

## Theben SYN 161d

# Theben SYN 161d Analog Timer User Manual

Model: SYN 161d (Product No. 1610011)



## 1. INTRODUCTION

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This user manual provides comprehensive instructions for the installation, operation, and maintenance of your Theben SYN 161d Analog Timer. Please read this manual carefully before using the device to ensure safe and efficient operation. The Theben SYN 161d is a reliable 1-channel analog timer designed for daily programming, suitable for various applications such as lighting control, pump management, and more.



Figure 1: The Theben SYN 161d Analog Timer alongside the Avantrado 64GB Micro SD card and adapter.

## 2. KEY FEATURES

The Theben SYN 161d Analog Timer offers a range of features designed for precise and reliable time control:

- **Analog Timer:** Simple and intuitive analog interface for setting daily programs.
- **1 Channel:** Controls a single circuit.
- **Daily Program:** Allows for repetitive switching cycles over a 24-hour period.
- **96 Switching Segments:** Enables precise programming with a shortest switching time of 15 minutes.
- **Network Synchronization:** Ensures accurate timekeeping by synchronizing with the power grid frequency.
- **12h/24h Display:** Clear time display with hands and 12h/24h detection.
- **Easy Time Correction:** Simple adjustment for daylight saving time (summer/winter time) and counter-clockwise time correction.
- **DuoFix Spring Terminals:** Facilitates quick and secure connection for up to two conductors (0.5 to 2.5 mm<sup>2</sup> wire diameter).
- **Manual Switch:** Three-position switch for continuous ON, AUTO (programmed operation), or continuous OFF.
- **Switching Status Indicator:** Provides visual feedback on the current switching state.

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Made in Germany

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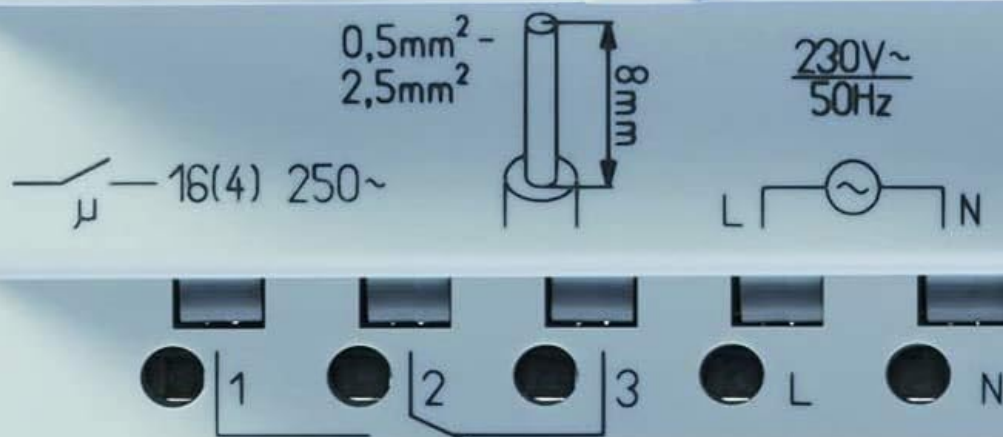




Figure 2: Detailed view of the timer's 24-hour dial and programmable segments.

## 3. INSTALLATION AND SETUP

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The Theben SYN 161d timer is designed for DIN rail mounting. Ensure all power is disconnected before proceeding with installation.

### 3.1 Safety Instructions

- Installation must be performed by a qualified electrician.
- Disconnect power supply before installation or maintenance.
- Observe all local and national electrical codes and regulations.
- Do not operate the device if it is damaged.

### 3.2 Mounting

The timer is designed for mounting on a standard DIN rail (3 TE width).

1. Ensure the DIN rail is securely fastened within the electrical enclosure.
2. Align the timer with the DIN rail and press firmly until it clicks into place.

### 3.3 Wiring

The SYN 161d uses DuoFix spring terminals for secure wiring. These terminals are suitable for solid or stranded wires (with or without ferrules) with a diameter of 0.5 to 2.5 mm<sup>2</sup>.

1. Identify the terminals: L (Line/Phase), N (Neutral), and the switching contacts (1, 2, 3).
2. Press the release button on the DuoFix terminal to open the connection.
3. Insert the stripped wire into the terminal.
4. Release the button to secure the wire. Gently pull on the wire to ensure a firm connection.
5. Connect the power supply (230V AC, 50Hz) to the L and N terminals.
6. Connect the load to the switching contacts (e.g., L to terminal 1, load to terminal 2, and terminal 3 for changeover if needed). Refer to the wiring diagram on the device for specific connections.





Figure 3: Wiring terminals with DuoFix spring connections.

## 4. OPERATION

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### 4.1 Setting the Current Time

Rotate the central dial clockwise until the current time aligns with the time marker (usually a small arrow or line on the casing). The dial has 24-hour markings.



Figure 4: Setting dial for time adjustment.

#### 4.2 Programming Switching Times

The outer ring of the dial consists of 96 segments, each representing 15 minutes. To program a switching time:

1. **For ON periods:** Push the segments outwards for the desired duration.
2. **For OFF periods:** Leave the segments pushed inwards.
3. Each pushed-out segment will activate the circuit during its corresponding 15-minute interval.

#### 4.3 Manual Override Switch

The manual override switch allows you to temporarily change the timer's state, regardless of the programmed settings. It has three positions:

- **Continuous ON (I):** The circuit remains continuously active.
- **AUTO (Clock symbol):** The timer operates according to the programmed switching times.
- **Continuous OFF (0):** The circuit remains continuously inactive.



Figure 5: Manual override switch for continuous operation or programmed mode.

## 5. MAINTENANCE

The Theben SYN 161d Analog Timer is designed for long-term, maintenance-free operation. However, periodic checks can ensure optimal performance.

- **Cleaning:** Use a dry, soft cloth to clean the exterior of the device. Do not use abrasive cleaners or solvents.
- **Connection Check:** Periodically check the wiring connections to ensure they remain secure. (Ensure power is disconnected before checking connections).
- **Environmental Conditions:** Ensure the timer is operated within its specified temperature and humidity ranges to prevent damage.

## 6. TROUBLESHOOTING

Problem	Possible Cause	Solution
Timer not switching / Load not turning ON/OFF.	No power supply. Manual switch in Continuous ON/OFF position. Incorrect programming (segments not pushed out/in correctly). Loose wiring connection. Overload or short circuit.	Check power supply to the timer. Set manual switch to AUTO (clock symbol). Verify programmed segments are correctly set for desired ON/OFF times. Check and secure all wiring connections (power off first). Check load and circuit for faults.

Problem	Possible Cause	Solution
Timer time is inaccurate.	Initial time not set correctly. Power interruptions (timer has no power reserve).	Reset the current time on the dial. The timer relies on network synchronization. After a power outage, the time will need to be manually reset.
Segments are difficult to push.	Dust or debris accumulation.	Gently clean the segments with a soft brush. Do not force them.

## 7. TECHNICAL SPECIFICATIONS

Parameter	Value
Supply Voltage	230 V AC
Frequency	50 Hz
Number of Channels	1
Width	3 TE (DIN modules)
Mounting Type	DIN rail
Connection Type	DuoFix spring terminals
Drive	Synchronous motor
Program	Daily program
Switching Capacity (250 V AC, $\cos \varphi = 1$ )	16 A
Switching Capacity (250 V AC, $\cos \varphi = 0.6$ )	4 A
Incandescent/Halogen Load	1100 W
LED Lamp (<2 W)	180 W
LED Lamp (2-8 W)	20 W
LED Lamp (>8 W)	180 W
Shortest Switching Time	15 minutes
Programmable Interval	15 minutes
Accuracy (at 25 °C)	Network synchronous
Contact Type	Changeover switch
Switching Output	Potential-free and phase-independent
Number of Switching Segments	96
Standby Power	~ 0.5 W
Maximum Power Dissipation	1.3 W
Control Mark	VDE



Parameter	Value
Housing Material	High temperature resistant
Dimensions (Package)	10.9 x 9.1 x 8.7 cm
Weight (Item)	70.02 grams (2.47 Ounces)
Color	White

*Note: The included Micro SD card and adapter are an additional product and are not required for the operation of the Theben SYN 161d timer.*



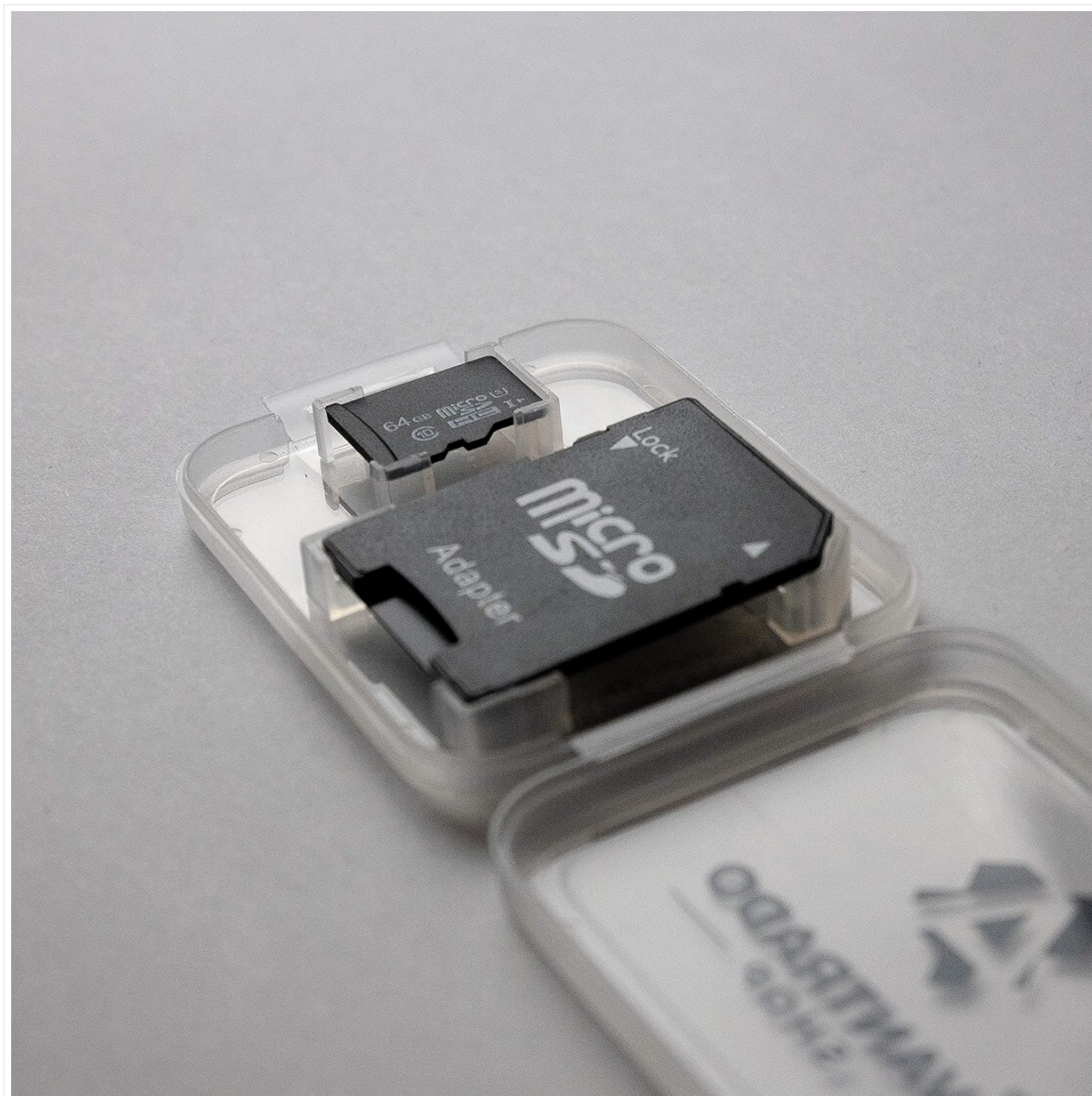


Figure 6: The Avantrado 64GB Micro SD card and adapter, included as an accessory.

## 8. WARRANTY AND SUPPORT

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For warranty information and technical support, please refer to the official Theben website or contact their customer service. Keep your purchase receipt as proof of purchase.

Theben products are manufactured in Germany, ensuring high quality and durability.





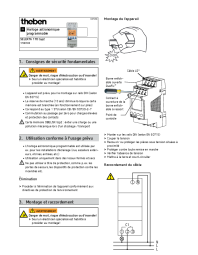


Figure 7: Theben's manufacturing facility, highlighting German quality.

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This manual is for informational purposes only. Specifications are subject to change without notice.

Related Documents - SYN 161d

	<p><a href="#">Theben SYN 269 h Analog Timer Switch - Technical Specifications and Features</a></p> <p>Detailed technical specifications, features, and dimensions for the Theben SYN 269 h analog timer switch. This device offers daily or weekly programming for time and light control, with a 1-channel output and various operational modes.</p>
	<p><a href="#">Theben SUL 181 d Analogue Time Switch</a></p> <p>User and technical guide for the Theben SUL 181 d analogue time switch. Covers installation, operation, technical specifications, and safety warnings for this 1-channel daily program timer.</p>
	<p><a href="#">Theben SELEKTA 170 top2 Programmable Astronomical Timer - User Manual</a></p> <p>Comprehensive user manual for the Theben SELEKTA 170 top2 programmable astronomical timer (Model 1700100). Covers installation, setup, programming, technical specifications, and contact information.</p>

