

OPERATING INSTRUCTIONS

PROGRAMMABLE INDUSTRIAL TIME SWITCHES

MODELS TA4150 THRU TA4153

FORM 5S2826  
03475  
0591/188/10M

**READ CAREFULLY BEFORE ATTEMPTING TO ASSEMBLE, INSTALL, OPERATE OR MAINTAIN THE PRODUCT DESCRIBED. PROTECT YOURSELF AND OTHERS BY OBSERVING ALL SAFETY INFORMATION. FAILURE TO COMPLY WITH INSTRUCTIONS COULD RESULT IN PERSONAL INJURY AND/OR PROPERTY DAMAGE! RETAIN INSTRUCTIONS FOR FUTURE REFERENCE.**

**Description**

Diehl programmable industrial time switches are for applications where it is required that electric circuits be switched on/off in periodically occurring cycles, e.g., electrical appliances, heating and ventilation systems, furnaces, annealing and drying ovens, automatic feeding machines, testing apparatus, laboratory equipment, protection and alarm systems.

Models are available with weekly or daily programs. Available with or without a rechargeable battery time reserve.

**▲ WARNING ▲**

**DO NOT USE THIS TIME SWITCH IN AN EXPLOSIVE ATMOSPHERE!**

**ADDITIONAL TIME SWITCH FEATURES**

- Models with battery time reserve driven by quartz controlled step motor.
- Program disc with non-detachable switch actuators.
- Easy and fast program setting.
- Display of switch-on time period by orange time section.
- Daily models have 96 switch actuators which give switching intervals of 15 minutes.
- Weekly models have 84 switch actuators which give switching intervals of 2 hours.
- Time reserve models have approximately a 90 hour reserve.
- The ambient temperature range for the time reserve models is -10°C to +55°C.
- The ambient temperature range for the standard models is -10°C to +85°C.

**Specifications & Dimensions**

MODEL	PROGRAM	SWITCH	TIME RESERVE	MOTOR INPUT	HP	CONTACT RATINGS @ 120AC	
						TUNGSTEN WATTS	PILOT DUTY VA
TA4150	Daily	SPST	No	120vac	1/2	1000	470
TA4152	Daily	SPST	Yes	120vac	1/2	1000	470
TA4151	Weekly	SPST	No	120vac	1/2	1000	470
TA4153	Weekly	SPST	Yes	120vac	1/2	1000	470

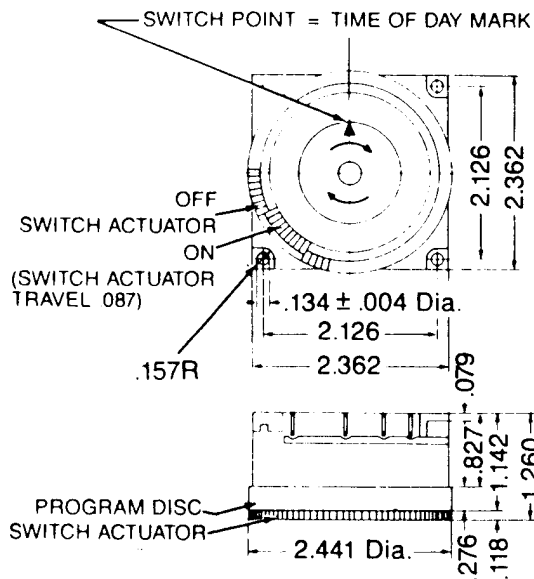


Figure 1 — Dimensions

**General Safety Information**

**▲ WARNING ▲**

**DO NOT USE THIS TIME SWITCH IN AN EXPLOSIVE ATMOSPHERES!**

1. These devices should be used within their recognized ratings as shown on device.
2. These devices shall be mounted in a suitable enclosure complying with the requirements of the National Electrical Code and all local codes and ordinances.
3. The connections to the device are intended to be accomplished with the use of the proper quick disconnect terminals.
4. Wire should have a temperature rating of 105C minimum.
5. The suitability of the dial as part of the enclosure, should be determined in the application.
6. The overall temperature of the device shall not exceed 85°C (55°C for time reserve models).
7. Clock operated time switches have a finite life. Normal failure modes include contact sticking and improper operation. Installation where property damage, and/or personal injury might result due to a possibility of improper operation, requires the further installation of backup systems designed to prevent personal injury and/or property damage.

**Installation**

1. Crimp 1/4" quick disconnect terminals (not furnished) to wires.  
NOTE: All wiring should be done in accordance with the National Electrical Code and all local requirements.
2. Align template on mounting plate (not furnished) and center punch the center of the dial clearance hole and the centers of the three mounting holes. (See Figure 2)

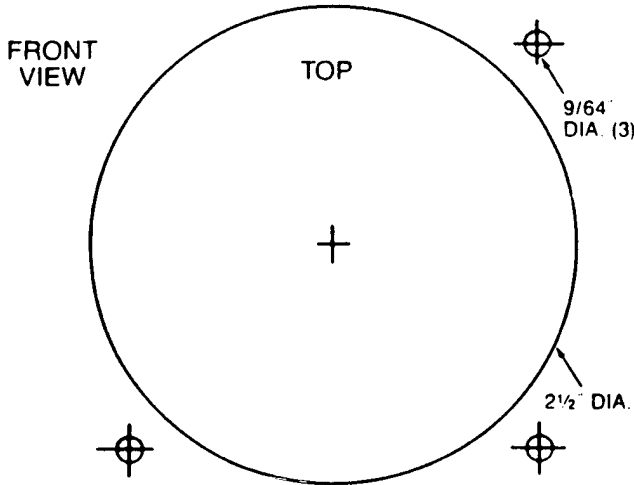


Figure 2 — Template (Actual Size)

3. Drill the three mounting holes 9/64" diameter. Punch out the center dial clearance hole 2 1/2" diameter (standard conduit punch may be used).
4. Mounting the unit onto the mounting plate, as shown, using the enclosed hardware. (See Figure 3).

**CAUTION**

The spacers must be used between the timer and the mounting plate to prevent the timer housing from cracking.

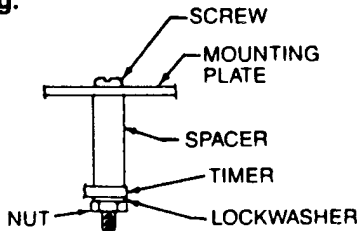


Figure 3 — Mounting Detail

5. Connect the previously prepared wires to the unit.

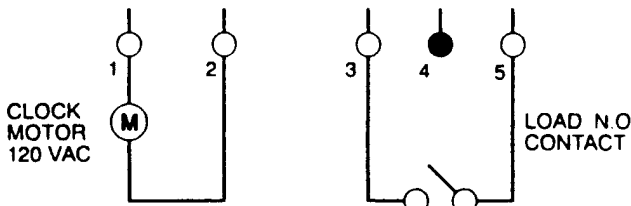


Figure 4 — Wiring Diagrams

6. Install the assembled timer and mounting plate into an NEMA approved enclosure, following all local electrical and safety codes, as well as the National Electrical Code (NEC) and the Occupational Safety and Health Act (OSHA).

**Operation**

1. Rotate the program disc, in the direction of the arrows, to align the correct time of day (the correct day of the week for weekly models) with the time of day mark.
2. Set the desired switching program by pushing the switch actuators toward the center of the time switch. Each actuator provides a 15 minute on time (2 hour on time for weekly models). The now visible orange area(s) indicate the switch on period.

**IMPORTANT: MODELS WITH BATTERY RESERVE**

These models utilize a nickel cadmium battery to provide power during power outages. This battery has a normal operating life of 6 to 8 years and it is not user replaceable.

For maximum battery life the unit should not be disconnected from the power source and stored for long periods of time (over two weeks) in a discharged condition. The maximum battery life is realized by maintaining a constant float charge in normal service operation. Normal power interruptions or disconnections of less than five days are considered to be normal service.

**Troubleshooting Chart**

SYMPTOM	POSSIBLE CAUSES	CORRECTIVE ACTION
Time switch does not run	Proper power not reaching unit	Check that time switch is connected to a live power line with good fuses, and that the voltage at the terminals is correct

**LIMITED WARRANTY**

Diehl ONE-YEAR LIMITED WARRANTY. Programmable industrial time switches. Models TA4150 Thru TA4153 are warranted by Diehl to the original user against defects in workmanship or materials under normal use for one year after date of purchase. Any part which is determined by Diehl to be defective in material or workmanship and returned to an authorized service location, as Diehl designates, shipping costs prepaid, will be, as the exclusive remedy, repaired or replaced at Diehl's option. For limited warranty claim procedures, see PROMPT DISPOSITION below. This limited warranty gives purchasers specific legal rights which vary from state to state.

LIMITATIONS OF LIABILITY. To the extent allowable under applicable law, Diehl's liability for consequential and incidental damages is expressly disclaimed. Diehl's liability in all events is limited to, and shall not exceed, the purchase price paid.

WARRANTY DISCLAIMER. Diehl has made a diligent effort to illustrate and describe the products in this literature accurately, however, such illustrations and descriptions are for the sole purpose of identification, and do not express or imply a warranty that the products are merchantable, or fit or fit for a particular purpose, or that the products will be necessarily conform to the illustrations or descriptions.

Except as provided below, no warranty or affirmation of fact, expressed or implied, other than as stated in "LIMITED WARRANTY" above is made or authorized by Diehl.

PRODUCT SUITABILITY. Many states and localities have codes and regulations governing sales, construction, installation, and/or use of products for certain purposes, which vary from those in neighboring areas. While Diehl attempts to assure that its products comply with such codes, it cannot guarantee compliance, and cannot be responsible for how the product is installed or used. Before purchase and use of a product, please review the product application, and national and local codes and regulations, and be sure that the product, installation, and use will comply with them.

Certain aspects of disclaimers are not applicable to consumer products; e.g., (a) some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you; (b) also, some states do not allow limitations on how long an implied warranty lasts, consequently the above limitation may not apply to you; and (c) by law, the period of this limited warranty, any implied warranties of merchantability or fitness for a particular purpose applicable to consumer products purchased by consumers, may not be excluded or otherwise disclaimed.

PROMPT DISPOSITION. Diehl will make a good faith effort for prompt correction or other adjustment with respect to any product which proves to be defective within limited warranty. For any product believed to be defective within limited warranty, first write or call dealer from whom product was purchased. Dealer will give additional directions. If unable to resolve satisfactorily, write to Diehl, giving dealer's name, address, date and number of dealer's invoice, and describing the nature of the defect. Title and risk of loss pass to buyer on delivery to common carrier. If product was damaged in transit to you, file a claim with carrier.

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