CE 2831

MOFLASH SIGNALLING

Product Declaration of Performance: Intrinsically Safe Range

Approved Part Codes:	IS-S-02 & IS-SB-02-XX
Equipment Type:	24VDC Intrinsically Safe Sounder & Sounder Beacon
Intended Use:	Fire Alarm systems (Buildings)
Manufacturer:	**Moflash Signalling Limited:** 11 Upper Conybere Street, Highgate, Birmingham, UK, B12 0EB
Assessment System:	System 1
Notified Body & Number:	BRE Clobal Ireland 2831
Type Testing:	EN54-3: 2001 + A1:2002 + A2:2006 EN54-3:2014 + A1:2019
EC & UK Certificate of Constance of Performance:	2831-CPR-F2313

Essential Characteristics	**Performance**	**EN 54-3:2001 + A1:2002 + A2:2006**	**EN 54-3:2014 + A1:2019**
PERFORMANCE PARAMETERS UNDER FIRE CONDITIONS			
Sound level / Sound pressure level	Pass	4.2	4.3.1 / 5.3.1
Frequencies and sound pattern	Pass	4.3	4.3.2 / 5.3.2
Reproducibility	Pass	5.2	5.1.7
Operational performance	Pass	5.3	No direct single equivalent — see 5.3.1–5.3.5
OPERATIONAL RELIABILITY			
Durability / Duration of operation	Pass	4.4 & 5.4	4.2.1 / 5.2.1
Construction	Pass	4.5	Requirements redis-tributed under 4.2 / 5.2
Marking and data	Pass	4.6	Clause 8 + Annex C
Provision for external conductors	Pass	4.5.1	4.2.2 / 5.2.2
Flammability of materials	Pass	4.5.2	4.2.3 / 5.2.3
Enclosure protection	Pass	4.5.3 / 5.17	4.2.4 / 5.2.4
Access	Pass	4.5.4	4.2.5 / 5.2.5
Manufacturer's adjustment	Pass	—	4.2.6 / 5.2.6
On-site adjustment of operation mode*	Pass	—	4.2.7 / 5.2.7
Software-controlled sounders*	Pass	—	4.2.8 / 5.2.8
DURABILITY OF OPERATIONAL RELIABILITY / DURABILITY OF PERFORMANCE PARAMETERS UNDER FIRE CONDITIONS			
Dry heat (operational)	Pass	5.5	4.4.1 / 5.4.1
Dry heat (endurance)	Pass	5.6	4.4.1 / 5.4.1
Cold (operational)	Pass	5.7	4.4.1 / 5.4.1
Damp heat, cyclic (operational)	Pass	5.8	4.4.2 / 5.4.2
Damp heat, steady state (endurance)	Pass	5.9	4.4.2 / 5.4.2
Damp heat, cyclic (endurance)	Pass	5.10	4.4.2 / 5.4.2
Sulphur dioxide (SO_2) corrosion (endurance)	Pass	5.11	4.4.4 / 5.4.4
Shock (operational)	Pass	5.12	4.4.3 / 5.4.3
Impact (operational)	Pass	5.13	4.4.3 / 5.4.3
Vibration, sinusoidal (operational)	Pass	5.14	4.4.3 / 5.4.3
Vibration, sinusoidal (endurance)	Pass	5.15	4.4.3 / 5.4.3
Electromagnetic compatibility (EMC), immunity (operational)	Pass	5.16	4.4.5 / 5.4.5
Electromagnetic compatibility (EMC), immunity (operational)	Pass	5.16	4.4.5 / 5.4.5

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Product Declaration of Performance:
Intrinsically Safe Range

Approved Part Codes:	IS-S-02 & IS-SB-02-XX
Equipment Type:	24VDC Intrinsically Safe Sounder & Sounder Beacon
Intended Use:	Fire Alarm systems (Buildings)
Manufacturer:	**Moflash Signalling Limited:** 11 Upper Conybere Street, Highgate, Birmingham, UK, B12 0EB
Assessment System:	System 1
Notified Body & Number:	UL GmbH UK Branch
Type Testing:	EN54-3: 2001 + A1:2002 + A2:2006 EN54-3: 2014 + A1:2019

Essential Characteristics	**Performance**	**EN 54-3:2001 + A1:2002 + A2:2006**	**EN 54-3:2014 + A1:2019**
PERFORMANCE PARAMETERS UNDER FIRE CONDITIONS			
Sound level / Sound pressure level	Pass	4.2	4.3.1 / 5.3.1
Frequencies and sound pattern	Pass	4.3	4.3.2 / 5.3.2
Reproducibility	Pass	5.2	5.1.7
Operational performance	Pass	5.3	No direct single equivalent — see 5.3.1–5.3.5
OPERATIONAL RELIABILITY			
Durability / Duration of operation	Pass	4.4 & 5.4	4.2.1 / 5.2.1
Construction	Pass	4.5	Requirements redis-tributed under 4.2 / 5.2
Marking and data	Pass	4.6	Clause 8 + Annex C
Provision for external conductors	Pass	4.5.1	4.2.2 / 5.2.2
Flammability of materials	Pass	4.5.2	4.2.3 / 5.2.3
Enclosure protection	Pass	4.5.3 / 5.17	4.2.4 / 5.2.4
Access	Pass	4.5.4	4.2.5 / 5.2.5
Manufacturer's adjustment	Pass	—	4.2.6 / 5.2.6
On-site adjustment of operation mode*	Pass	—	4.2.7 / 5.2.7
Software-controlled sounders*	Pass	—	4.2.8 / 5.2.8
DURABILITY OF OPERATIONAL RELIABILITY / DURABILITY OF PERFORMANCE PARAMETERS UNDER FIRE CONDITIONS			
Dry heat (operational)	Pass	5.5	4.4.1 / 5.4.1
Dry heat (endurance)	Pass	5.6	4.4.1 / 5.4.1
Cold (operational)	Pass	5.7	4.4.1 / 5.4.1
Damp heat, cyclic (operational)	Pass	5.8	4.4.2 / 5.4.2
Damp heat, steady state (endurance)	Pass	5.9	4.4.2 / 5.4.2
Damp heat, cyclic (endurance)	Pass	5.10	4.4.2 / 5.4.2
Sulphur dioxide (SO_2) corrosion (endurance)	Pass	5.11	4.4.4 / 5.4.4
Shock (operational)	Pass	5.12	4.4.3 / 5.4.3
Impact (operational)	Pass	5.13	4.4.3 / 5.4.3
Vibration, sinusoidal (operational)	Pass	5.14	4.4.3 / 5.4.3
Vibration, sinusoidal (endurance)	Pass	5.15	4.4.3 / 5.4.3
Electromagnetic compatibility (EMC), immunity (operational)	Pass	5.16	4.4.5 / 5.4.5
Electromagnetic compatibility (EMC), immunity (operational)	Pass	5.16	4.4.5 / 5.4.5

Signed for and on behalf of Moflash Signalling Limited

28/10/2026, Birmingham UK.

Marc Bailey - Company Director

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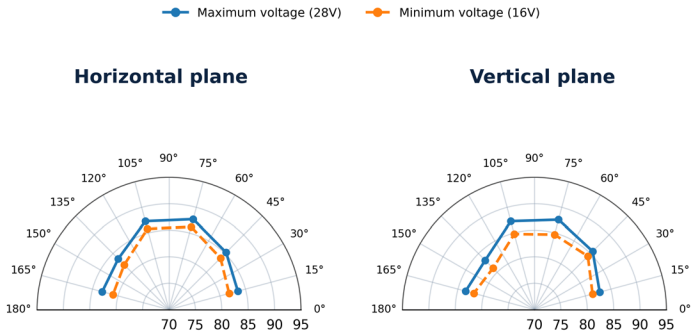
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MOFLASH SIGNALLING

Product Declaration of Performance: Polar Plots

Tone 1 – 180° Sound Output Polar Plots

970Hz Continuous
Sound pressure level at 1 m · dB(A)



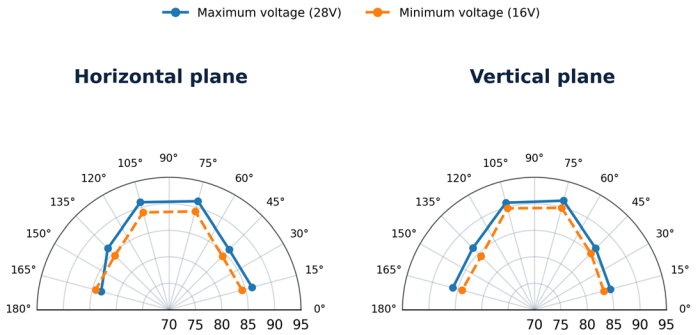
Measured sound pressure levels at 1 m

Angle	Horizontal max	Horizontal min	Vertical max	Vertical min
15°	83.5	81.8	82.8	81.4
45°	85.3	83.8	85.6	84.3
75°	87.7	86.2	87.6	84.7
105°	87.3	85.8	87.3	84.8
135°	83.6	82.0	83.2	81.1
165°	83.1	81.0	83.5	81.9

Measured angles shown: 15°, 45°, 75°, 105°, 135°, 165°. The 90° values in the source table are not separately tabulated here.

Tone 2 – 180° Sound Output Polar Plots

800Hz/970Hz @ 2Hz
Sound pressure level at 1 m · dB(A)



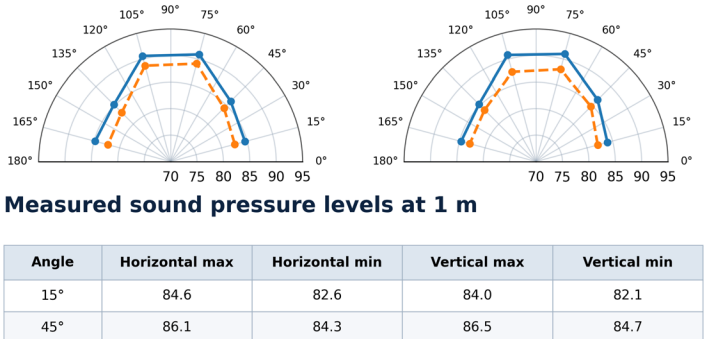
Measured sound pressure levels at 1 m

Angle	Horizontal max	Horizontal min	Vertical max	Vertical min
15°	86.3	84.3	84.9	83.6
45°	86.1	84.3	86.4	85.1
75°	91.2	89.2	91.3	89.9
105°	91.0	89.0	90.9	89.8
135°	86.4	84.5	86.5	84.3
165°	83.3	84.4	86.0	84.2

Measured angles shown: 15°, 45°, 75°, 105°, 135°, 165°. The 90° values in the source table are not separately tabulated here.

Tone 3 – 180° Sound Output Polar Plots

800Hz-970Hz @ 1Hz
Sound pressure level at 1 m · dB(A)



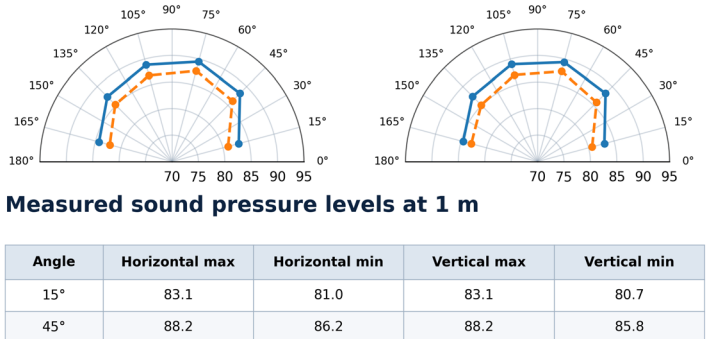
Measured sound pressure levels at 1 m

Angle	Horizontal max	Horizontal min	Vertical max	Vertical min
15°	84.6	82.6	84.0	82.1
45°	86.1	84.3	86.5	84.7
75°	90.9	89.1	91.0	88.0
105°	90.6	88.7	90.8	87.5
135°	85.2	83.1	85.3	83.8
165°	84.8	82.3	84.7	83.0

Measured angles shown: 15°, 45°, 75°, 105°, 135°, 165°. The 90° values in the source table are not separately tabulated here.

Tone 6 – 180° Sound Output Polar Plots

554Hz, 0.1s/440Hz, 0.4s
Sound pressure level at 1 m · dB(A)



Measured sound pressure levels at 1 m

Angle	Horizontal max	Horizontal min	Vertical max	Vertical min
15°	83.1	81.0	83.1	80.7
45°	88.2	86.2	88.2	85.8
75°	89.5	87.7	89.4	87.6
105°	88.9	86.8	89.0	86.9
135°	87.3	85.2	87.4	85.1
165°	84.3	82.2	84.6	83.0

Measured angles shown: 15°, 45°, 75°, 105°, 135°, 165°. The 90° values in the source table are not separately tabulated here.

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Product Declaration of Performance:
Polar Plots (cont.)

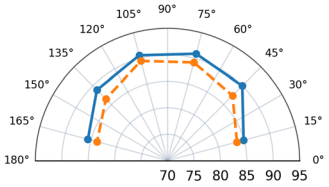
Tone 7 – 180° Sound Output Polar Plots

500-1200Hz, 3.5s/0.5s OFF

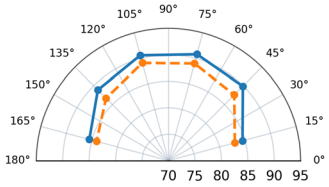
Sound pressure level at 1 m · dB(A)

Maximum voltage (28V) Minimum voltage (16V)

Horizontal plane



Vertical plane



Measured sound pressure levels at 1 m

Angle	Horizontal max	Horizontal min	Vertical max	Vertical min
15°	84.9	83.6	84.5	83.0
45°	90.0	87.4	89.9	87.6
75°	90.9	89.2	90.8	89.0
105°	90.6	89.5	90.6	89.1
135°	88.9	86.5	88.9	86.7
165°	85.6	83.8	85.5	84.1

Measured angles shown: 15°, 45°, 75°, 105°, 135°, 165°. The 90° values in the source table are not separately tabulated here.

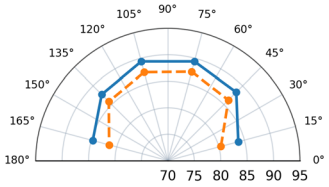
Tone 13 – 180° Sound Output Polar Plots

1200Hz - 500Hz @ 1Hz

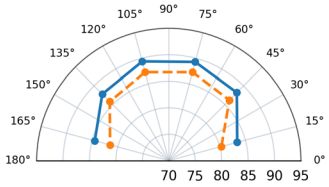
Sound pressure level at 1 m · dB(A)

Maximum voltage (28V) Minimum voltage (16V)

Horizontal plane



Vertical plane



Measured sound pressure levels at 1 m

Angle	Horizontal max	Horizontal min	Vertical max	Vertical min
15°	83.8	80.4	83.4	80.3
45°	88.3	86.2	88.2	86.2
75°	89.4	87.4	89.3	87.3
105°	89.4	87.3	89.4	87.3
135°	87.7	85.8	87.8	85.8
165°	84.7	81.5	84.5	81.5

Measured angles shown: 15°, 45°, 75°, 105°, 135°, 165°. The 90° values in the source table are not separately tabulated here.

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