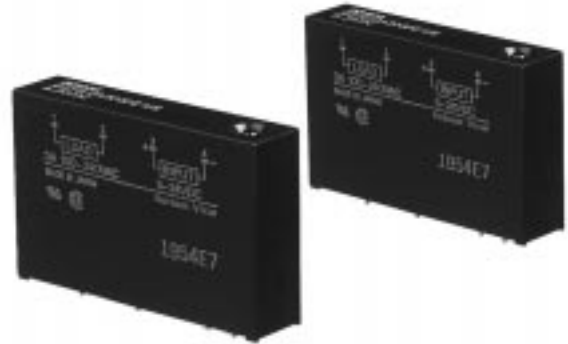


I/O SSR Used as Interface between Logic Circuitry and Load

- A variety of AC/DC input and output modules classified by the color.
- Operation can be monitored easily through an LED indicator.
- Dielectric strength of 4,000 V between input and output terminals.



RCE

Ordering Information

Input Module

| Isolation | Indicator | Logic level | | Rated input voltage | Model |
|--------------|-----------|----------------|----------------|---------------------|-----------------|
| | | Supply voltage | Supply current | | |
| Photocoupler | Yes | 4 to 32 VDC | 25 mA | 100 to 240 VAC | G3TB-IAZR02P-US |
| | | | | 4 to 32 VDC | G3TB-IDZR02P-US |

Output Module

| Isolation | Zero cross function | Indicator | Applicable output load | Rated input voltage | Model |
|--------------|---------------------|-----------|------------------------|---------------------|------------------|
| Photocoupler | Yes | Yes | 3 A at 75 to 264 VAC | 5 to 24 VDC | G3TB-OA203PZ-US |
| | | No | | 4 to 24 VDC | G3TB-OA203PZM-US |
| | No | Yes | 3 A at 75 to 264 VAC | 5 to 24 VDC | G3TB-OA203PL-US |
| | | No | | 4 to 24 VDC | G3TB-OA203PLM-US |
| | --- | Yes | 3 A at 4 to 60 VDC | 5 to 24 VDC | G3TB-ODX03P-US |
| | | | | 4 to 24 VDC | G3TB-ODX03PM-US |
| | | No | 1.5 A at 40 to 200 VDC | 5 to 24 VDC | G3TB-OD201P-US |
| | | | | 4 to 24 VDC | G3TB-OD201PM-US |

Specifications

■ Ratings

Input Module

Input

| Model | Rated voltage | Operating voltage | Input current | Voltage level | |
|--------------|----------------|-------------------|---------------|----------------------|----------------------|
| | | | | Must operate voltage | Must release voltage |
| G3TB-IAZR02P | 100 to 240 VAC | 80 to 264 VDC | 5 mA max. | 80 VAC max. | 10 VAC min. |
| G3TB-IDZR02P | 4 to 24 VDC | 3 to 32 VDC | | 3 VDC max. | 1 VDC min. |

Output

| Model | Logic level supply voltage | Output breakdown voltage | Output current |
|--------------|----------------------------|--------------------------|----------------|
| G3TB-IAZR02P | 4 to 32 VDC | 32 VDC max. | 25 mA max. |
| G3TB-IDZR02P | | | |



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Output Module

Input

| Model | Rated voltage | Operating voltage | Input current | Voltage level | |
|---------------|---------------|-------------------|---------------|----------------------|----------------------|
| | | | | Must operate voltage | Must release voltage |
| G3TB-OA203PZ | 5 to 24 VDC | 4 to 32 VDC | 5 mA max. | 4 VDC max. | 1 VDC min. |
| G3TB-OA203PZM | 4 to 24 VDC | 3 to 32 VDC | | 3 VDC max. | |
| G3TB-OA203PL | 5 to 24 VDC | 4 to 32 VDC | | 4 VDC max. | |
| G3TB-OA203PLM | 4 to 24 VDC | 3 to 32 VDC | | 3 VDC max. | |
| G3TB-ODX03P | 5 to 24 VDC | 4 to 32 VDC | | 4 VDC max. | |
| G3TB-ODX03PM | 4 to 24 VDC | 3 to 32 VDC | | 3 VDC max. | |
| G3TB-OD201P | 5 to 24 VDC | 4 to 32 VDC | | 4 VDC max. | |
| G3TB-OD201PM | 4 to 24 VDC | 3 to 32 VDC | | 3 VDC max. | |

Output

| Model | Applicable load | | |
|---------------|-----------------|-------------------------|-----------------------|
| | Load voltage | Load current (see note) | Inrush current |
| G3TB-OA203PZ | 75 to 264 VAC | 0.05 to 3 A | 45 A (60 Hz, 1 cycle) |
| G3TB-OA203PZM | | | |
| G3TB-OA203PL | | | |
| G3TB-OA203PLM | | | |
| G3TB-ODX03P | 4 to 60 VDC | 0.01 to 3 A | 18 A (10 ms) |
| G3TB-ODX03PM | | | |
| G3TB-OD201P | 40 to 200 VDC | 0.01 to 1.5 A | 12 A (10 ms) |
| G3TB-OD201PM | | | |

Note: The minimum current value is measured at 10% C min..

■ Characteristics

Input Module

| Item | G3TB-IAZR02P | G3TB-IDZR02P |
|------------------------|---|--------------|
| Operate time | 20 ms max. | 1 ms max. |
| Release time | 20 ms max. | 1 ms max. |
| Output ON voltage drop | 0.4 V max. | |
| Leakage current | 100 mA max. | |
| Insulation resistance | 100 MW min. (at 500 VDC) | |
| Dielectric strength | 4,000 VAC for 1 min between input and output | |
| Vibration resistance | Malfunction: 10 to 55 Hz, 1.5-mm double amplitude | |
| Shock resistance | Malfunction: 1,000 m/s ² (approx. 100G) | |
| Ambient temperature | Operating: -30% to 80°C (with no icing) Storage: -30% to 100°C (with no icing) | |
| Ambient humidity | Operating: 45% to 85% | |
| Weight | Approx. 22 g | |

Output Module

| Item | G3TB-OA 203PZ | G3TB-OA 203PZM | G3TB-OA 203PL | G3TB-OA 203PLM | G3TB-OD X03P | G3TB-OD X03PM | G3TB-OD 201P | G3TB-OD 201PM |
|------------------------|---|-------------------|------------------|-------------------|-----------------|------------------|-----------------|------------------|
| Operate time | 1/2 of load power source cycle + 1 ms max. | | | | 0.5 ms max. | | | |
| Release time | 1/2 of load power source cycle + 1 ms max. | | | | 2 ms max. | | | |
| Output ON voltage drop | 1.6 V max. | | | | | | 2.5 V max. | |
| Leakage current | 5 mA max. (at 200 VAC) | | | | 1 mA max. | | | |
| Insulation resistance | 100 MW min. (at 500 VDC) | | | | | | | |
| Dielectric strength | 4,000 VAC for 1 min between input and output | | | | | | | |
| Vibration resistance | Malfunction: 10 to 55 Hz, 1.5-mm double amplitude | | | | | | | |
| Shock resistance | Malfunction: 1,000 m/s ² (approx. 100G) | | | | | | | |
| Ambient temperature | Operating: -30% to 80°C (with no icing) Storage: -30% to 100°C (with no icing) | | | | | | | |
| Ambient humidity | Operating: 45% to 85% | | | | | | | |
| Weight | Approx. 25 g | | | | | | | |



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■ Approved Standards

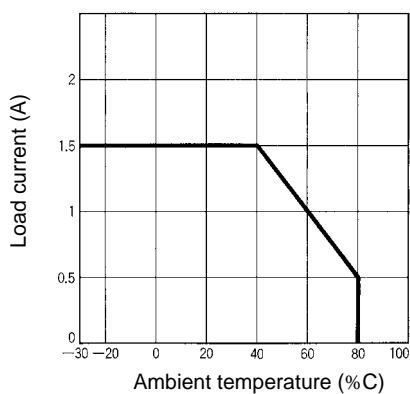
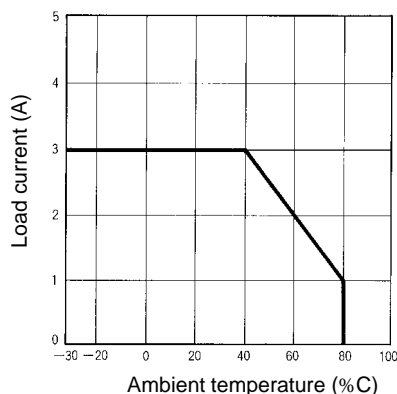
UL508 File No.E64562/CSA C22.2 (No.0, No.14) File No. LR35535/TÜV R90381 (VDE0806)

| Model | Ratings |
|--|-----------------------|
| G3TB-IAZR02P-US G3TB-IDZR02P-US | 0.02 A at 5 to 24 VDC |
| G3TB-OA203PZ(M)-US G3TB-OA203PL(M)-US | 3 A at 100 to 240 VAC |
| G3TB-ODX03P(M)-US | 3 A at 5 to 48 VAC |
| G3TB-OD201P(M)-US | 1 A at 48 to a200 VDC |

Engineering Data

Load Current vs. Ambient Temperature Characteristics

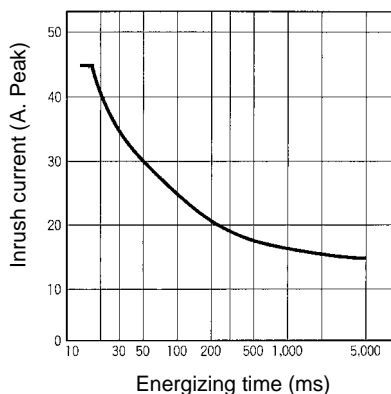
G3TB-OA203PZ/-OA203PZM/-OA203PL/-OA203PLM/
G3TB-ODX03P/-ODX03PM/-OD201P/-OD201PM



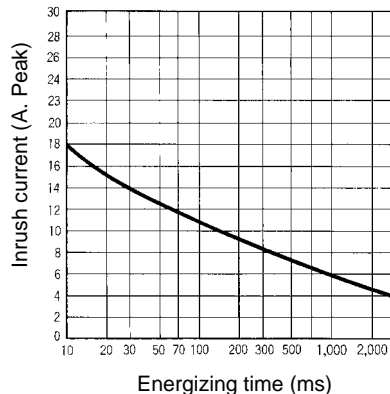
Inrush Current Resistivity

Non-repetitive (Keep the inrush current to half the rated value if it occurs repetitively.)

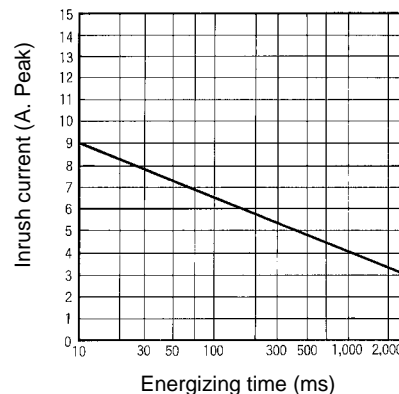
G3TB-OA203PZ/-OA203PZM/
-OA203PL/-OA203PLM



G3TB-ODX03P/-ODX03PM



G3OD201P/-OD201PM



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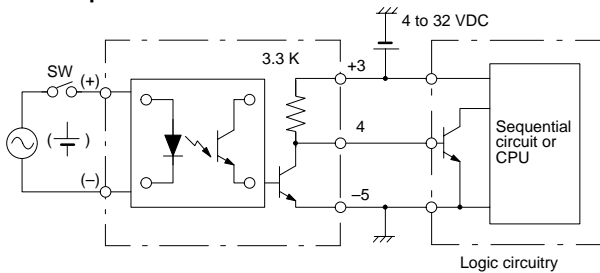
Operation

■ Circuit Configuration

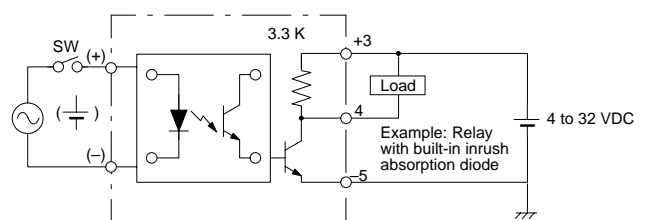
| Type | Model | Case color | Indicator | Circuit |
|-----------|--------------------------------|------------|-----------|---------|
| AC input | G3TB-IAZR02P | Yellow | Yes | |
| DC input | G3TB-IDZR02P | White | Yes | |
| AC output | G3TB-OA203PZ G3TB-OA203PL | Black | Yes | |
| | G3TB-OA203PZM G3TB-OA203PLM | | No | |
| DC output | G3TB-ODX03P G3TB-OD201P | Red | Yes | |
| | G3TB-ODX03PM G3TB-OD201PM | | No | |

Example of Logic Output Circuit

Example 1



Example 2



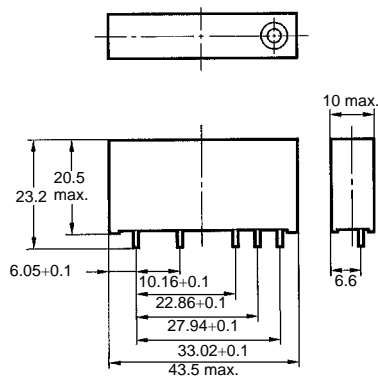
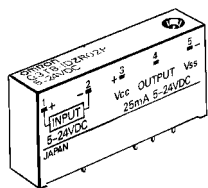
Note: AC- and DC-input versions are available.

Dimensions

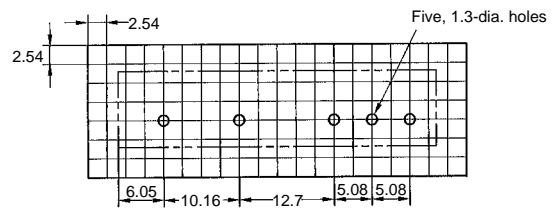
Note: All units are in millimeters unless otherwise indicated.

Input SSR

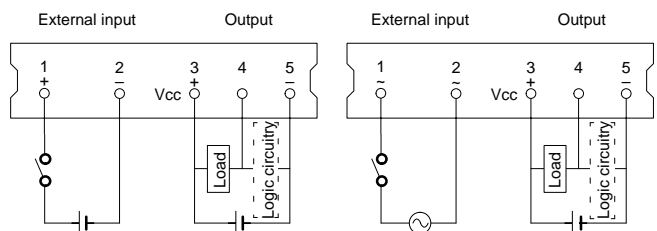
G3TB-I



PCB Dimensions (Bottom View)



Terminal Arrangement (Bottom View)

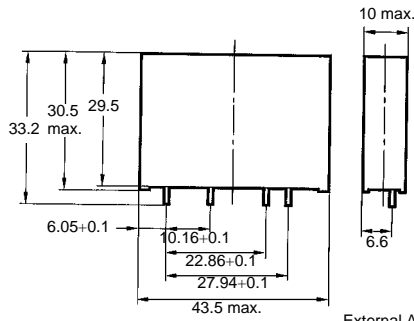
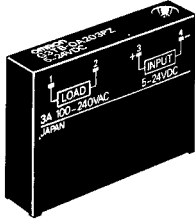


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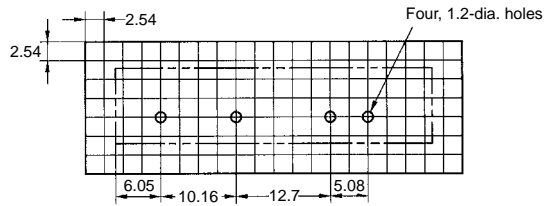
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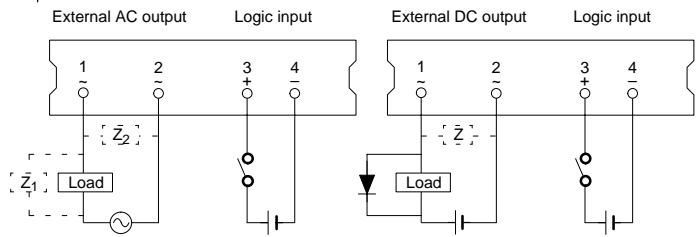
Output SSR
G3TB-O



PCB Dimensions (Bottom View)



Terminal Arrangement (Bottom View)



Note: Z₁, Z₂, and Z refer to overvoltage absorption elements that you should connect.



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Precautions

Refer to pages 5 to 13 for general precautions.

Mounting

The rated values shown in this data sheet are standard values at an ambient temperature of 40°C.

PWB

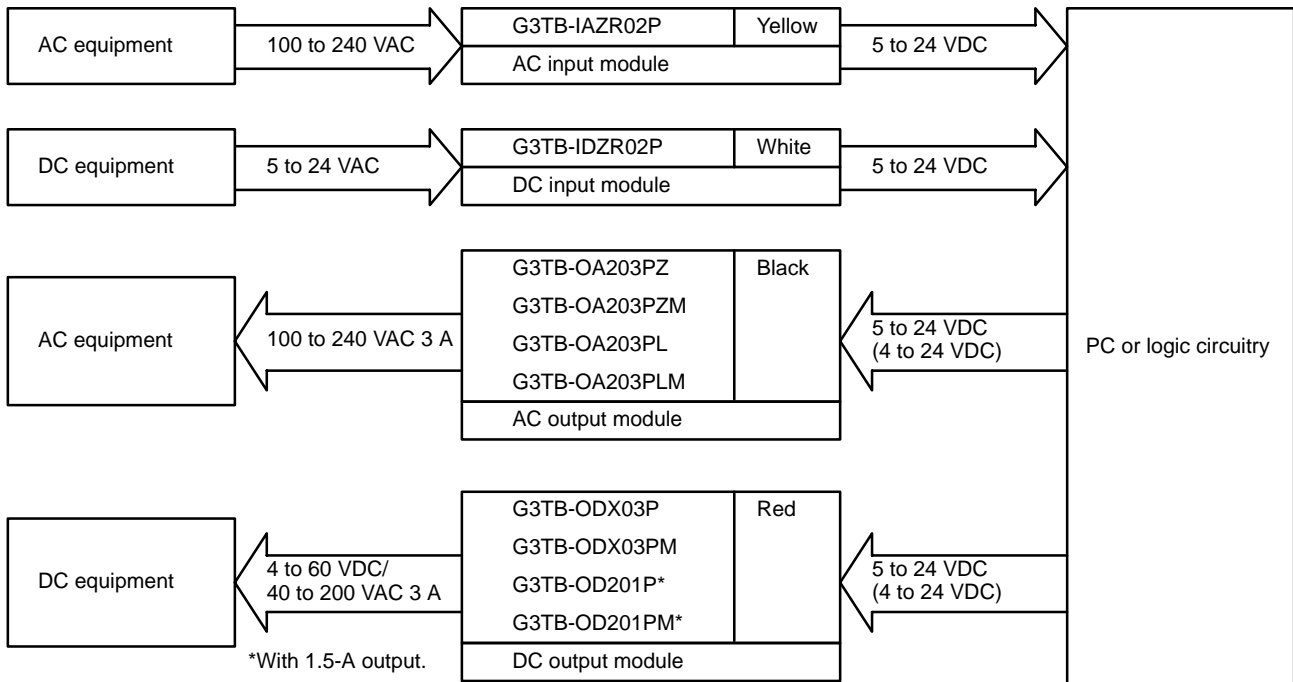
Soldering must be finished within 5 s at a temperature of 250°C.

Close Mounting (G3TB)

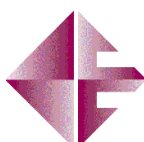
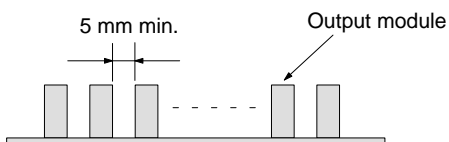
Take heat radiation into consideration when mounting.
The distance between adjacent SSRs must be 5 mm minimum.

G3TB

I/O classification by the color is as follows:



When mounting more than one output module, make a distance of 5 mm minimum between adjacent SSRs. Up to 16-point, 3-A load switching is possible.



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