

RM-TIM Terminal Interface Module

BASE
Instructions for Models RM-TIM, RM-TIM-B, RM-TIM-BXL, and RM-TIM-2B

Description

The RM-TIM highly simplifies and minimizes the field installation, wiring, and setup of the C-Cure RM4 Personality Module. Includes all mounting hardware to 'piggyback' your RM4, prewired flex jumpers and connectors, output relays, dip-selectable single or dual 1K end-of-line resistors, depluggable/replaceable output relays, and LED status indicators. All field wiring terminals are depluggable for easy field terminations. The RM-TIM installs fast, improves system reliability, and makes card reader maintenance easier while providing a custom, professional installation.

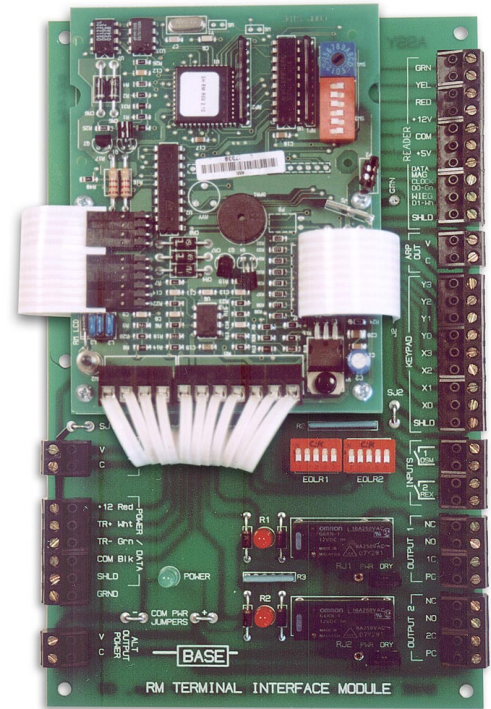
Model RM-TIM includes all mounting hardware for the RM4, and 6 nylon snap-in standoffs for installation into a user supplied enclosure.

Model RM-TIM-B adds our EB-12x08x04 EconoBox steel enclosure with knockouts (UL Listed). The RM-TIM is pre-mounted onto the removable inner panel assembly. The enclosure includes a hinged cover with keylock and RM4 tamper actuator. Model RM-TIM-BXL is similar but uses a larger EB-12x12x04 EconoBox.

Model RM-TIM-2B includes 2 RM-TIM modules mounted in one EB-16x12x04 EconoBox enclosure.

Features

- **Mount and Wire the RM4 in Seconds !**
- **Depluggable Terminals - same style as RM4**
- **2 supervised inputs with dip switch selectable on-board 1K EOLRs**
- **2 selectable powered or dry contact outputs**
- **Power readers with 5V, 12V or Aux Reader Power (or combination)**
- **Alternate or Common selectable output power source**
- **Selectable cable shield continuity**
- **Status LEDs for 12VDC Main RM4 Power and Output Relays**
- **Depluggable/Replaceable Output Relays**
- **Includes all Mounting Hardware**
- **Board only or Enclosure versions**



Nylon Standoff
(6 supplied with RM-TIM)

Installation Instructions



WARNING Turn off all power feeding the module terminals before installing, servicing or changing any switch settings or wiring. Failure to observe this warning may cause electrical shock hazard or may damage internal or external circuit components.

1. Models with Enclosures Remove the panel assembly from the enclosure. Hold the enclosure in the desired area and mark the rear hole locations on the wall or mounting channel surface. Using the appropriate hardware, mount the enclosure to the desired area. Complete all conduit and cable installations into the enclosure, then install the panel assembly and secure it to the enclosure studs with the hardware provided. (See the separate instruction page provided with the EconoBox enclosure). If desired, cabling may be pre-terminated onto the RM-TIM's depluggable terminals before re-installing the panel assembly into the enclosure. Skip step 2 and proceed to step 3.

2. Mounting the RM-TIM Board (Skip this step if board is pre-assembled on enclosure panel) Locate the unit inside a UL Listed NEMA 1 enclosure (such as a BASE LVPC Low Voltage Power Cabinet). Drill six 0.187" diameter holes (3/16") to match the six holes in the printed circuit board. Push the nylon standoffs supplied into each hole and snap the PCB module into place. Mounting with double-sided tape is not recommended.



CAUTION The RM-TIM has no static sensitive parts. However, the C-Cure RM4 board does contain static sensitive electronic components. Use proper ESD precautions when handling, wiring, or servicing the RM4 to avoid damaging internal circuitry.

3. Mounting the RM4 Board Locate and align the RM4 mounting holes over the 4 nylon standoffs provided on the RM-TIM board as shown in Figure 1. Secure the RM4 to the standoffs with the 4 small 4-40 screws provided in the Hardware Kit. Without twisting or stretching the jumpers, locate the flex jumper connectors and mate them to the RM4 board connectors as shown in Figure 1. The depluggable terminals of J1 and J5 may be positioned either horizontally or vertically (recommended) at RM4 P1 & P5. Slide the ground connector onto the ground jack at RM4-J5.

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Field Wiring

- 1. RM4 Main Power and Data** Connect the incoming 12VDC main power and data line to the lower left terminals marked **POWER/DATA**.
- 2. Reader Power** If the reader will be powered from 5VDC or 12VDC, the power will be obtained from the terminals marked **READER**. If a different or alternate reader power source is used (ARP), it may be wired to the RM-TIM at the lower left terminals marked **ARP IN** and output to the reader at the upper right terminals marked **ARP OUT** as shown in Figure 1. If using DC power, **+ = V** and **- = C**.
- 3. Reader / Keypad Wiring** Connect the reader and/or keypad wiring to the appropriate terminals on the upper right of the RM-TIM.
- 4. Shield Continuity** Depending on the noise conditions of the cabling environment, it may be desirable to either maintain or break continuity of the cable shields between the data, reader, and/or keypad cables. Maintaining or cutting the RM-TIM jumpers SJ1 and/or SJ2 allow quick changes of the shield continuity with no cable rewiring. Cut SJ1 to break continuity of the shield between the data line and the reader/keypad cables. Cut SJ2 to break continuity of the shield between the reader and keypad cables.
- 5. Ground Connection** The connection from the **GRND** terminal to the RM4 ground lug is made through the RM-TIM metallic standoff hardware eliminating the need for a wire jumper to the RM4 ground lug. Connect an external ground wire to the **GRND** terminal.

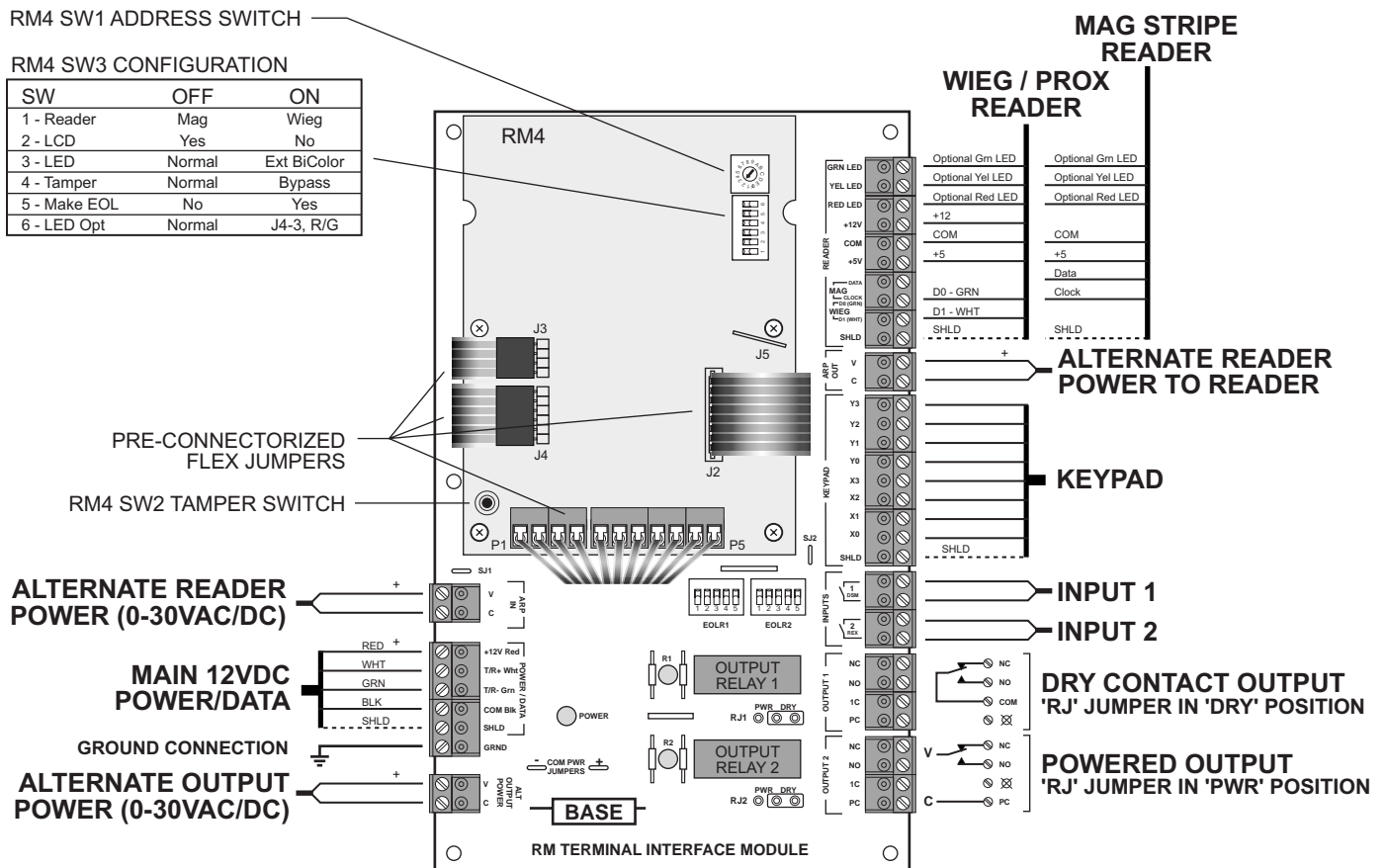
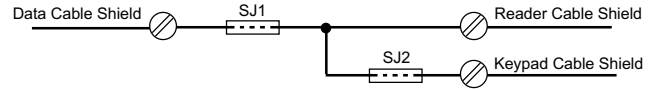
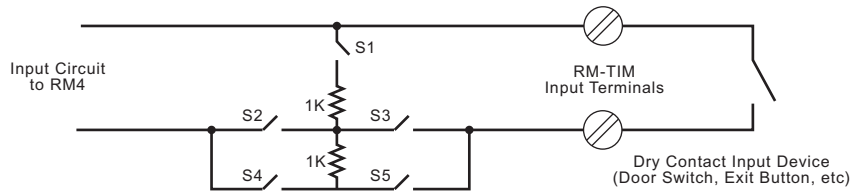


Figure 1 - RM-TIM Field Wiring

Field Wiring (continued)

6. Input Wiring and Selection of Supervision Resistance Connect the input device cabling to the lower right terminals marked **INPUTS**. On-board end-of-line resistance is selected at the input Dip Switches, EOLR1 and EOLR2 as shown below.

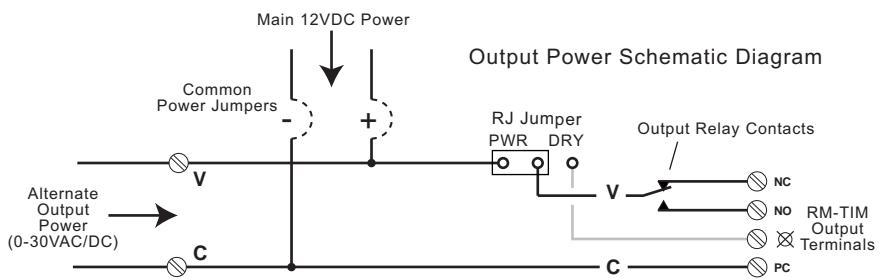
Desired EOLR Configuration	Switch				
	ON ↑	1	2	3	4 5
Dual 1K with NO Device	↑	↑	↓	↓	↑
Dual 1K with NC Device	↑	↓	↑	↓	↑
Terminated Input (No Device)	↑	↑	↓	↓	↓
None (or External Resistors)	↓	↑	↑	↓	↓
Single 1K in Series	↑	↑	↑	↑	↑
Single 1K in Parallel	↓	↑	↑	↑	↑
2K in Parallel	↑	↑	↑	↑	↑



7. Relay Outputs The RM-TIM has 2 on-board relay outputs that can be easily and independently configured for a variety of uses. The relays are driven by the control circuitry on the RM4 module. Relay contacts are rated for 5A at 24vdc.

Dry Contact Output Relays are configured for dry contact outputs by positioning the removable jumper RJ1 or RJ2 to the **DRY** position. Each output relay's RJ jumper can be positioned separately. See Figure 1 for wiring to the dry relay contacts at the lower right of the RM-TIM.

Powered Output with Main 12VDC Power Relays are configured for powered outputs by positioning the removal jumper RJ1 or RJ2 to the **PWR** position. When using powered outputs, you have a choice of what power source will be used to drive the output device(s). If you choose to use the main 12VDC power then no further setup is necessary. The **COM PWR JUMPERS** must remain intact, and no Alternate Output Power source should be used.



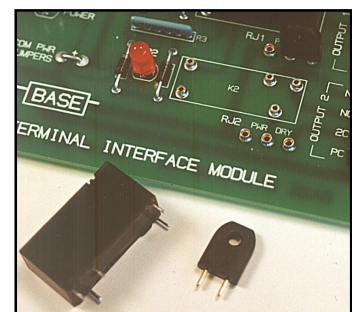
Using an Alternate Output Power source Both the **+ and - COM PWR JUMPERS** must be cut when using an Alternate Output Power source. Wire the power source to the terminals at the lower left of the RM-TIM board marked **ALT OUTPUT POWER**. This power source can be 0-30VAC/DC. If using DC power, **+ = V** and **- = C**. See Figure 1 for wiring the powered output device(s) at the relay contacts at the lower right of the RM-TIM.

8. RM4 Tamper Actuator (Models with enclosures only) Use of the RM4 Tamper Actuator provides a tamper function while freeing up an RM4 input for other uses. Install the RM4 tamper actuator by gently fitting the end of the actuator with the small hole over the black plunger cap of the RM4 tamper switch. The actuator extends the action of the plunger so it will be operated by the enclosure door. If the actuator is not quite depressing the switch plunger enough, find the small tape pad provided in the hardware kit and apply it to the inside of the enclosure door where the actuator touches it. If the actuator is accidentally bumped into, it is intended that the actuator falls off rather than breaking the tamper switch plunger cap. Therefore, glueing the actuator in place is not recommended. As an alternate tamper method, the enclosure includes a heavy duty tamper switch that mounts into the rectangular hole of the enclosure latch bracket. This tamper can then be wired into an available RM-TIM input position.

Field Service

1. Status LEDs A Green LED is provided and lit when the Main 12VDC power to the RM4 module is ON. A Red LED is provided at each of the Output Relays and are lit when the associated relay is energized.

2. Depluggable / Replaceable Output Relays Each of the 2 Output relays plug into socket pins in the RM-TIM pc board. This makes each relay easily replaceable in the event of a malfunction. Relays that will not be used can also be removed and stored as spares. The socket pins in the pc board are not meant to handle 'heavy traffic', so frequently plugging and unplugging relays should be avoided.



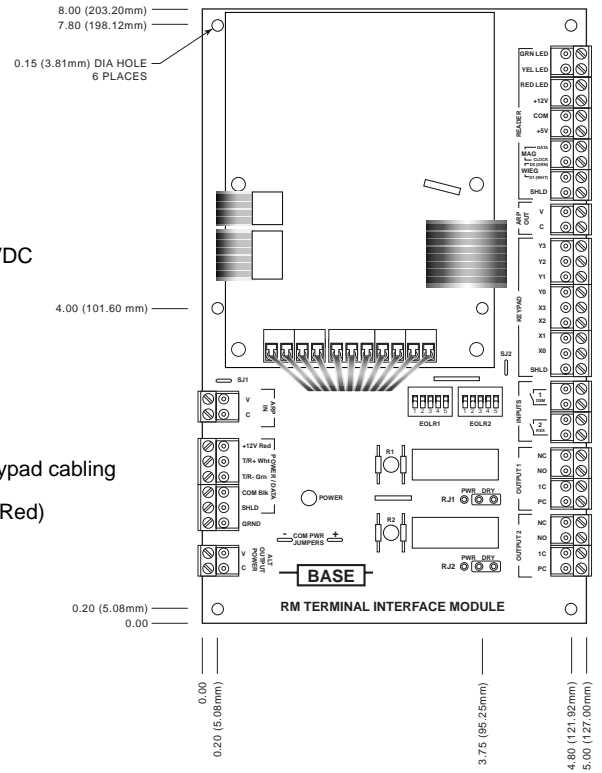
Depluggable Relay and Output Select Jumper

The information in this manual is believed to be accurate in all respects. However, BASE Electronics cannot assume responsibility for any consequences resulting from the use thereof. The information contained herein is subject to change and BASE Electronics may issue a revision to incorporate such changes at any time.

Specifications

- Models**
 RM-TIM Terminal Interface Module (Board Only)
 RM-TIM-B Terminal Interface Module mounted in EB-12x08x04 Enclosure
 RM-TIM-BXL Terminal Interface Module mounted in EB-12x12x04 Enclosure
 RM-TIM-2B Dual Terminal Interface Modules mounted in EB-16x12x04 Enclosure
- Indoor Temperature Range:** -25° C. to +70°C.
- Electrical**
 Maximum Main Power Input: 12 VDC, 2.5A
 Maximum ARP Power Input: 0-30 VAC/DC, 2.5A
 Maximum Alternate Output Power Input: 0-30 VAC/DC, 2.5A
 RM-TIM only Maximum Current Consumption (both relays energized): 45mA at 12 VDC
 Output Relay Form-C Contact Rating: 5A at 24VDC, 8A at 115VAC
 Connections: Depluggable Captive Screw Terminals for #14 to #22AWG Wire
- Size:** 5.0 (127) wide by 8.0 (203.2) long by 2.5 (63.5) high [inches (mm)]
- Mounting:** (6) 1/4 inch high nylon standoffs included
- Controls and Indicators**
 Relay Configuration Jumpers (2): For selecting Dry or Powered Outputs
 Common Power Jumpers (+ and -): For selecting 12VDC or Alternate Output Power
 Shield Continuity Jumpers (2): For selecting shield continuity from data to reader/keypad cabling
 EOLR select Dip switches (2): For selecting supervision EOLRs or no EOLRs.
 3 LED Indicators for 12VDC Power (Green), Output Relay 1 (Red), Output Relay 2 (Red)
- Special Features**
 Pre-connectorized flex jumpers for connecting RM4
 Depluggable Terminals - same as supplied with RM4
 Depluggable/Replaceable Relays for maximum serviceability

RM-TIM PC Board Footprint



Econo•Box Specifications

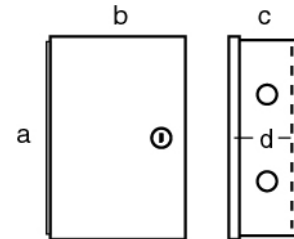
Enclosure Type: UL / NEMA type 1 - Indoor Use Only
Construction: 16 gauge welded steel
Enclosure Finish: Phosphate Dipped / Light Gray Powder Coat
Panel Finish: Phosphate Dipped / White Gloss Powder Coat

Size and Weight

RM-TIM MODEL / EB MODEL	a	b	c	d	PANEL	SHIP WGT
RM-TIM-B EB-12x08x04 KP	12.50	8.50	4.20	3.43	11 x 7	10 lbs
RM-TIM-BXL EB-12x12x04 KP	12.50	12.50	4.20	3.43	11 x 11	12 lbs
RM-TIM-2B EB-16x12x04 KP	16.50	12.50	4.20	3.43	15 x 11	15 lbs

Tamper Switch: Pushbutton with cheat feature for service testing
 Form-C Contacts rated 10Amp at 125/250 VAC
 silver cadmium oxide, 0.187" quik-connect terminals

Mounting: Holes (4) provided in rear of enclosure
Panel Mounting: On (4) 1/4-20 studs (hardware included)
Keylock: 90° Rotation - All enclosures keyed alike
Knockouts: 8 - 1/2" (2 each side)



Limited Warranty

This RM-TIM is warranted by BASE Electronics against manufacturing defects in materials and workmanship for a period of 2 years from date of purchase. During this period, any warranty repair required will be made at no charge for parts or labor. This warranty does not apply to any work or materials provided by any outside persons or technicians involved in the installation, unauthorized repair, connection, or testing of this product. This warranty does not cover any damage or failure caused by or attributable to Acts of God, abuse, misuse, improper or abnormal usage, faulty or improper installation or maintenance, neglect or accident. BASE Electronics is not responsible or liable for any special, consequential or indirect damages resulting from or in connection with the use or performance of this product as pertaining to economic loss, property loss, costs for removal or installation, or loss of revenues or profit. Except as provided herein, BASE Electronics makes no expressed or implied warranties. The duration of product performance for its intended purpose is limited to the duration set forth herein.

For Warranty or other repair, send the product postage prepaid to BASE Electronics and include Sender's name, company, address, phone and brief problem description. BASE Electronics will notify sender of any required repair costs not covered under this warranty prior to making such repairs.

This Warranty gives you specific legal rights. You may have other rights that vary from state to state.

