Copyright © 2006-2018
All rights reserved. While every precaution has been taken in the preparation of this manual, the publisher assumes no responsibility for errors or omissions. No part of this book covered by the copyrights hereon may be reproduced or copied in any form or by any means—graphic, electronic, or mechanical, including photocopying, taping, or information storage and retrieval systems—without written permission of the publisher.
Daktronics trademarks are property of Daktronics, Inc. All other trademarks are property of their respective companies.
# Table of Contents

1 Introduction........................................................................................................................................1
   Important Safety Instructions........................................................................................................1
   Resources ..................................................................................................................................1

2 Mechanical Installation ..................................................................................................................2
   Mounting ......................................................................................................................................2
   Removal & Replacement ...............................................................................................................2
     Small Clocks ..............................................................................................................................2
     Large Clocks .............................................................................................................................3

3 Electrical Installation ..................................................................................................................4
   Clock Control Installation ............................................................................................................4

4 Replacement Parts .......................................................................................................................5
   Replacement Fuses ........................................................................................................................5
   Routine/Preventative Maintenance ...............................................................................................5

A Reference Drawings ...................................................................................................................7
This page intentionally left blank.
1 Introduction

This manual explains the installation and maintenance of Daktronics Analog Clocks. This manual is not specific to a particular installation. Project-specific information takes precedence over general information found in this manual.

Important Safety Instructions

• Read and understand all instructions before beginning the installation process.
• Disconnect power when not in use or when servicing.
• Do not modify the structure or attach any panels or coverings to the clock without the express written consent of Daktronics.
• Do not disassemble control equipment or electronic controls of the clock; failure to follow this safeguard will make the warranty null and void.

Resources

Figure 1 illustrates a Daktronics drawing label. This manual refers to drawings by listing the last set of digits. In the example, the drawing would be referred to as DWG-1007804. All references to drawing numbers, appendices, figures, or other manuals are presented in bold typeface. Any drawings referenced in a section are listed at the beginning of it as shown below:

Reference Drawing:
System Riser Diagram ........................................................................................................ DWG-1007804

Daktronics identifies manuals by the DD or ED number located on the cover page.

Ensure all applicable materials have been gathered before beginning the installation. Contact a Daktronics sales coordinator or project manager.
2 Mechanical Installation

Mounting

Reference Drawings:
Attachment- DA-1100-4 to DA-1004-XX ......................................................... DWG-272683

Each analog clock will be mounted differently depending on the diameter of the clock face and the surface to which it will be attached.

DWG-272683 in Appendix A shows the typical location and hardware required when mounting an analog clock to a standard Daktronics arch truss. For all other types of mountings, refer to contract-specific shop drawings or system riser diagrams.

Note: For installation procedures of the truss itself, refer to the Outdoor Decorative Accent Installation Manual (ED-16076), available online at www.daktronics.com/manuals.

Removal & Replacement

Small Clocks

Refer to Figure 2 and the instructions below for removal of clocks that are 4’ (1.2 m) and smaller in diameter:

1. Disconnect power to the clock.
2. Remove both clock hands from the front of the clock.
3. Remove rear cover from the back of the clock.
4. Remove the four screws from within the clock mechanism to free the clock from the bracket.

Figure 2: Rear View, Small Analog Clock
Large Clocks
Refer to Figure 3 and the instructions below for removal of clocks that are 5’ (1.5 m) and larger in diameter:

1. Disconnect power to the clock.
2. Remove both clock hands from the front of the clock.
3. Remove the four screws securing the Clock Mechanism (with Attached Mounting Plate) to the Clock Mechanism Bracket.
4. Unbolt the Mounting Plate from the Clock Mechanism, and keep it for the replacement clock.

Note: Do not use straps provided by Electric Time; reuse the Daktronics mounting plate when replacing the clock mechanism.
3 Electrical Installation

CAUTION: Only qualified individuals should perform power routing and termination. Electrical contractors are responsible for ensuring that all electrical work meets or exceeds local and national codes.

Clock Control Installation

Reference Drawings:
- System Riser: Clock Assy.................................................................................. DWG-263976

The clock control system consists of two parts: a controller and a motor mechanism. The controller is used to set the current time and send power to the motor mechanism, which in turn rotates the clock hands. DWG-263976 in Appendix A illustrates a typical wiring diagram for 115 and 230 VAC installations. For additional clock installation and setup information, refer to the 99B-MI User’s Manual, located online at www.electrictime.com/services/support.

1. After the motor mechanism is mounted to the rear of the clock face, install the clock hands to the front of the clock face with both hands pointing up at the 12:00 position.

2. Determine the controller location and mount per manufacturer’s instructions.

   Note: The controller and motor may be located no more than 100' (30.5 m) away from each other.

3. Connect power in conduit to the controller.

4. Connect power in conduit from the controller to the motor mechanism.

5. Set the clock to the correct time per manufacturer’s instructions.
4 Replacement Parts

Refer to the following table for standard and optional replacement parts.

<table>
<thead>
<tr>
<th>Description</th>
<th>Part Number</th>
<th>Clock Model #</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clock Movement, 36” (B28G7-MI)</td>
<td>A-2034</td>
<td>DA-1101-3</td>
</tr>
<tr>
<td>Clock Movement, 48” (B28G7-MI)</td>
<td>A-2035</td>
<td>DA-1100-4, DA-1102-4</td>
</tr>
<tr>
<td>Clock Movement, 60” (B28G7-MI)</td>
<td>A-2036</td>
<td>DA-1100-5, DA-1101-5</td>
</tr>
<tr>
<td>Clock Movement, 72” (B28G7-MI)</td>
<td>A-2037</td>
<td>DA-1100-6, DA-1102-6</td>
</tr>
<tr>
<td>Electric Time Analog Clock Controller (99B-MI)</td>
<td>A-2038</td>
<td>All</td>
</tr>
</tbody>
</table>

Replacement Fuses

**Primary fuse:**
- Daktronics: P/N FUSE-99BMI-2.5-250-F
- Digikey: P/N WK4713-ND FUSE 2.5/250V SLO 5X20 UL/CSA
- WICKMAN: 1971250000

**Secondary fuse:**
- Daktronics: P/N FUSE-99BMI-1.0-250-F
- Digikey: P/N WK4709-ND FUSE 1.00 250V FAST 5X20 UL
- WICKMAN: 1911100000

Routine/Preventative Maintenance

Perform an annual visual inspection of each clock and check the following:
- Check and tighten fasteners or replace them as required.
- Check the electrical components for proper connection and any signs of corrosion.
This page intentionally left blank.
Reference Drawings

Refer to Resources (p.1) for information regarding how to read the drawing number. Any contract-specific drawings take precedence over the general drawings.

Reference Drawings:
  System Riser; Clock Assy ................................................................. DWG-263976
  Assy: DA-1100-4 ............................................................................... DWG-272682
  Attachment- DA-1100-4 to DA-1004-XX ............................................. DWG-272683
This page intentionally left blank.
THE CONCEPTS EXPRESSED AND DETAILS SHOWN ON THIS DRAWING ARE CONFIDENTIAL AND PROPRIETARY. DO NOT REPRODUCE BY ANY MEANS, INCLUDING ELECTRONICALLY WITHOUT THE EXPRESSED WRITTEN CONSENT OF DAKTRONICS, INC. COPYRIGHT 2006 DAKTRONICS, INC.

DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: DECORATIVE TRUSS AND CLOCKS
TITLE: SYSTEM RISER: CLOCK ASSY

NOTE:
CONTROLLER TO BE MOUNTED WITHIN 100' OF ANALOG CLOCK MOTOR. 100' OF W-1364 CABLE SUPPLIED BY DAKTRONICS.

COMPONENT IDENTIFICATION TABLE

<table>
<thead>
<tr>
<th>COMPONENT</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>AC1</td>
<td>ANALOG CLOCK MOTOR</td>
</tr>
<tr>
<td>AC2</td>
<td>998-MI, ANALOG CLOCK CONTROLLER</td>
</tr>
</tbody>
</table>

ONE, 20 AMP, SINGLE POLE BRANCH CIRCUIT (2 WIRS + GND) IN CONDUIT. CONDUIT AND CONDUCTORS TO BE SIZED, PROVIDED BY AND INSTALLED T.B.D. PER SALES ORDER FOR OVERSEAS 230VAC SET 115V/230VAC SWICH TO 230VAC.

ONE, 3 CONDUCTOR 18 AWG W/SHIELD IN CONDUIT. CABLE, W-1364 BY DAKTRONICS. CONDUIT, LABOR, WIRE TERMINATION, AND INSTALLATION T.B.D. BY BSALES ORDER. NOTE: CABLE LENGTH BETWEEN CONTROLLER AND CLOCK NOT EXCEED 1000'.

REV. 01   DATE: 16 SEP 08   DESCRIPTION: ADD 230VAC SWITCH   BY: KZB   APPR. 01

REV. 01   DATE: 8 FEB 06   DESCRIPTION: 1348-R01A-263976
CLOCK MECHANISM AND HANDS WILL BOTH BE CALLED OUT IN THE SAME ASSEMBLY PACKET.

CLOCK NUMERALS ARE SHOWN FOR CONCEPT ONLY. CONTACT COPY MANAGEMENT COORDINATOR FOR ACTUAL FACE STYLE USED.

TOP VIEW

FRONT VIEW

REAR VIEW

ASSEMBLY PACKETS:
- DA-1348-0200—F. ASSY, DA-1102-4
- DA-1106-4 WILL BE MOUNTED TO THE FRONT FACE OF A TRUSS.
- REFER TO 0W PACKET FOR MOUNTING PROCEDURE AND LOCATION.

CONTACT COPY MANAGEMENT COORDINATOR FOR ACTUAL FACE STYLE USED.

APPLY SERTS AND BOLTS BEFORE RIVETING TO FRONTSHEET.
NOTES:

TRUSS MAY HAVE ADDITIONAL ITEMS (MESH, LETTERING, ETC.) ATTACHED NOT SHOWN IN THIS DRAWING.
This page intentionally left blank.