



**PRODUCT INFORMATION**

# Programmable Time Delay - 3 wire



- Excel series:** XLTX770/1, XLTX770/1NC, XLTX770/2, XLTX770/2NC
- Standard series:** TX770/1, TX770/1RC, TX770/1RCNC, TX770/1NC, TX770/2, TX770/2NC, TX770/2RCNC, TX770/2RC
- Weatherproof:** TX170/1, TX170/2

**Specification: (at 25°C)**

Contact status:	Normally open
Connection type:	3 wire (neutral required)
Supply voltage:	230-240Vac±10%
Frequency:	50Hz
Max current:	10A
Over temp. cut-out current:	12A (approx)
Max load:	2400W (incandescent) 2400VA (fluorescent)
Min load:	10W
Operating temperature range:	0 to +50°C
Cycle Timer ranges:	1 sec to 239 hrs
Factory setting:	10 mins
Approval No:	CS7243N

**Features and applications:**

This time delay switch is capable of switching loads for any programmable time from 1 second to 239 hours and it does this with incredible accuracy without the need of a battery or supercapacitor. This accuracy is based on the timing reference used: the 50Hz frequency.

Applications include lighting, heating, air conditioning and other machinery in commercial, industrial and institutional premises with resultant economies because the devices are turned on only when they are required and can not be inadvertently left on.

The push button is illuminated for easy night time operation.

**Understanding the function of the time delay switch:**

Your time delay switch is one of two different types. If it has a number 1 in the catalogue number, the unit will commence in programmed 'time on' with a press and if pressed again before the 'time on' is finished, it will recommence from the start. If, however, it has a number 2 in the catalogue number, the second press will stop the 'time on' and switch the load off.

**Typical Applications**

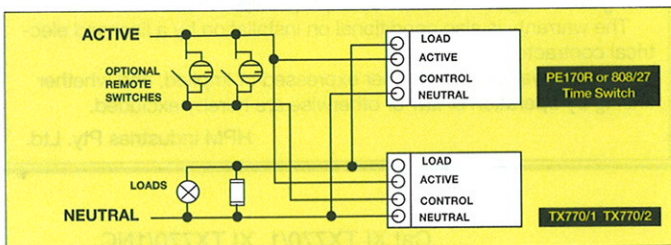


Fig 1. Light Control by TX & PE170R

A PE170R or 808/27 time switch is programmed to turn off external lights at 10 pm to save energy. Outside of these hours lights can be turned on for a timed period by the TX770 or remote push buttons.

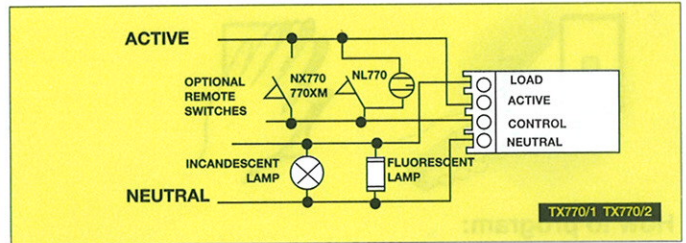


Fig 2. Wiring diagram for combination of incandescent and fluorescent loads

Note: Cat NL770 or Cat 770XM can replace all switches including intermediate switches, for multi-way circuit using existing wires.

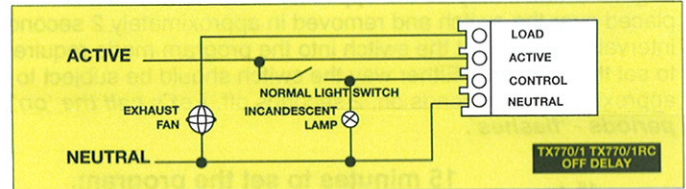


Fig 3. Control for a delayed switching off

Example: A fan runs for timer period after light switch is turned off.

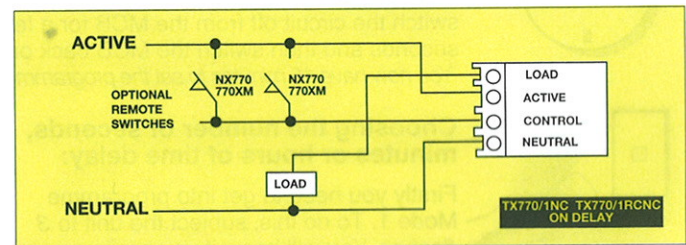


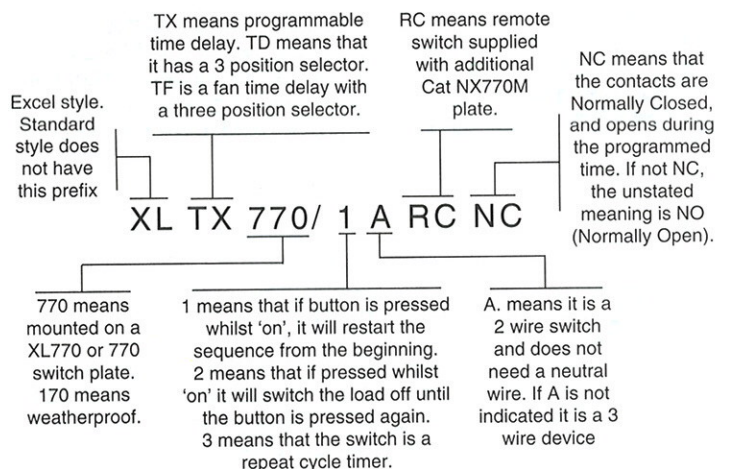
Fig 4. Turning load 'off' for timer period (Normally closed - NC Timer).

Example: Load is an air conditioner in a library for temperature and humidity control. Push button turns unit off for timed period.

**Installation Note:**

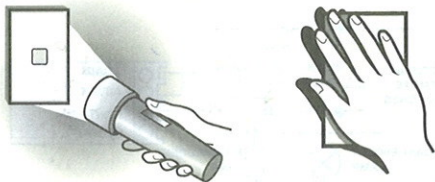
- 1) The maximum recommended length of the control wire to remote push buttons is 100m.
- 2) Power factor correction capacitors can be connected downstream of TX770 series contacts.

**Understanding the function of the switch by its catalogue number.**



**WARNING**  
Do not megger test. Megger testing may damage unit.





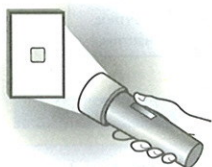
## How to program:

The heart of this time delay switch is a photo electric cell which is influenced, in the programming mode, by changes of light intensity. For instance in a semi dark indoor situation, a torch being flashed at the switch will programme it. Outdoors or in brighter areas it may be the opposite. Your hand or a box placed over the switch and removed in approximately 2 second intervals will also put the switch into the program mode required to set the 'time on'. Either way the switch should be subject to approximately 2 seconds on, 2 seconds off. **Let's call the 'on' periods - 'flashes'.**



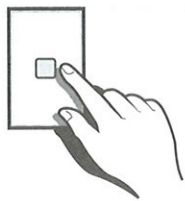
### 15 minutes to set the program.

Setting the unit into program mode can only be done within 15 minutes of the unit receiving power. So it may be required to switch the circuit off from the MCB for a few seconds and then switch the MCB back on. *You now have 15 minutes to set the programme.*

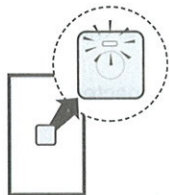


### Choosing the number of seconds, minutes or hours of time delay:

Firstly you need to get into programme Mode 1. To do this, subject the unit to *3 flashes*. You will know if you are in program Mode 1 because the switch will show a constant green light plus a flashing red one. If you see these lights you are in Mode 1.



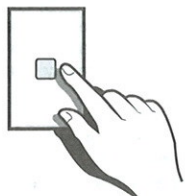
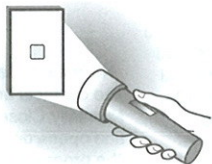
To set the amount of time that you wish the load to stay on, press the button the number of times corresponding to your 'time on'. For instance if you're setting 10 seconds, press the button ten times. If you're setting 10 hours, press the button ten times. If you're setting 3 minutes, press the button three times. It doesn't matter in Mode 1 whether it's hours, minutes or seconds - it's just a number.



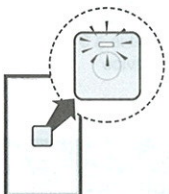
10 seconds after you've entered your number, the relay will turn on for 4 seconds, then off. The switch will also flash the new setting for 90 seconds.

### Getting into Mode 2.

To do this, subject the unit to *6 flashes*. You will know if the switch is in Mode 2 because it will show a constant red light and a flashing green one (the opposite to Mode 1). You now need to tell the switch what the number that you have programmed into it means.



If that number is to be SECONDS, press the button once. If you want MINUTES, press the button twice. If you want HOURS, press the button three times.



Say you wanted 2 hours & 15 minutes you would need to convert hours into minutes to come up with a total minutes figure of 135. That's the number of presses that you need in Mode 1. And you need to press twice for minutes in Mode 2.

10 seconds after the last press, the unit will automatically save the new timing and turn the relay on for 4 seconds, then off again. It will also flash the new setting for 90 seconds. The next press will commence the timing cycle from the beginning of the 'on' period.

## Programming Notes:

- The units are factory set in Mode 1 at 10. If this number is satisfactory, you then proceed straight to Mode 2.
- After entering either program mode, pressing the button once or more will override the previous setting and cannot be reversed.
- After entering either program mode, and not pressing the button, the unit will time out after 1 minute and no setting will be changed.
- All new program settings are **permanently stored in a non-volatile memory**, immune to power failure. There is no need for back-up batteries.
- The units may be programmed on the bench prior to going on-site if more convenient.

### Warranty

HPM TX770 series Time Delays are warranted as here and after appears, against faulty material and/or workmanship for a period of one year from date of purchase.

The obligation of the manufacturer, under this warranty, is limited to servicing and replacing defective parts when the unit is returned to HPM Industries, or the distributors in your state, freight pre-paid.

This warranty becomes void on any unit which has been tampered with or damaged by accident, short circuited, loaded beyond rating or damaged otherwise by improper operation.

The warranty is also conditional on installation by a licensed electrical contractor.

All other warranties, whether expressed or implied, and whether arising by operation of law or otherwise are hereby excluded.

HPM Industries Pty. Ltd.



Cat XLTX770/1, XLTX770/1NC  
 XLTX770/2, XLTX770/2NC, TX770/2RC  
 TX770/1, TX770/1RC, TX770/1RCNC,  
 TX770/1NC, TX770/2, TX770/2NC,  
 TX770/2RCNC, TX170/1, TX170/2  
 Made in Australia by  
 HPM Industries Pty. Ltd