

Wall Mount Combination Strobe Horn

INSTALLATION INSTRUCTION

HORN/STROBE

FHS-340 INDOOR

FHS-340-WP OUTDOOR

STROBE

FS-340 INDOOR

FS-340-WP OUTDOOR

HORN

FH-340 INDOOR / OUTDOOR



Signaling Appliance for the Hearing Impaired.
Audible Signaling Appliance for Fire Alarm Service.

INST. SHT. No. SH1224-H1043 S111031a

Description

UL listed FHS series Horn/Strobe, FS series Strobe and FH-340 Horn are designed to provide audible and visual signals for Fire Alarm Protection Systems.

The series are operatable with either 12V or 24V system panels having an output voltage of either DC or FWR (full wave rectified) between 8V and 33V. If required, SDM-240 may be used in order to provide synchronization for regulated 24 strobe (INDOOR). The FHS series combines a selective 3 horn tone and 1 chime sound with a Strobe. The horn provides a continuous tone, temporal patten (code 3) tone or March time sound when constant voltage is applied.

Each sound has three dBA levels (High, Mid or Low) to choose from by DIP Switch.

The strobe has various output depending on regulated voltage.

12V clear strobe can be selected from 15cd, 35cd or 60cd (75cd on axis). 24V clear strobe can be selected from 15cd, 35cd, 60cd (75cd on axis), 75cd, 95cd or 110cd and 24V.

FHS series audible / visual signals can be connected either independently or in unison. The horn can be silenced while the strobe remains flashing. The FS series are Strobe that is identical to FHS series without horn circuitry. The FH-340 is a Horn that is identical to FHS series without strobe circuitry.

This series are polarized and have screw terminals for IN/OUT wiring connection using #12 to #18 AWG wires. The series are available in red or white color.

UL464	: FH-340, FHS-340, FHS-340-WP
UL1638	: FHS-340-WP, FS-340-WP
UL1971	: FHS-340, FS-340
ULC-S525	: FH-340, FHS-340, FHS-340-WP
ULC-S526	: FHS-340, FS-340, FHS-340-WP, FS-340-WP

Note

Installation must comply in accordance with applicable standards such as NFPA72, ANSI117.1, UL464, UL1638, UL1971, ULC-S525, ULC-S526, and state and local codes.

The strobe are not be used as a visual public mode alarm notification appliance when used outdoors.

Synchronization module are not to be used when used outdoors.

Installation

HORN

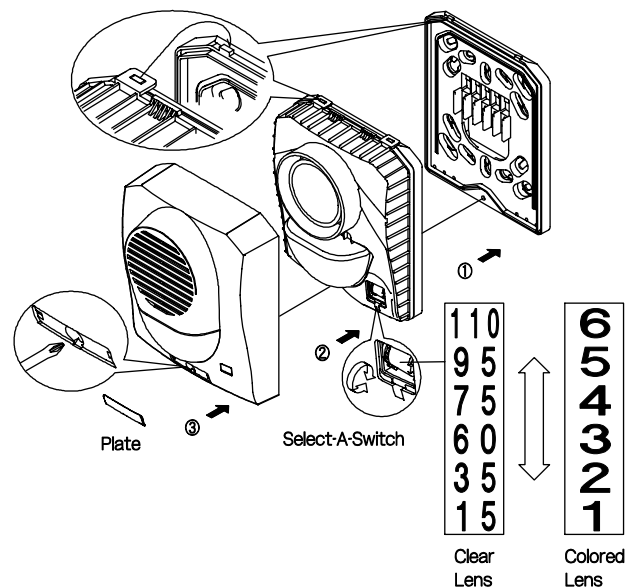
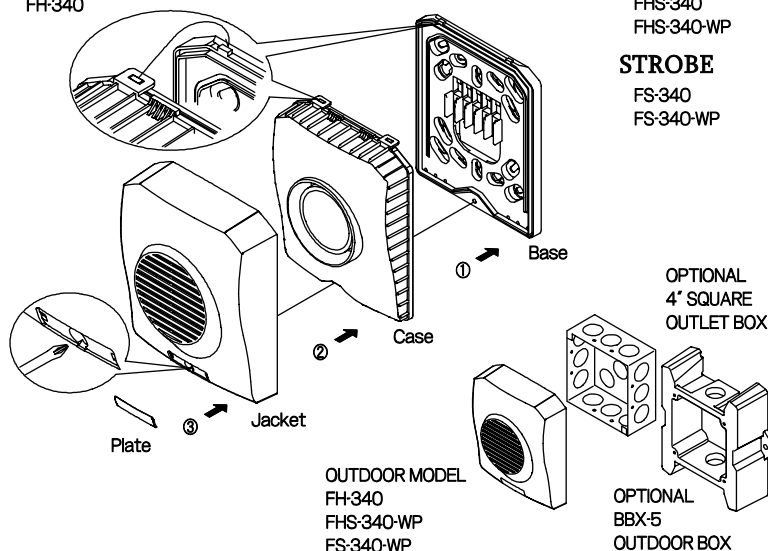
FH-340

HORN/STROBE

FHS-340
FHS-340-WP

STROBE

FS-340
FS-340-WP



CAUTION 1 : A jumper plug is provided to test for correct wiring in the supervisory mode only.

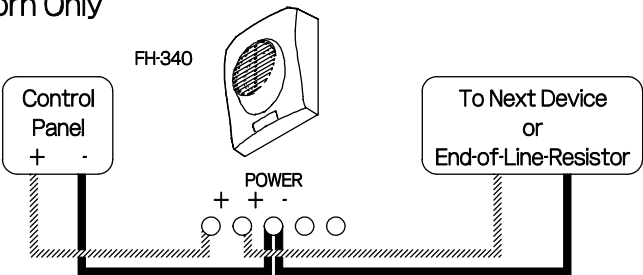
Do not pass alarm current through the jumper.

CAUTION 2 : Must use 4 screws to mount the base to Outdoor Box.

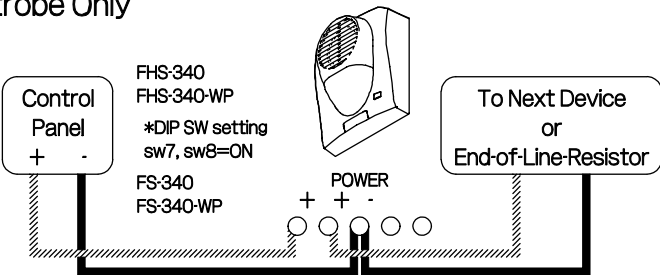
Wiring Diagram

Wiring Observe Polarity Use both terminals (or Lead) for connection. Break wire run to provide electrical supervision.

Horn Only

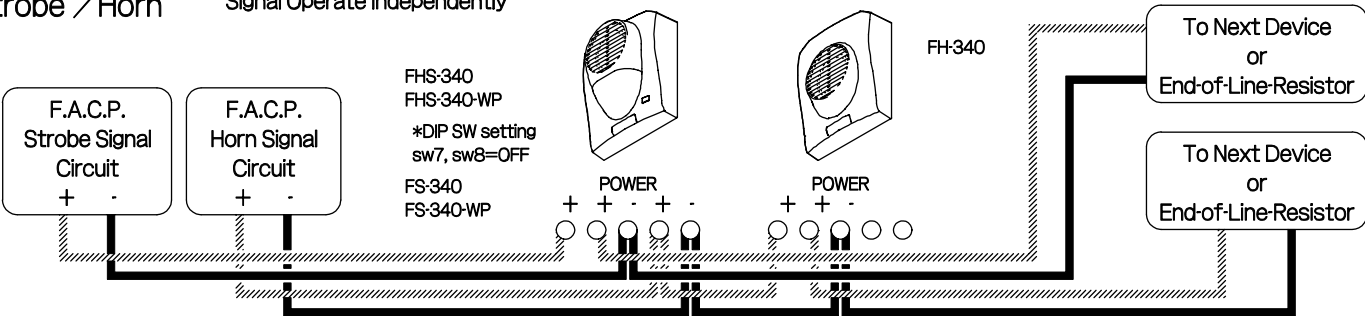


Strobe Only



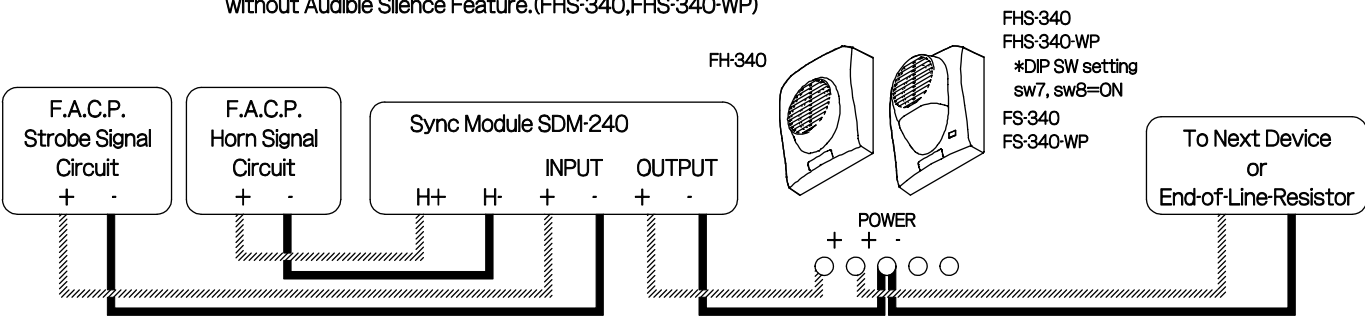
Strobe /Horn

Signal Operate Independently



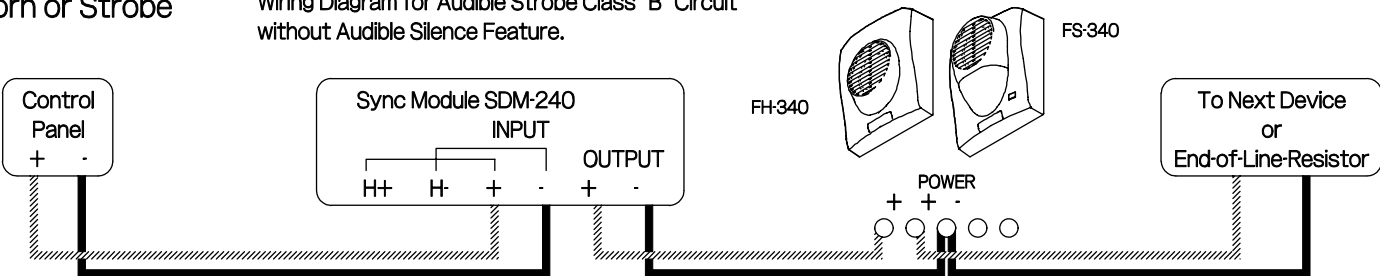
Strobe /Horn

Wiring Diagram for Audible Strobe Class "B" Circuit without Audible Silence Feature. (FHS-340,FHS-340-WP)



Horn or Strobe

Wiring Diagram for Audible Strobe Class "B" Circuit without Audible Silence Feature.



For a synchronization system, the worst case minimum number of strobe lights that can be connected to a listed Fire Alarm Control Panel is

11 (16~33VDC) for Indoor.

(Use Sync module SDM-240)

For worst case maximum number of strobe lights for each candela setting please refer to technical data sheet for reference.

The maximum wire impedance between any adjacent strobe lights is 5.6 ohm.

Regulated 12 can not be synchronized.

MAX. WIRE DISTANCE (IN FEET) = $\frac{(\text{PANEL VOLTAGE} - \text{APPLIANCE MIN. VOLT}) \times \text{WIRE CONDUCTIVITY}}{\text{TOTAL CURRENT DRAW}}$

WIRE	CONDUCTIVITY
18AWG	60
16AWG	95
14AWG	153
12AWG	244

Includes wire to and from appliance.
CAUTION : Applies only to regulated supplies. Assumes all appliance are at the end of wire run (worst case).

WARNING

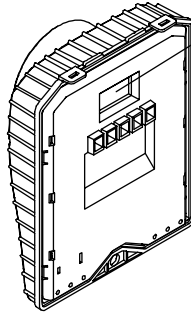
High voltage may be present inside the light assembly even though power is not connected. If access to the component board is required (removal or replacement), the capacitor must be discharged by touching a wire to both ends of the flashtube.
*DO NOT ATTEMPT TO TOUCH OR MOVE THE ASSEMBLY UNTIL THE CAPACITOR HAS BEEN DISCHARGED.
*INDOOR USES ONLY.

Specifications

Strobe Current

Light output	INDOOR Max. RMS Operating Current (mA rms)				OUTDOOR Max. RMS Operating Current (mA rms)			
	Reg.12DC	Reg.12FWR	Reg.24DC	Reg.24FWR	Reg.12DC	Reg.12FWR	Reg.24DC	Reg.24FWR
15cd	116	152	62	99	129	185	100	102
35cd	209	267	102	152	160	214	135	161
60cd *1	254	258	131	190	193	239	171	202
75cd	NA	NA	146	208	NA	NA	190	228
95cd	NA	NA	177	243	NA	NA	211	255
110cd	NA	NA	196	268	NA	NA	225	284

*1 : ADA dual rating 15/75 rating.



DIP SW Setting (SW1~SW8)

ON : 1 OFF : 0

DIP switch 7 and 8 only turned on for FHS series with two wire powered circuit requiring electrical connection to the horn. In other cases do not touch the switch 7 and 8.

DIP SW7	DIP SW8	FHS 2wire power circuit
1	1	Power inputs to horn
0	0	No-power inputs to horn

Horn Current

Pattern	Pattern	Volume	DIP SW Setting						Max. RMS Operating Current (mA rms)				dBA Reverberant Ratings Per UL464 (dBA@10ft)		dBA Anechoic Ratings Per CAN/ULC S525 (dBA@10ft)	
			ON : 1 OFF : 0						Reg.12 DC	Reg.12 FWR	Reg.24 DC	Reg.24 FWR	Reg.12 DC/FWR	Reg.24 DC/FWR	Reg.12 DC/FWR	Reg.24 DC/FWR
			S	S	S	S	S	S								
NON-TEMP.	2400Hz	HIGH	1	0	1	1	1	1	119	79	87	125	87	87	99	100
		MID	1	0	1	1	1	0	44	46	28	74	82	82	94	96
		LOW	1	0	1	1	0	0	30	30	18	41	79	80	92	92
	ELECTRO MECHANICAL	HIGH	1	0	1	0	1	1	118	77	81	121	86	87	100	100
		MID	1	0	1	0	1	0	43	43	26	67	82	84	96	97
		LOW	1	0	1	0	0	0	27	29	16	36	79	80	93	93
	BROAD BAND	HIGH	1	0	0	1	1	1	146	125	78	148	86	86	101	102
		MID	1	0	0	1	1	0	41	63	26	64	81	82	96	98
		LOW	1	0	0	1	0	0	28	40	16	39	77	79	94	95
	CHIME	HIGH	1	0	0	0	1	1	27	35	21	27	70	70	86	86
		MID	1	0	0	0	1	0	11	15	8	13	62	62	79	80
		LOW	1	0	0	0	0	0	9	11	7	12	58	57	75	75
TEMP.	2400Hz	HIGH	0	0	1	1	1	1	124	70	87	132	82	82	100	100
		MID	0	0	1	1	1	0	46	38	30	83	77	79	95	96
		LOW	0	0	1	1	0	0	30	28	18	36	74	75	92	92
	ELECTRO MECHANICAL	HIGH	0	0	1	0	1	1	114	69	80	134	83	82	100	101
		MID	0	0	1	0	1	0	42	40	27	67	78	80	95	96
		LOW	0	0	1	0	0	0	28	27	16	36	75	76	93	93
	BROAD BAND	HIGH	0	0	0	1	1	1	151	117	80	146	82	82	101	102
		MID	0	0	0	1	1	0	45	59	26	73	77	78	97	98
		LOW	0	0	0	1	0	0	30	42	16	31	75	76	94	95
	CHIME	HIGH	0	0	0	0	1	1	29	35	21	28	68	70	86	86
		MID	0	0	0	0	1	0	10	17	9	12	61	61	79	79
		LOW	0	0	0	0	0	0	9	12	8	9	55	55	75	76
MARCH TIME	2400Hz	HIGH	1	1	1	1	1	1	121	70	92	132	83	84	99	100
		MID	1	1	1	1	1	0	47	39	31	76	79	81	95	96
		LOW	1	1	1	1	0	0	36	25	19	35	76	77	92	92
	ELECTRO MECHANICAL	HIGH	1	1	1	0	1	1	114	69	86	125	83	83	100	100
		MID	1	1	1	0	1	0	42	37	27	67	80	81	95	96
		LOW	1	1	1	0	0	0	30	26	19	37	77	77	92	93
	BROAD BAND	HIGH	1	1	0	1	1	1	153	121	77	126	83	84	101	102
		MID	1	1	0	1	1	0	42	55	28	56	79	80	97	98
		LOW	1	1	0	1	0	0	29	42	16	26	76	77	94	95

Only above DIP SW setting are available. Do not use any other setting.

Voltage	12 / 24 V	
UL designation	Regulated 12 DC/FWR	Regulated 24 DC/FWR
Operating Voltage Range	8 ~ 17.5 V	16 ~ 33 V
Flash Rate	1Hz (60 times / min.)	
Sync module (SDM-240)	NA	Available
Operating Temperature Range	Indoor model : 32° F ~ 120° F (0°C ~ 49°C)	Outdoor model : -40° F ~ 151° F (-40°C ~ 66°C)

Current consumption of FHS series (including FHS 2wire power circuit) can be calculated by adding strobe current and horn current.

ULC Directional Characteristics

FHS-340

	HR	HL	VB	VA
- 3dBA	55	65	30	45
- 6dBA	60	70	50	60
-11dBA	90	90	90	90

*HL indicates Horizontal Left

*HR indicates Horizontal Right

FH-340

	HR	HL	VB	VA
- 3dBA	35	35	30	35
- 6dBA	60	60	55	60
-11dBA	90	90	90	90

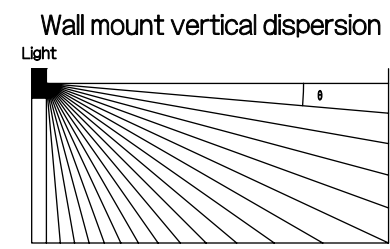
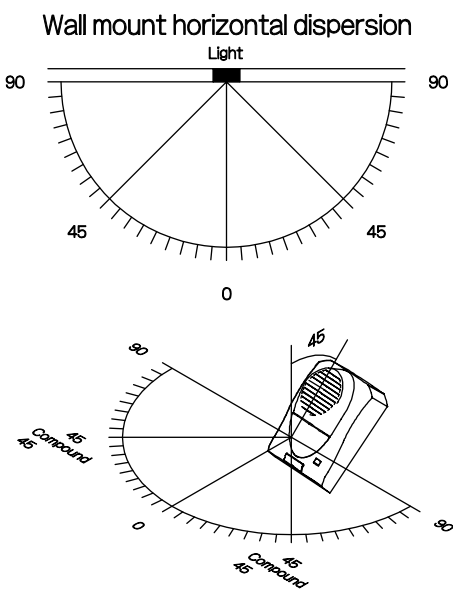
*VB indicates Vertical Below

*VA indicates Vertical Above

Light Output Dispersion

LIGHT OUTPUT IN PERCENTAGE WHEN MEASURED
FROM THE FOLLOWING DIRECTIONS (per UL1971)

Degrees	% of Rating	
	horizontal	vertical
0	100	100
5 - 25	90	90
30	75	90
35	75	65
40	75	46
45	75	34
50	55	27
55	45	22
60	40	18
65	35	16
70	35	15
75	30	13
80	30	12
85 - 90	25	12
Compound 45	24	-



Colored Light Output

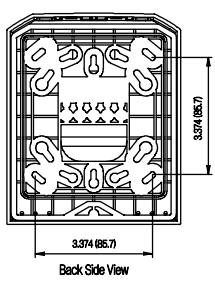
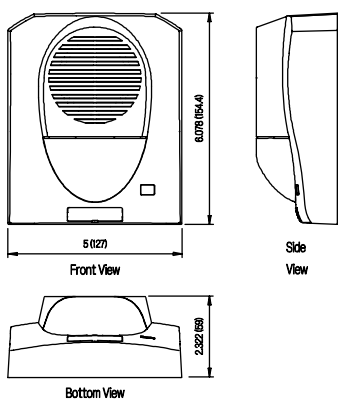
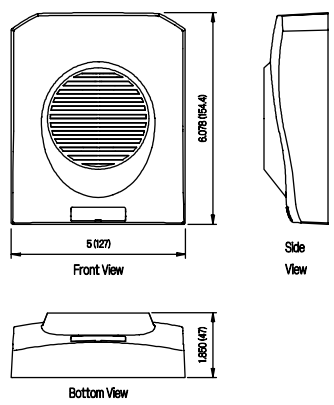
Select -A- Switch	Light output on Axis (cd)			
	Amber	Blue	Green	Red
1	14	10	13	7
2	37	20	39	17
3	49	28	50	18
4	69	41	77	28
5	83	51	94	35
6	99	58	109	38

Dimensions : inch (mm)

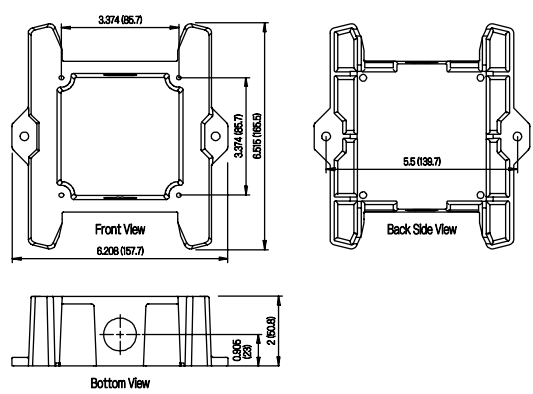
FH-340

FHS-340, FHS-340-WP
FS-340, FS-340-WP

PACKAGE INCLUDES
* #8-32X3/4" screws 4pcs.



OPTIONAL
BBX-5 Outdoor Back Box



We recommend use of this product in accordance with
installation instructions provided in this manual.

INST. SHT. No.SH1224-H1043 S111031d



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