

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

- **Conforms to IEC 60849/VDE 0828**
- **All the functions of an alarm and evacuation system in a 19"-module**
- **Cross-linkable via Ethernet**
- **Ongoing monitoring of all function-relevant system components**
- **Automatic and dynamic switching to redundant backup amplifier**
- **Ongoing automatic volume control (AVC)**
- **Remote monitoring and configuration via telephone or network**
- **Emergency power supply via 24 V DC**



Public address systems are installed in all public places with large crowds, such as subway stations, 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.

Through VARIODYN® D1, public address systems are first connected to a Local Area Network (LAN) and Wide Area (WAN) Network. The 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 the VARIODYN® D1. It has interfaces to all input/output modules, manages and monitors the loudspeaker circuits.

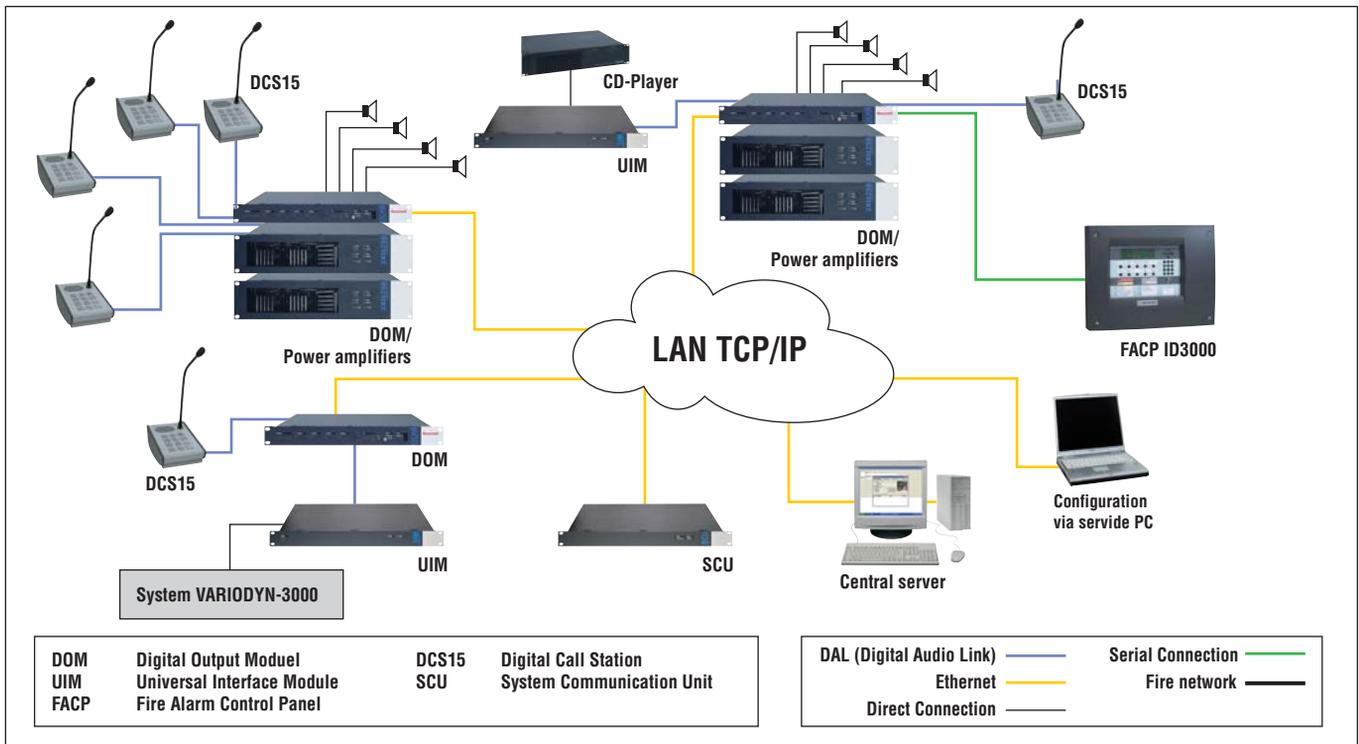
Any complex system configuration can be implemented through the networking of multiple DOMs via the Ethernet.

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



VARIODYN® D1 System Overview

One DOM contains up to 260 seconds of memory for audio recordings, 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)
 - 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

Indicators

- Green POWER LED
- Yellow ERROR LED
- Orange STANDALONE LED
- Yellow POWERSAVE LED
- Eight green CONTACT LEDs
- Four green/yellow/red amplifier indicator AMP
- Circuit relay/interface indicator LINE RELAY
 - DOM4-8: 8 green LEDs
 - DOM4-24: 24 green LEDs
 - DOM4-8: 8 yellow LEDs
 - DOM4-24: 24 yellow LEDs
- Error loudspeaker zone
- Four green/yellow DAL status LEDs
- Four green DAL channel LEDs

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 patchcable). Increased operating distance/range and networking over fiber optics is possible with standard Ethernet media converters.

Automatic Volume Regulation inputs (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-buttons

With the help of the monitor push-buttons, the audio input/outputs can be played back on the DOM. Through repeated keystrokes, individual playback points are filtered.

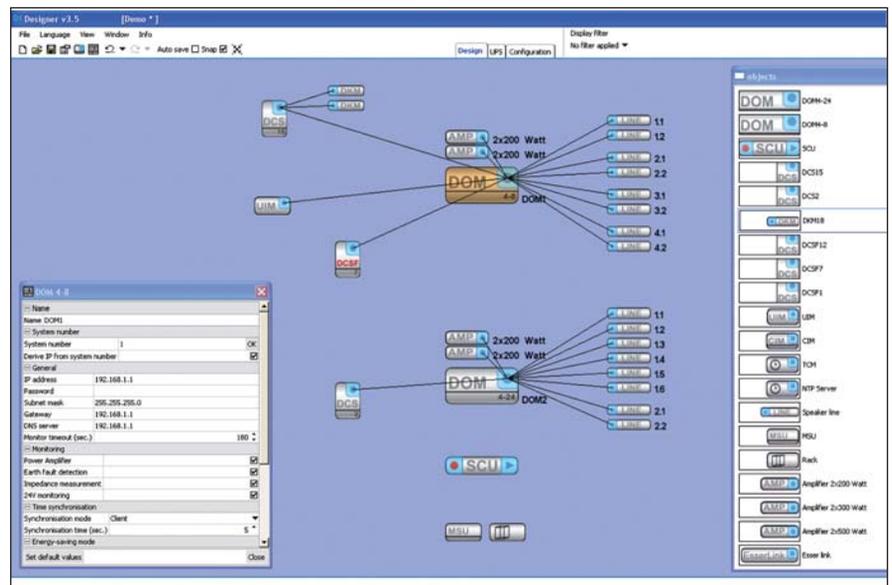
At the same time, the active playback point is indicated optical. Playback is automatically terminated after a timeout, or can be manually terminated at any time.

VARIODYN® D1 Designer

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:

- System planning (hardware)
- Individual configuration (software)
- Generate configuration data



VARIODYN® D1 Designer Planning and Configuration Tool

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) > 70 dB
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

Nominal voltage	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 HE, 19"

Order information

	Part No.
Digital Output Module DOM4-8	583361.21.HO
Digital Output Module DOM4-24	583362.21.HO

*AVC - Automatic Volume Control