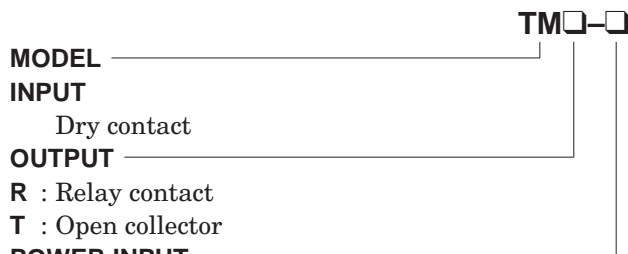


## Telemetry System

# CONTACT TELEMETERING MODULE

# MODEL TMR/TMT

### MODEL & SUFFIX CODE SELECTION



#### AC Power

B : 100V AC

C : 110V AC

D : 115V AC

F : 120V AC

#### DC Power

G : 200V AC

H : 220V AC

J : 240V AC

S : 12V DC\*

R : 24V DC\*

\*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)

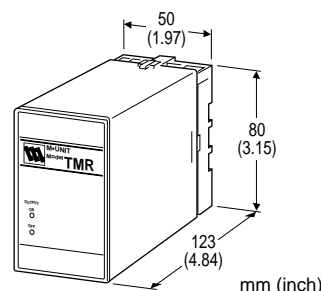
### GENERAL SPECIFICATIONS

**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:**  $\leq 3k\Omega$  for ON;  $\geq 30k\Omega$  for OFF

**Maximum leadwire resistance:** 3k $\Omega$  including return

#### ■OUTPUT

•Relay Contact: 100V AC @5A ( $\cos\theta=1$ )

24V DC @5A (resistive load)

electrical life  $10 \times 10^4$  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:**  $5 \times 10^7$  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  $\pm 10\%$ , 50/60  $\pm 2$  Hz, approx. 2VA**DC:** rating  $\pm 10\%$  (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×H80×D123 mm (1.97"×3.15"×4.84")**Weight:** 350 g (0.77 lbs)**PERFORMANCE****Response time:**  $\leq 10$  millisecc.**Line voltage effect:**  $\pm 0.1\%$  over voltage range**Insulation resistance:**  $\geq 100M\Omega$  with 500V DC**Dielectric strength:** 1000V AC @1 minute

(input to output or power)

2000V AC @1 minute (output to ground)

**EXPLANATIONS****■AVAILABLE NTT LINE**

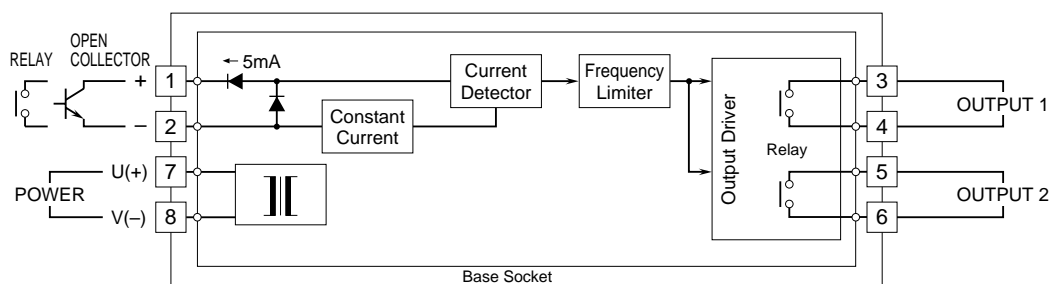
Among the several circuit lines opened by NTT (Nippon Telephone &amp; Telegraph), the TMR/TMT utilizes the "special DC line" of 50 b/s.

The following shows the conditions to use this line.

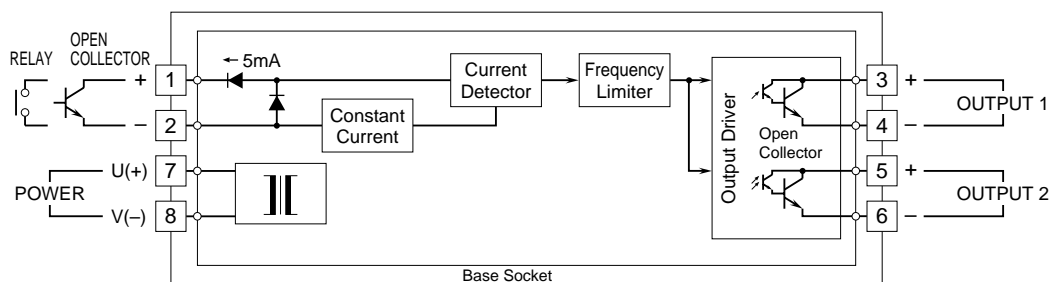
ITEM	DATA
Transmission speed	50 b/s max.
Technical configuration	2-wire (metallic return) 4-wire (metallic return)
Communication	Uni-directional, full-duplex
Intersection	Not allowed
Circuit protection	Required
Electrical characteristics	Current 45mA max. Voltage between lines 100V max. Voltage to ground 50V max.

# SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM

## ■TMR (relay)

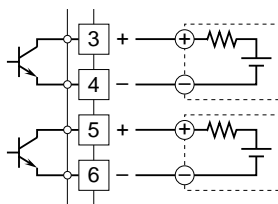


## ■TMT (open collector)



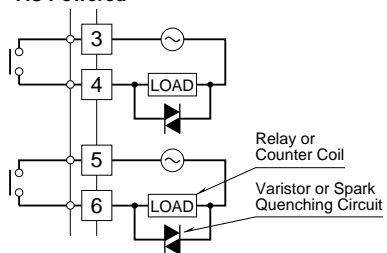
### Output Connection Examples

#### ■Open Collector

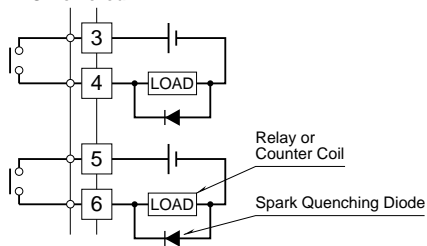


#### ■Relay

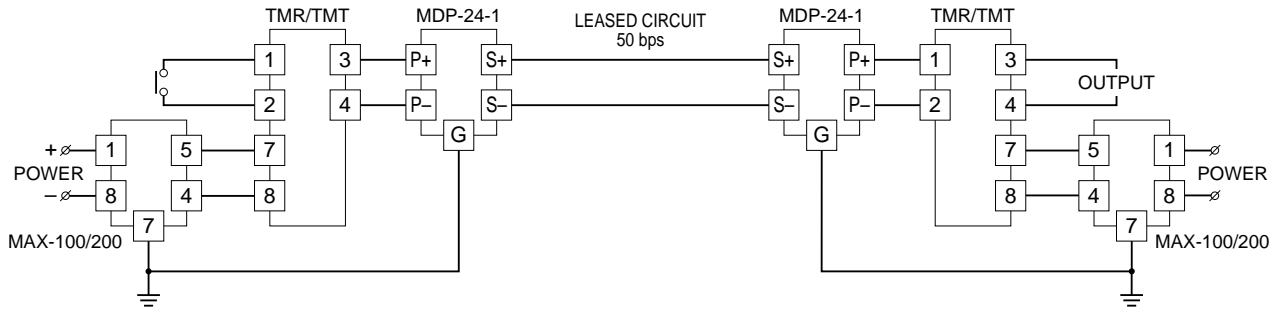
##### •AC Powered



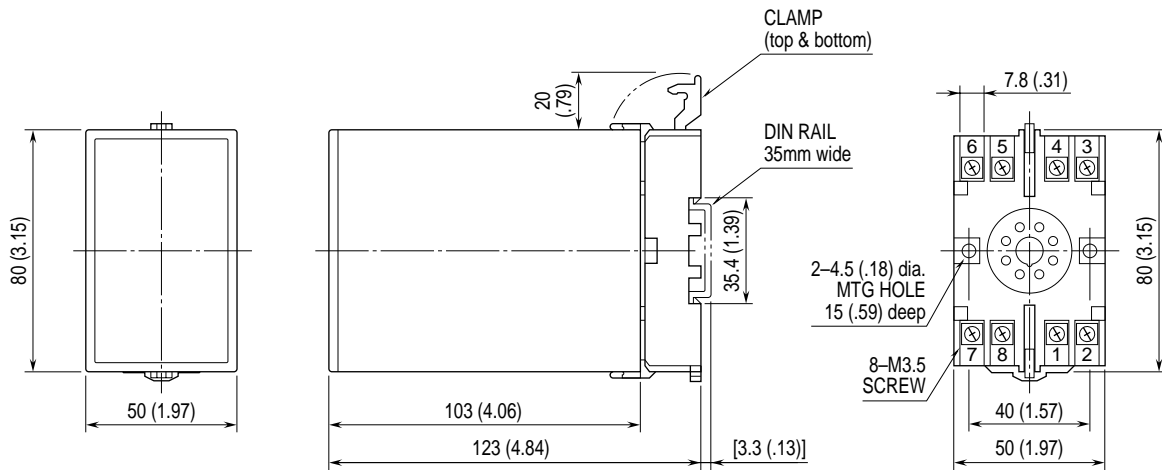
##### •DC Powered



**TERMINAL CONNECTIONS**



**EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENT mm (inch)**



•When mounting, no extra space is needed between units.

Specifications subject to change without notice.