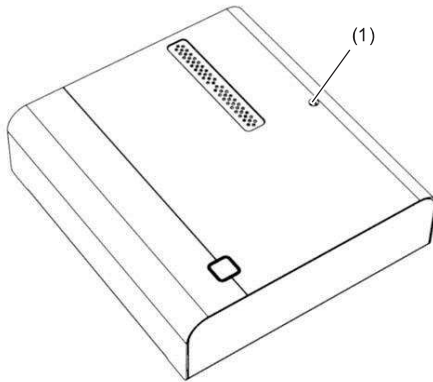




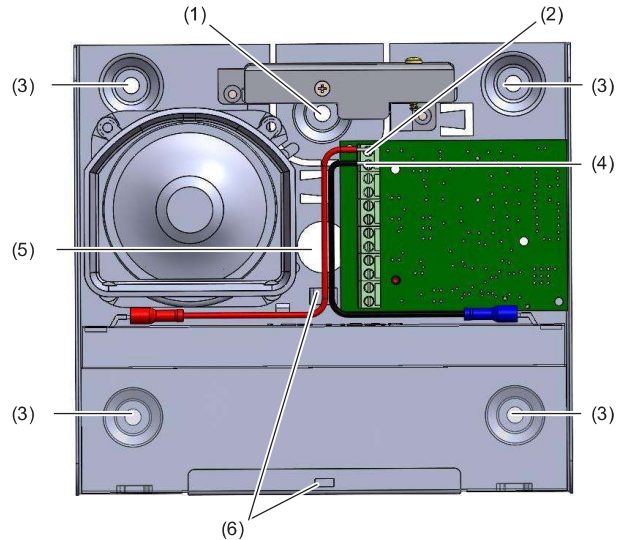
# AS280G3 Internal Siren Installation Sheet

EN FR

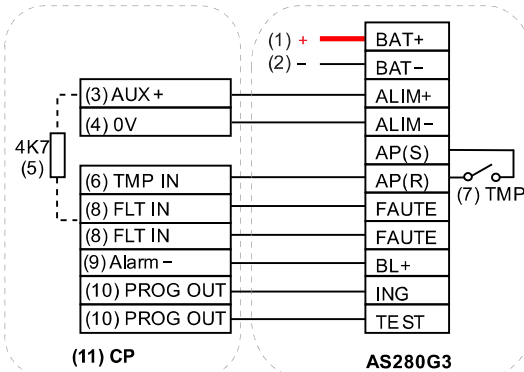
1



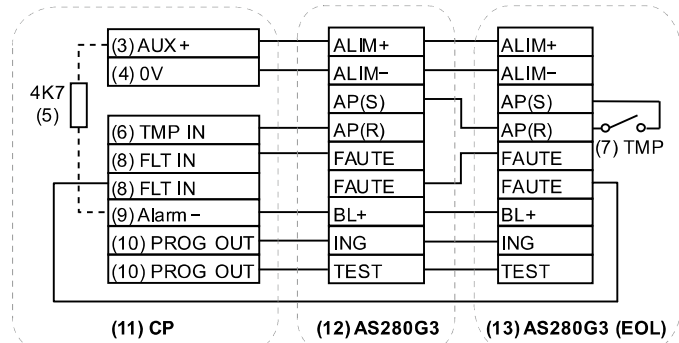
2



3



4



## EN: Installation Sheet

### Operation

AS280G3 Internal Siren is used for notification of an alarm condition as generated within an intruder, hold-up or other alarm system. In response to commands from the alarm system control panel, the AS280G3 will emit a high intensity sound.

AS280G3 will detect any attempt to gain unauthorised access to the sounder by removal of the cover, or any attempt to remove it away from its mounting surface. This will generate a Tamper (Auto-protection) signal which is normally fed back to the alarm control panel. Integrity of the Trigger Command

(Ring Line) connection is constantly monitored and will cause the unit to self-activate (if SAD mode selected) and generate a Tamper signal to the control panel if loss of connection is detected.

AS280G3 is classified as a self-powered sounder and has an on-board battery which is recharged via the external power source. This battery is used to operate the sounder if the external power is removed. AS280G3 can be configured to self-activate (SAD Mode ON) in the event that a Tamper condition is detected and will always self-activate if the external power is removed.

AS280G3 self-test, to check the integrity of its on-board battery and battery charging circuit, is performed every 24 hours. If an error condition is detected, a Fault (Faute) signal is generated. This is normally connected back to the control panel. This self-test can be triggered at any time by a Remote Test command

sent from the control panel. An on-board diagnostic LED provides visual indication of Battery or Charger status.

To assist with commissioning, AS280G3 has an Engineer Mode to provide silent start-up and audible confirmation to indicate the correct closure of the tamper detection switches and correct battery connection.

## Features

- High efficiency operation
- Silent engineer start-up
- Selectable sound cut off timer
- Selectable SAB (SAD) mode
- Front and rear tamper
- Battery circuit protection with resettable fuse
- Diagnostic LED
- Battery test with fault output
- Remote test input
- Ring line monitoring
- Microprocessor controller
- Enclosed electronics module
- Audible tamper status to assist with commissioning
- Break-out rear tamper section for easy installation

**Note:** In accordance with Grade 3 requirements, the siren tamper output is triggered when the siren detects:

- Sounder + power supply (ALIM+) cut
- 0 V power supply cut

**Caution:** Do not connect the ALIM+ power supply to AUX+ power supply of the control panel, which disconnects during a mains fault. It must be connected to a permanent + power supply.

## Functional information

### Tamper circuit for single or multiple cascade installations

The AS280G3 sounder provides a tamper (Auto-protection) circuit for both single (Figure 3) and multiple cascade installations (Figure 4). In cascade installations with two or more sounders, from the end-of-line sounder, moving back towards the control panel, AP(R) of the sounder is connected to AP(S) of the previous cascade sounder. Cascade units must also have the white CASC link cut. Do not cut the CASC link on the end-of-line sounder.

### Engineer Mode (“ING”)

Selects silent start-up and silent maintenance. The Engineer / ENG (ING) input may be brought back to the control panel and connected to a programmable output (or manually connected to ALIM+). Switching this control panel output high when maintenance is required will prevent the sounder from self-activating when the cover is removed or BL+ activated. The Tamper output is open when ENG mode is activated, this prevents inadvertent system setting.

### Self-test and Fault output

The AS280G3 sounder performs a self-test every 24 hours. This function tests the condition of the battery. If a fault is found the Fault (Faute) output will open. The fault source can be identified using the Diagnostic LED (see “Diagnostics” on page 4). This is ONLY enabled when the cover is opened

(cover tamper active) for longer than 2 s, and the TEST input is low or not connected.

The Fault output will be cleared (output closed) when:

- The fault has been cleared, for example, battery connected
- The fault has been cleared and the sounder performs a self-test (Remote input or 24-hour self-test)
- The fault has been cleared, and both ALIM+ and the battery has been disconnected / reconnected,  
— or —  
TEST connected to ALIM+ to initiate self-test.

### Remote Test

With the cover closed, taking the Remote Test/REM (TEST) input high will force a self-test (ING input low or not connected). The Fault output is immediately opened to acknowledge receipt of the Remote Test command. The battery is immediately tested. Any fault found will be indicated by the Fault output remaining open after 25 s. The Fault output will remain open until the fault has been cleared and another Self-Test or Remote Test has been performed. If the self-test has passed, the Fault output will close after 25 s from starting the Remote Test.

## Options selection

Table 1 below summarises the link options for various modes of operation.

**Table 1: Option selection links**

|                                                    |        |      |       |         |
|----------------------------------------------------|--------|------|-------|---------|
| BL INHIBIT** (BLi)<br>(Sound Trigger Inhibit-Off)  | +ve*   | None |       |         |
| FL INHIBIT** (FLi)<br>(Strobe Trigger Inhibit-Off) | +ve*   | None |       |         |
| SAD (self-activation on<br>tamper detection)       | On*    | Off  |       |         |
| Sound Cut-Off Timer                                | 5 s*** | 90 s | 3 min | 15 min* |
| T1                                                 |        |      |       |         |
| T2                                                 |        |      |       |         |

☒ Link fitted    ☐ Link NOT fitted

\* Factory default setting.

\*\* When BL INHIBIT link is fitted, BL+ cut line detection will not report a Tamper to the control panel, however, it will still activate.

\*\*\* This cut-off time option intended for installation purposes only.

### Hold Off Facility for Sound (BL+) Trigger Inputs

A Hold Off facility is provided by links Blocage/BL INHIBIT (BLi) to enable triggering of the sounder from a control panel configured for positive hold-off signalling (see Table 1 above).

BLi connects internal pull-down resistors to the BL+ trigger input. When the links is FITTED, an ALIM+ (AUX+) voltage must be applied to BL+ to prevent (HOLD OFF) activation of the sounder functions. Trigger by removing ALIM+.

When the BL Inhibit link is NOT FITTED, the control panel must supply a transition from ALIM+ (AUX+) to 0 V on BL+ to trigger sound.

## SAD Mode

SAD (self-activation on tamper detection) selects the response of the sounder to various tamper (Auto-protection) conditions according to Table 2 below.

**Table 2: SAD Mode Auto-protection Condition**

| Tamper (Auto-protection) condition                    | SAD Mode ON    | SAD Mode OFF   | Tamper output | Fault output |
|-------------------------------------------------------|----------------|----------------|---------------|--------------|
| Cover removed                                         | Sounder Active | Sounder Silent | Open          | Closed       |
| Removed from mounting surface                         |                |                |               |              |
| Connection to BL+ is cut (BL INHIBIT link NOT fitted) |                |                |               |              |
| ALIM+ or ALIM–power connections cut                   |                | Sounder Active | Closed        |              |
| Connection to BL+ is cut (BL inhibit link fitted)     |                |                |               |              |

With SAD Mode OFF, the Auto-protection (AP) Output will still open and signal an active tamper (Auto-protection) condition back to the control panel under the conditions given in Table 2 above. If required, the sounder can be activated using a normal sound trigger command from the control panel.

## Sound Cut-off Timer

The AS280G3 sounder will automatically stop sounding after the time period selected by the Sound Cut-off Timer link, Table 1 on page 2, irrespective of the status of the sound trigger (BL+) input. The 5 s option is provided to reduce nuisance noise during testing.

## Connections

**Figure 3: Single AS280G3 connection**

**Figure 4: Multiple AS280G3 connection with tamper EOL**

- |                                                                                                                                                                                                        |                                                                                                                                                                         |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| (1) Battery + wire (red)                                                                                                                                                                               | (7) Tamper switch                                                                                                                                                       |
| (2) Battery – wire (black)                                                                                                                                                                             | (8) Fault input                                                                                                                                                         |
| (3) Auxiliary power +                                                                                                                                                                                  | (9) Siren output                                                                                                                                                        |
| (4) Auxiliary power 0V                                                                                                                                                                                 | (10) Programmable output                                                                                                                                                |
| (5) When Ring trigger is not pulled to greater than +8.5 V by the control panel in standby mode, an external 4K7 resistor should be fitted between ALIM+ (AUX+) and siren output at the control panel. | (11) Control panel                                                                                                                                                      |
| (6) Tamper input                                                                                                                                                                                       | (12) AS280G3 connected in cascade. <b>Note:</b> CASC (LK1) link must be cut in this siren. See “Tamper circuit for single or multiple cascade installations” on page 2. |
|                                                                                                                                                                                                        | (13) AS280G3 connected as the last one in the line                                                                                                                      |

- BAT+: Positive connection to battery.
- BAT–: Negative battery connection. Connect black battery lead after power is applied.
- ALIM+: Permanent positive hold-off supply.
- ALIM–: Permanent negative hold-off supply.
- AP(S): Connected to ALIM– via WHITE/BLANC Link (see Figure 4 for multiple sirens)
- AP(R): Auto-protection return connection to control panel. (See Figures 3 and 4)
- FAUTE: Fault output: Volt free contacts.
- BL+: Siren trigger, must be held to ALIM+ in standby mode.

- ING: Optional Engineer input connection for silent operation during installation or maintenance. Apply +12 V to initiate Engineer mode (ENG).
- TEST: Remote test trigger input (connect to ALIM+ to activate)

**Note:** If it is necessary to restore a siren from cascaded to stand-alone use (for example, white link has been cut), fit a shorting link between AP(S) and ALIM– terminals to restore functionality.

## Installation and setup

**Figure 2: Mounting**

- |                                                    |                     |
|----------------------------------------------------|---------------------|
| (1) Mounting hole (required) with break-out tamper | (4) Battery – cable |
| (2) Battery + cable                                | (5) Cable entry     |
| (3) Mounting hole                                  | (6) Cable tie hole  |

Remove the screw (Figure 1, item 1) to open the siren housing.

Place the siren on the mounting surface and mark the positions of the mounting holes.

Drill holes as required for fixing the backplate to the wall and for cable entry (Figure 2, item 5). Mounting holes are shown in Figure 2 as items 1 and 2.

Feed cables through the cable entry.

Fix the back plate to the wall using provided M5 fixing screws suitable for the mounting material. At least 3 fixing screws should be used, and one of the fixing screws must be mounted in the mounting hole with break-out tamper (Figure 2, item 1).

The break-out tamper is closed when the device is fixed on the mounting surface. A tamper condition is activated when the device is forcibly removed from its mounting surface, and the weakened section of the enclosure breaks out. Take care not to break this part when fixing the siren.

Connect the siren. See “Connections” above and “Commissioning” below for details.

Close the housing and secure with the cover screw.

## Commissioning

- Fit option Links:
  - Sounder cut-off timer: T1 and T2
  - Select SAD mode on/off as required
  - Set the ring trigger / BLi link as required.

See “Options selection” on page 2 for details.
- Connect AP(S)/AP(R) as required depending on single or multiple Sounder installation, see Figures 3 and 4.
- Connect FAUTE, BL+.
- Connect TEST if the remote test facility is required.
- Connect ING to ALIM+ or a switched output of control panel set high (optional to disable sounder)
- Connect ALIM+ and ALIM–.
- Apply power to the sounder via ALIM+ and ALIM– from control panel.

- Connect the red and black battery leads to correct terminals of battery.

#### Notes

- The battery must be installed to allow the activation of the siren. A 10-second delay may be necessary to verify the presence of the battery before the siren can be activated. The relay fault output is open during this period, and the diagnostic LED flashes 2 times in a cycle.

- AS280G3 is specified to function with the Aritech BS122N battery, and it is essential that this battery is used.

- If the ING input has been connected as step 5, then once the cover is fitted and screw tightened, the AS280G3 will perform a self-test. This takes approximately 10 seconds. If the battery is faulty the unit will indicate this with a series of continuous fast clicks.

- If ING input has been connected as step 5, then remove this link.

**Note:** Sounder will activate if SAD Mode is selected, and cover is removed.

- Fully test sounder functionality.

Commissioning complete.

**Note:** If commissioning sequence is omitted (sounder is connected to ALIM+ / ALIM– and battery supplies with ING input at 0 V), then immediately after ALIM+ and ALIM– connected, active Auto-protection conditions will not be processed until:

- 6 seconds after ALIM+ and ALIM– applied.

— and —

- The Auto-protection condition is first cleared and then a new Auto-protection event is generated.

## Maintenance

The AS280G3 sounder should be tested for correct operation on a periodic basis. A minimum of one check every 12 months is recommended. The following features should be verified on each maintenance visit:

- Correct operation of sounder from control panel signals
- Correct operation of cover and rear Tampers.
- Remove the ALIM+ supply from the control panel and check that the internal battery voltage as measured between BAT+ and BAT– is greater than 12.0 VDC. If the battery voltage is less than this value, replace the battery and reconnect observing CORRECT polarity.
- Check for signs of significant water or insect ingress. Clean as necessary.

## Battery removal

The battery may be removed for disposal at end of product life or if it is detected faulty by the sounder self-test. To remove, disconnect red and black leads from the battery terminals, unclip rubber retaining band, and withdraw the battery from its holder. To fit a new battery, insert into holder, and reconnect positive (RED) and negative (BLACK) leads to CORRECT positive and negative battery terminals. Refit rubber retaining band.

**IMPORTANT:** Ensure correct polarity of connections. If either battery lead has become detached from the terminal block, ensure that exposed battery leads DO NOT accidentally cause a short circuit, then secure positive (RED) lead to BAT+ and negative (BLACK) lead to BAT–.

Dispose of used batteries in accordance with all national and local regulations.

## Diagnostics

**Table 3 : Diagnostic tones**

| Commissioning tones    | Status Indicated                                            | Action                                                                                                                             |
|------------------------|-------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|
| Single click           | Tamper closing                                              | Use to ensure that the cover Tamper has closed properly when the lid is attached and that the rear Tamper breakout has not failed. |
| Double click           | Tamper opening                                              | Use to verify correct operation of Tamper circuit                                                                                  |
| Continuous slow clicks | Break-out tamper opening                                    | Ensure that the tamper is closed when the siren is attached to the surface.                                                        |
| Continuous fast clicks | Battery not connected or faulty when cover tamper is closed | Open cover and check that battery is correctly connected.                                                                          |

**Note:** Commissioning mode only activated when ING is connected to 9 to 15 VDC.

**Table 4 : Diagnostic LED**

| Diagnostic LED | Status Indicated        | Action                                                     |
|----------------|-------------------------|------------------------------------------------------------|
| Single Flash   | Battery voltage low     | Change battery (unless newly fitted and is still charging) |
| 2 Flashes      | Battery test failed     | Check connection or change battery                         |
| 3 Flashes      | Reserved for future use | —                                                          |
| 4 Flashes      | Battery charger failure | Replace sounder                                            |

**Note:** Diagnostic LED only activated when the ING input is connected to ALIM+.

## Fault finding

**Table 5 : Fault symptoms and actions**

| Symptom                                                            | Fault                                      | Action                                                              |
|--------------------------------------------------------------------|--------------------------------------------|---------------------------------------------------------------------|
| Sounder activated in non-alarm condition and Tamper shows at panel | Cover not closed correctly                 | Check cover closed and screw secure.                                |
|                                                                    | BL+ not pulled up to ALIM+ in standby mode | Fit pull up resistor to BL+ at control panel. See Figure 3, item 5. |
| Sounder stops after 5 s                                            | Incorrect timer link setting               | Set correct timer jumper links.                                     |

| Symptom                                          | Fault                                                                                                         | Action                                                                             |
|--------------------------------------------------|---------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|
| Cannot SET control panel (due to sounder Tamper) | Tamper output open due to ING input still connected to ALIM+                                                  | Disconnect ING from ALIM+ in sounder or set control panel programmable output low. |
|                                                  | Tamper Source AP(S) not connected to ALIM- for single sounder or to Tamper Return AP(R) for cascaded sounders | Refer to connection diagrams for single and cascaded sounders (Figures 3 and 4)    |
|                                                  | Total resistance of Tamper circuit too high for multiple sounder installations                                | Reduce number of cascaded sounders on one Tamper loop                              |
|                                                  | Tamper switch not closed                                                                                      | Check cover and ensure rear Tamper break intact                                    |
|                                                  | Ring trigger signal (BL+) disconnected (floating)                                                             | Ensure BL+ pulled up to ALIM+ in standby mode                                      |
| Fault output open                                | Battery not connected                                                                                         | Check battery connections to terminal block                                        |
|                                                  | Battery faulty or voltage low                                                                                 | Replace battery                                                                    |
|                                                  | Battery charger faulty                                                                                        | Return unit to manufacturer                                                        |
| Audible alarm stops before timeout.              | Battery level very low                                                                                        | Recharge battery                                                                   |
| Clicking noise from sounder during commissioning | See Table 3 on page 4.                                                                                        |                                                                                    |

## Disposal of product at end of life

This product falls within the scope of EU Directives 2012/19/EU Waste Electrical and Electronic Equipment (WEEE) and 2013/56/EU (Battery). At the end of life, the product must be separated from the domestic waste stream and disposed via an appropriate approved WEEE disposal route in accordance with all national and local regulations.

Before disposal of the product, the battery must be removed, and disposed of separately via an appropriate approved battery disposal route in accordance with all national and local regulations. Package used batteries safely for onward transport to your supplier, collection point or disposal facility.

**WARNING:** Risk of fire or explosion if exposed battery wires are allowed to touch.

See “Specification” below for battery type information. The battery is marked with the crossed-out wheellie bin symbol, which may include lettering to indicate cadmium (Cd), lead (Pb), or mercury (Hg).

## Specification

|                     |                                   |
|---------------------|-----------------------------------|
| Sound output        | 101.5 dBA at 1 m                  |
| Frequency range     | 2430 to 3250 Hz                   |
| Power supply        | 9.0 to 15.0 VDC, 13.8 VDC nominal |
| Current consumption | 1,6 A max. from battery           |

|                                        |                                                                                                                                                                                                                                |
|----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Cut-off timer                          | Selectable 5 seconds, 90 seconds, 3 minutes, 15 minutes. 5 s cut-off time option intended for installation purposes only.                                                                                                      |
| Battery                                | 12 V 2.2 Ah SLA. Battery recharge in less than 24 hours (following 10 x 3 minutes sounding)<br><b>Note:</b> The siren is specified to function with the Aritech BS122N battery, and it is essential that this battery is used. |
| Battery Low Voltage detection          | 10.9 V nominally                                                                                                                                                                                                               |
| Standalone working time (battery only) | 60 h                                                                                                                                                                                                                           |
| Tamper detection                       | - Combined cover and rear switch with break out.<br>- Cut-line detect (Ring trigger signal)                                                                                                                                    |
| Tamper output                          | Volt free contact (when the jumper is cut), maximum 16 $\Omega$ resistance<br>Max 100 mA current rating                                                                                                                        |
| Fault output                           | Volt free contact, maximum 16 $\Omega$ resistance<br>Max 100 mA current rating                                                                                                                                                 |
| Sound trigger input                    | BL+ <1 V                                                                                                                                                                                                                       |
| Strobe trigger input                   | FL+ <2.5 V                                                                                                                                                                                                                     |
| Dimensions (W x H x D)                 | 187 x 167 x 47 mm                                                                                                                                                                                                              |
| Weight                                 | 1.34 kg without battery                                                                                                                                                                                                        |
| Fixings                                | M5 screws (5X)                                                                                                                                                                                                                 |
| Cover material                         | Steel                                                                                                                                                                                                                          |
| Backplate material                     | Steel                                                                                                                                                                                                                          |
| Other materials                        | ABS                                                                                                                                                                                                                            |
| Protection level                       | IP30, IK07                                                                                                                                                                                                                     |
| Operating temperature                  | -10 to +55°C                                                                                                                                                                                                                   |
| Storage temperature                    | -10 to +55°C                                                                                                                                                                                                                   |
| Relative humidity                      | <95% noncondensing                                                                                                                                                                                                             |

## Regulatory information

|              |                                                                                                                                                                                                                                                         |
|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Manufacturer | PLACED ON THE MARKET BY:<br>Carrier Fire & Security Americas Corporation Inc,<br>13995 Pasteur Blvd<br>Palm Beach Gardens, FL 33418, USA<br>AUTHORIZED EU REPRESENTATIVE:<br>Carrier Fire & Security B.V.<br>Kelvinstraat 7, 6003 DH Weert, Netherlands |
|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

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