only for DC48V
## Target Application

<table>
<thead>
<tr>
<th>Application</th>
<th>Relay Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>FA/Industry equipment</td>
<td>Switching Inverters, Servomotors, Compressors, Water pumps, Switching Power supply</td>
</tr>
<tr>
<td>Machine tool</td>
<td></td>
</tr>
<tr>
<td>Robot</td>
<td></td>
</tr>
<tr>
<td>Air conditioner</td>
<td>Switching Compressors, PTC heaters</td>
</tr>
<tr>
<td>LED TV</td>
<td>Switching Power supply</td>
</tr>
<tr>
<td>Lighting (LED, Incandescent lamp)</td>
<td>Switching Power supply</td>
</tr>
</tbody>
</table>
Omron TV rating Product MAP

High Inrush

TV-10 (141A)
- G7L-1A (30A)
- G4W (15A)

TV-8 (117A)
- G5RL-Latching (16A)
- G5RL-TV8 (16A)

TV-5 (78A)
- G5RL-HR (16A)
- G5RL-LN (16A)
- G5RL-HR (16A)

TV-3 (51A)
- G5Q-EL2 (10A)
- G4W (10A)
- G2R-2A (5A)
- G2R-2 (5A)

1a 1c 2a 2c Contact form

- FA
- Motor
- Inverter

- Lighting
- LED TV
- Motor
- Inverter

- Temperature control
- Motor
- Inverter

- Power supply
- Motor
- Inverter
Target Application Example

Lighting control

Circuit diagram example

Sensor

Relay

Load

0V

【Customer Trend】
- standard lamp to LED
- IoT (Ex: Lighting control system by using communication line)

【Relay application】
- Lighting control by Detector of infrared ray sensor
- Actuator of Lighting dimmer

【Requirement】
- contact: 1a
- current: 16A
- High Inrush current: 50-300A
- E-LIFE: min. 30Kopcs – 100Kops
- Low coil consumption: standard or latching coil

【Recommended Relay】
Lamp, LED Lighting
100~500W >>> G5Q-EL2 (TV-3) 
G2RL-1A-E-ASI (TV-3)
500~1000W >>> G5RL (TV-5)
1000W~2000W >>> G5RL-TV8
High inrush resistance relay is required for loads on which inrush current occurs; such as Motors, Lamps, Condensers.

*Application Examples*
- Lighting, Temperature control
- LED TV over 50 inches, Home Appliances, etc.
- Industrial equipment (Water pump, Motor, etc.)

Especially for Lighting Control and Large LED TV, high inrush resistance (TV8) requirement is increasing and growing on Home Appliance and Building Automation markets.

Omron then launched New G5RL-TV8 with single stable type with Competitive Pricing and High inrush resistance.
For Building Automation market which is one of the growing markets, Resistance for conditions including high inrush current is required such as lighting or pump load (Example)

Water pump

Waveform of the real road

<<Condition>>
Motor Load: 230V AC
Motor Current: 8.8A
Motor Power: 1,100W
Thank You!

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