

# E100 voice alarm system

Planning guide



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The information in this document contains general descriptions of technical options available, which do not always have to be present in individual cases. The required features should therefore be specified in each individual case at the time of closing the contract.

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[www.siemens.com/E100](http://www.siemens.com/E100)

Answers for infrastructure.

**SIEMENS**

With the E100 voice alarm system, you can evacuate a building in a fast, safe and controlled manner with clear pre-recorded instructions. The system can transmit eight different audio sources simultaneously. In other words, several signals and announcements can be transmitted to different parts of the building at the same time.

Apart from detecting fires immediately, any system designed to save lives must facilitate the rapid, orderly evacuation of people from buildings. The role of evacuation is becoming increasingly important, particularly in view of amendments to legislation on claims for damages.

## Increased safety – thanks to a fast and controlled evacuation of buildings



## Excellent building safety that speaks for itself

- **Fast evacuation saves lives**  
People tend to fear life-threatening situations. And if many people are threatened by a danger, fear quickly escalates to panic.
- **Words instead of signals**  
The system works in the automatic mode for the first few minutes, and it can be switched to manual control once the emergency crews have arrived. Authorized persons then communicate via a live voice microphone module to evacuate the building and also to make people aware of specific situations in the danger area.
- **Additional benefits:** It's possible to integrate the system into the existing building management system, which reduces cabling expenditures and installation costs. Moreover, the E100 reduces the measures necessary for structural fire protection, for example since fewer escape routes have to be built.
- **Fire safety systems made to order**  
The compact, modular system can be implemented flexibly, and can also be used in a danger situation, the fail-safe, fully digital system is triggered automatically and manually by the fire detection and evacuation procedure is activated. First, the system sends alert signals, followed by pre-recorded, readily understood, stand-by voice announcements. Different announcements with varying content can be recorded for the emergency area and for the floors above and below. This ensures orderly evacuation in multiple phases.
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### Highlights

- Safe and controlled evacuation thanks to pre-recorded voice announcements
- Different announcements with varying content can be recorded for different parts of a building
- Can be integrated into existing building management and/or fire alarm systems
- E100 is automatically triggered by the fire detection and fire alarm system

Pioneering digital technology that's linked to the future. The E100 voice alarm system has the most advanced technology and fulfills the European standards for voice alarm systems.

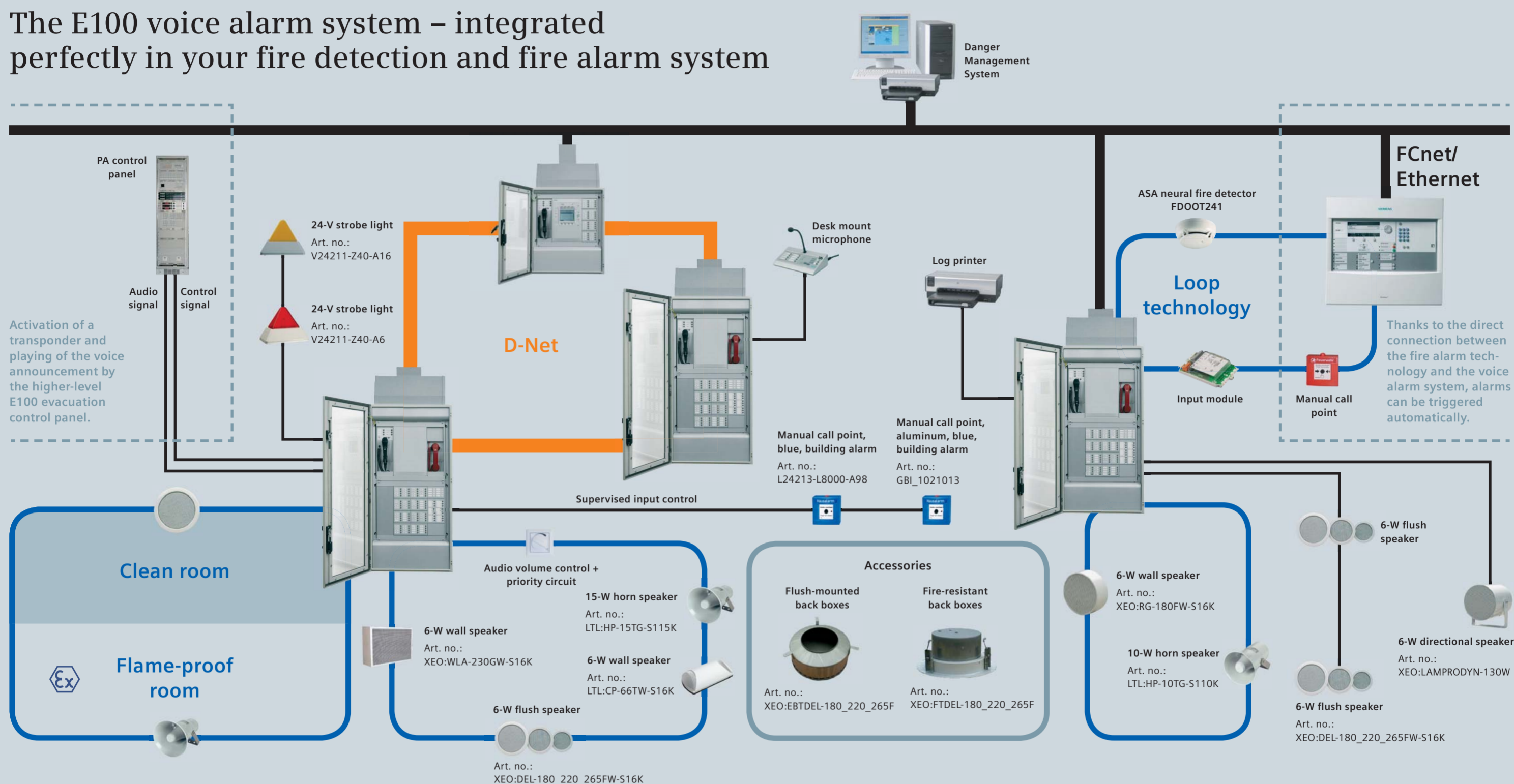


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Answers for infrastructure.

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The E100 voice alarm system – integrated perfectly in your fire detection and fire alarm system



## Data and facts (As of: June 2008)

### Cable length depending on power at 0.8-mm diameter

Total power in W	21	22	23	24	25	26	27	28	29	30
Total speaker power in W	16.8	17.6	18.4	19.2	20	20.8	21.6	22.4	23.2	24
Maximum cable length in m	1340	1279	1224	1173	1126	1083	1043	1005	971	938
Maximum resistance in Ω	95	91	87	83	80	77	74	71	69	67
Total power in W	31	32	33	34	35	36	37	38	39	40
Total speaker power in W	24.8	25.6	26.4	27.2	28	28.8	29.6	30.4	31.2	32
Maximum cable length in m	908	880	853	828	804	782	761	741	722	704
Maximum resistance in Ω	65	63	61	59	57	56	54	53	51	50
Total power in W	45	50	55	60	65	70	75	80	85	90
Total speaker power in W	36	40	44	48	52	56	60	64	68	72
Maximum cable length in m	626	563	512	469	433	402	375	352	331	313
Maximum resistance in Ω	44	40	36	33	31	29	27	25	24	22
Total power in W	95	100	105	110	115	120	125	130	135	140
Total speaker power in W	76	80	84	88	92	96	100	104	108	112
Maximum cable length in m	296	281	268	256	245	235	225	217	209	201
Maximum resistance in Ω	21	20	19	18	17	17	16	15	15	14
Total power in W	145	150	155	160	165	170	175	180	185	190
Total speaker power in W	116	120	124	128	132	136	140	144	148	152
Maximum cable length in m	194	188	182	176	171	166	161	156	152	148
Maximum resistance in Ω	14	13	13	13	12	12	11	11	11	11

### Control elements and plug-ins

<b>Control elements</b>	
LCD control terminal (PMI-S)	System operation and status displays
Key module (SCM-8S)	8 keys, user-programmable
LED display module (LCM-8S)	8 groups with 2 LEDs each, user-programmable
Key module (FCM-6S)	6 groups with 3 keys and 5 LEDs each, user-programmable
Live voice microphone module (LVM-HS)	Live voice microphone module, 6 keys, user-programmable
Firefighters master telephone (FMT-S)	Telephone set
Desk mount microphones (DMM-1 to DMM-40)	Digital desk mount microphones, keys user-programmable
<b>Plug-in cards and modules</b>	
Digital audio card (DAC-NET)	Audio management and interface card
Audio input card (AIC)	2 supervised analog audio inputs
Zone amplifier card (ZAC-70)	Digital amplifier 70 W, class D
Zone amplifier module (ZAM-180)	Digital amplifier 180 W, class D
Power supply and battery charger (PSC-12)	Power supply and battery charger 24 V DC/12 A
Power supply extender (PSX-12)	Power supply extender 24 V DC/12 A
Supervised input module (SIM-16)	16 supervised control inputs, 2 relay outputs, user-programmable
Output control module (OCM-16)	16 control outputs, user-programmable

### Sources of noise and sound level\*

Sources of noise	dB
Quiet conversation	30 ... 50
Tearing of paper	40 ... 60
Normal conversation	50 ... 65
Office sounds	40 ... 70
Trucks	40 ... 75
Studio announcer	60 ... 75
Vacuum	45 ... 75
Small orchestra	20 ... 80
Background music at a restaurant	40 ... 80
Street noise	40 ... 85
Large orchestra	20 ... 95 (... 105)
Factory noise	50 ... 95
Subway train	85 ... 110
Printing press	85 ... 105
Airplane within 3 m	110 ... 130

\* The decibel level of evacuation announcements must be 10 dB above the noise sound level. An optical alarm is also necessary at 110 dB and above.

### Drop in sound level at increase in distance for each meter

L in m	1	2	3	4	5	6
dB	0	6	10	12	14	16
L in m	7	8	9	10	12	14
dB	17	18	19	20	22	23
L in m	16	18	20	22	24	26
dB	24	25	26	27	28	28
L in m	28	30	35	40		
dB	29	30	31	32		

### Service area at normal audibility (speaker aperture = 90°)

Ceiling height h	in m	3	3.5	4	4.5	5	5.5	6
Distance between speakers L	in m	3	4	5	6	7	8	9
Service area a²	in m²	9	16	25	36	49	64	81

### Service area at sufficient audibility (speaker aperture = 120°)

Ceiling height h	in m	3	3.5	4	4.5	5	5.5	6
Distance between speakers L	in m	5.2	6.9	8.7	10.4	12.1	13.9	15.6
Service area a²	in m²	27	48	75	108	147	192	243

## Components

<b>Microphones with desktop housing</b>			
DMM-1 desk mount microphone Art. no.: S24235-B17-A2	DMM-8 desk mount microphone Art. no.: S24235-B18-A2	DMM-24 desk mount microphone Art. no.: S24235-B19-A2	DMM-40 desk mount microphone Art. no.: S24235-B45-A2
<b>Microphones with installation housing</b>			
LVM-HS handheld live voice microphone module Art. no.: S24235-B52-A1	LVM-SS rod model live voice microphone module Art. no.: S24235-B53-A1		
<b>Operating and display elements</b>			
PMI-S LCD control terminal Art. no.: S24235-B101-A2	SCM-8S key module Art. no.: S24235-B103-A2	LCM-8S LED display module Art. no.: S24235-B102-A2	
<b>Wall-mounted voice alarm system</b>		<b>Free-standing voice alarm system</b>	
CAB-1 housing Art. no.: S24235-C20-A1	CAB-2 housing Art. no.: S24235-C21-A1	CAB 19-3 19" housing Art. no.: S24235-C30-A1	CAB 19-6 19" housing Art. no.: S24235-C31-A1

## Wiring classes

