ANALOG CLOCK

INSTALLATION & MAINTENANCE MANUAL

P1348

ED-16102
Rev 03
29 April 2022

201 Daktronics Drive
Brookings, SD 57006-5128
www.daktronics.com/support
800.325.8766

DAKTRONICS

Table of Contents

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:

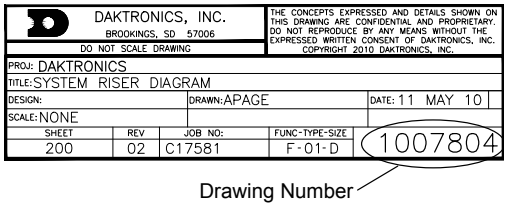


Figure 1: *Drawing Label*

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:

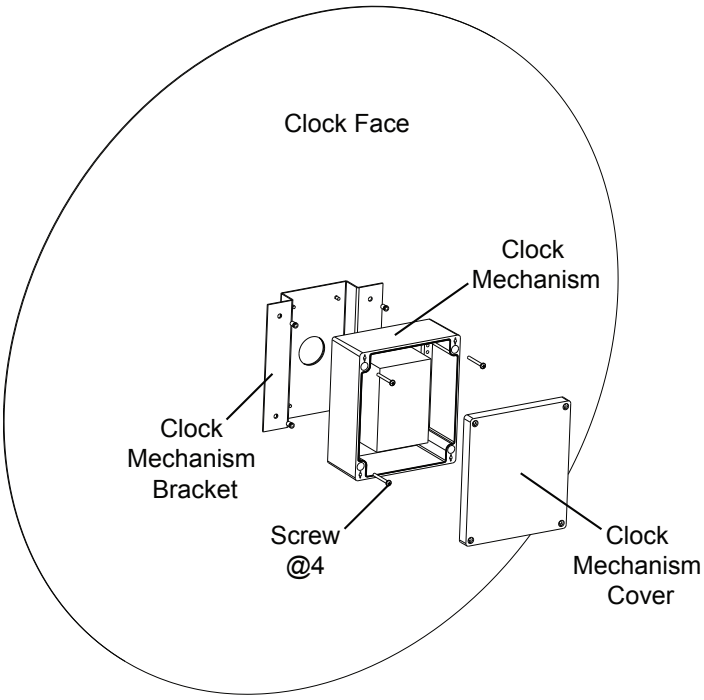


Figure 2: *Rear View, Small Analog Clock*

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.

Large Clocks

Refer to **Figure 3** and the instructions below for removal of clocks that are 5' (1.5 m) and larger in diameter:

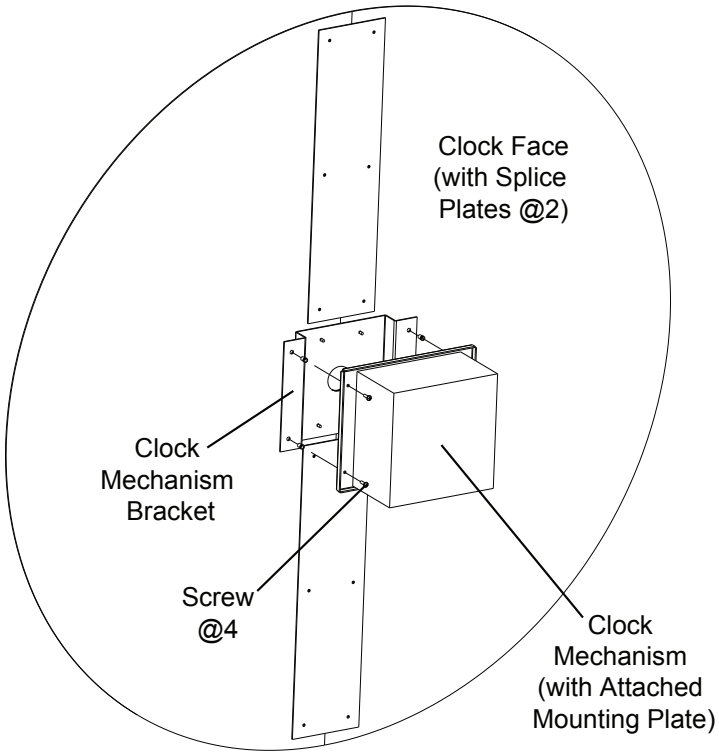


Figure 3: *Rear View, Large Analog Clock*

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.

Warnings and Disclaimers

- Ensure that all electrical work meets or exceeds all local or national electrical codes.
- Provide the required power to the display as listed on the product labels, specifications, or site-specific riser drawings. The conductor size may vary based on the length of the power run.
- Consider implementing a separate circuit for the display using an isolation transformer or dedicated transformer.
- Daktronics assumes no liability for any issues caused by line voltage fluctuations or other improper power conditions.

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.

Description	Part Number	Clock Model #
Clock Movement, 36" (B28G7-MI)	A-2034	DA-1101-3
Clock Movement, 48" (B28G7-MI)	A-2035	DA-1100-4, DA-1102-4
Clock Movement, 60" (B28G7-MI)	A-2036	DA-1100-5, DA-1101-5
Clock Movement, 72" (B28G7-MI)	A-2037	DA-1100-6, DA-1102-6
Electric Time Analog Clock Controller (99B-MI)	A-2038	All

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.

A Reference Drawings

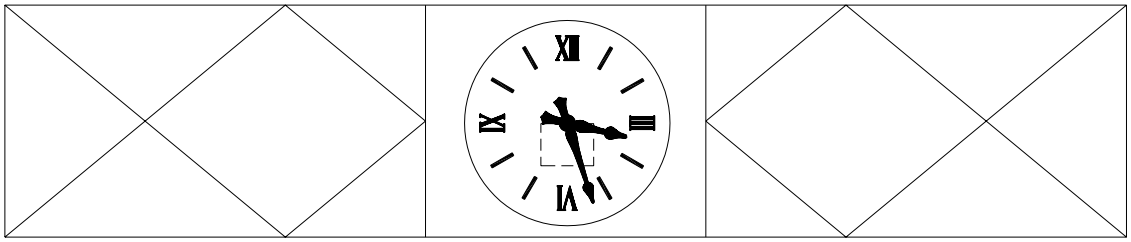
Refer to **Resources (p.1)** for information regarding how to read the drawing number. Any contract-specific drawings take precedence over the general drawings.

Reference Drawings:

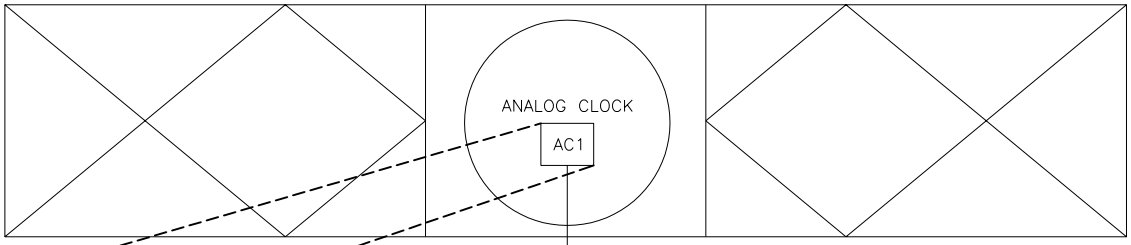
System Riser; Clock Assy **DWG-263976**
Assy: DA-1100-4 ..... **DWG-272682**
Attachment- DA-1100-4 to DA-1004-XX **DWG-272683**

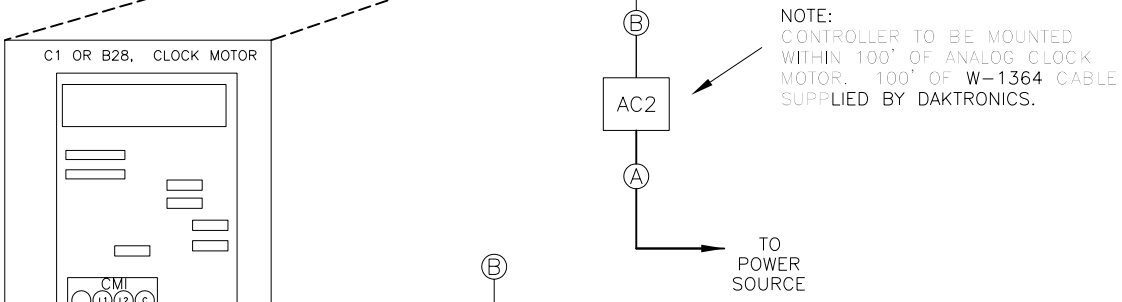
This page intentionally left blank.

ANALOG CLOCK FRONT VIEW

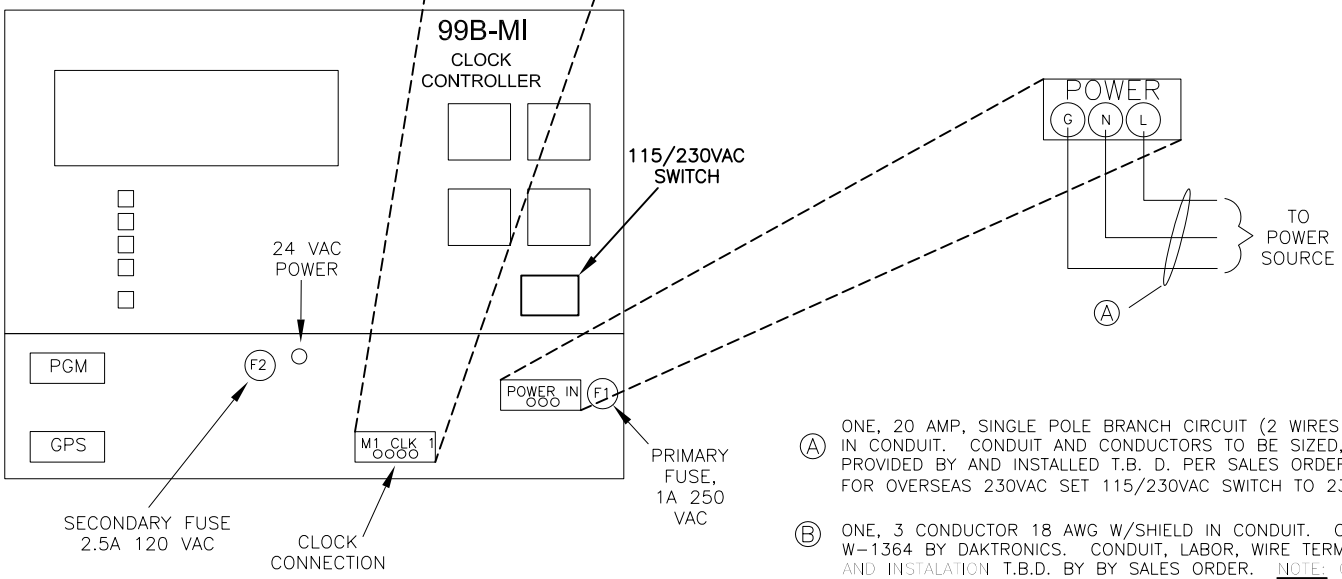


REAR VIEW





COMPONENT IDENTIFICATION TABLE	
COMPONENT	DESCRIPTION
PANEL	
AC1	ANALOG CLOCK MOTOR
AC2	99B-MI, ANALOG CLOCK CONTROLLER



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

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

DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: DECORATIVE TRUSS AND CLOCKS

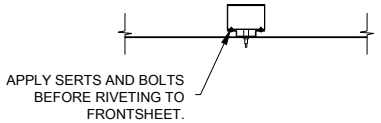
TITLE: SYSTEM RISER: CLOCK ASSY

DES. BY: DRAWN BY: DDINING DATE: 8 FEB 06

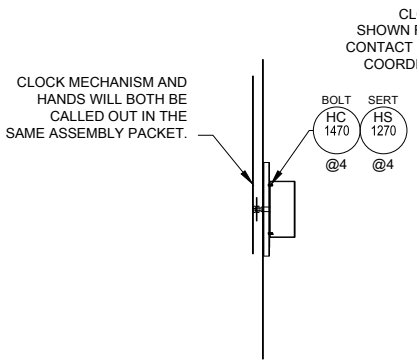
REVISION 01 APPR. BY: SCALE: NONE

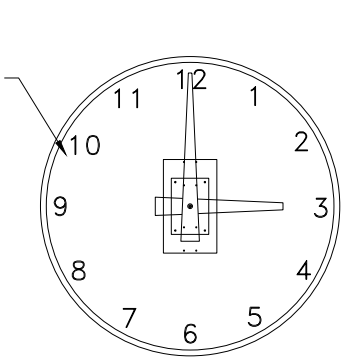
1348-R01A-263976

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

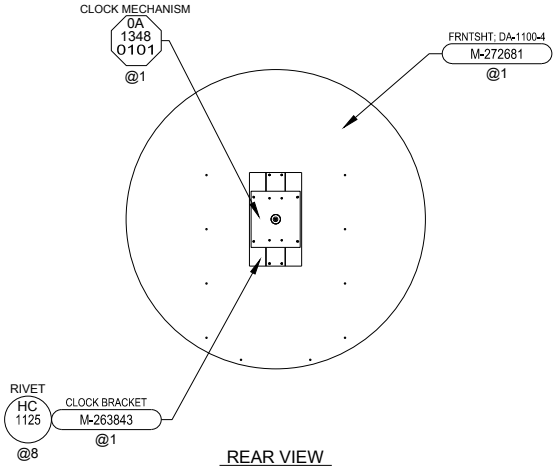


TOP VIEW





FRONT VIEW



REAR VIEW

ASSEMBLY PACKETS

0A-1348-0203..... F. ASSY, DA-1102-4

- DA-1100-4 WILL BE MOUNTED TO THE FRONT FACE OF A TRUSS.
- REFER TO 0W PACKET FOR MOUNTING PROCEDURE AND LOCATION.

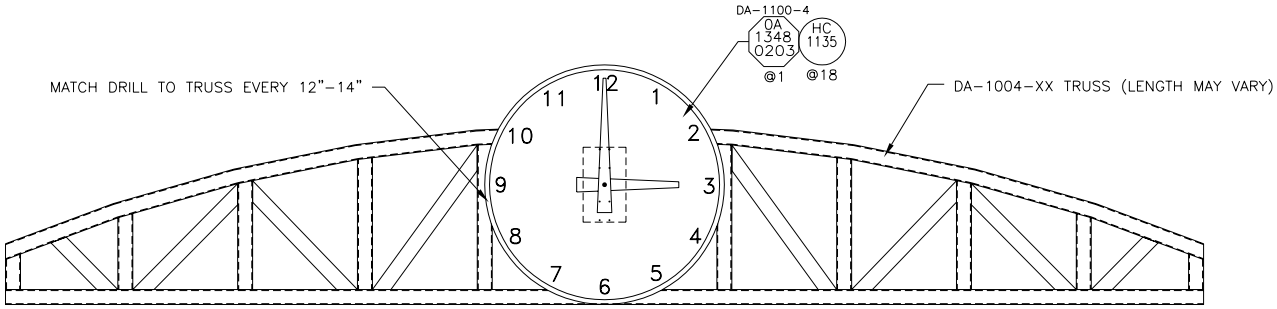
REV	DATE:		BY:
02	06 MAY 13	PER EC-8972, REPLACED HC-1135 W/HC-1125	KDD
01	05 APR 10	REPLACED HC-1022 @4 WITH HC-1470 @4 PER ECO-060149.	SAG

DAKTRONICS, INC.
BROOKINGS, SD 57006

DO NOT SCALE DRAWING

PROJ: DECORATIVE ACCENTS				
TITLE: ASSY: DA-1100-4				
DESIGN: TJOHNON		DRAWN: TJOHNSON		DATE: 22MAY06
SCALE: 1=15*				
SHEET	REV	JOB NO:	FUNC - TYPE - SIZE	272682
	02	P1348	E - 10 - B	

TOP VIEW



FRONT VIEW

NOTES:

TRUSS MAY HAVE ADDITIONAL ITEMS (MESH, LETTERING, ETC.) ATTACHED NOT SHOWN IN THIS DRAWING.

REV.	DATE	DESCRIPTION	BY	APPR.

DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: DECORATIVE ACCENTS

TITLE: ATTACHMENT; DA-1100-4 TO DA-1004-XX

DES. BY: TJOHNON DRAWN BY: TJOHNSON DATE: 22MAY06

REVISION 00 | APPR. BY: | SCALE: 1=25

1348-E10B-272683

This page intentionally left blank.