



TMAS™

TMN-10 User Manual
(for Administrator only)

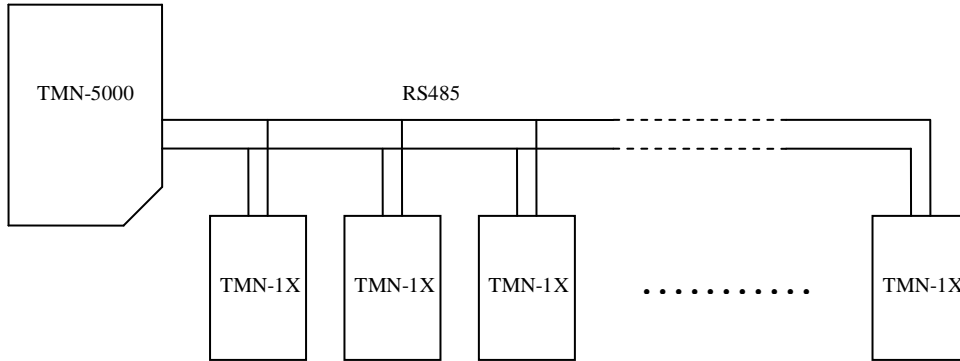
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1. Introduction

TMN-1X series is designed as expansion modules for TMN-5000. Up to 16 TMN-1X (subnodes) can be multi dropped to the master TMN-5000 via RS485. These 16 subnodes can be in any combination of the TMN-1X family. TMN-10 in this series is designed as digital input expansion.



Up to 16 TMN-1X can be multi dropped via RS485

2. TMN-10 Specifications

Physical Specification	
Dimension	86.0mm x 54.0mm x 25.0mm
Weight	98g
Environment Specification	
Temperature	0 to +55°C (during operation)
Hardware Features	
8 Digital Input	Input rated as 5VDC
LED	Power and Communication indication
DIP switch	For TMN-10 address setting
Firmware Features	
Pre-Defined/User defined alert messages	Yes (40 chars max)
Configurable digital input	Can be adjusted as inverted or non-inverted input

3. Monitoring and Control

3.1 Digital Input

Port Descriptions

Digital Input TMN-10 consists of 8 digital inputs, each can be adjusted as inverted or not inverted input. When set as non-inverted, the input will be triggered once it is shorted to ground. When set as inverted, the input will be triggered when it is disconnected from ground.

Properties

Digital Input Enable/Disable
User defined message (UDM) (max 40 chars)
Configurable to send to which users (max 16 users)
Configurable as inverted or non-inverted input
Configurable to send sms when input returns to normal condition

Input Control

The digital input can be configured via the settings below:

Enable/Disable This setting will activate or disable the respective digital input. A disabled input will not send out any sms when triggered.

UDM/Default If UDM (User Defined Message) is selected, the user will receive the user defined message when the input is triggered. If Default is selected, a default message comprise of the channel name will be sent instead. The format of the default message is as follows:
 "Device name" "channel name" is triggered

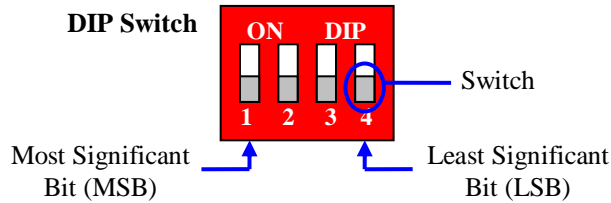
Send when OFF When this setting is enabled, whenever the input returns to its normal condition, it will send a sms to the user in the format of:
 "Channel name" is normal

Invert/No Invert When set as No Invert, the input will be triggered once it is shorted to ground. For Invert setting, the input will be triggered when input is opened.

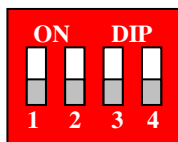
4. Configuration

4.1 Subnode ID

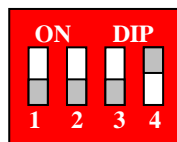
- Each subnode (TMN-10) that is connected to the TMAS Master **must** have a unique subnode ID.
- The subnode ID is set by the DIP switch found on the TMN-10 board.



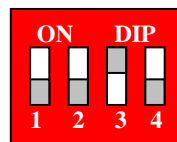
- TMAS Master (TMN-5000) can support up to 16 different subnodes. Thus, the subnode addresses range from binary 0000 (0 decimal) to 1111 (15 decimal)
- Below are the possible subnode ID combinations on the DIP switch:



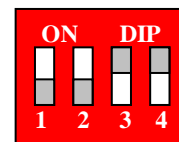
Subnode 0



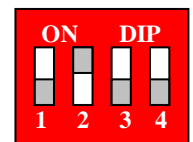
Subnode 1



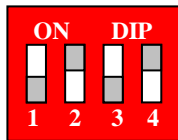
Subnode 2



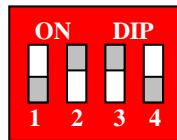
Subnode 3



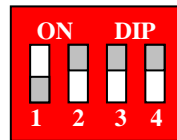
Subnode 4



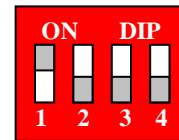
Subnode 5



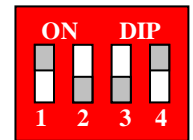
Subnode 6



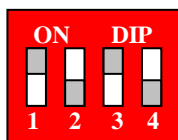
Subnode 7



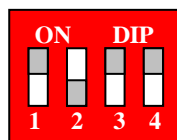
Subnode 8



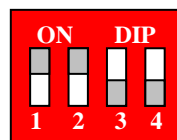
Subnode 9



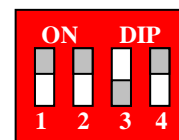
Subnode 10



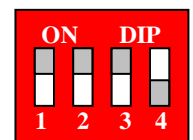
Subnode 11



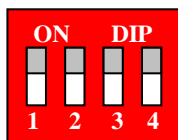
Subnode 12



Subnode 13



Subnode 14



Subnode 15

Note: A subnode will only read its ID from the DIP switch upon power up. Therefore, if you have changed the subnode ID while the subnode is powered, perform a power reset so the changes will take effect.

4.2 How to Configure Subnode

- Step 1 Configure all the subnode ID (refer to section 3.1 Subnode ID)
- Step 2: Connect all the subnodes to the TMAS Master (TMN-5000). Refer to Appendix A for the hardware connection.
- Step 3 Use PC Manager to configure the TMAS Master (TMN-5000). Please refer to PC Manager manual for setting.

Note: Once the subnode is configured successfully, its Power LED will blink every time the TMAS Master polls it. The polling sequence is going in a loop from subnode 0, subnode 1, subnode 2, until the last subnode and return to subnode 0 again. Thus if the blinking is going in a smooth loop, the subnodes are working fine.

5. Troubleshooting

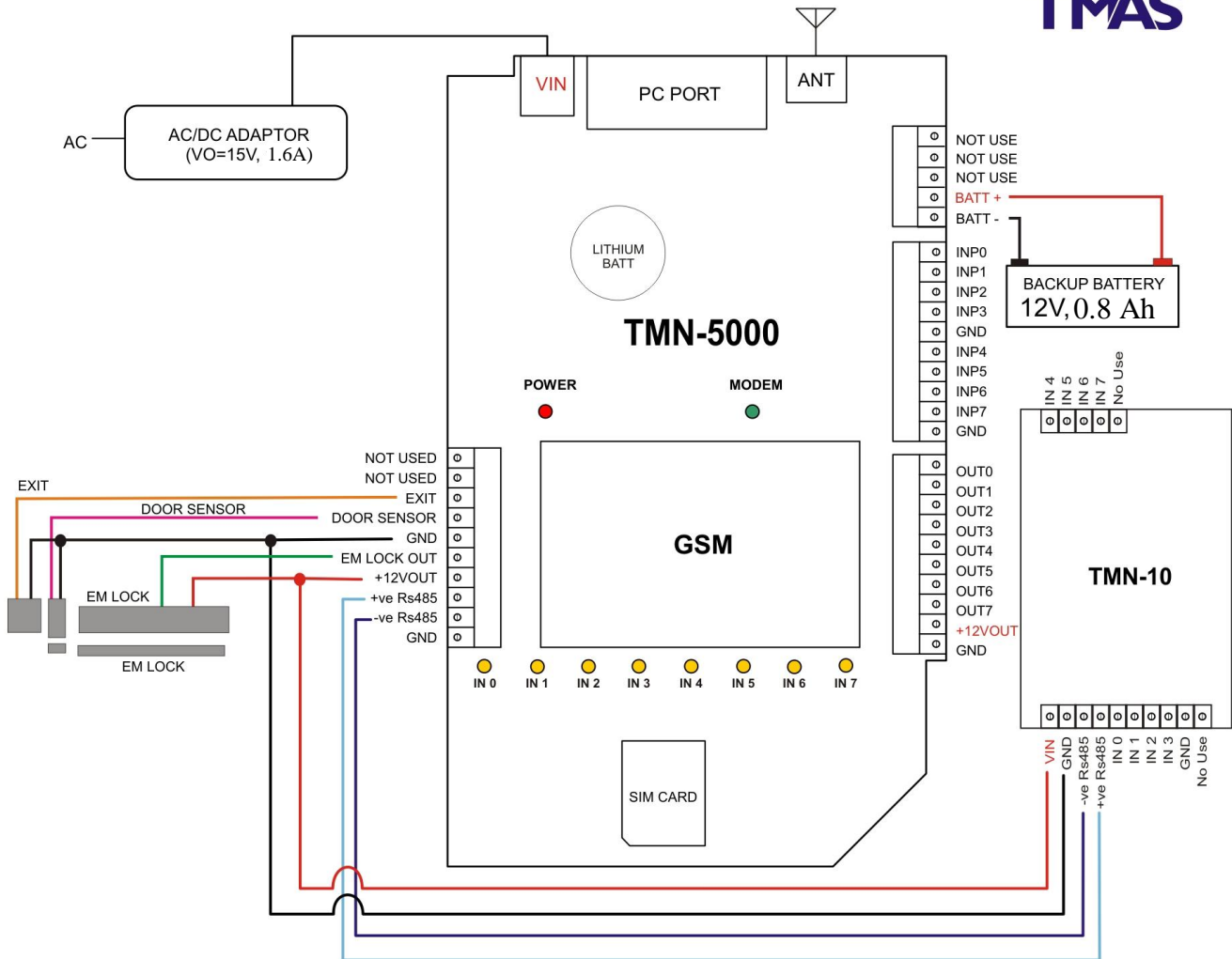
Q1: TMN-10 did not response to the input triggered. No SMS received.

A1: Check the DIP switch and make sure that the address is correct. If the address is set wrongly, make sure to power reset TMN-5000 after changing the address. Alternate way is to unplug TMN-10 and plug it in again. Observe the red LED. If it is not blinking, check the RS485 connection and make sure that TMN-5000 is configured correctly.

Q2: How do I know TMN-10 is configured?

A2: Check the blinking of the red LED. If configured, the LED will keep blinking. If there is more than 1 subnode, the subnode's LED will blink in sequence, from subnode 0, subnode 1 until the last subnode.

TMN-5000 WIRING DIAGRAM WITH TMN-10 SUBNODE



LED Indication (TMN-5000 MASTER)

LED	Indication	Description
Power LED ●	OFF	No AC power or no backup battery power
	ON	TMN-5000 is powered
	Blink once	A SMS is sent or received
Modem LED ●	OFF	GSM Modem shutdown or dead
	0.6s ON / 0.6s OFF	No SIM card inserted, or network search in progress, or ongoing user authentication, or network login in progress.
	75ms ON / 3s OFF	Logged to network (monitoring control channels and user interactions). No call in progress.
Alarm LED ●	OFF	No alarm
	ON	Input had triggered and alarm still exists

NOTE : VIN current should not exceed 1.6 A

Buzzer Indication (TMN-5000 MASTER)

Type	Indication	Description
Door Access	OFF	No door alarm
	ON continuously	Door break
	Beep every 5 sec	Door open too long
Configuration (SMS)	Beep	Configuration via SMS successful
Configuration (COM Port)	Beep continuously	Configuration in progress

LED Indication (TMN-10 SUBNODE)

LED	Indication	Description
Power LED ●	OFF	No AC power
	ON	TMN-11 is powered
	Blink once	Subnode is polled by TMN-5000 Master

Support Issues

For any sales and technical enquiries, please contact your local sales representatives or TCAM Technology Pte Ltd.

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