Reproduction Reference
DD TBC

Madison Metro Transit
LS-1000 Series
Display Manual

1. This page is for reproduction reference only; do not include in the manual.

2. Copy this manual on front and back pages using 8 $^1/_2$ x 11 paper.

> **Note:** Only the first section of the manual and all appendices start on an odd page.

When printing this document from a PDF, be sure to choose "Actual" under the Page Sizing & Handling options in the Print menu.

Materials included in this manual:

Appendix A: Refer to the list of drawings in **Appendix A**. Print A-size drawings on A-size paper and B- and C-size drawings on B-size paper.

Appendix B: SL-02374

3. Bind with a blue window cover and blue back cover.

4. Bind the manual along the left edge with a large spiral binder.

5. Please direct questions and suggestions to Transportation Admin.

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MADISON METRO TRANSIT
LS-1001-II-38-16:4.5-L-DF

DISPLAY MANUAL
C32804

16 May 2024
DD TBC
Rev 00

DAKTRONICS

FCC Statement
Supplier Declaration of Conformity (SDoC)
This product complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at their own expense.

Warning: The user is cautioned that changes and modifications made to the equipment without the approval of manufacturer could void the user's authority to operate this equipment.

Industry Canada Regulatory Information
This Class A digital apparatus complies with Canadian ICES-003.
Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

Inquiries
Contact Daktronics with any questions regarding our product compliance.

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Daktronics
201 Daktronics Dr.
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Phone:
800-325-8766

Website:
www.daktronics.com

Table of Contents

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1   Introduction

Reference Drawings:

This manual provides installation, maintenance, and troubleshooting information for the Daktronics LS-1001 displays. For information regarding the safety, installation, operation, or service of this system, please refer to the telephone numbers listed on the cover page of this manual.

Daktronics LS-1001 displays meet the NEMA® 4X standard. Any customer installed mounting hardware, power/signal entrances, and/or penetrations of any sort must maintain the NEMA® 4X standard. The LS-1000 displays do not have intake ventilation fans or fan filters.

Listed below are several drawing types commonly used by Daktronics, along with the information each typically provides. All drawings referenced in this manual are in **Appendix A**.

- **System Riser Diagrams**: Overall system layout from the control computer to display, and power and phase requirements.

- **Shop Drawings**: Light sensor locations, display dimensions, mounting information, power and signal entrance points, and access method (front).

- **Schematics**: Power and signal wiring and signal termination assignments.

Figure 1 illustrates a Daktronics drawing label. The drawing number is in the lower-right corner of the drawing. This manual refers to drawings by listing the last set of digits and the letter preceding them. In the following example, the drawing is referred to as **DWG-03676541**.

Figure 1: Drawing Label

All references to drawing numbers, appendices, figures, or other manuals are presented in bold typeface, as shown in the example below.

Refer to the **Shop Drawing** for additional network layout information.

In addition, any drawings referenced within a particular section are listed at the beginning of the section in the following manner:

Reference Drawing:

Daktronics identifies manuals by the DD number located on the cover page of each manual.

Daktronics builds displays for long life and little maintenance. However, from time to time, certain display components need replacing. The **Replacement Parts List (p.15)** provides the names and part numbers of components that may need ordering during the life of the display.

Refer to the **Daktronics Exchange and Repair & Return Programs (p.16)** section if any component needs replacement or repair.

Display Overview

Daktronics indoor and semi-outdoor TFT displays are designed and manufactured for performance, reliability, ease of maintenance, and long life.

A typical system consists of a central server computer and client computers running DVS® software and of one or more displays. Daktronics DVS® software package operates with Windows® systems on an IBM®-compatible computer. Refer to the DVS® Software Manual for installation and maintenance information about DVS® software.

The LS-1000 displays are indoor and semi-outdoor TFT displays. Refer to the **Shop Drawing** for details about each display size. The model numbers are described as follows:

LS-1000-38-16:9-L-DF		
LS		Series Type
1001		Series Number
II		Second Generation
38		Display size in inches diagonally from corner to corner
16:4.5		Aspect Ratio
L		Landscape Mode
DF		Double Face

Network Concepts

Daktronics offers a network system to interconnect and control displays. One display network can comprise up to 240 displays. Each Daktronics system can perform multiple functions, including:

- Transferring messages.

- Programming messages to play on a display or group of displays in a network.

- Determining display statuses on a network.

The Daktronics LS-1000 displays use one of the following communication methods. To determine the specific method for this contract, refer to the **System Riser** drawing and **Signal Termination from Computer to Display (p.8)**.

Ethernet to Ethernet

An Ethernet network is a standard communication method that allows one computer, or several computers, to connect to displays. Each display is identified by a unique address. This address allows the computer to communicate directly with each display. Refer to the **System Riser** drawing and **Signal Termination from Computer to Display (p.8)** for more detailed information.

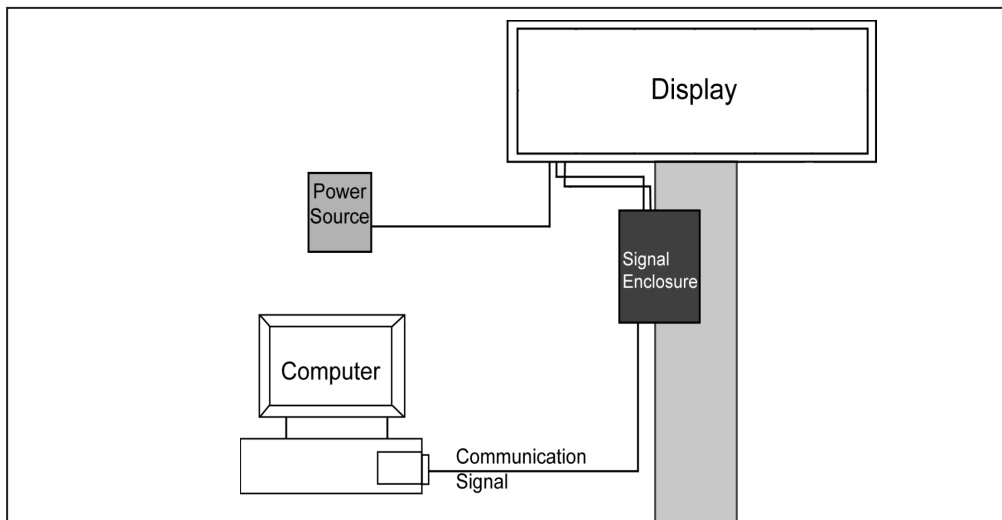**Figure 2** shows a simplified diagram of basic display set-up.

Figure 2: Basic Display Set-up

2 Mechanical Installation

Reference Drawing:

Daktronics engineering staff must approve any changes made to the display. Before altering the display, submit detailed drawings for the proposed modifications to the Daktronics engineering staff for evaluation and approval, or the warranty will be void.

Daktronics is not responsible for the integrity of the mounting structure or any mounting hardware not provided by Daktronics. It is the customer's responsibility to ensure a qualified structural engineer has approved the structure and any additional hardware.

Pre-installation Checklist

Verify the following before installation:

- The display is in good condition after shipping and uncrating.
- Adequate support is provided for the display so that the structure will not yield at any unsupported points after mounting.
- Assure the display cabinet has no holes (accidental or intentional) that could allow water to enter the display.
- Check that all display modules are fully latched into the display cabinet.

Support Structure Requirements

Support structure design depends on the mounting methods, display size, and weight. The structure design is critical and should be done only by a qualified individual. It is the customer's responsibility to ensure that the structure and mounting hardware are adequate.

Daktronics is not responsible for the installations or the structural integrity of support structures done by others.

Mounting plans need to consider the face-mounted light sensor. In general, the entire front of all displays needs to be completely unobstructed to allow for internalaccess.

Keep in mind the location of mounting brackets and the clearance needed for cable entry on the top of the display. Display height and wind loading are also critical factors to be considered. Refer to the appropriate **Shop Drawing**.

Display Mounting

Securely mount each display to a suitable mounting structure provided by others. Daktronics provides provisions for top or wall mounting brackets; refer to the appropriate **Shop Drawing**. Use all mounting brackets when mounting the display.

Use appropriate hardware to support the weight of the display. Have a qualified engineer inspect the mounting structure.

> **Note:** The display has a hinged door and a hinged display plate. Ensure the door and display plate opens properly.

After installing the display, inspect the top and sides of the display for any openings that may allow moisture to enter the display and seal openings. Not sealing openings may void the warranty.

> **Note:** Daktronics is not responsible for mounting methods or the structural integrity of support structures provided by others.

3 Electrical Installation

Reference Drawing:

Only qualified individuals should terminate power and signal cable within this Daktronics display.

Daktronics engineering staff must approve any changes made to the display. Before altering the display, submit detailed drawings for the proposed modifications to the Daktronics engineering staff for evaluation and approval, or the warranty will be void.

> **Note:** Daktronics recommends that a separate circuit be run to the electronic display(s) to isolate it and prevent any issues that could be caused by line voltage fluctuations or high frequency noise on the power line caused by other types of equipment. A separate circuit also makes display maintenance and troubleshooting easier. Daktronics assumes no liability for any issues caused by line voltage fluctuations or other improper power conditions if these recommendations are not followed.

Grounding

All components of a display system—including but not limited to displays, control equipment, and connected peripheral equipment—must be electrically grounded. Only qualified individuals may perform electrical work, including verification of ground resistance. Daktronics is not responsible for improper grounding or damage incurred because of improper grounding.

Grounding methods must meet the provisions of all applicable local and national codes. Inspect and verify all grounding methods meet the provisions of all applicable local and national codes.

Proper grounding is necessary for reliable equipment operation and general electrical safety. Failure to properly ground the display system may void the warranty, disrupt operation, damage equipment, and cause bodily harm or death.

Power Requirements

Install this display in accordance with any applicable local and national electrical codes. This includes proper grounding and bonding of the display.

Do not connect the displays to any voltage other than that listed on the Daktronics product label.

> **Note:** Conductors of circuits delivering power to a Daktronics display shall be sized in accordance with local and national electrical codes so that the power distribution system can deliver full load power to the display whilemaintaining a voltage within five percent of the nominal utility voltage.

Displays use single-phase power. Proper power installation is imperative for display operation.

Daktronics requires using a power disconnect switch with the display. Use a disconnect so that all ungrounded conductors can be disconnected near the point of power connection.

The disconnecting means must be either located in a direct line of sight from the display or capable of being locked in the open position. This ensures that power will not be reconnected while service personnel work on the display.

Power Connection

To terminate single-phase power, follow these steps:

1. Open the display as explained in the **Accessing the Internal Components (p.10)** section and locate the3-way terminal connector block.

2. Route the cable through the cable entry at the top of the display.

3. Connect the neutral wire to the neutral lug (white wire) on the 3-way connector and the live wire to the live lug (black wire).

4. Connect the ground wire to the ground lug opposite the green wire.

5. Power then routes through filters to the power supplies which provide power to the modules and other components. Refer to **Figure 3**.
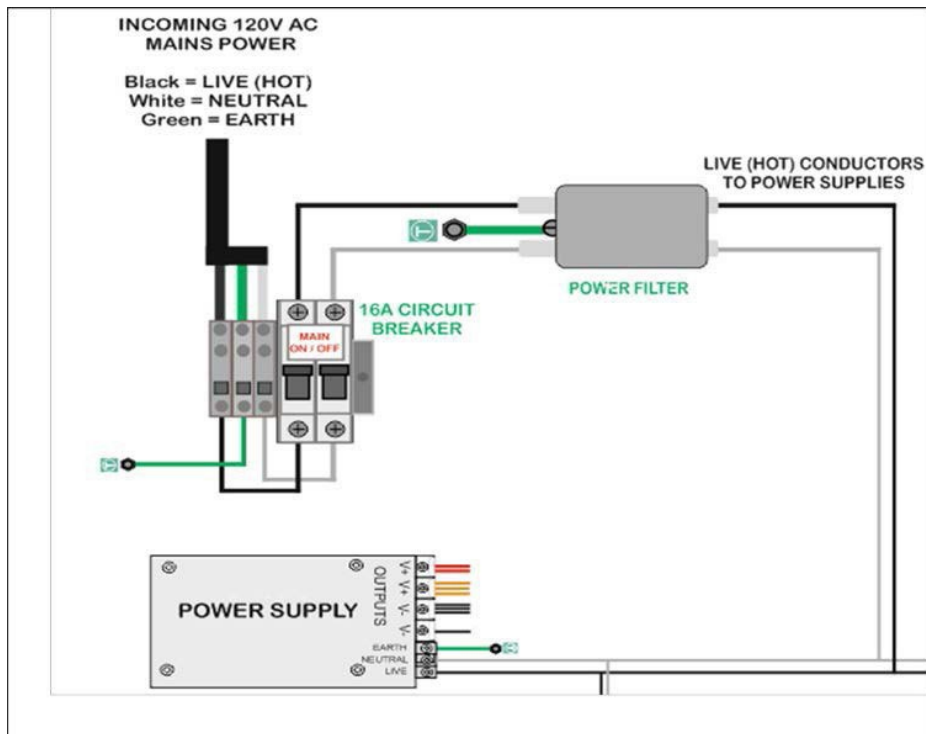
Figure 3: *Incoming AC Mains Power*

Signal Termination from Computer to Display

To determine signal routing and connections, refer to the appropriate **System Riser** drawing.

Ethernet

An Ethernet network system requires a Cat-5 cable. Signal travels from the Local Area Network (LAN) to the Ethernet jack on the network device.

The signal cable terminates within the display at the network device. The opposite end terminates at the control computer on the local network.

4   Start-Up Procedure

> **Note:** Before starting up the display, review this checklist to ensure that all parts are ready to operate correctly.

- Confirm that power is correctly connected to the display.
- Allow for sufficient power.
- Make sure a main disconnect switch is used to control power.
- Inspect all external circuit breakers for sufficient marking and size.
- Make sure the external communication equipment (signal enclosure, client radio, etc.) isproperly installed.
- Inspect signal connections at the control computer.
- Inspect signal connections at the display and between displays when necessary.
- Confirm that the control computer is correctly configured according to the software manual.
- Confirm proper communications from the control computer to the display(s).

5 Maintenance

Getting Started

- Turn off the external breaker before performing any repair or maintenance work on the displays. Disconnect power to the display if performing repair or maintenance.

- Only qualified service personnel should access internal display electronics.

- Daktronics engineering staff must approve any changes to the displays. If making modifications to the displays, submit detailed drawings to the Daktronics engineering staff for evaluation and approval or the warranty will be void.

- LS-1000 series displays are front accessible, meaning that access to the internal components is gained by opening the display door and module plate.

Accessing the Internal Components

The display may need to be opened to perform maintenance or for troubleshooting.

To access the interior of the display, perform the following steps:

1. Disconnect power to the display.

2. Release the door by turning the captive latches on the bottom of the door using the key provided by Daktronics.

3. Carefully raise the door. Mechanical stays installed at each end support the door when in the open position.

4. Release the TFT screen by turning the fasteners that lock the screen. Carefully raise the TFT screen. Mechanical stays installed at each end support the door when in the open position. Refer to **Figure 4**.

> **Note:** Do not lean on or place extra weight on the open door or module plate.
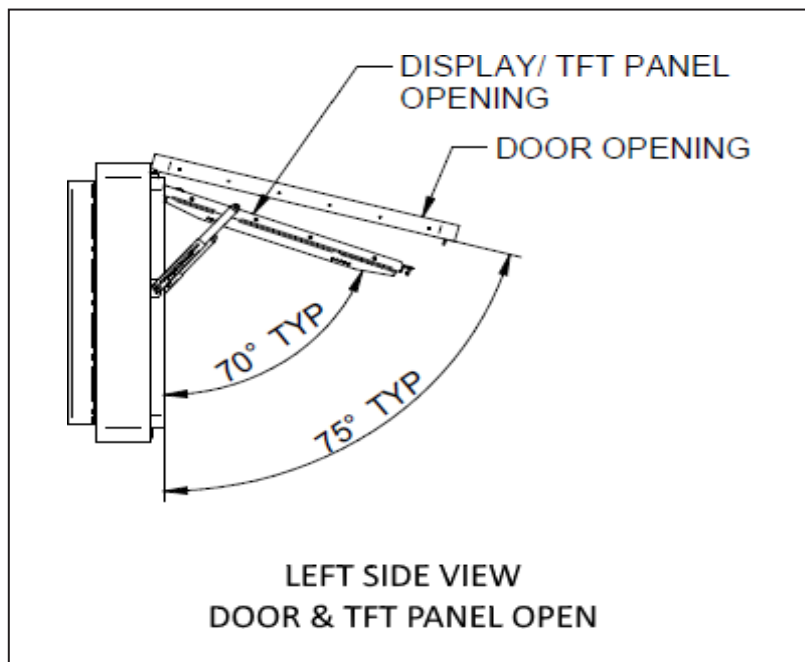
Figure 4: *Accessing Internal Components*

Wet Cleaning Process

1. Turn off the power to the display.

2. Mix a mild, non-abrasive, non-petroleum-based detergent and cold water, one ounce of detergent to one gallon of cold water.

3. Saturate a light/medium duty cleaning brush with the soapy water.

4. Use horizontal brush strokes to loosen and remove dirt and grime, washing the display from top to bottom.

5. Rinse the display face with generous amounts of cold water under low pressure. A spot-free rinse agent can be used to reduce water spots.

6. Use soft, dry terry cloth to dry and remove any excess water.

Annual Inspection

A yearly inspection of the display should be completed to maintain safe and dependable operation. The display will need to be opened to visually inspect the cabinet interior and the components. Refer to the **Accessing the Internal Components (p.10)** section for directions to access the interior.

6   Diagnostics and Troubleshooting

Troubleshooting Display Problems

This section contains some symptoms that may be encountered with the displays. This list does not include every possible symptom or solution but does represent common situations and simple steps to resolve them.

Troubleshooting may require removal and replacement of modules. Refer to the **Accessing the Internal Components (p.10)** section for more information. When replacing modules, make sure that the power and signal cables are reconnected correctly and the latches are tightly closed.

> **Note:** Disconnect power when servicing the display. Only qualified service personnel should service internal electronic components.

Common Misconception
Blank display seen after boot-up.

A blank display is normal after the boot-up procedure. The display is then waiting for a message to be sent.

TFT Screen Problems
Entire display fails to work.

- Check the breakers in the building connected to main power source.
- Check the breakers in the power termination panel.
- Check/replace the HDMI to DVI cable from the controller to the TFT Control Card.
- Verify proper use of the software by checking the software manual.

Display is stuck on bright or dim.

- Check the light sensor cable and wiring for secure connections.
- Check the light sensor lens for obstructions (lower left edge, front of cabinet).
- Replace the light sensor assembly.

7   Parts Replacement

Diagnostics Controller Replacement

Complete the following steps to replace a controller in the display:

1. Turn off power to the display.

2. Disconnect the power input.

3. Remove all power and signal connections from the controller. Label the cables as they are removed to ensure proper replacement.

4. Remove the nuts holding the board in place using a nut driver.

5. To install the new controller, replace the nuts holding it to the display back. Reconnect power and signal cables.

Single Board Computer (SBC) Replacement

Complete the following steps to replace an SBC in the display:

1. Turn off power to the display.

2. Disconnect the power input.

3. Remove all power and signal connections from the SBC. Label the cables as they are removed to ensure proper replacement.

4. Remove the nuts holding the SBC in place using a nut driver.

5. To install the new SBC, replace the nuts holding it to the display back. Reconnect power and signal cables.

Power Supply Replacement

Complete the following steps to replace a power supply:

1. Turn off power to the display.

2. Disconnect and label all power cables from the power supply.

3. Remove the nuts holding the power supply to the backsheet.

4. Carefully pull the power supply out of the cabinet.

5. Move the new power supply into place and replace the nuts removed in **Step 3**.

6. Reconnect all the power cables removed in **Step 2**.

Light Sensor Replacement

Complete the following steps to replace a light sensor in the display:

1. Turn off power to the display.

2. Remove all power and signal connections from the board.

3. Remove the nuts holding the board in place using a nut driver.

4. To install the new sensor, replace the nuts holding it to the module plate removed in **Step 3**.

5. Reconnect power and signal cables removed in **Step 2**.

Communication Accessory (Optional)

Complete the following steps to replace the communication accessory:

1. Turn off power to the display.

2. Disconnect the power and signal cables.

3. Remove the nuts holding the communication accessory to the backsheet.

4. Install the new communication accessory and reconnect the power and signal cables.

Ventilation Assy Unit

Complete the following steps to replace the communication accessory:

1. Turn off power to the display.

2. Disconnect the power cables.

3. Remove the nuts holding the ventilation assy unit to the backsheet.

4. Install the new ventilation assy unit and reconnect the power and signal cables.

8 Replacement Parts and Exchange and Repair Programs

All parts in Daktronics displays are assigned a part number. Daktronics part numbers are commonly found on drawings. Those part numbers can be used when requesting replacement parts from Daktronics Customer Service. Take note of the following part number formats. (Not all possible formats are listed here.)

- "0P-_____" denotes an individual circuit board.
- "0A-_____" denotes an assembly. An assembly can be a single circuit board or a collection of components that function together, usually mounted on a single plate or in a single enclosure.
- "0Z-_____" denotes an assembly.
- "PR-_____" denotes a specially ordered part.

Most circuit boards and components within this display carry a label that lists the part number of the unit. If a circuit board or assembly is not listed in the replacement parts list, use the labelto order a replacement. A typical label is shown in **Figure 5**. Thepart number is in bold.

```
0P-1127-0024
SN:        2465
02/19/12 Rev. 1
```
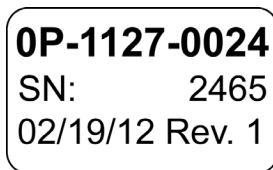
Figure 5: Typical Label

Replacement Parts List

When ordering replacement parts, refer to the Daktronics part numbers in the table below. Daktronics recommends putting replacement parts in a lockable storage cabinet to prevent theft or accidental loss.

LS-1000 Part Description	Daktronics Part #
Diagnostics Controller, 244 Option C (CA-38-55)	0A-1940-0107
Filter, FN2030-6-06	Z-4026096
HDMI to DVI Cable	W-3230368
Key, Triangular	HS-3228914
Light Sensor, LSBLFL	0A-1939-0052
Power Supply Assembly, UHP-200-12	A-4277169
Power Supply Assembly, UHP-500-24	A-4277168
SBC, WIN10 NANO6060 QUAD CORE,	A-3903749
Screen Assy, LS-1000 38-16-4.5, GEN II	TBC
Thermoswitch	S-3651045
Ventilation Unit Assy, LS-1000 38-16-9, GEN II	0A-1977-0075

Daktronics Exchange and Repair & Return Programs

To serve customers' repair and maintenance needs, Daktronics offers both an Exchange Program and a Repair & Return Program.

Exchange Program

Daktronics offers a unique Exchange Program as a quick service for replacing key parts in need of repair. If a part requires repair or replacement, Daktronics sends the customer a replacement, and the customer sends the defective part to Daktronics. This decreases display downtime.

Before Contacting Daktronics

Identify these important part numbers:

Display Serial Number:
Display Model Number:
Contract Number:
Date Installed:
Location of Display (Mile Marker Number):
Daktronics Customer ID Number:

To participate in the Exchange Program, follow these steps.

1. **Call Daktronics Customer Service**:

Market Description	Customer Service Number
Department of Transportation, mass transits, airports, parking facilities	**800-833-3157**

2. **When the new exchange part is received, mail the old part to Daktronics.**
    If the replacement part fixes the problem, send in the problem part which is being replaced.

    a. Package the old part in the same shipping materials in which the replacement part arrived.

    b. Fill out and attach the enclosed UPS shipping document.

    c. Ship the part to Daktronics.

3. **A charge is made for the replacement part immediately, unless a qualifying service agreement is in place.**
    In most circumstances, the replacement parts are invoiced at the time they are shipped.

4. **If the replacement part does not solve the problem, return the part within 30 working days or the full purchase price is charged.**
    If, after the exchange is made the equipment is still defective, please contact customer service immediately. Daktronics expects immediate return of an exchange part if it does not solve the problem. The company also reserves the right to refuse parts that have been damaged due to acts of nature or causes other than normal wear and tear.

Repair & Return Program

For items not subject to exchange, Daktronics offers a Repair & Return Program. To send a part for repair, follow these steps:

1. **Call or fax Daktronics Customer Service:**
   Refer to the appropriate market number in the chart listed on the previous page.
   Fax: 605-692-0145

2. **Receive a case number before shipping.**
   To receive a case number, contact a services coordinator via phone, email, or by creating a MySupport account on the Daktronics website. This expedites repair of the part.

3. **Package and pad the item carefully to prevent damage during shipment.**
   Electronic components, such as printed circuit boards, should be placed in an antistatic bag before boxing. Daktronics does not recommend using packing peanuts when shipping.

4. **Enclose**:

   • your name

   • address

   • phone number

   • the case number

   • a clear description of symptoms

Shipping Address

Daktronics Customer Service
600 E 54th St N
Case#_____
Sioux Falls, SD 57104

Email

support@daktronics.com

Daktronics Warranty and Limitation of Liability

The **Daktronics Warranty and Limitation of Liability (SL-02374)** is in **Appendix B**.The Warranty is independent of Extended Service agreements and is the authority in matters of service, repair, and display operation.

Glossary

Cabinet: The metal frame of the display (back, sides, top, and bottom).

Controller: A component that controls data for the entire display.

Display Address: Identification number assigned to each display in a network. It is set using the display's controller. The controller computer uses the address to differentiate between displays connected on the same network. Displays on the same network cannot have the same address.

Display Configuration: A display's model number, address, etc.

DVI: Digital Visual Interface.

DVS® Software: Daktronics-designed, Windows®-based software that creates and edits messages on displays.

Ethernet: A local area network (LAN) protocol using a bus topology. The Ethernet network card uses the TCP/IP interface to communicate with the server via the LAN.

Face Panel: A latching door that hinges downward. The modules mount to the face panel.

Fiber Optic: Technology that uses light energy to transmit signal to displays via hair-thin optical fibers.

HDMI: High-Definition Multimedia Interface.

LCD: Liquid Crystal Display.

Matrix: Area on a display that plays content, measured in rows and columns of pixels.

PCB: Printed Circuit Board.

Power Supply: Component that converts incoming alternating current (AC) power to direct current (DC) power, as required by several components within the display.

RX LED: An LED on the signal converter that indicates the display is sending data back to the signal converter.

Surge Suppressor: A device inserted in the signal line and to prevent damage to electronic equipment caused by voltage transients or spikes.

TFT: Thin Film Transistor.

Translation Table: Custom memory map for the display.

TX LED: An LED on the signal converter that indicates the control computer is sending data to the display.

A Reference Drawings

The Daktronics drawing number is in the bottom-right corner of the drawing. The drawings are grouped by type. Contact Daktronics for additional documentation.

Shop Drawings LS-1000:
LS-1000-II-38-16:4.5-L-DF **DWG-05407595**

System Riser Drawings:
AF-67XX, Ethernet **DWG-03593637**
Mains Power, AF-67XX... **DWG-03593640**

Schematic Drawings:
LS-1000-II-38-16:4.5-L-DF **DWG-04590540**

TOP VIEW

1077,00 [42.40]

SEE DETAIL B

70,00 [2.76]
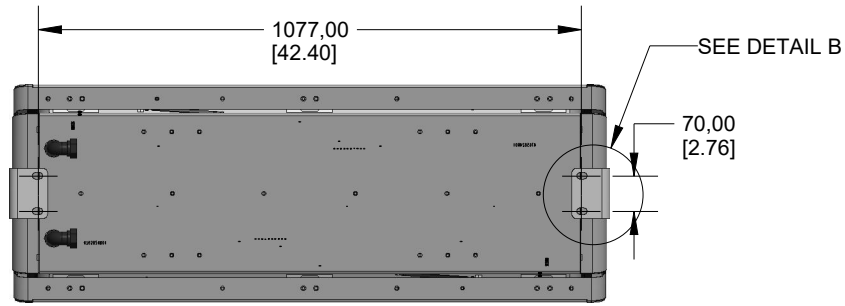
254,34 ACTIVE AREA [10.01]
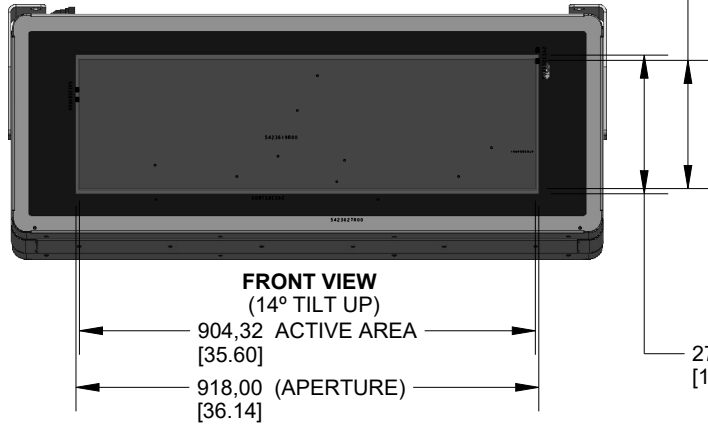
FRONT VIEW
(14º TILT UP)

904,32 ACTIVE AREA [35.60]

918,00 (APERTURE) [36.14]

275,00 (APERTURE) [10.83]

BOTTOM VIEW

RIGHT SIDE VIEW

430 [16.94]

70,00 [2.76]

128,00 [5.04]

420 [16.54]

14.0° (x2)

225 [8.847]

FRONT VIEW

1187 [46.73]

1175 [46.26]

75,00 [2.95]

6,00 [0.24]

54,00 [2.13]

480,00 [18.90]

CABLE ENTRY (SEE NOTE 3)

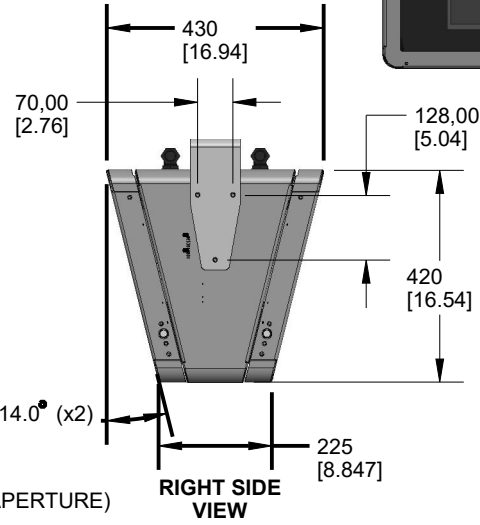PROVISIONS FOR TOP MOUNTING (EACH SIDE)

ROTATED VIEW
SCALE 1/20

DETAIL B
SCALE 1/8

49,00 [1.93]

$\varnothing$ 13,00 [0.51]

70,00 [2.76]

7,00 [0.28]
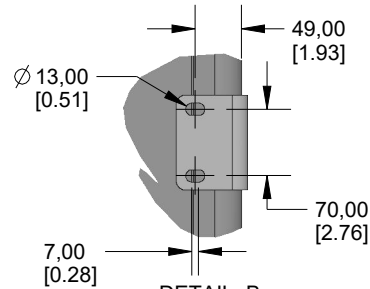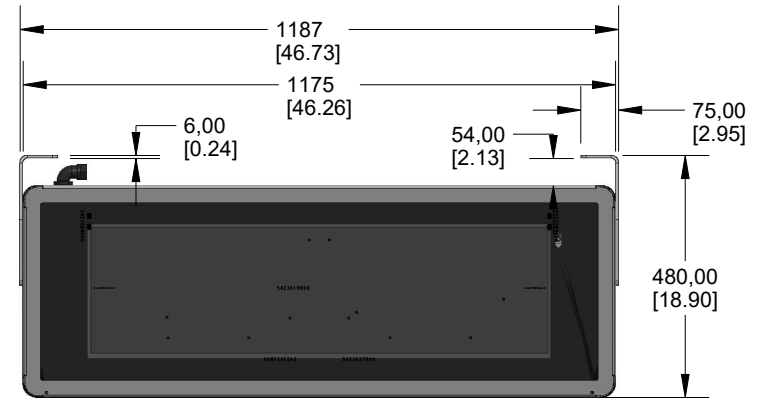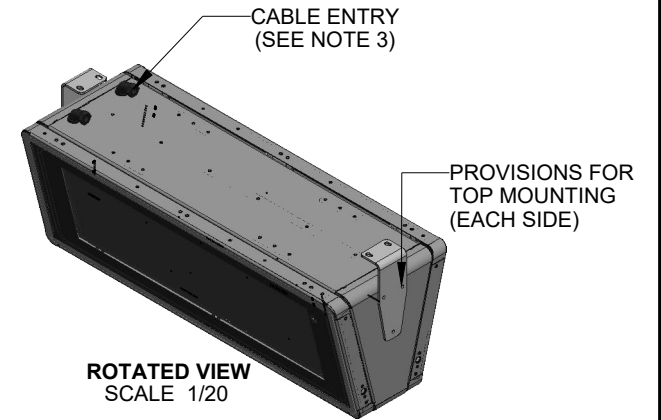
NOTES:
1) DISPLAY: 38" WIDE TFT LCD, LED BACKLIGHT, (3000 nits), 1920x540 / BRIGHTNESS 3000cd/m2 / ASPECT RATIO 16:4.5
   VIEWING ANGLE R/L 178° (TYP)
2) SCREEN CONSTRUCTED FROM GLASS; INCLUDES UV BLOCK, ANTI-REFLECTION AND SHATTER RESISTANT.
3) CABLE ENTRY POSITION: 3/4" TOPAZ LIQUID TIGHT CONNECTIONS PART 492i (x2) 1x SIGNAL, 1x POWER.
4) ACCESS: DOOR HINGES UPWARDS (HELD OPEN WITH STAYS), DISPLAY HINGES DOWNWARDS (HELD WITH WIRE STROPS) FOR
   HARDWARE PLATE ACCESS
5) EXPOSURE RATING: IP65/NEMA 4
6) ESTIMATED DISPLAY WEIGHT = 60 kg (132 lbs)
7) ESTIMATED MAXIMUM POWER CONSUMPTION = 350 WATTS

THIRD ANGLE PROJECTION

DAKTRONICS

REV:	DATE:	DESCRIPTION:	BY:

PROJECT: MADISON METRO
TITLE: SHOP DRAWING, LS-2001-38-16-4-DF

TOLERANCES - UNLESS STATED		DATE: 27-MAR-24	DIM UNITS: MILLIMETERS [INCHES]	SHEET	REV
NO DECIMAL PLACE	±3.0	SCALE: 1/15	DO NOT SCALE DRAWING		00
ONE DECIMAL PLACE	±2				
TWO DECIMAL PLACE	±0.5	DESIGN: JJAKOVL	JOB NO.	FUNC - TYPE - SIZE	
ANGLES	±1.0º	DRAWN: JJAKOVL	P1977	E - 10 - A4	5390321

300 FT MAX. DISTANCE ① ETHERNET CABLE WITH RJ45 CONNECTOR
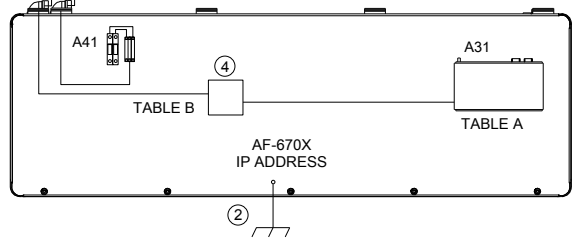
POWER
DISCONNECT/DISTRIBUTION
TYP BY CUSTOMER
DWG: TBA

A41

④

A31

TABLE B

TABLE A

AF-670X
IP ADDRESS

②

① ALL CABLES PROVIDED BY CUSTOMER

② ALL WIRING TO MEET NEC AND LOCAL ELECTRICAL CODES.
DISPLAYS MUST BE GROUNDED PER ARTICLE 250 AND 600
OF THE NATIONAL ELECTRICAL CODE

③ A31 = DISPLAY CONTROLLER
A41 = POWER TERMINATION PANEL

SPECS:
④ ETHERNET TO RS485 SERIAL CONVERTER

TABLE B

SIGNAL	COLOR	RJ45
RX+	WHT/ORG	PIN 1
RX-	ORANGE	PIN 2
TX+	WHT/GRN	PIN 3
GND	BLUE	PIN 4
GND	WHT/BLUE	PIN 5
TX-	GREEN	PIN 6
NC	WHT/BRN	PIN 7
NC	BROWN	PIN 8
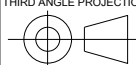
TABLE A

SIGNAL	COLOR	PCB236/237
RX+	ORANGE	PL20 PIN 13
RX-	BLUE	PL20 PIN 14
TX+	BROWN	PL20 PIN 9
TX-	GREEN	PL20 PIN 10
GND	BLACK	PL20 PIN 11

THIRD ANGLE PROJECTION

DAKTRONICS

PROJECT:	OUTDOOR TRANSPORTATION GALAXY DISPLAYS				
TITLE:	3593637.dwg				
DATE:	24/07/2017	DIM UNITS: MILLIMETERS [INCHES]		SHEET	REV
SCALE:	NTS	DO NOT SCALE DRAWING		1	00
DESIGN:	KG	JOB NO.	FUNC - TYPE - SIZE	3593637	
DRAWN:	JOD	P1933	R - 06 - A4		

LIVE

EARTH/GROUND

NEUTRAL

NEUTRAL

EARTH/GROUND

LIVE

INCOMING 120/240V AC
MAINS POWER

TABLE A

	USA 120/240V	EUROPE 240V
LIVE	BLACK	BROWN
NEUTRAL	WHITE	BLUE
EARTH/GROUND	GREEN	GREEN/YELLOW

DAKTRONICS

THIRD ANGLE PROJECTION

PROJECT:	OUTDOOR TRANSPORTATION GALAXY DISPLAYS			
TITLE:	3593640.dwg			
DATE:	24/07/2017	DIM UNITS: MILLIMETERS [INCHES]	SHEET	REV
SCALE:	NTS	DO NOT SCALE DRAWING	1	00
DESIGN:	KG	JOB NO.	FUNC - TYPE - SIZE	3593640
DRAWN:	JOD	P1933	R - 06 - A4	

FRONT TFT DISPLAY

TFT PANEL CONTROLS

TFT INVERTOR

CN3

0A-1000-0650

LIGHT SENSOR
TFT BACK-LIGHT SENSOR

0A-1000-0651

W-3230368

BACK TFT DISPLAY

TFT PANEL CONTROLS

TFT INVERTOR

CN3

0A-1000-0650

LIGHT SENSOR
TFT BACK-LIGHT SENSOR

0A-1000-0651

W-3228228

0A-1000-0494

0A-1000-0494

0A-1000-4235

0A-1000-0491

0A-1000-0520

LAN 2

SINGLE BOARD COMPUTER (SBC)

PCB244 DIAGNOSTICS BOARD

IN OUT

IN OUT

PL15
PL12 PL13

PL18 PL14

PL23

CAT 5

PL4 PL3 PL2 PL1 PL16 PL17
C2PL3 C2PL4

0A-1000-0490

TEMP SENSOR   0A-1000-0496

0A-1000-0476

0A-1000-0520

0A-1000-4235

PCB244 DIAGNOSTICS BOARD

IN OUT

IN OUT

PL15
PL12 PL13

PL18 PL14

PL23

CAT 5

PL4 PL3 PL2 PL1 PL16 PL17
C2PL3 C2PL4

0A-1000-0490

TEMP SENSOR   0A-1000-0496

1
2
3
4
5

0A-1000-0550

0A-1000-0647

0A-1000-0647

0A-1000-0374
0A-1000-0373

0A-1000-0485

0A-1000-0534
0A-1000-0535

THERMOSTAT

0A-1000-0481

0A-1000-0373

LIVE
EARTH
NEUTRAL

10A CIRCUIT BREAKER

POWER FILTER

LIVE
OUT   IN
NEUTRAL

0A-1000-0646

0A-1000-0371
0A-1000-0372

0A-1000-0241

0A-1000-0242

T1 T2

0A-1000-0486

0A-1000-0484

HEP-100-12A
POWER SUPPLY

V-
V+

A B

PSU 2

0A-1000-0489

0A-1000-0489

0A-1000-0491

0A-1000-0647

0A-1000-0535

0A-1000-0534

0A-1000-0481

LOWER FAN

UPPER FAN

HEP-100-12A
POWER SUPPLY

V-
V+

A B

PSU 3

0A-1000-0489

0A-1000-0481

HEP-100-12A
POWER SUPPLY

V-
V+

A B

PSU 1

0A-1000-0489

0A-1000-0489

0A-1000-0373

0A-1000-0535

0A-1000-0648

0A-1000-0649

A
B

A
B

0A-1000-0484

0A-1000-0484

0A-1000-0486

DAKTRONICS

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THIRD ANGLE PROJECTION

PROJECT:
TITLE: LS-1001-38X16:4.5-DF
DATE: 12/20/2019
DIM UNITS: INCHES [MILLIMETERS]
SHEET 1   REV 00
SCALE: NTS
DO NOT SCALE DRAWING
DESIGN: MF
JOB NO.
FUNC - TYPE - SIZE
R - 06 - A3
DRAWN: MF
4590540

Part # - DWG-04590540   Version - 00.1   Description - LS-1001-38X16:4.5-DF   Lifecycle State - Full Production   Last Modified By - mfoy   Last Modified - 2020-01-06

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B Daktronics Warranty and Limitation of Liability (SL-02374)