HOCKEY GOAL LIGHTS INSTALLATION MANUAL P1152

ED-13358 Rev 10 29 March 2022





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Table of Contents

1	Introduction	1
	Important Safety Instructions	1
	Specifications Label	1
	Resources	1
	Daktronics Nomenclature	2
	Goal Light Controllers	2
	NHL Model	2
	Specifications	3
2	Mechanical Installation	4
	Goal Light Mounting	4
3	Electrical Installation	5
	Installation Overview	5
	Power	5
	Grounding	5
	Signal	5
	Green Light Control	5
	Radio Communication	6
	Red Light Control	6
	Varsity and Pro Goal Lights	6
	NHL Goal Lights	6
4	Troubleshooting	7
	Troubleshooting Table	7
	Goal Light Driver	8
	Replacing a Driver	8
	Schematics	9
	Replacement Parts	9
5	Daktronics Exchange and Repair & Return Programs	10
	Exchange Program	10
	Repair & Return Program	11
	Daktronics Warranty & Limitation of Liability	11
Α	Reference Drawings	13
В	Supplementary Documents	29
C	Daktronics Warranty & Limitation of Liability	33



1 Introduction

This manual explains the installation and maintenance of Daktronics Hockey Goal Lights. For additional information regarding safety, installation, operation, or service, refer to the telephone numbers listed in **Section 5: Daktronics Exchange and Repair & Return Programs (p.10)**. This manual is not specific to a particular installation. Project-specific information takes precedence over general information found in this manual.

Important Safety Instructions

- Read and understand all instructions before beginning the installation process.
- Do not let the power cord touch hot surfaces or hang over the edge of a table, which could damage or cut the cord.
- If an extension cord is necessary, use a three-pronged polarized cord. Arrange the cord with care so that no one will trip over or pull it out.
- Before using an extension cord, inspect the cable thoroughly and verify its compliance with the local electric codes.
- Never yank the power cord to pull the plug from the outlet. Grasp the plug and pull to disconnect.
- Disconnect power to the device when not in use or when servicing.
- Disconnect power to the device before servicing power supplies to avoid electrical shock. Power supplies run on high voltage and may cause physical injury if touched while powered.
- Do not disassemble control equipment or electronic controls of the device; failure to follow this safeguard will make the warranty null and void.
- Do not drop the control equipment or allow it to get wet.

Specifications Label

Power specifications as well as serial and model number information can be found on an ID label on the device, similar to the one shown in **Figure 1**.



Figure 1: Specifications Label

Please have the assembly number, model number, and the date manufactured on hand when calling Daktronics customer service to ensure the request is serviced as quickly as possible. Knowing the facility name and/or job number will also be helpful.

Resources

Figure 2 illustrates a Daktronics drawing label. This manual refers to drawings by listing the last set of digits. In the example, the drawing would be referred to as **DWG-1007804**. All references to drawing numbers, appendices, figures, or other manuals are presented in bold typeface.



Figure 2: Drawing Label

Any drawings referenced in a section are listed at the beginning of it as shown below:

Reference Drawing:

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

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

Daktronics Nomenclature

Most display components have a white label that lists the part number (Figure 3). Part numbers will also appear on certain drawings. If a component is not found in the Replacement Parts (p.9), use the label to order a replacement. Refer to Section 5: Daktronics Exchange and Repair & Return Programs (p.10) if replacing or repairing any display component.

0P-1127-0024 SN: 2465 02/19/12 Rev. 1

Figure 3: Part Label

Main Component Labels						
Part Type	Part Number					
Individual circuit board	OP-XXXX-XXXX					
Assembly; a collection of circuit boards	0A-XXXX-XXXX					
Wire or cable	W-XXXX					
Fuse	F-XXXX					
Transformer	T-XXXX					
Metal part	0M-XXXXXX					
Fabricated metal assembly	OS-XXXXXX					
Specially ordered part	PR-XXXXX-X					

Accessory Labels						
Component	Label					
Termination block for power or signal cable	TBXX					
Grounding point	EXX					
Power or signal jack	JXX					
Power or signal plug for the opposite jack	PXX					

Goal Light Controllers

Daktronics indoor goal lights are designed for use with an All Sport® 5000 control console. This controller uses keyboard overlays (sport inserts) to control numerous sports and scoreboard models. For operating instructions, refer to the following manual, available online at www.daktronics.com/manuals:

All Sport 5000 Series Control Console Operation Manual (ED-11976)

The All Sport console automatically controls the green timer light. An active green light disables the red goal signal. (An end-of-period goal, however, could see both lights on at the same time. Because different venues require different settings, a switch on both models permits selection of green light operation as "time = 0" or "clock stop.")

A handheld switch allows the goal judge to press a button once to signal a goal. The internal goal light driver has a one second delay, to prevent accidental presses. After the one second has expired, the goal judge can press the button a second time and turn off the goal light.

NHL Model

The NHL model goal light features wireless handheld control for activating the goal lights. Refer to the **Hockey Goal Judge Operation Quick Guide (ED-18140)**, which ships with the NHL goal light.

- For RC-200 operation and troubleshooting information, refer to the Remote Control System RC-200 All Sport Operation Manual (DD3572889).
- For legacy RC-100 operation and troubleshooting information, refer to the **Remote Control System RC-100 All Sport Operation Manual (ED-15133)**.

All of the above manuals are available online at www.daktronics.com/manuals.

Specifications

The chart below details all of the mechanical specifications, circuit specifications, and power requirements for each device in this manual.

Note: All devices require a 120 VAC, 15 A circuit. Devices with a 240 VAC power requirement are also available (Pro & Varsity Models only).

Model	Dimensions: Height, Width, Depth	Weight	Power
Varsity	9.7" H x 2'-6" W x 6" D (246 mm, 762 mm, 152 mm)		120 Watts, 1 Amp*
Pro	9.9" H x 2'-6" W x 7" D (251 mm, 762 mm, 178 mm)	12.5 lb (5.7 kg)	168 Watts, 1.4 Amps*
NHL 10.9" H x 2'-6" W x 7" D (277 mm, 762 mm, 178 mm)		13.5 lb (6.1 kg)	168 Watts, 1.4 Amps

^{*} Models with 240 VAC power at half the indicated amperage are also offered (International Use Only).

2 Mechanical Installation

Mechanical installation consists of determining the proper method of permanently mounting the goal lights. Be sure that the installation complies with local building codes.

Note: Daktronics assumes no liability for any installation derived from the information provided in this manual or installations designed and installed by others.

Goal Light Mounting

Reference Drawings:

Mechanical Specifications- Hockey Goal Lights......DWG-153913

Daktronics goal lights are typically mounted in one of two ways: elevated on a support behind the goal, or clamped to the safety glass surrounding the rink.

Each goal light comes with hanging brackets and other hardware for mounting. The brackets attach to the ends of the goal light base, and two sizes of clamps permit the unit to hang behind the safety glass for protection, or from the wall surrounding the ice. Refer to the *Protective Glass Mounting Method* on **DWG-153913** in **Appendix A**.

Goal lights may instead be attached to a 1" threaded pipe, which elevates the unit on a pole-type support. Refer to the 1" Threaded Rod Mounting Method on **DWG-153913**.

3 Electrical Installation

Warnings and Disclaimers

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

Installation Overview

Reference Drawings:

Riser Diagram: Goal Indicator System	DWG-244179
Hockey Rink Layout-Scoreboard With Lights	DWG-276200

Electrical installation involves routing power and control signal wiring through separate conduit or wire ways. Refer to **DWG-244179** and **DWG-276200** in **Appendix A** for power/signal connections and typical system layouts.

Control signal cable and some junction boxes are not provided as part of this system and can be purchased locally or from Daktronics.

Power

Only qualified individuals should complete the electrical installation; untrained personnel should not attempt to install these devices or any of the electrical components. Improper installation can seriously damage the equipment and be hazardous to personnel.

Each goal light unit features a 120 VAC power cord with a three-prong plug. Install a grounded receptacle near the equipment so that the power cord can easily reach it.

Goal lights operating on 240 VAC are also available, and they are shipped equipped with a universal power plug (Pro & Varsity Models only).

Grounding

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

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

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

Signal

The green and red lights on a goal light unit receive signal from different control devices.

Green Light Control

Control for the green timer light comes from the same All Sport console used for the scoreboard(s). Cable specifications and part numbers are listed on **DWG-244179**. Refer also to **DWG-276200**, which shows how the goal lights and scoreboard may be set up around the rink.

A typical installation involves the following steps:

1. Install a 1/4" phone jack junction box near the location of the All Sport controller. The same J-box for scoreboard control may be used for goal lights; the signal wires for scoreboard and goal lights are wired in parallel and connected to the same jack.

Note: An optional signal hookup using a 25-pin J-box is also shown on DWG-244179.

- 2. Run a male-to-male 1/4" phone signal cord from the **J1** jack on the All Sport to the phone jack J-box. This may already be in place for scoreboard control.
- **3.** From the J-box near the control console, run separate signal cables to each 1/4" phone J-box installed near the goal lights. Cables should be shielded, 2-pair, 22 AWG.
- **4.** From the 1/4" phone jack J-boxes near the goal lights, run male-to-male 1/4" phone signal cable to the **J1** jack on each goal light.

Radio Communication

Instead of installing multiple J-boxes and running signal cable throughout the facility, a remote radio receiver kit can be installed for the goal lights to listen in on the signal broadcasted from a radio-equipped All Sport controller. Contact Daktronics for more information about this option.

Red Light Control

Control for the red goal lights varies depending on the model:

Varsity and Pro Goal Lights

Plug a handheld goal judge switch into the **J2** jack on each goal light. Press the button to turn the red light(s) on and off.

NHL Goal Lights

Refer to the **Hockey Goal Judge Operation Quick Guide (ED-18140)** for instruction on using a wireless handheld controller to operate the goal lights.

Plug a handheld goal judge switch into the **J2** jack on each goal light as a backup if desired. Press the button to turn the red light(s) on and off.

4 Troubleshooting

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

Troubleshooting Table

This section lists potential problems with the device, 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.

Problem	Possible Cause	Solution/Items to Check			
	No power to the goal	Check that the main circuit breaker for the goal light is on.			
Coal light door not	light	Check that the goal light is receiving 120 or 240 VAC power.			
Goal light does not illuminate and console does not work		Ensure the console is plugged into a 120 or 240 VAC power supply.			
	No power to the control console	Exchange the console with a working one, and enter the correct sport code and/or radio settings to test. Replace console if necessary.			
		Check that the goal light is receiving 120 or 240 VAC power.			
	No wired signal from control console	Check that the red DS2 LED on the driver lights up when sending commands from the controller; see Goal Light Driver (p.8).			
		Check that the display is receiving 100, 120, or 240 VAC power.			
Goal light does not illuminate, but console works	No signal to driver	Check that the red DS5 LED on the driver lights up when sending commands from the controller. See Goal Light Driver (p.8).			
		Exchange the driver with a working one of the same part #. Replace if necessary. See Goal Light Driver (p.8).			
	No power to driver	Check that the green DS1 LED on the driver remains lit up when the goal light is powered on. See Goal Light Driver (p.8).			
	Bad connection	Verify the connector from the lights to the driver is secure.			
Some lights do not turn on or they blink	Bad driver	Exchange the driver with a working one of the same part # to verify the problem. Replace if necessary. See Goal Light Driver (p.8).			
	Burned out bulb or beacon	Replace the bulb or beacon.			

Goal Light Driver

Reference Drawings:

The goal light driver performs the task of switching lights on and off. Refer to **DWG-155363** in **Appendix A** for detailed driver pin out/switch specifications. When troubleshooting driver problems, two LEDs labeled DS1 and DS2 provide the following diagnostic information:

LE	D	Color	Function	Operation	Summary
DS	S1	Red	Signal RX	Steady on or blinking	D\$1 will be on or blinking when the driver is receiving a signal and off when there is no signal.
DS	S2	Green	Power	Steady on	DS2 will be on and steady to indicate the driver has power.

Note: While it is necessary to have the display powered on to check the LED status indicators, always disconnect power before servicing.

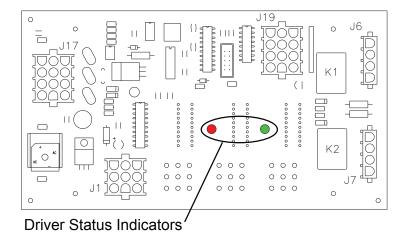


Figure 4: Driver Status Indicators

Replacing a Driver

If the driver status indicators do not appear to be working correctly, it may be necessary to replace the driver.

- 1. Remove the screws on the top of the goal light, and lift off the cover.
- 2. Disconnect all plugs from the driver by squeezing together the locking tabs and pulling the connectors free. It may be helpful to label the cables or take a picture to know which plug goes to which jack when connecting the replacement driver.
- 3. Remove the nuts securing the driver to the driver tray.
- **4.** Carefully lift the driver from the device and place it on a clean, flat surface.
- 5. Position a new driver over the screws and tighten the nuts.
- **6.** Reconnect all plugs to their mating jacks the driver. The connectors are keyed and will attach in one way only. Do not force the connections.
- 7. Close and secure the cover, and then power up and test the goal light to verify the issue has been resolved.

Schematics

For advanced troubleshooting and repair, it may be necessary to consult the schematic drawings. Located in **Appendix A**, the schematic drawings show detailed power and signal wiring diagrams of internal device components.

Replacement Parts

The following table contains device components that may require replacement. Many of the other device components will have attached part number labels.

Description	Part Number
Goal Judge Switch w/ 10' cord	0A-1152-0703
Driver, Smart Hockey Goal Light	0P-1150-0208
Power Supply; +12V, 8.5A Output; 85-264V AC	A-1555
Lamp; 120V, 1000 HR	DS-1180
Ruby-Red Polycarbonate Globe	EN-1193
Green Polycarbonate Globe	EN-1194
Transformer	T-1063
Cable, 50' phone plug	W-1237
Cable, 30' phone plug	W-1238
Cable, 10' phone plug	W-1340

Note: Refer to **Appendix B** for manufacturer's replacement parts of the red rotating beacon used on the Pro Model goal light.

Refer to **Section 5: Daktronics Exchange and Repair & Return Programs (p.10)** for information on exchanging or returning parts.

5 Daktronics Exchange and Repair & Return Programs

Before contacting Daktronics, identify these important numbers:

Exchange Program

The Daktronics Exchange Program is a service for quickly replacing key components in need of repair. If a component fails, Daktronics sends a replacement part to the customer who, in turn, returns the failed component to Daktronics. This decreases equipment downtime. Customers who follow the program guidelines explained below will receive this service.

Display Serial Number:
Display Model Number:
ob/Contract Number:
Date Manufactured/Installed:

To participate in the Exchange Program, follow these steps:

1. Call Daktronics Customer Service.

Daktronics Customer ID Number: ___

United States & Canada: 1-800-DAK-TRON (325-8766)

Outside the U.S. & Canada: +1-605-275-1040

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 being replaced.

- **a.** Package the old part in the same shipping materials in which the replacement part arrived.
- **b.** Fill out and attach the enclosed UPS shipping document.
- c. Ship the part to Daktronics.
- 3. The defective or unused parts must be returned to Daktronics within 5 weeks of initial order shipment.

If any part is not returned within five (5) weeks, a non-refundable invoice will be presented to the customer for the costs of replenishing the exchange parts inventory with a new part. Daktronics 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.

United States & Canada: 1-800-DAK-TRON (325-8766)

Outside the U.S. & Canada: +1-605-275-1040

2. Receive a case number before shipping.

This expedites repair of the part.

3. Package and pad the item carefully to prevent damage during shipment.

Electronic components, such as printed circuit boards, should be placed in an antistatic bag before boxing. Daktronics does not recommend using packing peanuts when shipping.

4. Enclose:

- name
- address
- phone number
- the case number
- a clear description of symptoms

5. Ship to:

Daktronics Customer Service

[Case #]

201 Daktronics Drive, Dock E

Brookings, SD 57006

Daktronics Warranty & Limitation of Liability

The Daktronics Warranty & Limitation of Liability is located at the end of this manual. The Warranty is independent of Extended Service agreements and is the authority in matters of service, repair, and display operation.



A Reference Drawings

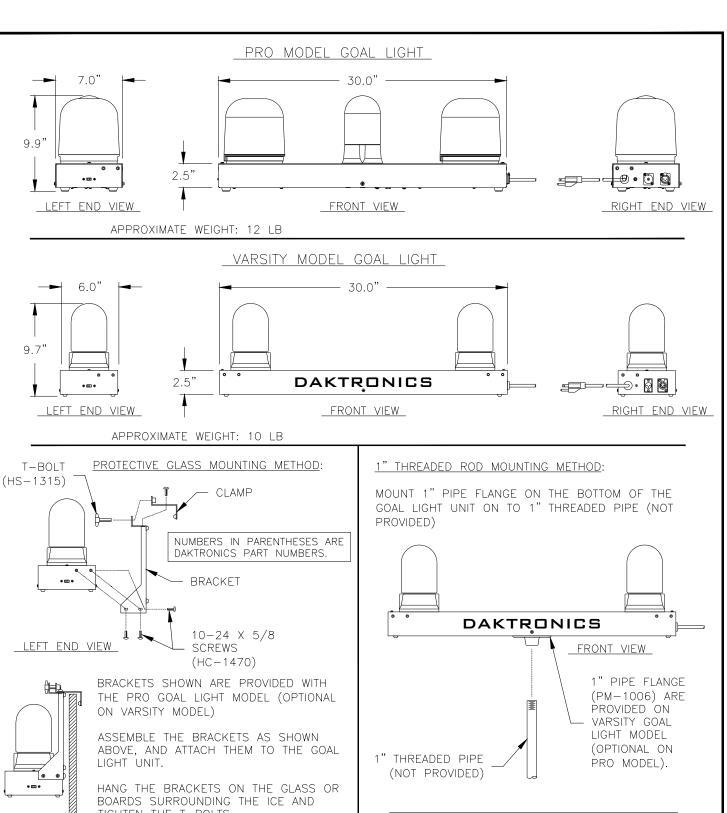
Refer to **Resources (p.1)** for information regarding how to read the drawing number. Any contract-specific drawings take precedence over the general drawings.

Reference Drawings:

Mechanical Specifications- Hockey Goal Lights	DWG-153913
Reference- Hockey Goal Light Driver	
Schematic, Pro Model Hockey Goal Lights	
Schematic, Varsity Model Hockey Goal Light	DWG-240609
Riser Diagram: Goal Indicator System	DWG-244179
Electrical Spec- Pro Model Goal Light	
Electrical Spec, Varsity Model Goal Light	DWG-259339
Hockey Rink Layout- Scoreboard With Lights	
Schematic, Pro Model, 240V Hockey Goal Lights	
Schematic, Varsity Model, 240V Hockey Goal Lights	DWG-287047
Schematic: Custom NHL Hockey Goal Light	DWG-298258
Schematic, Pro Model II Hockey Goal Light, 120V	DWG-1118343*
Schematic, Pro Model II, 230V Hockey Goal Lights	DWG-1118792*
Schematic; NHL Hockey Goal Light Model II	DWG-1118802*

^{*} Refer to these schematics for goal lights manufactured after November 2012.





LIGHT UNIT.

HANG THE BRACKETS ON THE GLASS OR BOARDS SURROUNDING THE ICE AND TIGHTEN THE T-BOLTS.

TWO SIZES OF CLAMPS ARE PROVIDED TO ALLOW ATTACHMENT TO A RANGE OF MATERIAL THICKNESS.

"BOARDS" OR "GLASS"

SURROUNDING THE ICE

DAKTRONICS, INC.
BROOKINGS, SD 57006
DO NOT SCALE DRAWING

PROJ:HOCKEY SCOREBOARDS

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

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BOTTOM VIEW

					TITLE:MECHANIC	AL SPE	CIFICATIONS- HO	OCKEY GOAL L	IGHTS
REV	DATE:	UPDATED VIEW OF PRO MODEL WITH NEW LIGHTS.	BY:		DESIGN:AVB		DRAWN: A VAN	BEMMEL	DATE: 06 AUG 01
02	20 NOV 12	INCREASED WIDTH OF PRO MODEL TO 7".	KCS		SCALE: 1/10				
REV	DATE:	UPDATED MOUNTING METHOD NOTES	BY:		SHEET	REV	JOB NO:	FUNC-TYPE-SIZE	153013
01	11 APR 12		BDP			02	P1152	E - 10 - A	153913

CONNECTOR FUNCTIONS:

	J1								
	OUTPUT								
PIN	FUNCTI	ON							
1	SEGMENT	C (-)							
2	SEGMENT	B (-)							
3	SEGMENT	A (-)							
4	SEGMENT	F (-)							
5	SEGMENT	E (-)							
6	SEGMENT	D (-)							
7	COMMON	(+)							
8	SEGMENT	H (-)							
9	SEGMENT	G (-)							

J17				
)WE	R & SIGNAL	IN		
PIN	FUNCTION			
1	SIGNAL IN +			
2	SIGNAL IN -			
3	GND			
4	SIGNAL OUT +			
5	SIGNAL OUT -			
6	16V AC IN			
7	GND			
8	N.C.			
9	16V AC IN			
10	N.C.			
	PIN 1 2 3 4 5 6 7 8	OWER & SIGNAL PIN FUNCTION 1 SIGNAL IN + 2 SIGNAL IN - 3 GND 4 SIGNAL OUT + 5 SIGNAL OUT - 6 16V AC IN 7 GND 8 N.C. 9 16V AC IN		

11 SW INPUT +

12 SW INPUT -

	DELAY KA COMMECTIONS		
J17	RELAY K1 CONNECTIONS		
	(GREEN LIGHT)		
& SIGNAL	IN PIN FUNCTION		
UNCTION	THE TOTAL STATE OF THE TOTAL STA		
	1		
GNAL IN +	2 K1 COIL IN (-)		
GNAL IN -	3 K1 SW IN		
ΝD	4 K1 SW OUT		
GNAL OUT +			
GNAL OUT -	17		
SV AC IN	J7		
ND O	RELAY K2 CONNECTIONS		
.C.	(RED LIGHT)		
	PIN FUNCTION		
SV AC IN	I INT I ONCTION		

J6

2 K2 COIL IN (-)

3 K2 SW IN 4 K2 SW OUT

ADDRESS					
PIN	FUNCTION				
1	GND				
2	ADDR 0-N (PROTOCOL)				
3	ADDR 1-N				
4	GND				
5	ADDR 2-N				
6	ADDR 3-N				
7	GND				
8	ADDR 4-N				
9	ADDR 5-N (GRN LIGHT)				
10	GND				
11	ADDR 6-N				
12	ADDR 7-N				

J19

J17 NOTE

GOAL JUDGE SWITCH CONNECTS TO PINS 11 & 12

J19 WIRING NOTES

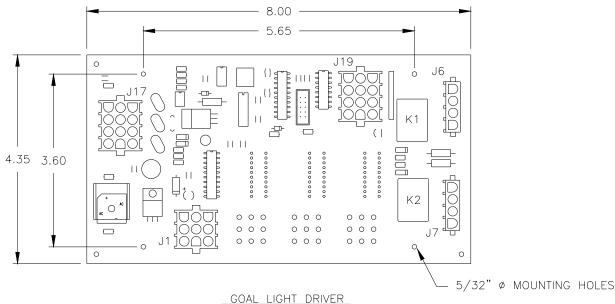
PIN 1 TO PIN 2 PROTOCOL SELECTOR:

NO WIRE - 12.8K PROTOCOL, WITH WIRE - MULTI-DROP PROTOCOL

PIN 7 TO PIN 9 GREEN LIGHT SELECTOR:

NO WIRE - CLOCK STOP FUNCTION OPERATES GREEN LIGHT WITH WIRE - CLOCK=O FUNCTION OPERATES GREEN LIGHT

PIN 4 TO PIN 6 ALLOWS RED LIGHT TO OPERATE INDEPENDENTLY OF GREEN LIGHT



DAKTRONICS PART NO. IS 0P-1150-0208.

ABNORMAL OPERATION TROUBLESHOOTING

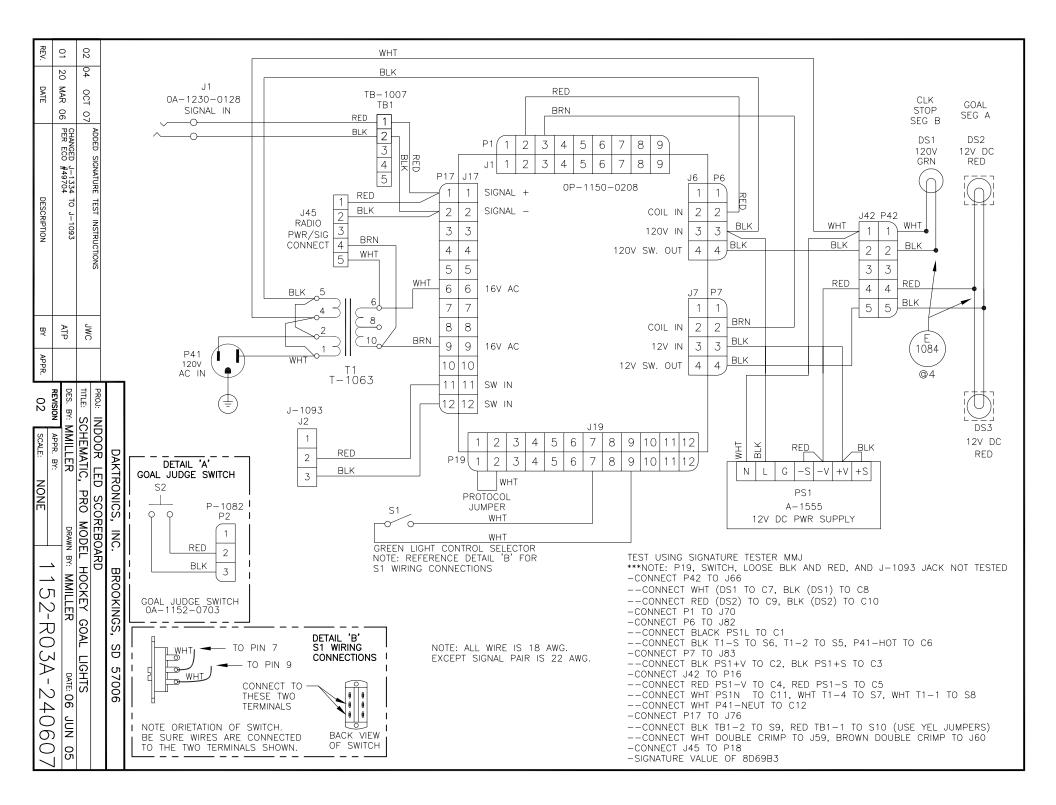
ADDED PIN 4 TO 6 NOTE

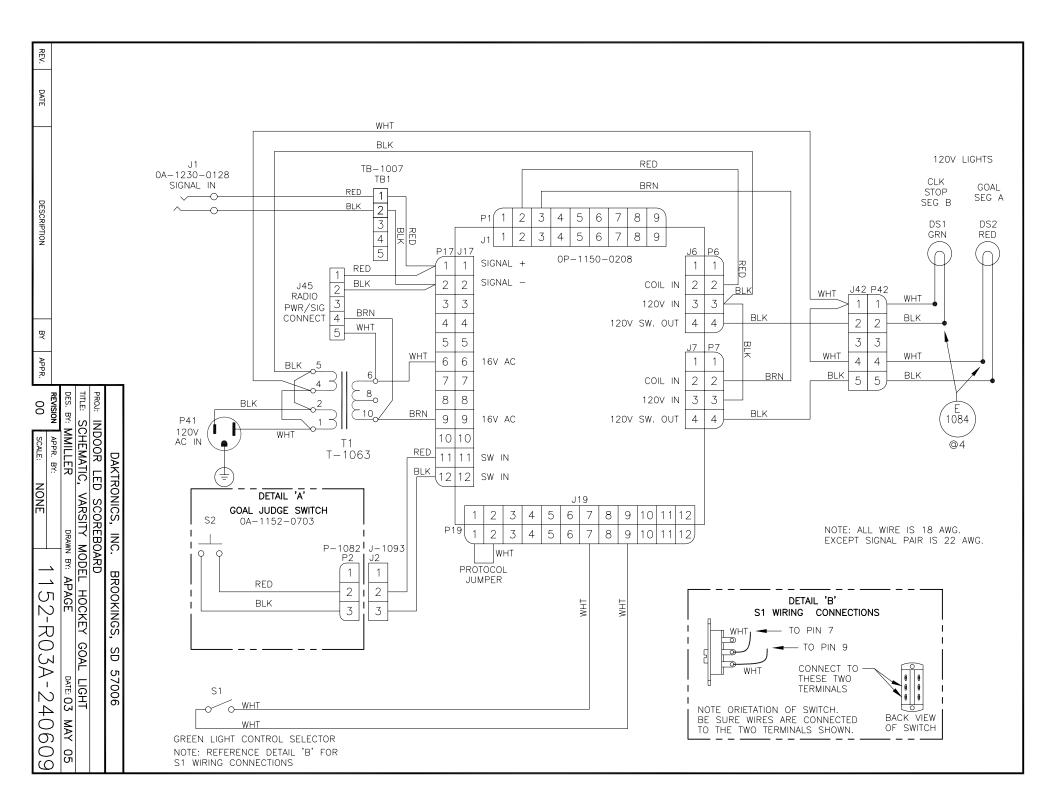
DATE: 29 APR 13

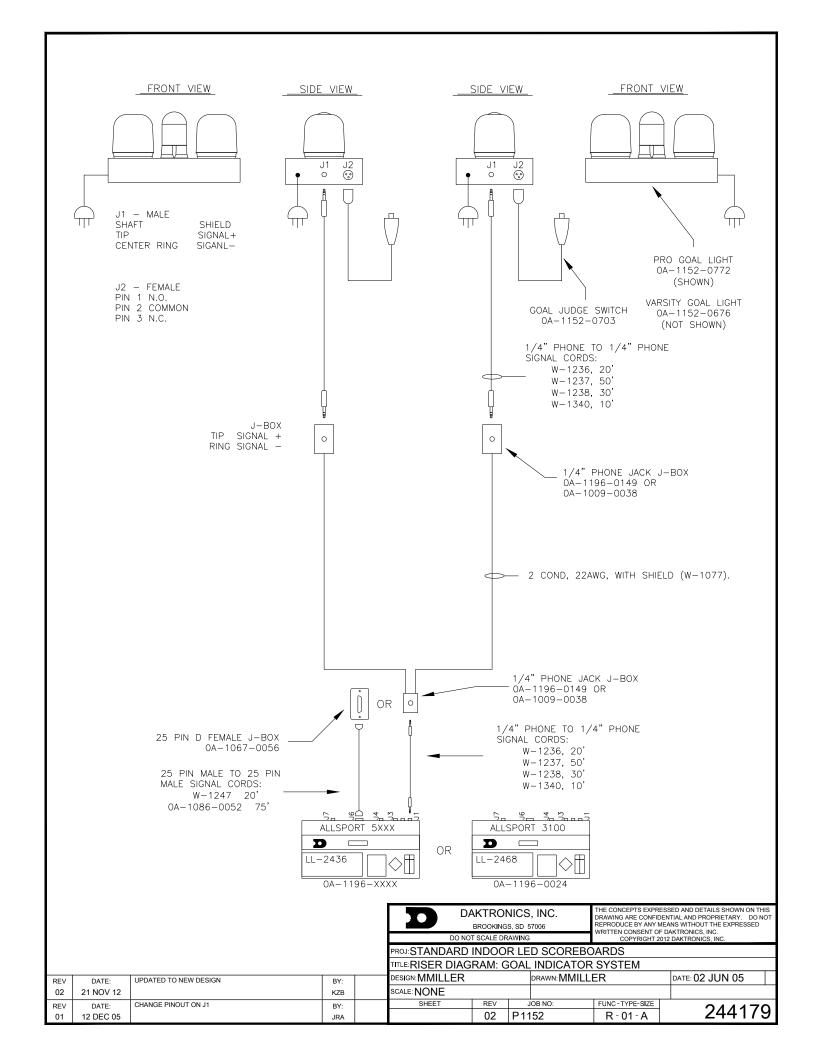
IF SIGNAL IS NOT CONNECTED, WHEN THE GOAL JUDGE BUTTON IS PRESSED, THE RED LIGHT ON THE GOAL LIGHT UNIT WILL BLINK ONCE ONLY.

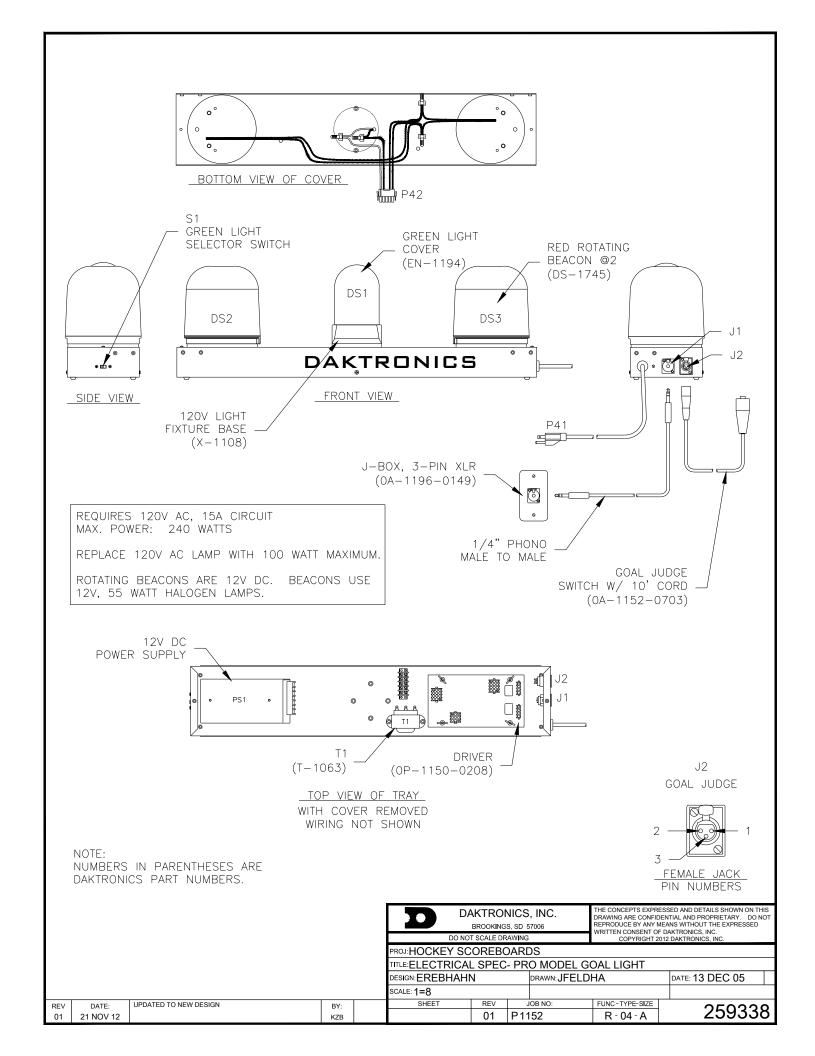
IF THE WRONG PROTOCOL SIGNAL IS BEING RECEIVED, WHEN THE GOAL JUDGE BUTTON IS PRESSED, THE RED LIGHT WILL FLICKER CONTINUOUSLY, AND THE RELAY CLICKING MAY BE HEARD.

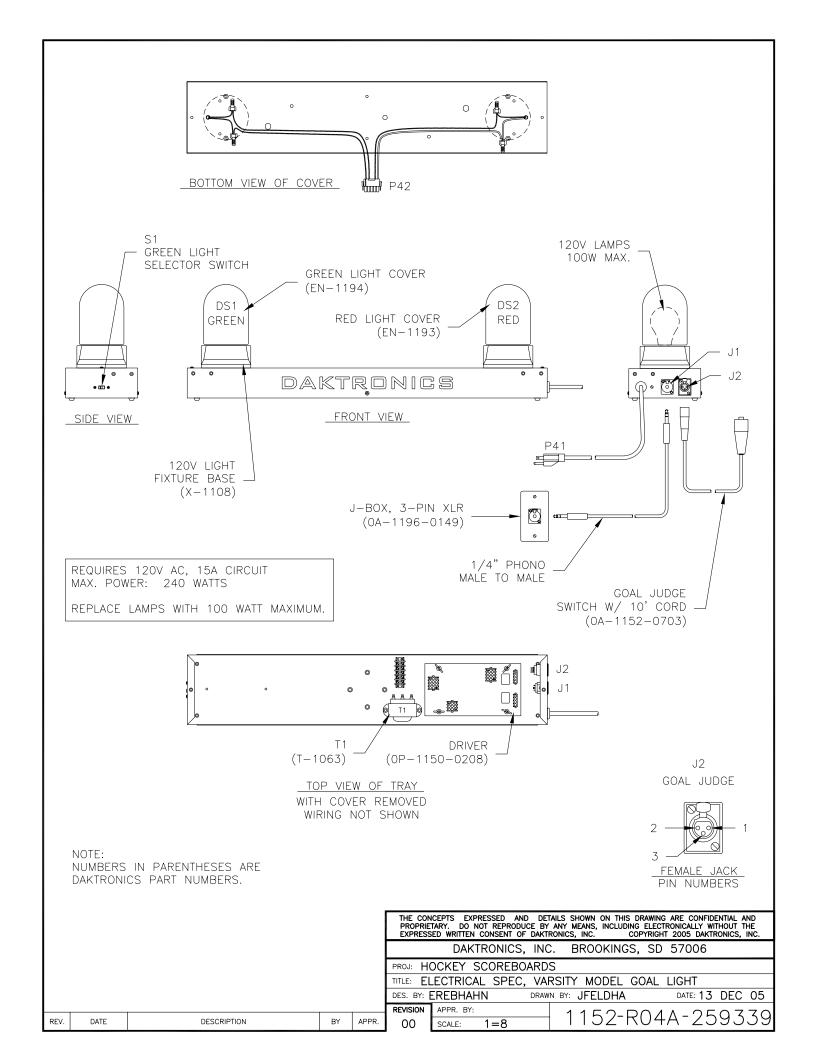
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DAKTRONICS, INC.			THE CONCEPTS EXPRESSED AND DETAILS SHOWN ON THIS DRAWING ARE CONFIDENTIAL AND PROPRIETARY. DO NOT REPRODUCE BY ANY MEANS WITHOUT THE EXPRESSED		
	BROOKING	S, SD 5	7006	DAKTRONICS, INC.	
DO NOT SCALE DRAWING			COPYRIGHT 2013 DAKTRONICS, INC.		
PROJ:LED FIXED DIGIT COMPONENTS					
TITLE:REFERENCE- GOAL LIGHT DRIVER					
DESIGN: D		DRAWN: A VANBEMMEL		DATE: 29 AUG 01	
SCALE: 1=2					
SHEET	REV		IOB NO:	FUNC-TYPE-SIZE	455000
	01	P11	150	R - 04 - A	155363

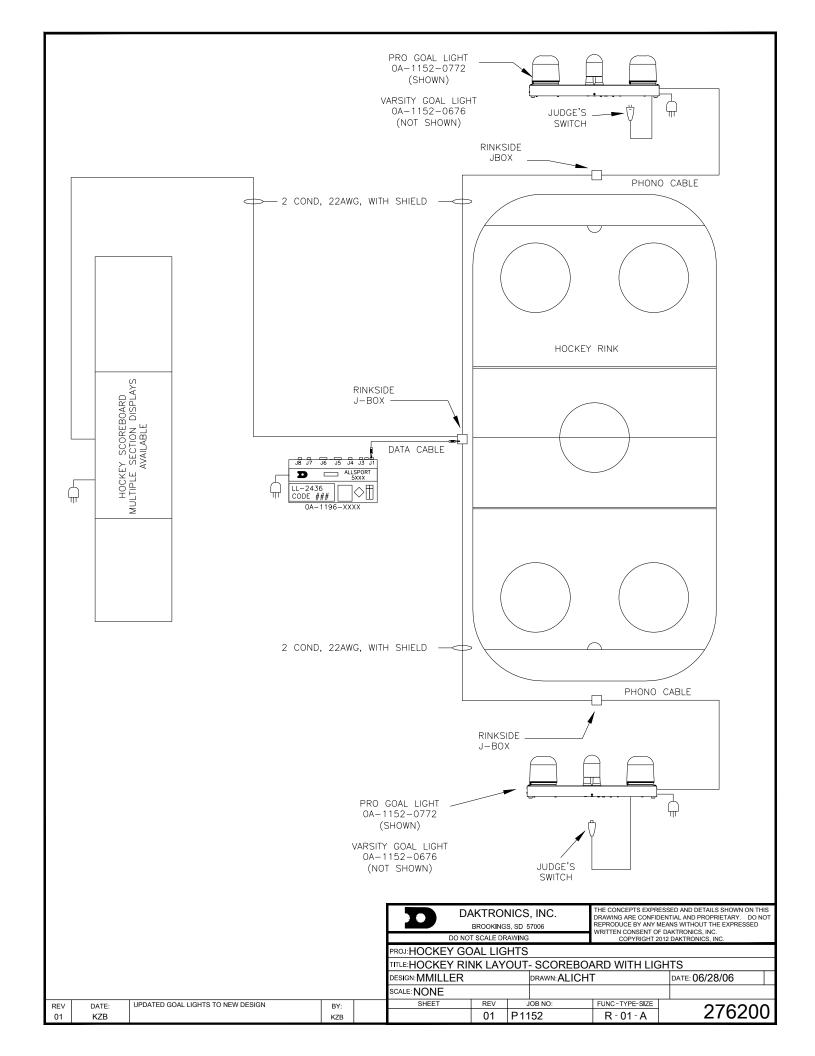


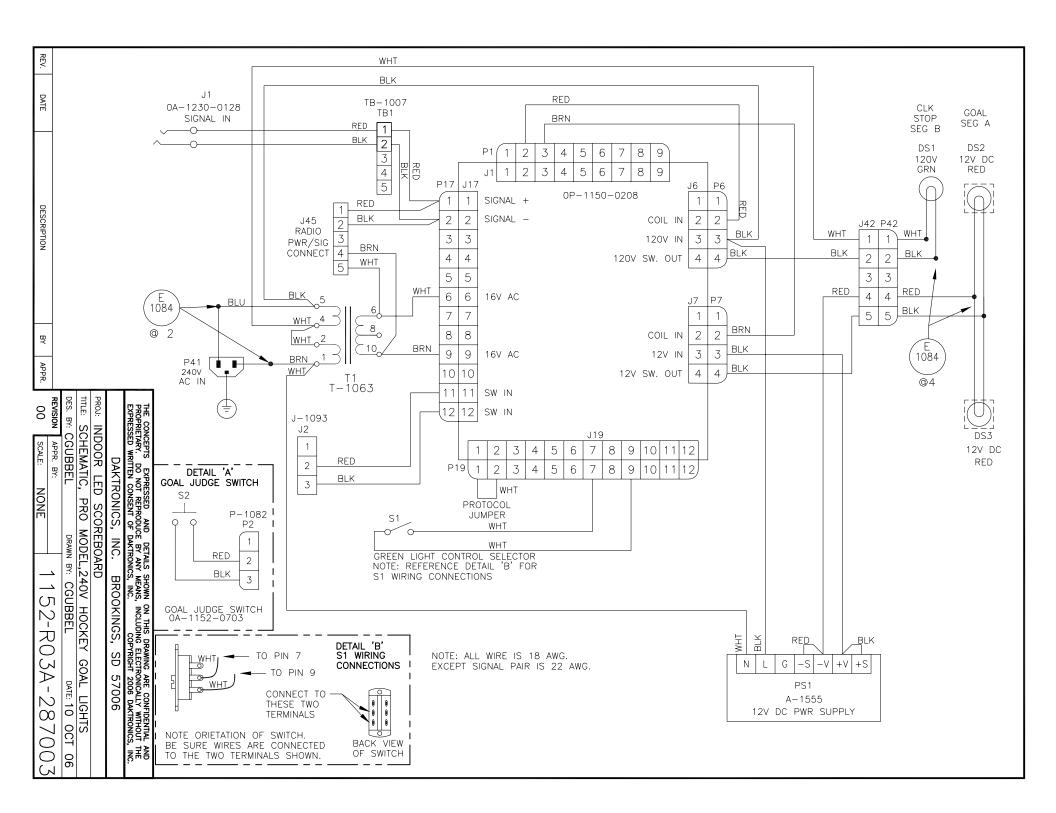


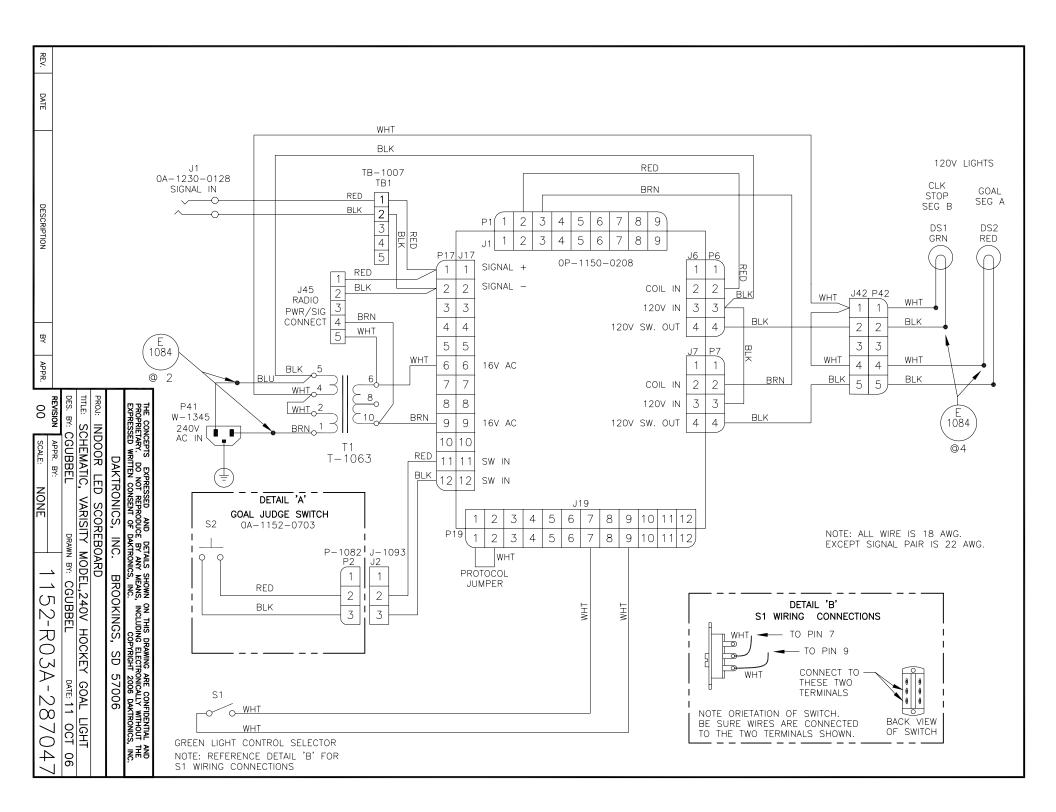


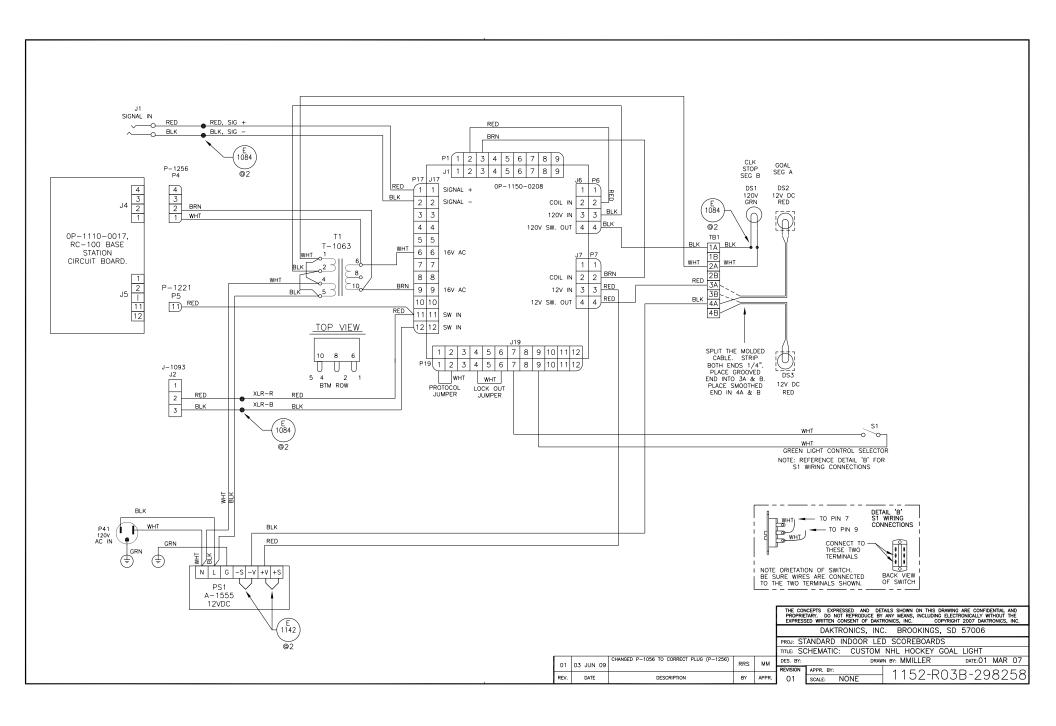


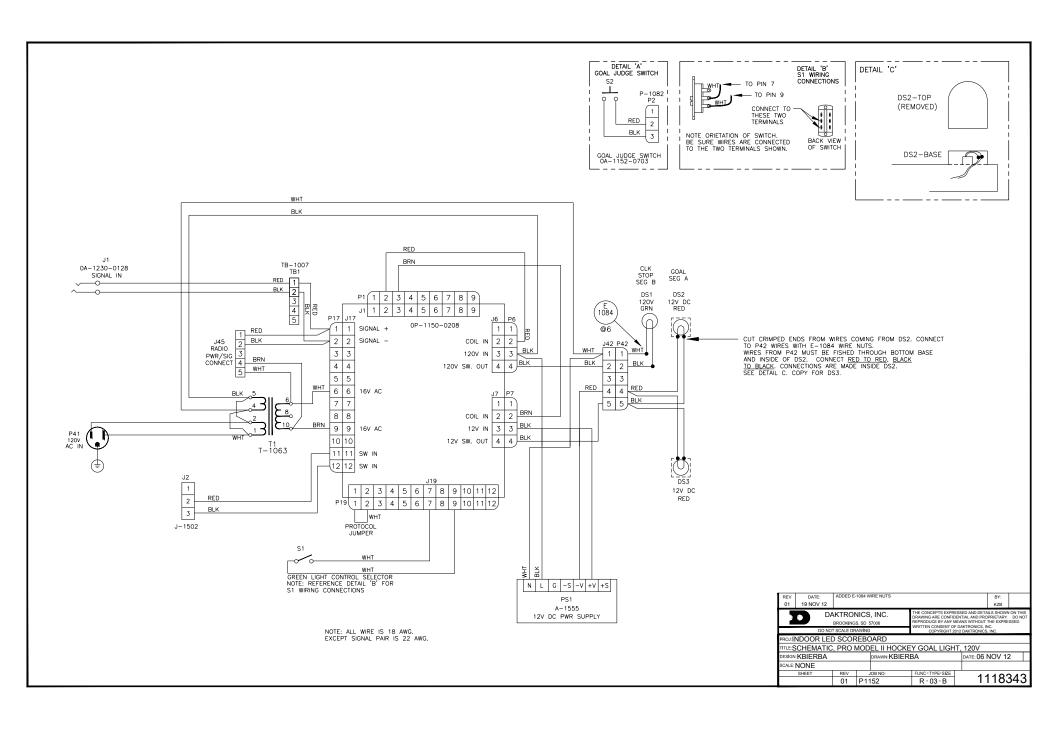


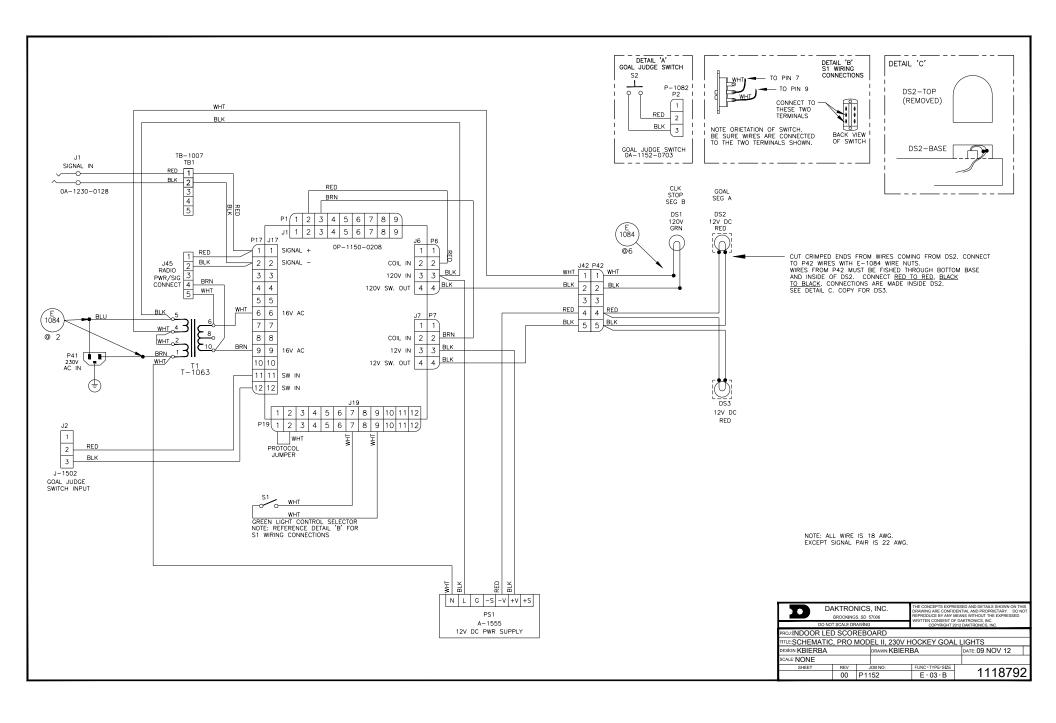


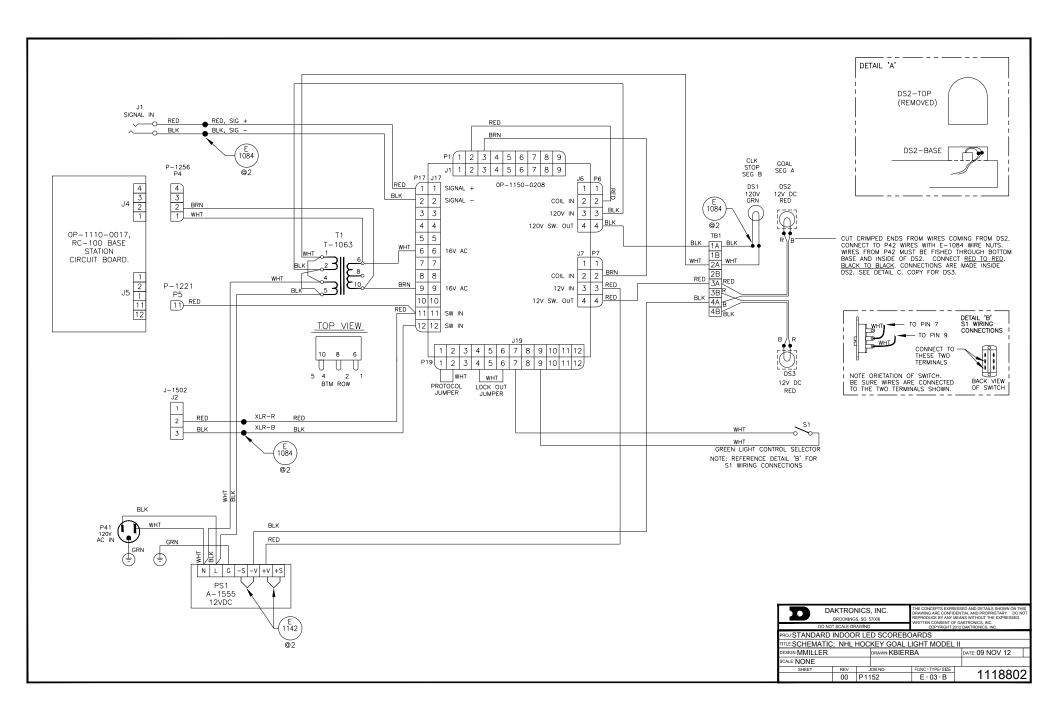










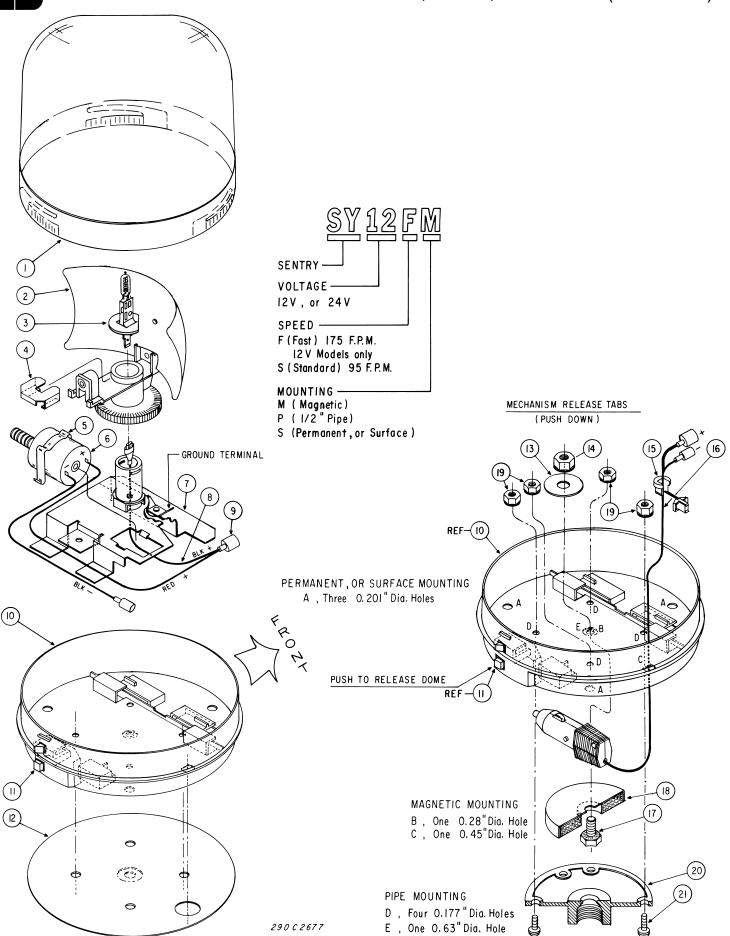


Supplementary Documents В





Sentry® SY12F, SY12S, AND SY24S (ROTATING)



PPL 0281 PARTS LIST

Sentry® SY12F, SY12S, and SY24S (Rotating)

Printed 1999

No. Description Part No. Qty.	Item			
Dome, Red Z8433001A-01 Dome, Amber Z8433001A-02 Dome, Blue Z8433001A-03 AR Dome, Green Z8433001A-04 Dome, CIE Blue Z8433001A-05 Z859187B 1 Z859187B 2 Z859187B 1 Z859187B 2 Z859187B 1 Z859187B 2 Z859187B 1 Z859187B 2 Z859187B 1 Z859187B 1 Z859187B 2 Z859187B 1 Z859187B 2 Z859187B 1 Z859187B 2 Z85918B 2 Z859187B 2 Z85918B 2 Z8483018B 2 Z85918B 2 Z85918B 2 Z85918B 2 Z85918B		Description	Part No.	Qty.
Dome, Red Z8433001A-01 Dome, Amber Z8433001A-02 Dome, Blue Z8433001A-03 AR Dome, Green Z8433001A-04 Dome, CIE Blue Z8433001A-05 Z859187B 1 Z859187B 2 Z859187B 1 Z859187B 2 Z859187B 1 Z859187B 2 Z859187B 1 Z859187B 2 Z859187B 1 Z859187B 1 Z859187B 2 Z859187B 1 Z859187B 2 Z859187B 1 Z859187B 2 Z85918B 2 Z859187B 2 Z85918B 2 Z8483018B 2 Z85918B 2 Z85918B 2 Z85918B 2 Z85918B	1	Dome, Clear	Z8433001A	
Dome, Blue			Z8433001A-01	
Dome, Blue		Dome, Amber	Z8433001A-02	1
Dome, CIE Blue Z8433001A-05			Z8433001A-03	AR
Dome, CIE Blue Z8433001A-05		Dome, Green	Z8433001A-04	
Reflector and Gear Assembly		Dome, CIE Blue		
Lamp, Halogen, 55W, 12V Z8440A265A-01 Lamp, Halogen, 70W, 24V Z8444A151A AR	2		Z8559187B	1
Lamp, Halogen, 70W, 24V Z8444A151A AR	3		Z8440A265A-01	1
Clip, Socket Z8550133A 1			Z8444A151A	AR
5 Clip, Motor Z8550138A 1 6 Motor and Worm Gear Assembly, 12V Fast Z8559A055A 1 Motor and Worm Gear Assembly, 12V Fast Z8559A055A-01 AR Motor and Worm Gear Assembly, 24V Z8559A055A-02 2 7 Plate and Socket Assembly Z8433007A 1 8 Lead Wire Assembly Z146A678B 1 9 Terminal, Q.D. 0.25, 22-18 1 10 Base, Permanent or Flush Mounting Z8433002B-01 1 Base, Pipe Mounting Z8433003B 1 12 Seal, Mylar (used with pipe mounting) Z8433040A 1 12 Seal, Mylar (used with magnetic mounting) Z8433040A 1 13/18 Magnetic Mounting X8433040A-01 AR 13/18 Magnetic Mounting X8433040A-01 AR 13/18 Magnetic Mounting X8433040A-01 AR 15 Strain Relief, Heyco Z7058A005 1 15 Strain Relief, Heyco Z231A117 1 16 Plug	4		Z8550133A	1
Motor and Worm Gear Assembly, 12V Standard Motor and Worm Gear Assembly, 12V Fast Z8559A055A-01 AR Motor and Worm Gear Assembly, 12V Fast Z8559A055A-02 X8559A055A-02 X8559A052B-02 X8559A05B-02 X8559A05B-0	5		Z8550138A	1
Motor and Worm Gear Assembly, 12V Fast Z8559A055A-01 AR Motor and Worm Gear Assembly, 24V Z8559A055A-02 7	6		Z8559A055A	1
Motor and Worm Gear Assembly, 24V Z8559A055A-02 7			Z8559A055A-01	AR
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S	7		Z8433007A	1
Terminal, Q.D. 0.25, 22-18	8		Z146A678B	1
Base, Permanent or Flush Mounting Z8433002B-01 1	9			1
Base, Pipe Mounting Z8433002B-02 AR			Z8433002B-01	1
11			Z8433002B-02	AR
Seal, Mylar (used with pipe mounting) Z8433040A 1 Seal, Mylar (used with magnetic mounting) Z8433040A-01 AR 13/18 Magnetic Mounting	11		Z8433003B	
Seal, Mylar (used with magnetic mounting) Z8433040A-01 AR	12			1
13/18 Magnetic Mounting 13 Washer, Flat Z7072A026 1 14 Nut, Ext. Keps 1/4-20 Z7058A005 1 15 Strain Relief, Heyco Z231A117 1 16 Plug and Wire Lead Assembly Z175779A 1 17 Screw, Ext. Sems, 1/4-20 x 1/2 Z7006A027-08 1 18 Magnet Assembly Z8550A012A 1 19/21 Pipe Mounting			Z8433040A-01	AR
13 Washer, Flat Z7072A026 1 14 Nut, Ext. Keps 1/4-20 Z7058A005 1 15 Strain Relief, Heyco Z231A117 1 16 Plug and Wire Lead Assembly Z175779A 1 17 Screw, Ext. Sems, 1/4-20 x 1/2 Z7006A027-08 1 18 Magnet Assembly Z8550A012A 1 19/21 Pipe Mounting	13/18			
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15 Strain Relief, Heyco Z231A117 1 16 Plug and Wire Lead Assembly Z175779A 1 17 Screw, Ext. Sems, 1/4-20 x 1/2 Z7006A027-08 1 18 Magnet Assembly Z8550A012A 1 19/21 Pipe Mounting		Nut. Ext. Keps 1/4-20		
16	15		Z231A117	1
17 Screw, Ext. Sems, 1/4-20 x 1/2 Z7006A027-08 1 18 Magnet Assembly Z8550A012A 1 19/21 Pipe Mounting 27058A022 4 20 Flange, Mounting, Black Z8241B017J-02 1 21 Screw, mach. Phl. Pan Hd., 8-32 x 7/16 Z7000A408-07 4 Not Shown Mounting Kit Hardware Permanent or Surface Mounting Kit Z8433010A 1 Pipe Mounting Kit Z150A109 2 Terminal, Q.D., 250 Z224A216A-04 1 Terminal, Q.D., 250 Z224A217A-02 1				
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19/21 Pipe Mounting				
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20 Flange, Mounting, Black Z8241B017J-02 1 21 Screw, mach. Phl. Pan Hd., 8-32 x 7/16 Z7000A408-07 4 Not Shown			Z7058A022	4
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Mounting Kit Hardware Permanent or Surface Mounting Kit Z8433010A 1 Pipe Mounting Kit Z150A109 2 Clamp, Cable Tie Z150A109 2 Terminal, Q.D., 250 Z224A216A-04 1 Terminal, Q.D., 250 Z224A217A-02 1				
Permanent or Surface Mounting Kit Z8433010A 1 Pipe Mounting Kit 2 Clamp, Cable Tie Z150A109 2 Terminal, Q.D., 250 Z224A216A-04 1 Terminal, Q.D., 250 Z224A217A-02 1				
Pipe Mounting Kit Z150A109 2 Clamp, Cable Tie Z150A109 2 Terminal, Q.D., 250 Z224A216A-04 1 Terminal, Q.D., 250 Z224A217A-02 1		Permanent or Surface Mounting Kit	Z8433010A	1
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Terminal, Q.D., 250 Z224A216A-04 1 Terminal, Q.D., 250 Z224A217A-02 1			Z150A109	2
Terminal, Q.D., 250 Z224A217A-02 1		Terminal, O.D., 250		
Magnetic Mounting Kit (none required) 0		Magnetic Mounting Kit (none required)		0

DO NOT ORDER PARTS BY ITEM NUMBER. Give model, description and part number. When a part number is not supplied, the part is **NOT** available. Refer to PARTS PRICE LIST (Part No. 1001) for prices of parts. Federal Signal Corporation 2645 Federal Signal Drive University Park, IL 60466

Printed in U.S.A.

С	Daktronics Warranty & Limitation of Liability
	This section includes the Daktronics Warranty & Limitation of Liability statement (SL-02374).



DAKTRONICS WARRANTY & LIMITATION OF LIABILITY

This Warranty and Limitation of Liability (the "Warranty") sets forth the warranty provided by Daktronics with respect to the Equipment. By accepting delivery of the Equipment, Purchaser and End User agree to be bound by and accept these terms and conditions. Unless otherwise defined herein, all terms within the Warranty shall have the same meaning and definition as provided elsewhere in the Agreement.

DAKTRONICS WILL ONLY BE OBLIGATED TO HONOR THE WARRANTY SET FORTH IN THESE TERMS AND CONDITIONS UPON RECEIPT OF FULL PAYMENT FOR THE EQUIPMENT

1. Warranty Coverage.

- A. Daktronics warrants to the original end user (the "End User", which may also be the Purchaser) that the Equipment will be free from Defects (as defined below) in materials and workmanship for a period of one (1) year (the "Warranty Period"). The Warranty Period shall commence on the earlier of: (i) four weeks from the date that the Equipment leaves Daktronics' facility; or (ii) Substantial Completion as defined herein. The Warranty Period shall expire on the first anniversary of the commencement date.
 - "Substantial Completion" means the operational availability of the Equipment to the End User in accordance with the Equipment's specifications, without regard to punch-list items, or other non-substantial items which do not affect the operation of the Equipment
- B. Daktronics' obligation under this Warranty is limited to, at Daktronics' option, replacing or repairing, any Equipment or part thereof that is found by Daktronics not to conform to the Equipment's specifications. Unless otherwise directed by Daktronics, any defective part or component shall be returned to Daktronics for repair or replacement. This Warranty does not include onsite labor charges to remove or install these components. Daktronics may, at its option, provide on-site warranty service. Daktronics shall have a reasonable period of time to make such replacements or repairs and all labor associated therewith shall be performed during regular working hours. Regular working hours are Monday through Friday between 8:00 a.m. and 5:00 p.m. at the location where labor is performed, excluding any holidays observed by Daktronics.
- C. Daktronics shall pay ground transportation charges for the return of any defective component of the Equipment. All such items shall be shipped by End User DDP Daktronics designated facility per Incoterms® 2020. If returned Equipment is repaired or replaced under the terms of this Warranty, Daktronics will prepay ground transportation charges back to End User and shall ship such items DDP End User's designated facility per Incoterms® 2020; otherwise, End User shall pay transportation charges to return the Equipment back to the End User and such Equipment shall be shipped Ex Works Daktronics designated facility per Incoterms® 2020. All returns must be pre-approved by Daktronics before shipment. Daktronics shall not be obligated to pay freight for any unapproved return. End User shall pay any upgraded or expedited transportation charges
- D. Any replacement parts or Equipment will be new or serviceably used, comparable in function and performance to the original part or Equipment and warranted for the remainder of the Warranty Period. Purchasing additional parts or Equipment from the Seller does not extend the Warranty Period.
- E. Defects shall be defined as follows. With regard to the Equipment (excepting LEDs), a "Defect" shall refer to a material variance from the design specifications that prohibit the Equipment from operating for its intended use. With respect to LEDs, "Defects" are defined as LED pixels that cease to emit light. Unless otherwise expressly provided, this Warranty does not impose any duty or liability upon Daktronics for partial LED pixel degradation. Notwithstanding the foregoing, in no event does this Warranty include LED pixel degradation caused by UV light. This Warranty does not provide for the replacement or installation of communication methods including but not limited to, wire, fiber optic cable, conduit, trenching, or for the purpose of overcoming local site interference radio equipment substitutions.

EXCEPT AS OTHERWISE EXPRESSLY SET FORTH IN THIS WARRANTY, TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, DAKTRONICS DISCLAIMS ANY AND ALL OTHER PROMISES, REPRESENTATIONS AND WARRANTIES APPLICABLE TO THE EQUIPMENT AND REPLACES ALL OTHER WARRANTIES OR CONDITIONS, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTIES OR CONDITIONS OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR ACCURACY OR QUALITY OF DATA. OTHER ORAL OR WRITTEN INFORMATION OR ADVICE GIVEN BY DAKTRONICS, ITS AGENTS OR EMPLOYEES, SHALL NOT CREATE A WARRANTY OR IN ANY WAY INCREASE THE SCOPE OF THIS LIMITED WARRANTY.

THIS LIMITED WARRANTY IS NOT TRANSFERABLE.

2. Exclusion from Warranty Coverage

This Warranty does not impose any duty or liability upon Daktronics for any:

- A. damage occurring at any time, during shipment of Equipment unless otherwise provided for in the Agreement. When returning Equipment to Daktronics for repair or replacement, End User assumes all risk of loss or damage, agrees to use any shipping containers that might be provided by Daktronics, and to ship the Equipment in the manner prescribed by Daktronics;
- B. damage caused by: (i)the improper handling, installation, adjustment, use, repair, or service of the Equipment, or (ii) any physical damage which includes, but is not limited to, missing, broken, or cracked components resulting from non-electrical causes;



DAKTRONICS WARRANTY & LIMITATION OF LIABILITY

altered, scratched, or fractured electronic traces; missing or gauged solder pads; cuts or clipped wires; crushed, cracked, punctured, or bent circuit boards; or tampering with any electronic connections, provided that such damage is not caused by personnel of Daktronics or its authorized repair agents;

- C. damage caused by the failure to provide a continuously suitable environment, including, but not limited to: (i) neglect or misuse; (ii) improper power including, without limitation, a failure or sudden surge of electrical power; (iii) improper air conditioning, humidity control, or other environmental conditions outside of the Equipment's technical specifications such as extreme temperatures, corrosives and metallic pollutants; or (iv) any other cause other than ordinary use;
- damage caused by fire, flood, earthquake, water, wind, lightning or other natural disaster, strike, inability to obtain materials or utilities, war, terrorism, civil disturbance, or any other cause beyond Daktronics' reasonable control;
- E. failure to adjust, repair or replace any item of Equipment if it would be impractical for Daktronics personnel to do so because of connection of the Equipment by mechanical or electrical means to another device not supplied by Daktronics, or the existence of general environmental conditions at the site that pose a danger to Daktronics personnel;
- F. statements made about the product by any salesperson, dealer, distributor or agent, unless such statements are in a written document signed by an officer of Daktronics. Such statements as are not included in a signed writing do not constitute warranties, shall not be relied upon by End User and are not part of the contract of sale;
- G. damage arising from the use of Daktronics products in any application other than the commercial and industrial applications for which they are intended, unless, upon request, such use is specifically approved in writing by Daktronics;
- H. replenishment of spare parts. In the event the Equipment was purchased with a spare parts package, the parties acknowledge and agree that the spare parts package is designed to exhaust over the life of the Equipment, and as such, the replenishment of the spare parts package is not included in the scope of this Warranty;
- I. security or functionality of the End User's network or systems, or anti-virus software updates;
- J. performance of preventive maintenance;
- K. third-party systems and other ancillary equipment, including without limitation front-end video control systems, audio systems, video processors and players, HVAC equipment, batteries and LCD screens;
- L. incorporation of accessories, attachments, software or other devices not furnished by Daktronics; or
- M. paint or refinishing the Equipment or furnishing material for this purpose.

3. Limitation of Liability

- A. Daktronics shall be under no obligation to furnish continued service under this Warranty if alterations are made to the Equipment without the prior written approval of Daktronics.
- B. It is specifically agreed that the price of the Equipment is based upon the following limitation of liability. In no event shall Daktronics (including its subsidiaries, affiliates, officers, directors, employees, or agents) be liable for any claims asserting or based on (a) loss of use of the facility or equipment; lost business, revenues, or profits; loss of goodwill; failure or increased cost of operations; loss, damage or corruption of data; loss resulting from system or service failure, malfunction, incompatibility, or breaches in system security; or (b) any special, consequential, incidental or exemplary damages arising out of or in any way connected with the Equipment or otherwise, including but not limited to damages for lost profits, cost of substitute or replacement equipment, down time, injury to property or any damages or sums paid to third parties, even if Daktronics has been advised of the possibility of such damages. The foregoing limitation of liability shall apply whether any claim is based upon principles of contract, tort or statutory duty, principles of indemnity or contribution, or otherwise
- C. In no event shall Daktronics be liable for loss, damage, or injury of any kind or nature arising out of or in connection with this Warranty in excess of the Purchase Price of the Equipment. The End User's remedy in any dispute under this Warranty shall be ultimately limited to the Purchase Price of the Equipment to the extent the Purchase Price has been paid.

4. Assignment of Rights

A. The Warranty contained herein extends only to the End User (which may be the Purchaser) of the Equipment and no attempt to extend the Warranty to any subsequent user-transferee of the Equipment shall be valid or enforceable without the express written consent of Daktronics.

5. Governing Law; Election of Remedies

- A. The rights and obligations of the parties under this Warranty shall not be governed by the provisions of the United Nations Convention on Contracts for the International Sales of Goods of 1980. The parties consent to the application of the laws of the State of South Dakota to govern, interpret, and enforce each of the parties' rights, duties, and obligations arising from, or relating in any manner to, the subject matter of this Warranty, without regard to conflict of law principles.
- B. Any dispute, controversy or claim arising from or related to this Warranty, the parties shall first attempt to settle through negotiations. In the event that no resolution is reached, then such dispute, controversy, or claim shall be resolved by final and binding arbitration under the Rules of Arbitration of the International Chamber of Commerce. The language of the arbitration



DAKTRONICS WARRANTY & LIMITATION OF LIABILITY

shall be English. The place of the arbitration shall be Sioux Falls, SD. A single arbitrator selected by the parties shall preside over the proceeding. If a single arbitrator cannot be agreed upon by the parties, each party shall select an arbitrator, and those arbitrators shall confer and agree on the appointed arbitrator to adjudicate the arbitration. The arbitrator shall have the power to grant any provisional or final remedy or relief that it deems appropriate, including conservatory measures and an award of attorneys' fees. The arbitrator shall make its decisions in accordance with applicable law. By agreeing to arbitration, the Parties do not intend to deprive any court of its jurisdiction to issue a pre-arbitral injunction, pre-arbitral attachment, or other order in aid of arbitration proceedings and the enforcement of any award. Without prejudice to such provisional remedies as may be available under the jurisdiction of a court, the arbitrator shall have full authority to grant provisional remedies and to direct the Parties to request that any court modify or vacate any temporary or preliminary relief issued by such court, and to award damages for the failure of any Party to respect the arbitrator's orders to that effect.

6. Availability of Extended Service Agreement

A. For End User's protection, in addition to that afforded by the warranties set forth herein, End User may purchase extended warranty services to cover the Equipment. The Extended Service Agreement, available from Daktronics, provides for electronic parts repair and/or on-site labor for an extended period from the date of expiration of this warranty. Alternatively, an Extended Service Agreement may be purchased in conjunction with this Warranty for extended additional services. For further information, contact Daktronics Customer Service at 1-800-DAKTRONics (1-800-325-8766).

Additional Terms applicable to sales outside of the United States

The following additional terms apply only where the installation site of the Equipment is located outside of the United States of America.

1. In the event that the installation site of the Equipment is in a country other than the U.S.A., then, notwithstanding Section 5 of the Warranty, where the selling entity is the entity listed in Column 1, then the governing law of this Warranty is the law of the jurisdiction listed in the corresponding row in Column 2 without regard to its conflict of law principles. Furthermore, if the selling entity is an entity listed in Column 1, then the place of arbitration is listed in the corresponding row in Column 3.

Column 1 (Selling Entity)	Column 2 (Governing Law)	Column 3 (Location of Arbitration)
Daktronics, Inc.	The state of Illinois	Chicago, IL, U.S.A.
Daktronics Canada, Inc.	The Province of Ontario, Canada	Toronto, Ontario, Canada
Daktronics UK Ltd.	England and Wales	Bristol, UK
Daktronics GmbH	The Federal Republic of Germany	Wiesbaden, Germany
Daktronics Hong Kong Limited	Hong Kong, Special Administrative Region of the P.R.C.	Hong Kong SAR
Daktronics Shanghai Co., Ltd.	The Peoples Republic of China	Shanghai, P.R.C.
Daktronics France, SARL	France	Paris, France
Daktronics Japan, Inc.	Japan	Tokyo, Japan
Daktronics International Limited	Macau, Special Administrative Region of the P.R.C.	Macau SAR
Daktronics Australia Pad Ltd	Australia	Sydney, Australia
Daktronics Singapore Pte. Ltd	Singapore	Singapore
Daktronics Brazil LTDA	Brazil	São Paulo, Brazil
Daktronics Spain S.L.U.	Spain	Madrid, Spain
Daktronics Belgium N. V	Belgium	Kruibeke, Belgium
Daktronics Ireland Co. Ltd.	Ireland	Dublin, Ireland



