# ASSISTIVE PRODUCT SPECIFICATION FOR PROCUREMENT

## Alarm signalers with light/sound/vibration

### Objective:

The objective of this specification is to help organizations in procuring good quality alarm signalers with light/sound/vibration that are durable and which assist individuals with sensory impairments

World Health Organization

# 1. Product description

| The purpose of this section is to provide specific key details relevant to the assistive product so that it is easily identifiable. | |
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| Purpose of 1.1 | Name of product as per WHO priority APL and/or commonly used names. |
| 1.1 Name of product | Alarm signalers with light/sound/vibration |
| Purpose of 1.2 | As per ISO 9999 classification and terminology document (refer https://www.iso.org/standard/60547.html). |
| 1.2 ISO 9999 code | 22 27 04 Signaling devices<br>Devices that transform a signal, e.g. from telephone, doorbell, baby's call, to a visual, an acoustic or a mechanical output.<br><br>22 27 24 Monitoring and positioning systems<br>Devices for observing the status or location of a specific situation or a person<br>Included are, e.g. global positioning systems (GPS). |
| Purpose of 1.3 | Describes the product type in clear, simple, easily understood language and the intended use in addressing functional needs. |
| 1.3 Description and intended use | Alarm signalers with light/sound/vibration alert people who are deaf and/or hard of hearing to changes within their environment. These devices can provide a warning signal in a modality that is accessible to them (such as through a vibration, or a flashing light, or an amplified signal) to alert them of imminent danger (such as smoke, fire or a security breach). These signalers or transmitters can also bring their attention to their environment, such as when a doorbell is pressed, a phone rings, or a baby cry. These alerting devices can be added to existing fire alarm systems, or alarm clocks (if they make use of the same frequency) so as to provide the necessary warning signal. |
| Purpose of 1.4 | Refers to general characteristics of the assistive product that describes its appearance and components. |
| 1.4 General features | • Smoke sensor (signal receiver)<br>• Heat sensor (signal receiver)<br>• Sound sensor (signal receiver)<br>• Built-in Flashing or strobe light: external light/lamp can also be plugged to the alerting system (signal transmitter)<br>• Vibrating device (signal transmitter) e.g. vibrating pad or wrist watch<br>• Sound amplification (signal transmitter) |
| Purpose of 1.5 | Refers to product models that are included in the specific APS. |
| 1.5 Inclusion | Alarm signalers with light/sound/vibration, see 1.4 |
| Purpose of 1.6 | Refers to product models that are excluded in the specific APS. |
| 1.6 Exclusion | Not applicable. |
| Purpose of 1.7 | Important, searchable words that relate to the specific assistive product. |

| 1.7 Keywords | Alarm signaler; light; strobe; vibration; deaf/hard of hearing; fire alarm; smoke alarm |
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## 2. Product requirements

The purpose of this section is to provide details of all applicable requirements relative to the specific assistive product. A requirement is mandatory and typically describes what a product should be able to do, how it should appear (product and packaging) etc. Only supply and service requirements considered applicable in procurement of alarm signalers with light/sound/vibration.

### 2.1 Functional requirements

| Purpose of 2.1 | | A functional requirement refers to technical details and other specific functionality that define what a product variation is supposed to accomplish. Per product variation, the requirement should describe the typical user, specific characteristics of the product (in addition to the general features above) as well as the requirements for standard configuration of the product. It is important to focus on performance requirements rather than form factors. It is important to have a clear and specific description of the typical users including e.g. health condition, functional limitation or demographics (range of age, body weight, height, etc.). If applicable, specific context of use (e.g. indoor/outdoor, in noisy environment, etc.) should be specified in the product variations. | | |
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| **Item** | **Product variations** | **Typical user** | **Specific characteristics** | **Requirements for standard configuration** |
| 1 | Alarm signaler with heat sensor and vibrating pad. | Person who is deaf or hard of hearing and is unable to hear warning signals through traditional fire alarm systems. If the heat sensor detects heat, the person will feel the vibration under their pillow which is under their head while the person is sleeping while they are sleeping. This alarm accessory provides a warning via vibration if the heat sensor detects a potential fire and triggers the alarm system | The sensor should be sensitive to heat emanating from fire. The vibration is to be felt even when placed under the pillow while the person is sleeping. | Electrical supply or battery power supply is necessary to power the device either as a stand-alone device or when coupled to an existing alarm system. Alarm signaler with heat sensor and vibrating pad. It should also not cause harmful interference to adjacent devices, products and/or electrical equipment. |
| 2 | Alarm signaler with heat sensor and flashing light. | Person who is deaf or hard of hearing and is unable to hear warning signals through traditional fire alarm systems. If the heat sensor detects heat, the person will be woken by a bright flashing light on the alarm, or by an external flashing lamp or light attached to the alarm. This | The sensor should be sensitive to heat emanating from fire. | Electrical supply or battery power supply is necessary to power the device either as a stand-alone device or when coupled to an existing alarm system. Alarm signaler with heat sensor and strobe light. The light can typically flash at a 0.9Hz rate. Ought to be suitable for indoor and outdoor use. It should also not cause harmful interference to adjacent devices, products and/or electrical equipment. |

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| | | alarm accessory provides a visual warning if the heat sensor detects a potential fire and triggers the alarm system. | | |
| 3 | Alarm signaler with smoke sensor and vibrating pad. | Person who is deaf or hard of hearing and is unable to hear warning signals through traditional fire alarm systems. If the smoke sensor detects smoke, the person will be woken up by the vibration under the pillow which is under the person's head while the person is sleeping. This alarm accessory provides a vibrating warning if the heat sensor detects a potential fire and triggers the alarm system. | The sensor should be sensitive to smoke emanating from fire. The vibration is to be felt even when placed under the pillow while the person is sleeping. | Electrical supply or battery power supply is necessary to power the device either as a stand-alone device or when coupled to an existing alarm system. Alarm signaler with smoke sensor and vibrating pad. It should also not cause harmful interference to adjacent devices, products and/or electrical equipment. |
| 4 | Alarm signaler with smoke and/or heat sensor and flashing light. | Person who is deaf or hard of hearing and is unable to hear warning signals through traditional fire alarm systems. The smoke or heat sensor detects smoke or heat, the person will be awakened by the flashing light from a built-in light or external lamp or light. This alarm accessory provides a visual warning if the smoke or heat sensor detects a potential fire and triggers the alarm system. | The sensor should be sensitive to smoke or heat emanating from fire. | Electrical supply or battery power supply is necessary to power the device either as a stand-alone device or when coupled to an existing alarm system. Alarm signaler with smoke sensor and flashing light. The light can typically flash at a 0.9Hz rate. Ought to be suitable for indoor and outdoor use. It should also not cause harmful interference to adjacent devices, products and/or electrical equipment. |
| Purpose of 2.2 | Brief and clear description of general product performance requirements and overall qualities (e.g. stability, strength, durability, waterproof, etc). | | | |

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| 2.2 General design requirements | For vibrating pads that can be placed under a pillow, these should be sufficiently powerful to awake a person who is sleeping. Some vibrating pads emit a sound. Its power: 2.0 – 4.0 VDC. The vibrating pad should be difficult to unplug or disconnect and a warning light should come on if it accidentally it does so. The vibrating pad should be manufactured from a non-slip (rubberized) material so that it remains in place under the pillow (or even under the mattress).<br><br>A bright flashing LED lights to alert the person who is awake.<br><br>The amplified sound should be delivered up to a signal of not more than +100 dB SPL which should increase over a period of time.<br><br>There should be a battery back-up for the system in the event of a power failure, or if the system is unplugged from the mains, to ensure that it will be sufficiently powered for another 72 hours. An alert should be transmitted when the battery power is low and needs to be replaced.<br><br>For a wireless smoke/fire alarm system, the system should have enough range to cover all sections of the home or occupied space.<br><br>The system ought to have an accessible and easy-to-use test button in order to regularly test the system. |
| Purpose of 2.3 | Details of existing or in-progress national or international standards should be provided here, whether freely or commercially available. |
| 2.3 Standards | Alarm signalers with light/sound/ vibration should comply with and be tested according to relevant national or international standards. Tests should be carried out by accredited test laboratories.<br><br>If alarm signalers with light/sound/vibration do not comply with or are not tested according to relevant national or international standards, an explanation should be provided. Documents supporting that alarm signalers with light/sound/vibration are safe and effective for use by the typical user, including detailed reports of tests performed, should also be provided. If alarm signalers with light/sound /vibration do not comply with national or international standards, the supplier is liable for any damages and injuries caused by a product that is used according to its purpose by the typical user as stated above.<br><br>All product documentation should be provided in English.<br><br>Specific product standards:<br>ISO 16201:2006 Technical aids for disabled persons - Environmental control systems for daily living<br>ISO 16201:2006 specifies the functional and technical requirements as well as test methods for environmental control systems intended for use to alleviate or compensate for a disability. Such systems are also known as electronic aids to daily living. See: http://platform.progressivestandards.org/technical-aids-for-persons-with-disability-environmental-control-systems-for-daily-living/ |
| Purpose of 2.4 | A certificate of conformity confirms that a product conforms to applicable national and/or international regulations. If a certificate is required for the specific assistive product, this information should be requested, e.g., CE (Europe), COC (Japan), GCC (USA). |

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| 2.4 Certificate of conformity | A certificate that the product conform with applicable national or international regulations and standards should be provided (for example, a declaration of conformity with the medical device directive or the medical device regulation of the European Union).<br><br>If the product does not conform with applicable national or international regulations and standards, the supplier should provide a certificate that the product complies with the requirements in this call for tender and is safe and effective for use by the typical user.<br><br>The certificate should specify the product, all applied standards, if any, and the name and contact information of the supplier and be provided with the tender. The certificate of conformity is a legal document and should be signed by an authorized person at the supplier.<br><br>The certificate of conformity should be supplied in the official language where the products are supplied or in English. |
| Purpose of 2.5 | Lists the relevant scope of information required to identify the appropriate size and weight of the assistive product in its standard configuration (specific dimensions may be given if appropriate). |
| 2.5 Size and weight | Information about the overall width, height, length and weight of alarm signalers with light/sound/ vibration should be provided. |
| Purpose of 2.6 | Lists the relevant scope of information that should be provided to service providers (e.g. how to select, assemble, fit, adapt, follow up, maintain, repair, refurbish the assistive product). The desired language(s) in which the technical information should be provided should be stated. |
| 2.6 Technical information (for service providers) | Information on how to assemble, use and adapt the alarm signalers with light/sound/ vibration should be provided.<br><br>Instructions on how to maintain, service, repair and refurbish the alarm signalers with light/sound /vibration should be provided.<br><br>Information on power and battery should be included, specifying the mains power voltage, the type/size/power of batteries to be used, the battery backup operating time, as well as the battery backup charging time.<br><br>The technical information should be provided in the official language where the products are supplied or in English. |
| Purpose of 2.7 | Lists the scope of information, and its format, that should be provided to end-users to show how to safely use the assistive product. |
| 2.7 Instructions for use | A user manual with instructions for use of the alarm signalers with light/sound/ vibration should be provided by the supplier. It should provide instructions on how to safely and effectively use the product, and how to maintain and clean it. It is intended for the user and/or care-giver.<br><br>The user manual may be provided in print or electronic format.<br><br>The user manual should be provided in English and in the official language where the products are supplied. |
| Purpose of 2.8 | Refers to the various weather and other environmental conditions, e.g., temperatures, humidity, rain, snow, sunshine, that the assistive product should be able to withstand. |

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| 2.8 Environment of use | Alarm signalers with light/sound/vibration should operate in temperatures between 15°C to 35°C degrees Celsius - and relative humidity (non-condensing) ranging from 5% to 95%. |
| Purpose of 2.9 | Refers to the duration of the warranty period and the details of the warranty the manufacturer/supplier should provide within the specified period. |
| 2.9 Warranty | Provided normal heedful use, the supplier should, during the warranty period and without extra expense, repair parts which break on the products delivered. This comprises all spare parts and labour, except for normal wear and tear of the product.<br><br>The warranty period should be at least 2 years after delivery of the alarm signalers with light/sound vibration. The same should apply for spare parts and accessories.<br><br>The supplier should cover all transport when repairing alarm signalers with light/sound vibration.<br><br>Following a written complaint, the supplier should repair or replace the product within 10 working days and no more than 30 working days or other specified. |
| Purpose of 2.10 | Refers to the expected duration, in years, of the assistive product. Documents describing how this is ensured must be provided. |
| 2.10 Lifespan | Given the purpose of use by typical users, the alarm signalers with light/sound vibration should be designed for a lifetime of at least 5 years.<br><br>Documents describing how this is ensured should be provided. |
| Purpose of 2.11 | Lists the scope of information required in packaging and labeling the assistive product. Explains the state of assembly the assistive product should be in when received by the end-user. |
| 2.11 Packaging, labelling, and state of assembly | Each alarm signaler with light/sound vibration should be delivered in an individual package with a label clearly stating details of the product. All necessary parts should be included in the package.<br><br>The package should withstand handling during transport.<br><br>The alarm signaler with light/sound vibration should be delivered fully assembled or assembled to such an extent that the remaining assembly can be carried out with the use of commonly available screwdrivers or wrenches. If any special tool is required, it should be included with the delivery. |
| Purpose of 2.12 | Refers to additional product requirements, depending on the specific assistive product, e.g., material, corrosion-resistance, adjustability, foldability, etc. |
| 2.12 Other product requirements | Not applicable in this call for tender. |

## 3. Supply and service requirements

From the information provided below, only those supply and service requirements considered applicable may be used in a procurement bid.

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| The purpose of this section is to describe key supply and service requirements that are needed in order to ensure that the assistive product is received in due time, operational, being maintained/repaired and refurbished. |

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| Purpose of 3.1 | Lists the scope of information to be requested on how the assistive product will be transported to the place of delivery. |
| 3.1 Transportation | Alarm signaling devices can be ordered through the supplier or distributer and shipped or delivered to the user via standard delivery options (e.g. mail, courier, in clinic etc.) |
| Purpose of 3.2 | Specifies the time between placing an order and receiving delivery of the assistive product (e.g. that it should not exceed 30 calendar days). |
| 3.2 Delivery time | The time between placing an order and receiving delivery of them should not exceed 30 working days. |
| Purpose of 3.3 | Refers to the specific details of the various accessories and spare parts available for the assistive product, including pricing and availability. |
| 3.3 Accessories and spare parts | This will be dependent on the product and indicated by the supplier. |
| Purpose of 3.4 | Provides information regarding required maintenance services the supplier will provide, including the timeframe and frequency. |
| 3.4 Maintenance | Information about payment per hour, including definitions of when a job starts and finishes; travel expenses, from – to, fee per km, rules when several repair jobs are done on the same route; hotel bills; who should provide the spare parts; in cases the job is done by a sub-supplier, the invoice should be sent by the supplier with the contract. The prices should be according to the contract. (More information may be requested to be provided.) |
| Purpose of 3.5 | Provides information regarding required repairment services the supplier will provide, including the timeframe and frequency. |
| 3.5 Repair | Information about payment per hour, including definitions of when a job starts and finishes; travel expenses, from – to, fee per km, rules when several repair jobs are done on the same route; hotel bills; who should provide the spare parts; in cases the job is done by a sub-supplier, the invoice should be sent by the supplier with the contract. The prices should be according to the contract. (More information may be requested to be provided.) |
| Purpose of 3.6 | Provides information regarding required refurbishment services the supplier will provide, including the timeframe and frequency. |
| 3.6 Refurbishing | Information about payment per hour, including definitions of when a job starts and finishes; travel expenses, from – to, fee per km, rules when several repair jobs are done on the same route; hotel bills; who should provide the spare parts; in cases the job is done by a sub-supplier, the invoice should be sent by the supplier with the contract. The prices should be according to the contract. (More information may be requested to be provided.) |
| Purpose of 3.7 | Specifies if training service providers is required by suppliers, and the key elements included in the training (e.g. selection, assembly, fit, maintenance and repair of the assistive product). Refers to detailed training contents or materials, if available and applicable. |
| 3.7 Training of service providers | Information on assembling, fitting and maintaining the alarm signalers with light/sound/vibration should be provided to the appropriate personnel. |
| Purpose of 3.8 | Specifies if training users is required by suppliers, and the key elements included in the training (e.g. training to users should include fit, use, maintenance and cleaning of the assistive product). Refers to detailed training contents or materials, if available and applicable. |
| 3.8 Training of users | Most training is provided by instruction booklets or on-line videos supplied by the manufacturer. Clinics who dispense these products may also have personnel to provide in person demonstration of the products. |
| Purpose of 3.9 | Provide information regarding other supply and service requirements. |

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| 3.9 Other supply and service requirements | Information about payment per hour, including definitions of when a job starts and finishes; travel expenses, from – to, fee per km, rules when several supply or service jobs are done on the same route; hotel bills; in cases the job is done by a sub-supplier, the invoice should be sent by the supplier with<br>the contract. The prices should be according to the contract. (More information may be requested to be provided.) |