

## Certificate of Product Approval

Certificate Number: 166p

Issue: 02

### KAC Alarm Company Ltd

Thornhill Road,  
North Moons Moat,  
Redditch,  
B98 9ND,  
United Kingdom



is authorised to use the LPCB mark in association with the product(s) listed in this certificate and appendix having complied with the requirement(s) of the standards as detailed below:

#### Products

Audible Warning Devices

WSS-XC-NYY  
CWSS-WW-YY  
CWSS-RR-YY  
CWSS-WR-YY  
CWSS-RW-YY  
CWSS-WR-ZZ  
CWSS-RR-ZZ

#### Standards

EN 54-3: 2001 + A1: 2002 + A2: 2006  
EN 54-23: 2010

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Signed for LPCB

Martin McCullagh  
Verifier

17 April 2014  
Date of Issue

11 April 2014  
Date of First Issue



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## Appendix to Certificate No: 166p KAC Alarm Company Ltd

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Certified Product	Description	LPCB Ref.No.
WSS-XC-NYY	<p>Analogue addressable wall mounted sounder / LED strobe (B501AP base)</p> <p>Notes:</p> <ol style="list-style-type: none"> <li>The wall mounted VAD meets the requirements of EN 54-23: 2010 for the following category (light pattern details): <ul style="list-style-type: none"> <li>- Category O: O-2.4-2</li> <li>- Flash rate 1Hz</li> <li>- Synchronization</li> </ul> </li> <li>Type A with Bcc deep back box, Type B with Wcc deep back box</li> <li>x indicates body colour. D=Detector White, P=Pure White</li> <li>yy indicates customer and associated communication protocol.</li> <li>01 indicates Advanced Protocol (and Honeywell 500 series protocol) 00 and 02-99 indicates Advanced Protocol (and System Sensor 500 series protocol)</li> <li>Meets the requirements of EN54-3: 2001 at the following tones: <ol style="list-style-type: none"> <li>1) Alternating 525/440, 2Hz (100ms/400ms);</li> <li>2) Alternating 800/922, 1Hz;</li> <li>3) Alternating 800/922, 2Hz;</li> <li>4) Alternating 2400/2900, 3Hz;</li> <li>5) Alternating 2500/3100, 2Hz;</li> <li>6) Alternating 988/645, 2Hz;</li> <li>7) Continuous 630Hz;</li> <li>8) Continuous 922Hz;</li> <li>9) Continuous 1200Hz;</li> <li>10) Continuous 2810Hz;</li> <li>11) Sweep 150-1000Hz, rise 10s, stable 40s, fall 10s, stable 20s, then repeating;</li> </ol> </li> </ol>	166p/01

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Certified Product	Description	LPCB Ref.No.
	12) Intermittent 420Hz, 0.625s on, 0.625 sec off; 13) Sweep 500-1200Hz, 0.25 sec off, 3.75 sec on; 14) Intermittent 630, 3.33Hz, 150ms on, 150ms off; 15) Intermittent 922, 0.8Hz 0.25s on, 1s off; 16) Intermittent 922, 0.5Hz 1s on, 1s off; 17) Intermittent 2810, 1Hz; 18) Intermittent 922, 1Hz 500ms on, 500ms off; 19) Intermittent 950, 0.22Hz (0.5s on, 0.5s off) x 3, 1.5s off; 20) Continuous 800Hz; 21) Sweep 400-1200Hz, (0.5s on, 0.5s off) x 3, 1.5s off; 22) Sweep 1200 – 500Hz, 0.99Hz 1s on, 0.01s off; 23) Sweep 2400 – 2850, 7Hz; 24) Sweep 500 – 1200Hz, (0.5s off, 3.5s on); 25) Sweep 800 – 970, 50Hz; 26) Sweep 800 – 970, 7Hz; 27) Sweep 800 – 970, 1Hz; 28) Sweep 2400 – 2850, 50Hz; 29) Sweep 500 – 1000, 7Hz; 30) Sweep 500 – 1200 – 500, 0.166Hz rise 1s, stable 4s, fall 1s; 31) Sweep 800 – 1000, 2Hz; 32) Sweep 2400 – 2850, 1Hz	
CWSS-WW-YY	Conventional sounder beacon Notes: 1. The ceiling / wall mounted VAD meets the requirements of EN 54-23: 2010 for the following categories (light pattern details): - Category W: W-2.4-8.9,	166p/02

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Certified Product	Description	LPCB Ref.No.
	<ul style="list-style-type: none"> <li>- Category C: C-3-10, C-6-10</li> <li>- Flash rate 0.5Hz</li> <li>- Synchronization</li> <li>2. Type A with CSW shallow back box, Type B with CWW deep back box</li> <li>3. WW indicates white body / white LED</li> <li>4. YY indicates mounting option.                             <ul style="list-style-type: none"> <li>Where S5 = shallow back box (standard fix)</li> <li>Where S6 = shallow back box (first fix)</li> <li>Where W5 = deep back box (standard fix)</li> <li>Where W6 = deep back box (first fix)</li> </ul> </li> <li>5. Meets the requirements of EN54-3: 2001 for the following tones:                             <ol style="list-style-type: none"> <li>1) 554/440, 2Hz (100ms/400ms);</li> <li>2) 800/970, 1Hz;</li> <li>3) 800/970, 2Hz;</li> <li>4) 2400/2900, 3Hz;</li> <li>5) 2500/3100, 2Hz;</li> <li>6) 988/645, 2Hz;</li> <li>7) 660Hz;</li> <li>8) 970Hz;</li> <li>9) 1200Hz;</li> <li>10) 2850Hz;</li> <li>11) 2400Hz, alternating between frequencies 2400Hz, 3100Hz &amp; 988Hz</li> <li>12) 420Hz, 0.625s on, 0.625 sec off;</li> <li>13) 500-1200Hz, 0.25 sec off, 3.75 sec on;</li> <li>14) 660, 3.33Hz, 150ms on, 150ms off;</li> <li>15) 970, 0.8Hz 0.25s on, 1s off;</li> </ol> </li> </ul>	

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Certified Product	Description	LPCB Ref.No.
	16) 970, 0.5Hz 1s on, 1s off; 17) 2850, 1Hz; 18) 970, 1Hz 500ms on, 500ms off; 19) 950, 0.22Hz (0.5s on, 0.5s off) x 3, 1.5s off; 20) 800Hz; 21) 400-1200Hz, (0.5s on, 0.5s off) x 3, 1.5s off; 22) 1200 – 500Hz, 0.99Hz 1s on, 0.01s off; 23) 2400 – 2850, 7Hz; 24) 500 – 1200Hz, (0.5s off, 3.5s on); 25) 800 – 970, 50Hz; 26) 800 – 970, 7Hz; 27) 800 – 970, 1Hz; 28) 2400 – 2850, 50Hz; 29) 500 – 1000, 7Hz; 30) 500 – 1200 – 500, 0.166Hz rise 1s, stable 4s, fall 1s; 31) 800 – 1000, 2Hz; 32) 2400 – 2850, 1Hz;	
CWSS-RR-YY	Conventional sounder beacon Notes: 1. The ceiling / wall mounted VAD meets the requirements of EN 54-23: 2010 for the following categories (light pattern details): - Category W: W-2.4-6 - Category C: C-3-8.9, C-6-8.2 - Flash rate 0.5Hz - Synchronization 2. Type A with CSR shallow back box, Type B with CWR deep back box	166p/03

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	<p>3. RR indicates red body / red LED</p> <p>4. YY indicates mounting option.</p> <p style="padding-left: 40px;">Where S5 = shallow back box (standard fix)</p> <p style="padding-left: 40px;">Where S6 = shallow back box (first fix)</p> <p style="padding-left: 40px;">Where W5 = deep back box (standard fix)</p> <p style="padding-left: 40px;">Where W6 = deep back box (first fix)</p> <p>5. Meets the requirements of EN54-3: 2001 for the following tones:</p> <ol style="list-style-type: none"> <li>1) 554/440, 2Hz (100ms/400ms);</li> <li>2) 800/970, 1Hz;</li> <li>3) 800/970, 2Hz;</li> <li>4) 2400/2900, 3Hz;</li> <li>5) 2500/3100, 2Hz;</li> <li>6) 988/645, 2Hz;</li> <li>7) 660Hz;</li> <li>8) 970Hz;</li> <li>9) 1200Hz;</li> <li>10) 2850Hz;</li> <li>11) 2400Hz, alternating between frequencies 2400Hz, 3100Hz &amp; 988Hz</li> <li>12) 420Hz, 0.625s on, 0.625 sec off;</li> <li>13) 500-1200Hz, 0.25 sec off, 3.75 sec on;</li> <li>14) 660, 3.33Hz, 150ms on, 150ms off;</li> <li>15) 970, 0.8Hz 0.25s on, 1s off;</li> <li>16) 970, 0.5Hz 1s on, 1s off;</li> <li>17) 2850, 1Hz;</li> <li>18) 970, 1Hz 500ms on, 500ms off;</li> <li>19) 950, 0.22Hz (0.5s on, 0.5s off) x 3, 1.5s off;</li> </ol>	

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Certified Product	Description	LPCB Ref.No.
	20) 800Hz; 21) 400-1200Hz, (0.5s on, 0.5s off) x 3, 1.5s off; 22) 1200 – 500Hz, 0.99Hz 1s on, 0.01s off; 23) 2400 – 2850, 7Hz; 24) 500 – 1200Hz, (0.5s off, 3.5s on); 25) 800 – 970, 50Hz; 26) 800 – 970, 7Hz; 27) 800 – 970, 1Hz; 28) 2400 – 2850, 50Hz; 29) 500 – 1000, 7Hz; 30) 500 – 1200 – 500, 0.166Hz rise 1s, stable 4s, fall 1s; 31) 800 – 1000, 2Hz; 32) 2400 – 2850, 1Hz;	
CWSS-WR-YY	Conventional sounder beacon Notes: 1. The ceiling / wall mounted VAD meets the requirements of EN 54-23: 2010 for the following categories (light pattern details): - Category W: W-2.4-6 - Category C: C-3-8.9, C-6-8.2 - Flash rate 0.5Hz - Synchronization 2. Type A with CSW shallow back box, Type B with CWW deep back box 3. WR indicates white body / red LED 4. YY indicates mounting option. Where S5 = shallow back box (standard fix) Where S6 = shallow back box (first fix)	166p/04

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	<p>Where W5 = deep back box (standard fix) Where W6 = deep back box (first fix)</p> <p>4. Meets the requirements of EN54-3: 2001 for the following tones:</p> <ol style="list-style-type: none"> <li>1) 554/440, 2Hz (100ms/400ms);</li> <li>2) 800/970, 1Hz;</li> <li>3) 800/970, 2Hz;</li> <li>4) 2400/2900, 3Hz;</li> <li>5) 2500/3100, 2Hz;</li> <li>6) 988/645, 2Hz;</li> <li>7) 660Hz;</li> <li>8) 970Hz;</li> <li>9) 1200Hz;</li> <li>10) 2850Hz;</li> <li>11) 2400Hz, alternating between frequencies 2400Hz, 3100Hz &amp; 988Hz</li> <li>12) 420Hz, 0.625s on, 0.625 sec off;</li> <li>13) 500-1200Hz, 0.25 sec off, 3.75 sec on;</li> <li>14) 660, 3.33Hz, 150ms on, 150ms off;</li> <li>15) 970, 0.8Hz 0.25s on, 1s off;</li> <li>16) 970, 0.5Hz 1s on, 1s off;</li> <li>17) 2850, 1Hz;</li> <li>18) 970, 1Hz 500ms on, 500ms off;</li> <li>19) 950, 0.22Hz (0.5s on, 0.5s off) x 3, 1.5s off;</li> <li>20) 800Hz;</li> <li>21) 400-1200Hz, (0.5s on, 0.5s off) x 3, 1.5s off;</li> <li>22) 1200 – 500Hz, 0.99Hz 1s on, 0.01s off;</li> <li>23) 2400 – 2850, 7Hz;</li> </ol>	

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	24) 500 – 1200Hz, (0.5s off, 3.5s on); 25) 800 – 970, 50Hz; 26) 800 – 970, 7Hz; 27) 800 – 970, 1Hz; 28) 2400 – 2850, 50Hz; 29) 500 – 1000, 7Hz; 30) 500 – 1200 – 500, 0.166Hz rise 1s, stable 4s, fall 1s; 31) 800 – 1000, 2Hz; 32) 2400 – 2850, 1Hz;	
CWSS-RW-YY	Conventional sounder beacon Notes: 1. The ceiling / wall mounted VAD meets the requirements of EN 54-23: 2010 for the following categories (light pattern details): - Category W: W-2.4-8.9 - Category C: C-3-10, C-6-10 - Flash rate 0.5Hz - Synchronization 2. Type A with CSR shallow back box, Type B with CWR deep back box 3. RW indicates red body / white LED 4. YY indicates mounting option. Where S5 = shallow back box (standard fix) Where S6 = shallow back box (first fix) Where W5 = deep back box (standard fix) Where W6 = deep back box (first fix) 5. Meets the requirements of EN54-3: 2001 for the following tones: 1) 554/440, 2Hz (100ms/400ms);	166p/05

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	2) 800/970, 1Hz; 3) 800/970, 2Hz; 4) 2400/2900, 3Hz; 5) 2500/3100, 2Hz; 6) 988/645, 2Hz; 7) 660Hz; 8) 970Hz; 9) 1200Hz; 10) 2850Hz; 11) 2400Hz, alternating between frequencies 2400Hz, 3100Hz & 988Hz 12) 420Hz, 0.625s on, 0.625 sec off; 13) 500-1200Hz, 0.25 sec off, 3.75 sec on; 14) 660, 3.33Hz, 150ms on, 150ms off; 15) 970, 0.8Hz 0.25s on, 1s off; 16) 970, 0.5Hz 1s on, 1s off; 17) 2850, 1Hz; 18) 970, 1Hz 500ms on, 500ms off; 19) 950, 0.22Hz (0.5s on, 0.5s off) x 3, 1.5s off; 20) 800Hz; 21) 400-1200Hz, (0.5s on, 0.5s off) x 3, 1.5s off; 22) 1200 – 500Hz, 0.99Hz 1s on, 0.01s off; 23) 2400 – 2850, 7Hz; 24) 500 – 1200Hz, (0.5s off, 3.5s on); 25) 800 – 970, 50Hz; 26) 800 – 970, 7Hz; 27) 800 – 970, 1Hz;	

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	28) 2400 – 2850, 50Hz; 29) 500 – 1000, 7Hz; 30) 500 – 1200 – 500, 0.166Hz rise 1s, stable 4s, fall 1s; 31) 800 – 1000, 2Hz; 32) 2400 – 2850, 1Hz;	
CWSS-WR-ZZ	Conventional sounder beacon Notes: 1. The ceiling / wall mounted VAD meets the requirements of EN 54-23: 2010 for the following category (light pattern details): - Category O: Open class only (Refer to installation manual) - Flash rate 0.5Hz - Synchronization 2. Type A with CSW shallow back box, Type B with CWW deep back box 3. WR indicates white body / red LED 4. ZZ indicates mounting option. Where S3 = shallow back box (standard fix) Where S4 = shallow back box (first fix) Where W3 = deep back box (standard fix) Where W4 = deep back box (first fix) 5. Meets the requirements of EN54-3: 2001 for the following tones: 1) 554/440, 2Hz (100ms/400ms); 2) 800/970, 1Hz; 3) 800/970, 2Hz; 4) 2400/2900, 3Hz; 5) 2500/3100, 2Hz; 6) 988/645, 2Hz;	166p/06

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	7) 660Hz; 8) 970Hz; 9) 1200Hz; 10) 2850Hz; 11) 2400Hz, alternating between frequencies 2400Hz, 3100Hz & 988Hz 12) 420Hz, 0.625s on, 0.625 sec off; 13) 500-1200Hz, 0.25 sec off, 3.75 sec on; 14) 660, 3.33Hz, 150ms on, 150ms off; 15) 970, 0.8Hz 0.25s on, 1s off; 16) 970, 0.5Hz 1s on, 1s off; 17) 2850, 1Hz; 18) 970, 1Hz 500ms on, 500ms off; 19) 950, 0.22Hz (0.5s on, 0.5s off) x 3, 1.5s off; 20) 800Hz; 21) 400-1200Hz, (0.5s on, 0.5s off) x 3, 1.5s off; 22) 1200 – 500Hz, 0.99Hz 1s on, 0.01s off; 23) 2400 – 2850, 7Hz; 24) 500 – 1200Hz, (0.5s off, 3.5s on); 25) 800 – 970, 50Hz; 26) 800 – 970, 7Hz; 27) 800 – 970, 1Hz; 28) 2400 – 2850, 50Hz; 29) 500 – 1000, 7Hz; 30) 500 – 1200 – 500, 0.166Hz rise 1s, stable 4s, fall 1s; 31) 800 – 1000, 2Hz; 32) 2400 – 2850, 1Hz;	

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Certified Product	Description	LPCB Ref.No.
CWSS-RR-ZZ	<p>Conventional sounder beacon</p> <p>Notes:</p> <ol style="list-style-type: none"> <li>The ceiling mounted VAD meets the requirements of EN 54-23: 2010 for the following category (light pattern details): <ul style="list-style-type: none"> <li>- Category O: Open class only (Refer to installation manual)</li> <li>- Flash rate 0.5Hz</li> <li>- Synchronization</li> </ul> </li> <li>Type A with CSR shallow back box, Type B with CWR deep back box</li> <li>RR indicates red body / red LED</li> <li>ZZ indicates mounting option. <ul style="list-style-type: none"> <li>Where S3 = shallow back box (standard fix)</li> <li>Where S4 = shallow back box (first fix)</li> <li>Where W3 = deep back box (standard fix)</li> <li>Where W4 = deep back box (first fix)</li> </ul> </li> <li>Meets the requirements of EN54-3: 2001 for the following tones: <ol style="list-style-type: none"> <li>1) 554/440, 2Hz (100ms/400ms);</li> <li>2) 800/970, 1Hz;</li> <li>3) 800/970, 2Hz;</li> <li>4) 2400/2900, 3Hz;</li> <li>5) 2500/3100, 2Hz;</li> <li>6) 988/645, 2Hz;</li> <li>7) 660Hz;</li> <li>8) 970Hz;</li> <li>9) 1200Hz;</li> <li>10) 2850Hz;</li> <li>11) 2400Hz, alternating between frequencies 2400Hz, 3100Hz &amp; 988Hz</li> </ol> </li> </ol>	166p/07

This Certificate is maintained and held in force through regular surveillance activities and subject to the corresponding ISO 9001 Certificate being maintained.



Signed for LPCB

Martin McCullagh  
Verifier

17 April 2014  
Date of Issue

11 April 2014  
Date of First Issue



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## Appendix to Certificate No: 166p KAC Alarm Company Ltd

Issue: 02

Certified Product	Description	LPCB Ref.No.
	12) 420Hz, 0.625s on, 0.625 sec off; 13) 500-1200Hz, 0.25 sec off, 3.75 sec on; 14) 660, 3.33Hz, 150ms on, 150ms off; 15) 970, 0.8Hz 0.25s on, 1s off; 16) 970, 0.5Hz 1s on, 1s off; 17) 2850, 1Hz; 18) 970, 1Hz 500ms on, 500ms off; 19) 950, 0.22Hz (0.5s on, 0.5s off) x 3, 1.5s off; 20) 800Hz; 21) 400-1200Hz, (0.5s on, 0.5s off) x 3, 1.5s off; 22) 1200 – 500Hz, 0.99Hz 1s on, 0.01s off; 23) 2400 – 2850, 7Hz; 24) 500 – 1200Hz, (0.5s off, 3.5s on); 25) 800 – 970, 50Hz; 26) 800 – 970, 7Hz; 27) 800 – 970, 1Hz; 28) 2400 – 2850, 50Hz; 29) 500 – 1000, 7Hz; 30) 500 – 1200 – 500, 0.166Hz rise 1s, stable 4s, fall 1s; 31) 800 – 1000, 2Hz; 32) 2400 – 2850, 1Hz;	

### Bases / Ancillaries

B501AP Mounting base – Low profile base IP21C  
 Bcc Deep back box  
 Wcc Waterproof back box IP33C

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## Appendix to Certificate No: 166p KAC Alarm Company Ltd

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CSW	19mm shallow back box – white IP21C
CSR	19mm shallow back box – red IP21C
CWW	45mm deep back box – white IP33C
CWR	45mm deep back box – red IP33C

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## Appendix to Certificate No: 166p KAC Alarm Company Ltd

Issue: 02

### Alternative Model Numbers and Labelling

LPCB Ref No.	Model No.	Model No./Label	Cross-listed company	Cross-Listed Co Cert./ Ref No.
166p/01	WST-XC-NYY	MI-WST-PC-N	Morley-IAS Fire Systems by Honeywell (Pittway Systems Technology Group (Europe) Ltd)	166p-(cl-1)
166p/01	WST-XC-NYY	WST-PC-N00	System Sensor Europe	166p-(cl-2)

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