VARIODYN® D1
Digital Output Module DOM4-8, DOM4-24

- **Alarm / Evacuation / Public address system**
- **Networkable via Ethernet**
- **Standardized system monitoring**
- **Automatic and dynamic switching to redundant backup amplifier**
- **Permanent automatic volume control (AVC)**
- **Remote monitoring and configuration**
- **Emergency power supply via 24 V DC**
- **EN 54-16-approved, CPD number: 0786-CPD-20997**
- **VdS-approved, VdS number: G210122**

Public address systems are installed in all public places with large crowds, such as subway stations, stadiums, train stations, airports, shopping centers and schools. In everyday operation, the system serves as a public information and advertising tool, but also for entertainment through music or for internal purposes such as for communication between staff in large-spaced building complexes (paging and intercom service).

Such a system is of particular importance in emergencies, where specific acoustic alarms are necessary. In this way, evacuations can be carried out efficiently.

The VARIODYN® D1 uses standard Ethernet technology. Installation is carried out cost-effectively through the use of standard Ethernet modules and pre-assembled cabling.

The modern and user-friendly VARIODYN® D1 configuration tools reduce training periods and costs.

DOM4-8 / DOM4-24
The DOM is the central control element of VARIODYN® D1. It has interfaces to all input/output modules, and manages and monitors the loudspeaker circuits.

Any complex system configuration can be implemented through the networking of multiple DOMs via the Ethernet.

The DOM4-8 and DOM4-24 modules are equipped with four independent audio outputs in order to control four amplifier channels. Each audio output controls connected loudspeaker zones: The DOM4-8 operates two zones (total of 8 zones) while the DOM4-24 operates six zones (a total of 24 zones).

All power amplifiers are permanently monitored. In the case of an error, a backup amplifier dynamically replaces the defect power amplifier. The changeover occurs automatically from the DOM.

The speaker circuits are constantly monitored for short-circuiting, ground fault and failure as well as for impedance deviation. Defective loudspeaker zones are separated in a non-reactive manner.

VARIODYN® D1 DOM4-8, DOM4-24
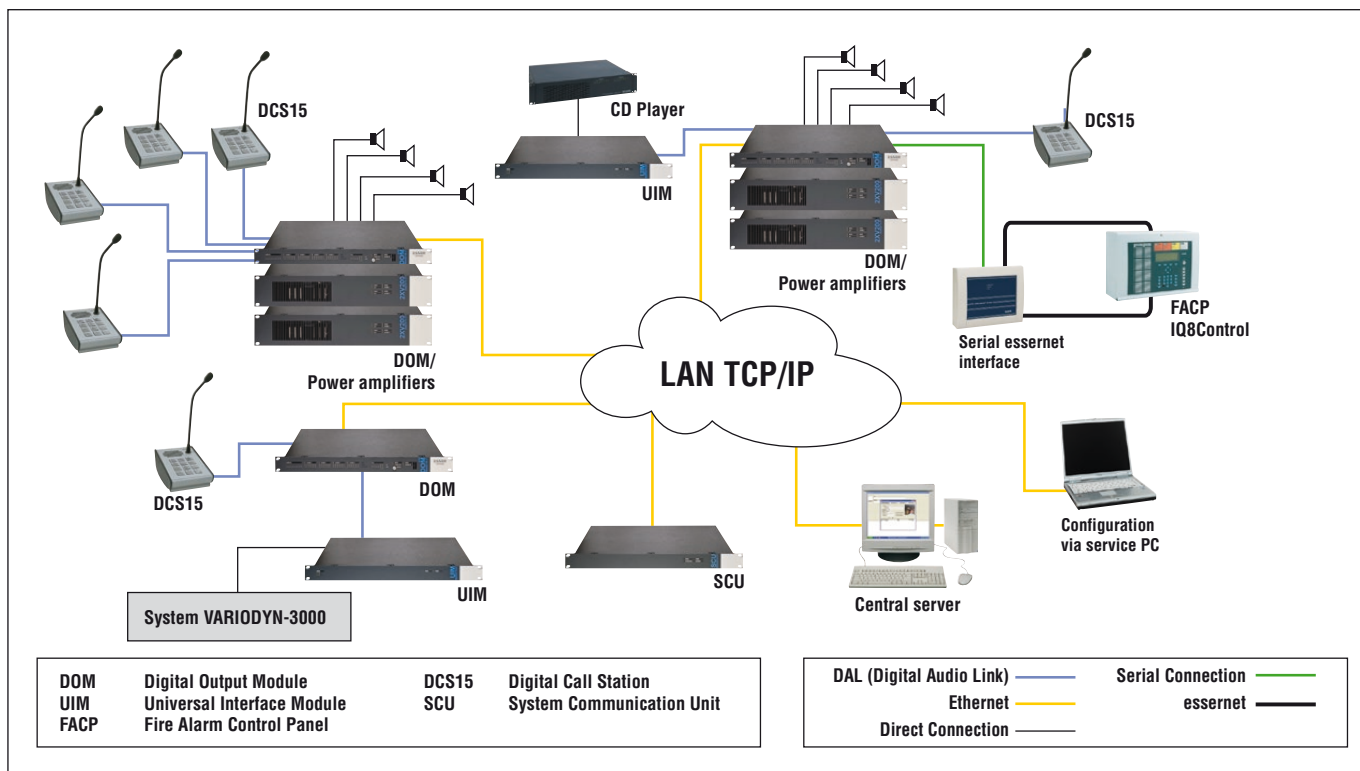
One DOM contains up to 1 hour of memory for audio record-ings, which can be used for alarm texts and signals (evacuation alarm, all-clear signal), and caution signals (gongs). The volume of each source and each channel amplifier can be controlled. Additional filters such as parametric equalizers, high and low- pass filters as well as delays are also available. All errors are identified, announced and recorded within seconds.

Connections

- Four digital audio links (DAL) for DCS, DCSF, UIM, etc.
- Four Ethernet connections (100 Mbit/s) with switch function
- Four automatic volume control (AVC) inputs
- Two combined AF/control outputs for power amplifiers
- Four power amplifier inputs
- Four backup power amplifier inputs

- Loudspeaker zones   DOM4-8:
    4 channels, each with 2 circuit relays (8 loudspeaker zones)

- Loudspeaker zones   DOM4-24:
    4 channels, each with 6 circuit relays (24 loudspeaker zones)

- Eight potential-free output control contacts
- TWI databus
- 230 V AC mains supply input
- 24 V DC emergency power supply input

LED Indicators

- Green POWER
- Yellow ERROR
- Orange STAND-ALONE
- Yellow POWERFAIL
- Eight green CONTACT
- Four green/yellow/red
  amplifier indicator AMP
- Circuit relay indicator
  DOM4-8: 8 green LINE RELAY
  DOM4-24: 24 green LINE RELAY
- Error loudspeaker zone
  DOM4-8: 8 yellow
  DOM4-24: 24 yellow
- Four green / yellow DAL status
- Four green DAL channel

Input/Output

- Push-button for sequential
  monitoring of local audio channels
- Monitor loudspeaker

Ethernet

The DOM has a 4-port fast-Ethernet switch (100 Base-T2) over which communication with other system components (DOM, SCU) occurs.

The maximum range according to the norm with a CAT 5 cable is 90 m (plus 2 x 10 m patch cable). Increased operating distance/range and networking over fiber optics is possible with standard Ethernet media converters.

Automatic Volume Control (AVC)

The integrated automatic volume control function can continually regulate the volume of one or more of the amplifier channels of the DOM according to the sound level of the surrounding environment.

Four sensor microphone inputs with a nominal level of -51 dB are available for this purpose. Up to two sensor microphones can be connected to each channel.

Power-Save Mode

The Power-Save Mode enables the automatic termination of announcements during a power failure. For example, background music or advertising announcements will no longer be carried out.

Monitor push-button

The audio inputs / outputs can be played back on the DOM using the monitor push-button. Individual playback points are filtered through repeated keystrokes. The active playback point is indicated optically. Playback is automatically terminated after a time-out, or can be manually terminated at any time.

VARIODYN D1 Designer planning and design tool

The VARIODYN® D1 Designer is a comprehensive software tool that facilitates the planning and configuration of complex VARIODYN® D1 public address systems. With the help of the VARIODYN® D1 Designer, systems can be individually created and subsequently configured.
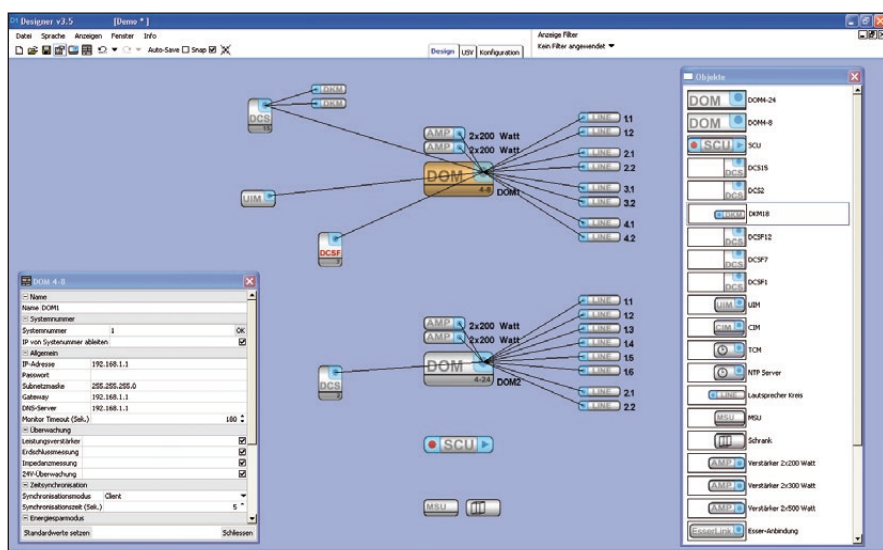
VARIODYN D1 Designer Planning and Configuration Tool

VARIODYN D1 Designer:
- System planning (hardware)
- Individual configuration (software)
- Generate configuration data

Technical data

Audio output

Output type	electronically balanced
Nominal level	0 dB
Max. output level	+6 dB
Transmission range	20 Hz to 20 kHz
Max. deviation from the linear transmission	±1 dB in transmission range
Harmonic distortion at the nominal level	< 0.03 % at 1 kHz
Max. harmonic distortion	0.1 % in transmission range
Unweighted signal-to-noise ratio	at the nominal level > 75 dB (A)
Load impedance	min. 5 kΩ, max. 500 pF

Sensor input AVC*

Input type	symmetric ungrounded
Nominal level -	51 dB
Nominal Level for emergency telephone station	0 dB
Transmission range	100 Hz to 8 kHz
Max. deviation from the linear transmission	±6 dB in transmission range
Harmonic distortion at the nominal level	< 0.2 % at 1 kHz
Max. harmonic distortion	1 % in transmission range
Unweighted signal-to-noise ratio at the nominal level	> 65 dB (A)
> 60 dB Load impedance	typ. 200 Ω

Control contacts

Max. voltage	100 V DC / 1 A
Surge voltage resistant	> 2.5 kV

Connection contacts

Max. voltage	250 V AC, 30 V DC / 5 A
Surge voltage resistance	> 1.5 kV

Mains Voltage

Voltage range	90 V AC to 264 V AC
Frequency range	47 Hz to 440 Hz
Power consumption DOM4-8 with / without 4 x DAL	40 W / 70 W @ 230 V AC
Power consumption DOM4-24 with / without 4 x DAL	50 W / 80 W @ 230 V AC
Emergency power supply	24 V DC
Power consumption	24 W
Ambient temperature	-5 °C to +55 °C Relative humidity 15 % to 90 %
Weight	DOM4-8 5.7 kg
	DOM4-24 6.8 kg
Dimensions (W x H x D)	483 x 44 x 345 mm / 1 HU, 19"

Order information

Order information	Part No.
Digital Output Module DOM4-8	583361.22.ES
Digital Output Module DOM4-24	583362.22.ES
VCM Module	583351
EOL Module	583496

*Automatic Volume Control

Please find further ordering information in the catalog for the Voice Alarm Systems group of products.