MODEL & SUFFIX CODE SELECTION

MODEL

INPUT
Dry contact

OUTPUT
R : Relay contact
T : Open collector

POWER INPUT

AC Power | DC Power
---|---
B : 100V AC | G : 200V AC
C : 110V AC | H : 220V AC
D : 115V AC | J : 240V AC
F : 120V AC

*24V DC (Code R) and 12V DC (Code S) are not approved by Japan Approvals Institute for Telecommunications Equipment. Therefore an individual application will be necessary for using the TMA on NTT telecom. line.

ORDERING INFORMATION
Specify code number. (e.g. TMR-B)

GENERAL SPECIFICATIONS

Construction: plug-in
Connection: M3.5 screw terminals
Housing material: flame-resistant resin (black)
Isolation: input to output to power

FUNCTIONS & FEATURES
- Transmitting 1-point contact signal through NTT (Nippon Telephone & Telegraph) personal telecommunication line of 50 b/s
- Approved of Technical Requirements Compliance Approval by Japan Approval Institute for Telecommunications Equipment
- Approval No. M90-N227-0
- Applicable to various cables types
- No interference by induction noise
- Lightning protection applicable
- No field adjustment required
- Compact plug-in construction easy to install and maintain

INPUT & OUTPUT

■ INPUT: dry contact
Sensing: approx. 18V DC @5mA
ON/OFF level: ≤3kΩ for ON; ≥30kΩ for OFF
Maximum leadwire resistance: 3kΩ including return

■ OUTPUT
- Relay Contact: 100V AC @5A (cosφ=1)
  24V DC @5A (resistive load)
  electrical life 10 x 10⁶ cycles (rate 30/min.)
Maximum switching voltage: 380V AC or 125V DC
Maximum switching power: 500VA or 120W
Minimum load: 5V DC @10mA (18V DC @5mA)
Mechanical life: 5 x 10² cycles
Maximum frequency: 1 Hz

- Open Collector: 24V DC @100mA
Maximum frequency: 20 Hz
Saturation voltage: 1.8V DC

Remark: The output pulse width is adjusted to 25 millisecc even when the input pulse width is narrower than 25 millisecc.
**INSTALLATION**

**Power input**
- **AC:** rating ±10%, 50/60 ±2 Hz, approx. 2VA
- **DC:** rating ±10% (ripple 10% p-p max.) approx. 80mA at 24V approx. 160mA at 12V

**Operating temperature:** -5 to +60°C (23 to 140°F)

**Operating humidity:** 30 to 90% RH (non-condensing)

**Mounting:** surface or DIN rail

**Dimensions:** W50 x H80 x D123 mm (1.97” x 3.15” x 4.84”)

**Weight:** 350 g (0.77 lbs)

**PERFORMANCE**

**Response time:** ≤10 millisec.

**Line voltage effect:** ±0.1% over voltage range

**Insulation resistance:** ≥100MΩ with 500V DC

**Dielectric strength:** 1000V AC @1 minute
  - (input to output or power)
  - 2000V AC @1 minute (output to ground)

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**EXPLANATIONS**

**AVAILABLE NTT LINE**

Among the several circuit lines opened by NTT (Nippon Telephone & Telegraph), the TMR/TMT utilizes the “special DC line” of 50 b/s. The following shows the conditions to use this line.

<table>
<thead>
<tr>
<th>ITEM</th>
<th>DATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transmission speed</td>
<td>50 b/s max.</td>
</tr>
<tr>
<td>Technical configuration</td>
<td>2-wire (metallic return)</td>
</tr>
<tr>
<td></td>
<td>4-wire (metallic return)</td>
</tr>
<tr>
<td>Communication</td>
<td>Uni-directional, full-duplex</td>
</tr>
<tr>
<td>Intersection</td>
<td>Not allowed</td>
</tr>
<tr>
<td>Circuit protection</td>
<td>Required</td>
</tr>
<tr>
<td>Electrical characteristics</td>
<td>Current 45mA max.</td>
</tr>
<tr>
<td></td>
<td>Voltage between lines 100V max.</td>
</tr>
<tr>
<td></td>
<td>Voltage to ground 50V max.</td>
</tr>
</tbody>
</table>
SCHEMATIC CIRCUITY & CONNECTION DIAGRAM

TMR (relay)

TMT (open collector)

Output Connection Examples

- Open Collector

- Relay
  - AC Powered
  - DC Powered

- Spark Quenching Diode
  - Varistor or Spark Quenching Circuit
TERMINAL CONNECTIONS

EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENT  mm (inch)

Specifications subject to change without notice.