

ALARMS SIRENS

SAP Series

SAS Series

SMAC Series

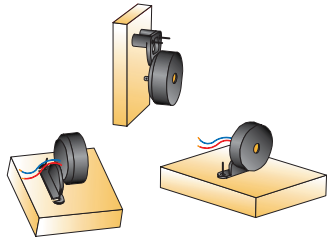
SXL Series

SDS Series

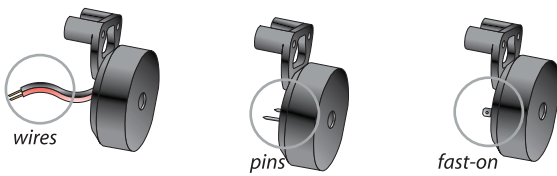


KEY QUESTIONS FOR ALARM DETERMINATION

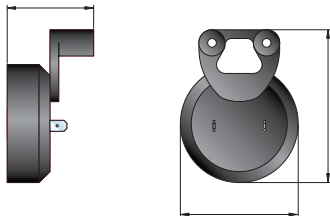
1. Mounting method:
e.g. Vertical, horizontal ?



2. Connection method: wires, pins, fast-on terminals ?



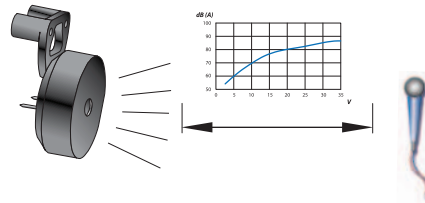
3. Maximum dimensions (in mm):
length, width, depth ?



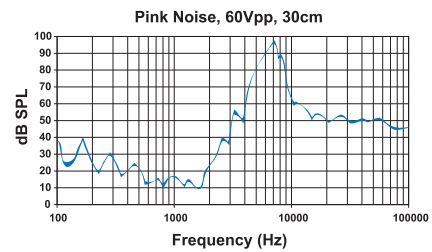
4. Supply voltage: 6, 12 or 24 Vdc ?



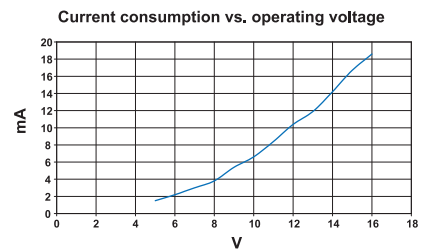
5. SPL – dB(A) @ 12Vdc,
@ 30 cm or 1 meter ?



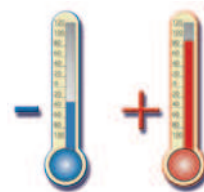
6. Operating frequency range ?



7. Current consumption in mA ?



8. Temperature range in °C ?



GENERAL OVERVIEW ALARMS & SIRENS

Model	Function	Operating voltage		Frequency (Hz) (±30%)	Operating current (mA)	Sound pressure level* (dB(A))	Weight (g)
		min Vdc	max Vdc				

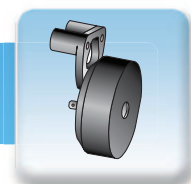
SAP series



SAP-1302-A	intermittent	12	24	1600	70	112	230
SAP-1302-B	intermittent	12	24	1600	65	107	230
SAP-1302-C	intermittent	12	48	1250	145	97	210
SAP-1302-D	intermittent	12	12	2500	15	87	230

measurement @12-24V @ 1.2 m

SAS series



SAS-2155-S	sweep	6	15	2000-3500	120	110	67
SAST-2155	Transducer	-	-	2000-3500	-	-	67

measurement @12V @ 1 m

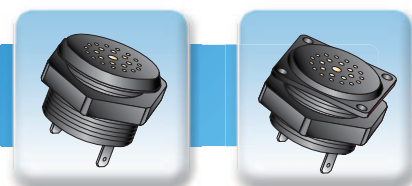
SMAC(I) series



SMAC-25	continuous	5	16	3350	9.7	93.5	7.8
SMACI-25	intermittent	5	16	3350	9.7	93.5	7.8
SMAC-25L	continuous	5	35	3350	17	100	8.5
SMACT-25	Transducer	-	-	3000-4000	-	-	7.8

measurement @12V @ 30 cm

SXL series



SXLC 515 C	continuous	5	15	3000	130	102	22
SXLI 515 C1	multifunction	5	15	3000	70	96	22
SXLW 515 C	warbler	5	15	3000	120	104	22
SXLP 515 C	sweep	5	15	3000	110	102	22

measurement @12V @ 1 m

Sonitron Automotive Piezo components

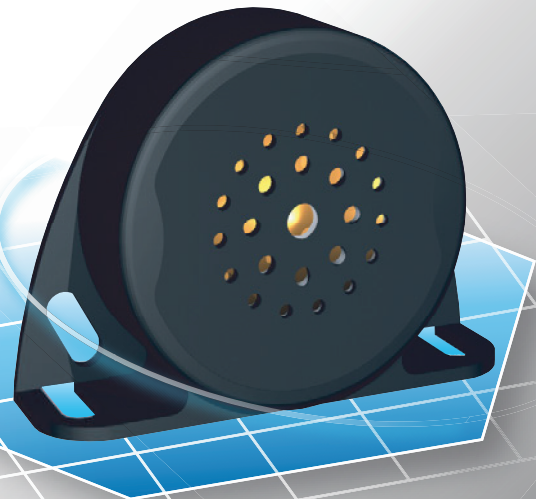
SAP-1302 series Backup alarm

The 1302 series of piezo alarms generate an acoustic intermittent loud tone and are installed at the back of a car, truck, tractor, jeep, golf-trolley, ... or any other vehicle that can move in reverse at any moment, thus alerting people that are approaching the vehicle.

The 1302 series are tested for use in all weather conditions and have a lifetime in continuous use of more than **1000 hours**, this unique patented technology is used now for more than 20 years in the most extreme conditions and critical applications. (Nato, Airbus, Volvo, avionics, Bombardier railways, VDO, etc...)

A very low current consumption permits the electrical connection of the alarm to the reversing lights of the vehicle.

Installation of the reverse drive piezo alarm is realised in only one hour by anybody and does not require special skills. Adapted mounting for models on request.



Automotive Design



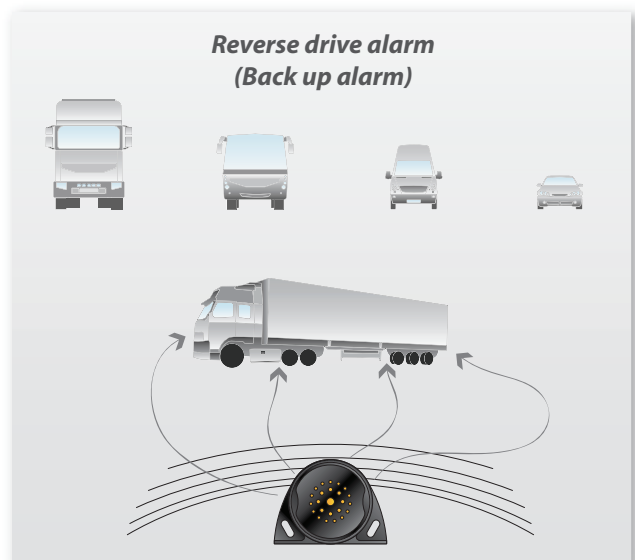
ADVANTAGES & APPLICATIONS

ADVANTAGES :

- Very low current consumption
- Dust tight, shock and water resistant (IP67)
- Low frequency (large travelling distance of audible wavelength)
- No magnetic field (EMC)
- Robust fibre reinforced PBT housing
- High lifetime in continuous function
- Easy mountable design
- Multi voltage application (12/24/48Vdc)

APPLICATIONS :

- Van
- Fork-lift
- Lorry
- Bus
- Light commercial vehicle
- Car
- Light truck
- Garbage truck
- Electric vehicles (golf, airport, warehouse, ...)
- Military vehicles



SPECIFICATIONS



MODELS	SAP-1302-A	SAP-1302-B	SAP-1302-C	SAP-1302-D
Operating voltage:	12/24 Vdc	12/24 Vdc	12/24/48 Vdc	12 Vdc**
Frequency (+/-15%):	1600 Hz (1Hz intermittent)	1600 Hz (1Hz intermittent)	1250 Hz (1Hz intermittent)	2500 Hz (1Hz intermittent)
Current consumption:	12Vdc: 145 mA (avg.) 24Vdc: 70 mA (avg.)	12Vdc: 140 mA (avg.) 24Vdc: 65 mA (avg.)	145 mA (avg.)	15 mA (avg.)
SPL@1.2m:	112 dBA (+/- 4 dB)	107 dBA (+/- 4 dB)	97 dBA (+/- 4 dB)	87 dBA (+/- 4 dB)
Life time (@21°C):	>1000 hours***	>1000 hours***	>1000 hours***	>1000 hours***
Case material:	PBT (UL rating: 94HB)	PBT (UL rating: 94HB)	PBT (UL rating: 94HB)	PBT (UL rating: 94HB)
Standard color of case:	Black	Black	Black	Black
Terminal material:	(F2)Fast-on or 30cm cable 2x1.5mm ²	(F2)Fast-on or 30cm cable 2x1.5mm ²	(F2)Fast-on or 30cm cable 2x1.5mm ²	(F2)Fast-on or 30cm cable 2x1.5mm ²
Storage Temp. range:	-40°C/+85°C	-40°C/+85°C	-40°C/+85°C	-40°C/+85°C
Operating Temp. range:	-40°C/+85°C	-40°C/+85°C	-40°C/+85°C	-40°C/+85°C
Weight:	230 g	230 g	210 g	230 g

- **Output voltage depending: min. 5 Vdc=76 dBA, max. 16Vdc=91 dBA.
- ***Lifetime: more than 1000 hours in continuous use,
(Voltage: 12 Vdc ; T ambient: 21°C ; Humidity: 40 % ; Free air).

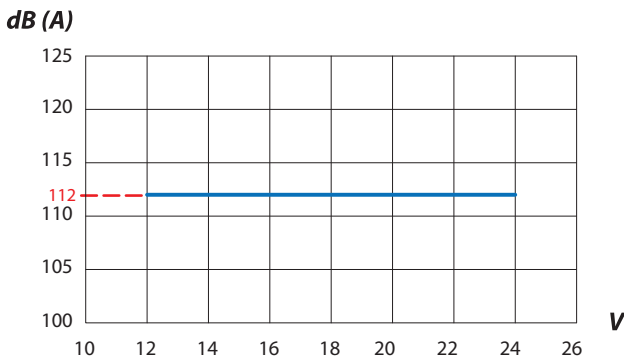
"Models on request" can be designed for this alarm construction!
 Same housing other alarm tone: - pulse tone
 - continuous tone
 - sweep tone, ...

Contact Support@sonitron.be

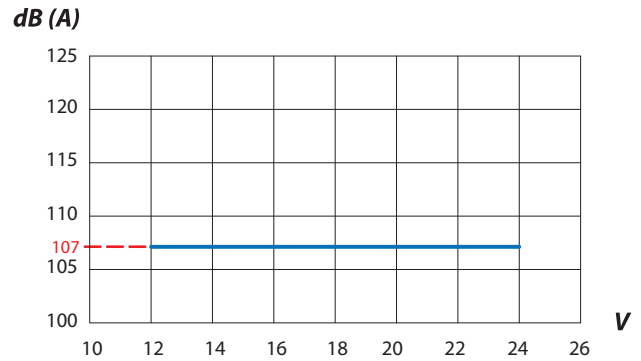


Sound pressure level vs. operating voltage

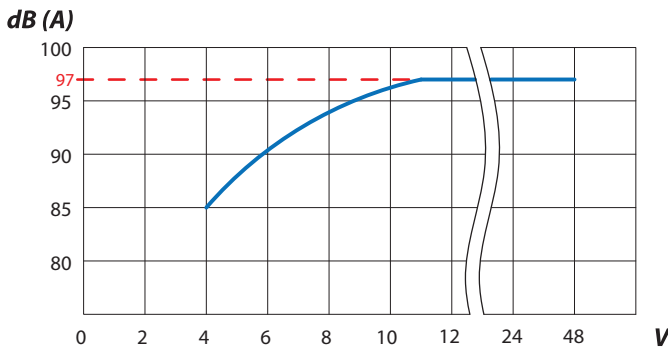
SAP-1302-A



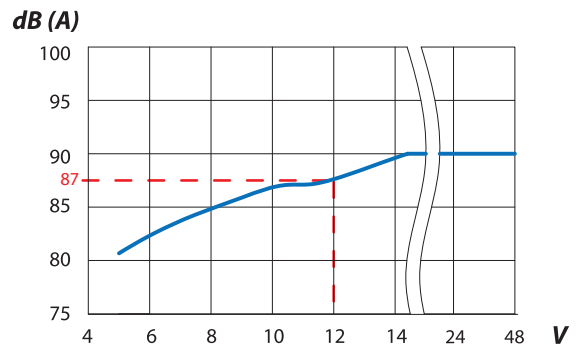
SAP-1302-B



SAP-1302-C



SAP-1302-D

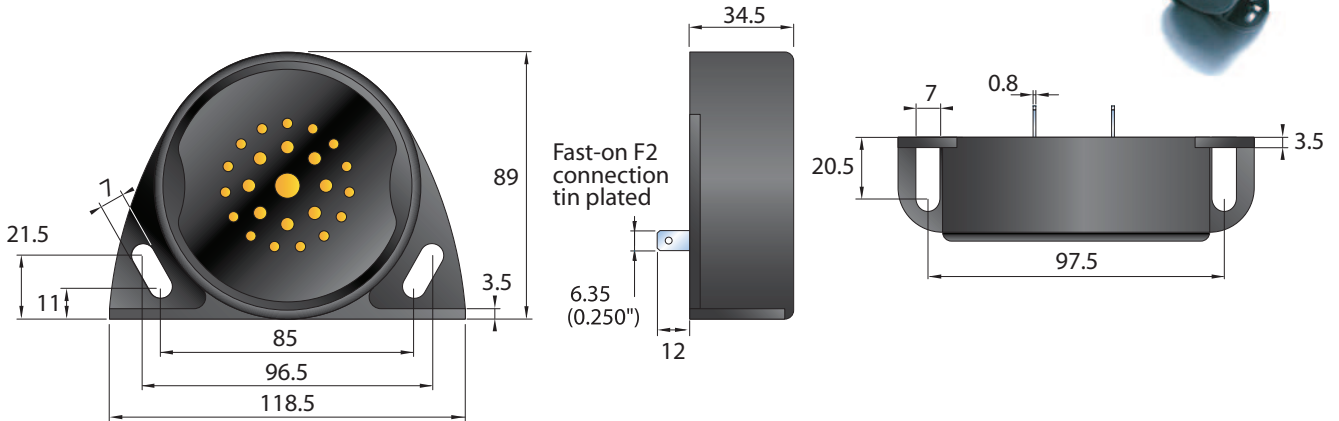


All measurements are made @ 12Vdc @1.2 meter in free air @ 21°C.

LIST OF AVAILABLE PRODUCT TYPES

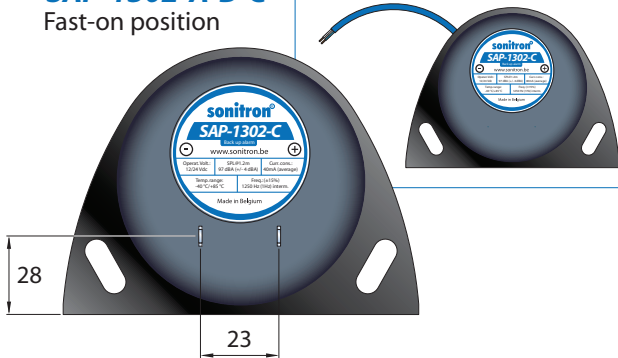
SAP-1302-A-F2	(Fast-on F2, tinned brass)
SAP-1302-A-W	(standard cable lenght=30cm)
SAP-1302-B-F2	(Fast-on F2, tinned brass)
SAP-1302-B-W	(standard cable lenght=30cm)
SAP-1302-C-F2	(Fast-on F2, tinned brass)
SAP-1302-C-W	(standard cable lenght=30cm)
SAP-1302-D-F2	(Fast-on F2, tinned brass)
SAP-1302-D-W	(standard cable lenght=30cm)

Dimensions (in mm)



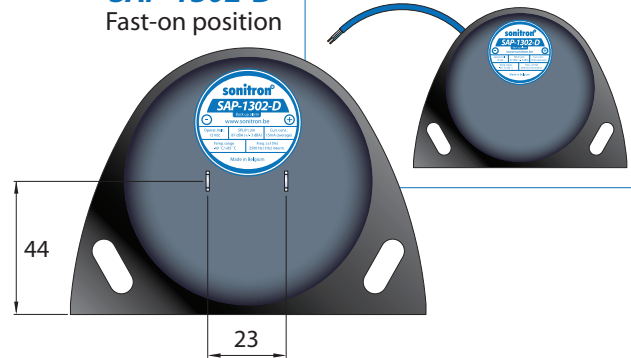
SAP-1302-A-B-C
Fast-on position

Cable version
Standard cable length: 30 cm

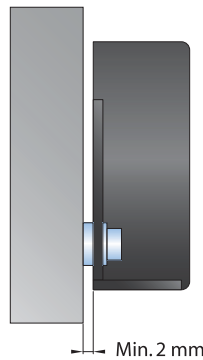
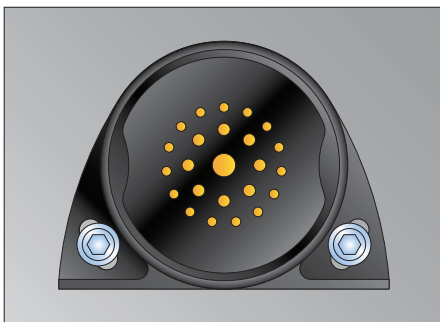


SAP-1302-D
Fast-on position

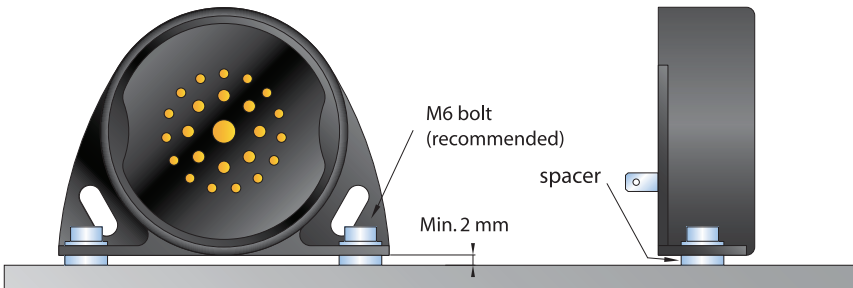
Cable version
Standard cable length: 30 cm



Mounting guidelines



2x M6 screw, nut and washer recommended for mounting



Packaging

One piece per box.



SAS SERIES



INTRODUCTION

Sonitron **A**larms **S**eries are developed for a temperature range of -40°C to $+85^{\circ}\text{C}$. Small designs and very loud output are the main characteristics of this piezo series. Different models are developed for use in applications where dimensions should be small and sound output loud, such as fire alarms, security devices,...etc.

ADVANTAGES & APPLICATIONS

ADVANTAGES :

- Loud siren output with high sound pressure level
- Dust tight, waterproof (IP67)
- Low current consumption
- No magnetic field

APPLICATIONS :

- Car alarm
- Fire alarm
- Motor alarm
- Home security alarm



SAS-2155 PIEZO SOUNDER

2000 to 3000 Hz



The SAS-2155 is a thin piezo electric siren with high sound pressure, low weight and low current consumption. The sound output is a powerful, clear and less aggressive sweep signal. There are many applications for this siren: all fire alarms, cars and motor vehicles, automation equipment, security devices, etc. The vibrating elements are unique and developed at Sonitron (worldwide patented). This series is made from high quality materials, offers extreme reliability and robustness, and features life time over 2000 hours in continuous use.

SPECIFICATIONS



Model	Function	Sound pressure level (dB(A)(±2dB(A))	Frequency (Hz)(±30%)	Operating voltage (Vdc)	Operating*** DCcurrent(mA)
SAS-2155-S	Sweep	102	2000 to 3000**	6-15	100

** Interval frequency is 3Hz (± 2Hz).

*** Operating current @12Vdc

Operating temperature:	-40°C to +85°C
Storage temperature:	-40°C to +85°C
Expected life time:	2000 hours continuous working @12Vdc @21°C @35% RH
Color:	grey, black
Terminals:	pins, fast-on and wire connection
Case material:	Standard ABS plastic (UL rating: 94HB) Akulon plastic on request
Weight:	35g
Mounting method:	Mounting on panels and walls with universal bracket

ELECTRICAL PARAMETERS

Model	Current consumption vs. operating voltage	Sound pressure level vs. operating voltage
SAS-2155-S		

Note : All measurements are made in free air @1 meter @21°C @35% RH. For measurement purposes, the alarm was mounted with mounting bracket "MB1" on a wooden panel.

SAST-2155 PIEZO TRANSDUCER

2000 to 3000 Hz



The SAST-2155 is a transducer version of the SAS-2155-S. The drive electronics are not included on the internal pcb and must be created by the customer to realize a good functional sound output. The maximum dB(A) level is obtained if the drive frequency is used between 2kHz and 3kHz. Several signals can be combined or produced in continuous, intermittent, warbler or sweep mode. Square wave signals give extra sound dimensions because of their harmonic content.

The SAST-2155 is available with connections in pins, Fast-ons or wires. The casing is standard in UL94HB ABS plastic but can be obtained in Akulon plastic on request. For Fast and strong mounting on a wall, several mounting brackets are available.

When the maximum voltage peak to peak signal of 40Vpp square wave is respected a life time over 2000 hours can be obtained in continuous use.

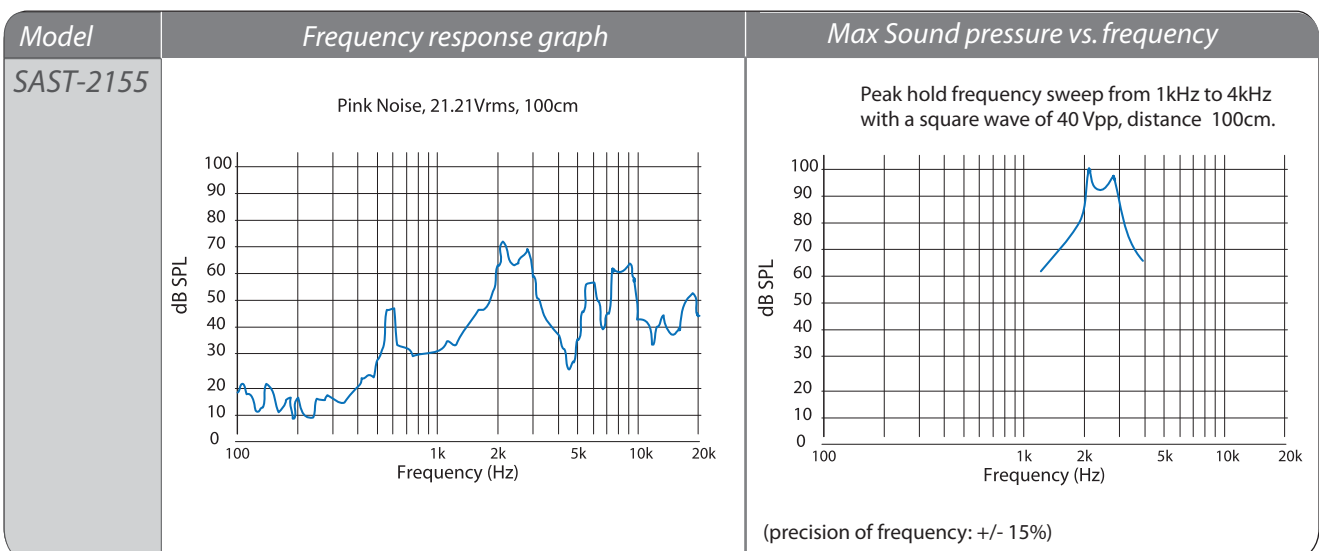
This transducer is the best product for the realization of your personalized alarm or siren driven by customers electronics.

SPECIFICATIONS

Model	SPL * (dB(A))	Frequency Range (Hz)	Capacitance (+/-30%) nF	Operating voltage (VAC pp)	Weight (g)
SAST-2155	See graph	2000 - 3000	75 nF	0 to 40	35g

Operating temperature:	-40°C to +85°C
Storage temperature:	-40°C to +85°C
Expected life time:	2000 hours continuous working
Color:	grey, black
Terminals:	pins, fast-on and wire connection
Case material:	Standard ABS plastic (UL rating: 94HB) Akulon plastic on request
Max. SPL	+/- 100dB(A) @100cm
Mounting method:	Mounting on panels and walls with universal bracket

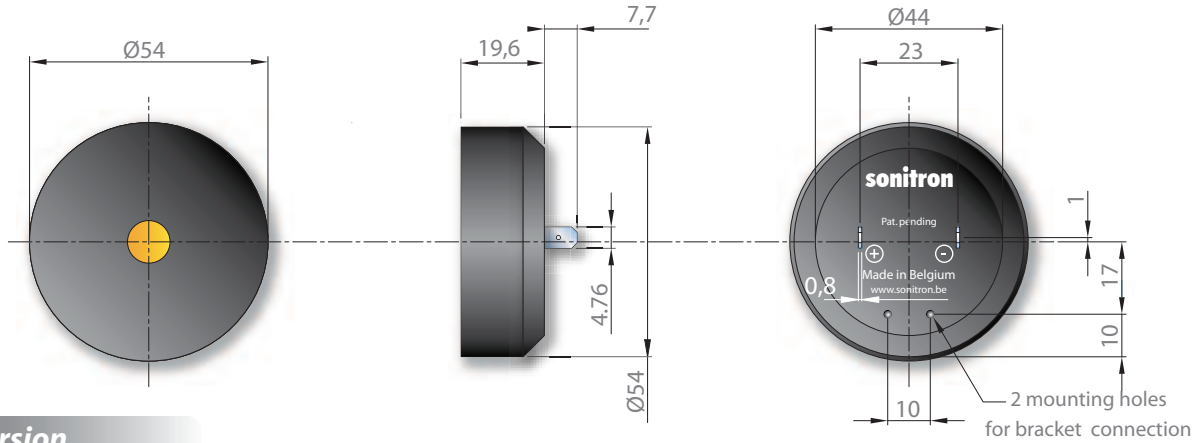
ELECTRICAL PARAMETERS



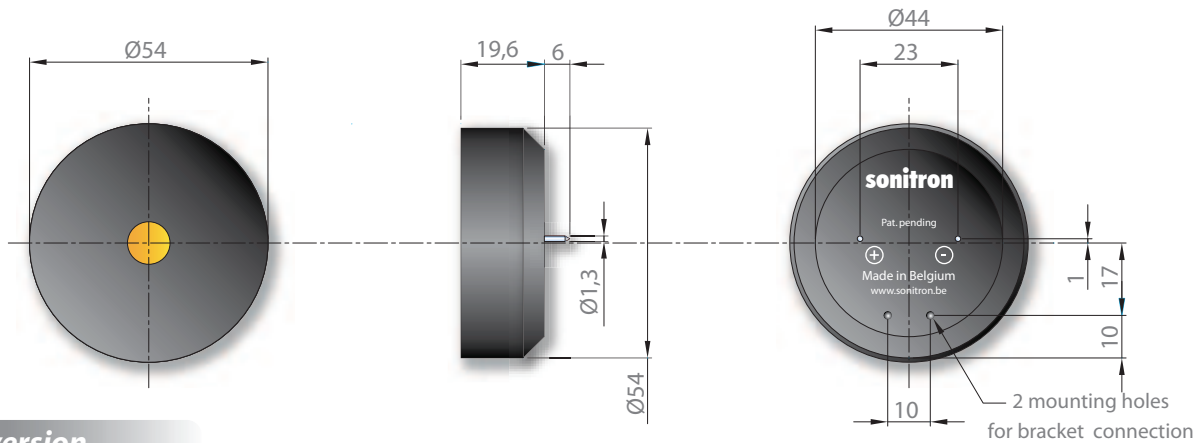
DIMENSIONS SAS SERIES (all dimensions are in mm)

Dimensions SAS-2155-S & SAST-2155 without mounting bracket

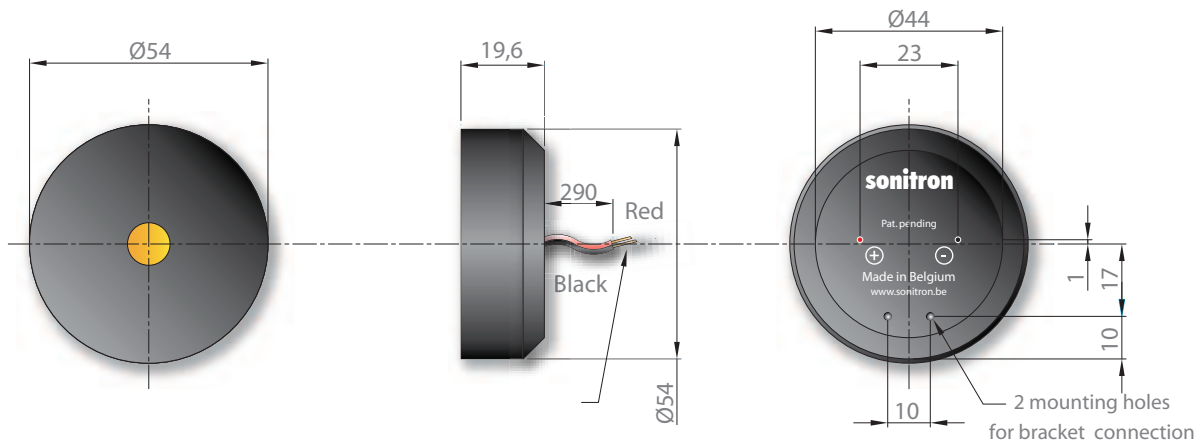
Fast-on version



Pin version

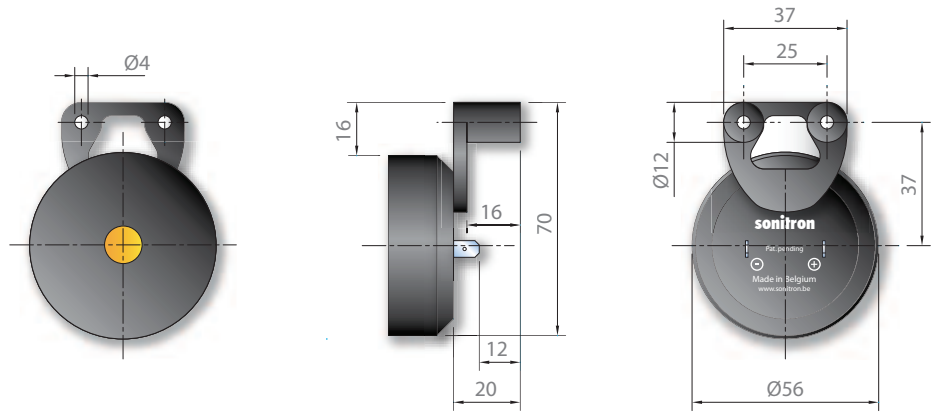
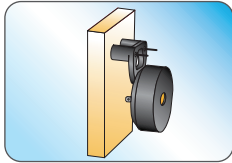


Wire version

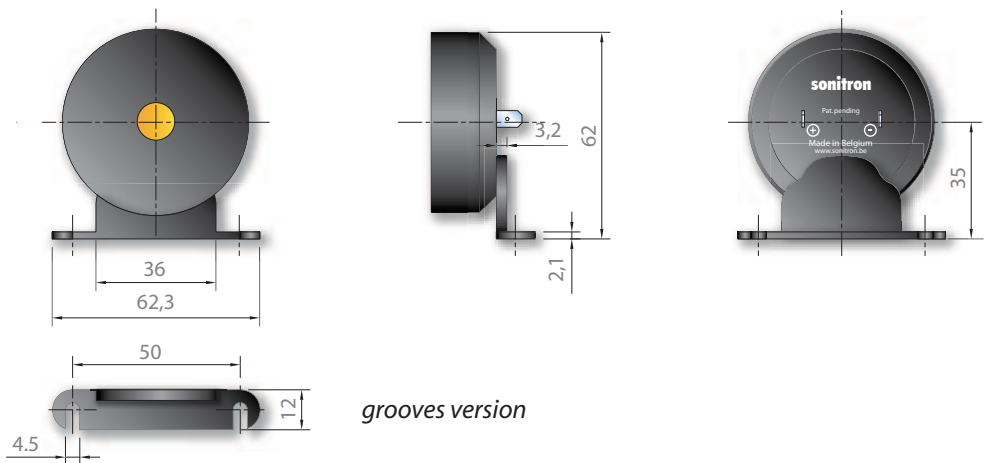
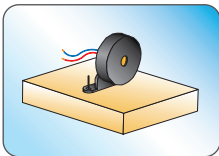


PRODUCT OPTIONS

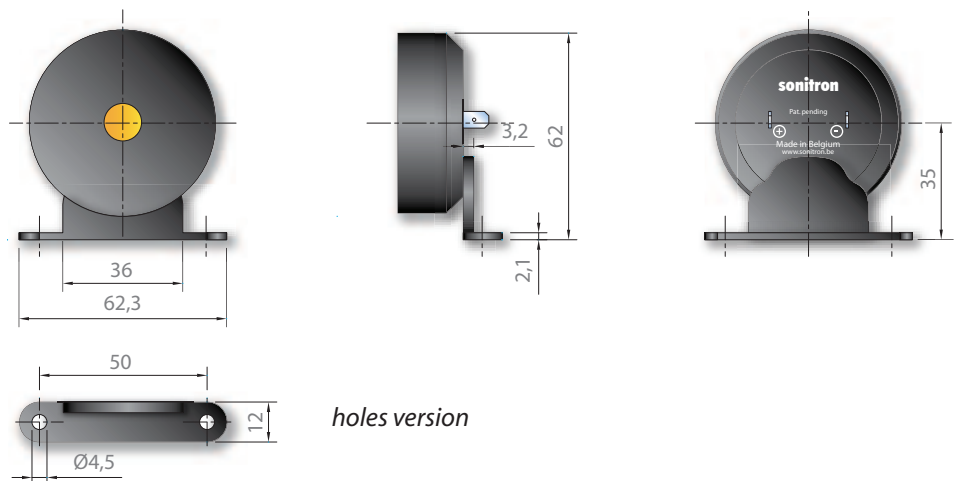
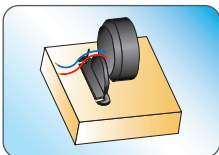
1. Dimensions with mounting bracket (MB1)



2. Dimensions with mounting bracket (MB2)



3. Dimensions with mounting bracket (MB3)



Tolerance: +/- 0.2mm mm

PRODUCT CODIFICATION

SAS ↓ Sonitron Alarm Series	T - 2155 ↓ Transducer (without electronics)	S ↓ S: sweep	W P F ↓ W: wire AWG 24 (12cm) P: round pin F: fast-on terminal 4.76mm	MB ↓ Mounting Bracket	1 2 3 ↓ 1: wall connection 2: flat connection (with grooves) 3: flat connection (with holes)	S ↓ Separate mounting bracket
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LIST OF AVAILABLE PRODUCT TYPES

Without bracket

SAS-2155-S-F	SAS-2155-S-P	SAS-2155-S-W
SAST-2155-F	SAST-2155-P	SAST-2155-W

With bracket

SAS-2155-S-F-MB1 SAS-2155-S-F-MB2 SAS-2155-S-F-MB3	SAS-2155-S-P-MB1 SAS-2155-S-P-MB2 SAS-2155-S-P-MB3	SAS-2155-S-W-MB1 SAS-2155-S-W-MB2 SAS-2155-S-W-MB3
SAS-2155-S-F-MB1S SAS-2155-S-F-MB2S SAS-2155-S-F-MB3S	SAS-2155-S-P-MB1S SAS-2155-S-P-MB2S SAS-2155-S-P-MB3S	SAS-2155-S-W-MB1S SAS-2155-S-W-MB2S SAS-2155-S-W-MB3S
SAST-2155-F-MB1 SAST-2155-F-MB2 SAST-2155-F-MB3	SAST-2155-P-MB1 SAST-2155-P-MB2 SAST-2155-P-MB3	SAST-2155-W-MB1 SAST-2155-W-MB2 SAST-2155-W-MB3
SAST-2155-F-MB1S SAST-2155-F-MB2S SAST-2155-F-MB3S	SAST-2155-P-MB1S SAST-2155-P-MB2S SAST-2155-P-MB3S	SAST-2155-W-MB1S SAST-2155-W-MB2S SAST-2155-W-MB3S



SMAC SERIES



Piezo acoustic components are more and more used in small portable equipment and as a critical alerting device. Reliability must be very high in the most difficult environmental circumstances, such as extreme and varying temperatures, vibrations, shocks, dust conditions, humid environment etc. The SMAC-25 buzzer, manufactured with over 30 years of experience in the field of piezo acoustic technology, is a very stable buzzer with a lifetime of more than 1000 hours in continuous use. In these small dimensions, the SMAC-25 is actually the best available piezo alarm for life supporting systems.



ADVANTAGES & APPLICATIONS

ADVANTAGES :

- Electronics included
- Rounded octagonal shape – new design !
- PCB mounting (pin version)
- Shock, dust & waterproof (IP67)
- Produces a high reliable, clear and penetrating sound
- Light but solid construction
- Low power consumption
- Easily mountable
- Low cost compared to quality

APPLICATIONS :

- Alarms
- Monitoring & test equipment
- Trucks & automobiles
- Boats & airplanes
- Signalization & process control equipment
- Fire detectors
- Battery powered handheld devices
- Gas detectors
- Life support systems
- Control instrumentation & systems
- Intensive care systems

SPECIFICATIONS



Model	Function	Sound pressure level (dB(A)(±2dB(A))	Frequency (Hz)(±15%)	Operating voltage (Vdc)	Operating DCcurrent(mA)
SMAC-25	continuous	93.5	3350	5-16 Vdc	9.7
SMACI-25	intermittent*	93.5	3350	5-16 Vdc	9.7
SMAC-25L	continuous	100	3350	5-35 Vdc	17
SMACT-25	transducer	see graph	see graph	-	-

* Pulse rate 1 Hz (+/-15%)

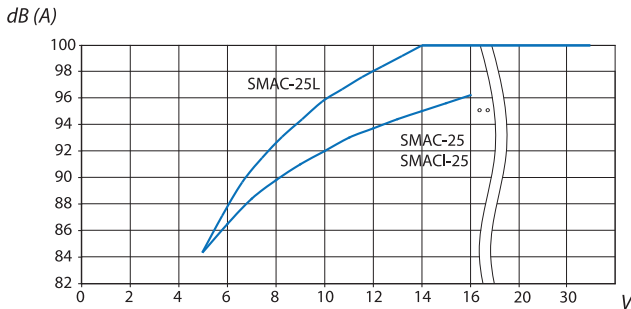
Capacitance (+/-30%) nF	Operating voltage (VAC pp)
20nF	0 to 30

Operating temperature:	-40°C to +85°C
Storage temperature:	-40°C to +85°C
Expected life time:	>1000 hours @ 21°C @ 12 Vdc (free air) mounted on print
Color:	grey, black
Terminals:	pins (tinned brass)
Case material:	PBT (UL rating: 94 HB)
Weight:	7.8 - 8.5 g

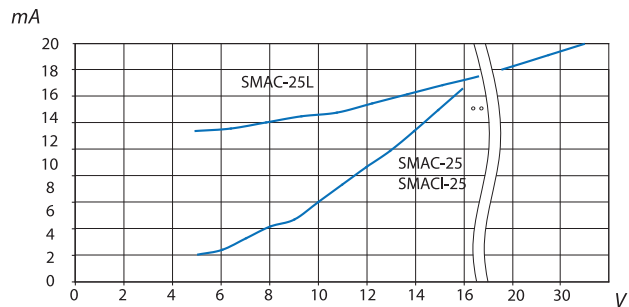
* All measurements are made in free air @ 21°C @ 30 cm @ 12 Vdc.
The test buzzer is soldered on a PCB board with dimensions of 24 cm x 11 cm.

ELECTRICAL PARAMETERS

Sound pressure level vs. operating voltage

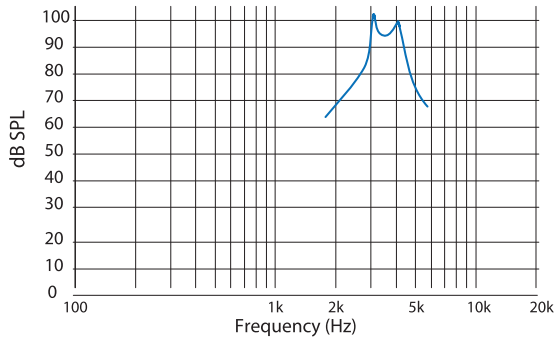


Current consumption vs. operating voltage

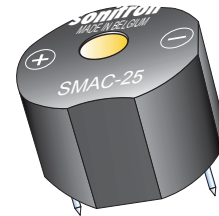


TRANSDUCER: SMAC-25

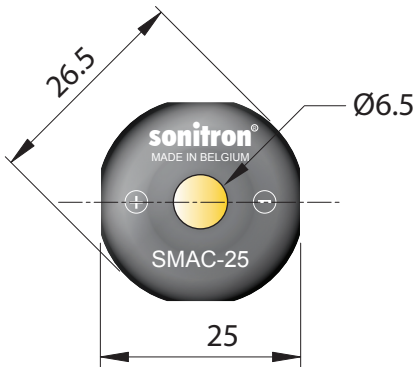
Maximum sound pressure vs. frequency



Peak hold frequency sweep from 1kHz to 4kHz with a square wave signal of 30 Vpp, distance 30cm. (precision of frequency: +/-10%)

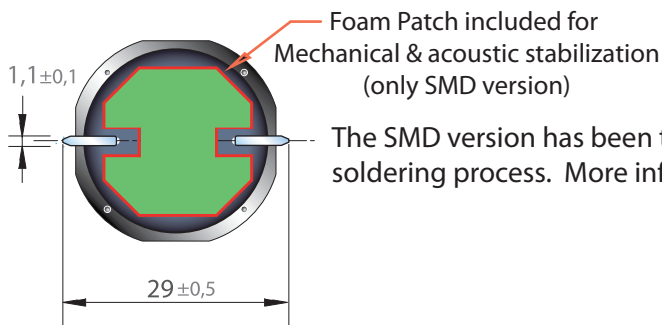
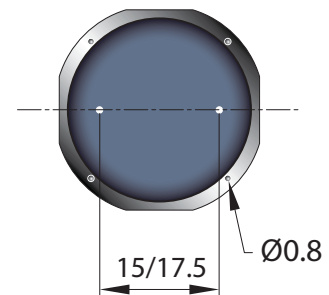
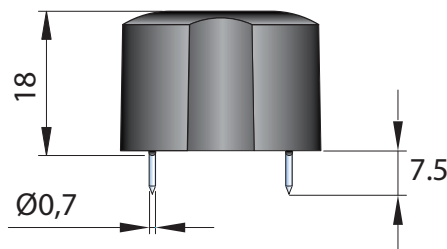


DIMENSIONS (All dimensions are in mm)

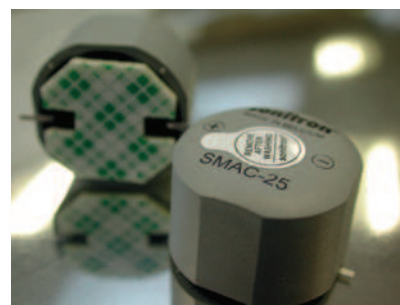
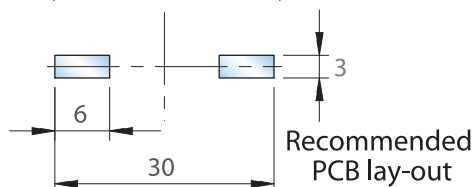


Pin material: tinned brass
Case material: grey or black PBT

Tolerance: +/-0.2 mm



The SMD version has been tested in production with a low temperature reflow soldering process. More information and machine profile, see page 141.



PRODUCT CODIFICATION

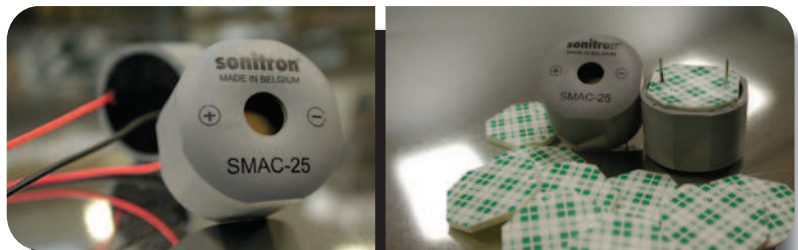
SMAC	I -	25	L	P-S-W connections
Sonitron Multi Application Cup	Intermittent	Square diameter (mm)	Loud	P15 : pin distance 15 mm P17.5 : pin distance 17.5 mm S : SMD terminals W100 : 2 wires length 10cm
	T -			
	Transducer			

LIST OF AVAILABLE PRODUCT TYPES

SMAC-25-P15	SMACI-25-P15	SMAC-25L-P15	SMACT-25-P15
SMAC-25-P17.5	SMACI-25-P17.5	SMAC-25L-P17.5	SMACT-25-P17.5
SMAC-25-S	SMACI-25-S	SMAC-25L-S	SMACT-25-S
SMAC-25-W100	SMACI-25-W100	SMAC-25L-W100	SMACT-25-W100

PRODUCT OPTIONS

Option Code	example	Description
MC	SMAC-25-P15- MC	Acryl coating: The protective coating gives a complementary assurance against smog. All Smac series buzzers are perfectly waterproof (IP67) without the mentioned coating.
Wash Tab	SMAC-25-P17.5 +Wash Tab	Recommended for automatic washing production process. The Wash Tab is upon the sound-emitting hole, avoiding liquid penetration into the cavity. TO BE REMOVED AFTER the washing process for good sound output!!!
FP21	SMACI-25-P15- FP	Acoustic stabilization Foam Patch, easy to stick. For: SMAC(I)-25-P15 SMAC(I)-25-P17.5



PACKAGING

The SMAC-25 buzzers are packed on a polystyrene board (245 L x 245 W) and sold in boxes with dimensions of 250 L x 250 W x 125 H.

SMAC-25	
per board	81
per box	(5x81) 405

SXL SERIES

Extreme loud

STANDARD SERIES

Sonitron's extremely loud series presented in a standard series housing are used in conditions that requires immediate attention getting and action to prevent dramatic situations. In this series Sonitron used more than 30 years experience know-how and elaborated working principles.



ADVANTAGES & APPLICATIONS

ADVANTAGES :

- Extremely high sound pressure level with a very clear and penetrating sound output
- Solid state shock proof buzzer
- Dust and waterproof, rated to IP67
- PCB and panel mounting; pin or fast-on terminals
- Very high reliability
- Low power consumption
- Wide operating supply range
- Wide temperature range
- Electronics potted in epoxy
- Small in dimensions

APPLICATIONS :

- Alarms
- Agricultural equipment
- Monitoring and test equipment
- Medical equipment
- Military equipment
- Trucks & automobiles
- Boats & airplanes
- Signalling & process control equipment
- Fire detectors
- Vending-machine
- Cockpit alarm

SPECIFICATIONS

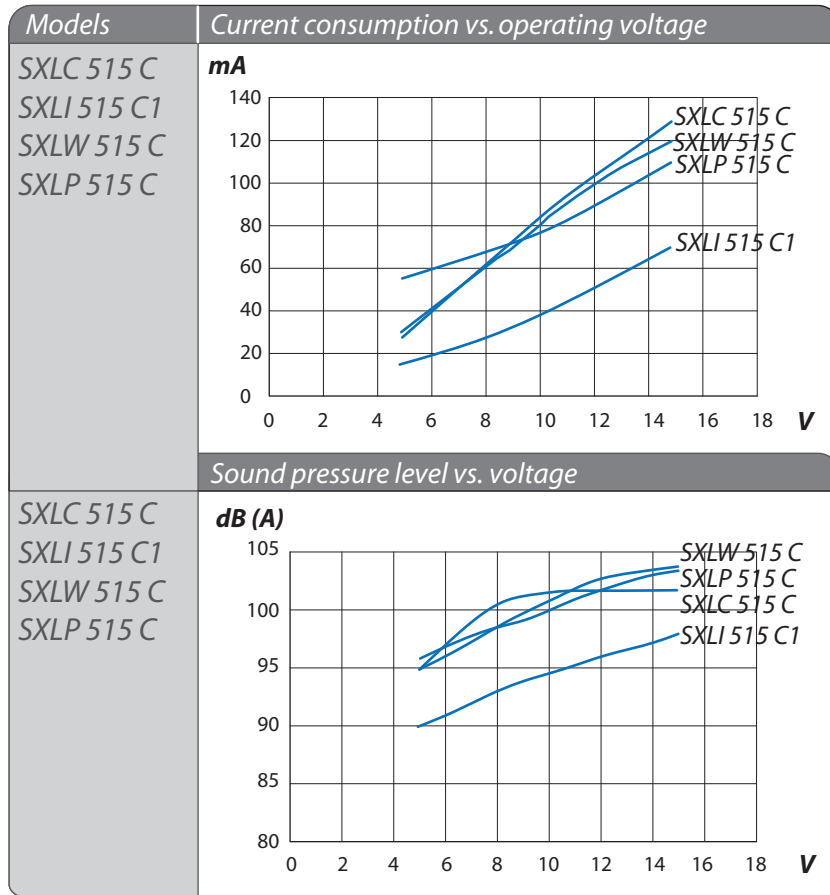


Operating temperature	-40°C to +85°C
Storage temperature	-40°C to +85°C
Life time (at 21°C)	@12Vdc continuous use min. 9 hours (expected life time curve in addendum)
Case material	ABS (UL rating: 94 HB)
Standard colour of case	Black
Terminal material	Tinned brass for both pin terminals and fast-on terminals
Supplemental	Reverse voltage protected. Weight: 22g

Model	Function	Operating voltage		Frequency (Hz) (±30%)	Operating current (mA)		Sound pressure level* (dB(A))	Weight (g)
		min Vdc	max Vdc		@V min.	@V max.		
SXLC 515 C	continuous	5	15	3000	25	130	102	22
SXLI 515 C1	multifunction	5	15	3000	13	70	96	22
SXLW 515 C	warbler	5	15	3000	30	120	104	22
SXLP 515 C	sweep	5	15	3000	55	110	102	22

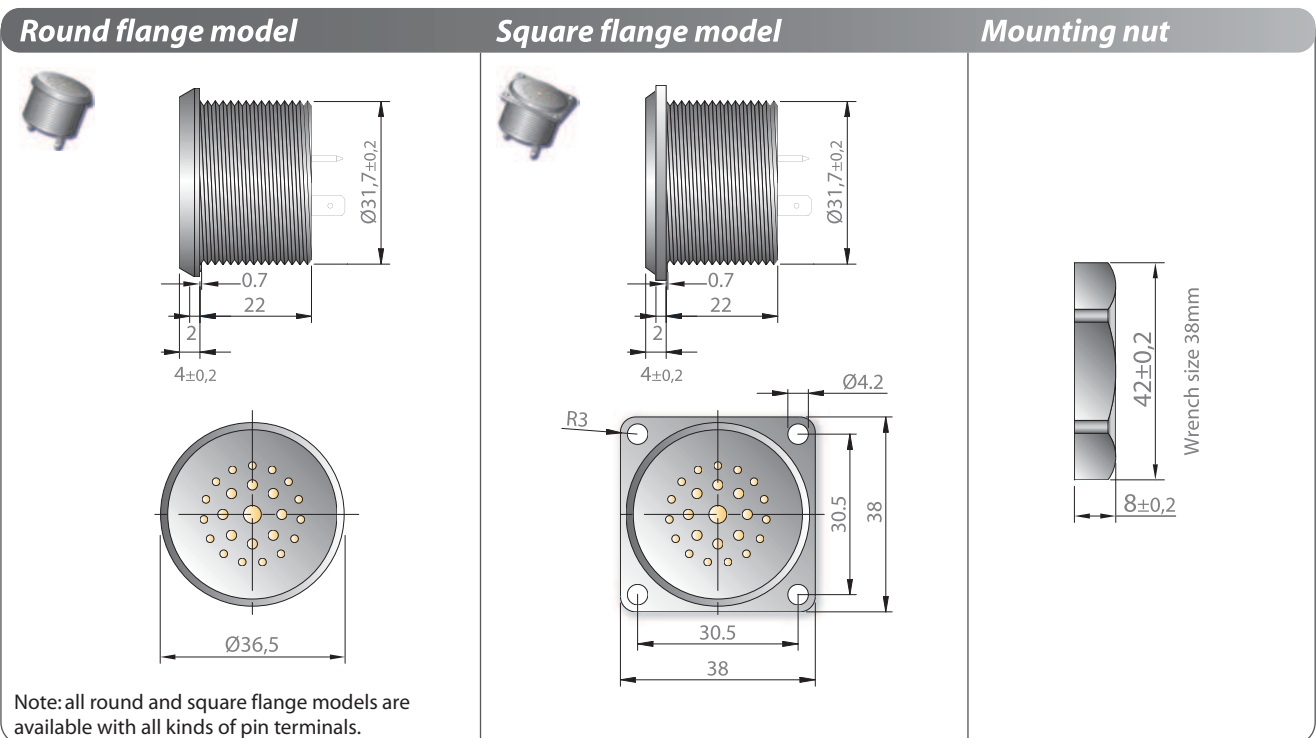
*All measurements are made @ 1 meter @ 12 Vdc in free air @21°C.

ELECTRICAL PARAMETERS

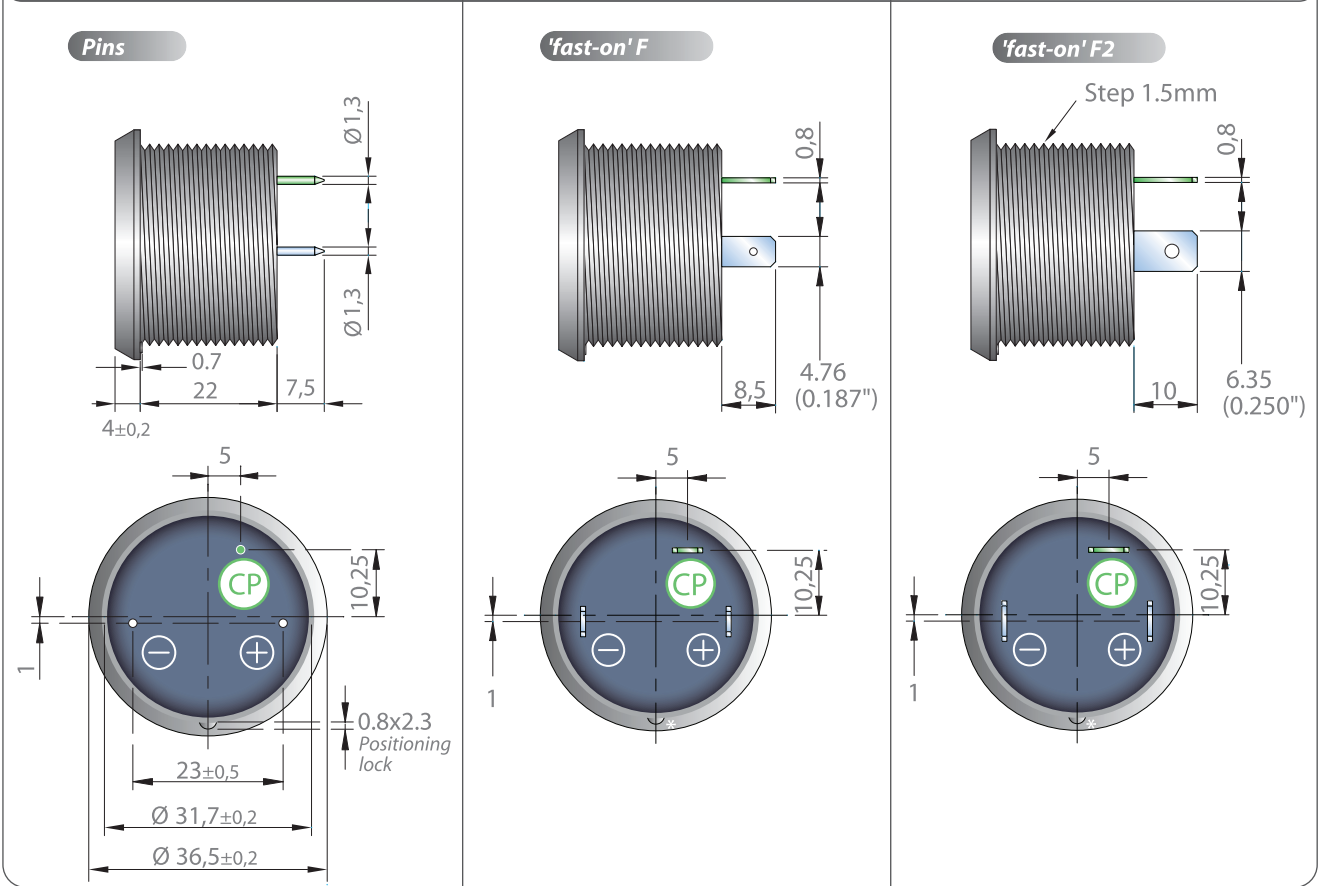


All measurements are made @ 12Vdc @ 1 meter in free air @ 21°C.

DIMENSIONS (All dimensions are in mm)



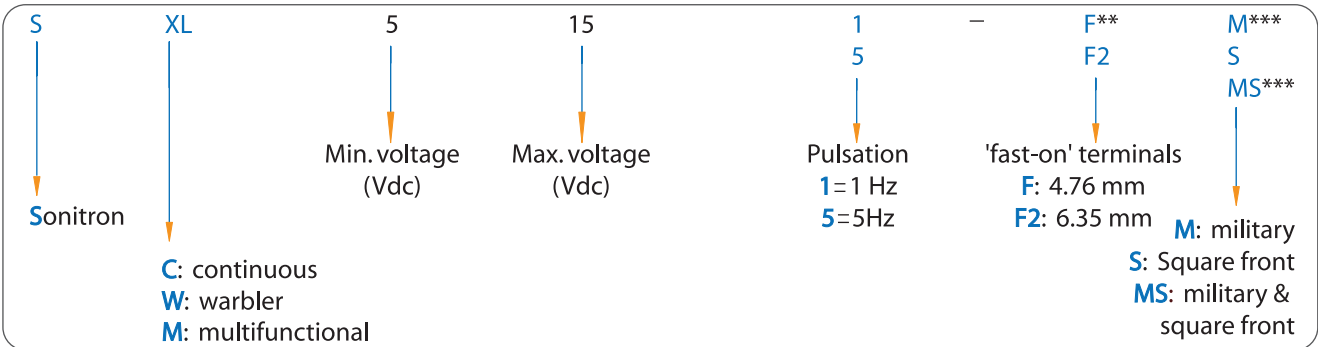
Models (2 pins) SXLC, SXLW, SXLP (3 pins) SXLI



Note: control pin (CP) only with multifunction buzzers.

*0.8x2.3 Positioning lock

PRODUCT CODIFICATION



F** If no terminal specification, the model is standard delivered with round pins, diameter 1.5 mm. Fast-on terminals are available in 2 dimensions: F= 4,76 mm (0,187 inch) or F2 = 6,35 mm (0,250 inch).

M*** Military norm MIL STD 202

LIST OF AVAILABLE PRODUCT TYPES

SXLC 515 C	SXLI 515 C1	SXLW 515 C	SXLP 515 C
SXLC 515 C F	SXLI 515 C1 F	SXLW 515 C F	SXLP 515 C F
SXLC 515 C F2	SXLI 515 C1 F2	SXLW 515 C F2	SXLP 515 C F2
SXLC 515 C F M	SXLI 515 C1 F M	SXLW 515 C F M	SXLP 515 C F M
SXLC 515 C F2 M	SXLI 515 C1 F2 M	SXLW 515 C F2 M	SXLP 515 C F2 M
SXLC 515 C S	SXLI 515 C1 S	SXLW 515 C S	SXLP 515 C S
SXLC 515 C F S	SXLI 515 C1 F S	SXLW 515 C F S	SXLP 515 C F S
SXLC 515 C F2 S	SXLI 515 C1 F2 S	SXLW 515 C F2 S	SXLP 515 C F2 S
SXLC 515 C F MS	SXLI 515 C1 F MS	SXLW 515 C F MS	SXLP 515 C F MS
SXLC 515 C F2 MS	SXLI 515 C1 F2 MS	SXLW 515 C F2 MS	SXLP 515 C F2 MS

Packaging and models on request, see general information about "Standard series"(page 34).