

# TM520 Timer Module

## Product Application & Design Information

### Introduction

The TM520 Timer Module when used with the MX range of controllers is used to disable detectors in an area/zone(s), ie., disable detectors in specified areas/zone(s) for a predetermined time, ie, whilst loading/unloading is in progress in a large internal loading bay. The module may be connected via a CIM800 Contact Input Module or MIO800 Small Addressable Multi-Input/Output Module. The TM520 provides two sets of three volt free contacts (Common, Normally Open and Normally Closed). Once operated by the keyswitch, the module activates a relay for a predetermined period of time selected via a 7-way DIL switch (see Table 1) plus a 5 minute safety timeout period.

The TM520 Timer Module is contained on a double sided printed circuit board (PCB) which is fitted to a custom built fascia plate with a protective covering being fitted over the PCB, leaving only the connection terminals and DIL switch exposed. The fascia plate is then fitted onto a standard dual-gang MK box. The TM520 is designed for internal applications.

### Mechanical construction

As stated, the TM520 Timer Module is fitted onto a custom built fascia plate designed to be mounted onto a standard dual-gang MK box. The dimensions of this fascia plate are given in Fig. 1.

The MK box is surface mounted. Suitable holes are required to be drilled in the box for electrical connection. A cable gland is required for MICC cable and conduit use, whilst a grommet must be fitted when using PVC cable. The PCB is fitted with a red (TIME-OUT) and a yellow (TIMING) LED which extend through the front of the fascia plate and provide indication of unit operation.

x=ON o=OFF

SWITCHES 1, 2, 3, 4	SWITCHES 5, 6, 7							
	000	X00	0X0	XX0	00X	X0X	0XX	XXX
0000		2hr 40	5hr 20	8hr	10hr 40	13hr 20	16hr	18hr 40
X000	10	2hr 50	5hr 30	8hr 10	10hr 50	13hr 30	1hr 10	18hr 50
0X00	20	3hr	5hr 40	8hr 20	11hr	13hr 40	1hr 20	19hr
XX00	30	3hr 10	5hr 50	8hr 30	11hr 10	13hr 50	1hr 30	19hr 10
00X0	40	3hr 20	6h3	8hr 40	11hr 20	14hr	1hr 40	19hr 20
X0X0	50	3hr 30	6hr 10	8hr 50	11hr 30	14hr 10	1hr 50	19hr 30
0XX0	1hr	3hr 40	6hr 20	9hr	11hr 40	14hr 20	17hr	19hr 40
XXX0	1hr 10	3hr 50	6hr 30	9hr 10	11hr 50	14hr 30	17hr 10	19hr 50
000X	1hr 20	4hr	6hr 40	9hr 20	12hr	14hr 40	17hr 20	20hr
X00X	1hr 30	4hr 10	6hr 50	9hr 30	12hr 10	14hr 50	17hr 30	20hr 10
0X0X	1hr 40	4hr 20	7hr	9hr 40	12hr 20	15hr	17hr 40	20hr 20
XX0X	1hr 50	4hr 30	7hr 10	9hr 50	12hr 30	15hr 10	17hr 50	20hr 30
00XX	2hr	4hr 40	7hr 20	10hr	12hr 40	15hr 20	18hr	20hr 40
X0XX	2hr 10	4hr 50	7hr 30	10hr 10	12hr 50	15hr 30	18hr 10	20hr 50
0XXX	2hr 20	5hr	7hr 40	10hr 20	13hr	15hr 40	18hr 20	21hr
XXXX	2hr 30	5hr 10	7hr 50	10hr 30	13hr 10	15hr 50	18hr 30	21hr 10

Table 1: TM520 Timer Module Switch Settings

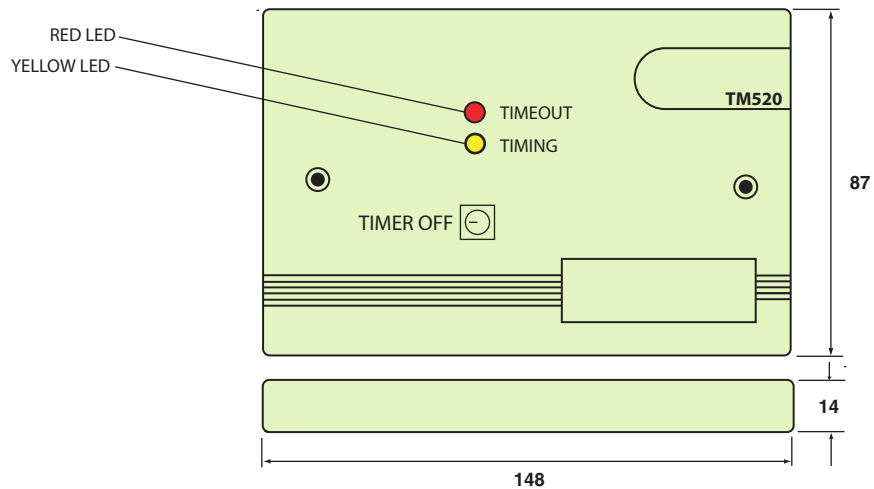


Fig. 1: TM520 Timer Module Front Cover

## Operation

The operation of the TM520 Timer Module is controlled by the TIMER OFF keyswitch, on operation of the key switch the timing sequence is initiated. The yellow TIMING LED will flash one second ON, one second OFF. At the end of the pre-determined time period, the red TIMEOUT LED will light and the internal buzzer will sound synchronously with the yellow TIMING LED for the 5 minute safety timeout period.

Operation may be cancelled at any time by turning the TIMER OFF keyswitch OFF. Turning the TIMER OFF keyswitch OFF then ON within 3 seconds reinitiates the timeout period.

## Technical Specification

### Overall Dimensions (see Fig. 1)

Weight: 100g

### Material

Housing: 'BAYBLEND' (polycarbonate /ABS alloy)

### Environmental

Operating Temperature: -20°C to +70°C  
 Relative Humidity: up to 95% RH (non-condensing)

### Electrical Characteristics

Power supply: 18 - 28V d.c. (from external supply or controller)  
 Current consumption: 40mA max when operated  
 Relay Contact Rating: 1A @ 24V d.c.  
 Relay Operation/Release: 7ms / 3ms

### Electromagnetic Compatibility

The TM520 complies with the following:  
 Product family standard EN 50130-4 in respect of Conducted Disturbances, Radiated Immunity, Electrostatic Discharge, Fast Transients, and Slow High Energy  
 EN 61000-6-3 for Emissions

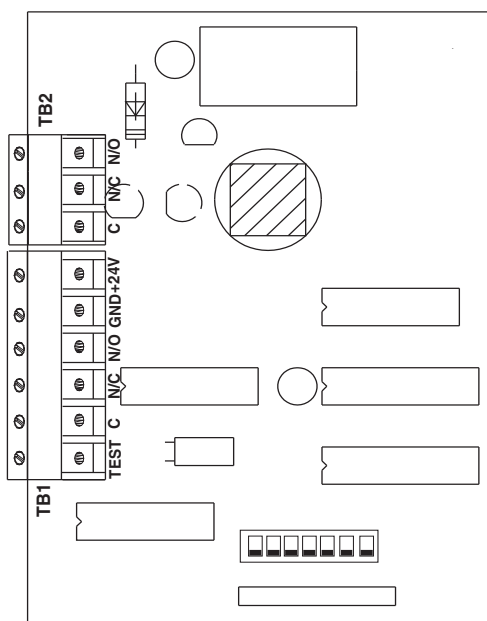


Fig. 2: TM520 Timer Module PCB

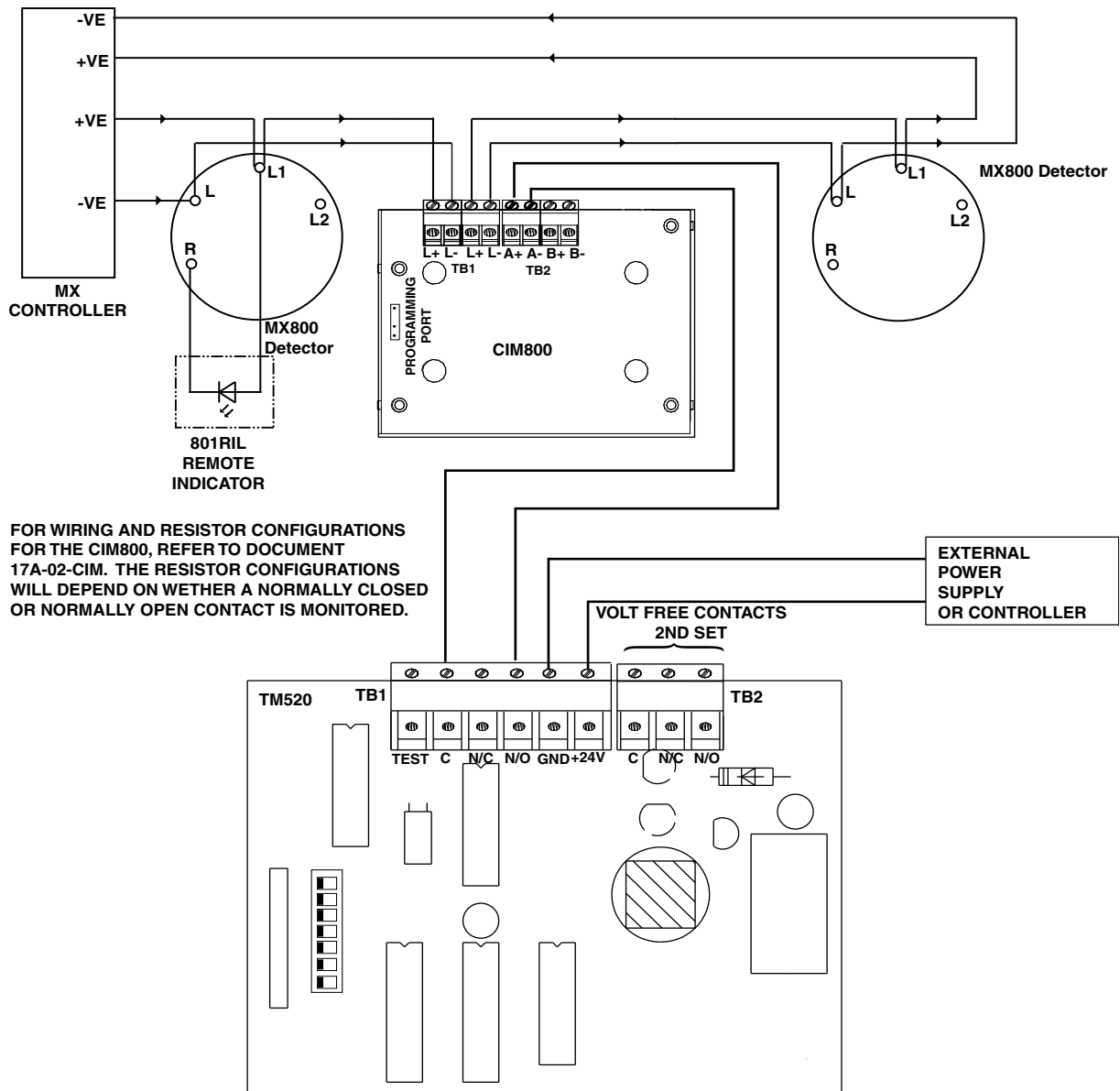


Fig. 3: TM520 Simplified Wiring Diagram Using a CIM800 Contact Input Module

### Cabling

Refer to Figs. 3 and 4. A maximum of one 1.5mm cable may be connected at any one terminal.

The external power supply is connected as follows:

- Positive (+24V)
- Negative (GND)

### Ordering Information

TM520 Timer Module: 557-180-423

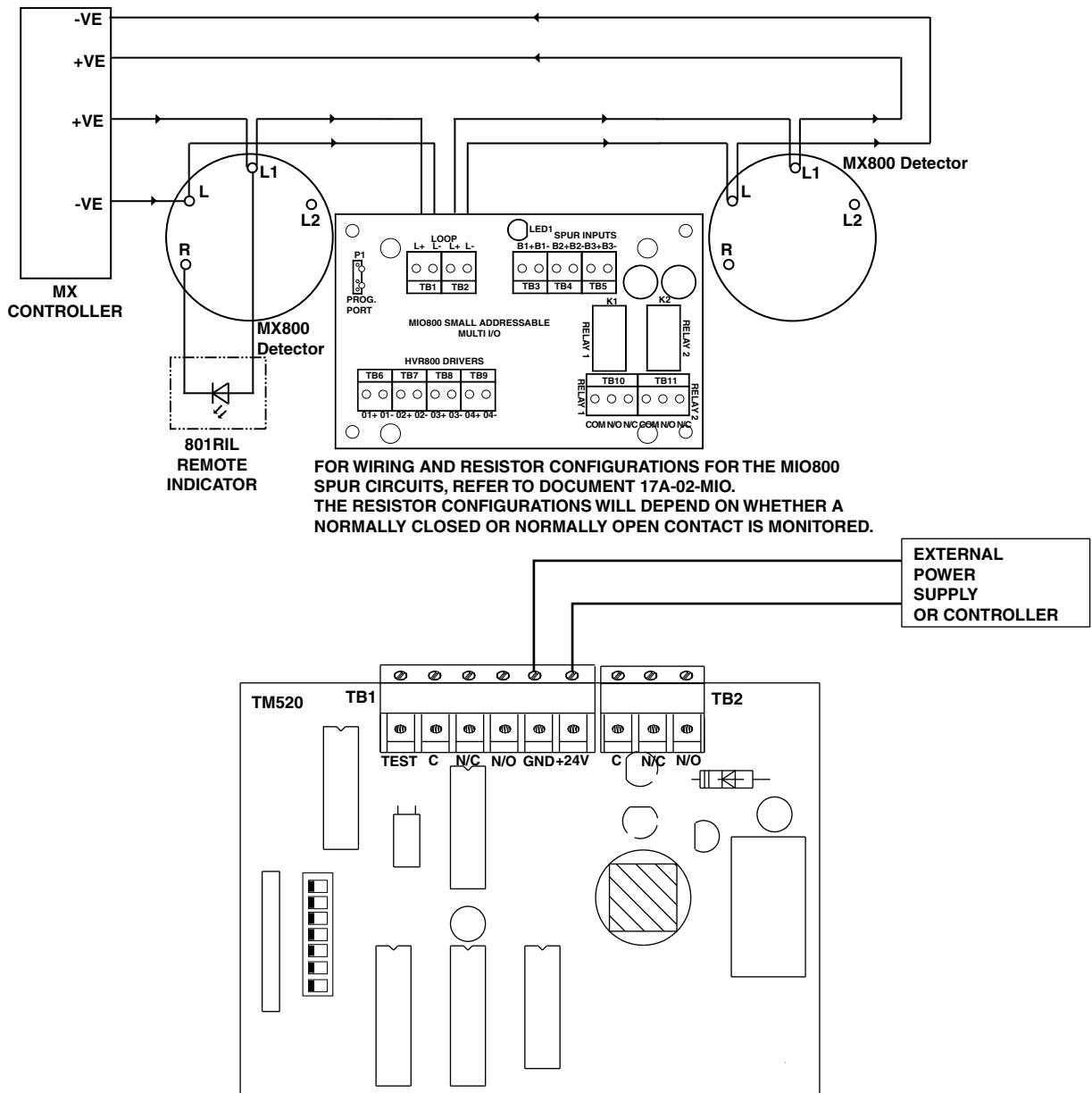


Fig. 4: TM520 Simplified Wiring Diagram Using an MIO800 Small Addressable Input/Output Module