

**Petroleum Price Displays
DF-2100 Series
Double-faced 10"-24" digits**

Installation and Operation Manual

ED-16375

Rev 1

30 May 2007

DAKTRONICS

*Please fill in the information below for your DataMaster display and controller;
use it for reference when calling Daktronics for assistance.*

Display Serial No. _____

Display Model No. _____

Date Installed _____

DataMaster Serial No. _____

DAKTRONICS, INC.

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Section 1: Introduction

This manual explains the installation and operation of Daktronics DataMaster® Outdoor LED Petroleum Price Displays. If questions arise regarding the safety, installation, operation, or service of these systems, contact Daktronics Customer Service using the contact information on the cover page of this manual.

1.1 Product Overview

DataMaster Petroleum Price displays are part of a family of Daktronics products designed for easy installation, readability, and reliability. The DF-2100 Series displays are available in two full cabinet styles, with a backlit caption either above the digits or to the left of the digits, as shown in **Figure 1** and **Figure 2**. The displays feature highly visible PanaView® digits.

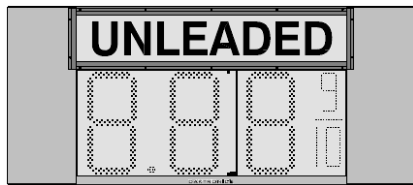


Figure 1: DF-2100 with Top Caption

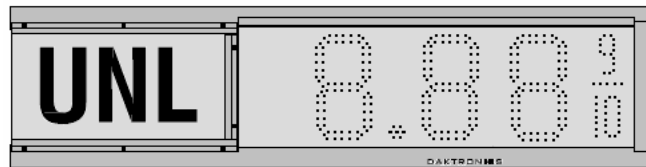


Figure 2: DF-2100 with Left Caption

DataMaster displays use light emitting diodes (LEDs) to illuminate their numeric digits. LEDs are high-intensity, low-energy lighting units. All DataMaster displays are configured with red, amber or green LEDs. Because of their LED technology, the displays consume little power, some barely more than a household lamp. However, the backlit panel does increase the power requirements.

The DataMaster outdoor LED displays have been designed for use with a DataMaster® 100 hand-held controller, a radio controlled RC-100 system, or the RC-50 mini remote control. All controller devices use a keyboard overlay called an insert for display control.

In this manual, the complete structure will be referred to as a "sign". Each sign typically consists of a number of digit displays. Refer to **Figure 3**.

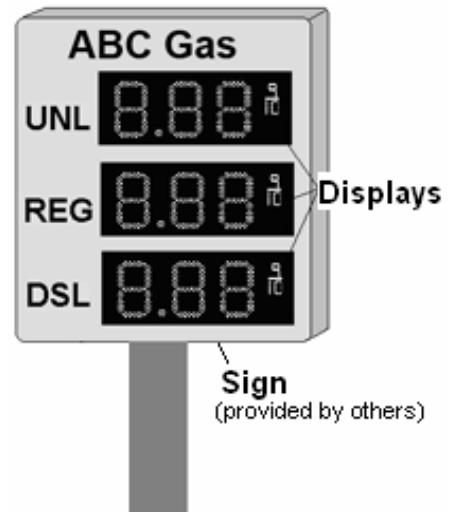


Figure 3: Sign with Digit Displays

Model Number

The DataMaster DF-2100 series model numbers are described as follows:

DF-2100-HH-C-X#-DF		
DF-2100	=	Outdoor digit display with backlit ID panel
HH	=	Digit height in inches
C	=	LED Color- R (Red), A (Amber), or G (Green)
X#	=	Illuminated product ID, options: L# - Left product panel # indicates nominal cabinet width (ft) T# - Top product panel # indicates nominal cabinet width (ft)
DF	=	DF – Double Face cabinet, one common cabinet intended for mounting between poles

1.2 Drawing and Label Information

Drawings are sometimes referred to at the beginning of a section. Daktronics identifies drawings with a number which is located in the bottom right corner of each drawing (**Figure 4**). This reference number includes the last set of digits and the letter preceding them. The drawing in this example would be **Drawing A-244838**.

<small>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 2005 DAKTRONICS, INC.</small>			
DAKTRONICS, INC. BROOKINGS, SD 57006			
PROJ: DATAMASTER LED DISPLAYS			
TITLE: SYSTEM RISER DIAGRAM; DATAMASTER, RC-100			
DES. BY: KBIERBA		DRAWN BY: KBIERBA	
		DATE 9 JUN 05	
REVISION	APPR. BY: MMILLER	1279-R01A-244838	
01	SCALE: NONE		

Drawing number —

Figure 4: Daktronics Drawing Label

The serial and model numbers of a Daktronics display can be found on the ID label on the display. The label will be similar to the one shown in **Figure 5**. When calling Daktronics Customer Service, please have this information available to ensure timely service. For future reference, note this display model number, serial number, and installation date in the chart on the front page of this manual.


	ASSY. NO		
	SER. NO		
	MFG DATE		
DAKTRONICS, INC. 331 32ND AVE P.O. BOX 5128 BROOKINGS, SD 57006	PHONE 1-605-697-4000	LL-2306	

Figure 5: Display Identification Label

Section 2: Mechanical Installation

Important Safeguards:



- Read and understand these instructions before installing the display.
- Properly ground the display with a ground rod at the sign location.
- **Disconnect power when the display is not in use.**
- **Disconnect power when servicing the display.**
- Do not modify the display structure or attach any panels or coverings without the express written consent of Daktronics, Inc.

2.1 Shop Drawings

Use the following table to determine the mechanical specifications for the specific display. The drawings, listed below by model number, are included in **Appendix A**.

Double-faced Displays with Left Side Captions	
Drawing Title	Drawing Number
Shop Drawing, DF-2100-10-L5-DF	Drawing B-296470
Shop Drawing, DF-2100-10-L6-DF	Drawing B-297200
Shop Drawing, DF-2100-13-L6-DF	Drawing B-295992
Shop Drawing, DF-2100-13-L7-DF	Drawing B-296379
Shop Drawing, DF-2100-18-L7-DF	Drawing B-298402
Shop Drawing, DF-2100-18-L8-DF	Drawing B-298554
Shop Drawing, DF-2100-24-L8-DF	Drawing B-301758

Double-faced Displays with Top Captions	
Drawing Title	Drawing Number
Shop Drawing, DF-2100-18-T5-DF	Drawing B-302327
Shop Drawing, DF-2100-24-T6-DF	Drawing B-302832
Shop Drawing, DF-2100-24-T7-DF	Drawing B-302950
Shop Drawing, DF-2100-24-T8-DF	Drawing B-303021

2.2 Specifications

The table below shows all of the mechanical specifications, circuit specifications, and maximum power requirements for each model in this series. Models are listed in alphanumeric order by digit size.

DataMaster Petroleum Price Double-Faced Displays with Left Caption					
Model	Dimensions	Weight	Digit Size	Maximum Power	Circuit
DF-2100-10-A-L5-DF DF-2100-10-R-L5-DF DF-2100-10-G-L5-DF	H1'-3", W5'-0", D0'-9" (381 x 1524 x 229 mm)	50 lb (23 kg)	10" (254 mm)	240 W All colors	120 VAC 15 A
DF-2100-10-A-L6-DF DF-2100-10-R-L6-DF DF-2100-10-G-L6-DF	H1'-3", W6'-0", D0'-9" (381 x 1829 x 229 mm)	50lb (23 kg)	10" (254 mm)	270 W All colors	120 VAC 15 A
DF-2100-13-A-L6-DF DF-2100-13-R- L6-DF DF-2100-13-G- L6-DF	H1'-6", W6'-0", D0'-9" (457 x 1829 x 229 mm)	60 lb (27 kg)	13" (330 mm)	240 W All colors	120 VAC 15 A
DF-2100-13-A-L7-DF DF-2100-13-R- L7-DF DF-2100-13-G- L7-DF	H1'-6", W7'-0", D0'-9" (457 x 2134 x 229 mm)	60 lb (27 kg)	13" (330 mm)	270 W All colors	120 VAC 15 A
DF-2100-18-A-L7-DF DF-2100-18-R- L7-DF DF-2100-18-G- L7-DF	H1'-10", W7'-0", D0'-9" (559 x 2134 x 229 mm)	70 lb (32kg)	18" (457 mm)	450 W = Amber, Red 600 W =Green	120 VAC 15 A
DF-2100-18-A-L8-DF DF-2100-18-R- L8-DF DF-2100-18-G- L8-DF	H1'-10", W8'-0", D0'-9" (559 x 2438 x 229 mm)	70 lb (32 kg)	18" (457 mm)	450 W = Amber, Red 600 W = Green	120 VAC 15 A
DF-2100-24-A-L8-DF DF-2100-24-R- L8-DF DF-2100-24-G- L8-DF	H2'-5", W8'-0", D0'-9" (737 x 2438 x 229 mm)	80 lb (36 kg)	24" (610 mm)	450 W = Amber, Red 600 W = Green	120 VAC 15 A

DataMaster Petroleum Price Double-Faced Displays with Top Caption

Model	Dimensions	Weight	Digit Size	Maximum Power	Circuit
DF-2100-18-A-T5-DF DF-2100-18-R-T5-DF DF-2100-18-G-T5-DF	H2'-8", W5'-0", D0'-9" (813 x 1524 x 229 mm)	100 lb (45 kg)	18" (457 mm)	350 W = Amber, Red 500 W = Green	120 VAC 15 A
DF-2100-24-A-T6-DF DF-2100-24-R-T6-DF DF-2100-24-G-T6-DF	H3'-9", W6'-0", D0'-9" (1143 x 1829 x 229 mm)	110 lb (50 kg)	24" (610 mm)	350 W = Amber, Red 500 W = Green	120 VAC 15 A
DF-2100-24-A-T7-DF DF-2100-24-R-T7-DF DF-2100-24-G-T7-DF	H3'-9", W7'-0", D0'-9" (1143 x 2134 x 229 mm)	120 lb (54 kg)	24" (610 mm)	350 W = Amber, Red 500 W = Green	120 VAC 15 A
DF-2100-24-A-T8-DF DF-2100-24-R-T8-DF DF-2100-24-G-T8-DF	H3'-9", W8'-0", D0'-9" (1143 x 2438 x 229 mm)	130 lb (59 kg)	24" (610 mm)	350 W = Amber, Red 500 W = Green	120 VAC 15 A

2.3 Lifting the Displays

Most DataMaster outdoor digit displays are designed for pole mounting, but every installation is unique. Actual site demands will dictate the appropriate mounting method.

Daktronics strongly recommends using a spreader bar or lifting bar to lift the display. Using a spreader bar ensures that the force on the eyebolts is straight up, minimizing lifting stress. **Figure 6** illustrates the correct and incorrect lifting methods.

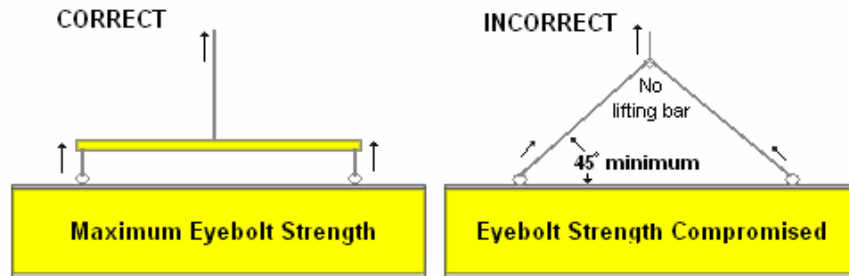


Figure 6: Lifting the Display



- Daktronics assumes no liability for display damage or injury resulting from incorrect setup or incorrect lifting methods.
- Eyebolts are intended for lifting during installation only. Do not attempt to permanently support the display by the eyebolts.

Installers may remove the lift eyebolts once the display is in place. On models with 10", 13", 18" or 24" digits, thread 3/8"-13 bolts into the holes.

Section 3: Electrical Installation

Electrical installation consists of the following processes, as illustrated in **Figure 7**:

- Providing power and ground to a disconnect near the display.
- Routing power and ground from the main disconnect to the display driver/power enclosure.
- Connecting the display ground to a grounding electrode at the sign location.
- Routing the control signal cable from the control location to the sign location.

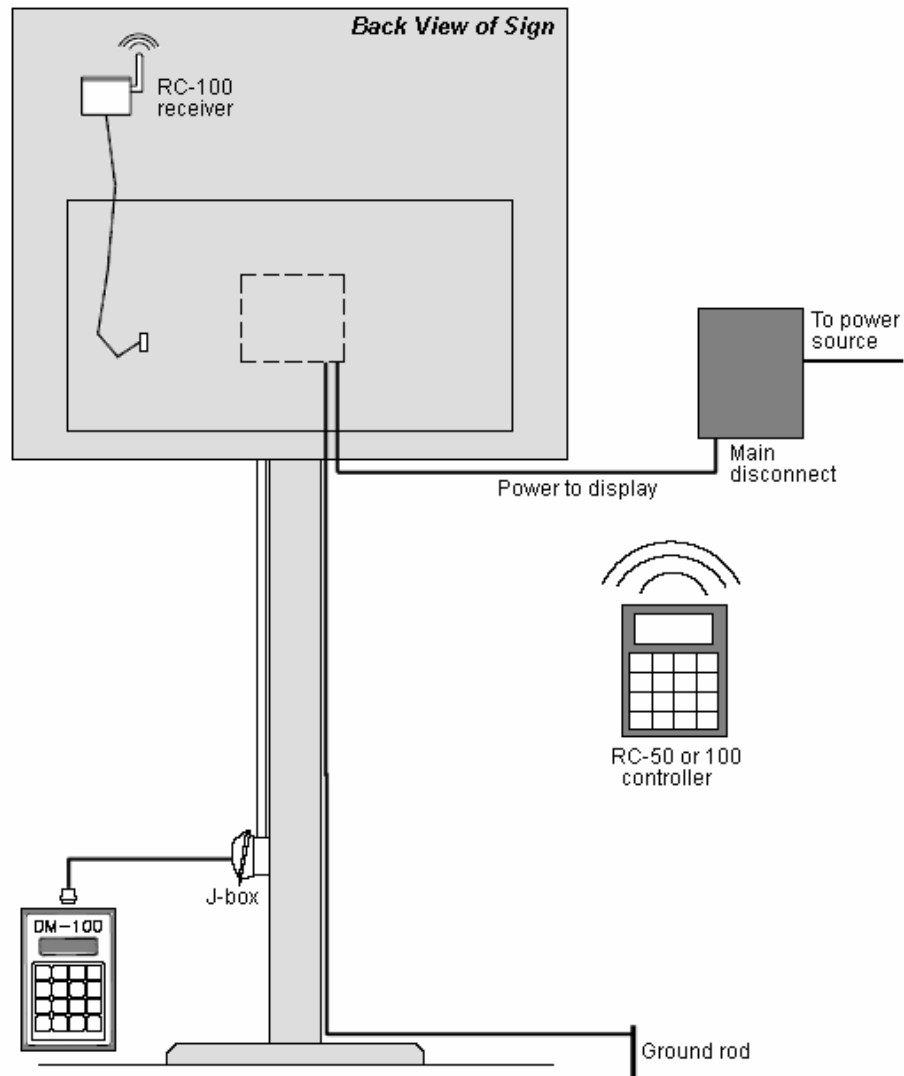


Figure 7: Electrical Installation Overview

3.1 Power Installation

Reference Drawings:

Wiring Schematic, DF-2100-DF **Drawing A-257120**



- Only qualified individuals should perform power routing and termination to the display.
- It is the responsibility of the electrical contractor to ensure that all electrical work meets or exceeds local and national codes.

Daktronics DataMaster displays have been designed for easy access to components and simplified power and control signal hookup. Front panels are hinged to allow access to the digits, cabling, and other electronic components.

Correct power installation is imperative for proper display operation. The subsections that follow give details of display power installation. Only qualified individuals should attempt to complete the electrical installation; untrained personnel should not attempt to install these displays or any of the electrical components. Improper installation could result in serious damage to the equipment and could be hazardous to personnel.

The DataMaster outdoor displays require a dedicated, 120 V circuit for incoming power. The display itself has no breakers or fuses. Refer to the DataMaster display schematic listed above and to the chart in **Section 2** to determine circuit specifications and maximum power requirements for the models described in this manual.

WARNING: It is critical that the display circuit be fused at 15 A, and that all conductors used must be designed to pass a 15 A current in normal operation. Failure to meet wiring and over-current protection device requirements is a violation of the National Electrical Code® and will void the display warranty.

Grounding



Displays **MUST** be grounded according to the provisions outlined in Article 250 of the National Electrical Code and according to the specifications in this manual.

The display system *must* be connected to an earth electrode installed at the display. Proper grounding is necessary for reliable equipment operation. It also protects the equipment from damaging electrical disturbances and lightning. **The display must be properly grounded or the warranty will be void.** Refer to the Schematics, **Drawing A-257120**.

Important points about grounding:

- Follow local and national codes: The material of an earth-ground electrode differs from region to region and from conditions present at the site. Consult the National Electrical Code and any local electrical codes that may apply.
- Support structure **cannot** be used as an earth-ground electrode: The support is generally embedded in concrete. If embedded in earth, the steel is either primed or it corrodes, making it a poor ground.

- One grounding electrode for each display face: The grounding electrode is typically one grounding rod for each display face. Other grounding electrodes as described in Article 250 of the National Electric Code may be used.
- Resistance to ground 10 ohms or less: This is required by Daktronics for proper display performance. If the resistance to ground is higher than 10 ohms, it will be necessary to install additional grounding electrodes to reduce the resistance. The grounding electrode should be installed within 25 feet of the base of the display. The grounding electrode must be connected to the ground wire inside the display.

Power Disconnect

The National Electrical Code requires the use of a lockable power disconnect within sight of or at the display. The use of a disconnect also significantly protects the circuits against lightning damage. Follow these guidelines for correct connection:

- Connect the grounding electrode cable at the local disconnect, never at the display driver/power enclosure.
- Use a disconnect that opens all of the ungrounded phase conductors.

In order for this device to provide protection, the power **MUST** be disconnected when the display is not in use. The control console should also be disconnected from power and from the signal j-box when the system is not being used. The same surges that may damage the display's driver can also damage the console's circuit.

Power Connection

For this type of installation, the power circuit *must* contain an isolated earth-ground conductor. Power connects to the pigtail inside the display. The pigtail has three wires: black (120 V AC line), white (neutral) and green (ground), and a 5-pin plug on one end (**Figure 8**). The plug is connected to the mating plug on the transformer. Use wire nuts to connect power wires to the pigtails.

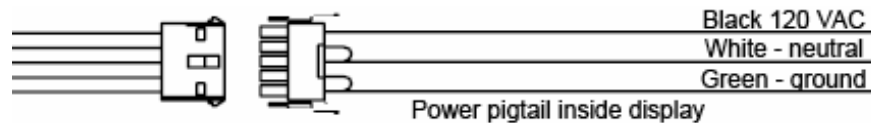


Figure 8: Power Pigtail

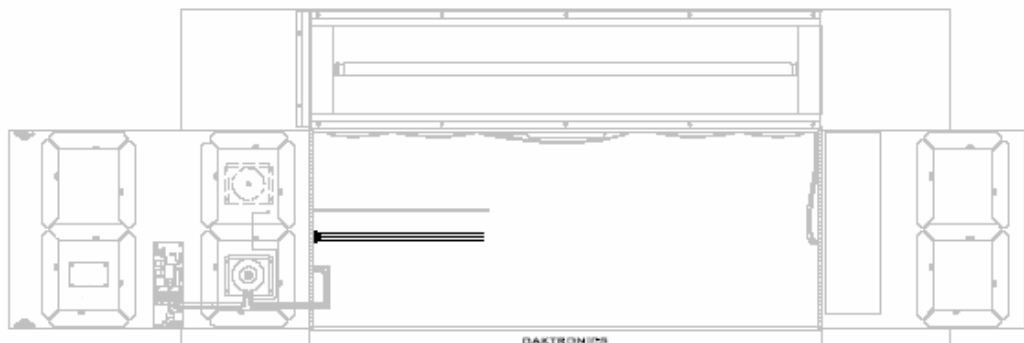


Figure 9: Power Pigtail Typical Location

3.2 Signal Connection

Reference Drawings:

Specifications, Gas Price Driver, 4 Col	Drawing A-250728
RC-50 Quick Install Guide	Drawing A-257189
Address Dip Switch Settings	Drawing B-256001

LED Drivers

In the display, the LED driver performs the task of switching digits on and off. One driver at each sign installation is designated as the “host driver.” This driver receives its signal directly from the controller on the Signal In connector J6. The Signal Out connector J8 is used to connect to “client drivers,” the drivers in other displays in this network.

Other communication types are initially connected as shown in the chart: J11 (Radio, RC-100 system) and J12 (RC-50 receiver). These initial connections are then routed to the J6 Input jack. Refer to **Drawings A-250728** for a complete listing of driver connector functions and wiring pin numbers.

4-Column LED Driver	
Connector No.	Function
J1 – 4	Digits
J5	Not loaded
J6	CL Input
J7	Program
J8	CL Output
J9	Not loaded
J10	Modem
J11	Radio
J12	RC-50 Input

Signal Wiring

Signal wires are terminated with a telephone-type RJ14 connector. Route the cable from the jack in the j-box to J6 on the host driver (**Figure 10**). Run another RJ14 connector from J8 (Output) to the next (client) display, connecting at J6 (Input). Follow this sequence to all displays in the sign network.

Address Dip Switch Settings

Every driver, either host or client, must have a unique address. The address is set by moving the individual toggle switches in the eight position DIP switch case located on the driver. In **Figure 11**, switches 2 and 4 have been pushed down, indicating they are on. Addresses allow the user to set as many as eight lines in up to eight sign groups. All displays with the same line number will show the same price.

Refer to **Drawing B-256001** for an illustration of the client/host driver setups and for a line number and sign chart.

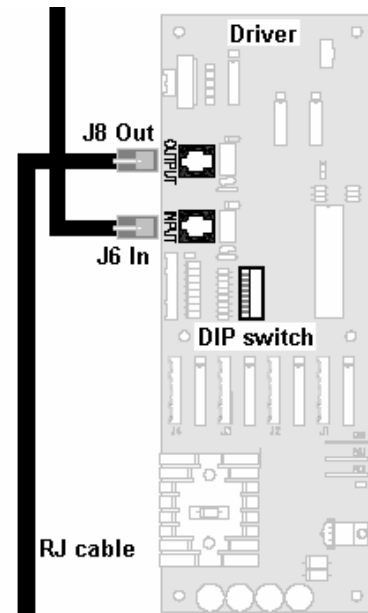


Figure 10: Driver

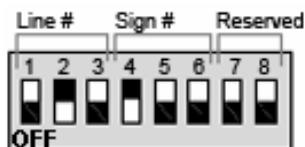


Figure 11: DIP Switch

3.3 Power Up Self-test

Every time the display is powered up, it will run through a verification sequence. This is a good way to check that the displays are set up and working correctly. The following items will be shown on the digit displays. The second column explains the significance of each item.

Information shown on display	Meaning of information
rNN	Revision number of software
XLY	X = sign #; L is constant, Y = line #

Section 4: Troubleshooting and Parts Replacement



Important Notes:

- Disconnect power before doing any repair or maintenance work on the display.
- Allow only qualified service personnel access to internal display electronics.
- Disconnect power when not using the display.

Daktronics displays are built for long life and require little maintenance. However, at times displays may not work correctly. Use this section to pinpoint problems and find solutions.

4.1 Component Location and Access

All internal electronic components and digits can be reached by opening the hinged access door(s) on the front of the display. The single door type swings left when the two latches on the front are opened, as shown in **Figure 12**. Other models have two doors which open near the center of the digit face (**Figure 13**). Component placement varies slightly with each DataMaster model so refer to the shop drawing for the specific model in **Appendix A**.

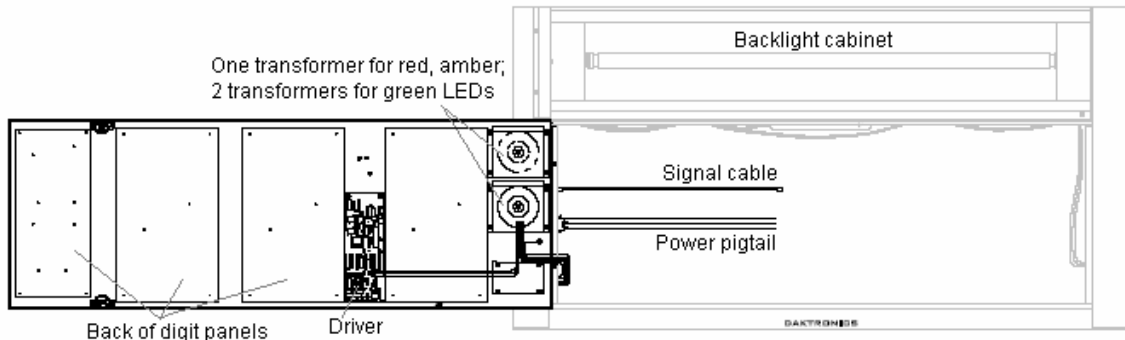


Figure 12: DF-2100, Top Caption, Single-door Display

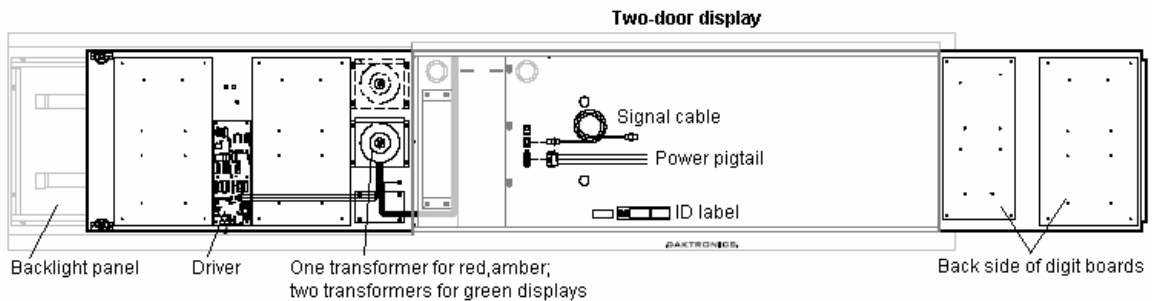


Figure 13: DF-2100, Side Caption, Two-door Display

4.2 Diagnostics

Driver LEDs

The driver inside the display contains three LEDs that provide information about the working of the display. Refer to **Figure 14** for their location. These LEDs can help pinpoint problems with driver set-up or operation.

The LEDs give the following information:

LED	Color	Status
DS1	Green	Continuous light when driver has power.
DS2	Red	Blinks when driver receives signal.
DS3	Amber	Blinks when driver is running.

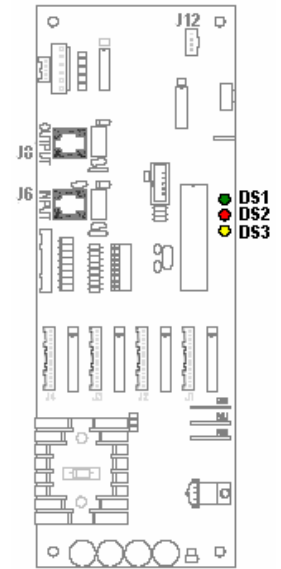


Figure 14: Driver LEDs

Power On Self-test

A useful troubleshooting tool is the power on self-test performed by the host driver every time the display powers up: The display should show the information listed in the left column. Every “X” in the chart refers to a number.

Information shown on display	Meaning of information
rNN	Revision number of software
XLY	X = sign #; L is constant, Y = line #

4.3 Troubleshooting

This section lists potential problems with the display, indicates possible causes, and suggests corrective action. This list does not include every possible problem, but it does represent some of the more common situations that may occur.

Symptom/ Condition	Possible Cause	Solution
No displays in the sign will light	<ul style="list-style-type: none"> • Power incorrectly set up. • Addresses not set correctly. 	<ul style="list-style-type: none"> • Open display with host driver and check Power LED (Section 4.2). • Check each driver to verify correct address settings (Section 3.2).
Multiple line sign with all lines showing same prices	<ul style="list-style-type: none"> • Addresses not set correctly. 	<ul style="list-style-type: none"> • Set up different address for each line of sign (Section 3.2).
Digit will not light	<ul style="list-style-type: none"> • Black wire to digit broken. • Poor contact at driver connection. • Driver malfunction. 	<ul style="list-style-type: none"> • Replace harness. • Clean contacts. • Replace driver.
Segment or several LEDs will not light	<ul style="list-style-type: none"> • Broken LEDs. • Driver failure. • Broken wire between driver and digit. • Poor contact at driver connector. 	<ul style="list-style-type: none"> • Replace segment or digit. • Replace driver. • Replace harness. • Clean contact or replace harness.
Segment or digit stays lit	<ul style="list-style-type: none"> • Driver failure. • Short circuit on digit. 	<ul style="list-style-type: none"> • Replace driver. • Replace harness.
Data appears in the wrong place on the sign	<ul style="list-style-type: none"> • Signal connections are not correct. 	<ul style="list-style-type: none"> • Reconnect signal wiring to drivers (Section 3.2).
Data appears on the wrong line of the display	<ul style="list-style-type: none"> • Incorrect address settings on drivers. 	<ul style="list-style-type: none"> • Change addresses on drivers (Section 3.2).
Display shows "E4".	<ul style="list-style-type: none"> • No Message Error: This code is shown when no messages are downloaded to the display. 	<ul style="list-style-type: none"> • Download a new message to the display using the <UPDATE DISPLAY> key on the DM-100 controller.

4.4 Parts Replacement

If a part needs to be replaced, follow these steps.

1. Find the part number label on a part or refer to the parts list for the correct number.
2. Read **Section 4.5, Daktronics Exchange and Repair & Return Programs**, for step-by-step instructions on obtaining a new part.
3. When the part is received, follow the instructions in this section for replacing it.

Replacement Parts List	
Description	Daktronics Part No.
Communication Boards and Accessories	
Junction box, outdoor, 9-pin D-male	0A-1196-0093
Junction box, indoor, 9-pin D, male	0A-1196-0099
RC-50 Radio with overlay	0A-1356-0064
Receiver card	0P-1192-0355
Antenna	A-2015
Transformer, wall pack	T-1118
RC-100 Price Display insert	LL-2617
RC-100 hand held assembly	0A-1110-0046
RC-100 receiver	0A-1110-0045
DataMaster 100 hand-held controller	0A-1196-0088
DataMaster 100 outdoor wired installation kit	0A-1356-0002
DataMaster 100 indoor wired installation kit	0A-1356-0105
Drivers and Internal Components	
Toroid Transformer, Display	T-1124
Digit cable, 1 ft.	W-1575
Digit cable, 3 ft.	W-1576
Signal Surge Card	0P-1356-0001
Decimal / Driver, red	0P-1192-0353
Decimal / Driver, amber	0P-1192-0355
Decimal / Driver, green	0P-1192-0354
Digits and Accessories	
10" Digit, 7-segment, red, 14 pin	0P-1192-0356
10" Digit, 7-segment, amber, 14 pin	0P-1192-0359
10" Digit, 7-segment, green, 14 pin	0P-1192-0357
13" Digit, 7-segment, red, 14 pin	0P-1192-0347

Description	Daktronics Part No.
13" Digit, 7-segment, amber, 14 pin	0P-1192-0348
13" Digit, 7-segment, green, 14 pin	0P-1192-0349
18" Digit, 7-segment, red, 14 pin	0P-1192-0341
18" Digit, 7-segment, amber, 14 pin	0P-1192-0342
18" Digit, 7-segment, green, 14 pin	0P-1192-0343
22" Digit segment, red, horizontal	0P-1192-0293
22" Digit segment, amber, horizontal	0P-1192-0297
22" Digit segment, green, horizontal	0P-1192-0295
24" Digit segment, red, vertical	0P-1192-0372
24" Digit segment, amber, vertical	0P-1192-0374
24" Digit segment, green, vertical	0P-1192-0373
10" 9/10 red, 14 pin, 24 V	0P-1356-0036
10" 9/10 amber, 14 pin, 24 V	0P-1356-0037
10" 9/10 green, 14 pin, 24 V	0P-1356-0038
12", 9/10 digit, red, 14 pin	0P-1356-0012
12", 9/10 digit, amber, 14 pin	0P-1356-0013
12", 9/10 digit, green, 14 pin	0P-1356-0014
16", 9/10 digit, red, 14 pin	0P-1356-0024
16", 9/10 digit, amber, 14 pin	0P-1356-0025
16", 9/10 digit, green, 14 pin	0P-1356-0026
22", 9/10 digit, red, 14 pin	0P-1356-0042
22", 9/10 digit, amber, 14 pin	0P-1356-0043
22", 9/10 digit, green, 14 pin	0P-1356-0044
Additional Replacement Parts	
Lamp, 15 W spiral compact fluorescent.	DS-1563
Lamp, 30" T12 fluorescent	DS-1034
Lamp, 36" T12 fluorescent	DS-1521
Lamp, 42" T12 fluorescent	DS-1501
Lamp, 48" T12 fluorescent	DS-1036
Lamp, 60" T12 fluorescent	DS-1049
Lamp, 72" T12 fluorescent	DS-1037

Description	Daktronics Part No.
Lamp, 84" T12 fluorescent	DS-1038
Lamp, 96" T12 fluorescent	DS-1048
Ballast, 1.65 A fluorescent	A-1368
Ballast, 2.5 A fluorescent	A-1369
Ballast, 2.8 A fluorescent	A-1370

Replacing a Digit Panel

The digit circuit board, the platform for the LEDs, is mounted to the back of the digit panel. Do not attempt to remove individual LEDs. In the case of a malfunctioning board, replace the entire digit panel. Refer to **Figure 15**.

To remove a display digit, follow these steps:

1. Open the digit panel as described in **Section 4.1**.
2. Disconnect the power/signal connector from the back of the digit. Release the connector by squeezing together the locking tabs as the connector is pulled free.
3. The digits are secured to the inside of the panel with fixed machine screws, spacers, and push nuts. Remove the nuts and lift the digit off the standoff screws. Daktronics recommends using a 9/32" nut driver.
4. Position a new digit over the screws and tighten the nuts.
5. Reconnect the power/signal connector.
Note: This is a keyed connector that will attach in one way only. Do not attempt to force the connection!
6. Close and secure the digit panel and test the display.

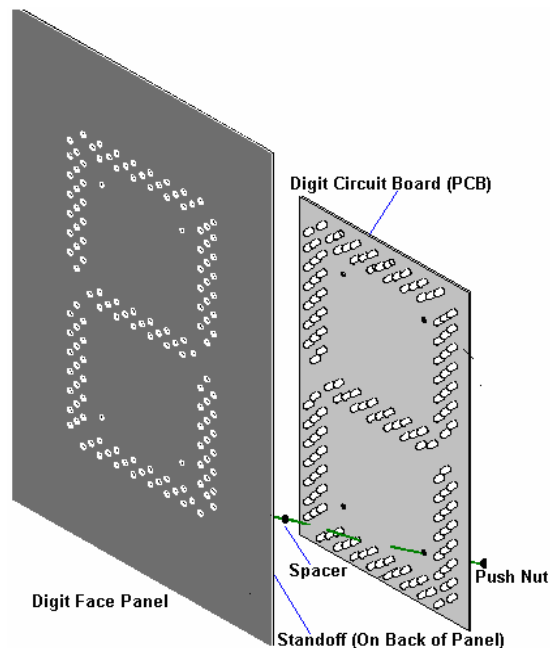


Figure 15: Digit Panel Assembly

Replacing a Digit Segment

Large digits are constructed in segments, as shown in **Figure 16**. In this case, it may be possible to replace only the defective segment. As with smaller digits, the segment circuit boards are mounted to the back of the digit panel. **Do not attempt to remove individual LEDs.** Replace a malfunctioning colon, decimal, or indicator assembly in the same manner.

To remove a digit segment, follow these steps:

1. Open the digit panel as described in **Section 4.1**.
2. Disconnect the 2-pin power/signal connector from the back of the individual segment. Release the connector by squeezing together the locking tabs as the connector is pulled free.
3. The individual segments are secured to the inside of the panel with fixed machine screws, spacers, and push nuts. Remove the nuts and lift the segment off the standoff screws.
4. Position a new segment over the screws and tighten the nuts.
5. Reconnect the power/signal connector. **Note:** This is a keyed connector it will attach in one way only. Do not attempt to force the connection!
6. Close and secure the digit panel and test the display.

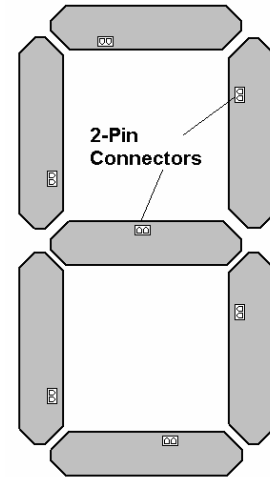


Figure 16: Digit Segments

Replacing a Driver

The driver is mounted to the front panel between digit boards. The panel will need to be opened to access the driver.

Before a failed driver can be reached, the enclosure must be accessed. Follow these steps:

1. Open the digit panel or display face panel as described in **Section 4.2**.
2. Release each connector by pressing the locking tab as the connector is pulled free. **Note:** When reconnecting, remember that these are keyed connectors and will attach in one way only. Do not attempt to force the connection!
3. Remove the screws, nuts, or wing nuts securing the driver to the inside of the enclosure.
4. Carefully lift the driver from the display and place it on a clean, flat surface.

Follow steps 1 through 4 in reverse order to attach a new driver.

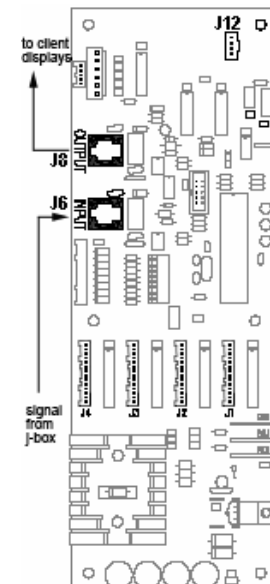


Figure 17: Driver

4.5 Daktronics Exchange and Repair & Return Programs

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

Before Contacting Daktronics

Print important part numbers here:

Fill in these numbers before calling Customer Service:

Display Serial Number: _____

Display Model Number: _____

Contract Number: _____

Date Installed: _____

Location of Display: _____

Daktronics Customer ID Number: _____

Exchange Program

Daktronics unique Exchange Program is a quick, economical 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 problem part to Daktronics. This decreases display downtime.

To participate in the Exchange Program, follow these steps.

- 1. Call Daktronics Customer Service: 866-343-3122.**
- 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.

 - Package the old part in the same shipping materials in which the replacement part arrived.
 - Fill out and attach the enclosed UPS shipping document.
 - Ship the part to Daktronics.
- 3. A charge will be made for the replacement part immediately, unless a qualifying service agreement is in place.**

In most circumstances, the replacement part will be invoiced at the time it is shipped.
- 4. If the replacement part does not solve the problem, return the part within 30 working days or the full purchase price will be charged.**

If the equipment is still defective after the exchange is made, 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 Daktronics Customer Service:**
Phone: 866-343-3122 Fax: 605-697-4444
- 2. Receive a Return Materials Authorization (RMA) number before shipping.**
This expedites repair of your 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.
- 4. Enclose:**
 - your name
 - address
 - phone number
 - the RMA number
 - a clear description of symptoms

Shipping Address

Customer Service, Daktronics
PO Box 5128
331 32nd Ave
Brookings, SD 57006

Section 5: DM-100 Controller

This section describes the set-up and operation of the DataMaster 100 (DM-100) Controller. The DM-100 may be used with either an indoor or outdoor j-box, both of which are explained in this section. Note also the information on the DataMaster insert.

Reference Drawing:

Address Dip Switch Settings.....	Drawing B-256001
Insert, DM-100 Price/T&T Display	Drawing A-167856

5.1 DM-100 Overview

The DataMaster 100 Series controller, shown in **Figure 9**, is a hand-held controller designed to operate Daktronics LED DataMaster displays. The console's liquid crystal display (LCD) guides the user through the operation of the system.

The DM-100 can be configured to display petroleum price, motel rates, and time and temperature data. Refer to **Drawing B-256001** for information on possible control options and connection procedures.

Note: When this order arrives, open the packages and inspect for shipping damage such as rattles and dents. See that all equipment is included as shown on the packing slip. Immediately report any deficiencies to Daktronics. Save all packing materials for shipping if warranty repair or exchange is needed.



Figure 18: DM-100

Replacement Parts List

The following is a list of possible replacement parts for the DM-100 controller. When re-ordering a part, be sure to use its corresponding part number.

Description	Daktronics Part No.
Wall pack transformer	T-1118
DM-100 controller	0A-1196-0088
Control Insert	LL-2551
Cable, DB-9 male to DB-9 female, 10'	W-1267

Refer to **Section 4.5** for details concerning the Daktronics Exchange and Repair programs.

5.2 Connecting the DM-100 to the Display

The DataMaster displays may be controlled from a location inside a building or from the base of the display, depending on customer preference. **Drawing B-256001** and the subsections that follow provide greater detail on both installations.

Wire Control from the Base of the Sign

The outdoor control option (**Figure 19**) permits operation of the sign from the base of the display. The controller is connected to an outdoor junction box mounted on the display pole, which routes the signal to the sign through one 2-pair 22 AWG cable. Cable is routed in conduit where required.

This control option does not require the controller to be connected to a power outlet. In this configuration, the DM-100 uses the sign as a power source.

To operate the display using this setup, connect the 9-pin to 9-pin cable from the DM-100 controller to the j-box mounted on the display pole.

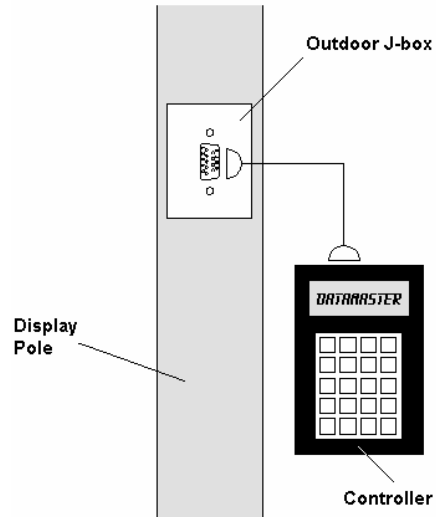


Figure 19: Wire Control from Base of Sign

Wire Control from a Building Location

The indoor control option (**Figure 20**) permits operation of the sign from an indoor control location. The handheld controller is connected to an indoor junction box (j-box), which routes the signal to the sign through one 2-pair 22 AWG cable. Cable is routed in conduit where required.

To operate the DataMaster display using this setup, connect the 9-pin to 9-pin cable from the DM-100 controller to the 9-pin j-box, and plug the controller's wall pack transformer into a 120 V AC outlet.

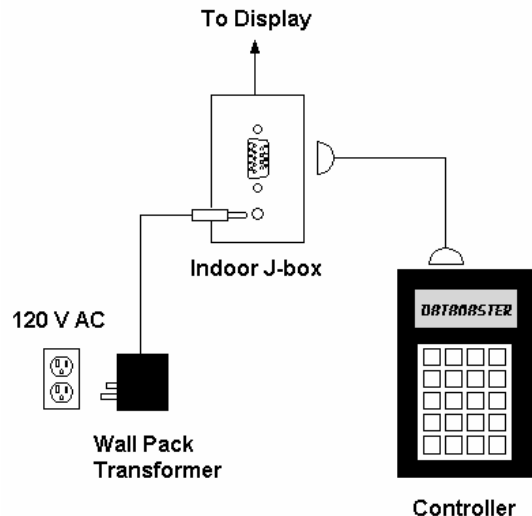


Figure 20: Wire Control from Building Location

5.3 DataMaster Insert and Code

The DM-100 uses a keypad insert to program rate information into Daktronics LED DataMaster Petroleum Price Displays.

Figure 14 illustrates the DM-100 insert used to control the displays. For details refer to **Drawing A-167856**.

If an insert is lost or damaged, a copy of the insert drawing located in **Appendix A** can be used until a replacement is ordered.

To start the controller and use the insert, read the next section carefully to fully understand the operation instructions.

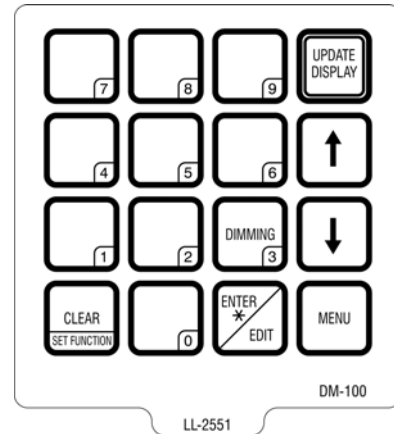


Figure 21: DM-100 Insert, LL-2551

5.4 Petroleum Price Display Operation

The DM-100 controller can be configured to program petroleum price variances displayed on the LED DataMaster Petroleum Price sign. The instructions provided in this section discuss the functions the operator uses to control the Petroleum Price display.

Petroleum Price Display Startup

To operate the DataMaster Petroleum Price displays, the DM-100 must first be programmed to the price function. Use the <SET FUNCTION> key on startup. Use the following table as a guide to startup procedures.

LCD Screen	Action
<div style="border: 1px solid black; padding: 5px; text-align: center;"> <p>CURRENT FUNCTION GAS PRICE</p> </div>	<p>Plug the wall pack transformer into a 120 V AC power outlet, and connect it to the DM-100.</p> <p>This display appears briefly.</p>
<div style="border: 1px solid black; padding: 5px; text-align: center;"> <p>CHANGE FUNCTION? PRESS SET FUNCT</p> </div>	<p>This message appears next on the screen.</p> <p>If "GAS PRICE" was shown on the bottom line of the LCD during startup, do nothing. The controller will automatically default to previous Gas Price settings.</p> <p>If a function other than "GAS PRICE" was shown on the bottom line of the LCD during startup, press the <SET FUNCTION> key while the second LCD prompt is displayed.</p>
<div style="border: 1px solid black; padding: 5px; text-align: center;"> <p>SELECT FUNCTION GAS PRICE ↓↑</p> </div>	<p>Press the arrow up or down keys<↑↓> until the gas price option is shown. Press the <ENTER> key to accept.</p>

The DM-100 handheld controller should now be ready for use. The controller will "remember" the last function setting, so this step should only need to be done with a new controller, or one that is configured for different displays. To operate the DM-100, press any of the keys listed in the following gas price sections.

Petroleum Price Controller Operation

The Petroleum Price Controller LCD display will default to showing the current display settings on power up. The following text will be shown on the LCD.

LCD Screen	Action
<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> LINE PRICE 1 ↓ \$1.23 9/10 </div> <div style="border: 1px solid black; padding: 5px;"> <EDIT> TO MODIFY 1 ↓ \$1.23 9/10 </div>	<p>The display will toggle between these two screens.</p> <p>Press the up or down arrow keys <↑↓> to scroll through the current setting for any of the lines on the display.</p> <p>Press the <ENTER/EDIT> key to modify any of the line settings.</p>

Modifying Price Line Settings

The gas price can be modified either by pressing the <EDIT> key during operation (see **Petroleum Price Controller Operation**) or using the <MENU> key (see **Menu Items**). Refer to the following key to identify the item to be edited.

- L = Current line number to be edited
- D.CC = Current dollars and cents value to edit
- T = Current tenths of cent value to edit

LCD Screen	Action
<div style="border: 1px solid black; padding: 5px; text-align: center;"> EDIT LINE L \$D.CC T/10 ↓ </div>	<p>Press any of the number keys to edit the price value for this line. Press the down arrow key <↓> to modify the value of the 1/10-cent data for this line (see note below).</p> <p>Press <ENTER> to accept the new value or press <CLEAR> to abort the changes.</p> <p>Note: The flashing asterisk on the LCD shows the current data being edited.</p> <p>Many displays do not have a changeable 1/10-cent digit. Changing the tenths-cent value from 9 on these digits will make the digit appear incorrect.</p>

Menu Items

Pressing the <MENU> key accesses the following settings:

Key	Setting
1	Price Line 1
2	Price Line 2
3	Price Line 3
4	Price Line 4
5	Price Line 5
6	LED Test?
7	Display Option
8	Modem Settings
9	Display Status
10	Set Time 12HR

Use Menu items 1-5 to edit the price on each line of the display. Lines are typically numbered top to bottom with 1 being the top of the display. For further details, refer to **Modifying Price Line Settings** discussed previously in this section.

For more information about the Modem Settings submenu, refer to **ED-13953: DataMaster Modem Installation Manual**. For additional information about the Display Status or the Set Time submenus, refer to **ED-13894: DataTime Radio Installation Manual** or **ED-15576: DataMaster RC-100 Controller**, these manuals provide complete details on installation and setup for a bi-directional radio system.

Modem Settings

The following items for a modem can be set using the DM 100:

Key	Setting
1	Dial Number
2	Dial out prefix
3	Disconnect time
4	Multiple Dial

Display Status

The Display Status menu item can be used with a bi-directional display setup to get display status back from the driver. The controller will cycle through various LCD message screens, illustrated below and on the following page, that show display status. Press <CLEAR> at any time to exit the Display Status submenu.

LCD Screen	Action
<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">DIM level xx 0=dim 16=bright</div> <div style="border: 1px solid black; padding: 5px;">Dimming mode Automatic</div>	<ul style="list-style-type: none"> ▪ <i>Dim Level</i> This is the intensity level of the display; 0 is the dimmest setting, and 16 is the brightest setting. ▪ <i>Dimming Mode</i> The current mode of dimming used by the display. <ul style="list-style-type: none"> ▪ <i>Automatic Dimming</i> – The light sensor controls dimming. ▪ <i>Manual Dimming</i> – The DM 100 console is used to enter all display dimming information.
<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">Display status Get status?</div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">Driver Firmware version x.x</div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">Current day/time mm/dd/yy HH:MM</div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">Last reset time Mm/dd/yy hh:mm</div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">Current temp Xx °f</div> <div style="border: 1px solid black; padding: 5px;">TEMP SENSOR OFFSET Xx °C</div>	<p>Press <ENTER> to get the status of the display connected to the DM-100. The LCD will scroll through the status sent back from the display. Following is a list of responses:</p> <ul style="list-style-type: none"> ▪ <i>Firmware Version</i> This is the firmware version programmed on the host MASC driver in the display. ▪ <i>Current Day/Time</i> This is the Day/Time value set in the driver. The time format used will be 24-hour. Note: To set the Day/Time, see the "Set Time" section of your DateTime display system's operation manual. ▪ <i>Last Reset Time</i> This time represents the last time the driver was reset. Note that the time format used will be 24-hour. ▪ <i>Current Temp</i> This is the temperature read at the display by the temp sensor. (This value does not include the offset, if applicable). ▪ <i>Temp Sensor Offset</i> This is the temp sensor offset value programmed into the driver.

Set Time

This allows you to set the time and date with the DM 100.


LCD Screen	Action
The LCD screen displays the text 'SET TIME--' on the first line, '12HR' on the second line, and 'HH:MM AM ↓' on the third line. The text is enclosed in a rectangular box.	<p>HH – Current hours value MM – Current minutes value AM – Current AM/PM setting (not shown when 24-hour time is selected)</p> <p>Using the number keys, enter the Time in the 12-hour (or 24-hour) format. Press the down arrow key <↓> to modify the AM/PM setting.</p> <p>Note: The flashing asterisk shows the current data being edited.</p> <p>To save changes, press the <ENTER> key when finished editing.</p> <p>Press the <CLEAR> key to cancel changes.</p>

After setting the time you will need to set the date. If the date is already correct, enter through the date and press <ENTER> to send the time to the display.

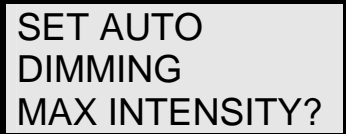
Dimming

The dimming level of the Rate display can be adjusted in two ways. A light sensor, mounted on each driver, can detect the level of ambient light at the display location and dim the sign's LEDs accordingly. This function is known as automatic dimming. When the manual dimming function is selected, the LEDs remain at the same level of brightness regardless of the level of light detected at the display.

To select either of these functions, press <DIMMING>. The current setting is shown on the bottom line of the LCD.

LCD Screen	Action
	<p>Press the down arrow key <↓> to toggle through dim settings:</p> <p>Automatic – The display automatically dims based on the light detected at the display</p> <p>Manual – The display dimming level is set manually. Once set, this value remains regardless of the level of light detected at the display.</p>

If AUTOMATIC dimming is selected, the following LCD prompt will be shown:

LCD Screen	Action
	<p>Press the <ENTER/EDIT> key to edit the auto dimming max intensity. This is the maximum intensity that the display will use in full-bright modes (during daylight hours).</p> <p>Press <CLEAR> to keep the current auto dimming maximum setting.</p>

The following LCD prompt is shown for either Manual or Automatic dimming selections:

LCD Screen	Action
<div data-bbox="370 352 672 491" style="border: 2px solid black; padding: 5px; text-align: center;">INTENSITY XX↓↑ ENTER TO SET</div> <p data-bbox="345 533 651 596">XX – Current intensity (1-16) Max Intensity - 16</p>	<p data-bbox="722 359 1224 422">Press the up or down arrow key <↑↓> to modify the current intensity of the display</p> <p data-bbox="722 428 1208 491">Note: The DataMaster must be connected to the display</p> <p data-bbox="722 533 1218 732">Press <ENTER> to accept this intensity. If the manual-dimming mode is selected, this will be the new intensity for the display. If the automatic dimming mode is selected, the display will illuminate in full-bright mode, which is the maximum intensity level.</p>

Update Display

Once connected to the display with a j-box, radio, or modem, press <UPDATE DISPLAY> to display the new sequence on the display. This button will also allow for a preview of the new sequence on the LCD.

Section 6: RC-50 Controller

The RC-50 controller can be configured to program petroleum price variances displayed on the LED DataMaster Petroleum Price sign. The instructions provided in this section discuss the functions the operator uses to control the Petroleum Price display.

Reference Drawing:

RC-50 Quick install Guide.....**Drawing A-257189**

6.1 RC-50 Petroleum Price Display Operation

The RC-50 controller can control four unique prices on multiple signs. The instructions provided in this section discuss the functions the operator uses to control the rate display.

Editing the Display

To edit the price on the display, press and hold any button for 5 seconds. When the sign is in Edit mode, the decimal LEDs blink.

On the RC-50, each pair of buttons corresponds to a price line on the display. Each line is numbered to indicate the line it corresponds to.

Increasing the price

To increase the price by one cent, press <+> for the corresponding line.

Note: Make sure the display is in Edit mode.

Decreasing the price

To decrease the price, press <-> for the corresponding line.

Note: Make sure the display is in Edit mode.

Turbo mode

To rapidly increase or decrease a price, press and hold the button for the corresponding line.

Note: When a button is not pressed for more than 10 seconds, the display exits the Edit Mode. The prices are saved and the display returns to its normal state.



Figure 22: RC-50 Controller

Section 7: RC-100 Controller

The RC-100 controller can be configured to program petroleum price variances displayed on the LED DataMaster Petroleum Price sign. The instructions provided in this section discuss the functions the operator uses to control the Petroleum Price display. Although multiple wireless handheld controllers may be connected to a single wireless base station server, the rate display application allows only one handheld device to be connected at a time.

Reference Drawing:

System Riser Diagram; RC-100, DataMaster.....**Drawing A-244838**

7.1 RC-100 Petroleum Price Display Operation

The RC 100 controller can be configured to program petroleum price variances displayed on the LED DataMaster Petroleum Price sign. The instructions provided in this section discuss the functions the operator uses to control the Petroleum Price display.

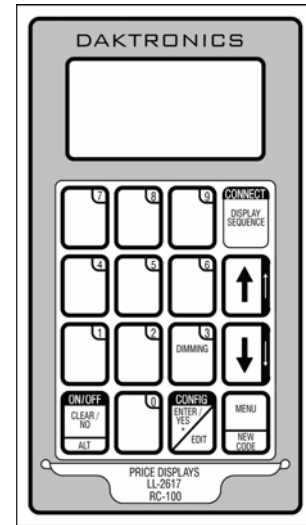



Figure 23: RC-100 Controller

Petroleum Price Display Startup

To operate the DataMaster Petroleum Price displays, the RC-100 must first be programmed to the gas price function. Use the <SET FUNCTION> key on startup. Use the following table as a guide to startup procedures.

LCD Screen	Action
	<p>Plug the wall pack transformer into a 120 V AC power outlet, and connect it to the RC-100.</p> <p>This display appears briefly.</p>

<div style="border: 2px solid black; padding: 5px; text-align: center;"> <p>CHANGE FUNCTION? PRESS SET FUNCT</p> </div>	<p>This message appears next on the screen.</p> <p>If "GAS PRICE" was shown on the bottom line of the LCD during startup, do nothing. The controller will automatically default to previous Gas Price settings.</p> <p>If a function other than "GAS PRICE" was shown on the bottom line of the LCD during startup, press the <SET FUNCTION> key while the second LCD prompt is displayed.</p>
<div style="border: 2px solid black; padding: 5px; text-align: center;"> <p>SELECT FUNCTION GAS PRICE ↓↑</p> </div>	<p>Press the arrow up or down keys<↑↓> until the gas price option is shown. Press the <ENTER> key to accept.</p>

The RC-100 handheld controller should now be ready for use. The controller will "remember" the last function setting, so this step should only need to be done with a new controller, or one that is configured for different displays. To operate the RC-100, press any of the keys listed in the following petroleum price sections.

Petroleum Price Controller Operation

The Petroleum Price Controller LCD display will default to showing the current display settings on power up. The following text will be shown on the LCD.

LCD Screen	Action
<div style="border: 2px solid black; padding: 5px; margin-bottom: 10px;"> <p>LINE PRICE 1 ↓ \$1.23 9/10</p> </div> <div style="border: 2px solid black; padding: 5px;"> <p><EDIT> TO MODIFY 1 ↓ \$1.23 9/10</p> </div>	<p>The display will toggle between these two screens.</p> <p>Press the up or down arrow keys <↑↓> to scroll through the current setting for any of the lines on the display.</p> <p>Press the <ENTER/EDIT> key to modify any of the line settings.</p>

Modifying Price Line Settings

The petroleum price can be modified either by pressing the <EDIT> key during operation (see **Petroleum Price Controller Operation**) or using the <MENU> key (see **Menu Items**). Refer to the following key to identify the item to be edited.

- L = Current line number to be edited
- D.CC = Current dollars and cents value to edit

T = Current tenths of cent value to edit

LCD Screen	Action
<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;"> EDIT LINE L \$D.CC T/10 ↓ </div>	<p>Press any of the number keys to edit the price value for this line. Press the down arrow key <↓> to modify the value of the 1/10-cent data for this line (see note below).</p> <p>Press <ENTER> to accept the new value or press <CLEAR> to abort the changes.</p> <p>Note: The flashing asterisk on the LCD shows the current data being edited.</p> <p>Many displays do not have a changeable 1/10-cent digit. Changing the tenths-cent value from 9 on these digits will make the digit appear incorrect.</p>

Dimming

The dimming level of the rate display can be adjusted in two ways. A temperature/light sensor, mounted near the display, can detect the level of ambient light at the display location and dim the sign's LEDs accordingly. This function is known as automatic dimming. When the manual dimming function is selected, the LEDs remain at the same level of brightness regardless of the level of light detected at the display. To select either of these functions, press <DIMMING>. The current setting is shown on the bottom line of the LCD.

LCD Screen	Action
<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;"> DIMMING AUTOMATIC ↓ </div>	<p>Press the down arrow key <↓> to toggle through dim settings:</p> <p>Automatic – The display automatically dims based on the light detected at the display</p> <p>Manual – The display dimming level is set manually. Once set, this value remains regardless of the level of light detected at the display.</p> <p>Blank Sign – The display can be blanked out without powering down. Refer to the blank sign section for details.</p>

<div style="border: 1px solid black; padding: 5px; text-align: center;"> <p>SET AUTO DIMMING MAX INTENSITY?</p> </div>	<p>Press the <ENTER/EDIT> key to edit the auto dimming max intensity. This is the maximum intensity that the display will use in full-bright modes (during daylight hours.)</p> <p>Press <CLEAR> to keep the current auto dimming maximum setting</p>
<div style="border: 1px solid black; padding: 5px; text-align: center;"> <p>INTENSITY XX\updownarrow ENTER TO SET</p> </div> <p>XX – Current intensity (1-16) Max Intensity - 16</p>	<p>Press the up or down arrow key <\updownarrow> to modify the current intensity of the display (Note: The DataMaster must be connected to the display)</p> <p>Press <ENTER> to accept this intensity. If manual dimming mode is selected, this will be the new intensity for the display. If the automatic dimming mode is selected, the display will illuminate in full-bright mode, which is the maximum intensity level.</p>
<div style="border: 1px solid black; padding: 5px; text-align: center;"> <p>DIMMING BLANK SIGN \downarrow</p> </div> <div style="border: 1px solid black; padding: 5px; text-align: center; margin-top: 10px;"> <p>BLANK THE SIGN? <ENT> YES <CLR> NO</p> </div>	<p>Press <ENTER> to accept this option.</p> <p>The next LCD dialog will ask whether you want to blank the screen or escape. The LCD toggles between Yes and No. Pressing <CLEAR> resumes normal operation; pressing <ENTER> actually blanks the sign.</p>

Section 8: POS Interface Installation and Operation

A Point of Sale (POS) interface option is available with DataMaster LED Petroleum Price Displays. Displays with this option automatically update when product prices are changed in the POS. Displays with the POS interface option will be supplied with a POS Interface Kit (see table below for part numbers).

P.O.S. Interface Type	Interface Kit Required	Interface Cable	Riser Diagram
Gilbarco G-Site	0A-1279-0400	0A-1279-0402	200195
Gilbarco PAM 1000	0A-1279-0452	0A-1279-0229	224628
Allied	0A-1279-0443	0A-1279-0144	215840

8.1 Installation Preparation

1. Ensure that the POS system has a price sign output port, and refer to the POS manuals to enable and/or configure the port.
2. Locate the parts in the list below.

8.2 Hardware installation:

1. Locate the following parts:
 - a) POS Interface Kit containing:
 - i) DM-100 w/POS option (0A-1196-0133)
 - ii) Wall mounting bracket for DM-100 (0M-200082)
 - iii) POS Interface Cable (refer to table 7-1 for part number)
 - iv) POS riser diagram (refer to table 7-1)
 - b) 10' cable, DB9 to DB9 (W-1267)
 - c) Indoor junction box (0A-1196-0099) for direct wired installations or Radio Interface junction box (0A-1279-0161) for wireless installations.
 - d) Wallpack transformer (T-1118).
2. The wall mount bracket (0M-200082) provides convenient storage for the DM-100 controller. If using the wall mount bracket for the DM-100, ensure that there is sufficient clearance above the bracket to allow the DM-100 to be removed from the bracket with both cables attached. Also ensure that the POS interface cable will reach from the DM-100 location to the price sign output of the POS. Fasten the wall mount bracket if desired. The DM-100 can be permanently attached to the wall mounting bracket by removing the two screws in the bottom edge of the DM-100, sliding the DM-100 into the wall mount bracket, and reinstalling the screws through the slots in the bottom bracket flange.
3. Mount the junction box (refer to step c. above). Ensure that the DB9 to DB9 cable (W-1267) will reach from the DM-100 to the junction box.

4. Complete junction box to sign, or junction box to radio wiring as shown on the riser diagram (drawing 200195).
5. Attach the POS interface cable to the POS price sign port. Coil any excess cable and cable tie it out of the way.
6. Attach the DB9 to DB9 cable (W-1267) to the junction box as shown on the riser diagram. Coil any excess cable and cable tie it out of the way.
7. Plug the transformer (T-1118) into an outlet, and connect the output to the power jack on the J-box.
8. Ensure that the DM-100 is up and running. Send a price change to the sign to verify communications between the sign and the DM-100.

8.3 Configuring the DM-100 for Gilbarco G-Site Interface

Preparation

The DM-100 function must be set to "GAS PRICE". The current function of the DM-100 is displayed during power up. To change to function, cycle power to the DM-100, and press the <SET FUNCTION> key when prompted.

Configuration

1. Press the <MENU> key and use the <↑> and <↓> keys to scroll to the "POS SETTINGS" menu item.



POS SETTINGS
ENT TO MODIFY ↓↑

Press <ENTER>.

2. Select the POS type by using the <↑> and <↓> keys to scroll to "GILBARCO GSITE".



POS INTERFACE
GILBARCO GSITE ↓↑

Press <ENTER>.

- Each price in the Gilbarco G-Site is uniquely identified by 'price category'. Each price category corresponds to the price assigned to a particular grade/service level/price level. Use the menu shown below to configure which price category you would like displayed on each line of the display.

```
PRICE CATEGORY
LINE 1 : 1 ↓↑
```

Use the <↑> and <↓> keys to select a price category to be displayed on line 1 of the sign. Press <ENTER> to accept the setting. Pressing <ENTER> when the price category displayed is <NONE> will cause the price sign to ignore POS data for this line. (This may be useful for configuring some lines of a price sign to receive manual price changes only).

- Select a price category to be displayed on each line of the sign, and press <MENU>, or <ESC/CLEAR> when finished. The POS interface configuration is complete.

8.4 Configuring the DM-100 for Allied Interface

Preparation

The DM-100 function must be set to "GAS PRICE". The current function of the DM-100 is displayed during power up. To change to function, cycle power to the DM-100, and press the <SET FUNCTION> key when prompted.

Configuration

- Press the <MENU> key and use the <↑> and <↓> keys to scroll to the "POS SETTINGS" menu item.

Press <ENTER>.

```
POS SETTINGS
ENT TO MODIFY ↓↑
```

- Select the POS type by using the <↑> and <↓> keys to scroll to "ALLIED".

```
POS INTERFACE
ALLIED ↓↑
```

Press <ENTER>.

- Each price in Allied is uniquely identified by grade, service level, and price level. Use the <↑> and <↓> keys to select a grade for the line. (If a line is not used select <NONE DISPLAYED>).

```
GRADE ON LINE 1
GRADE 1 ↓↑
```

Press <ENTER>.

5. Use the <↑> and <↓> keys to select a service level for the line.

```
SERVICE LINE 1
SELF SERVE ↓↑
```

Press <ENTER>.

6. Use the <↑> and <↓> keys to select a price level (cash or credit).

```
PRICE LINE 1
CASH PRICE ↓↑
```

Press <ENTER>.

7. Select a grade/service level/price level for each line of the sign, and press <MENU>, or <ESC/CLEAR> when finished. The POS interface configuration is complete.

8.5 Configuring the DM-100 for PAM 1000 Interface

Preparation

The DM-100 function must be set to "GAS PRICE". The current function of the DM-100 is displayed during power up. To change to function, cycle power to the DM-100, and press the <SET FUNCTION> key when prompted.

Note: The Gilbarco PAM 1000 is a pump access module that allows 3rd party P.O.S. systems to interface to and control Gilbarco pumps. The PAM 1000 does not have a dedicated price sign port. The DM-100 "listens" to the price data that is sent from the P.O.S. to the PAM 1000 when prices are changed on the pumps.

Configuration

1. Press the <MENU> key and use the <↑> and <↓> keys to scroll to the “POS SETTINGS” menu item.

```
POS SETTINGS
ENT TO MODIFY ↓↑
```

Press <ENTER>.

2. Select the POS type by using the <↑> and <↓> keys to scroll to “PAM 1000”.

```
POS INTERFACE
PAM 1000 ↓↑
```

Press <ENTER>.

3. Each price in the PAM 1000 is uniquely identified by a “system grade number” and a “price level” (cash or credit). For Verifone Ruby P.O.S. systems, the system grade numbers are the same as the product numbers in the Ruby (when setting prices in the Ruby, the first product listed in “system grade 1”). Use the <↑> and <↓> keys to select a grade for the line. (If a line is not used select <NONE DISPLAYED>.

Note: Only self service prices may be displayed when using the Ruby.

```
GRADE ON LINE 1
GRADE 1 ↓↑
```

Press <ENTER>.

4. Use the <↑> and <↓> keys to select a price level (cash or credit).

```
PRICE LINE 1
CASH PRICE ↓↑
```

Press <ENTER>.

5. Select a grade for each line of the sign, and press <MENU>, or <ESC/CLEAR> when finished. The POS interface configuration is complete.

8.6 Changing Prices:

Each display line for which a price category is configured will automatically update when the price is changed in the POS system. Attempting to manually edit prices that are configured for POS control will cause the following screen to appear:

```
THIS LINE POS
CTRLD. OVERRIDE?
```

Press <ENTER> to manually edit the price, or <ESC/CLEAR> to cancel.

Appendix A: Reference Drawings

The Daktronics drawing number is located in the bottom right corner of the drawing. Refer to **Section 1.1** for instructions on reading the drawing number.

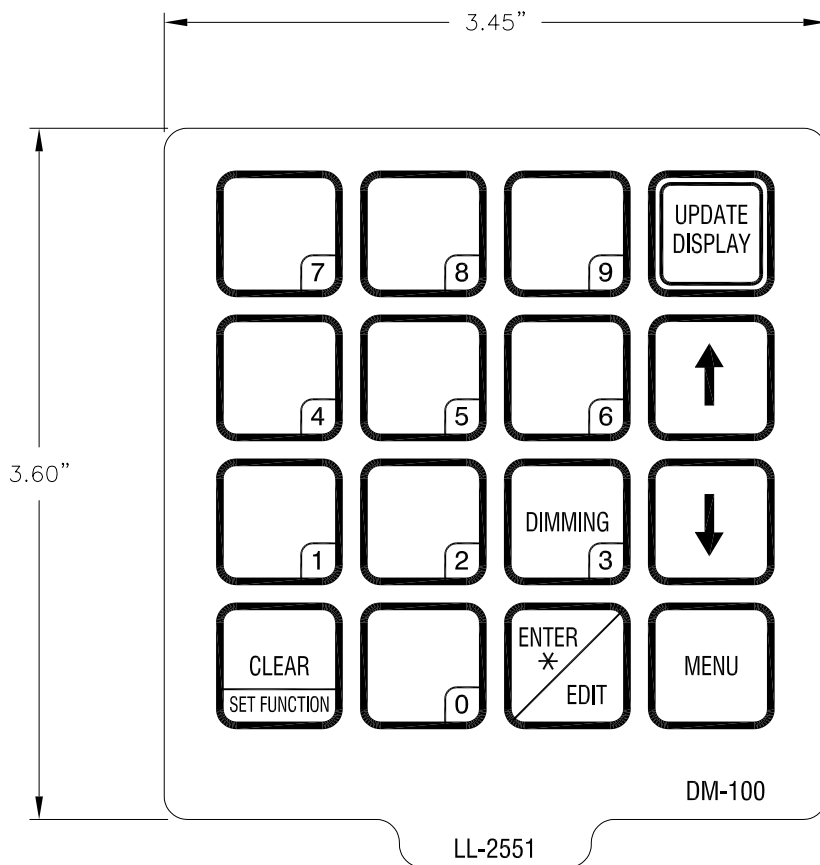
Drawings in this appendix are grouped either as general or display-specific drawings. The Shop Drawings are listed by digit size.

General Drawings

Insert, DM-100 Price/T&T Display	Drawing A-167856
System Riser Diagram; RC-100, DataMaster	Drawing A-244838
Specifications; Gas Price Driver, 4 Col	Drawing A-250728
Wiring Schematic, DF-2100-DF	Drawing A-257120
RC-50 Quick Install Guide	Drawing A-257189
Address Dip Switch Settings	Drawing B-256001

Shop Drawings, listed by digit size

Shop Drawing, DF-2100-10-L5-DF	Drawing B-296470
Shop Drawing, DF-2100-10-L6-DF	Drawing B-297200
Shop Drawing, DF-2100-13-L6-DF	Drawing B-295992
Shop Drawing, DF-2100-13-L7-DF	Drawing B-296379
Shop Drawing, DF-2100-18-L7-DF	Drawing B-298402
Shop Drawing, DF-2100-18-L8-DF	Drawing B-298554
Shop Drawing, DF-2100-24-L8-DF	Drawing B-301758
Shop Drawing, DF-2100-18-T5-DF	Drawing B-302327
Shop Drawing, DF-2100-24-T6-DF	Drawing B-302832
Shop Drawing, DF-2100-24-T7-DF	Drawing B-302950
Shop Drawing, DF-2100-24-T8-DF	Drawing B-303021

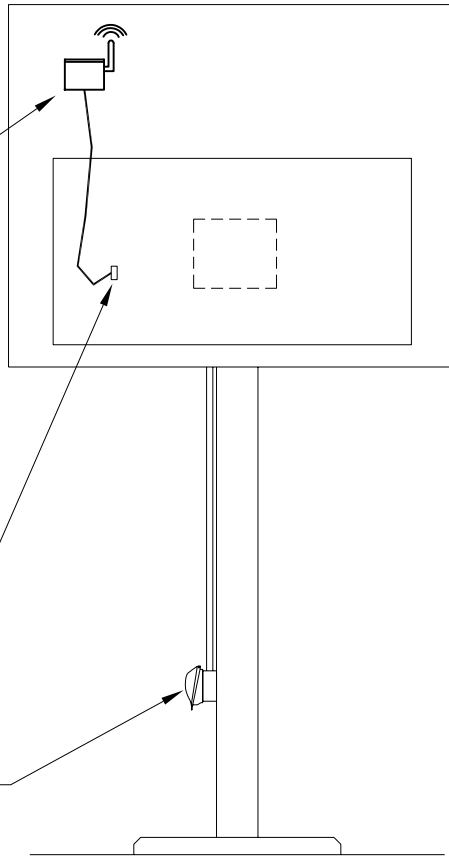


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DAKTRONICS, INC. BROOKINGS, SD 57006			
PROJ:			
TITLE: INSERT, DM-100 PRICE/T&T DISPLAY			
DES. BY: EBRAVEK		DRAWN BY: EBRAVEK	
		DATE: 28 MAY 02	
REVISION	APPR. BY:	1196-E07A-167856	
00	SCALE: 1=1		

REV.	DATE	DESCRIPTION	BY	APPR.

NOTE: THIS DETAIL SHOWS A GENERIC PRICE DISPLAY. ACTUAL DISPLAY MAY BE DIFFERENT FROM DRAWING.

FRONT VIEW



OA-1110-0045
FUNCTION SETTING = 3

NOTE: THE RC-100 RECEIVER BASE STATION NEEDS TO BE MOUNTED SO THAT THE ANTENNA IS IN LINE OF SIGHT WITH THE RC-100 HANDHELD.

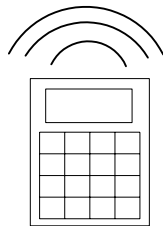
NOTE: THE RC-100 RECEIVER BASE STATION CONNECTS TO THE HOST DISPLAY THROUGH A 6 PIN JACK ON THE BACK OF THE DISPLAY.

OPTIONAL
DM-100 WIRED
CONTROL J-BOX

NOTE:
THE WIRELESS BASE STATION COMES PRE-SET TO CHANNEL 1. HOWEVER, CHANNELS 1-15 CAN BE USED.

FUNCTION TABLE

FUNCTION NUMBER	DESCRIPTION
0	DEFAULT FUNCTION (LAST POWER UP FUNCTION)
1	CAN HAND HELD (JUDGES) CONSOLE
2	BASEBALL/TENNIS SCOREBOARD CONTROLLER (ALLSPORT)
3	DATATIME/DATAMASTER DISPLAY CONTROL



OA-1110-0033
INSERT: LL-2617
(GAS PRICE DISPLAY)

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DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: DATAMASTER LED DISPLAYS

TITLE: SYSTEM RISER DIAGRAM; DATAMASTER, RC-100

DES. BY: KBIERBA

DRAWN BY: KBIERBA

DATE: 9 JUN 05

REV.	DATE	DESCRIPTION	BY	APPR.
01	01 AUG 05	REVISED TEXT	CMG	

REVISION	APPR. BY:
01	MMILLER
	SCALE: NONE

1279-R01A-244838

GAS PRICE DECIMAL / DRIVER
 OP-1192-0353 RED
 OP-1192-0354 GRN
 OP-1192-0358 AMB
 OP-1192-0390 SEG TIMER

J10: MODEM

PIN	FUNCTION
5	MODEM_RX_P
4	GND
3	MODEM_TX_P
2	MODEM_RESET_P
1	MODEM_RTS_P

J11: RADIO

PIN	FUNCTION
1	RS232_TX_P
2	RS232_RX_P
3	GND_N
4	+V_UNREG_P
5	DCD_P
6	RESET_P

J8: CL_OUTPUT

PIN	FUNCTION
1	N/C
2	CL_OUT_TX_N
3	CL_OUT_TX_P
4	CL_OUT_RX_N
5	CL_OUT_RX_P
6	N/C

J6: CL_INPUT

PIN	FUNCTION
1	+10V_UNREG
2	CL_IN_TX_P
3	CL_IN_TX_N
4	CL_IN_RX_P
5	CL_IN_RX_N
6	GND

J5: SWITCH INPUTS

PIN	FUNCTION
14	N/C
13	N/C
12	N/C
11	N/C
10	+5V_P
9	SW_7_P
8	SW_6_P
7	SW_5_P
6	SW_4_P
5	SW_3_P
4	SW_2_P
3	SW_1_P
2	SW_0_P
1	GND_N

J12: RC 50 INPUT

PIN	FUNCTION
1	+3.3V_P
2	N/C
3	GND
4	DATA_INPUT_P

J7: PROGRAM

FUNCTION	PIN	PIN	FUNCTION
PGC_P	1	2	VPP_P
NC	3	4	GND_N
PGD_P	5	6	GND_N
PGM_P	7	8	+5V_P
NC	9	10	NC

S1: OPTIONS

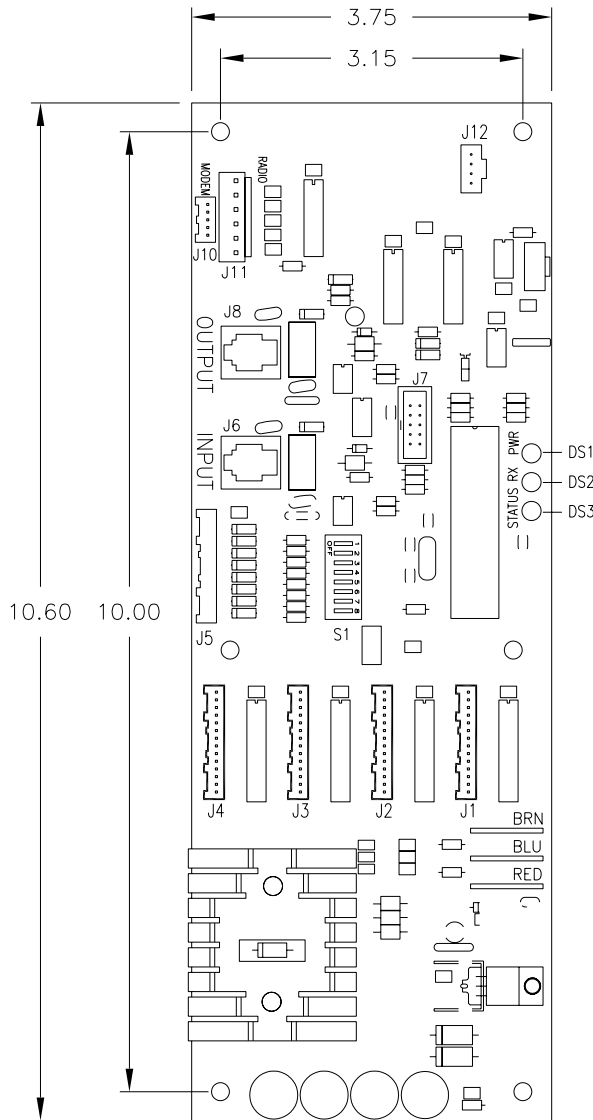
PIN	FUNCTION
1	LINE_BIT_0
2	LINE_BIT_1
3	LINE_BIT_2
4	SIGN_BIT_0
5	SIGN_BIT_1
6	SIGN_BIT_2
7	RESERVED
8	RESERVED

J1-4: DIGIT OUTPUTS

PIN	FUNCTION
14	+VBB_P
13	+VBB_P
12	+VBB_P
11	+VBB_P
10	+VBB_P
9	N/C
8	SEGH_N
7	SEGG_N
6	SEGF_N
5	SEGE_N
4	SEGD_N
3	SEGC_N
2	SEGB_N
1	SEGA_N

POWER INPUTS

PIN	FUNCTION
E3	20VAC_P_BRN
E2	10VAC_P_BLU
E1	VAC_N_RED



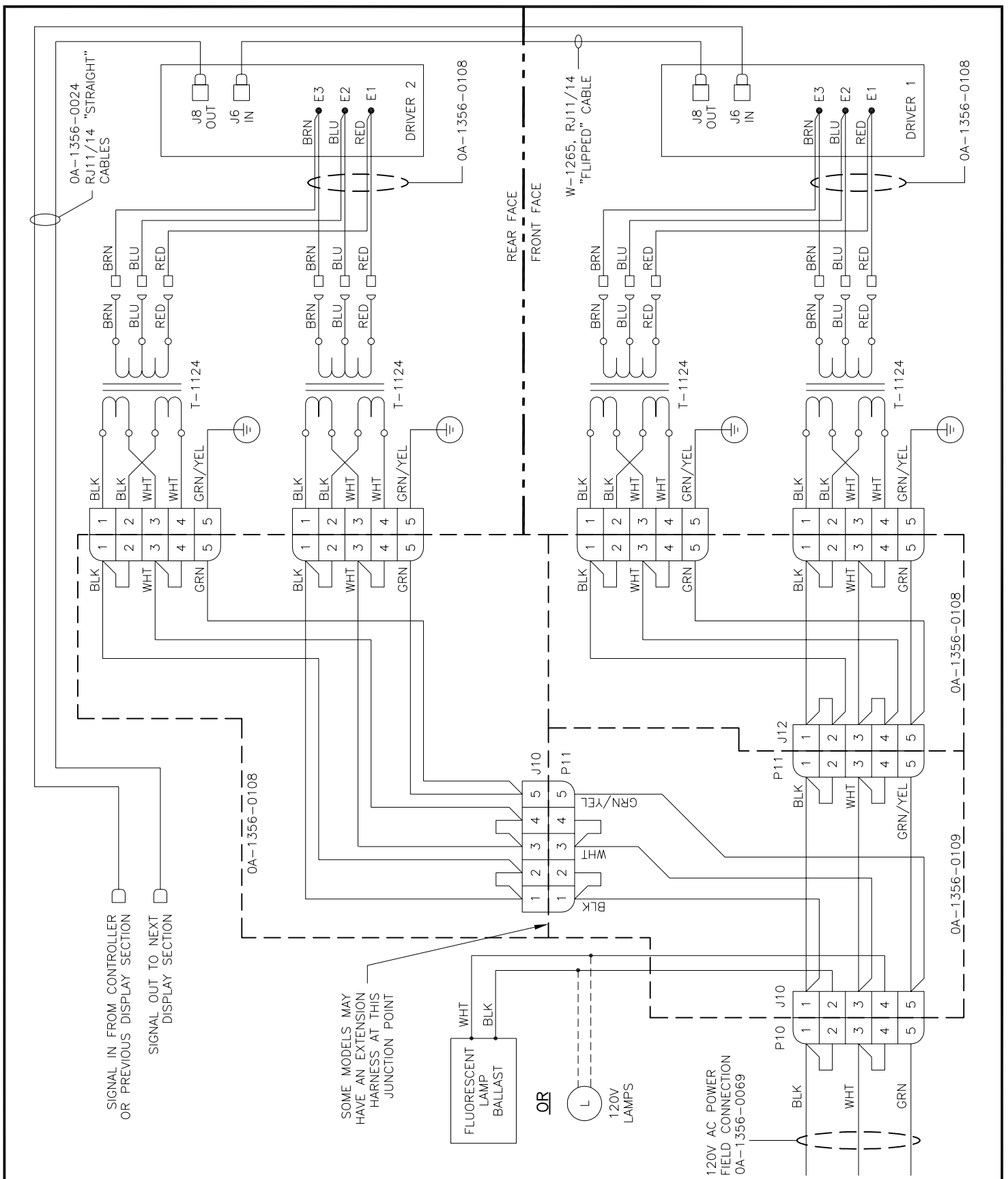
NOTES:

- GREEN LED DS1 INDICATES THAT THE DRIVER HAS POWER.
- RED LED DS2 WILL FLICKER WHEN THE DRIVER RECEIVES SIGNAL.
- AMBER LED DS3 WILL BLINK WHEN THE DRIVER IS RUNNING.
- IF DS3 IS ON OR OFF CONTINUOUSLY THE MICROCONTROLLER IS NOT WORKING.
- REFER TO DWG B-256001 FOR SWITCH SETTING DETAILS.

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REV.	DATE	DESCRIPTION	BY	APPR.
03	22 AUG 06	CHANGED SEG TIMER TO OP-1192-0390	DJU	
02	28 FEB 06	REMOVED FUNCTION TABLE FOR J9: CAN ADDED FUNCTION TABLE FOR J12: RC 50	DJU	
01	04 OCT 05	UPDATED DRAWING FOR REV 01 PCB	DJU	

DAKTRONICS, INC. BROOKINGS, SD 57006			
PROJ: REDUCED DEPTH GAS DISPLAYS			
TITLE: SPECIFICATIONS; GAS PRICE DRIVER, 4 COL.			
DES. BY: THENDRI		DRAWN BY: DULSCHM	
		DATE: 11 AUG 05	
REVISION	APPR. BY:	1356-R04A-250728	
03	SCALE: 1 = 2		



REV.	DATE	DESCRIPTION	BY	APPR.
05	03 JAN 07	CHANGED COLORS ON SECONDARY WIRES. NOTED FLIPPED OR STRAIGHT ON RJ11/14	AVB	
04	27 SEP 06	REDREW THE SCHEMATIC TO INCLUDE UPDATED HARNESSING.	MGL	
03	25 SEP 06	ADDED JUMPERS FROM 1-2,3-4.	JWC	
02	12 JUL 06	ADDED 120V LAMP.	MGL	
01	DEC 28 05	ADDED CENTER HARNESS FOR TRANSFORMER AND BALLAST CONNECTIONS	ATP	

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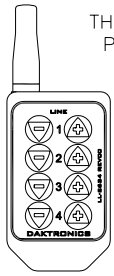
DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: GAS PRICE DISPLAYS

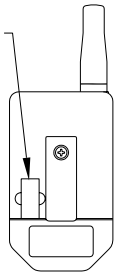
TITLE: WIRING SCHEMATIC, DF-2100-DF, DUAL TRANSFORMER

DES. BY: AVB DRAWN BY: AVB DATE: 08 NOV 05

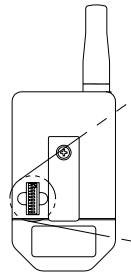
REVISION	APPR. BY:	1356-R03A-257120
05	SCALE: NONE	



FRONT VIEW
RC-50
CONTROLLER

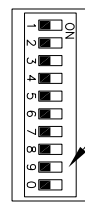


REAR VIEW
RC-50
CONTROLLER



REAR VIEW
RC-50
CONTROLLER

9 & 0 NOT USED



DIP SWITCH DETAIL
SCALE 2=1
(THIS IS AN EXAMPLE ONLY,
NOT THE ACTUAL SETTINGS)

REMOVE THE DIP SWITCH COVER ON THE BACK OF THE RC-50 CONTROLLER.

USE A THIN, POINTED OBJECT TO MOVE THE SWITCHES RIGHT OR LEFT TO TURN THEM ON OR OFF.

SET THE FIRST 8 SWITCHES OF THE RC-50 DIP SWITCH TO A RANDOM UNIQUE SETTING. RECORD YOUR SETTING IN THE TABLE BELOW.

ONLY THE FIRST 8 SWITCHES ARE USED. SWITCHES 9 AND 0 DO NOT AFFECT THE ADDRESS, REGARDLESS OF THEIR POSITIONS.

REPLACE THE COVER.

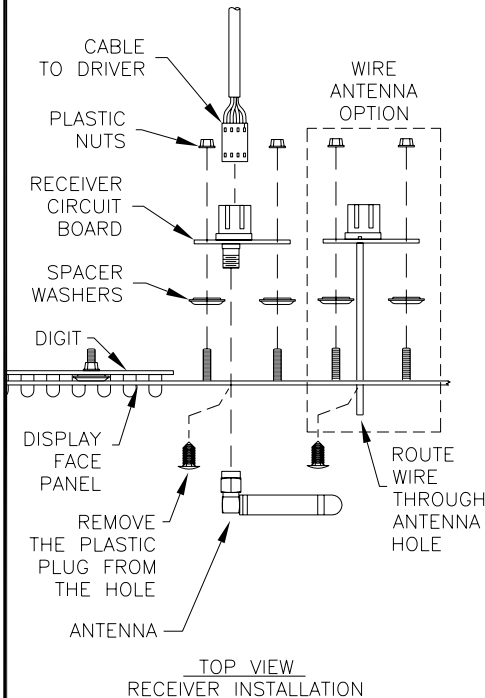
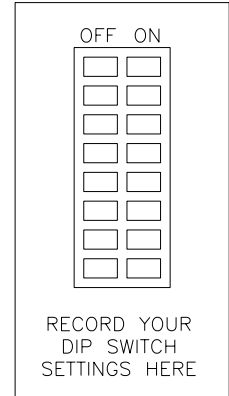
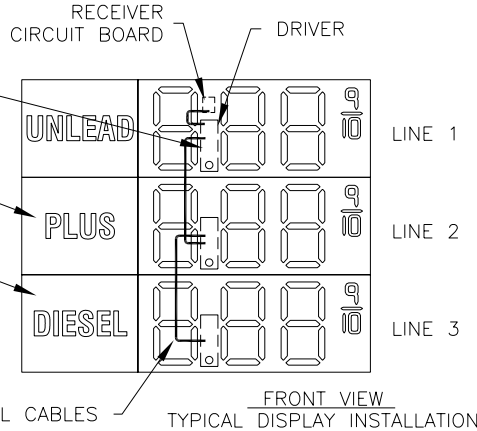
SET THE DIP SWITCH ON THIS DRIVER TO MATCH THE RC-50 DIP SWITCH. THIS DISPLAY WILL OPERATE AS LINE 1.

SET DRIVER DIP SWITCH TO SIGN 1 LINE 2

SET DRIVER DIP SWITCH TO SIGN 1 LINE 3

SEE DRAWING 1356-R10B-256001 FOR INFORMATION ON SETTING DRIVER DIP SWITCHES.

FOR A 2-SIDED SIGN, SET ADDRESS FOR ONE SIDE AS SIGN 1, AND USE SIGN 2 FOR THE OTHER SIDE.



TOP VIEW
RECEIVER INSTALLATION

1. SET THE FIRST 8 SWITCHES OF THE RC-50 DIP SWITCH TO A UNIQUE RANDOM SETTING. RECORD YOUR SETTING FOR FUTURE REFERENCE.

2. SET THE DIP SWITCH ON THE DRIVER THAT WILL BE CONNECTED TO THE RECEIVER, USING THE SAME SETTING AS THE 8 RC-50 SWITCHES.

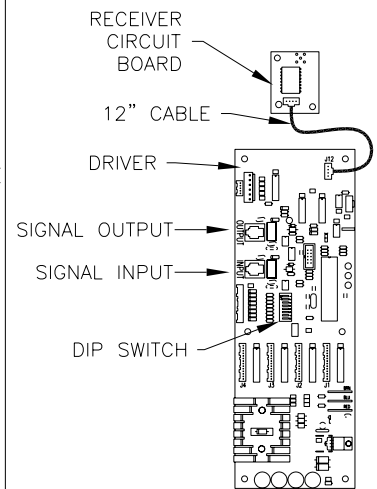
3. MOUNT THE RECEIVER CIRCUIT BOARD IN THE DISPLAY, AS SHOWN AT LEFT. ROUTE WIRE THROUGH ANTENNA HOLE IN DISPLAY FACE PLATE FOR WIRE ANTENNA OPTION.

4. CONNECT SIGNAL CABLE FROM OUTPUT ON THAT DRIVER TO INPUT ON THE NEXT DRIVER. CONTINUE CONNECTING FROM OUTPUT TO INPUT UNTIL ALL DRIVERS ARE CONNECTED.

5. SET THE DIP SWITCHES ON THE OTHER DRIVERS TO BE LINE 2, LINE 3, ETC. SEE DRAWING 1356-R10B-256001 FOR INFORMATION ON SETTING DRIVER DIP SWITCHES.

6. POWER UP THE SIGN AND OPERATE THE RC-50 CONTROLLER. LINE 1 WILL OPERATE THE DISPLAY WITH THE RECEIVER, ALONG WITH ANY OTHER DISPLAY THAT IS SET TO LINE 1.

7. PRESS AND HOLD ANY KEY ON THE RC-50 FOR 5 SECONDS. THE DECIMAL ON THE DISPLAY WILL FLASH. PRESS [-] OR [+] TO DECREASE OR INCREASE THE PRICE BY 1 CENT.



REAR VIEW
RECEIVER AND DRIVER

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DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: GAS PRICE DISPLAYS

TITLE: RC-50 QUICK INSTALL GUIDE

DES. BY: KBIERBA

DRAWN BY: KBIERBA

DATE: 11 NOV 05

REVISION

APPR. BY:

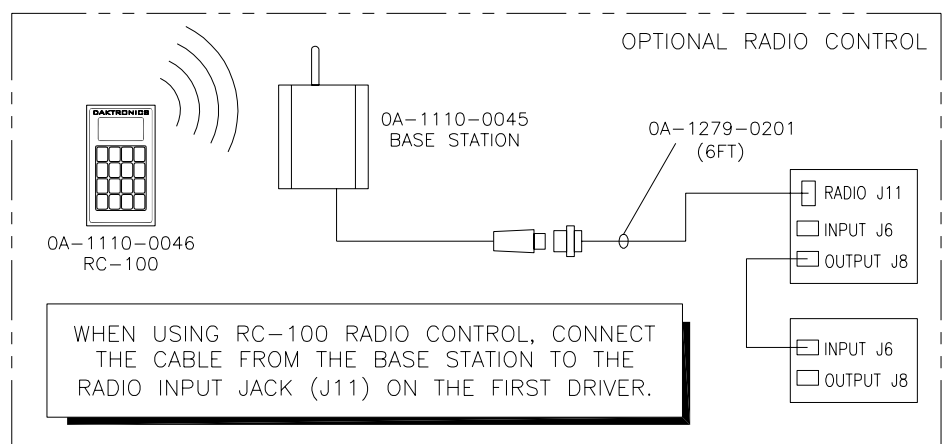
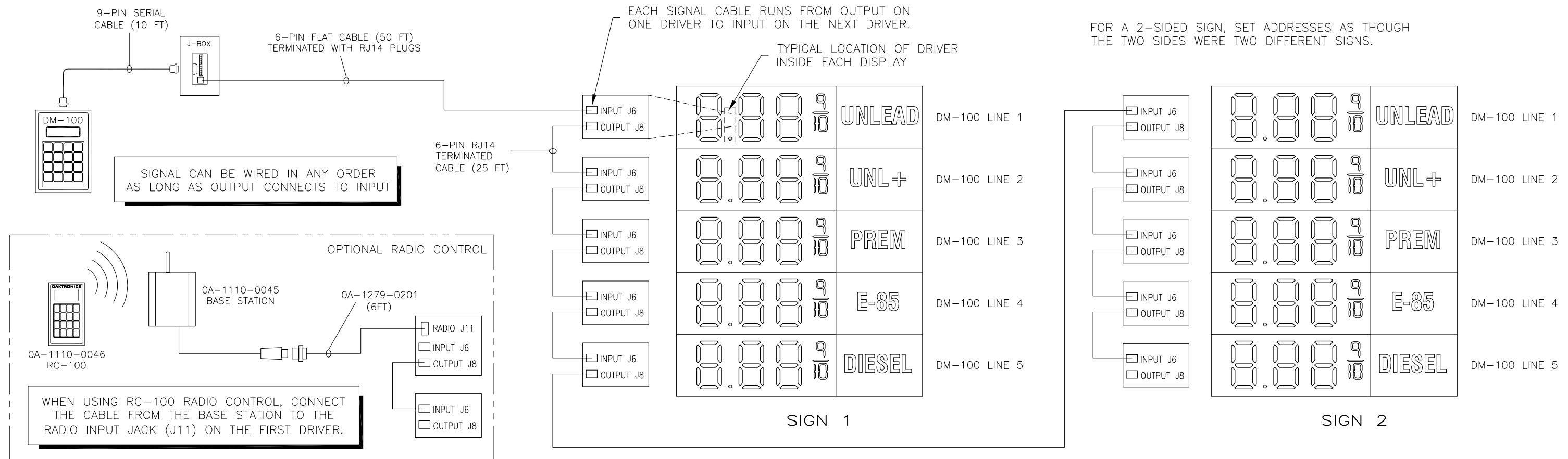
02

SCALE:

NONE

1356-R10A-257189

REV.	DATE	DESCRIPTION	BY	APPR.
02	21 JUL 06	ADDED DETAIL TO SHOW WIRE ANTENNA OPTION ADDED TEXT TO INSTALLATION INSTRUCTIONS	DJU	
01	08 JUN 06	CHANGED DIP SWITCH FIGURE TO SHOW 10 POSITION SWITCH WITH THE FIRST EIGHT BEING USED.	AVB	



LINE NUMBER

SET LINE NUMBER USING ONE-OFFSET BINARY NOTATION.

LINE	LINE_BIT0	LINE_BIT1	LINE_BIT2	SWITCH 1	SWITCH 2	SWITCH 3
LINE 1	OFF	OFF	OFF	SWITCH 1	SWITCH 2	SWITCH 3
LINE 2	ON	OFF	OFF	SWITCH 1	SWITCH 2	SWITCH 3
LINE 3	OFF	ON	OFF	SWITCH 1	SWITCH 2	SWITCH 3
LINE 4	ON	ON	OFF	SWITCH 1	SWITCH 2	SWITCH 3
LINE 5	OFF	OFF	ON	SWITCH 1	SWITCH 2	SWITCH 3
LINE 6	ON	OFF	ON	SWITCH 1	SWITCH 2	SWITCH 3
LINE 7	OFF	ON	ON	SWITCH 1	SWITCH 2	SWITCH 3
LINE 8	ON	ON	ON	SWITCH 1	SWITCH 2	SWITCH 3

SIGN NUMBER

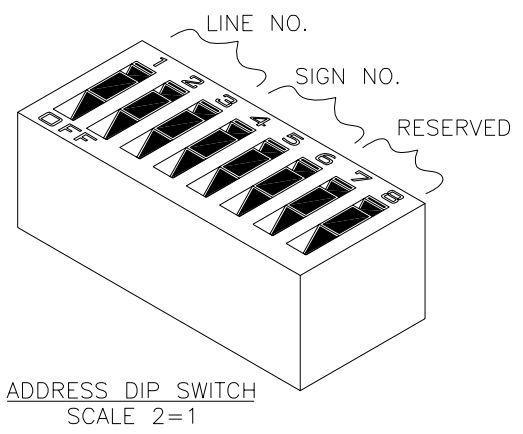
SET SIGN NUMBER USING ONE-OFFSET BINARY NOTATION.

SIGN	SIGN_BIT0	SIGN_BIT1	SIGN_BIT2	SWITCH 4	SWITCH 5	SWITCH 6
SIGN 1	OFF	OFF	OFF	SWITCH 4	SWITCH 5	SWITCH 6
SIGN 2	ON	OFF	OFF	SWITCH 4	SWITCH 5	SWITCH 6
SIGN 3	OFF	ON	OFF	SWITCH 4	SWITCH 5	SWITCH 6
SIGN 4	ON	ON	OFF	SWITCH 4	SWITCH 5	SWITCH 6
SIGN 5	OFF	OFF	ON	SWITCH 4	SWITCH 5	SWITCH 6
SIGN 6	ON	OFF	ON	SWITCH 4	SWITCH 5	SWITCH 6
SIGN 7	OFF	ON	ON	SWITCH 4	SWITCH 5	SWITCH 6
SIGN 8	ON	ON	ON	SWITCH 4	SWITCH 5	SWITCH 6

RESERVED

OFF	RESERVED	SWITCH 7
OFF	RESERVED	SWITCH 8

LEAVE RESERVED SWITCHES "OFF"



NOTES:

EVERY DRIVER MUST HAVE A UNIQUE ADDRESS.

THE ADDRESS IS SET BY FLIPPING THE SWITCHES IN AN 8 POSITION "DIP" SWITCH ON THE DRIVER, LOCATED IN EACH DISPLAY. A TYPICAL DRIVER IS SHOWN AT RIGHT.

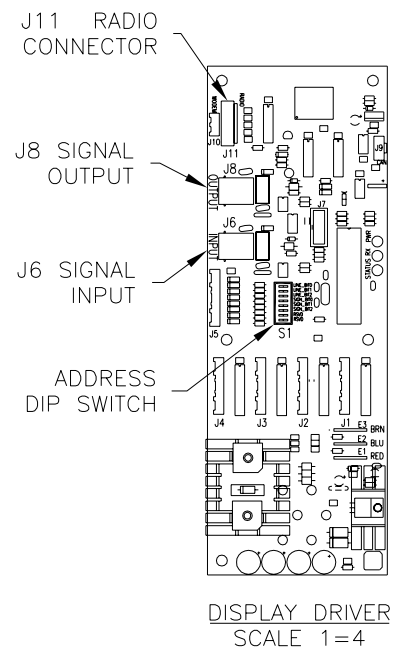
THE DIP SWITCH IS SHOWN AT LEFT. ALL SWITCHES ARE SHOWN IN THE OFF POSITION IN THIS FIGURE.

THREE SWITCHES ARE USED TO SET THE LINE NUMBER, AND THREE SET THE SIGN NUMBER. TWO SWITCHES ARE NOT USED.

ADDRESSES ALLOW UP TO EIGHT SIGNS WITH UP TO EIGHT LINES EACH.

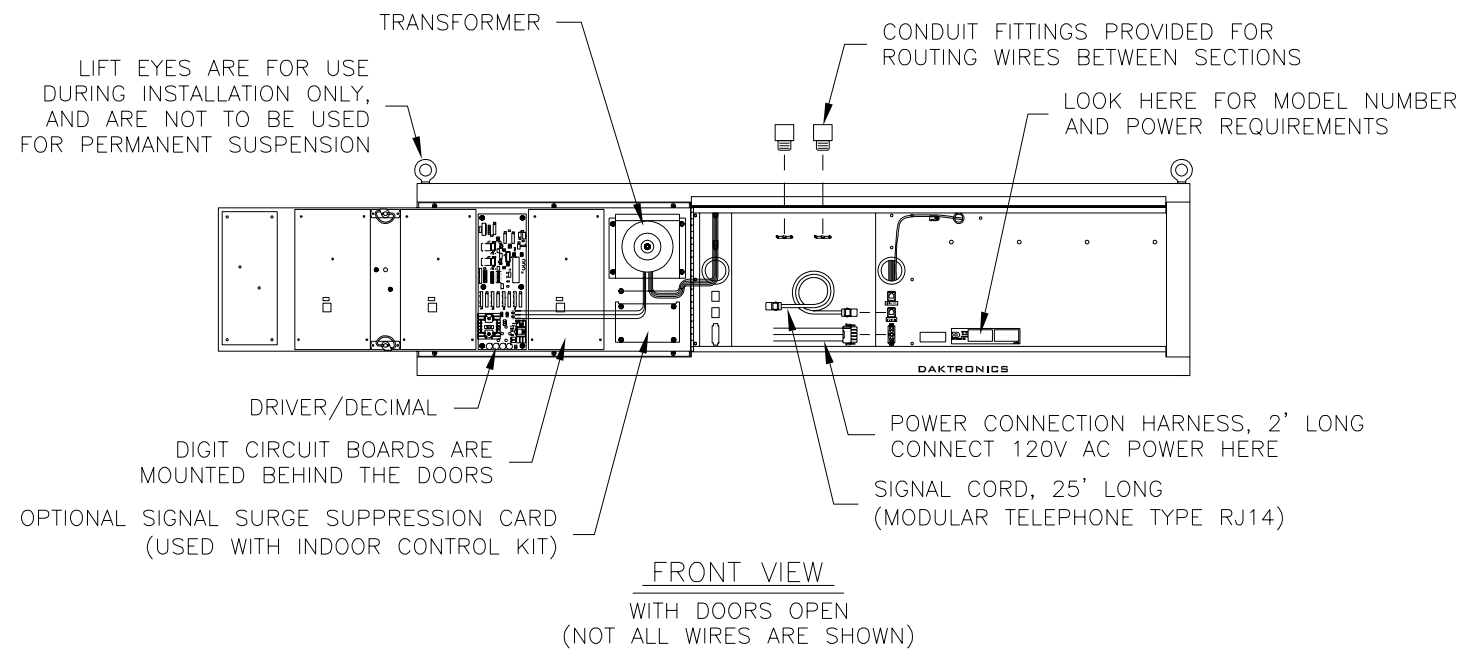
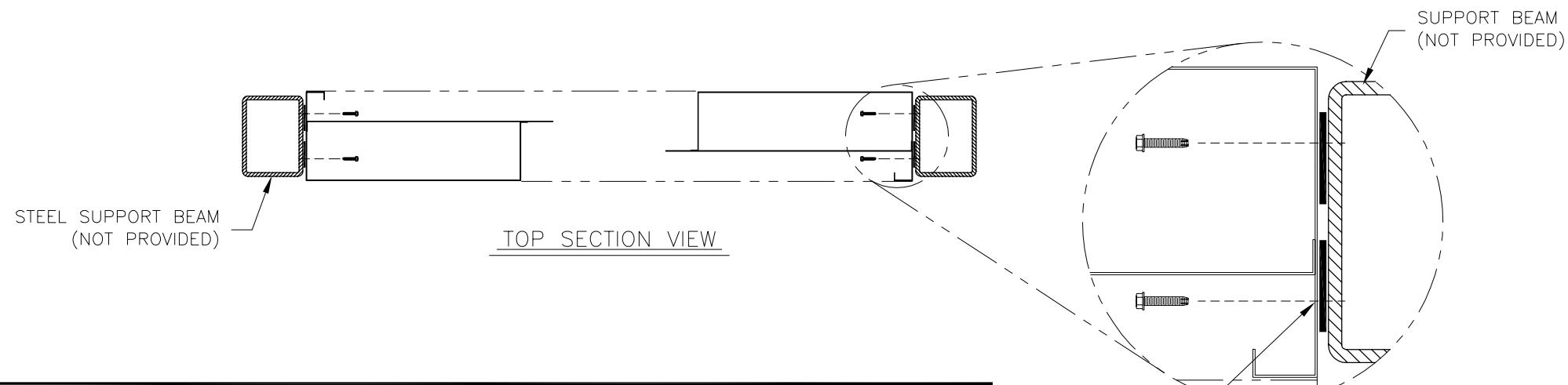
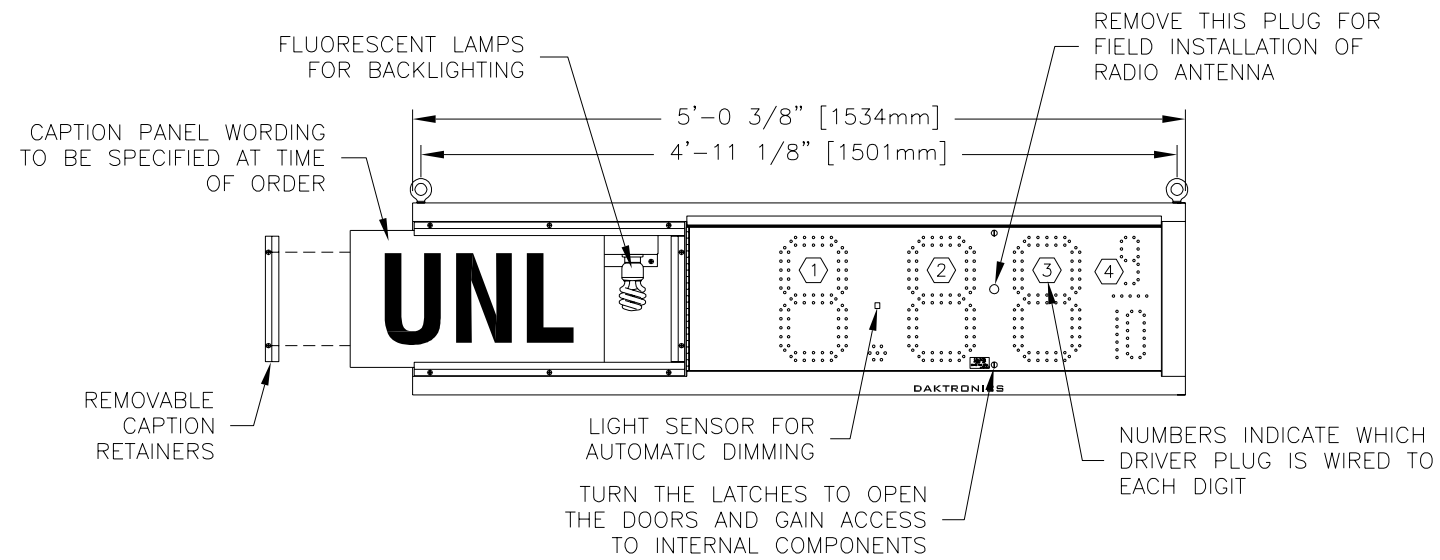
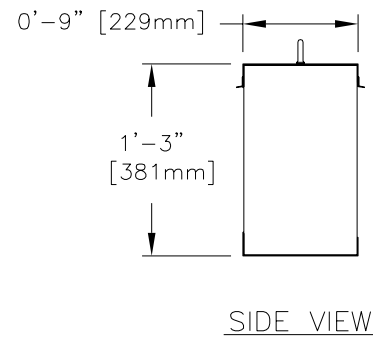
ALL DISPLAYS WITH THE SAME LINE NUMBER WILL SHOW THE SAME PRICE.

FOR A 2-SIDED SIGN, SET ADDRESSES AS THOUGH THE TWO SIDES WERE TWO DIFFERENT SIGNS.



REV.	DATE	DESCRIPTION	BY	APPR.
03	09 JUN 06	ADDED NOTE ABOUT ADDRESSING 2-SIDED SIGNS.	AVB	
02	09 FEB 06	ADDED FIGURE FOR OPTIONAL RADIO CONTROL.	AVB	
01	28 DEC 05	ADDED DRIVER FIGURE. ADDED SOME NOTES.	AVB	

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DAKTRONICS, INC. BROOKINGS, SD 57006	
PROJ: GAS PRICE DISPLAYS	
TITLE: ADDRESS DIP SWITCH SETTINGS	
DES. BY: THENDRI	DATE: 27 SEP 05
REVISION	APPR. BY:
03	SCALE: NONE
1356-R10B-256001	



GENERAL

THIS IS A DOUBLE FACED DISPLAY. IT WILL LOOK THE SAME ON BOTH SIDES. THE SIDE THAT THE POWER/SIGNAL CONNECTIONS CAN BE MADE FROM IS DESIGNATED AS THE FRONT.

DIGITS ARE 10" NOMINAL HEIGHT. DIGIT LEDS MAY BE RED, AMBER, OR GREEN; TO BE SPECIFIED AT TIME OF ORDER.

MECHANICAL

CABINET IS CONSTRUCTED OF ALUMINUM SHEET, 0.063" THICK.

ESTIMATED WEIGHT IS ABOUT 45 LBS [20 KG].

IF THE EYEBOLTS ARE TO BE REMOVED AFTER INSTALLATION, PLUG THE HOLES BY THREADING IN 3/8"-16 BOLTS, NOT PROVIDED.

DRILL THROUGH THE SIDES OF THE CABINET TO ATTACH THE DISPLAY TO BASE STRUCTURE USING APPROPRIATE HARDWARE FOR THE SITE CONDITIONS.

DAKTRONICS IS NOT RESPONSIBLE FOR THE MOUNTING STRUCTURE OR FOR THE ADEQUACY OF ATTACHMENT TO THE STRUCTURE. STRUCTURE AND ATTACHMENT MUST CONFORM TO ALL APPLICABLE BUILDING CODES.

ELECTRICAL

MAXIMUM POWER DEMAND IS 240 WATTS.

PROVIDE A 120V AC, 15 AMP CIRCUIT FOR POWER.

CONTROL CONNECTION REQUIRES TWO-PAIR CABLE, 22 AWG.

IF THE POWER TO THE DISPLAY IS TEMPORARILY DISRUPTED, DISPLAY FUNCTIONS WILL BE RETAINED IN MEMORY TO CONTINUE OPERATION WHEN POWER IS RESTORED.

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 2005 DAKTRONICS, INC.

DAKTRONICS, INC. BROOKINGS, SD 57006

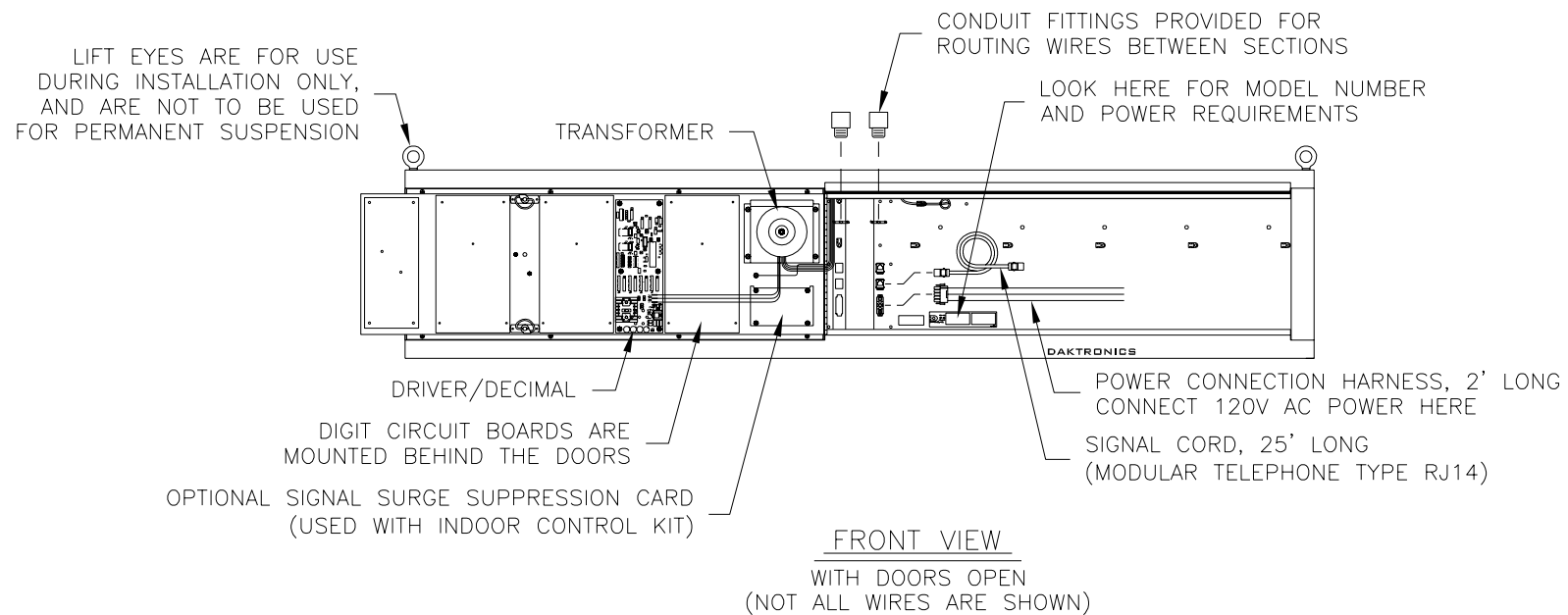
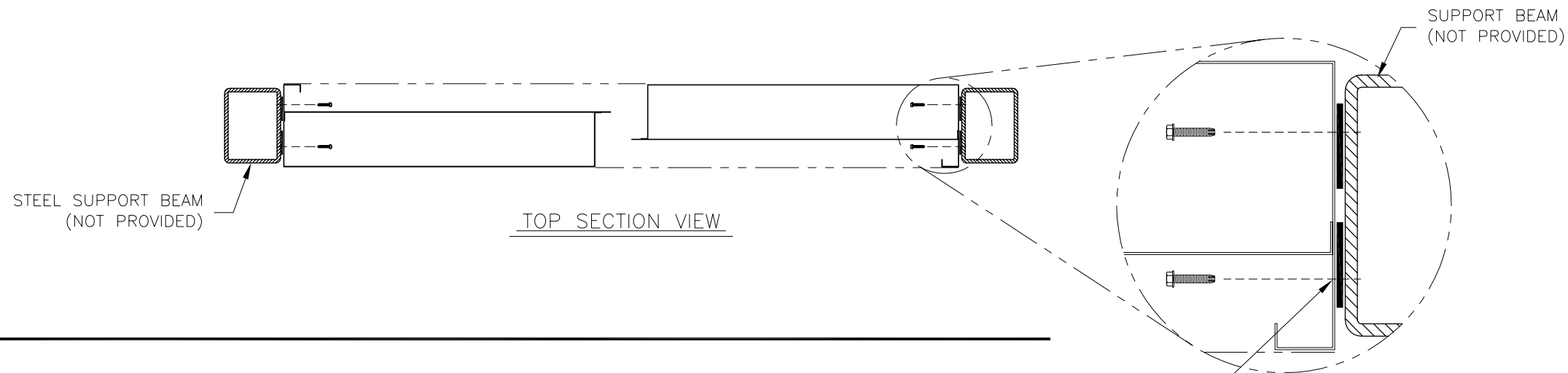
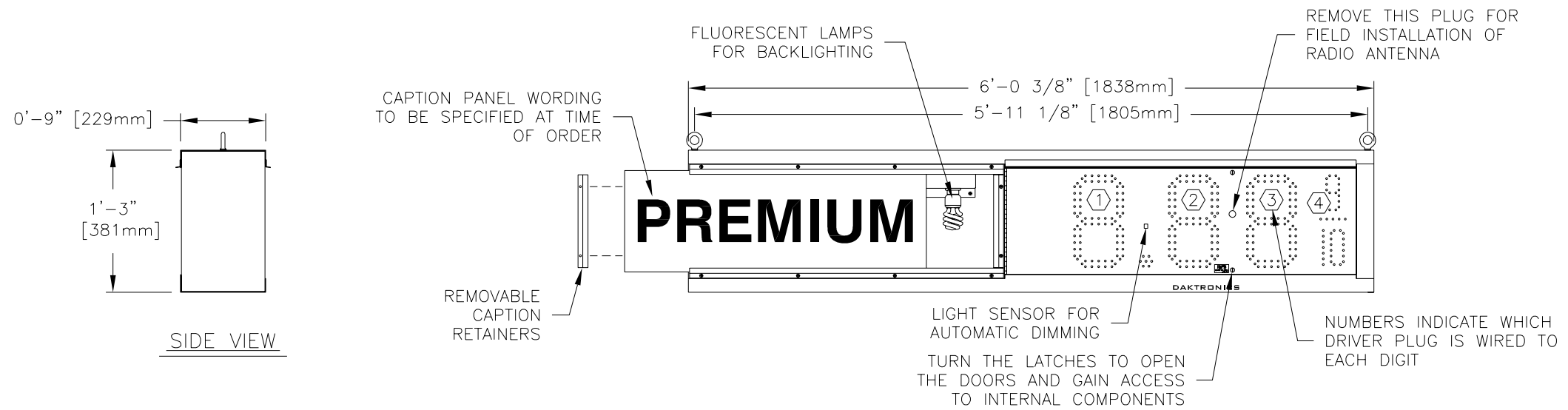
PROJ: GAS PRICE DISPLAYS

TITLE: SHOP DRAWING, DF-2100-10-L5-DF

DES. BY: DRAWN BY: M LEOPOLD DATE: 06 FEB 07

REVISION 00 APPR. BY: SCALE: 1=15 1356-R04B-296470

REV.	DATE	DESCRIPTION	BY	APPR.



GENERAL

THIS IS A DOUBLE FACED DISPLAY. IT WILL LOOK THE SAME ON BOTH SIDES. THE SIDE THAT THE POWER/SIGNAL CONNECTIONS CAN BE MADE FROM IS DESIGNATED AS THE FRONT.

DIGITS ARE 10" NOMINAL HEIGHT. DIGIT LEDS MAY BE RED, AMBER, OR GREEN; TO BE SPECIFIED AT TIME OF ORDER.

MECHANICAL

CABINET IS CONSTRUCTED OF ALUMINUM SHEET, 0.063" THICK.

ESTIMATED WEIGHT IS ABOUT 50 LBS [23 KG].

IF THE EYEBOLTS ARE TO BE REMOVED AFTER INSTALLATION, PLUG THE HOLES BY THREADING IN 3/8"-16 BOLTS, NOT PROVIDED.

DRILL THROUGH THE SIDES OF THE CABINET TO ATTACH THE DISPLAY TO BASE STRUCTURE USING APPROPRIATE HARDWARE FOR THE SITE CONDITIONS.

DAKTRONICS IS NOT RESPONSIBLE FOR THE MOUNTING STRUCTURE OR FOR THE ADEQUACY OF ATTACHMENT TO THE STRUCTURE. STRUCTURE AND ATTACHMENT MUST CONFORM TO ALL APPLICABLE BUILDING CODES.

ELECTRICAL

MAXIMUM POWER DEMAND IS 240 WATTS.

PROVIDE A 120V AC, 15 AMP CIRCUIT FOR POWER.

CONTROL CONNECTION REQUIRES TWO-PAIR CABLE, 22 AWG.

IF THE POWER TO THE DISPLAY IS TEMPORARILY DISRUPTED, DISPLAY FUNCTIONS WILL BE RETAINED IN MEMORY TO CONTINUE OPERATION WHEN POWER IS RESTORED.

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 2007 DAKTRONICS, INC.

DAKTRONICS, INC. BROOKINGS, SD 57006

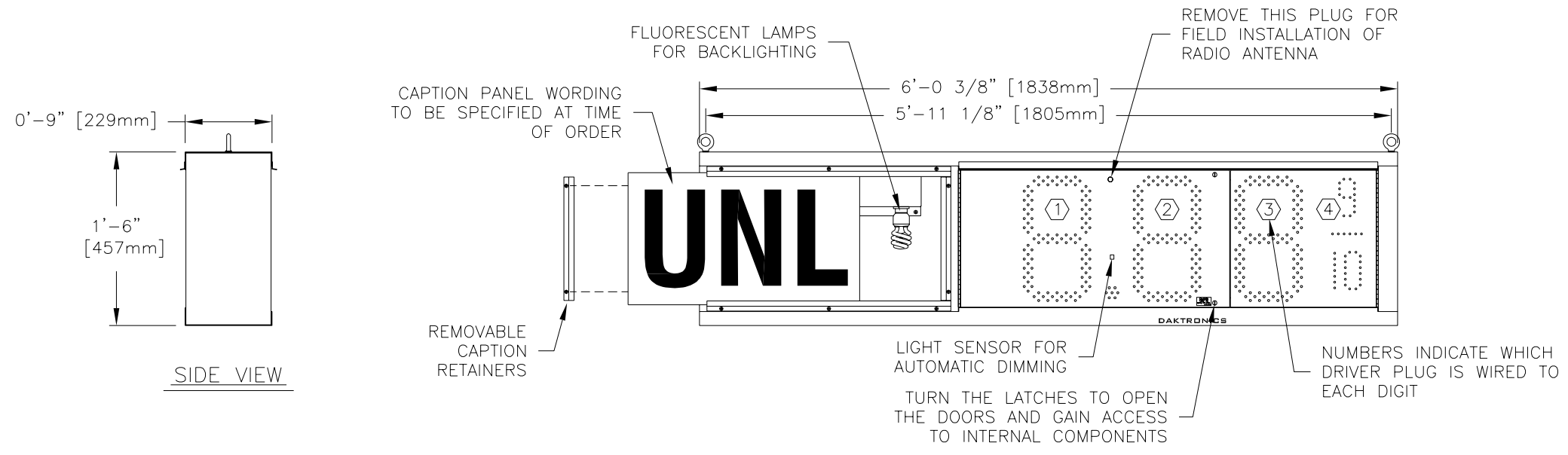
PROJ: GAS PRICE DISPLAYS

TITLE: SHOP DRAWING, DF-2100-10-L6-DF

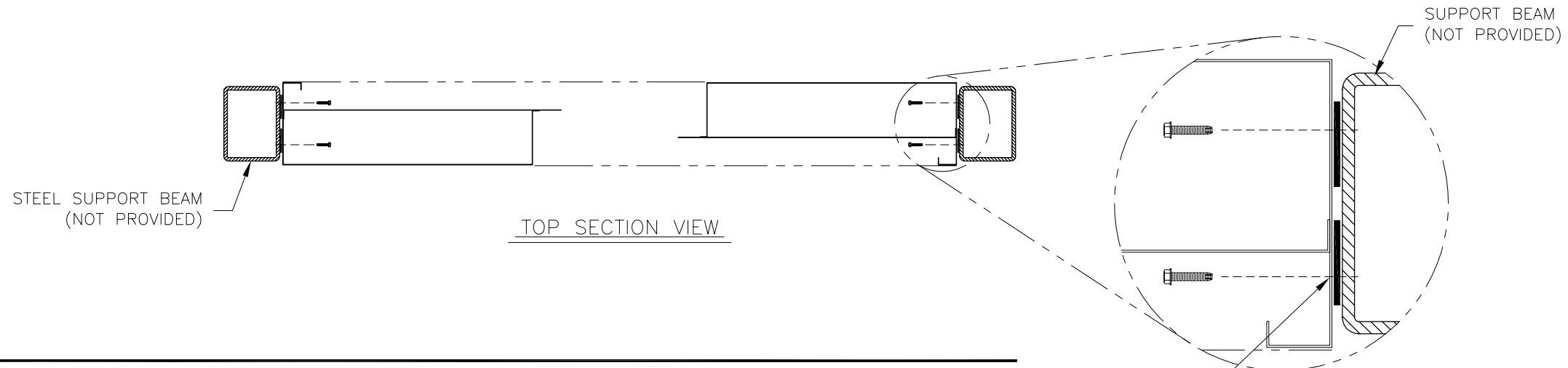
DES. BY: DRAWN BY: M LEOPOLD DATE: 15 FEB 07

REVISION 00 APPR. BY: SCALE: 1=15 1356-R04B-297200

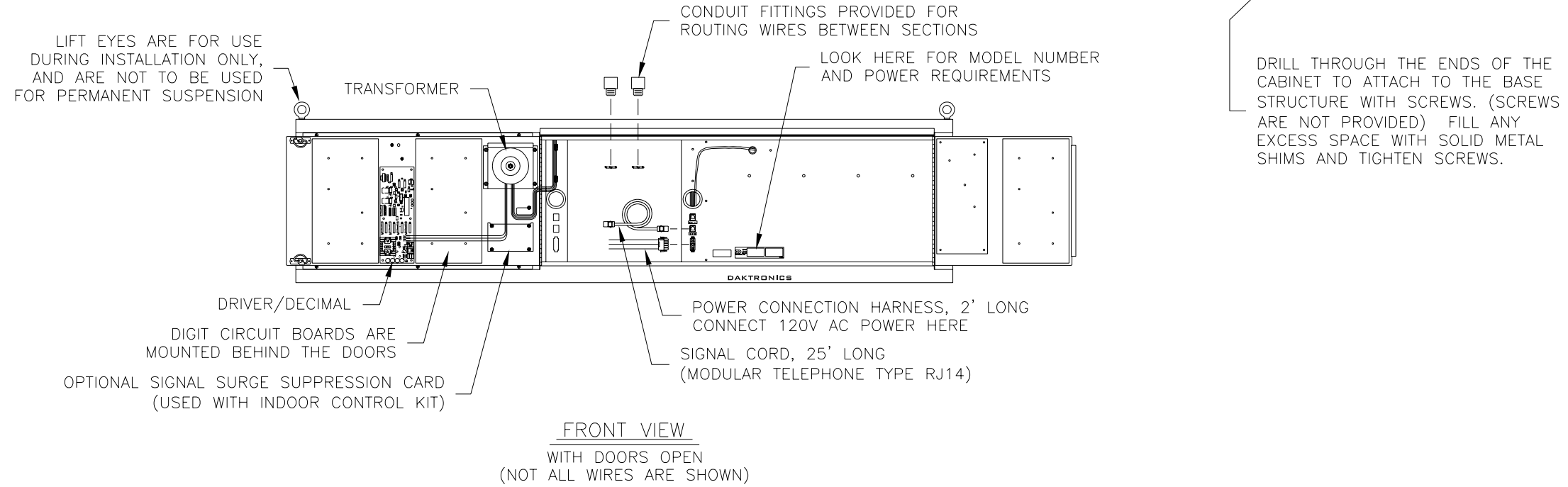
REV.	DATE	DESCRIPTION	BY	APPR.



SIDE VIEW



TOP SECTION VIEW



FRONT VIEW
WITH DOORS OPEN
(NOT ALL WIRES ARE SHOWN)

NOTES:

GENERAL

THIS IS A DOUBLE FACED DISPLAY. IT WILL LOOK THE SAME ON BOTH SIDES. THE SIDE THAT THE POWER/SIGNAL CONNECTIONS CAN BE MADE FROM IS DESIGNATED AS THE FRONT.

DIGITS ARE 13" NOMINAL HEIGHT. THE 9/10 DIGIT IS 12" NOMINAL HEIGHT. DIGIT LEDS MAY BE RED, AMBER, OR GREEN; TO BE SPECIFIED AT TIME OF ORDER.

MECHANICAL

CABINET IS CONSTRUCTED OF ALUMINUM SHEET, 0.063" THICK.

ESTIMATED WEIGHT IS ABOUT 55 LBS [25 KG].

IF THE EYEBOLTS ARE TO BE REMOVED AFTER INSTALLATION, PLUG THE HOLES BY THREADING IN 3/8"-16 BOLTS, NOT PROVIDED.

DRILL THROUGH THE SIDES OF THE CABINET TO ATTACH THE DISPLAY TO BASE STRUCTURE USING APPROPRIATE HARDWARE FOR THE SITE CONDITIONS.

DAKTRONICS IS NOT RESPONSIBLE FOR THE MOUNTING STRUCTURE OR FOR THE ADEQUACY OF ATTACHMENT TO THE STRUCTURE. STRUCTURE AND ATTACHMENT MUST CONFORM TO ALL APPLICABLE BUILDING CODES.

ELECTRICAL

MAXIMUM POWER DEMAND IS 240 WATTS.

PROVIDE A 120V AC, 15 AMP CIRCUIT FOR POWER.

CONTROL CONNECTION REQUIRES TWO-PAIR CABLE, 22 AWG.

IF THE POWER TO THE DISPLAY IS TEMPORARILY DISRUPTED, DISPLAY FUNCTIONS WILL BE RETAINED IN MEMORY TO CONTINUE OPERATION WHEN POWER IS RESTORED.

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

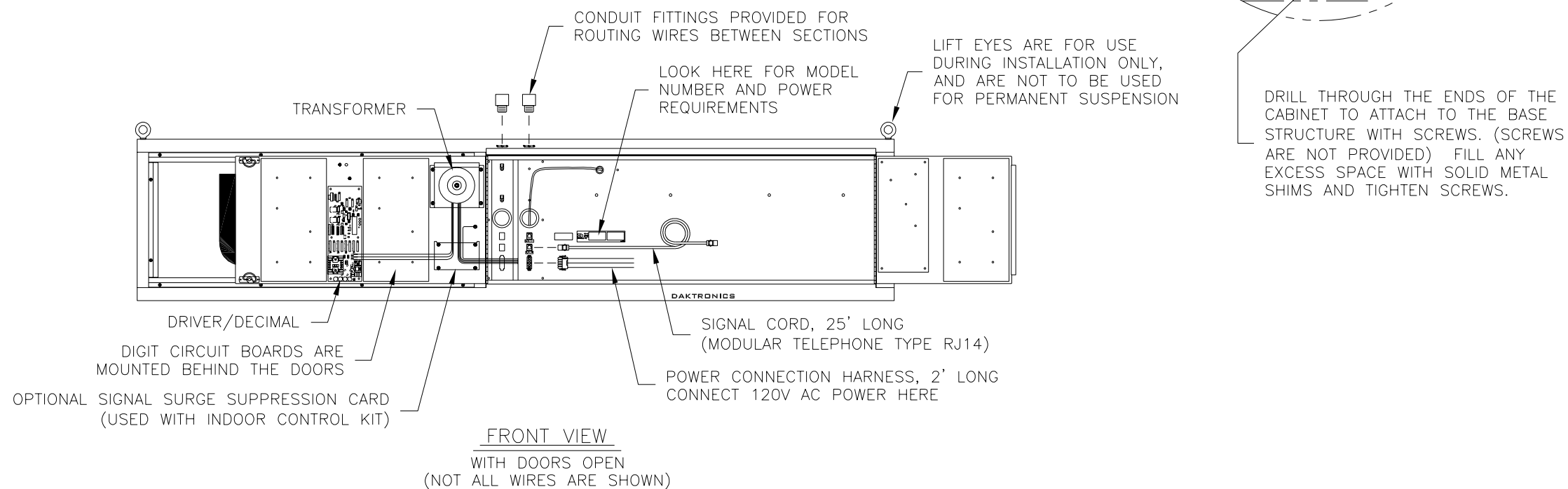
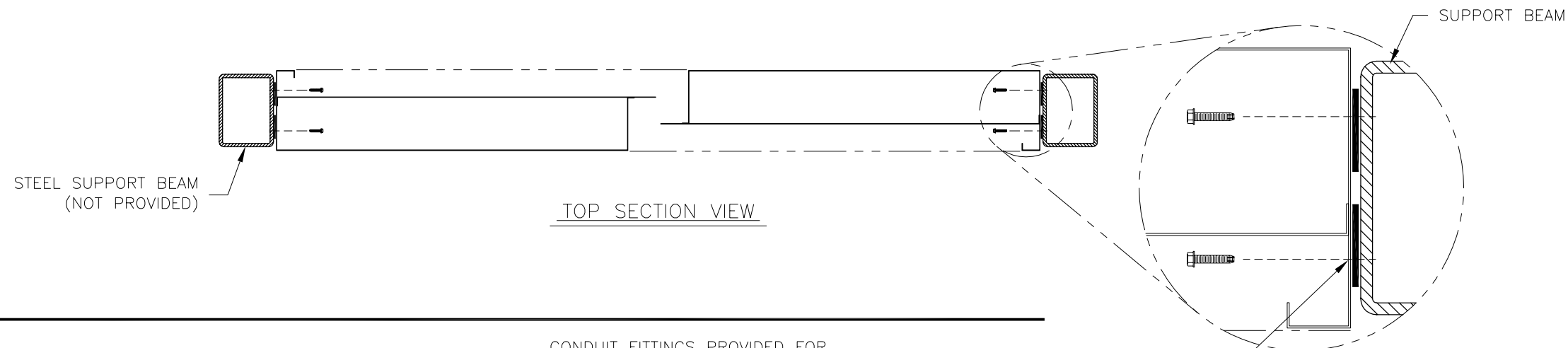
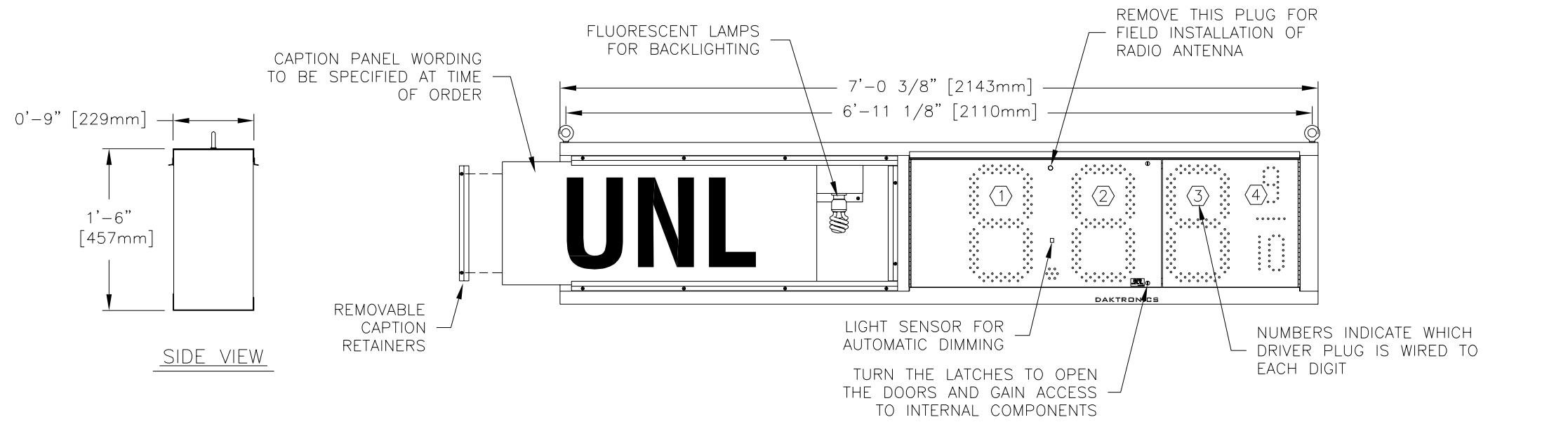
PROJ: GAS PRICE DISPLAYS

TITLE: SHOP DRAWING, DF-2100-13-L6-DF

DES. BY: DRAWN BY: M LEOPOLD DATE: 31 JAN 07

REVISION 00 APPR. BY: SCALE: 1=15 1356-R04B-295992

REV.	DATE	DESCRIPTION	BY	APPR.



NOTES:

GENERAL

THIS IS A DOUBLE FACED DISPLAY. IT WILL LOOK THE SAME ON BOTH SIDES. THE SIDE THAT THE POWER/SIGNAL CONNECTIONS CAN BE MADE FROM IS DESIGNATED AS THE FRONT.

DIGITS ARE 13" NOMINAL HEIGHT. THE 9/10 DIGIT IS 12" NOMINAL HEIGHT. DIGIT LEDS MAY BE RED, AMBER, OR GREEN; TO BE SPECIFIED AT TIME OF ORDER.

MECHANICAL

CABINET IS CONSTRUCTED OF ALUMINUM SHEET, 0.063" THICK.

ESTIMATED WEIGHT IS ABOUT 60 LBS [27 KG].

IF THE EYEBOLTS ARE TO BE REMOVED AFTER INSTALLATION, PLUG THE HOLES BY THREADING IN 3/8"-16 BOLTS, NOT PROVIDED.

DRILL THROUGH THE SIDES OF THE CABINET TO ATTACH THE DISPLAY TO BASE STRUCTURE USING APPROPRIATE HARDWARE FOR THE SITE CONDITIONS.

DAKTRONICS IS NOT RESPONSIBLE FOR THE MOUNTING STRUCTURE OR FOR THE ADEQUACY OF ATTACHMENT TO THE STRUCTURE. STRUCTURE AND ATTACHMENT MUST CONFORM TO ALL APPLICABLE BUILDING CODES.

ELECTRICAL

MAXIMUM POWER DEMAND IS 270 WATTS.

PROVIDE A 120V AC, 15 AMP CIRCUIT FOR POWER.

CONTROL CONNECTION REQUIRES TWO-PAIR CABLE, 22 AWG.

IF THE POWER TO THE DISPLAY IS TEMPORARILY DISRUPTED, DISPLAY FUNCTIONS WILL BE RETAINED IN MEMORY TO CONTINUE OPERATION WHEN POWER IS RESTORED.

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

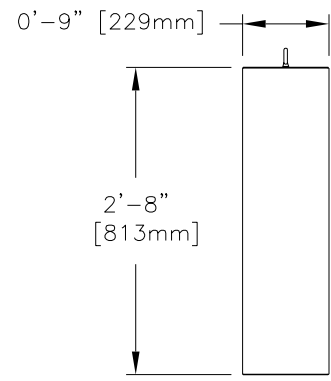
PROJ: GAS PRICE DISPLAYS

TITLE: SHOP DRAWING, DF-2100-13-L7-DF

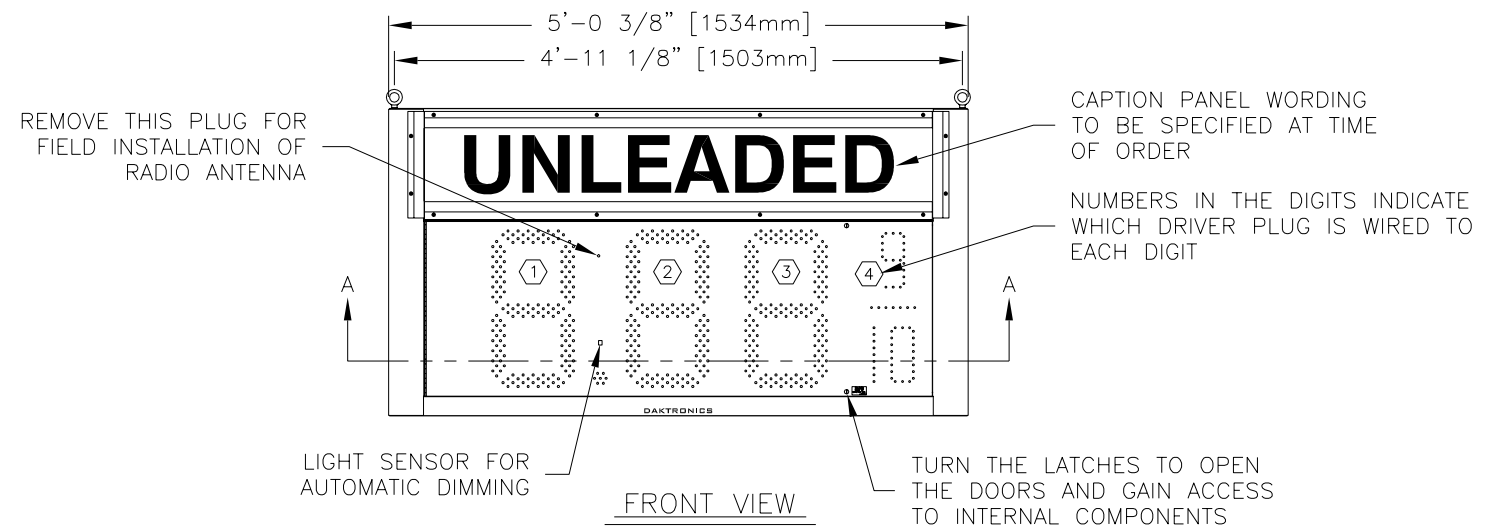
DES. BY: DRAWN BY: M LEOPOLD DATE: 06 FEB 07

REVISION 00 APPR. BY: SCALE: 1=15 1356-R04B-296379

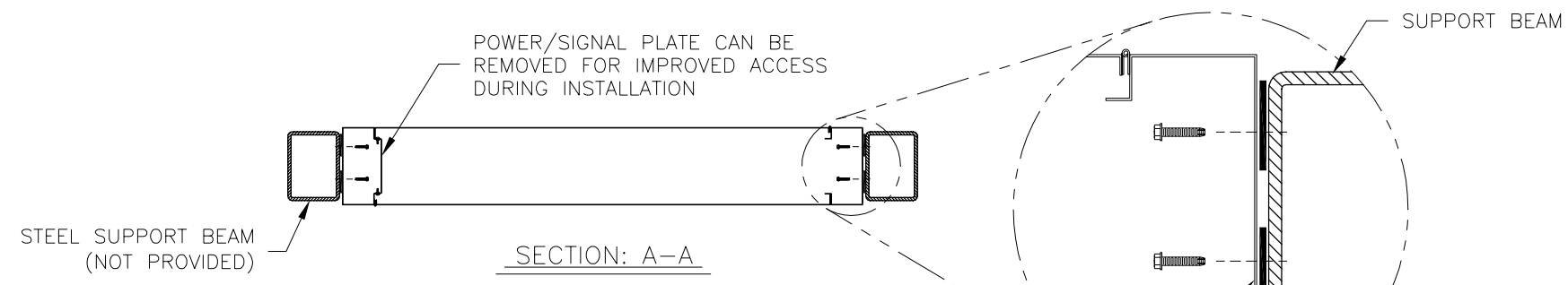
REV.	DATE	DESCRIPTION	BY	APPR.



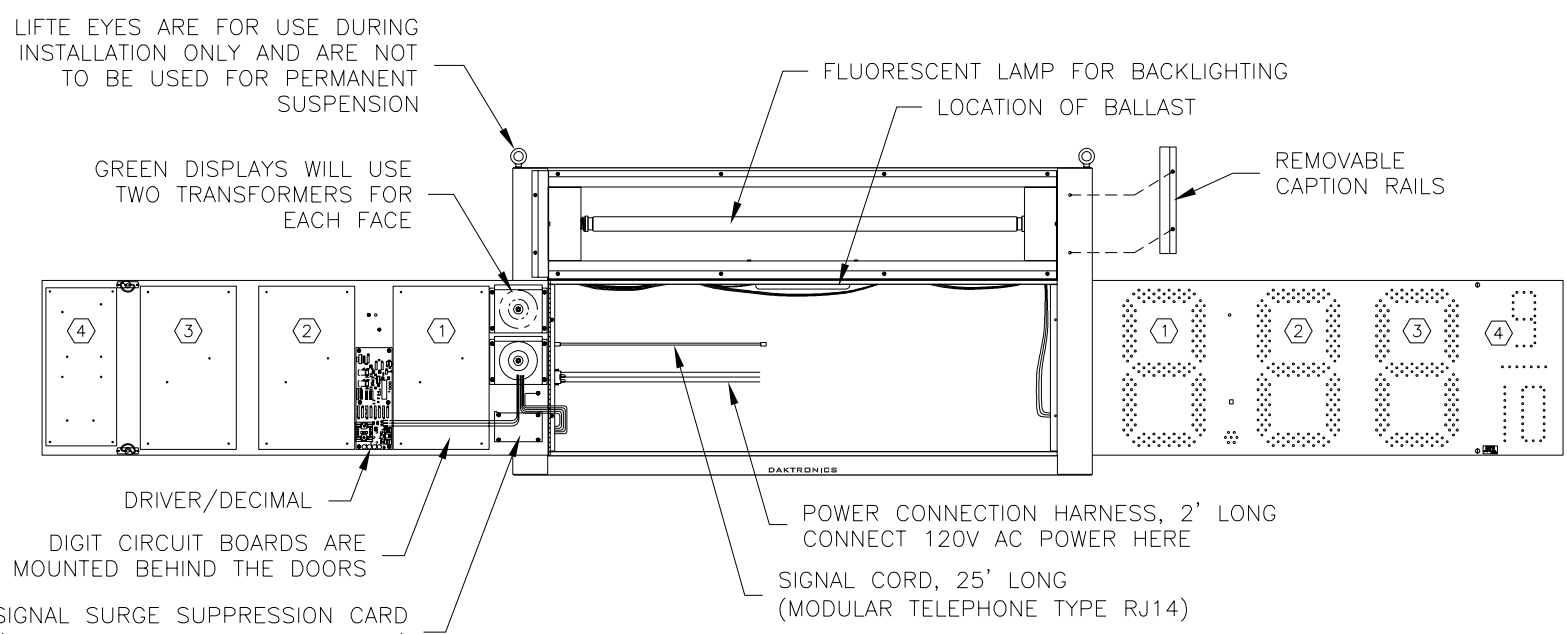
SIDE VIEW



FRONT VIEW



SECTION: A-A



FRONT VIEW
(NOT ALL WIRES ARE SHOWN)

DRILL THROUGH THE ENDS OF THE CABINET TO ATTACH TO THE BASE STRUCTURE WITH SCREWS. (SCREWS ARE NOT PROVIDED) FILL ANY EXCESS SPACE WITH SOLID METAL SHIMS AND TIGHTEN SCREWS.

NOTES:

GENERAL

THIS IS A DOUBLE FACED DISPLAY. IT WILL LOOK THE SAME ON BOTH SIDES. THE POWER/SIGNAL CONNECTION PLATE WILL BE ON THE LEFT WHEN VIEWING THE DISPLAY FROM THE FRONT.

DIGITS ARE 18" NOMINAL HEIGHT. THE 9/10 DIGIT IS 16" NOMINAL HEIGHT. DIGIT LEDS MAY BE RED, AMBER, OR GREEN; TO BE SPECIFIED AT TIME OF ORDER.

MECHANICAL

CABINET IS CONSTRUCTED OF ALUMINUM SHEET, 0.063" THICK.

ESTIMATED WEIGHT IS ABOUT 100 LB [45 KG].

IF THE EYEBOLTS ARE TO BE REMOVED AFTER INSTALLATION, PLUG HOLES BY THREADING IN 3/8"-16 BOLTS, NOT PROVIDED.

DRILL THROUGH THE SIDES OF THE CABINET TO ATTACH THE DISPLAY TO BASE STRUCTURE USING APPROPRIATE HARDWARE FOR THE SITE CONDITIONS.

DAKTRONICS IS NOT RESPONSIBLE FOR THE MOUNTING STRUCTURE OR FOR THE ADEQUACY OF ATTACHMENT TO THE STRUCTURE. STRUCTURE AND ATTACHMENT MUST CONFORM TO ALL APPLICABLE BUILDING CODES.

ELECTRICAL

MAXIMUM POWER DEMAND IS 350 WATTS FOR DISPLAYS WITH RED OR AMBER DIGITS, OR 500 WATTS FOR DISPLAYS WITH GREEN DIGITS.

PROVIDE A 120V AC, 15 AMP CIRCUIT FOR POWER.

CONTROL CONNECTION REQUIRES TWO-PAIR CABLE, 22 AWG.

IF THE POWER TO THE DISPLAY IS TEMPORARILY INTERRUPTED, DISPLAY FUNCTIONS WILL BE RETAINED IN MEMORY TO CONTINUE OPERATION WHEN POWER IS RESTORED.

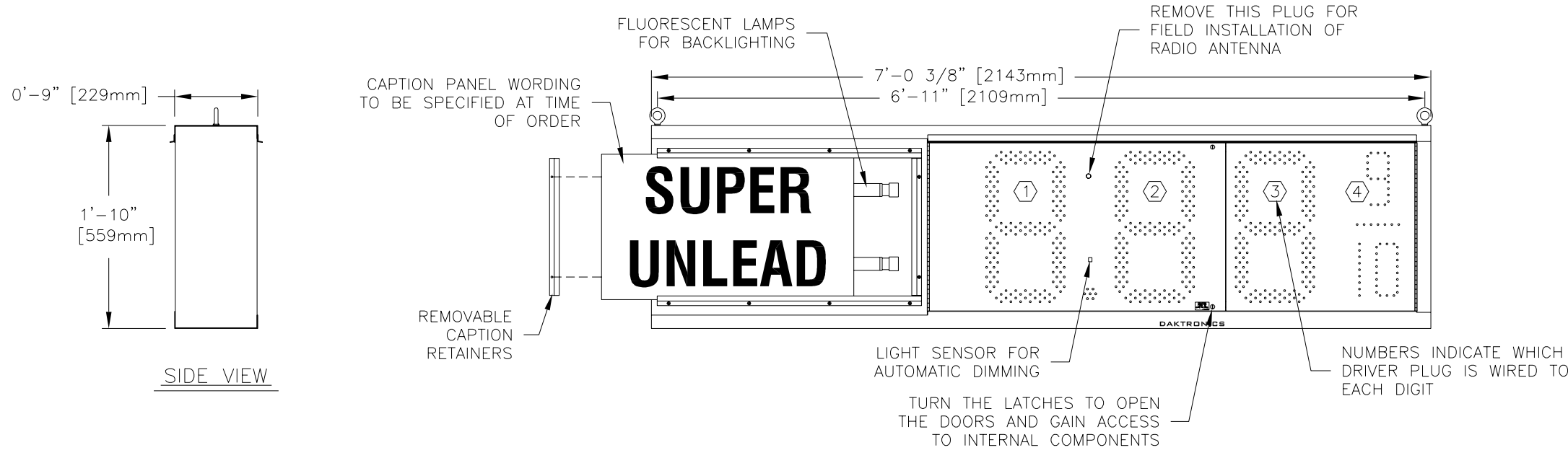
THE CONCEPTS EXPRESSED AND DETAILS SHOWN ON THIS DRAWING ARE CONFIDENTIAL AND PROPRIETARY. DO NOT REPRODUCE BY ANY MEANS, INCLUDING ELECTRONICALLY WITHOUT THE EXPRESSED WRITTEN CONSENT OF DAKTRONICS, INC. COPYRIGHT 2006 DAKTRONICS, INC.

DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: GAS PRICE DISPLAYS
 TITLE: SHOP DRAWING, DF-2100-18-T5-DF
 DES. BY: DRAWN BY: M LEOPOLD DATE: 13 APR 07

REVISION	APPR. BY:	1356-R04B-302327
00	SCALE: 1=20	

REV.	DATE	DESCRIPTION	BY	APPR.



GENERAL

THIS IS A DOUBLE FACED DISPLAY. IT WILL LOOK THE SAME ON BOTH SIDES. THE SIDE THAT THE POWER/SIGNAL CONNECTIONS CAN BE MADE FROM IS DESIGNATED AS THE FRONT.

DIGITS ARE 18" NOMINAL HEIGHT. THE 9/10 DIGIT IS 16" NOMINAL HEIGHT. DIGIT LEDS MAY BE RED, AMBER, OR GREEN; TO BE SPECIFIED AT TIME OF ORDER.

MECHANICAL

CABINET IS CONSTRUCTED OF ALUMINUM SHEET, 0.063" THICK.

ESTIMATED WEIGHT IS ABOUT 70 LBS [32 KG].

IF THE EYEBOLTS ARE TO BE REMOVED AFTER INSTALLATION, PLUG THE HOLES BY THREADING IN 3/8"-16 BOLTS, NOT PROVIDED.

DRILL THROUGH THE SIDES OF THE CABINET TO ATTACH THE DISPLAY TO BASE STRUCTURE USING APPROPRIATE HARDWARE FOR THE SITE CONDITIONS.

DAKTRONICS IS NOT RESPONSIBLE FOR THE MOUNTING STRUCTURE OR FOR THE ADEQUACY OF ATTACHMENT TO THE STRUCTURE. STRUCTURE AND ATTACHMENT MUST CONFORM TO ALL APPLICABLE BUILDING CODES.

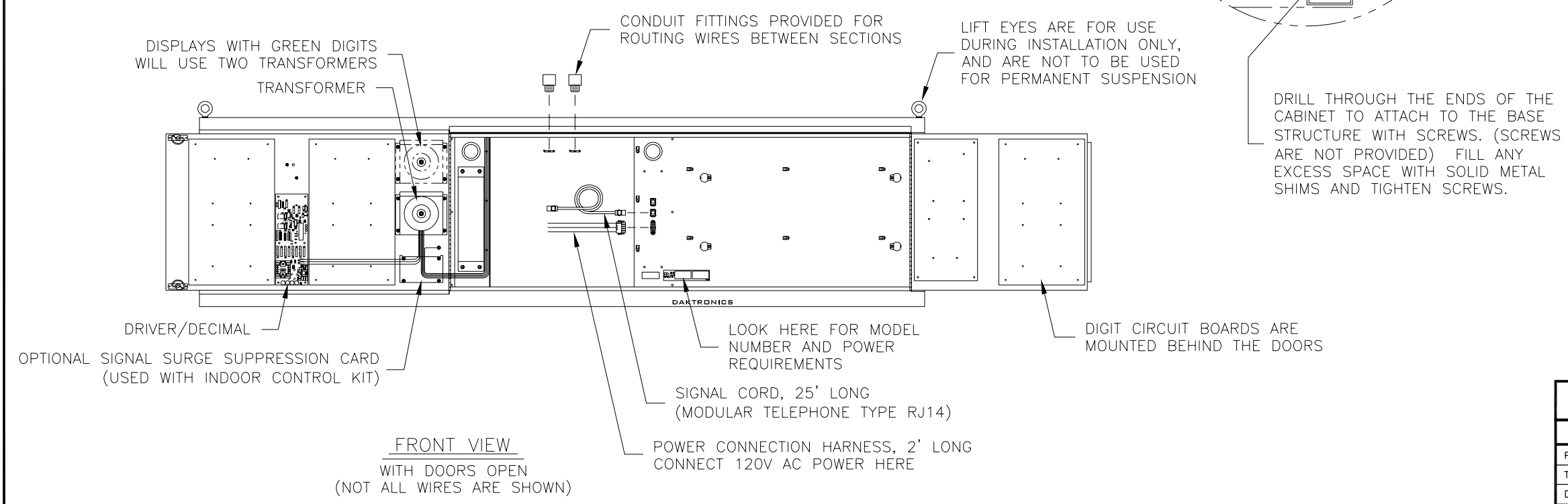
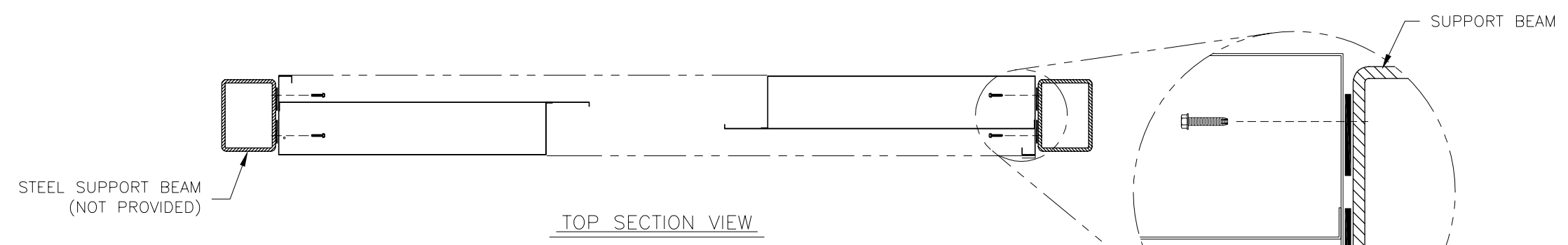
ELECTRICAL

MAXIMUM POWER DEMAND IS 450 WATTS FOR DISPLAYS WITH RED OR AMBER DIGITS, OR 600 WATTS FOR DISPLAYS WITH GREEN DIGITS.

PROVIDE A 120V AC, 15 AMP CIRCUIT FOR POWER.

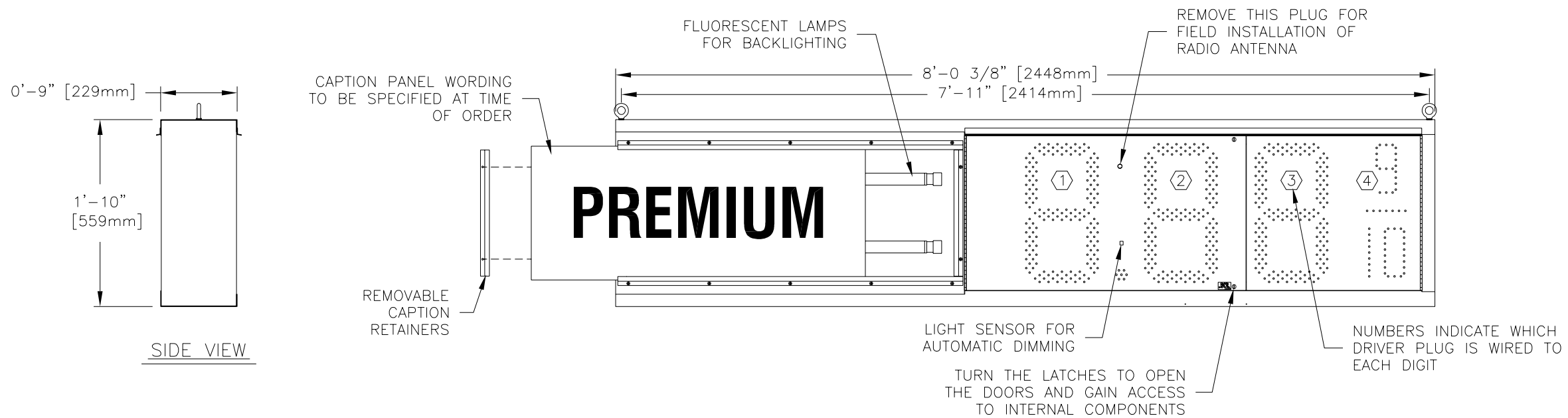
CONTROL CONNECTION REQUIRES TWO-PAIR CABLE, 22 AWG.

IF THE POWER TO THE DISPLAY IS TEMPORARILY INTERRUPTED, DISPLAY FUNCTIONS WILL BE RETAINED IN MEMORY TO CONTINUE OPERATION WHEN POWER IS RESTORED.



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 2007 DAKTRONICS, INC.			
DAKTRONICS, INC. BROOKINGS, SD 57006			
PROJ: GAS PRICE DISPLAYS			
TITLE: SHOP DRAWING, DF-2100-18-L7-DF			
DES. BY:	DRAWN BY: M LEOPOLD	DATE: 02 MAR 07	
REVISION	APPR. BY:	1356-R04B-298402	
00	SCALE: 1=15		

REV.	DATE	DESCRIPTION	BY	APPR.



GENERAL

THIS IS A DOUBLE FACED DISPLAY. IT WILL LOOK THE SAME ON BOTH SIDES. THE SIDE THAT THE POWER/SIGNAL CONNECTIONS CAN BE MADE FROM IS DESIGNATED AS THE FRONT.

DIGITS ARE 18" NOMINAL HEIGHT. THE 9/10 DIGIT IS 16" NOMINAL HEIGHT. DIGIT LEDS MAY BE RED, AMBER, OR GREEN; TO BE SPECIFIED AT TIME OF ORDER.

MECHANICAL

CABINET IS CONSTRUCTED OF ALUMINUM SHEET, 0.063" THICK.

ESTIMATED WEIGHT IS ABOUT 80 LBS [36 KG].

IF THE EYEBOLTS ARE TO BE REMOVED AFTER INSTALLATION, PLUG THE HOLES BY THREADING IN 3/8"-16 BOLTS, NOT PROVIDED.

DRILL THROUGH THE SIDES OF THE CABINET TO ATTACH THE DISPLAY TO BASE STRUCTURE USING APPROPRIATE HARDWARE FOR THE SITE CONDITIONS.

DAKTRONICS IS NOT RESPONSIBLE FOR THE MOUNTING STRUCTURE OR FOR THE ADEQUACY OF ATTACHMENT TO THE STRUCTURE. STRUCTURE AND ATTACHMENT MUST CONFORM TO ALL APPLICABLE BUILDING CODES.

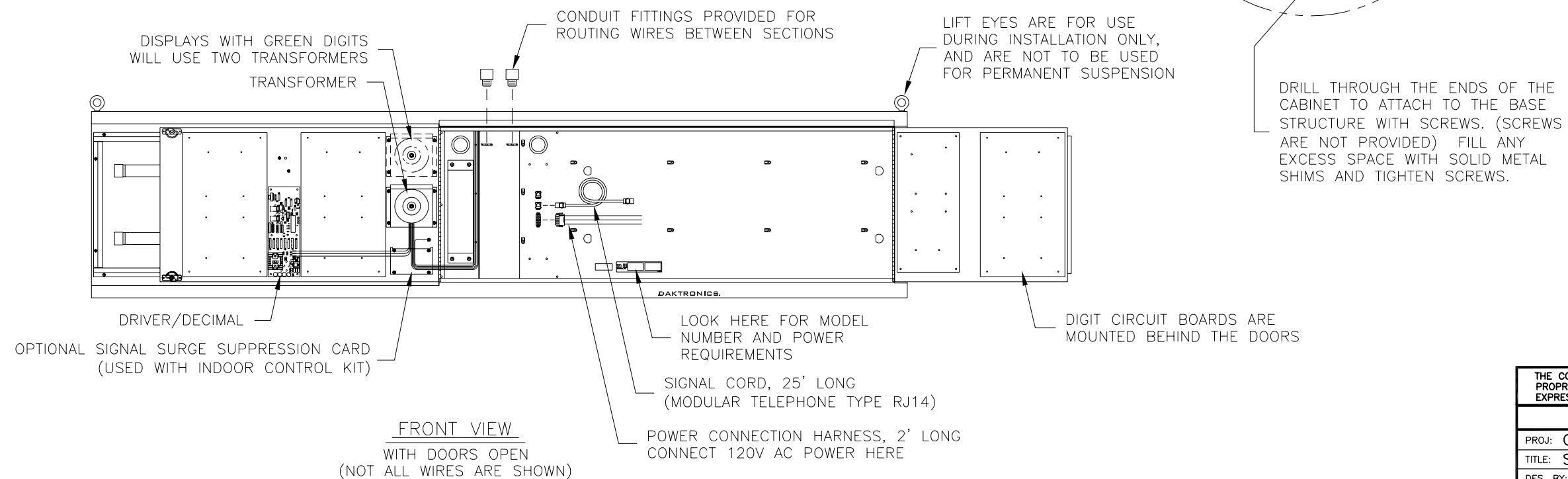
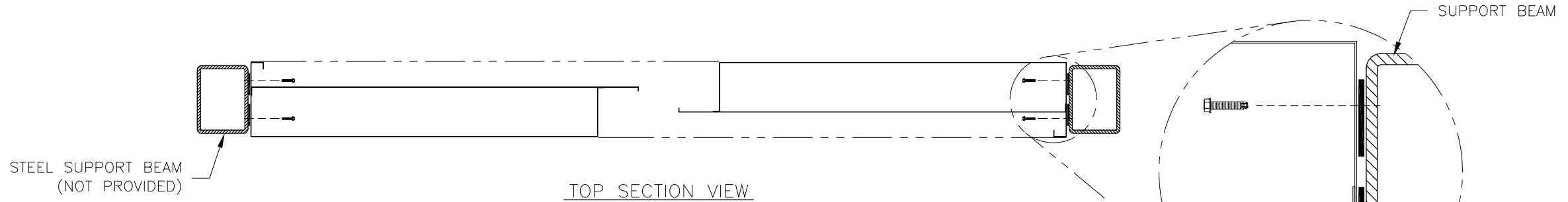
ELECTRICAL

MAXIMUM POWER DEMAND IS 450 WATTS FOR DISPLAYS WITH RED OR AMBER DIGITS, OR 600 WATTS FOR DISPLAYS WITH GREEN DIGITS.

PROVIDE A 120V AC, 15 AMP CIRCUIT FOR POWER.

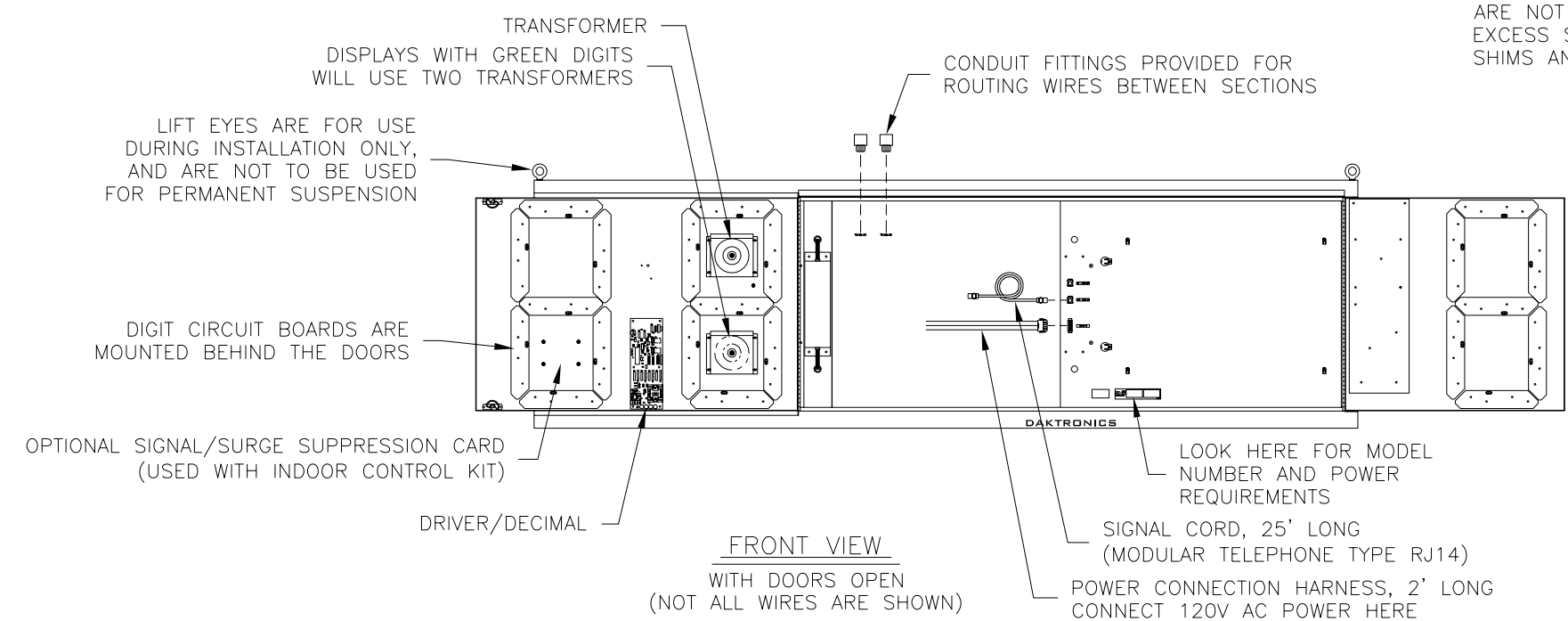
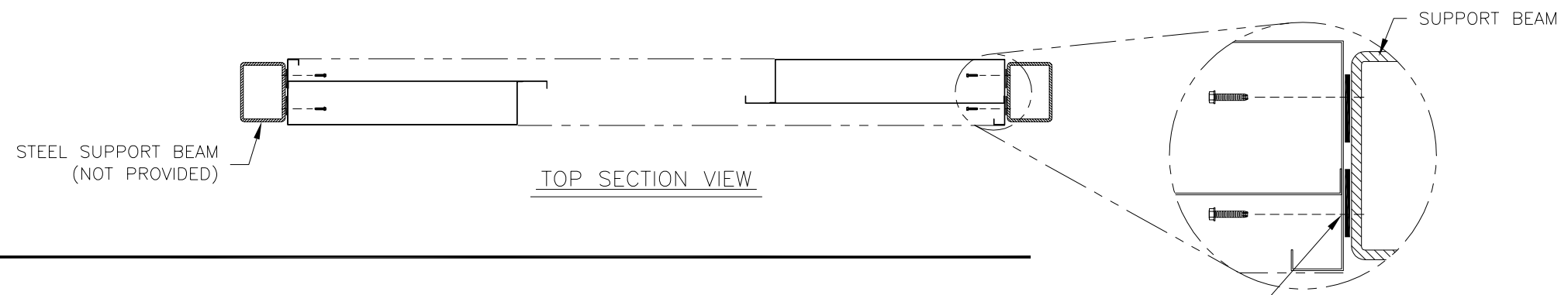
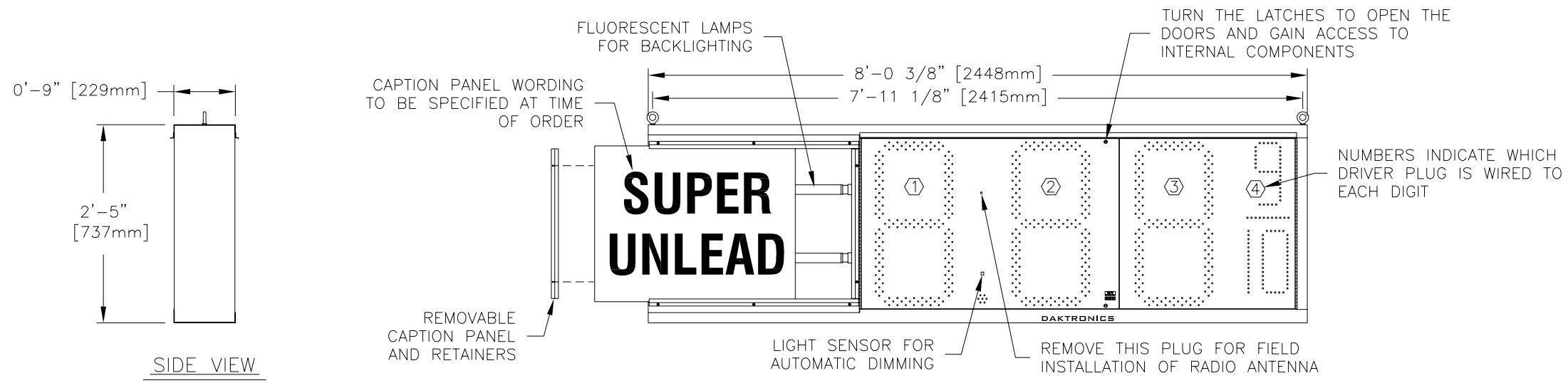
CONTROL CONNECTION REQUIRES TWO-PAIR CABLE, 22 AWG.

IF THE POWER TO THE DISPLAY IS TEMPORARILY INTERRUPTED, DISPLAY FUNCTIONS WILL BE RETAINED IN MEMORY TO CONTINUE OPERATION WHEN POWER IS RESTORED.



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 2007 DAKTRONICS, INC.			
DAKTRONICS, INC. BROOKINGS, SD 57006			
PROJ: GAS PRICE DISPLAYS			
TITLE: SHOP DRAWING, DF-2100-18-L8-DF			
DES. BY:	DRAWN BY: M LEOPOLD	DATE: 06 MAR 07	
REVISION	APPR. BY:	1356-R04B-298554	
00	SCALE: 1=15		

REV.	DATE	DESCRIPTION	BY	APPR.



GENERAL

THIS IS A DOUBLE FACED DISPLAY. IT WILL LOOK THE SAME ON BOTH SIDES. THE SIDE THAT THE POWER/SIGNAL CONNECTIONS CAN BE MADE FROM IS DESIGNATED AS THE FRONT.

THE DISPLAY IS INTENDED TO BE MOUNTED BETWEEN TWO VERTICAL STEEL BEAMS, SPACED 8'-0 1/2" APART, INSIDE MEASURE.

DIGITS ARE 24" NOMINAL HEIGHT. THE 9/10 DIGIT IS 22" NOMINAL HEIGHT. DIGIT LEDS MAY BE RED, AMBER, OR GREEN; TO BE SPECIFIED AT TIME OF ORDER.

MECHANICAL

DISPLAY CONSTRUCTION IS ALL ALUMINUM. ESTIMATED WEIGHT IS APPROXIMATELY 80 LB.

IF THE EYEBOLTS ARE TO BE REMOVED AFTER INSTALLATION, PLUG THE HOLES BY THREADING IN 3/8"-16 BOLTS, NOT PROVIDED.

WHEN INSTALLING MULTIPLE SECTIONS, JOIN THE SECTIONS, ROUTE INTERNAL HOOKUP WIRING, AND LIFT THE SECTIONS TOGETHER AS A UNIT.

HARDWARE FOR ATTACHING THE DISPLAY TO THE STRUCTURE IS TO BE PROVIDED BY INSTALLER. HARDWARE MUST BE ADEQUATE TO MEET STRUCTURE REQUIREMENTS.

DAKTRONICS IS NOT RESPONSIBLE FOR THE MOUNTING STRUCTURE OR FOR THE ADEQUACY OF ATTACHMENT TO THE STRUCTURE. STRUCTURE AND ATTACHMENT MUST CONFORM TO ALL APPLICABLE BUILDING CODES.

ELECTRICAL

THE TOP AND BOTTOM OF THE DISPLAY ARE EQUIPPED WITH KNOCKOUTS FOR ROUTING WIRES BETWEEN SECTIONS. PVC CONDUIT FITTINGS ARE PROVIDED FOR USE WITH THESE HOLES. REMOVE THE KNOCKOUTS, INSERT THE FITTINGS THROUGH THE HOLES, AND SECURE WITH THE LOCK NUTS.

MAXIMUM POWER DEMAND IS 450 WATTS FOR DISPLAYS WITH RED OR AMBER DIGITS, OR 600 WATTS FOR DISPLAYS WITH GREEN DIGITS.

PROVIDE A 120V AC, 15 AMP CIRCUIT FOR POWER.

CONTROL CONNECTION REQUIRES TWO-PAIR CABLE, 22 AWG.

IF THE POWER TO THE DISPLAY IS TEMPORARILY DISRUPTED, DISPLAY FUNCTIONS WILL BE RETAINED IN MEMORY TO CONTINUE OPERATION WHEN POWER IS RESTORED.

HOOK UP POWER BY CONNECTING SERVICE WIRES TO THE POWER PIGTAIL, PLUGGED INTO THE POWER INPUT JACK.

SIGNAL HOOKUP REQUIRES 6-CONDUCTOR TELEPHONE MODULAR LINE CORDS. CORDS FOR ROUTING SIGNAL BETWEEN SECTIONS ARE PROVIDED.

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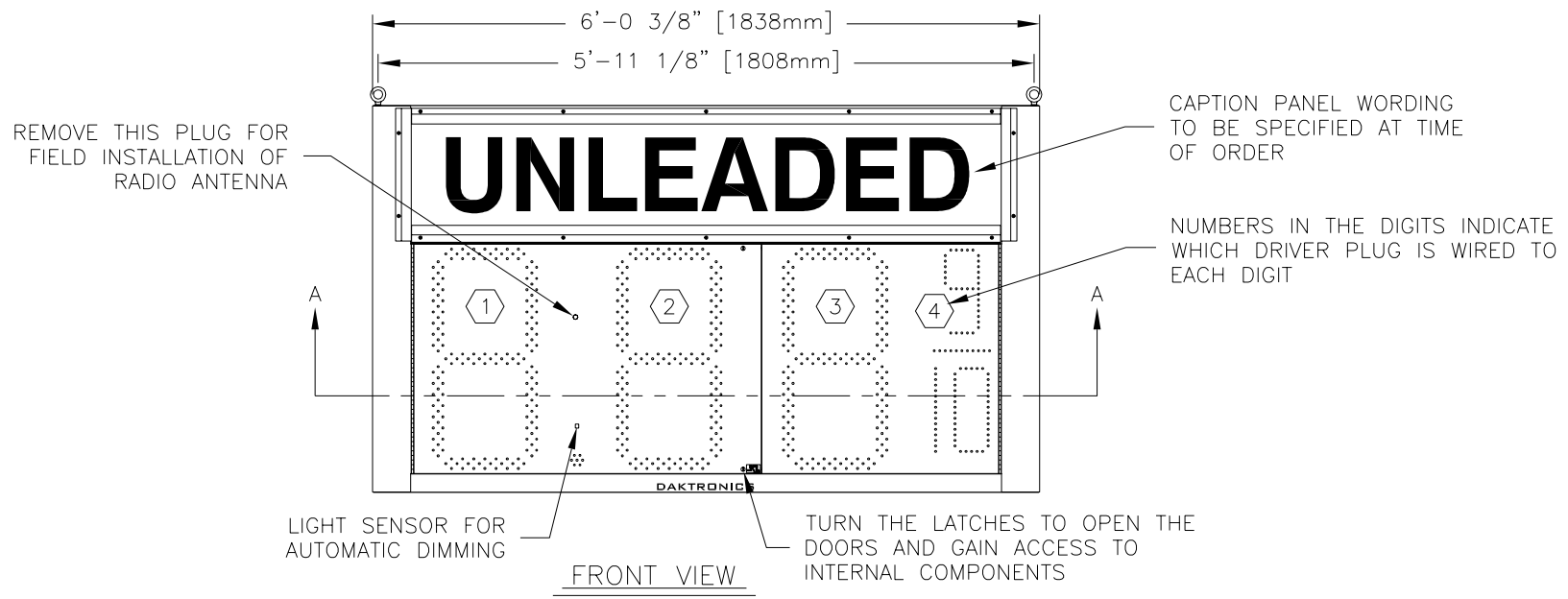
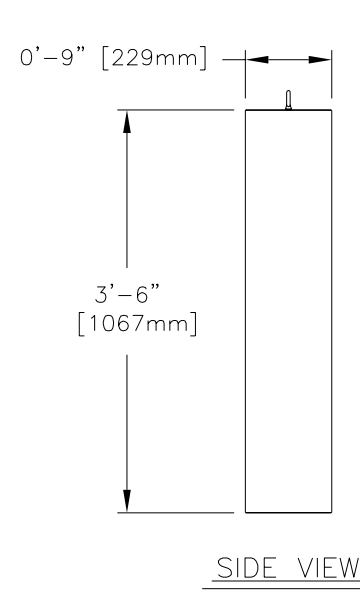
PROJ: GAS PRICE DISPLAYS

TITLE: SHOP DRAWING, DF-2100-24-L8-DF

DES. BY: DRAWN BY: M LEOPOLD DATE: 09 APR 07

REVISION 00 APPR. BY: SCALE: 1=20 1356-R04B-301758

REV.	DATE	DESCRIPTION	BY	APPR.



NOTES:

GENERAL

THIS IS A DOUBLE FACED DISPLAY. IT WILL LOOK THE SAME ON BOTH SIDES. THE POWER/SIGNAL CONNECTION PLATE WILL BE ON THE LEFT WHEN VIEWING THE DISPLAY FROM THE FRONT.

DIGITS ARE 24" NOMINAL HEIGHT. THE 9/10 DIGIT IS 22" NOMINAL HEIGHT. DIGIT LEDS MAY BE RED, AMBER, OR GREEN; TO BE SPECIFIED AT TIME OF ORDER.

MECHANICAL

CABINET IS CONSTRUCTED OF ALUMINUM SHEET, 0.063" THICK.

ESTIMATED WEIGHT IS ABOUT 110 LBS [50 KG].

IF THE EYEBOLTS ARE TO BE REMOVED AFTER INSTALLATION, PLUG HOLES BY THREADING IN 3/8"-16 BOLTS, NOT PROVIDED.

DRILL THROUGH THE SIDES OF THE CABINET TO ATTACH THE DISPLAY TO BASE STRUCTURE USING APPROPRIATE HARDWARE FOR THE SITE CONDITIONS.

DAKTRONICS IS NOT RESPONSIBLE FOR THE MOUNTING STRUCTURE OR FOR THE ADEQUACY OF ATTACHMENT TO THE STRUCTURE. STRUCTURE AND ATTACHMENT MUST CONFORM TO ALL APPLICABLE BUILDING CODES.

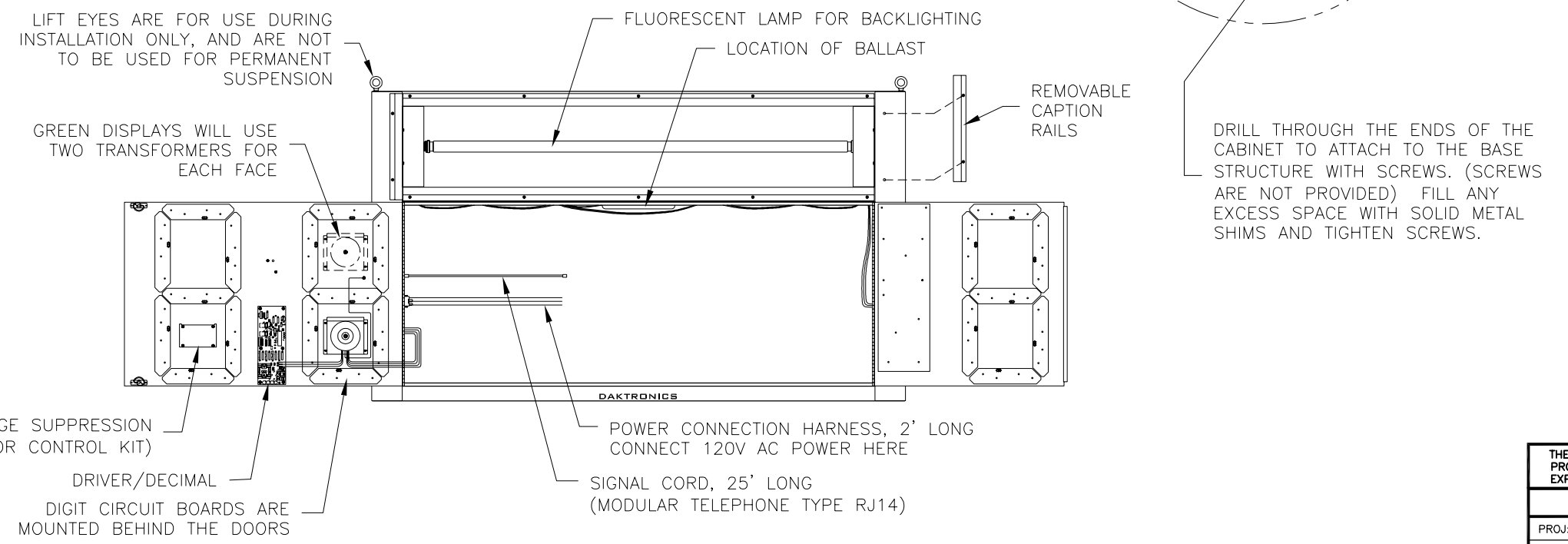
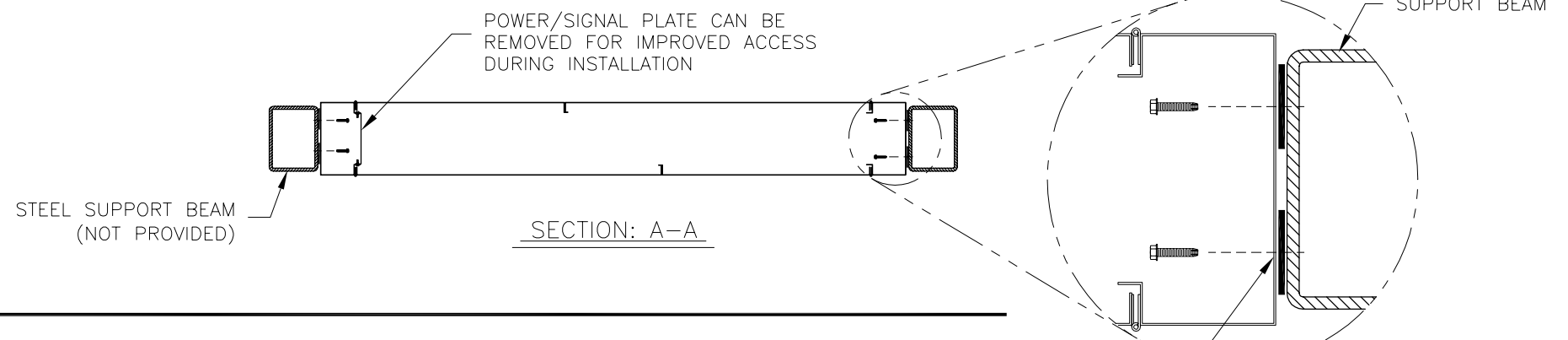
ELECTRICAL

MAXIMUM POWER DEMAND IS 350 WATTS FOR DISPLAYS WITH RED OR AMBER DIGITS, OR 500 WATTS FOR DISPLAYS WITH GREEN DIGITS.

PROVIDE A 120V AC, 15 AMP CIRCUIT FOR POWER.

CONTROL CONNECTION REQUIRES TWO-PAIR CABLE, 22 AWG.

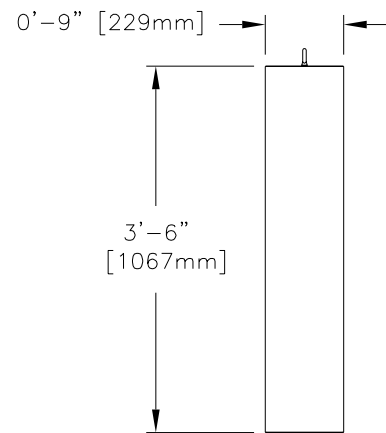
IF THE POWER TO THE DISPLAY IS TEMPORARILY DISRUPTED, DISPLAY FUNCTIONS WILL BE RETAINED IN MEMORY TO CONTINUE OPERATION WHEN POWER IS RESTORED.



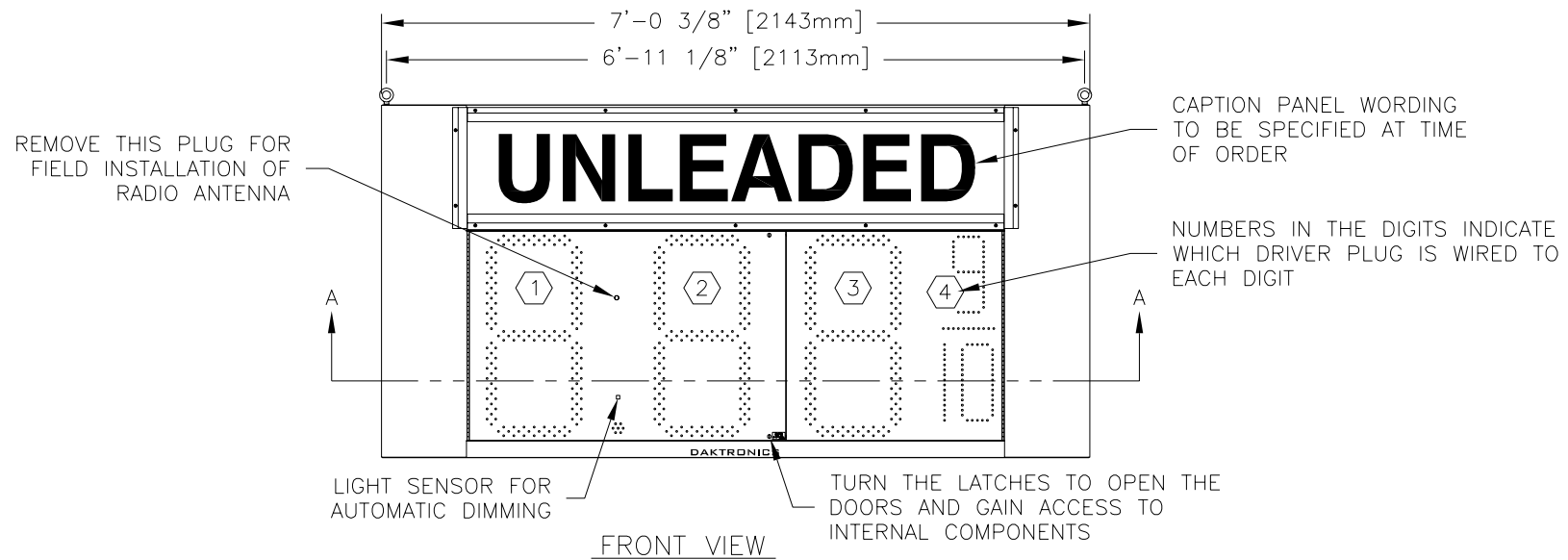
(NOT ALL WIRES ARE SHOWN)

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: GAS PRICE DISPLAYS			
TITLE: SHOP DRAWING, DF-2100-24-T6-DF			
DES. BY:		DRAWN BY: M LEOPOLD	
DATE: 18 APR 07			
REVISION	APPR. BY:	1356-R04B-302832	
00	SCALE: 1=20		

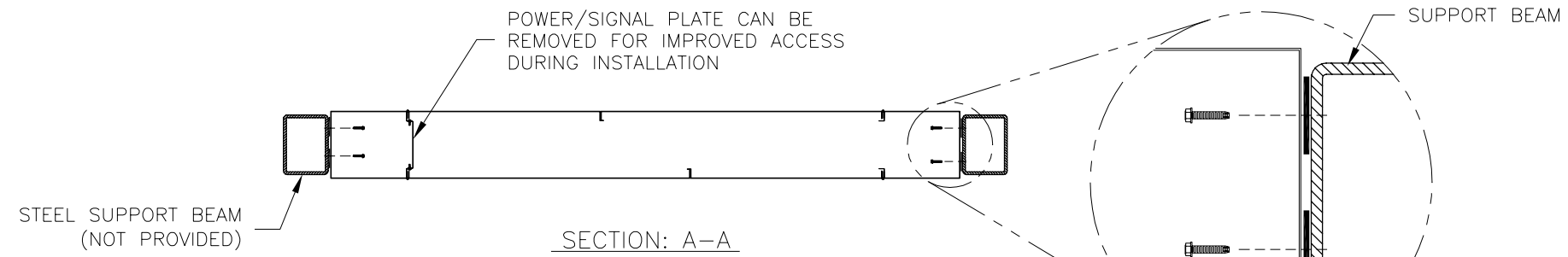
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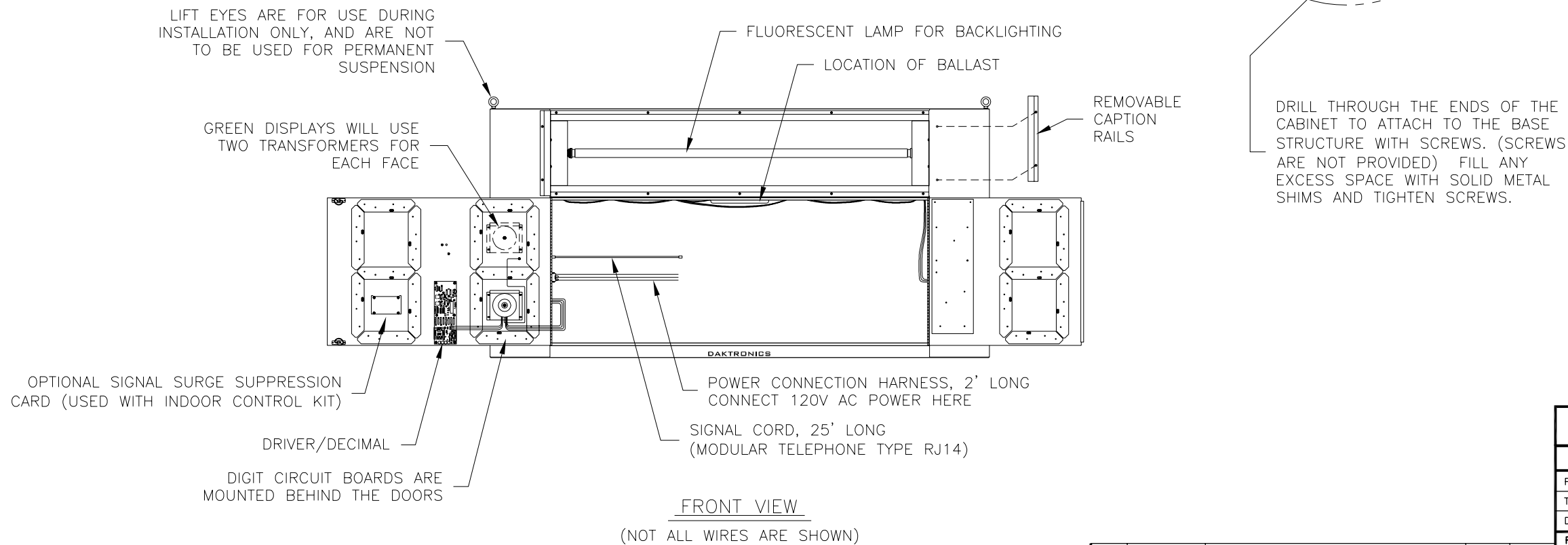
SIDE VIEW



FRONT VIEW



SECTION: A-A



FRONT VIEW

(NOT ALL WIRES ARE SHOWN)

NOTES:

GENERAL

THIS IS A DOUBLE FACED DISPLAY. IT WILL LOOK THE SAME ON BOTH SIDES. THE POWER/SIGNAL CONNECTION PLATE WILL BE ON THE LEFT WHEN VIEWING THE DISPLAY FROM THE FRONT.

DIGITS ARE 24" NOMINAL HEIGHT. THE 9/10 DIGIT IS 22" NOMINAL HEIGHT. DIGIT LEDS MAY BE RED, AMBER, OR GREEN; TO BE SPECIFIED AT TIME OF ORDER.

MECHANICAL

CABINET IS CONSTRUCTED OF ALUMINUM SHEET, 0.063" THICK.

ESTIMATED WEIGHT IS ABOUT 120 LBS [54 KG].

IF THE EYEBOLTS ARE TO BE REMOVED AFTER INSTALLATION, PLUG HOLES BY THREADING IN 3/8"-16 BOLTS, NOT PROVIDED.

DRILL THROUGH THE SIDES OF THE CABINET TO ATTACH THE DISPLAY TO BASE STRUCTURE USING APPROPRIATE HARDWARE FOR THE SITE CONDITIONS.

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ELECTRICAL

MAXIMUM POWER DEMAND IS 350 WATTS FOR DISPLAYS WITH RED OR AMBER DIGITS, OR 500 WATTS FOR DISPLAYS WITH GREEN DIGITS.

PROVIDE A 120V AC, 15 AMP CIRCUIT FOR POWER.

CONTROL CONNECTION REQUIRES TWO-PAIR CABLE, 22 AWG.

IF THE POWER TO THE DISPLAY IS TEMPORARILY INTERRUPTED, DISPLAY FUNCTIONS WILL BE RETAINED IN MEMORY TO CONTINUE OPERATION WHEN POWER IS RESTORED.

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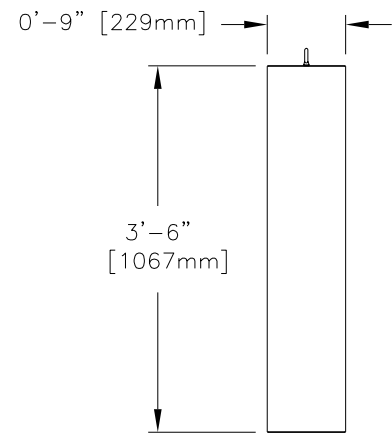
PROJ: GAS PRICE DISPLAYS

TITLE: SHOP DRAWING, DF-2100-24-T7-DF

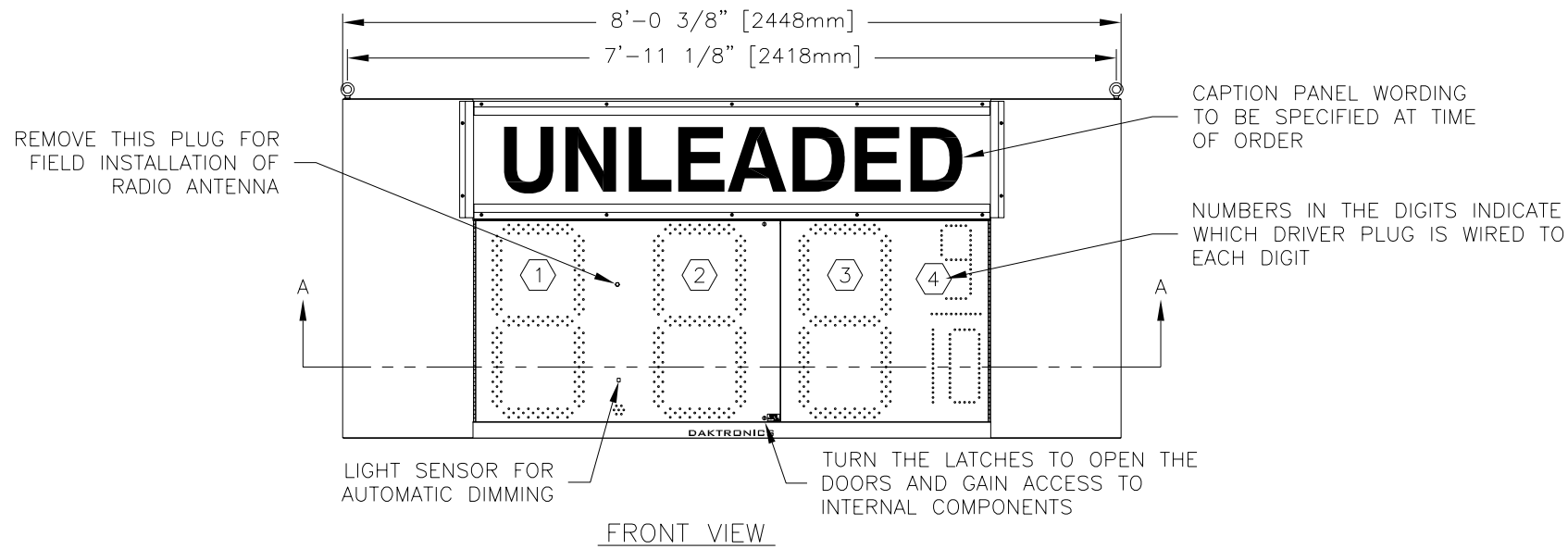
DES. BY: DRAWN BY: M LEOPOLD DATE: 19 APR 07

REVISION 00 APPR. BY: SCALE: 1=22 1356-R04B-302950

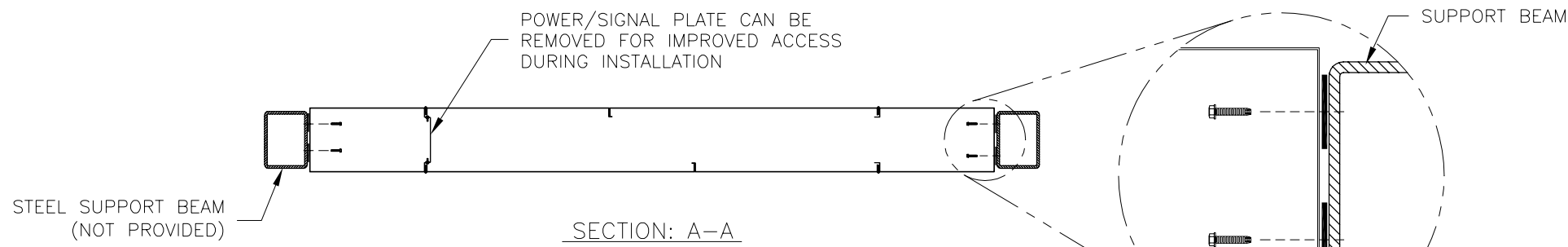
REV.	DATE	DESCRIPTION	BY	APPR.



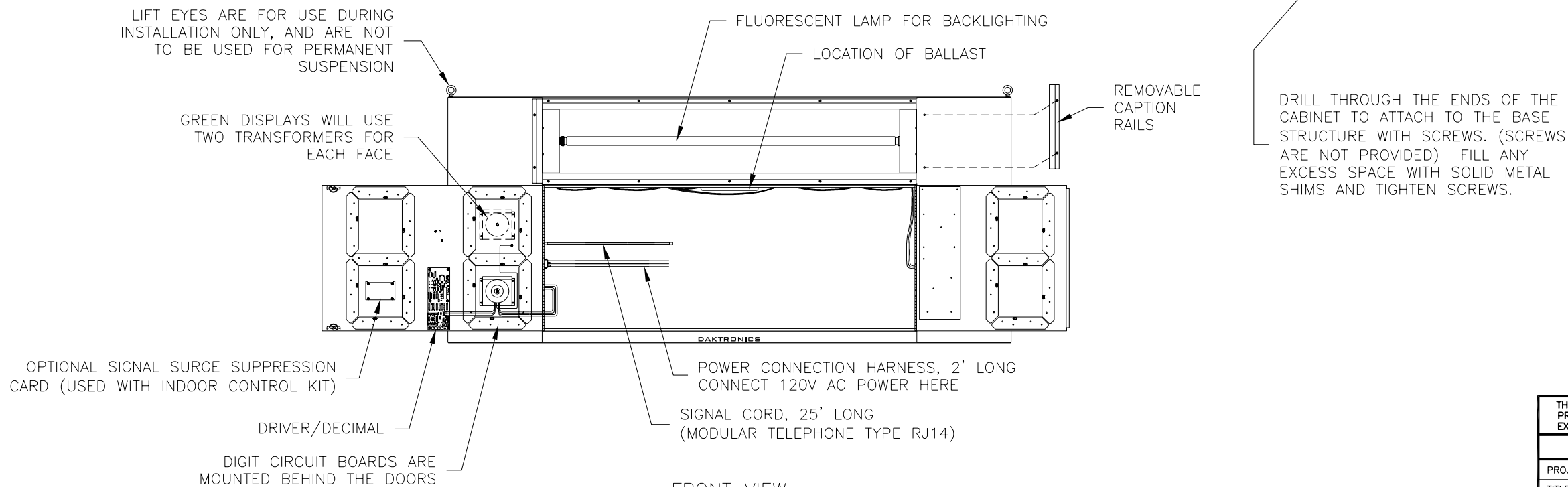
SIDE VIEW



FRONT VIEW



SECTION: A-A



FRONT VIEW
(NOT ALL WIRES ARE SHOWN)

NOTES:

GENERAL

THIS IS A DOUBLE FACED DISPLAY. IT WILL LOOK THE SAME ON BOTH SIDES. THE POWER/SIGNAL CONNECTION PLATE WILL BE ON THE LEFT WHEN VIEWING THE DISPLAY FROM THE FRONT.

DIGITS ARE 24" NOMINAL HEIGHT. THE 9/10 DIGIT IS 22" NOMINAL HEIGHT. DIGIT LEDS MAY BE RED, AMBER, OR GREEN; TO BE SPECIFIED AT TIME OF ORDER.

MECHANICAL

CABINET IS CONSTRUCTED OF ALUMINUM SHEET, 0.063" THICK.

ESTIMATED WEIGHT IS ABOUT 130 LBS [59 KG].

IF THE EYEBOLTS ARE TO BE REMOVED AFTER INSTALLATION, PLUG HOLES BY THREADING IN 3/8"-16 BOLTS, NOT PROVIDED.

DRILL THROUGH THE SIDES OF THE CABINET TO ATTACH THE DISPLAY TO BASE STRUCTURE USING APPROPRIATE HARDWARE FOR THE SITE CONDITIONS.

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ELECTRICAL

MAXIMUM POWER DEMAND IS 350 WATTS FOR DISPLAYS WITH RED OR AMBER DIGITS, OR 500 WATTS FOR DISPLAYS WITH GREEN DIGITS.

PROVIDE A 120V AC, 15 AMP CIRCUIT FOR POWER.

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DAKTRONICS, INC. BROOKINGS, SD 57006

PROJ: GAS PRICE DISPLAYS

TITLE: SHOP DRAWING, DF-2100-24-T8-DF

DES. BY: DRAWN BY: M LEOPOLD DATE: 20 APR 07

REVISION 00 APPR. BY: SCALE: 1=22 1356-R04B-303021

REV.	DATE	DESCRIPTION	BY	APPR.