



Date: January 27, 2022

CERTIFICATE OF COMPLIANCE

This certificate of compliance validates the following			
TEST REPORT NUMBER	1. 1336/BA/21 2. 147/BA/20	CERTIFICATE NUMBER	DC -- UAE -- 0202
DATE OF ISSUE	1. November 15, 2021 2. September 30, 2020	DATE OF ISSUE	January 27, 2022
DATE OF EXPIRY	Not applicable	DATE OF EXPIRY	January 26, 2032
Manufacturer details			
NAME OF FACTORY / MANUFACTURER	Ambient-System Sp. z o. o.	NAME OF THE BRAND	Edwards
FACTORY ADDRESS / REGION	ul. Bysewska 27 80-298 Gdańsk Republic of Poland	MODEL / NO	EST-SW176, EST-SW176C, EST-SW176X, EST-SW176XC
WEBSITE	https://firesecurityproducts.com	LOGO ON THE PRODUCT	
TELEPHONE	+31 (0)495 - 579 579	EMAIL	secretariaat.nederland@carrier.com





Product Details From Test Report				Reference Test Report Page No.		
DESCRIPTION OF THE PRODUCT	Loudspeaker for voice alarm systems type EST-SW176, EST-SW176C (Detailed specification below)			3 (1336/BA/21)		
TESTS STANDARD	EN 54-24:2008: Fire detection and fire alarm systems – Part 24: Components of voice alarm systems – Loudspeakers			7 (1336/BA/21) 10 (147/BA/20)		
TESTS DESCRIPTION	Requirements, test methods and performance criteria for loudspeakers intended to broadcast a warning of fire between a fire detection and fire alarm system and the occupants of a building			7 (1336/BA/21) 10 (147/BA/20)		
SPECIFICATION OF TEST SPECIMEN	Loudspeaker type:	EST-SW176	EST-SW176C	4 (1336/BA/21) 5-6 (147/BA/20)		
	Typ transformatora:	TF06-TF				
	Loudspeaker power voltage [V]:	70 / 100				
	Loudspeaker rated power [W]:	6				
	Loudspeaker output setting on the transformer taps [W]:	70V: 3 / 1,5 / 0,75 / 0,37 100V: 6 / 3 / 1,5 / 0,75				
	Loudspeaker impedance [Ω]:	8				
	Impedance of transformer – for particular terminals[Ω]:	1667 / 3333 / 6667 / 13333				
	Maximum sound pressure level (rated power / 4m) [dB]:	85				
	Sensitivity S (1W / 4m) [dB]:	79	78,9			
	Coverage angle for 500 Hz [°]	180				
	Coverage angle for 1kHz [°]	180				
	Coverage angle for 2kHz [°]	90				
	Coverage angle for 4kHz [°]	65				
	Type of work environment:	A				
	IP protection:	21C				
	Terminals:	ceramic connection block				
	Type of installation:	surface wall or ceiling mounted				
	Dimensions of loudspeaker with housing [mm]:	170 x 80				
	Material of housing:	metal				
	Mass [g]:	1200				
Optional elements	Identifying data					
Fuse activation parameter:	250V, 5A, 130°C					
Type of capacitor:	not applicable	4,7µF, 250VDC				
Filter:	not applicable					
Type of additional protection:	not applicable					
TESTS RESULTS	EN 54-24	Frequency response limits	PASS	7 (1336/BA/21) 11-29 (147/BA/20)		
	EN 54-24	Reproducibility	PASS			
	EN 54-24	Rated impedance	PASS			
	EN 54-24	Horizontal and vertical coverage angles	PASS			
	EN 54-24	Maximum sound pressure level	PASS			
	EN 54-24	Durability	PASS			
	EN 54-24	Construction	PASS			
	EN 54-24	Marking and data	PASS			
	EN 54-24	Rated noise power (durability)	PASS			
	EN 54-24 - EN 60529	Enclosure protection IP 21C	PASS			
	EN 54-24 - EN 60068-2-2	Dry heat (operational)	PASS			
	EN 54-24 - EN 60068-2-2	Dry heat (endurance)	NOT APPLICABLE			
	EN 54-24 - EN 60068-2-1	Cold (operational)	PASS			
	EN 54-24 - EN 60068-2-30	Damp heat, cyclic (operational)	PASS			
	EN 54-24 - EN 60068-2-78	Damp heat, steady state (endurance)	PASS			
	EN 54-24 - EN 60068-2-30	Damp heat, cyclic (endurance)	NOT APPLICABLE			
	EN 54-24 - EN 60068-2-42	Sulphur dioxide corrosion (endurance)	PASS			
	EN 54-24 - EN 60068-2-27	Shock (endurance)	PASS			
	EN 54-24 - EN 60068-2-75	Impact (operational)	PASS			
	EN 54-24 - EN 60068-2-6	Amplitude vibration (operational)	PASS			
	EN 54-24 - EN 60068-2-6	Sinusoidal vibration (endurance)	PASS			
	PRODUCT APPLICATION GUIDELINE	EST-SW176, EST-SW176C are indoor loudspeakers. They are made of metal. The loudspeakers have to be mounted to the surface of the wall or to the ceiling. The loudspeaker for voice alarm systems type EST-SW176C is equipped with a capacitor. Loudspeakers for voice alarm systems type EST-SW176, EST-SW176C have to be used with Voice Alarm System.			Not applicable	





Product Details From Test Report				Reference Test Report Page No.
DESCRIPTION OF THE PRODUCT	Loudspeaker for voice alarm systems type EST-SW176X, EST-SW176XC (Detailed specification below)			3 (1336/BA/21)
TESTS STANDARD	EN 54-24:2008: Fire detection and fire alarm systems – Part 24: Components of voice alarm systems – Loudspeakers			7 (1336/BA/21) 10 (147/BA/20)
TESTS DESCRIPTION	Requirements, test methods and performance criteria for loudspeakers intended to broadcast a warning of fire between a fire detection and fire alarm system and the occupants of a building			7 (1336/BA/21) 10 (147/BA/20)
SPECIFICATION OF TEST SPECIMEN	Loudspeaker type:	EST-SW176X	EST-SW176XC	4 (1336/BA/21) 5-6 (147/BA/20)
	Typ transformatora:	TF06-TF		
	Loudspeaker power voltage [V]:	70 / 100		
	Loudspeaker rated power [W]:	6		
	Loudspeaker output setting on the transformer taps [W]:	70V: 3 / 1,5 / 0,75 / 0,37 100V: 6 / 3 / 1,5 / 0,75		
	Loudspeaker impedance [Ω]:	8		
	Impedance of transformer – for particular terminals[Ω]:	1667 / 3333 / 6667 / 13333		
	Maximum sound pressure level (rated power / 4m) [dB]:	82		
	Sensitivity S (1W / 4m) [dB]:	76,2	76,1	
	Coverage angle for 500 Hz [°]	180		
	Coverage angle for 1kHz [°]	175		
	Coverage angle for 2kHz [°]	75		
	Coverage angle for 4kHz [°]	40		
	Type of work environment:	A		
	IP protection:	21C		
	Terminals:	ceramic connection block		
	Type of installation:	surface wall or ceiling mounted		
	Dimensions of loudspeaker with housing [mm]:	170 x 145		
	Material of housing:	plastic material, metal		
	Mass [g]:	1200		
	Optional elements	Identifying data		
	Correction value:	1000 Hz: +3 dB 1600 Hz: -3 dB 8000 Hz: +10 dB		
	Fuse activation parameter:	250V, 5A, 130°C		
	Type of capacitor:	not applicable	4,7µF 250VDC	
	Filter:	not applicable		
	Type of additional protection:	not applicable		
TESTS RESULTS	EN 54-24	Frequency response limits	PASS	7 (1336/BA/21) 11-29 (147/BA/20)
	EN 54-24	Reproducibility	PASS	
	EN 54-24	Rated impedance	PASS	
	EN 54-24	Horizontal and vertical coverage angles	PASS	
	EN 54-24	Maximum sound pressure level	PASS	
	EN 54-24	Durability	PASS	
	EN 54-24	Construction	PASS	
	EN 54-24	Marking and data	PASS	
	EN 54-24	Rated noise power (durability)	PASS	
	EN 54-24 - EN 60529	Enclosure protection IP 21C	PASS	
	EN 54-24 - EN 60068-2-2	Dry heat (operational)	PASS	
	EN 54-24 - EN 60068-2-2	Dry heat (endurance)	NOT APPLICABLE	
	EN 54-24 - EN 60068-2-1	Cold (operational)	PASS	
	EN 54-24 - EN 60068-2-30	Damp heat, cyclic (operational)	PASS	
	EN 54-24 - EN 60068-2-78	Damp heat, steady state (endurance)	PASS	
	EN 54-24 - EN 60068-2-30	Damp heat, cyclic (endurance)	NOT APPLICABLE	
	EN 54-24 - EN 60068-2-42	Sulphur dioxide corrosion (endurance)	PASS	
	EN 54-24 - EN 60068-2-27	Shock (operational)	PASS	
	EN 54-24 - EN 60068-2-75	Impact (operational)	PASS	
	EN 54-24 - EN 60068-2-6	Shock (endurance)	PASS	
EN 54-24 - EN 60068-2-6	Impact (endurance)	PASS		
PRODUCT APPLICATION GUIDELINE	EST-SW176_14.01 2022 EST-SW176X, EST-SW176XC are indoor loudspeakers. They are made of plastic material and metal. The loudspeakers have to be mounted to the surface of the wall or to the ceiling. The loudspeakers for voice alarm systems type EST-SW176XC are equipped with a capacitor. Loudspeakers for voice alarm systems type EST-SW176X, EST-SW176XC should be used with Voice Alarm System.			Not applicable





Laboratory and Certification Body Details			
NAME OF CERTIFICATION BODY	CNBOP-PIB Centrum Naukowo-Badawcze Ochrony Przeciwpożarowej Państwowy Instytut Badawczy	NAME OF TEST FACILITY	CNBOP-PIB Zespół Laboratoriów Sygnalizacji Alarmu Pożaru i Automatyki Pożarniczej
CERTIFICATION BODY ADDRESS / REGION	ul. Nadwiślańska 213 05-420 Józefów REPUBLIC OF POLAND	TEST FACILITY ADDRESS / REGION	ul. Nadwiślańska 213 05-420 Józefów REPUBLIC OF POLAND
WEBSITE	www.cnbop.pl	WEBSITE	www.cnbop.pl
TELEPHONE	+48 22 769 33 47	TELEPHONE	+48 22 769 32 26
EMAIL	jcw@cnbop.pl	EMAIL	ba@cnbop.pl
ACCREDITED BY	Polish Centre for Accreditation http://www.pca.gov.pl	ACCREDITED BY	Polish Centre for Accreditation http://www.pca.gov.pl
AS PER	EN ISO/IEC 17065 Requirements for bodies certifying products, processes and services	AS PER	EN ISO/IEC 17025 General requirements for the competence of testing and calibration laboratories
VALIDITY	October 3, 2022	VALIDITY	October 11, 2025
REFERENCE NUMBER	AC 063	REFERENCE NUMBER	AB 207
CERTIFICATION MARK			
(ENDORSEMENT) TO BE SIGNED BY MANUFACTURER			
NAME AND SURNAME OF MANUFACTURERS SIGNATORY	Ambient-System Sp. z o.o. V-ce President Bogusław Adamczyk	SIGNATURE	 AMBIENT-SYSTEM Sp. z o.o. 80-298 Gdańsk, ul. Bysewska 27 tel. 58 345 51 95 REGON 190061698 NIP 584-030-22-20 KRS 0000101315
EMAIL / TELEPHONE	Ambient-System Sp. z o.o. ambient@ambientsystem.pl +48 58 345 51 95	FACTORY OFFICIAL SEAL	
NOTES	I UNDERTAKE THAT ALL DATA AND INFORMATION PROVIDED ARE GENUINE AND ACCURATE.		
(ENDORSEMENT) TO BE CERTIFICATION BODY			
NAME AND SURNAME OF CERTIFICATION BODY SIGNATORY	st. bryg. dr inż. Paweł Janik	SIGNATURE	
EMAIL / TELEPHONE	cnbop@cnbop.pl +48 22 769 33 00	CERTIFICATION BODY OFFICIAL SEAL	
NOTES	I UNDERTAKE THAT ALL DATA AND INFORMATION PROVIDED ARE GENUINE AND ACCURATE.		

ATTACHMENT:

COPY OF "CERTIFICATE OF CONSTANCY OF PERFORMANCE" NO. 1438-CPR-0806 ISSUED BY CERTIFICATION BODY