



Gas and Flame Detection

# Operation and Maintenance Manual

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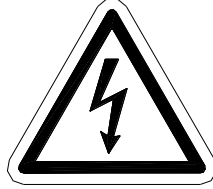
GDS-450X Alarm Station for Hazardous Areas

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GDS Corp.

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**CAUTION: FOR SAFETY REASONS THIS EQUIPMENT MUST BE OPERATED AND SERVICED BY QUALIFIED PERSONNEL ONLY. READ AND UNDERSTAND INSTRUCTION MANUAL COMPLETELY BEFORE OPERATING OR SERVICING.**

**ATTENTION: POUR DES RAISONS DE SÉCURITÉ, CET ÉQUIPEMENT DOIT ÊTRE UTILISÉ, ENTRETENU ET RÉPARÉ UNIQUEMENT PAR UN PERSONNEL QUALIFIÉ. ÉTUDIER LE MANUE D'INSTRUCTIONS EN ENTIER AVANT D'UTILISER, D'ENTRETENIR OU DE RÉPARER L'ÉQUIPEMENT.**

REVISION HISTORY

Revision 1.0    8/22/17    Initial Release

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## 1 SAFETY INFORMATION

### Important – Read Before Installation

Read the following WARNINGS prior to use.

#### **WARNINGS**

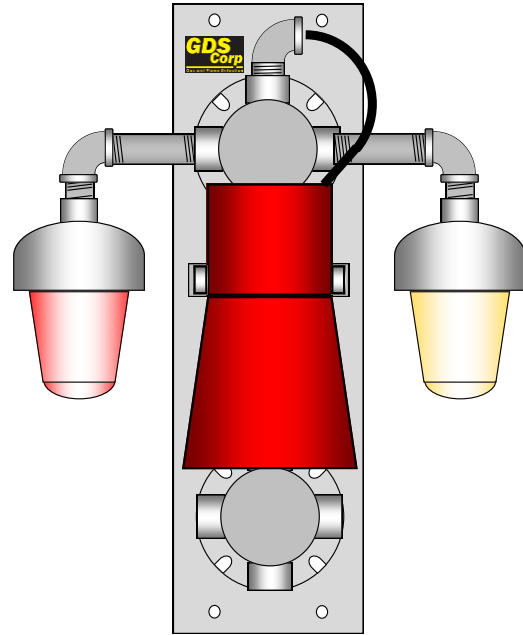
- Shock Hazard - Disconnect or turn off power before installing or servicing this equipment.
- Do not apply power to unit in hazardous areas until installation is complete and the device is fully sealed and secured.
- Always perform a complete system end-to-end test before relying on the GDS-450X Alarm Station for safety warnings
- Make sure the mounting plate is securely connected to a earth ground
- If mounting on a pole or other exposed location, protect the GDS-450X from lightning or electrical discharge
- Do not operate horn within 36" of ear; wear hearing protection when testing
- This equipment is suitable for use Class I Division 1 and Class 1 Zone 1 hazardous locations
- Use properly rated wire; use of crimp ferrules for wire termination is highly recommended
- Adhere to all applicable local or national wiring installation guidelines or regulations for hazardous areas
- Clean using only a damp cloth with no solvents.
- Do not pressure wash!
- Equipment not used as prescribed within this manual may impair overall safety.

## 2 GENERAL INFORMATION

The GDS Corp GDS-450X is a two-strobe plus horn alarm station designed to provide unambiguous warning indication of hazardous or dangerous conditions. The GDS-450X provides separate connections for each device to allow any combination of strobe or horn activation.

Key features include:

- Horn and Strobes certified for use in Class 1 Div 2 and Class 1 Zone 1 hazardous areas
- High output Xenon strobes with 360° visibility
- Choice of strobe colors
- Suitable for indoor or outdoor installation
- Multiple-tone high-output horn
- Stainless steel mounting panel
- Pole or wall mount
- Easy-wire junction box
- 110VAC or +24VDC input power
- Quick-connect option for temporary installations
- Side or bottom wire entry



### 3 GDS-450X SPECIFICATIONS

Power Input*	110/220VAC, 45 watts (all devices activated) 24VDC (12V available) 35 watts (all devices activated) *(Specify 110VAC, +24VDC or +12VDC when ordering)
Strobe(s)	Flash rate: 60 – 80 flashes per second Light output 60 Cd @ 24VDC, 30 Cd @110VAC (total output determined by lens color) High output Xenon strobe lamp Reinforced polyester body; borosilicate glass lens assembly Available in Amber, Blue, Green, Yellow & Red UL listed for indoor / outdoor use
Horn Sounder	Multiple tones (see programming table) 108 to 125 dB output depending on tone selection UL listed for indoor / outdoor use
Construction	16GA #316 stainless steel mounting plate Stainless steel conduit Power-coated aluminum junction boxes
Environmental	-55°C to +70°C Suitable for indoor or outdoor installation
Altitude	Maximum 5000 ft / 1500 meters
Dimensions	See Drawings and Dimensions
Approvals	Strobes & Horn: UL listed for use in Class 1, Div 2, Groups A, B, C &D hazardous areas USA (USL) & Canada (CNL) Class II, Div 2, Groups F &G hazardous areas; Class I Zone 1, AExd IIC, Exd IIC
Warranty	Two years from date of purchase

## 4 INSTALLATION

### SELECTING A LOCATION

The GDS-450X Alarm Station should be mounted in a location with suitable visibility. Entry gates, central control rooms, outdoor instrument shelters and free-standing poles are ideal locations. The GDS-450 mounting plate includes openings for 2" U-bolts as well as wall-mount bolts.

### CONNECTIONS

Wiring connections to the GDS-450X are made to a PCB located in the lower wiring junction box. To access the terminals, remove the cover from the lower junction box. The wiring terminals provide separate power leads for each strobe and the horn and a common DC ground / AC neutral connection.

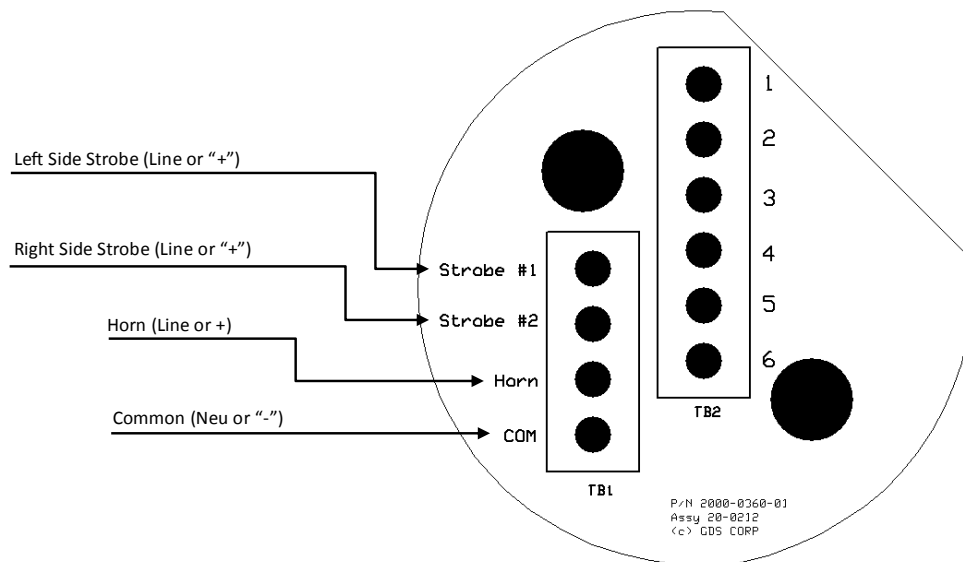


Figure 4-1: GDS-450X Wiring Diagram

**CAUTION: ALWAYS MAKE SURE THAT THE WIRING JUNCTION BOX IS PROPERLY SEALED AGAINST WATER INGRESS. THE WIRING JUNCTION BOX PROVIDES BOTH SIDE AND BOTTOM ENTRIES (BOTTOM IS PREFERRED). BE SURE THAT PLUGS ARE INSTALLED IN ANY UNUSED WIRING ENTRIES AND THAT THE COVER IS TIGHTENED SECURELY.**



## HORN PROGRAMMING

The horn sounder can be programmed for up to 32 different sounds via a 5-position dip-switch located inside the horn enclosure. See the following table below for programming options. Note switch marking (“ON” = 1)

TO No.	TO FREQ/DESCRIPTION	SWITCH SETTING 12345	TO DESCRIPTION	Nominal SPL (dB(A) @ 1m)
1	Alt Stages 800/970 Hz at 1/4 sec	11111		112
2	Sweeping 800/970 Hz at 7 Hz	11110	Fast Sweep (LF)	111
3	Sweeping 800/970 Hz at 1 Hz	11101	Medium Sweep (LF)	113
4	Continuous at 2850 Hz	11100		111
5	Sweeping 2400-2850 Hz at 7 Hz	11011	Fast Sweep	112
6	Sweeping 2400-2850 Hz at 1 Hz	11010		113
7	Slow Whoop	11001	Slow Whoop	113
8	Sweep 1200-500 Hz at 1 Hz	11000	Din Stage	117
9	Alt Stages 2400/2850 Hz at 2 Hz	10111		111
10	Int Stage of 970 Hz at 1 Hz	10110	Back-up Alarm (LF)	112
11	Alt Stages 800/970 Hz at 7/8 Hz	10101		112
12	Int Stage at 2850 Hz at 1Hz	10100	Back-up Alarm (HF)	112
13	970 Hz at 1/4 sec on 1 sec off	10011		112
14	Continuous at 970 Hz	10010		112
15	554 Hz for 0.1S/440 Hz for 0.4S	10001	French Fire Sound	113
16	Int 660 Hz 150 mS on 150 mS off	10000	Swedish Fire Alarm	108
17	Int 660 Hz 1.8 sec on 1.8 sec off	01111	Swedish Fire Alarm	108
18	Int 660 Hz 6.5 sec on 13 sec off	01110	Swedish Fire Alarm	109
19	Continuous 660 Hz	01101	Swedish Fire Alarm	108
20	Alt 554/440 Hz at 1 Hz	01100	Swedish Fire Alarm	113
21	Int 660 Hz at 7/8 Hz	01011	Swedish Fire Alarm	108
22	Int 2850 Hz 150 mS on 100 mS off	01010	Pelican Crossing	111
23	Sweep 800-970 Hz at 50 Hz	01001	Low Freq. Buzz	109
24	Sweep 2400 -2850 Hz at 50 Hz	01000	High Freq. Buzz	111
25	3x970 Hz pulses 0.5 off, 1.5 off	00111		112
26	3x2850 Hz pulses 0.5on/0.5off, 1.5 off	00110		112
27	Int 3100 Hz 0.32s on/0.68s off	00101		105
28	Continuous 1400 Hz	00100		125
29	Spare / Custom tone	00011		
30	Spare / Custom tone	00010		
31	Spare / Custom tone	00001		
32	Spare / Custom tone	00000		

Figure 4-2: GDS-450X Horn Programming

## **5 TROUBLESHOOTING GUIDE**

### **STROBES INOPERATIVE**

- No power
- Incorrect power source (AC or DC)
- Hot wire disconnected
- Common wire not connected or faulty

### **HORN INOPERATIVE**

- No power
- Incorrect power source (AC or DC)
- Hot wire disconnected
- Common wire not connected of faulty

### **HORN PATTERN INCORRECT**

- Reprogram horn using internal DIP switches

## 6 DRAWINGS AND DIMENSIONS

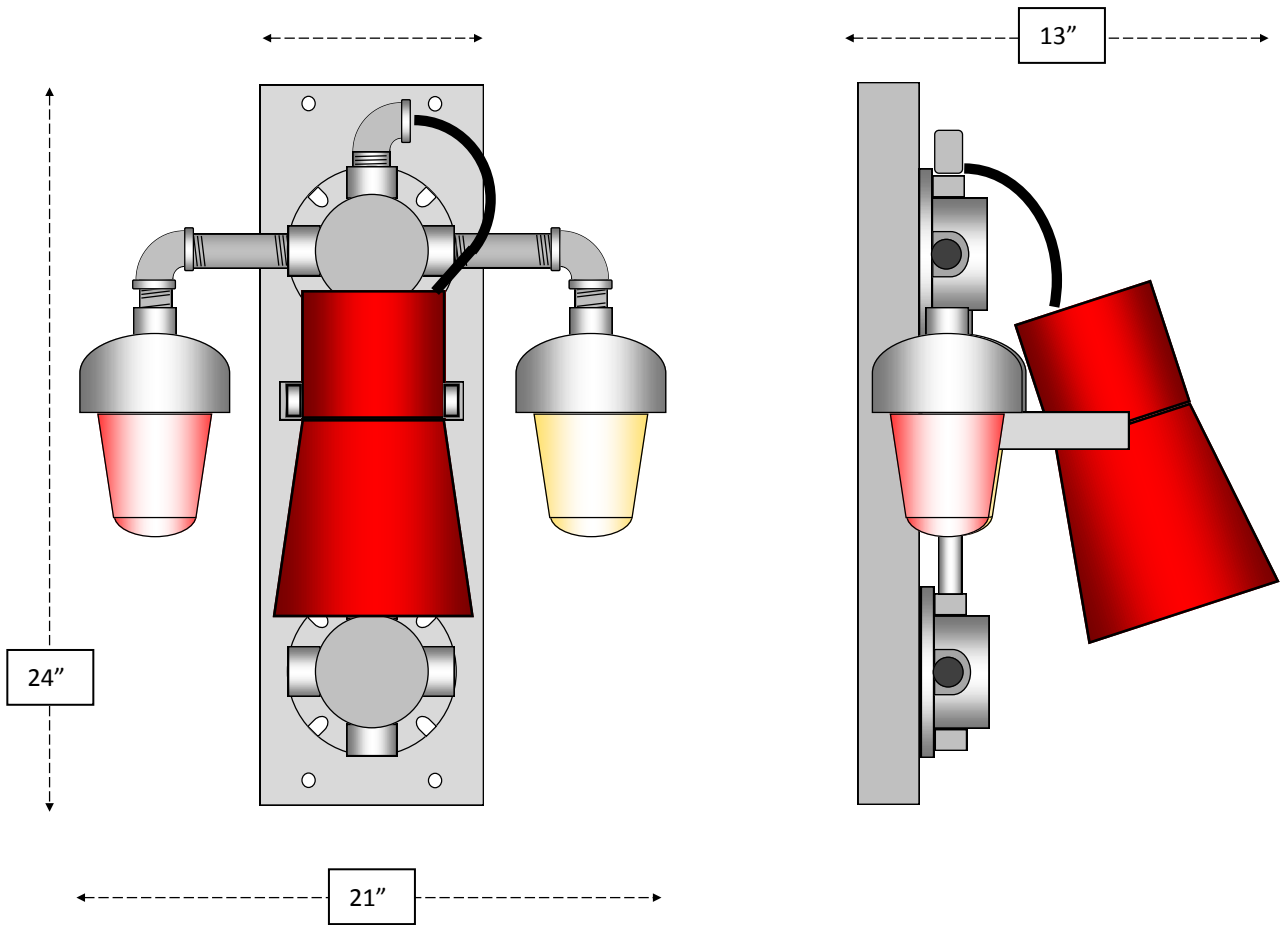


Figure 6-1: GDS-450X Dimensions

