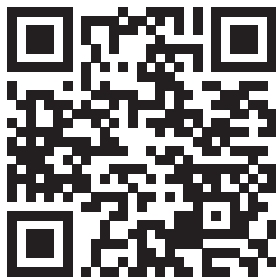# HNS220TD
OWNER'S MANUAL

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3-WIRE SUITABLE FOR FANS, MOTORS OR IRON CORE BALLASTS

1. FEATURES

- Push button timer with ON/OFF and ON/RESTART operations
    - Quick tap turns power ON/ OFF, or
    - Sustained 2 seconds press restart the timer
- Adjustable Timer Range from 10 seconds to 15 hours
- Configurable blue LED indicator
    - Indicator ON or OFF when power ON, or
    - Indicator ON or OFF when power OFF
- Configurable Switch Mode
    - Power ON during timing (NO - Normally Open), or
    - Power OFF during timing (NC - Normally Closed)
- Suitable for a wide range of load types, including motor loads up to 8A
- Compatible with HPM and Clipsal style wall plates with push buttons provided for a perfect fit
- Very low 80mW standby power
- Remote switch compatible
- Timer set to 30 minutes out of box

2. OPERATING CONDITIONS

- Operating Voltage: 230 – 240V a.c. 50Hz
- Operating Temperature: 0 to +50 °C
- Certification Standard: CISPR15, AS/NZS 3100, AS/NZS 60669.2.1
- Maximum Load: 10AX
- Timer Range: 10 seconds to 15 hours
- Timer Accuracy: ± 0.5%
- Terminals: Screw Terminals suit 1.5mm^2 to 4.0mm^2 stranded (bootlace terminal recomended)

   Note: Operation at temperature, voltage or load outside of the specifications may cause permanent damage to the unit.

3. LOAD COMPATIBILITY

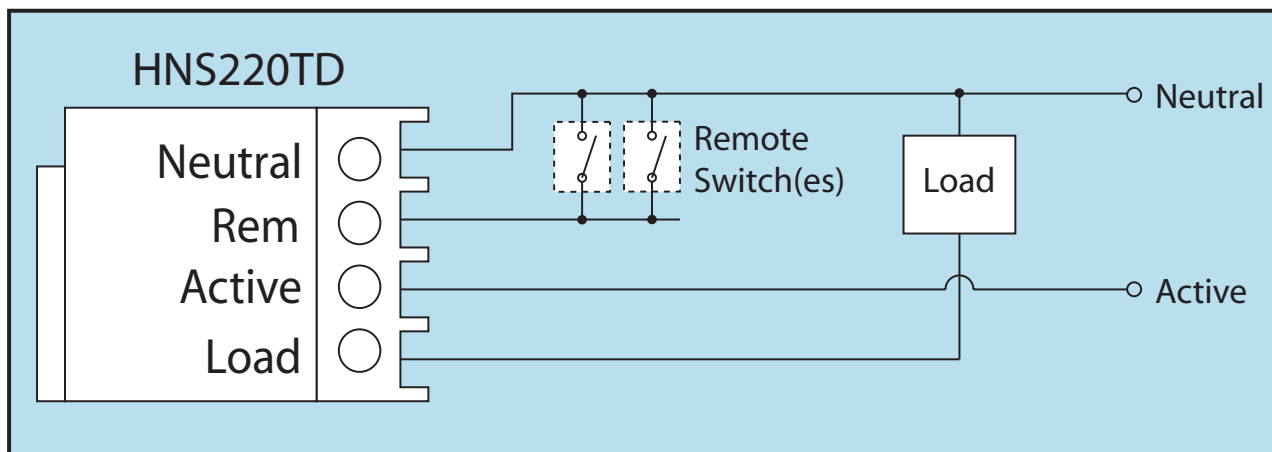| LOAD TYPE	COMPATIBILITY
Incandescent / 240V Halogen	10AX
Fluorescent Tube with Electronic or Iron Core Ballast	10AX
Compact Fluorescent	10AX
Electronic Transformer	10AX
LED	10AX
Wirewound Transformer	10AX
Fan Motors	8A
Heating Elements	10AX

4. WIRING INSTRUCTIONS

WARNING: The HNS220TD is to be installed as part of a fixed wire electrical installation. By law such installations must be made by an electrical contractor or similarly qualified person.

NOTE: A readily available disconnect device, such as a type C 16A circuit breaker shall be incorporated external to the product.

4.1 WIRING
• Disconnect power at the circuit breaker before any electrical work.
• Install the HNS220TD as per the wiring diagram in figure below.

• Clip the button on to the HNS220TD. Ensure that the button is oriented so that the LED light pipe is aligned with the hole in the button, before attaching it to the wall plate.
• Reconnect power at the circuit breaker and affix Solid State Device Warning Sticker at switchboard.

Note: The HNS220TD is designed for indoor use. It is not rated for outdoor installation. If the unit is loose in the plate, the wall plate should be replaced. The wire strip length is 10mm.

4.2 MULTI-WAY SWITCHING
• The HNS220TD is multi-way switching capable by using mains rated momentary action switches wired across the Neutral and Rem (Remote) connections. Suitable switches include the HPM EM870K or Clipsal 681M20P.
• There is no limit to the number of remote switches provided the remote wire length does not exceed 50 metres.
• Holding a remote button for over 2 seconds will cause the timer to restart.

5. OPERATING INSTRUCTIONS

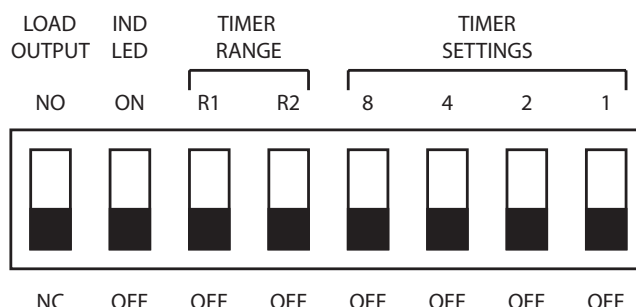**ELECTRICAL SAFETY WARNING: Isolate the HNS220TD from the mains power before setting the timer.**

The HNS220TD is an Advanced Wall Timer which allows flexible configurations. The LED can be configurable to be either ON or OFF during timer operation. The power to the load can be either ON or OFF during timer operation.

With a Quick Tap of the button the LED will change indication, depending on LED switch setting and the power to the load will either switch ON or OFF.

When the timer is in operation, the LED will blink every 5 seconds. During the last 10 seconds of operation the LED will flash indicating imminent time out.

If there is a sustained 2 seconds press of the button the timer will restart. At any time when the timer is running a Quick Tap will turn the timer OFF.

The HNS220TD is configured by adjusting the 8 DIP switches inside the unit to the settings required.

5.1 LOAD OUTPUT (POWER ON / POWER OFF) SWITCH

The HNS220TD can be set so that the power is ON (Normally Open - NO) when the timer is running or set to OFF (Normally Closed - NC) when the timer is running the setting the Load Output switch.

LOAD OUTPUT SWITCH	OPERATING MODE
Normally Open (NO)	Power ON during timer operation (Relay contact closed)
Normally Closed (NC)	Power OFF during timer operation (Relay contact open)

5.2 LED INDICATOR SWITCH

The sense of the HNS220TD LED indicator can be set to ON or OFF in timer mode.

LED INDICATOR SWITCH	LED INDICATOR MODE
ON	Indicator ON when power ON. Indicator OFF when power OFF
OFF	Indicator OFF when power ON. Indicator ON when power OFF

5.3 SETTING THE TIMER

The timer duration is set by configuring the Timer Range and Timer Settings switches.
• The Timer Range is determined by the positions of the Timer Range switches R1 and R2.
• The Timer Settings are determined by the sum of the values for each of the Timer Settings switches that are set to ON (any combination of 8, 4, 2, 1).
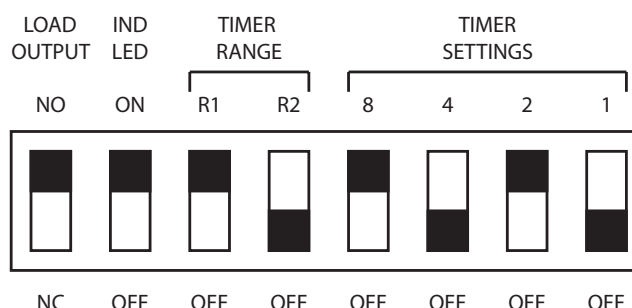
TIMER RANGE			TIMER SETTINGS (8, 4, 2, 1)	
R1	R2	Multiplier	Min. Time Setting	Max. Time Setting
OFF	OFF	10 seconds	10 seconds	2.5 minutes
ON	OFF	1 minute	1 minute	15 minutes
OFF	ON	10 minutes	10 minutes	2.5 hours
ON	ON	1 hour	1 hour	15 hours

The timer duration is then calculated by the Timer Settings multiplied by the Timer Range. For example, if 8, 2 and 1 are ON, and the range R1 is OFF and R2 is ON, the timer duration will be (8+2+1)x10 minutes = 110 minutes.

5.4 APPLICATION EXAMPLE 1

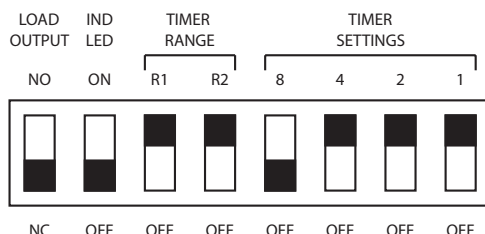**10 minute timer, power ON when timer is running, indicator ON while power ON.**
• Set all switches to the OFF position.
• Set the Load Output switch to the NO position to select the power ON during timer mode.
• Set the LED Indicator switch to the ON position to select the indicator on while power ON mode.
• Set the Timer Range to 1 minute (1 minute to 15 minutes possible duration) switch R1 = ON, switch R2 = OFF.
• Set the Timer Settings switches to add up to 10 (8 + 2 = 10), 10 x 1 minute = 10 minutes.

5.5 APPLICATION EXAMPLE 2
7 hour timer, Power OFF when timer is running, Indicator ON while power OFF
- Set all switches to the OFF position
- Set the Load Output switch to the NC position to select the power OFF during timer mode.
- Set the LED Indicator switch to the OFF position to select the indicator OFF while power ON mode.
- Set the Timer Range to 1 hour with switch R1 = ON, switch R2 = ON
- Set the Timer Settings switches to add up to 7 (4 + 2 +1 = 7), 7 x 1 hour = 7 hours.

LOAD OUTPUT	IND LED	TIMER RANGE		TIMER SETTINGS			
NO	ON	R1	R2	8	4	2	1
NC	OFF	OFF	OFF	OFF	OFF	OFF	OFF

5.6 ON / RESTART OPERATION
When the Timer is running, holding the front push button of the HNS220TD for 2 seconds (LED will go off) or remote switch for 2 seconds will restart the timer.

5.7 ON / OFF OPERATION
The HNS220TD can be used as a simple ON/ OFF switch when all the Timer Settings switches are set to the OFF position.

6. IMPORTANT SAFETY WARNINGS

6.1 LOAD REPLACEMENT
- It should be assumed that even when OFF, mains voltage will still be present at the load fitting. Mains power should therefore be disconnected at the circuit breaker before replacing loads.

6.2 INSTALLATION
- The HNS220TD is to be installed as part of a fixed wire electrical installation. By law, such installations must be made by an electrical contractor or similarly qualified person. Avoid excessive force on remote input wire or terminals during installation.

6.3 LOW READING DURING INSULATION BREAKDOWN TEST
- The HNS220TD is a solid state device. Therefore a low reading may be observed when conducting insulation breakdown testing on the circuit.

6.4 CLEANING
- Clean only with a damp cloth. Do not use abrasives or chemicals.

7. WARRANTY AND DISCLAIMER

Legend Corporation Limited warrants the product against manufacturing and material defect from the date of invoice to the initial purchaser for a period of 12 months. During the warranty period Legend Corporation Limited will replace products that prove to be defective where the product has been correctly installed and maintained and operated within the specifications defined in the product data sheet and where the product is not subject to mechanical damage or chemical attack. The warranty is also conditional on the unit being installed by a licensed electrical contractor. No other warranty is expressed or implied.

Legend Corporation Limited shall not be liable for any direct, indirect, incidental or consequential damages.

CP14731 Rev 2, 8TH June 2018

Ordering Information: Part No. HNS220TD