

Theben Syn 160 E

Theben Syn 160 E Analog Time Switch User Manual

Model: Syn 160 E | Brand: Theben

1. PRODUCT OVERVIEW

The Theben Syn 160 E is a compact analog time switch designed for DIN rail mounting. It features a single channel with a 24-hour daily program, allowing for precise control of electrical circuits based on time. This device is ideal for applications requiring automated on/off switching cycles.



Figure 1: Front view of the Theben Syn 160 E Analog Time Switch, showing the dial and manual override switch.

Key Features:

- Single channel for time-controlled switching.
- 24-hour daily program with 15-minute minimum switching time.
- Designed for DIN rail mounting (1 TE width).
- Manual override function for temporary switching.
- Potential-free switching contact.
- Quartz controlled for high accuracy.
- IP20 protection rating.

2. SAFETY INFORMATION

Please read these safety instructions carefully before installation and operation. Failure to follow these instructions may result in electric shock, fire, or serious injury.

- Installation and maintenance must only be performed by a qualified electrician.
- Disconnect power supply before any installation, wiring, or maintenance work.
- Ensure the device is installed in a dry environment, protected from moisture and direct sunlight.
- Do not exceed the specified maximum load current (16 A at 250 V AC).
- Verify all connections are secure and correct before restoring power.
- The device is designed for indoor use only.

3. PACKAGE CONTENTS

The package typically includes:

- 1 x Theben Syn 160 E Analog Time Switch
- 1 x Instruction Manual (this document)

4. INSTALLATION

4.1 Mounting

The Theben Syn 160 E is designed for mounting on a 35mm DIN rail in an electrical distribution board or suitable enclosure. It occupies 1 module unit (1 TE) of space.

1. Ensure the main power supply to the circuit is disconnected.
2. Hook the top edge of the time switch onto the DIN rail.
3. Press the bottom part of the time switch firmly until it clicks into place on the DIN rail.

4.2 Wiring Diagram

Refer to the wiring diagram below for correct electrical connections. The device features potential-free switching contacts.



Figure 2: Wiring diagram for the Theben Syn 160 E. Connect the load to terminals 1 and 2 (potential-free contact), and the power supply to L and N.

- Connect the phase (L) and neutral (N) wires of the 230V AC, 50Hz power supply to the corresponding terminals on the time switch.
- Connect the load (e.g., light, fan) to the potential-free switching contacts (terminals 1 and 2). Terminal 1 is the common contact, and terminal 2 is the normally open contact.
- Ensure all connections are tight and secure.
- After wiring, close the distribution board cover and restore power.

5. OPERATING INSTRUCTIONS

5.1 Setting the Current Time

Rotate the time dial clockwise until the current time aligns with the time marker (usually a small arrow or line) on the housing.

5.2 Programming the Daily Schedule

The time switch features a 24-hour dial with segments, each representing 15 minutes. To program the schedule:

- **To set an ON period:** Push the corresponding segments on the outer ring of the dial inwards. Each pushed-in segment represents 15 minutes of the ON state.
- **To set an OFF period:** Leave the corresponding segments on the outer ring of the dial outwards. Each outward segment represents 15 minutes of the OFF state.
- Ensure that the desired ON/OFF times are clearly set by pushing in or pulling out the segments.

5.3 Manual Override

The Syn 160 E includes a manual override switch, typically located on the front panel. This allows you to temporarily change the switching state regardless of the programmed schedule.

- **"ON" position:** The connected load will remain ON continuously.
- **"OFF" position:** The connected load will remain OFF continuously.
- **"AUTO" (or clock symbol) position:** The time switch will operate according to the programmed daily schedule.

After using the manual override, remember to return the switch to the "AUTO" position for automatic operation.

6. MAINTENANCE

The Theben Syn 160 E is designed for long-term, maintenance-free operation. However, general care can help ensure its longevity:

- Before cleaning, disconnect the power supply to the device.
- Clean the exterior of the device with a soft, dry cloth. Do not use abrasive cleaners, solvents, or excessive moisture.
- Ensure that no dust or debris accumulates around the ventilation openings (if any) to prevent overheating.
- Regularly check electrical connections for tightness, especially after initial installation or if the device has been moved.

7. TROUBLESHOOTING

Problem	Possible Cause	Solution
Device not switching ON/OFF as programmed.	Manual override switch is not in "AUTO" position. Incorrect time setting. Segments on the dial are not correctly pushed in/out. No power supply to the device.	Set the manual override switch to "AUTO". Adjust the time dial to the current time. Verify and correct the pushed-in/out segments for the desired schedule. Check circuit breaker and wiring connections.
Load remains continuously ON or OFF.	Manual override switch is in "ON" or "OFF" position. Wiring error.	Return the manual override switch to "AUTO". Verify wiring according to the diagram (Section 4.2).
Device is completely unresponsive.	No power supply. Internal fault.	Check power supply at the distribution board. If power is present and the device is still unresponsive, contact customer support.

8. SPECIFICATIONS

Parameter	Value
Model	Syn 160 E
Brand	Theben
Number of Channels	1
Program Type	Daily Program (24-hour)
Minimum Switching Time	15 minutes
Supply Voltage	230 V AC
Frequency	50 Hz
Power Reserve	None

Parameter	Value
Accuracy per Day	±1 second
Switching Contact Type	Potential-free, Normally Closed (NC)
Rated Switching Current	16 A at 250 V AC
Mounting Type	DIN Rail (1 TE width)
Protection Rating	IP20
Dimensions (W x H x D)	17.5 mm x 90 mm x 60 mm
Weight	90 g



Figure 3: Dimensional drawing of the Theben Syn 160 E, showing width, height, and depth measurements in millimeters.

9. WARRANTY AND SUPPORT

Theben products are manufactured to high quality standards. For information regarding warranty terms and conditions, please refer to the official Theben website or contact your local distributor.

For technical support, troubleshooting assistance, or spare parts inquiries, please contact Theben customer service or your authorized dealer. When contacting support, please have your product model (Syn 160 E) and purchase details available.

Official Theben Website: www.theben.de