

HO-REM-HU-ST-24 – High Output Remote Horn and Strobe, 24VDC version HO-REM-HU-ST-120 - High Output Remote Horn and Strobe, 120VAC version HO-REM-HU-ST-230 - High Output Remote Horn and Strobe, 230VAC version

Operating and installation instruction



Nom. sound level	117dB (A) 1m							
Volume control	-10dB							
Tones	80							
Flash energy	10J							
Flash frequency	1Hz							
Rated voltage (limits see approvals)	12V DC	24V DC	48V DC	24V AC	115V AC	230V AC		
Operating voltage range	10,5 – 15 V	18V – 30V	40V – 60V	20 – 30V	95V – 127V	195V – 253V		
Current consumption Sounder (max.) [mA]	490	360	230	850	150	100		
Current consumption Beacon (max.) [mA]	1400	680	300	1400	300	160		
Power consumption	22 W	22 W	32 W	54,5 VA	34,5 VA	40,5 VA		
Duty cycle			10	0%				
Connection terminal		0 14	- 2 5mm² / AWG2	24 - AWG 14 (strai	nded)			
Ingress protection		-,	IP66 (EN6052	9). Type 4 & 4x				
Resistance against								
impact			IK08 (E	N50102)				
Protection class		II	D Double	insulated equipme	ent			
Operating temperature			-40°C.	+55°C				
Storage temperature			-40°C.	+70°C				
Max. rel. Humidity			9	0%				
Cable entry	7x M20 (prepa	red)		5x M20 (pre	epared)			
Sealing range of			7 – 1	3 mm				
grommet	With the use of ca	ble diameters <7n	nm, a cable screw	joint with sufficien	t ingress protectio	n must be provided		
Material of housing			PC/AB	S Blend				
Material of lens			F	°C O				
Installation position			arbi	trarily				
Options			-SSM, (se	e page 11)				
Accessory			Sealing plug (Art-	no. 28300000002)			
Lens colours	- clear, white, yellow, amber, red, green, blue							

Approvals (valid for marked equipment)

Construction		110-230V AC:	24-48V DC:				
Product Regulation	VdS	0786-CPD- 21184	VdS 0786-CPD- 2122	3	1		
(305/2011/EC)	Options						
	Rated volta	age	24 – 48 V DC				
CE	Operating to EN54-3	voltage range acc. , EN54-23	18V – 60V Option: -SSM (18V – 30V)				
12	Tone		Compliant with the Construct	tion F	Product Directive (89/106/EWG)		
		2	1200Hz-500Hz (Sav	v tootl	h) DIN/PFEER P.T.A.P.		
		15	500Hz-12	00Hz	(Slow whoop)		
		60	825H	z (Coi	ntinuous)		
		104	660HZ (Niternating tana)		
		131	544Hz/ 44	лпz (л .0Hz (NE S 32-001)		
	Signaling	area	ENI54_3: see documents 30305_005_1				
	Environme	ental protection class					
	Testing tal	Testing takes place using the supplied diaphragm nipple and the outer fastening bores.					
		110 - 230V AC:	24 - 48V DC:				
VdS		G212116	G212191				
	Data see Construction Product Regulation (305/2011/EC)						
GL	61062-13 H	H Environment	tal Category C, H, EMC1				
MED	61739-14 H	H					
		Rated voltage	Audible Signal Appliance Fire Alarm Equipment ULSZ, ULSZ7		Audible and Visual Signal Appliance General Signal Equipment UCST, UCST7 and UEES, UEES7		
		24V – 48V DC (Fire Alarm Equipment) 12V – 48V DC (General Signal Equipment)	X Special application, limited operatin voltage range 18 – 60V DC	ng	х		
UL, cUL		24V AC 110 – 240V AC	-		x		
		115V AC 230V AC 24V AC 12V DC 24V DC 48V DC	-		x		

PATROL sounders and combined units comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules.

UL/ cUL specifications:

		Surge Current Peak	Surge Current RMS (16,7ms frame)	Voltage
Lawrence and the	24 – 48 V DC	27 A	4,5 A	60 V DC
Inrush current	24 V AC	11,5 A	6,8 A	30 V AC
	110 – 240 V AC	18,5 A	1,45 A	265 V AC

Suitable for indoor and outdoor use.

Signaling area: see document 30305-005-1

Cable gland entries:

Conduit installation needs to be UL/ cUL listed fittings suitable for knockout openings. The supply wiring has to be enclosed in metal conduits for products for Fire Alarm Use.

Installation:

The units shall be installed indoors or outdoors in accordance with the manufacturer's installation instructions as well as the National Electrical Code (NFPA 70) and the National Fire Alarm Code (NFPA 72) for the units evaluated for Public Fire Alarm applications in the U.S. In Canada, they shall be installed in accordance with the Canadian Electrical Code, Part 1 and the Standard for the Installation of Fire Alarm Systems CAN/ULC-S524-M91 for the units evaluated for Public Fire Alarm applications. The installation shall also be in a manner acceptable with the local authority having jurisdiction.

For audible application for Fire Alarm Service use both terminals for connection. Break wire run to provide Electrical Supervision (see UL 464 clause 39.1e). The tone no. 111 is to be used for evacuation use only (see UL 464 clause 39.1e)

Volume control:

cUL directional characteristics for		XIS	KIS LE		dBA	
the horn:		izontal	32 deg. left or right		-3	
	Hor	izontal	28 deg. le	ft or right	-6	
	Ve	ertical	32 deg. lei	ft or right	-3	
	Ve	ertical	28 deg. le	ft or right	-6	
Min. Output sound pressure	Туре		Voltage	UL 464 db	(A) at 10 ft	++ CAN/ULc-S525-07
level: [dB(A)]	24-48 D	C	18V DC	82,4 (fo	r tone 113)	92,4 (for tone 111)
(Tone no. 2, 15, 60, 104, 131, 146, 111, 112, and 113 was used for this test.)						
Connecting cables:	solid	7 [0.28"]	μ Σ	7 [0.:		

Taking into operation

Safety notes:

- Installation must be carried out by an electrician in compliance with the latest codes and regulations.

- Danger: High voltage may be present.

- Prior to opening, it must be ensured that no voltage is applied to the device.

- Before electrical connection, the supply voltage on the type plate is to be checked. The wrong operating voltage can lead to damages or to the destruction of the equipment.

- During installation it must be ensured that the connection cables are secured against tension and distortion. Please observe: The devices are not designed for portable use.

- CAUTION: When making installation, route field wiring away from sharp projections, corners and internal compo-nents.

- The opening of the bell mouth must not point upwards, especially in the case of use outdoors or in a particularly dusty environment.

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- The function of the unit is only guaranteed if the upper and lower section is joined correctly.

When using the sounder -beacon combination :

- In order to prevent detriment to sight, continuously looking directly in the activated light is to be avoided.

Opening the housing:

1.

By loosing the four 2. cover screws, the upper section can be removed.

Closing the housing



The housing is closed by turning the cover screws to the limit position until the housing locks into place.

The unit is not closed when delivered.

Sealing plugs for the housing screws are available as accessories.

Cable gland entries

To guarantee the specified protection type, cable grommets with a protection type of IP 66 are to be installed at the openings provided for this purpose. The supplied diaphragm nipple can be replaced with a cable gland or with an M12 plug connection with a flange measurement of M20.



brane is pointing outward. After installation of the cable remove the remains of the diaphragm. Diaphragm nipple IP 66 (provided)

Cable gland IP 66

M12 plug connector IP 66 (for low voltage versions)

Circuit board for electrical connection (located in the base section): Electrical connection and tone selection using external control C1 and C2

Terminal for operating voltage - Sounder:



Terminal for operating voltage - Sounder-beacon combination:



The desired tone can be selected using the tone selector switch S3 (on the driver circuit board). The available tones are described in the tone table in the appendix. After establishing the supply voltage the tone is generated.

Driver circuit board of sounder (located in the upper section):



Change of the tones by external control

For applications which require more tones than just the base tone, it is possible to provide up to three additional tone types with the use of the following electrical controls.

As a basic rule, the desired base tone (J, see tone table in the appendix) is set with the tone selector switch S3 on the driver board. The corresponding additional tones (C1, C2, C1+C2) can be gathered from the table "Selection of the tones".

Tone selection with control input (TAS)

DC-Version:

When used with correct polarity, the tone selection takes place through the control inputs C1 and C2 on the circuit board. In the process, the supply voltage must always be applied together with the two control inputs. Setting of switch S2 in position "with rectifier"

= with reverse polarity protection.

The selection of the polarity of the control voltage ("+" or "-") takes place with the switch S1 on the driver board.

"+": positive control

"-": negative control (factory setting)

<u>Caution</u>: If the control voltage is greater than the supply voltage or the supply voltage is not applied, the operating current supply is provided through the control inputs. A corresponding load capacity must then be guaranteed.

AC-version:

In the AC version the tone selection takes place by connecting the phase "L" of the supply voltage to the control inputs C1 and C2. In the process, the supply voltage must always be applied together with the two control inputs.







Example for DC "-" -control

Tone selection with supply through control input (TAV) - for all DC versions

The sounder can be supplied with operating voltage through the control inputs C1 and C2 on the circuit board. Supply and tone selection thus take place simultaneously.

The minus pole of the sounder must be connected. With connection of the positive voltage to the plus pole of the circuit board, the base tone (\mathcal{I}) is generated; with connection to C1 or C2 the corresponding tone is selected. With simultaneous connection of the positive voltage to C1 and C2 the tone "C1+C2" is selected. The switch S1 on the driver board must be set to "+".



<u>Tone selection through pole reversal (TAR) - for all DC versions except for option -SSM</u> If the switch S2 on the driver board is in the position "without reverse polarity protection = without rectifier", the tone "C1+C2" can be selected in addition to the base tone through pole reversal. The switch S1 must be set to "+". The control inputs C1 and C2 may not be switched on the circuit board.



Maintenance, Service and Ordering Spare Parts

The device does not require any special maintenance.

External cleaning should be done with a mild soap solution without the use of solvents.

The device may only be operated in the undamaged state within the specified rating.

Conversions, alterations, improper and inadmissible use as well as the non-observance of the notes in these operating instructions shall render the warranty null and void.

Components may be replaced only by original spare parts.

As a matter of principle, repairs are to be carried out in the manufacturing works.



Ammonia Leak Detection Systems

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Appendix

"Tone table" and "Selection of the tones"

Tone table

Grund- Ton-Nr	Description		57	Continuous, UK E
(5)	Description		59	Continuous
1	Silence		61	Continuous
	Saw tooth Germany DIN	1200Hz N 10 N	61	Continuous
2*	33404-3 (emergency signal),		63	Continuous Swee
	PFEER PTAP	500Hz 1 N	65	SS031711 (All Cl
9	Slow whoop, fire alarm, UK	970Hz 1s	66	Continuous
Ŭ	BS5839-1	800Hz	67	Continuous, Gern
44		970Hz 20ms	00	KTA3901 (All Cle
	whoop (last)	800Hz	68	Continuous
		900Hz 0,3s/	69	Continuous
13	Whoop		71	Continuous
		700HZ 7 1 0,00 7	77	Intermittent
15	Slow whoop, evacuation,	1200Hz 3,55	-	
	Nethenands NEN 2375	500Hz 0,5\$	82	Alarm) LIK BS58
16	Slow whoop, evacuation	1200Hz 3,75s	02	up Alarm)
10	Australia AS2220	500Hz 0,25s		Intermittent PEEI
10		775Hz 0,85s	83	Alarm)
18	Slow whoop, NFPA	422Hz 1s		
		1200Hz / 0,5s/ / /	88	Intermittent
22	Whoop, Australia AS1670,			
	1308201	500Hz / I / I / I 1,5s / 0,5s	90	Intermittent
22	Sizer	2400Hz 3s const.	00	internitterit
23	Silen	500Hz		
		1200Hz 3s	91	Intermittent
24	Siren	300117		
			92	Intermittent
25	Siren	const.		
		300Hz /	93	Intermittent (fast),
26	Industrial alarm (Germany)	1000Hz 10s 40s 10s		chanical horn
		150Hz	07	1
27	Sweening	2900Hz 0,5s	97	mermillent
21	oweeping	2400Hz /0,5s V		Intermittent Swe
00		2900Hz 10ms	98	031711 (Imminen
29	Sweeping (last)	2400Hz /10ms		
		2900Hz /70ms	100	Intermittent, Indus
30	Sweeping	2400Hz 70ms		
	Swooning	1600Hz ¹ s	101	SS031711 (Impor
31	Erance NF C 48-265	0.58	101	sage (Pre Mess))
		1400Hz / 0.58		Intermittent Swee
33	Sweeping, UK BS5839-1		102	SS031711 (Local
	(medium sweep)	800Hz / 0,5s V		latera itteration
34	Sweening (fast)	1000Hz 10ms	103	SS031711 (Air R
54		800Hz /10ms		
05	Sweeping,	1000Hz /70ms	104	SS031711
35	UK BS5839-1 (fast sweep)	800Hz 70ms		(Imminent Dange
		1500Hz \/1,5s	407	Intermittent. Gern
36	Sweeping		107	KTA3901 (evacua
		700Hz /1,5s ∨		Intermittent Aust
43	Sweeping	1200Hz /1,35	109	AS2220.AS1610.
	-r U	500Hz /1,5s V		,,
44	Sweeping, IMO 3d, Germany	1200Hz /1s	110	Intermittent (fast
-+-+	KTA3901 evacuation	500Hz /1s V		Rell
		1200Hz / ^{3s}		Intermittent, ISO8
45	Sweeping	500Hz /35 /	111	gency evacuation
		1500Hz \\ ⁷ \$		
46	Sweeping,		112	Intermittent, ISO8
		500Hz /7s V	112	gency evacuation
52	Continuous	2400Hz		Intermittent, ISO8
53	Continuous	2000Hz	113	gency evacuation
	•			treble tone

Description (J) 54 Continuous, Finland All Clear 1500Hz - -55 Continuous 1200Hz - -Continuous, PFEER (Gasa-larm) 56 1000Hz - -3S5839-1 950Hz - -880Hz - -EN54-3 825Hz - -800Hz _ _ 725Hz - den 660Hz - ear) 554Hz _ _ nany 500Hz - -ear) 470Hz - -440Hz _ _ 340Hz _ _ 2400H; 0.5% 0.59 ER (General 39-1 (Back-1000Hz 0,5s 0,5s 1000Hz ER (General 1s 1s 950Hz 1s 1s 825Hz 0,5s 0,5s 800Hz 0,25s 0,25s 800Hz 0,25s 1s 800Hz electrome-4ms 4ms 725Hz 0,3s 0,7s 700Hz den SS nt Danger) 0,125s 0,125s 680Hz strial Alarm 0,875s 0,875s den 660Hz rtant Mes-6.5 13s 660Hz den I Warning) 0,5s 0,5s 660Hz den aid) 1,8 den EN54-3 660Hz 150ms 150ms er) 500Hz nany 0,25s ation) 0,75s 420Hz ralia AS1670 0,625s 0,625s ר -+> 1450Hz variable), ~ < ī 3201 (emer-470Hz 0,5s signal), 0,5s 1,5s 950Hz 3201 (emer-0,5s 0,5s signal) 1,5s 3201 (emer-2850Hz 0,5s signal) 0,5s 1,5s

Grund-				Sel	ector -	-switcl	h (Adjı	usting	the	Exterr	al Tone	Control
Ton-Nr.	Description			base tone)							C2	C1+C2
()	linterreittent	950Hz	1	2	3	4	5	6	Grund-Ton No. ()	Tone No.	Tone No.	Tone No.
115	Intermittent, IMO (Telephone Call)	2S <u>\$G</u> \$ <u>G</u>	ON		ON	ON			27	123	52	92
		1 101 1s 1		ON	ON	ON			29	35	52	61
		950Hz	ON	ON	ON	ON			30	27	52	77
116	(abandon shin)	15 35					ON		31	131	52	57
			ON				ON		33	30	52	35
		825Hz 2,5s		ON			ON		34	35	52	93
117	SOLAS III/6.4 (General		ON	ON			ON		35	27	52	110
	Alarm)	2.5s			ON		ON		36	146	67	57
100		2900Hz 0,5s	ON		ON		ON		43	131	52	91
122	Alternating	2400Hz 0,5s		ON	ON		ON		45	2	57	93
		2900Hz	ON	ON	ON		ON		52	15	65	82
123	Alternating	0,25s				ON	ON		54	46	54	131
	-	2400Hz	ON			ON	ON		55	131	52	128
124	Altornating Singanoro	2000Hz 0,5s		ON		ON	ON		56	82	35	33
124	Alternating, Singapore	1000Hz 0,5s	ON	ON		ON	ON		59	143	59	101
		1400Hz			ON	ON	ON		60	131	52	125
125	Alternating	1200Hz 20ms	ON		ON	ON	ON		65	131	52	93
				ON	ON	ON	ON		66	110	52	107
128	Alternating	1025Hz 0,25s	ON	ON	ON	ON	ON		69	131	52	110
120	uternating	825Hz 0,25s						ON	71	131	52	93
	Alternating LIK BS5839-1	1000Hz 0.5s	ON					ON	77	61	52	122
130	(Fire Alarm)	800Hz 0,55		ON				ON	82	131	52	83
	· · · · ·		ON	ON				ON	83	56	2	82
131	Alternating, UK BS5839-1	0,25s			ON			ON	88	2	57	128
	(Fire Alarm, Level crossing)	800Hz 0,25s	ON		ON			ON	90	131	52	125
405	Alternating, UK BS5839-1	1000Hz 0,125s		ON	ON			ON	91	30	52	110
135	(Fire Alarm, increased urgen-	800Hz 0,125s	ON	ON	ON			ON	92	33	52	57
		900Hz				ON		ON	93	2	128	57
142	Alternating	0,25s	ON			ON		ON	97	2	63	93
		500Hz 0,235		ON		ON		ON	100	131	52	125
1/3	Alternating,	660Hz 0,125s	ON	ON		ON		ON	101	98	102	65
145	Germany Industrial Alarm	440Hz 0,125s			ON	ON		ON	103	131	65	147
		650Hz	ON		ON	ON		ON	104	103	65	101
144	Alternating	10Hz 1s		ON	ON	ON		ON	109	16	52	22
	Altornating		ON	ON	ON	ON		ON	110	131	61	91
146	France NES 32-001 (fire	554Hz <u></u>					ON	ON	112	2	57	128
	alarm)	440Hz 0,4s	ON				ON	ON	113	52	123	104
	Alternating	554Hz 1s		ON			ON	ON	115	117	116	44
147	Sweden SS031711 (turn out)	440Hz 1s	ON	ON			ON	ON	116	117	93	125
	, , ,	554Hz			ON		ON	ON	117	93	116	125
148	Alternating, Sweden	0,55	ON		ON		ON	ON	123	27	52	77
	55031711 (turn out)	440Hz 0,5s		ON	ON		ON	ON	124	53	83	2
450	Alternation into 111	800Hz	ON	ON	ON		ON	ON	130	2	107	67
152	Alternating-intermittent	650Hz 337 2s				ON	ON	ON	131	2	112	57
	I		ON			ON	ON	ON	135	16	56	109
				ON		ON	ON	ON	142	2	54	88

Selection of the tones

Selector –switch (Adjusting the base tone)							External Tone Control		
							C1	C2	C1+C2
1	2	3	4	5	6	Grund-Ton No.(♪)	Tone No.	Tone No.	Tone No.
						1	2	88	57
ON						2*	128	112	57
	ON					2	26	100	93
ON	ON					2	61	131	112
		ON				9	57	11	82
ON		ON				15	131	52	112
	ON	ON				16	109	52	56
ON	ON	ON				18	111	57	68
			ON			22	16	109	68
ON			ON			23	131	52	112
	ON		ON			24	131	52	131
ON	ON		ON			25	131	52	92
		ON	ON			26	2	100	93

ON ON

ON ON ON ON ON

ON ON ON

ON

ON ON ON ON

ON ON ON ON

ON

ON ON ON

ON ON

* Factory setting