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MODELS USIX-024 AND USIX-120
INSTRUCTION SHEET FOR FEDERAL SIGNAL UNISTAT™
STATUS INDICATOR MODEL USIX

Address all communications and shipments to:



FEDERAL SIGNAL CORPORATION
Industrial Products
2645 Federal Signal Drive
University Park, IL 60484-3167

**INSTRUCTION SHEET FOR FEDERAL SIGNAL UNISTAT™
STATUS INDICATOR MODEL USIX**

SAFETY MESSAGE TO INSTALLERS, USERS, AND MAINTENANCE PERSONNEL

WARNING

It is important to follow all instructions shipped with this product. This device is to be installed by a trained electrician who is thoroughly familiar with and will follow all applicable national and local codes.

This device may be considered a part of the signaling system and not the entire signaling system.

The selection of the mounting location for the device, its controls and the routing of the wiring is to be accomplished under the direction of the facilities engineer. In addition, listed below are some other important safety instructions and precautions you should follow:

- Read and understand all instructions before installing or operating this equipment.
- Do not connect this light to the system when power is on.
- After installation, ensure that all screws and threaded joints are properly tightened.
- After installation, test the light system to ensure that it is operating properly.
- After testing is complete, provide a copy of this instruction sheet to all operating personnel.
- Establish a procedure to routinely check the light installation for integrity and proper operation.

Failure to follow all safety precautions and instructions may result in property damage, serious injury, or death.

I. GENERAL

This equipment is suitable for Class I, Division 2, Groups A, B, C, D; Class II, Division 2, Groups F & G; Class III or non-hazardous locations only.

WARNING

EXPLOSION HAZARD

Do not disconnect while circuit is live or unless the area is known to be free of ignitable concentrations.

WARNING

EXPLOSION HAZARD

Substitution of components may impair suitability for Class I, Division 2.

The UniStat (USIX) status indicator contains one base, sleeve, PCB, color LED array, lens, cap, and surface gasket. The cap and sleeve attach to each end of the lens by a twist-lock joint. Two screws hold the base and sleeve together. The UniStat is assembled inside the explosion-proof housing.

A printed circuit board runs the entire length of the base and sleeve of the UniStat™ status indicator. The printed circuit board contains a terminal block and circuitry for the control of a color LED array that has an average life of 100,000 hours. The terminal block provides connection for two input power lines and six terminals for setting the operating modes.

The TC model color LED array can be set to operate in one of four modes while illuminating one of three colors: amber, green, or red. Three terminals are used to select the illuminated color.

The QC model color LED array can be set to operate in one of four modes while illuminating one of four colors: blue, amber, green, or red. Four terminals are used to select the illuminated color.

In addition to color selection, there are two terminals that are used to select the slow flash, Simu Strobe™, strobe flash, or steady-burn mode. The desired selection is accomplished by contact closure between the appropriate control pin to the common signal pin on the terminal block.

Table 1 and Table 2 identify the terminal connections and operating modes for the UniStat USIX TC and QC models.

The USIX is intended to be rigid mounted with proper conduit.

II. INSTALLATION

A. *Unpacking*

After unpacking the equipment, examine it for damage that may have occurred in transit. If the equipment has been damaged, do not attempt to install or operate it. File a claim immediately with the carrier stating the extent of the damage. Carefully check all envelopes, shipping labels and tags before removing or destroying them.

B. *Mounting*

This unit is intended to be mounted vertically to a secure platform.

NOTICE

EQUIPMENT DAMAGE

Excessive torque on the mounting screws may crack the base. Do not over tighten the screws.

Operating Voltage Range	24 Vdc	100-240 Vac 50-60 Hz
Operating Current	0.100 A	0.060A
Operating Temperature	-40°F to 151°F (-40°C to 66°C)	-40°F to 151°F (-40°C to 66°C)
Dimensions	Height 11", Diameter 4.75"	Height 11", Diameter 4.75"

Flash Rate: 400ms "ON," 400 ms "OFF"

Strobe Rate: 50ms "ON," 20 ms "OFF"

Alternating Colors: Each color is "ON" 400 ms with 70ms delay between colors.

Slow Flash Alternating Colors: Each color is "ON" 400 ms with 400 ms delay between colors.

Simu Strobe Alternating Colors: Each color is strobed 5 pulses 50 ms "ON," 20 ms "OFF" with 50 ms delay between colors.

Strobe/Flash Alternating Colors: Each color is strobed 5 pulses 50ms "ON," 20ms "OFF."

Environmental Ratings

See product nameplate.

D. *Electrical Connections*

1. Typical Connection Method

The USIX UniStat comes partially assembled from the factory. To complete the connections, perform the following steps. See Figure 1 for additional information.

- a. Remove the lens guard by twisting counter-clockwise (as viewed from the top).
- b. The electrical connections can be made at the terminal block of the unit using 18 AWG or 20 AWG solid copper or stranded wire.



To avoid electrical shock hazards, do not connect wires when power is applied.

- c. Feed the power and control wires through separate openings in the junction box of the base with appropriate conduit or comparable material suitable for the location in which it is being installed. Then, connect the wires to the connector as indicated in Figure 3, Table 2. Reference Table 1 for color and function selection on all models.



To ensure trouble-free operation of the fixture, ensure that the conduit has been secured to 200 in-lb. (22.6 Nm). Do not over-tighten as it may cause the enclosure to fracture. For all non-conductive fixtures, maintain the integrity of the ground of the conduit by wiring from one side of the fixture conduit to the other.

- d. Connect the lens guard by twisting it in the clockwise direction. Do not over-tighten the guard or you may crack it.
- e. Test the UniStat USIX to ensure that it operates as intended.

2. Alternate Connection Method (complete disassembly)

- a. Remove the lens guard by twisting it counter-clockwise (as viewed from the top). Remove the glass dome by twisting it counter-clockwise. Remove the lens by twisting it counter-clockwise until it unlocks. Lift the lens upward and off the base unit and retain the O-ring.
- b. Remove the two Phillips-head #6 screws and disassemble the sleeve from the base. The printed circuit board with LED array will remain attached to the sleeve allowing access to the terminal block. Use caution not to over-flex or damage the LED ribbon cable. Retain the O-ring for the sleeve.
- c. The electrical connections can now be made to the terminal block of the unit.



To avoid electrical shock hazards, do not connect wires when power is applied.

- d. Feed the power and control wires through separate openings in the junction box of the base with appropriate conduit or comparable material suitable for the location in which it is being installed. Then connect the wires to the connector as indicated in Figure 3, Table 2, Reference Table 1 for color and function selection on all models.
- e. Before reassembling, make sure the O-ring is in place between the base and sleeve. To reassemble the base unit, first attach the sleeve onto the base by sliding the printed circuit board into the channels on the base. Fasten the sleeves onto the base by reinstalling the screws removed in step 2.b. above. Make sure the gasket is placed on the base before the sleeve is put back on.
- f. Reassemble the lens onto the base unit, and place the O-ring between the lens and base. Apply a clockwise twisting motion to the lens until it locks into place.
- g. Attach the base to the junction box with the four screws and secure tightly. Install glass dome by twisting clockwise and secure tightly.

NOTICE

EQUIPMENT DAMAGE

To ensure trouble-free operation of the fixture, ensure that the conduit has been secured to 200 in-lb. (22.6 Nm). Do not over-tighten as it may cause the enclosure to fracture. When tightening the dome, be certain that the silicone rubber gasket is completely compressed. Do so by turning the dome 1/8 to 1/4 rotation past "hand-tight." For all non-conductive fixtures, maintain the integrity of ground of the conduit by wiring from one side of the fixture conduit to the other.

- h. Connect the lens guard by twisting it in the clockwise direction. Do not over-tighten the guard or you may crack it.
- i. Test the UniStat USIX to ensure that it operates as intended.

III. SERVICE.

Federal Signal will service your equipment or provide technical assistance with any problems that cannot be handled locally. Any units returned to Federal Signal for service, inspection, or repair must be accompanied by a Return Material Authorization. This R.M.A. can be obtained from the local distributor or manufacturer's representative. At this time a brief explanation of the service requested, or the nature of the malfunction, should be provided.

Address all communications and shipments to:

Industrial Products
Service Department
Federal Signal Corporation
2645 Federal Signal Drive
University Park, IL 60484-3167
708-534-4858 (Service)
708-534-3424, extension 5823 (Technical Support)

IV. REPLACEMENT PARTS/ACCESSORIES.

Description	Part No./Model No.
Housing, USIX	K8447143
PCB, USIX-024TC	K2005347
PCB, USIX-024QC	K2005347
PCB, USIX-120TC	K2005347-02
PCB, USIX-120QC	K2005347-02
Fuse, USIX-024	K1431001
Fuse, USIX-120	K143136
Lens, Clear	K8447042-02
Cap	K8447044
O-Ring	K8447054
TC LED PCB	K2005328
QC LED PCB	K2005328-01

Table 1

ACTIVATION METHOD FOR THE USI-024TC, USIX-120TC, USIX-024QC, and USIX-120QC

SIMU	Flash	RED LED Select	GREEN LED Select	BLUE LED Select	AMBER LED Select	Description/Function
PIN 2 (S)	PIN 3 (F)	PIN 5 (R)	PIN 6 (G)	PIN 7* (B)	PIN 8 (A)	
O	O	O	O	O	X	Steady Burn Amber LED
O	X	O	O	O	X	Slow Flash Amber LED
X	O	O	O	O	X	SimuStrobe Amber Color
X	X	O	O	O	X	Strobe/Flash Amber Color
O	O	X	O	O	O	Steady Burn Red LED
O	X	X	O	O	O	Slow Flash Red LED
X	O	X	O	O	O	SimuStrobe Red LED
X	X	X	O	O	O	Strobe/Flash Red LED
O	O	O	O	X	O	Steady Burn Blue LED
O	X	O	O	X	O	Slow Flash Blue LED
X	O	O	O	X	O	SimuStrobe Blue LED
X	X	O	O	X	O	Strobe/Flash Blue LED
O	O	O	X	O	O	Steady Burn Green LED
O	X	O	X	O	O	Slow Flash Green LED
X	O	O	X	O	O	SimuStrobe Green LED
X	X	O	X	O	O	Strobe/Flash Green LED
O	O	X	O	O	X	Alternating Amber/Red Colors
O	X	X	O	O	X	Slow Flash Alternating Amber/Red Colors
X	O	X	O	O	X	SimuStrobe Alternating Amber/Red Colors
X	X	X	O	O	X	Strobe/Flash Amber/Red Colors
O	O	O	O	X	X	Alternating Amber/Blue Colors
O	X	O	O	X	X	Slow Flash Alternating Amber/Blue Colors
X	O	O	O	X	X	SimuStrobe Alternating Amber/Blue Colors
X	X	O	O	X	X	Strobe/Flash Amber/Blue Colors
O	O	O	X	O	X	Alternating Amber/Green Colors
O	X	O	X	O	X	Slow Flash Alternating Amber/Green Colors
X	O	O	X	O	X	SimuStrobe Alternating Amber/Green Colors
X	X	O	X	O	X	Strobe/Flash Amber/Green Colors
O	O	X	X	X	X	Alternating Amber/Red/Blue/Green Colors
O	X	X	X	X	X	Slow Flash Alternating Amber/Red/Blue/Green Colors
X	O	X	X	X	X	SimuStrobe Alternating Amber/Red/Blue/Green Colors
X	X	X	X	X	X	Strobe/Flash Alternating Amber/Red/Blue/Green Colors

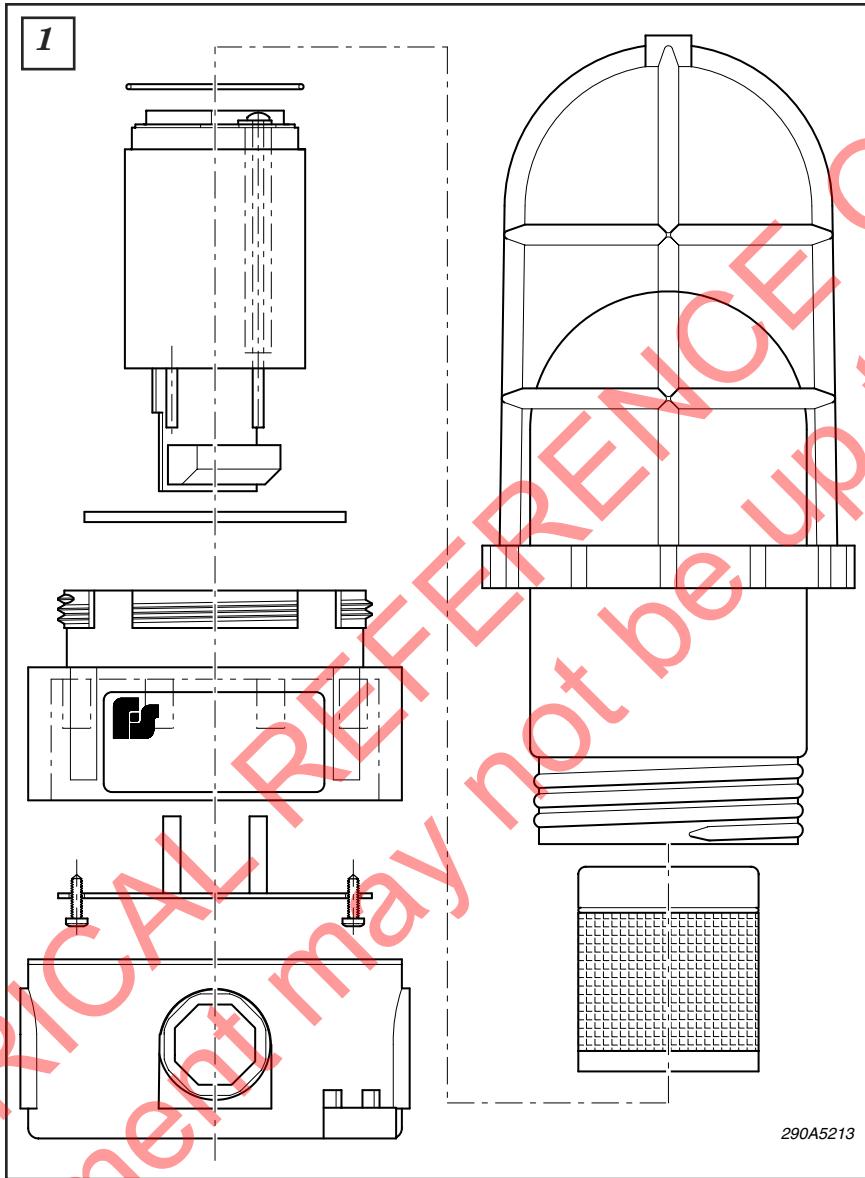
AI select, pin (1) selects sounder for the USIS models only.

All Other Options All Colors OFF

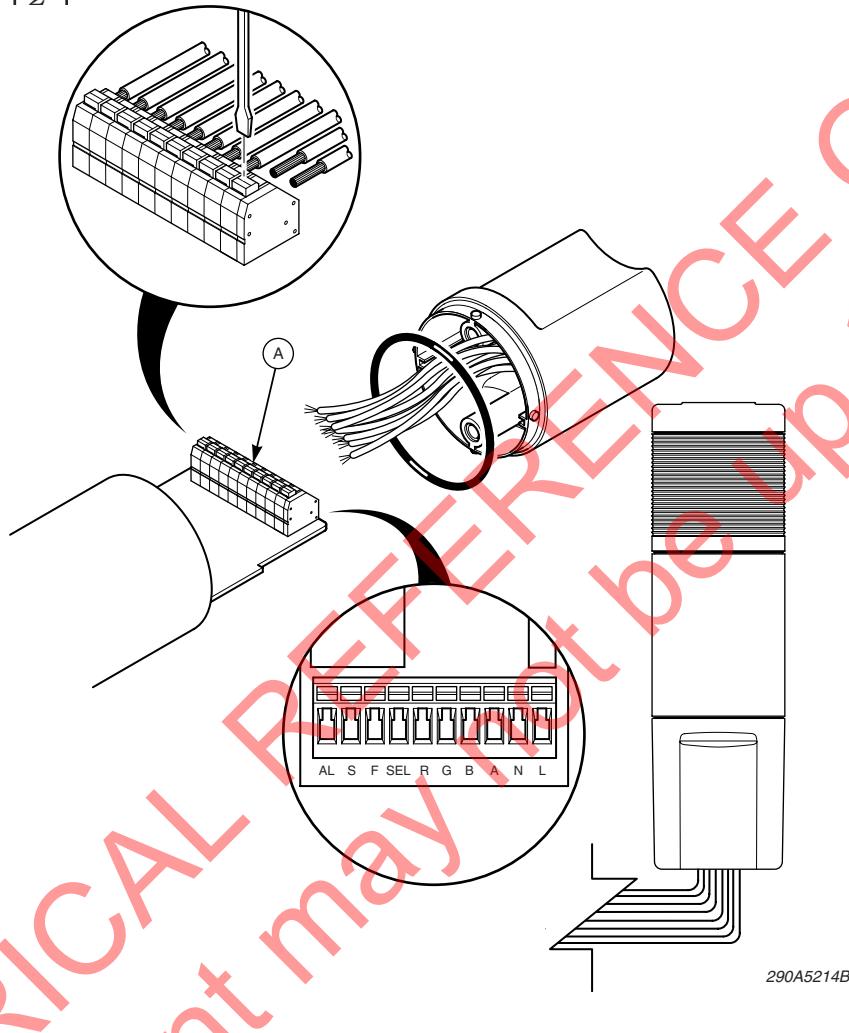
X = Contact closure to Selection Common Signal (Pin 4 on terminal block).

O = Contact open.

* Pin 7(B) is not used for the TC models

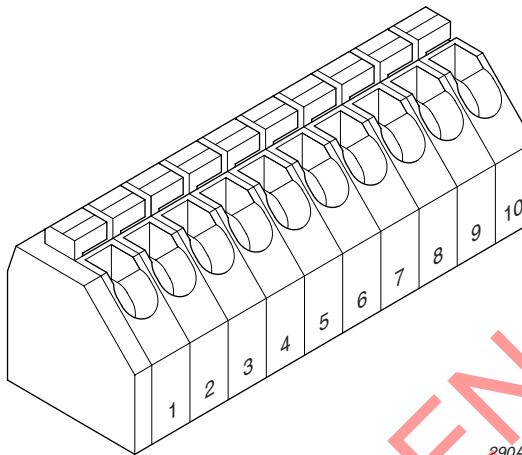


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290A5214B

3



290A5215

Table 2

Pin #	Label	Identification
1	AL	Alarm Select
2	S	Strobe Select
3	F	Flash Select
4	GND	Ground (Select Common)
5	R	Red LED Select
6	G	Green LED Select
7	B	Blue LED Select (QC - Model)
8	A	Amber LED Select
9	N	(-)/ Neutral (DC/AC)
10	L	(+)/ Line (DC/AC)

CAUTION: DO NOT CONNECT PIN 4 to PIN 9.

Connect PIN 4 to any of PINS 1, 2, 3, 5, 6, 7 or 8 direct or select any via closed contact switch. Connecting multiple lines to Pin 4 provides alternate functions. See tables 1 or 2.

NOTE: PIN 7 has no function for the tri-color models. PIN 1 has no function for the USIX models.