

VOL 6

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Emergency call and information pillars

VOL 1



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VOL 4



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Weatherproof call stations

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VOL 2

Call stations

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SOS pillars

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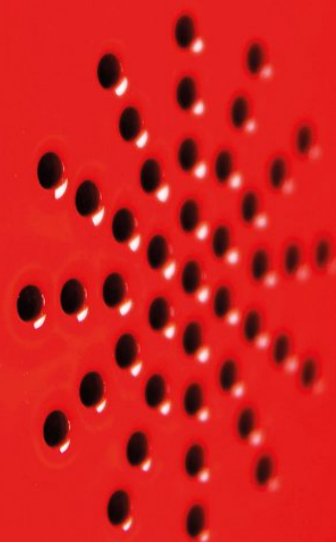


VOL 6

**Emergency call
and information pillars**

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Technical installation kits

Installation kit DS-22 SIP	12
Installation kit LTE / UMTS / GSM	16
Installation kit analogue	18

NIS - Emergency call and information pillars

NIS 97-2 / Design 1, Floor pillar	22
NIS 97-2 / Design 1, Wall mounted pillar	26
NIS 97-2 / Design 2, Floor pillar (Info)	28
NIS 97-2 / Design 3, Floor pillar (SOS)	30
NIS 97-2 / Design 2, Solar floor pillar (Info)	32
NIS 97-2 / Design 4, Floor pillar	34
NIS 97-2 / Design 4, Wall mounted pillar	36
NIS 97-2 / Design 5, Taxi solar - pillar	40
NIS 2000-2 / Design 1, Floor pillar	42
NIS 2000-2 / Design 2, Floor pillar	44
NIS 2000-2 / Design 3, Floor pillar (Info)	46
NIS 2000-2 / Design 4, Floor pillar	48
NIS 2000-2 / Design 5, Floor pillar	50
NIS 01 / Design 1, Wall mounted pillar	52
NIS 02 / Design 1, Floor pillar	54
NIS 02 / Design 1, Floor pillar	56
NIS 03 / Design 2, Floor pillar	58
NIS 03 / Design 1, Floor pillar with additional buttons	60
NIS 03 / Design 2, Wall mounted pillar	62
Emergency call pillar, Swiss Federal Railways SBB AG	64
Emergency call and information pillar, VBK	66
Modular built-in walls / Emergency call/information built-in wall, 3 buttons	68

TIMM

TIMM Com Server	70
TIMM Software (Overview)	71

Technology in detail

Communication techniques	74
IP protection classes	79



This product catalogue Traffic and Safety NIS contains complete solutions tailored to the customer in the form of emergency call / information pillars, as well as built-in walls, for example for installation in ticket vending machines in multi-storey car parks or ticket vending machines at stops of local and long-distance public transport, of various types, as well as built-in kits for retrofitting existing emergency call / information points that are to be converted to the latest technology.

Both the emergency call / information pillars and the built-in walls can be individually designed.

The mounting options as a floor-standing and/or wall-mounted column, the number/ positioning of buttons and accessibility, as well as the external appearance, consisting of painting and lettering, can be designed according to the customer's wishes.

The emergency call / information pillars can be coated with an anti-graffiti protective lacquer to protect the inscription foils from damage and to improve the removal of dirt and graffiti.

The barrier-free equipment includes Braille and/or pyramid lettering, as well as buttons and microphones for wheelchair users at the appropriate operating and speaking height.

The emergency call / information pillars, as well as the built-in walls, already have most of the additional features frequently required in today's world:

- Integrated camera contact for switching on a surrounding camera,
- Integrated 7W additional amplifier for standard public address via wall, ceiling or horn loudspeakers
- Location monitoring, as well as monitoring for operational readiness
- Signalling of readiness to speak by illuminated pictogram
- Optical failure indication on the unit
- Monitoring by integrated control electronics and fault management systems
- Adjustable volume reduction for switching between day and night operation
- Potential-free inputs and outputs for control tasks or status queries
- Inclination monitoring and burglary and theft monitoring
- WEB interface for unit configuration

The emergency call / information pillars, as well as the built-in walls, of today can be optionally equipped with the following additional features, depending on the installation space provided:

- Battery-buffered emergency power supply in case of mains power failure
- Illumination of the pillar to make it easier to find the emergency call point in the event of a power failure in the surrounding area or in tunnels.
- Integrated flash, triggered by emergency button activation or opening of public pillar areas and for better locating of persons in distress
- Defibrillator area and/or fire extinguisher area inside the column with separate door that can be opened by anyone, as well as monitored equipment removal and door opening
- Equipment with optional 30W additional amplifiers in 100V technology for optional public address via wall, ceiling or horn loudspeakers
- Equipment with additional buttons and additional loudspeakers for calling up timetable information from connected passenger information systems, e.g. DYFA
- Optical call readiness indicator
- Emergency stop switch for local and long-distance public rail traffic
- Range extension using two-wire technology or fibre-optic media converter

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Technical installation kits

Various installation and conversion kits are available for built-in customer-specific emergency call / information pillars and for converting or retrofitting existing emergency call / information pillars for floor and wall mounting.

These only include the conversion of the technology contained in the emergency call / information pillar.

All interfaces to the outside, i.e. buttons and lighting, failure indication, etc., usually remain in the emergency call / information pillar during conversion. This ensures that the external appearance of the emergency call / information pillar does not change. As these installation kits are individually assembled according to the customer-specific use, delivery numbers are available on request.

Installation kit DS-22 SIP

The DS-22 SIP installation kit is assembled individually for the respective column type and according to the customer’s requirements and consists of a power supply housing, if necessary with an optional range extension in 2-wire technology up to a range of 3km or a fibre optic modem with a range of up to 15km and a hands-free kit in which the DS-22 SIP technology is housed.

Since many existing columns still have dynamic microphones and horn loudspeakers with different impedances, these must usually also be replaced, but are then part of the installation kit. Delivery number on request.

- Full compatibility with the DS-22 system.
- Remotely configurable and remotely monitorable through the DS-22 network.
- Half / full duplex compatibility.
- Integrated horn loudspeaker for best speech intelligibility
- Integrated 2x 7W amplifier for pass-through operation in standard technology with 4Ω or 8Ω loudspeakers.
- Optional 30W amplifier for feed-through operation over longer loudspeaker lines in 100V technology.
- Call station power supply via the first two-pair Ethernet interface with PoE Class 4 without optional additional components and without additional device power supply.
- Phone station power supply via the first four-pair Ethernet interface with PoE Class 8 when extended with optional additional components and optional additional device power supply.
- Two Ethernet interfaces.
- Connections for additional devices, for example loudspeakers and controlled powered flashing beacon as standard.
- Luminous push-buttons can be freely assigned with targets and switch on microphones freely assigned to the illuminated push-buttons after operation.
- Display of status messages, such as call and busy signals, via the two different coloured LED rings contained in each illuminated push-button.
- Adjustment of microphone level and loudspeaker volume.
- Potential-free relay contact for connection of a flashing light for visual signalling or horn for acoustic signalling.
- Subordinate circuit for information request as standard.
- Switchable volume reduction, e.g. for night operation.
- Potential-free fault signal contact for fault forwarding parallel to the network.
- Tilt monitoring and theft monitoring
- Configuration via WEB interface

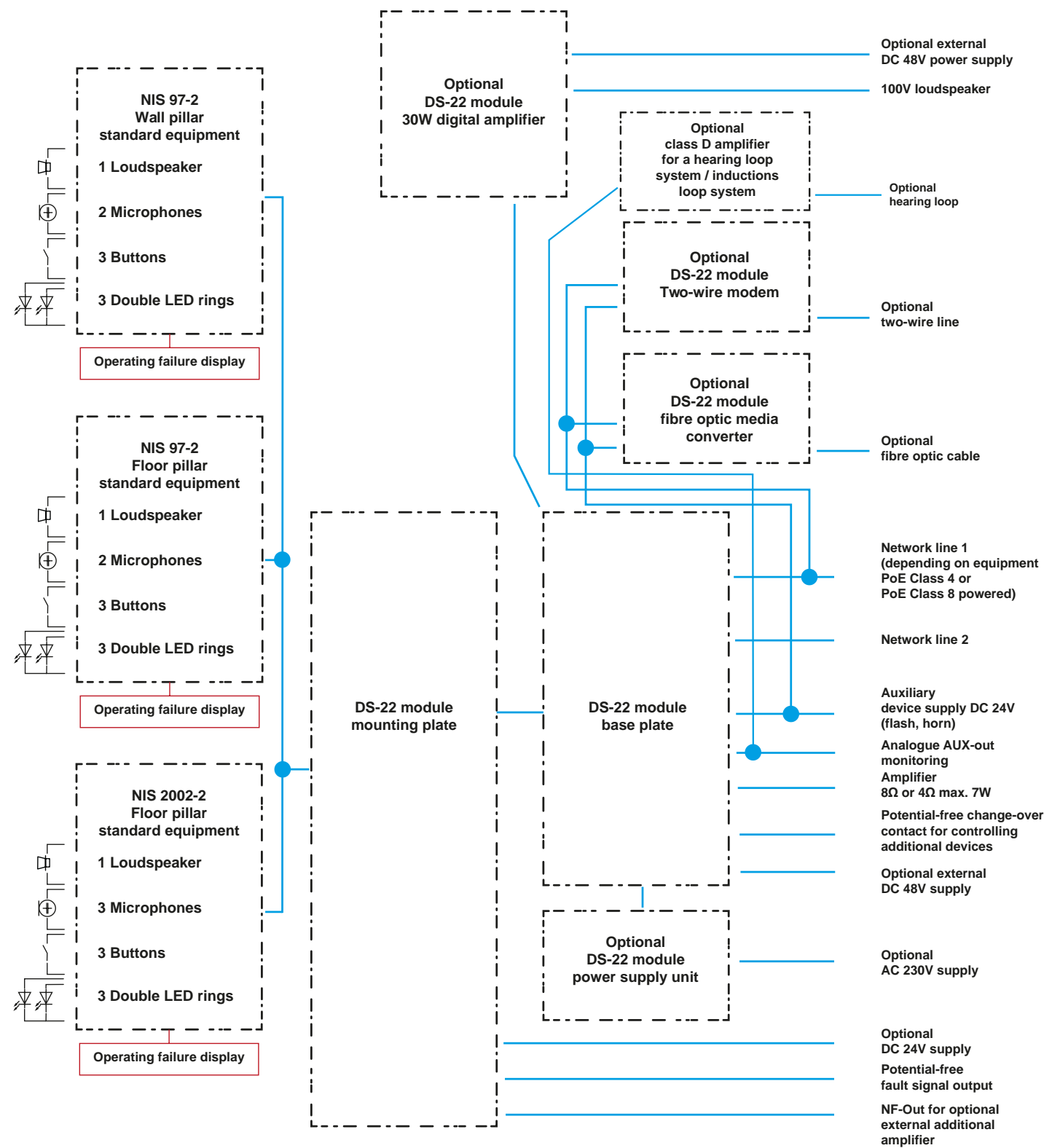


Electrical data	
Rated power in standard operation without additional components	20W
Rated power in extended operation, with additional components	90W
Frequency range	100Hz to 20kHz
Amplifier nominal power internal amplifiers	2x 7W at 8Ω
Amplifier nominal power optional amplifier	30W / 330Ω (100V)
Potential-free relay contact	DC 60V, 1A, 60W (Ohmic load)
Maximum power consumption of the DC 24V flash lamp	15W
Impedance of internal loudspeaker	Horn loudspeaker 8Ω
Impedance of external loudspeakers for standard throughput operation	Horn loudspeaker 8Ω
Impedance of external loudspeakers for 100V throughput operation	Horn loudspeaker 330Ω
Microphone	Electret
Control inputs	DC 60V / 0.5A
Control outputs	DC 60V / 0.5A
Permissible line length	<ul style="list-style-type: none">• 100m• Optional two-wire range extension point to point / multipoint up to 1000m with use of existing cable goods• Optional two-wire range extension point to point up to 1000m with use of existing cable goods• Optional multi mode fibre optic range extension up to 3000m• Optional single mode fibre optic range extension up to 15000m
Reachable destinations	4
Connectivity	
Device supply	<ul style="list-style-type: none">• Without additional components Network two-pole PoE according to IEEE 802.3bt Class 4• With additional components Network four-pole PoE according to IEEE 802.3bt Class 8• Local or mains supply AC 230V• Local or mains node supply DC 48V
Ethernet interfaces	2
Ethernet protocol	IEEE 802.3u
Transmission protocol	Neumann DS-22 IP / SIP Protocol

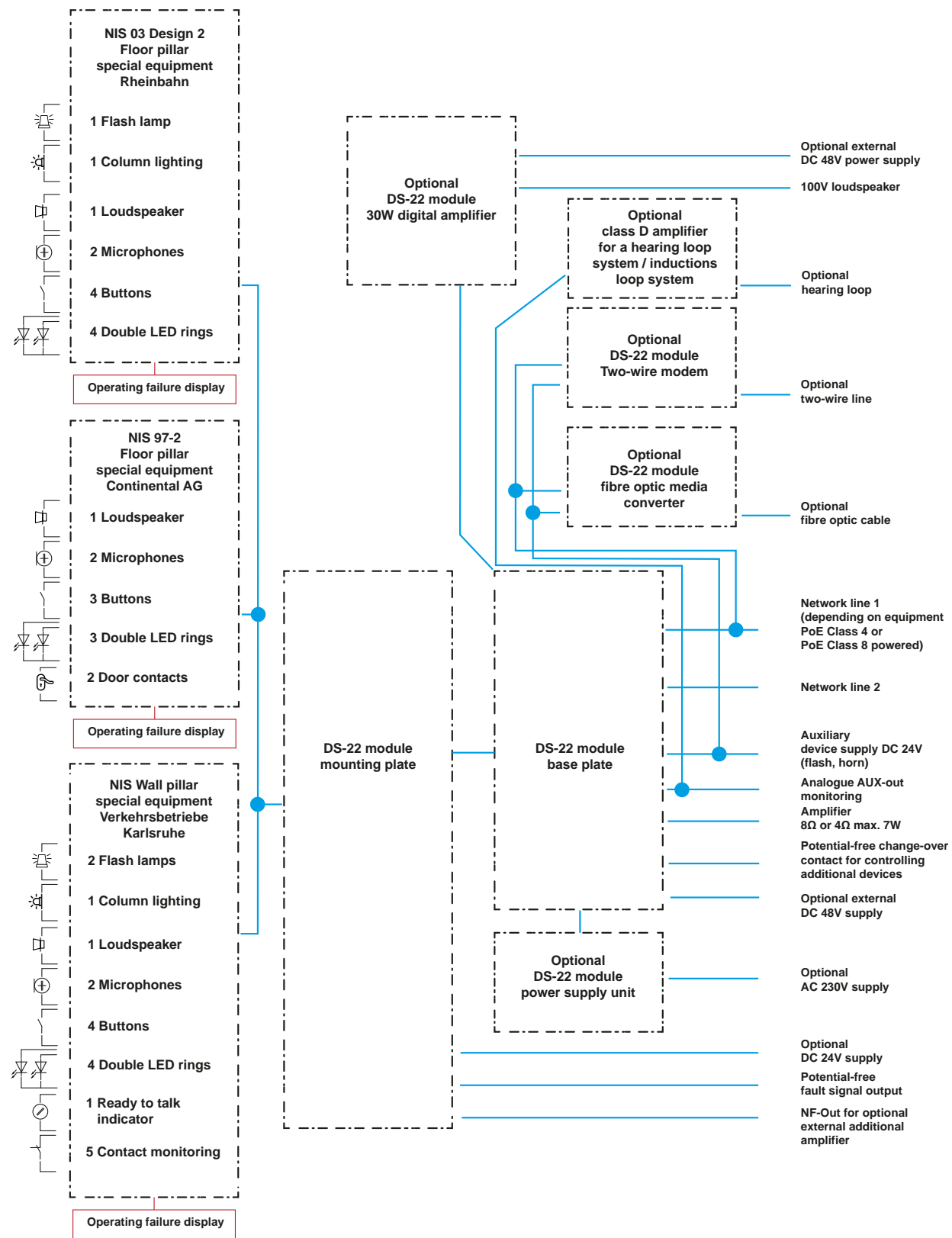
Accessories	
Description	Art.-No.
DS-22 Module 30W digital amplifier	221 6001 666 0
DS-22 Module two-wire modem	919 1116 750 0
DS-22 Module fibre optic single mode	919 1116 948 9
DS-22 Module fibre optic multimode	919 1116 934 4
DS-22 Module power supply unit	919 1116 738 6



When built-in the DS-22 SIP technology the following modules are available for the emergency call/information pillar types NIS 97-2 floor-standing and wall-mounted version, and NIS 2000-2 floor-standing version, with standard equipment.



The following illustration shows some examples of special equipment of the emergency call/information pillars also in other designs.



Installation kit LTE / UMTS / GSM

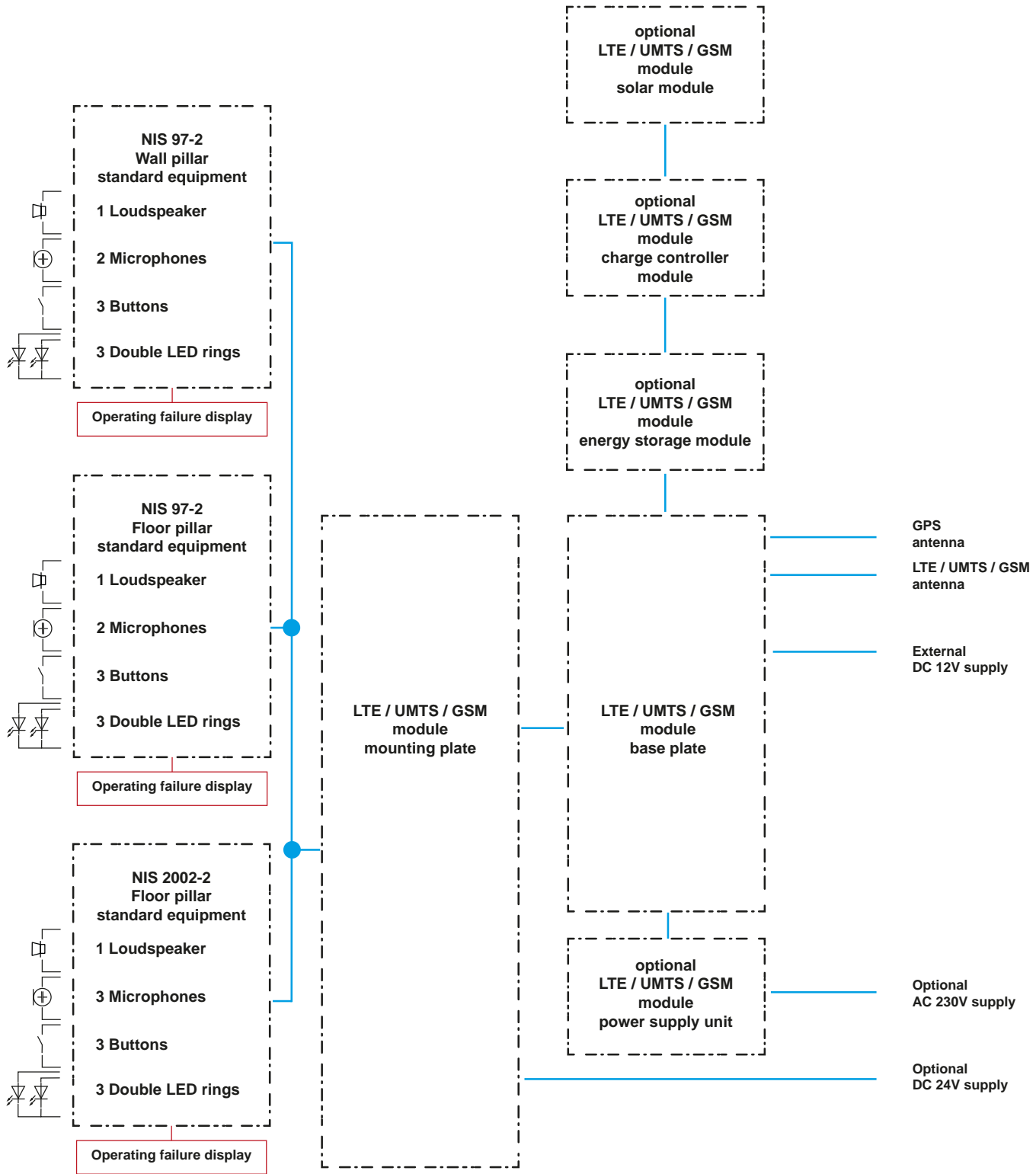
The LTE / UMTS / GSM installation kit is put together individually for the respective column type and according to customer requirements and, depending on the previous technology, consists of a power supply unit housing or a solar control unit and a hands-free kit in which the LTE / UMTS / GSM technology is accommodated.

Since many existing columns still have dynamic microphones and horn loudspeakers with different impedances, these usually have to be replaced as well, but are then part of the installation kit. The same applies to any antennas and solar modules that may be present. Delivery number on request.

- Remotely configurable and remotely monitorable through the corresponding radio network
- Internal operating voltage monitoring
- Integrated horn loudspeaker for best speech intelligibility
- Call station power supply via solar module or mains operation
- Illuminated push buttons can be freely assigned to destinations
- Display of status messages, such as call and busy signalling, via the two different- coloured LED rings contained in each illuminated push button
- Location monitoring and theft protection via GPS
- Configuration via WEB interface

Electrical data		
Rated power in standard operation	30W	
Frequency range	300Hz to 3400Hz	
Amplifier nominal power	3,2W an 4Ω, resp. 1,6W an 8Ω	
Impedance of internal loudspeaker	Horn loudspeaker 8Ω	
Microphone	Electret	
Control output	DC 12V / 6A	
Reachable destinations	Up to 2	
Connection signalling	LEDs or double LED rings	
Connectivity		
Device supply	<ul style="list-style-type: none">• Solar power supply: DC 12V, with energy storage by back-up accumulator 18Ah• Mains supply AC 230V• Local DC 12V	
Radio interface	LTE, UMTS and GSM	
Frequencies	<ul style="list-style-type: none">• LTE 700, 800, 900, 1800, 2100, 2600MHz• UMTS 900, 1800, 2100MHz• GSM 900, 1800MHz	
Accessories		
Description	Art.-No.	
LTE / UMTS / GSM Solar module	919 1135 002 1	
LTE / UMTS / GSM module charge controller	949 1412 100 1	
LTE / UMTS / GSM module energy storage	919 1250 052 4	
LTE / UMTS / GSM antenna	919 1150 062 4	
LTE / UMTS / GSM GPS antenna	On request	
LTE / UMTS / GSM module power supply unit	621 0504 343 8	

The following modules are available for built-in LTE / UMTS / GSM technology in the emergency call/information pillar of the NIS 97-2 floor-standing and wall-mounted versions, as well as the NIS 2000-2 floor-standing version, with standard equipment.



Installation kit analogue

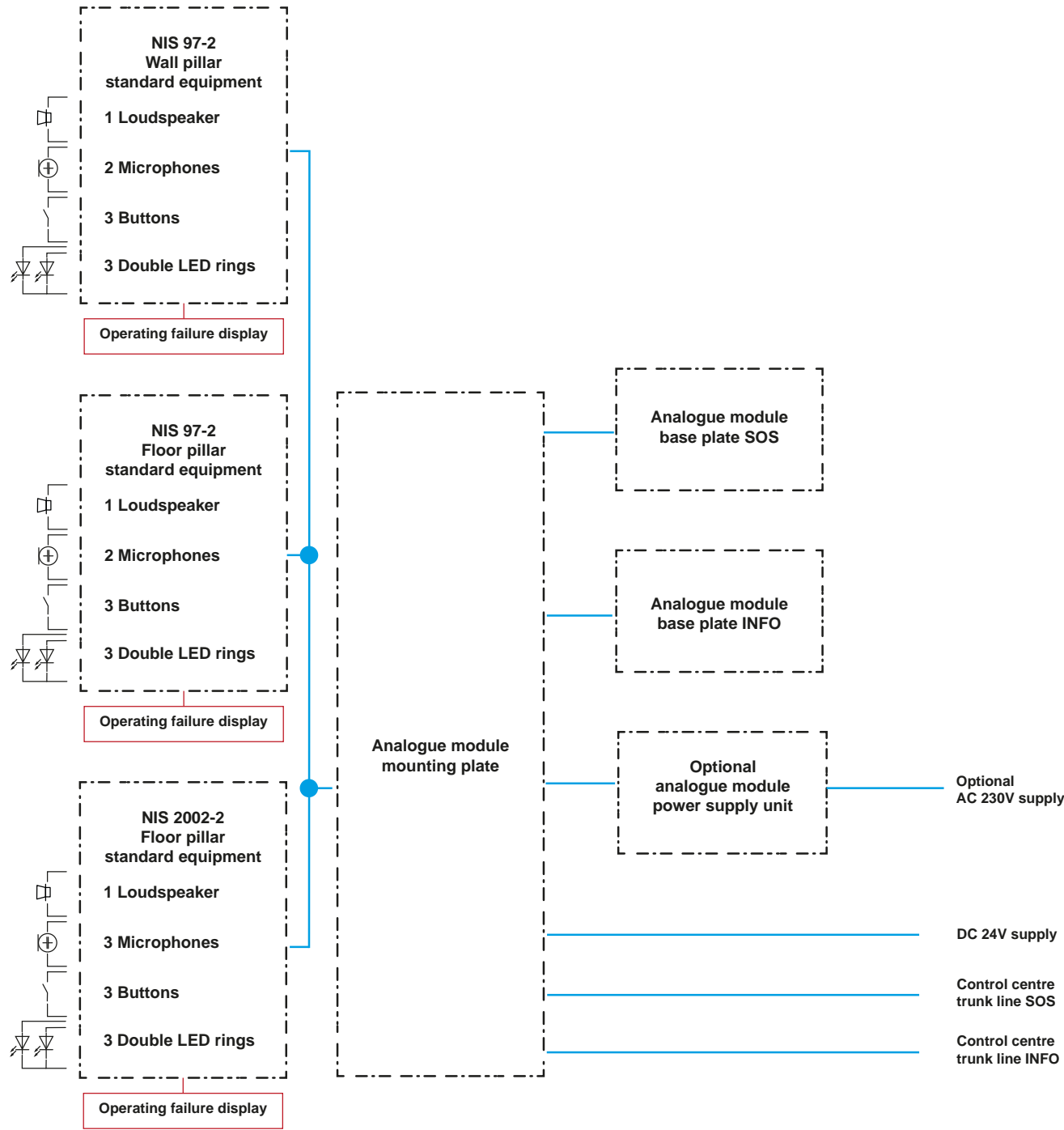
The analogue installation kit is assembled individually for the respective column type and according to customer requirements and consists of a power supply unit housing and a hands-free kit in which the analogue technology is accommodated.

Since many existing columns still have dynamic microphones and horn loudspeakers with different impedances, these must usually also be replaced, but are then part of the installation kit. Delivery number on request.

- Integrated horn loudspeaker for best speech intelligibility
- Call station power supply via central power supply or locally via mains operation
- Illuminated push buttons can be freely assigned to targets
- Display of status messages, such as call and busy signalling, via the two different-coloured LED rings contained in each illuminated push button
- No configuration required

Electrical data	
Rated power in standard operation	3W
Frequency range	300Hz to 3400Hz
Amplifier nominal power	1W
Impedance of internal loudspeaker	45Ω horn loudspeaker
Microphone	Dynamic
Control output	DC 60V / 0.5A
Quiescent current consumption	≤0mA
Connection current consumption	25mA
Max. Operating current	55mA
Input impedance (La/Lb)	600Ω
Output impedance	600Ω
Permissible line length	Max. 15km
Reachable destinations	2
Call readiness indicator	Optional "Talking Mouth" symbol illumination or text illumination "Please speak" in green colour
Connectivity	
Device supply	<ul style="list-style-type: none">• Central power supply DC 35V to DC 68V• Mains supply AC 230V• Local DC 48V
Analogue interface	Direct dialling via PABX
Accessories	
Description	Art.-No.
Analogue module power supply unit	949 1412 054 9

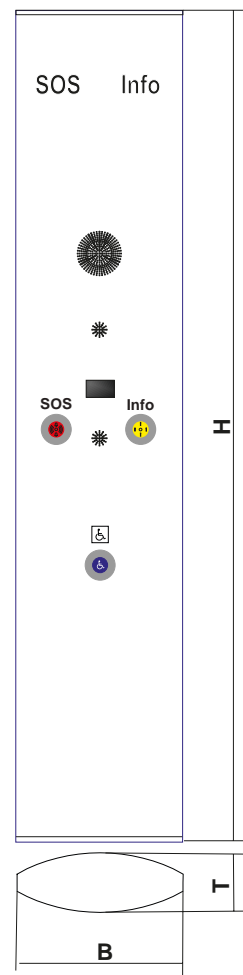
The following modules are available for built-in analogue technology in the emergency call/information pillar of the NIS 97-2 floor-standing and wall-mounted versions, as well as the NIS 2000-2 floor-standing version, with standard equipment.



NIS: Notruf- and Informationssäulen

Emergency and
Information pillars





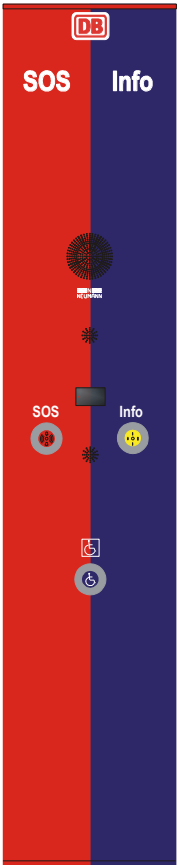
Basic equipment

- Emergency call and info button
- Wheelchair button
- Loudspeaker, 2 microphones
- Operating failure display
- Complete wiring

Equipment options

- DS-22 SIP installation kit, with or without additional amplifier
- Analogue installation kit
- Customised colour selection and disability-friendly labelling
- Mounting plate for floor mounting

Mechanical data	
Weight	Approx. 46kg
Dimensions (H x W x D)	2300mm x 460mm x 165mm
Colour	<ul style="list-style-type: none"> • As shown in the design examples • Optionally customised
Housing material	Aluminium
Release	3 illuminated push buttons
Reachable destinations	2
Connection signalling	Light ring signalling
Call readiness signalling	Optional
Printing	<ul style="list-style-type: none"> • As shown in the design examples • Optionally customised • Optionally handicapped accessible with Braille or pyramid writing
Assembly	Stand mounting
Electrical data	
All electrical and connectivity data are technology-dependent and can be found in the chapter on technologies.	
Environmental data	
Ambient temperature range	-20°C to +55°C
Protection class according to DIN EN 60529	IP65
Accessories	
223 0508 201 3	Mounting plate for floor mounting



NIS 97-2 Design example:
Deutsche Bahn AG

- Art.-No. 8 201 1
- Colour: signal red (RAL3001) / midnight blue (RAL5022)
 - EBA approval: Pr. 2131 Hg 313 / 98
 - Hands-free kit not included in the delivery!

- Art.-No. 8 206 6
- Incl. hands-free kit „IP technology“

- Art.-No. 8 207 7
- Incl. hands-free kit „IP technology“
 - Special construction height: 1850mm

- Art.-No. 8 208 8
- Incl. hands-free kit „GSM-R“ with antenna



NIS 97-2 Design example:
BLS Lötschbergbahn AG, Switzerland

- Art.-No. 8 204 4
- Colour: signal red (RAL3001) / midnight blue (RAL5022)
 - Special construction height: 2200mm
 - Incl. hands-free kit „6-wire/analogue“

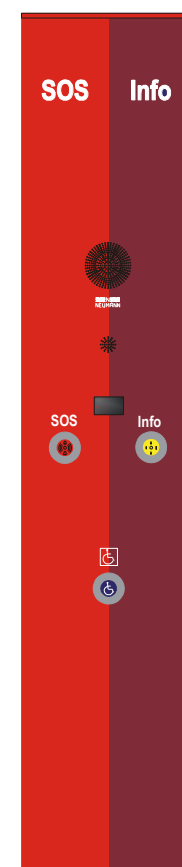
- Art.-No. 8 203 3
- As before
 - With 30W / 100V additional amplifier, Art.-No. 222 0608 203 5



NIS 97-2 Design example: Hannover-Messe

Art.-No. 8 205 5

- Colour: fire red (RAL3000)
- Hands-free kit not included in the scope of delivery



NIS 97-2 Design example: Transport services Ludwigshafen VBL

Art.-No. 641 0104 168 1

- Colour: fire red (RAL3000) / black red (RAL3007)
- Hands-free kit not included in the delivery!

Art.-No. 641 0104 193 9

- Incl. hands-free kit „6-wire/analogue“
- With 30W / 100V additional amplifier, Art.-No. 222 0608 203 5



NIS 97-2 Design example: Slovenske železnice, Hodos, Slovenien

Art.-No. 641 0104 198 4

- Colour: traffic red (RAL3020)
- Incl. hands-free kit „6-wire/analogue 221 0408 201 0“

Art.-No. 641 0104 224 4

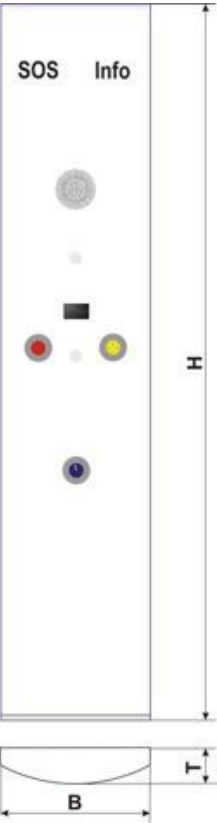
- As before
- Incl. hands-free kit „S0-DSS1 221 0208 201“

Art.-No. 641 0104 198 4

- Colour: traffic red (RAL3020)
- Incl. hands-free kit „U-DSS1 8 851 2“

Art.-No. 641 0104 198 4

- Colour: traffic red (RAL3020)
- Incl. hands-free kit „IP 8 206 6“



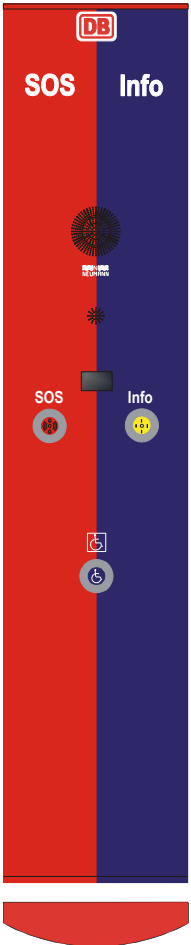
Basic equipment

- Emergency call and info button
- Wheelchair button
- Loudspeaker, 2 microphones
- Operating failure display
- Complete wiring

Equipment options

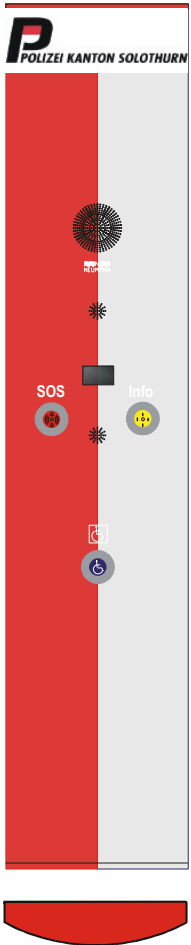
- DS-22 SIP installation kit, with or without additional amplifier
- Analogue installation kit
- Customised colour selection and disability-friendly labelling
- Mounting plate for floor mounting

Mechanical data	
Weight	Approx. 46kg
Dimensions (H x W x D)	2200mm x 460mm x 120mm
Colour	<ul style="list-style-type: none">• As shown in the design examples• Optionally customised
Housing material	Aluminium
Release	3 illuminated push buttons
Reachable destinations	2
Connection signalling	Light ring signalling
Call readiness signalling	Optional
Printing	<ul style="list-style-type: none">• As shown in the design examples• Optionally customised• Optionally handicapped accessible with Braille or pyramid writing
Assembly	Wall mounting
Electrical data	
All electrical and connectivity data are technology-dependent and can be found in the chapter on technologies.	
Environmental data	
Ambient temperature range	-20°C to +55°C
Protection class according to DIN EN 60529	IP65



NIS 97-2 Design example:
Deutsche Bahn AG

- Art.-No. 8 221 3
- Colour: signal red (RAL3001) / midnight blue (RAL5022)
 - EBA approval: Pr. 2131 Hg 313 / 98
 - Hands-free kit not included in the delivery!



NIS 97-2 Design example:
Police Canton Solothurn, Switzerland

- Art.-No. 641 0104 223 3
- Colour: traffic red (RAL3020) / white aluminium (RAL9006)
 - Incl. hands-free kit „S0-DSS1“, Art.-No. 221 1108 201 8



Basic equipment

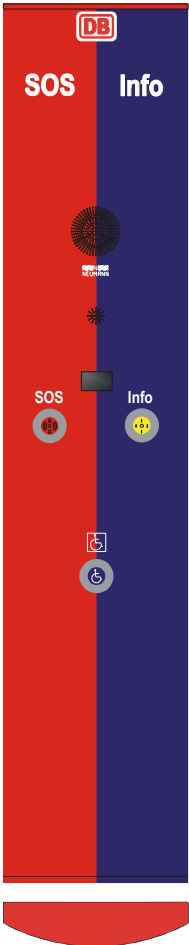
- Info button
- Wheelchair button
- Loudspeaker, microphone
- Operating failure display
- Complete wiring

Equipment options

- DS-22 SIP installation kit, with or without additional amplifier
- Analogue installation kit
- Customised colour selection and disability-friendly labelling
- Mounting plate for floor mounting

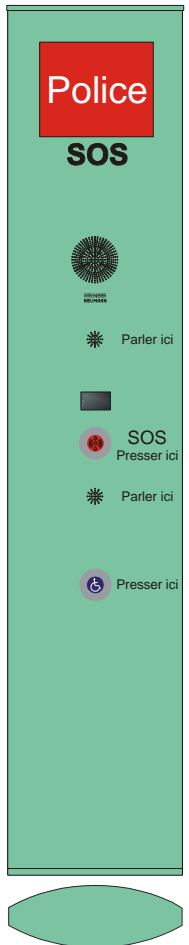
Mechanical data	
Weight	Approx. 46kg
Dimensions (H x W x D)	2300mm x 460mm x 165mm
Colour	<ul style="list-style-type: none">• As shown in the design examples• Optionally customised
Housing material	Aluminium
Release	2 illuminated push buttons
Reachable destinations	1
Connection signalling	Light ring signalling
Call readiness signalling	Optional
Printing	<ul style="list-style-type: none">• As shown in the design examples• Optionally customised• Optionally handicapped accessible with Braille or pyramid writing
Assembly	Stand mounting
Electrical data	
All electrical and connectivity data are technology-dependent and can be found in the chapter on technologies.	
Environmental data	
Ambient temperature range	-20°C to +55°C
Protection class according to DIN EN 60529	IP65

Accessories	
223 0508 201 3	Mounting plate for floor mounting



NIS 97-2 Design example:
Deutsche Bahn AG

- Art.-No. 8 209 9
- Colour: midnight blue (RAL5022)
 - Hands-free kit not included in the delivery!



NIS 97-2 Design example:
Lausanne Police, Switzerland

- Art.-No. 641 0104 225 5
- Colour: mint turquoise (RAL6033)
 - Incl. hands-free kit „S0-DSS1“, Art.-No. 221 0208 201 8



Basic equipment

- SOS-button
- Horn loudspeaker,
- Electret-microphone
- Operating failure display
- IP Dome Camera
- Door contact monitoring
- Complete wiring

Equipment options

- DS-22 SIP installation kit, with or without additional amplifier
- Analogue installation kit
- Customised colour selection and disability-friendly labelling
- Mounting plate for floor mounting



NIS 97-2 Design example:
Continental AG

- Art.-No. 641 0104 344 7
- Colour: signal red (RAL3001)
 - Including installation kit IP-II technology
- Art.-No. 641 0104 348 1
- Colour: signal red (RAL3001)
 - Including installation kit IP-II technology
 - Fibre optic modem single mode with range up to 15000m
 - Door contact monitoring

Mechanical data	
Weight	Approx. 39kg
Dimensions (H x W x D)	2300mm x 463mm x 165mm
Colour	<ul style="list-style-type: none"> • As shown in the design examples • Optionally customised
Housing material	Aluminium
Release	2 illuminated push buttons
Reachable destinations	1
Connection signalling	Light ring signalling
Call readiness signalling	Optional
Printing	<ul style="list-style-type: none"> • As shown in the design examples • Optionally customised • Optionally handicapped accessible with Braille or pyramid writing
Assembly	Stand mounting
Electrical data	
All electrical and connectivity data are technology-dependent and can be found in the chapter on technologies.	
Environmental data	
Ambient temperature range	-20°C to +55°C
Protection class according to DIN EN 60529	IP65

Accessories	
223 0508 201 3	Mounting plate for floor mounting



Basic equipment

- Info button
- Wheelchair button
- Loudspeaker, 2 microphones
- Operating failure display
- Solar module, 2 maintenance-free batteries inside the housing
- Complete wiring

Equipment options

- Installation kit LTE / UMTS / GSM
- Customised colour selection and disability-friendly labelling
- Mounting plate for floor mounting

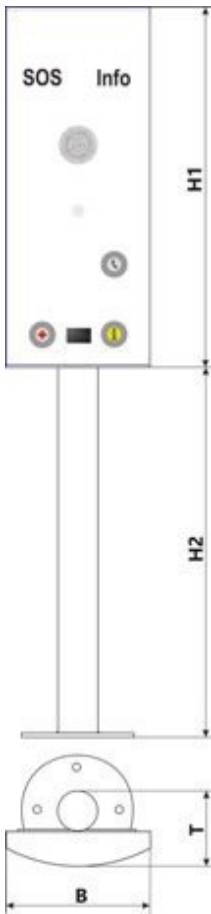


NIS 97-2 Design example:
Deutsche Bahn AG

- Art.-No. 8 210 1
- Colour: midnight blue (RAL5022)
 - incl. hands-free kit „GSM with antenna“

Mechanical data	
Weight	Approx. 50kg
Dimensions (H x W x D)	3800mm x 460mm x 165mm
Colour	<ul style="list-style-type: none">• As shown in the design examples• Optionally customised
Housing material	Aluminium
Release	1 illuminated push buttons
Reachable destinations	1
Connection signalling	Light ring signalling
Call readiness signalling	Optional
Printing	<ul style="list-style-type: none">• As shown in the design examples• Optionally customised• Optionally handicapped accessible with Braille or pyramid writing
Assembly	Stand mounting
Electrical data	
All electrical and connectivity data are technology-dependent and can be found in the chapter on technologies.	
Environmental data	
Ambient temperature range	-20°C to +55°C
Protection class according to DIN EN 60529	IP65

Accessories	
223 0508 201 3	Mounting plate for floor mounting



Basic equipment

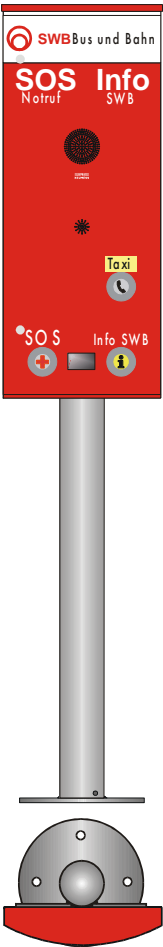
- Emergency call and info button
- Button for general services (e.g. Taxi)
- Loudspeaker, microphones
- Operating failure display
- Complete wiring

Equipment options

- DS-22 SIP installation kit, with or without additional amplifier
- Analogue installation kit
- Customised colour selection and disability-friendly labelling
- Mast mounting device

Mechanical data	
Weight	Approx. 46kg
Dimensions (H x W x D)	3800mm x 460mm x 165mm H2, adjustable in 5 steps, 965mm to 1165mm
Colour	<ul style="list-style-type: none">• As shown in the design examples• Optionally customised
Housing material	Aluminium
Release	3 illuminated push buttons
Reachable destinations	3
Connection signalling	Light ring signalling
Call readiness signalling	Optional
Printing	<ul style="list-style-type: none">• As shown in the design examples• Optionally customised• Optionally handicapped accessible with Braille or pyramid writing
Assembly	Stand mounting
Electrical data	
All electrical and connectivity data are technology-dependent and can be found in the chapter on technologies.	
Environmental data	
Ambient temperature range	-20°C to +55°C
Protection class according to DIN EN 60529	IP65

Accessories	
642 0104 200 3	Mast mounting device



NIS 97-2 Design example:
Stadtwerke Bonn

- Art.-No. 641 0104 187 2
- Colour: signal red (RAL3001) / traffic white (RAL9016)
 - incl. hands-free kit „S0-DSS1“, Art.-No. 621 0104 187 0



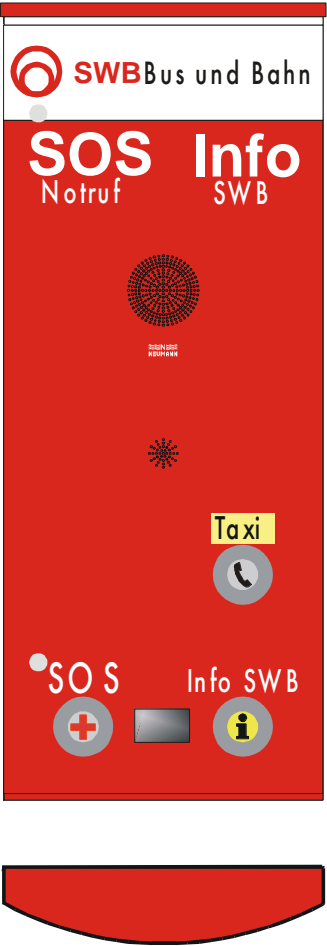
Basic equipment

- Emergency call and info button
- Button for general services (e.g. Taxi)
- Loudspeaker, microphone
- Operating failure display
- Complete wiring

Equipment options

- DS-22 SIP installation kit, with or without additional amplifier
- Analogue installation kit
- Customised colour selection and disability-friendly labelling

Mechanical data	
Weight	Approx. 18kg
Dimensions (H x W x D)	1150 x 460 x 220 mm
Colour	<ul style="list-style-type: none">• As shown in the design examples• Optionally customised
Housing material	Aluminium
Release	3 illuminated push buttons
Reachable destinations	3
Connection signalling	Light ring signalling
Call readiness signalling	Optional
Printing	<ul style="list-style-type: none">• As shown in the design examples• Optionally customised• Optionally handicapped accessible with Braille or pyramid writing
Assembly	Wall mounting
Electrical data	
All electrical and connectivity data are technology-dependent and can be found in the chapter on technologies.	
Environmental data	
Ambient temperature range	-20°C to +55°C
Protection class according to DIN EN 60529	IP65

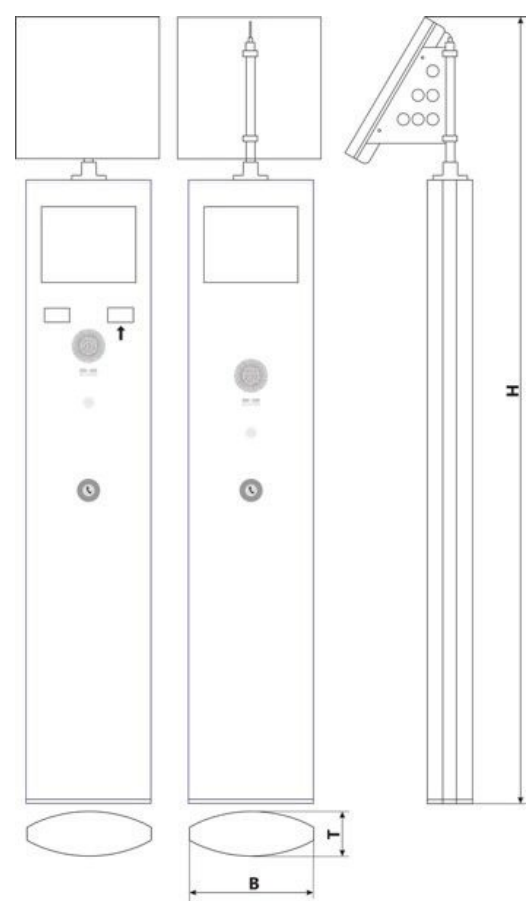


NIS 97-2 Design example:
Stadtwerke Bonn

- Art.-No. 641 0104 187 2
- Colour: signal red (RAL3001) / traffic white (RAL9016)
 - Incl. hands-free kit „S0-DSS1“, Art.-No. 621 0104 187 0

SOS

i



Basic equipment

- 2 taxi call buttons, one on each side
- 2 speakers, one on each side
- 2 microphones, one on each side
- Two-sided operability
- Solar module,
- 2 maintenance-free batteries inside the housing
- Complete wiring
- Lighting
- Flashing light on front and rear
- Analogue technology
- Timer

Equipment options

- Installation kit LTE / UMTS / GSM
- Customised colour selection and handicapped accessible labelling
- Mounting plate for floor mounting

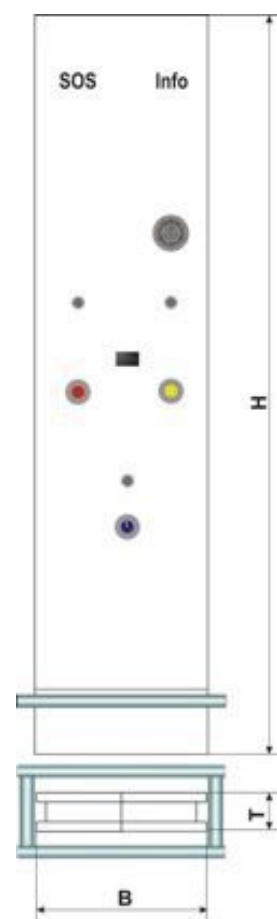


NIS 97-2 Solar - Taxi column design example: Taxi München eG

Art.-No. 8 075 0

- Includes 2 analogue handsfree kits

Mechanical data	
Weight	Approx. 90kg
Dimensions (H x W x D)	2990mm x 460mm x 165mm
Colour	<ul style="list-style-type: none"> • As shown in the design examples • Optionally customised
Housing material	Aluminium
Release	2 illuminated push buttons
Reachable destinations	1
Connection signalling	Light ring signalling
Call readiness signalling	Optional
Printing	<ul style="list-style-type: none"> • As shown in the design examples • Optionally customised • Optionally handicapped accessible with Braille or pyramid writing
Assembly	Stand mounting
Electrical data	
All electrical and connectivity data are technology-dependent and can be found in the chapter on technologies.	
Environmental data	
Ambient temperature range	-20°C to +70°C
Protection class according to DIN EN 60529	IP65

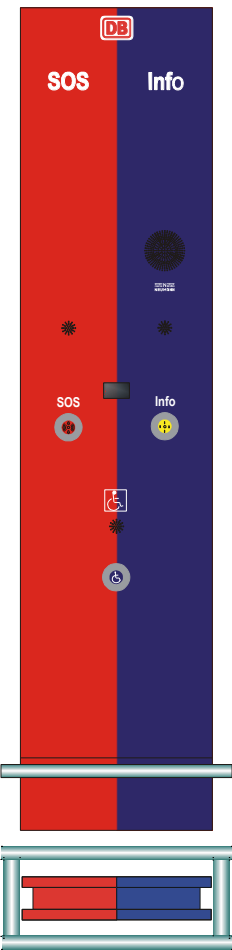


Basic equipment

- Emergency call and info button
- Wheelchair button
- Loudspeaker, 3 microphones
- Operating failure display
- Complete wiring
- Ram protection

Equipment options

- DS-22 SIP installation kit, with or without additional amplifier
- Analogue installation kit
- Customised colour selection and disability-friendly labelling
- Mounting plate for floor mounting



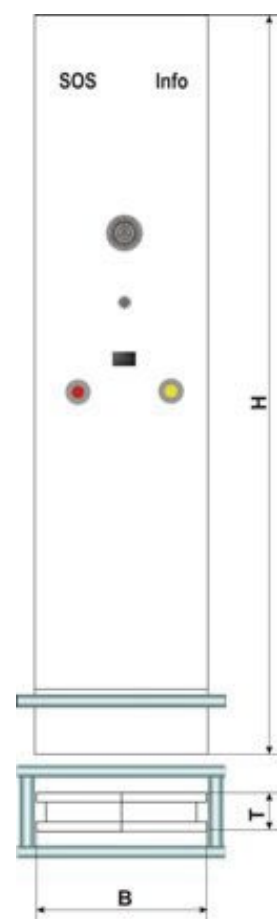
NIS 2000-2 Design example:
Deutsche Bahn AG

- Art.-No. 8 241 5
- Colour: signal red (RAL) / midnight blue (RAL5022)
 - EBA approval: Pr. 2131 Hg 318 / 98
 - Hands-free kit not included in the delivery!

- Art.-No. 8 243 7
- Incl. hands-free kit „IP technology“

Mechanical data	
Weight	Approx. 59kg
Dimensions (H x W x D)	2500mm x 538mm x 135mm Dimensions ram protection frame (W x D) 710mm x 320mm
Colour	As shown in the design examples Optionally customised
Housing material	Aluminium
Release	3 illuminated push buttons
Reachable destinations	2
Connection signalling	Light ring signalling
Call readiness signalling	Optional
Printing	<ul style="list-style-type: none">• As shown in the design examples• Optionally customised• Optionally handicapped accessible with Braille or pyramid writing
Assembly	Stand mounting
Electrical data	
All electrical and connectivity data are technology-dependent and can be found in the chapter on technologies.	
Environmental data	
Ambient temperature range	-20°C to +55°C
Protection class according to DIN EN 60529	IP65

Accessories	
223 1008 240 2	Mounting plate for floor mounting

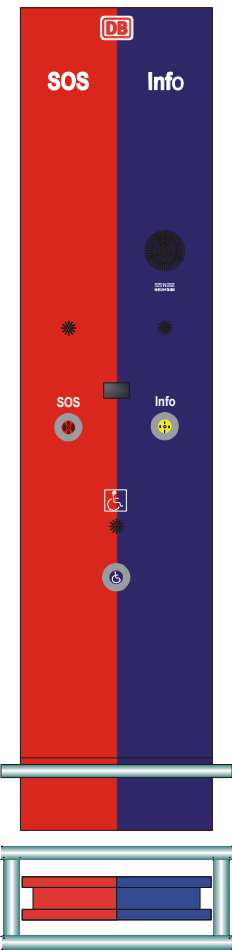


Basic equipment

- Emergency call and info button
- Loudspeaker, microphone
- Operating failure display
- Complete wiring

Equipment options

- DS-22 SIP installation kit, with or without additional amplifier
- Analogue installation kit
- Installation kit LTE / UMTS / GSM
- Customised colour selection and disability-friendly labelling
- Mounting plate for floor mounting



NIS 2000-2 Design example:
GSM technology

- Art.-No. 8 244 8
- Colour: signal red (RAL3001) / midnight blue (RAL5022)
 - Incl. hands-free kit for GSM technology and rod antenna

Mechanical data	
Weight	Approx. 59kg
Dimensions (H x W x D)	2500mm x 538mm x 135mm Dimensions ram protection frame (W x D) 710mm x 320mm
Colour	As shown in the design examples Optionally customised
Housing material	Aluminium
Release	2 illuminated push buttons
Reachable destinations	2
Connection signalling	Light ring signalling
Call readiness signalling	Optional
Printing	<ul style="list-style-type: none">• As shown in the design examples• Optionally customised• Optionally handicapped accessible with Braille or pyramid writing
Assembly	Stand mounting
Electrical data	
All electrical and connectivity data are technology-dependent and can be found in the chapter on technologies.	
Environmental data	
Ambient temperature range	-20°C to +55°C
Protection class according to DIN EN 60529	IP65

Accessories	
223 1008 240 2	Mounting plate for floor mounting



Basic equipment

- Info button
- Wheelchair button
- Loudspeaker, microphone
- Operating failure display
- Complete wiring

Equipment options

- DS-22 SIP installation kit, with or without additional amplifier
- Analogue installation kit
- Customised colour selection and disability-friendly labelling
- Mounting plate for floor mounting

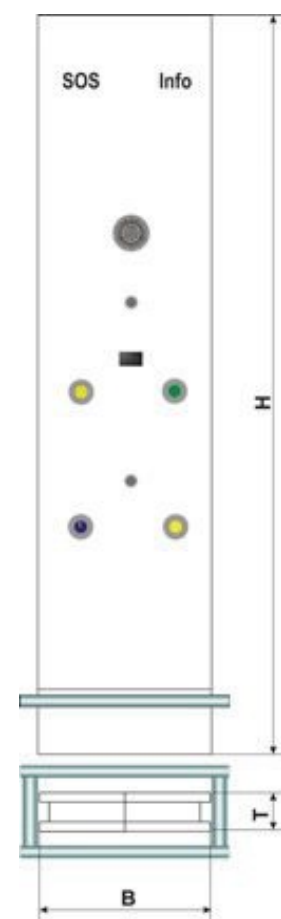
Mechanical data	
Weight	Approx. 59kg
Dimensions (H x W x D)	2500mm x 538mm x 135mm Dimensions ram protection frame (W x D) 710mm x 320mm
Colour	<ul style="list-style-type: none">• As shown in the design examples• Optionally customised
Housing material	Aluminium
Release	2 illuminated push buttons
Reachable destinations	1
Connection signalling	Light ring signalling
Call readiness signalling	Optional
Printing	<ul style="list-style-type: none">• As shown in the design examples• Optionally customised• Optionally handicapped accessible with Braille or pyramid writing
Assembly	Stand mounting
Electrical data	
All electrical and connectivity data are technology-dependent and can be found in the chapter on technologies.	
Environmental data	
Ambient temperature range	-20°C to +55°C
Protection class according to DIN EN 60529	IP65

Accessories	
223 1008 240 2	Mounting plate for floor mounting



NIS 2000-2 Design example:
Airport BER Berlin

Art.-No. 641 0104 292 9
• Including hands-free kit IPv

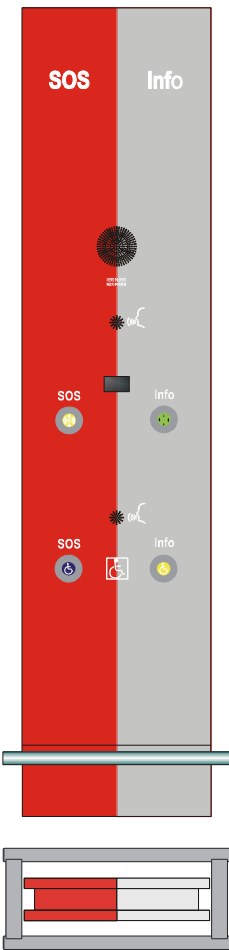


Basic equipment

- Emergency call and info button
- Emergency call and wheelchair user button
- Loudspeaker, 2 microphones
- Operating failure display
- Complete wiring

Equipment options

- DS-22 SIP installation kit, with or without additional amplifier
- Analogue installation kit
- Customised colour selection and disability-friendly labelling
- Mounting plate for floor mounting

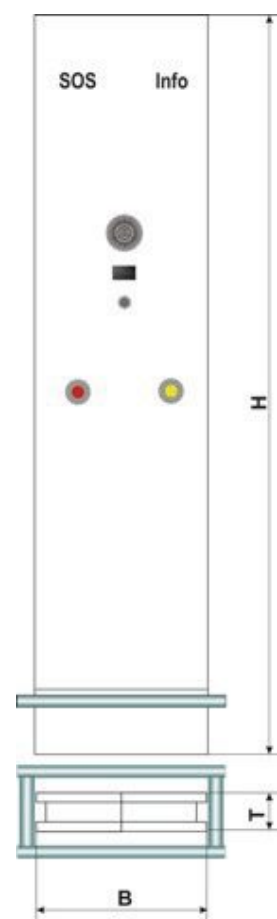


NIS 2000-2 Design example:
Düsseldorf International Airport

- Art.-No. 641 0104 196 2
- Colour: fire red (RAL3000) / white aluminium (RAL9006)
 - incl. hands-free kit „6-wire/analogue“
 - Backlighting of the large “SOS” and “Info” lettering

Mechanical data	
Weight	Approx. 59kg
Dimensions (H x W x D)	2500mm x 538mm x 135mm Dimensions ram protection frame (W x D) 710mm x 320mm
Colour	<ul style="list-style-type: none">• As shown in the design examples• Optionally customised
Housing material	Aluminium
Release	4 illuminated push buttons
Reachable destinations	2
Connection signalling	Light ring signalling
Call readiness signalling	Optional
Printing	<ul style="list-style-type: none">• As shown in the design examples• Optionally customised• Optionally handicapped accessible with Braille or pyramid writing
Assembly	Stand mounting
Electrical data	
All electrical and connectivity data are technology-dependent and can be found in the chapter on technologies.	
Environmental data	
Ambient temperature range	-20°C to +55°C
Protection class according to DIN EN 60529	IP65

Accessories	
223 1008 240 2	Mounting plate for floor mounting



Basic equipment

- Emergency call and info button
- Plexiglass pane for optional camera installation
- Loudspeaker, microphone
- Operating failure display
- Complete wiring

Equipment options

- DS-22 SIP installation kit, with or without additional amplifier
- Analogue installation kit
- Customised colour selection and disability-friendly labelling
- Mounting plate for floor mounting

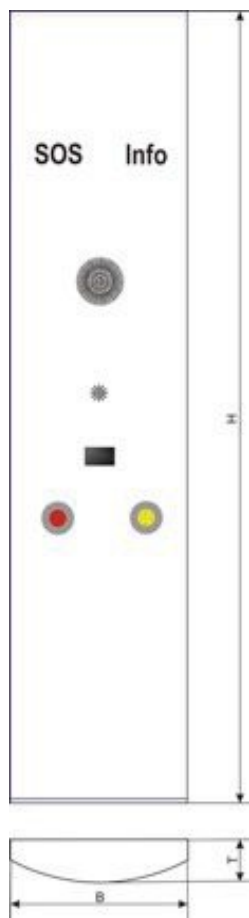


NIS 2000-2 Design example:
Metro Moskau

- Art.-No. 8 245 9
- Colour: signal red (RAL3001) / midnight blue (RAL5022)
 - Incl. hands-free kit „S0-DSS1“

Mechanical data	
Weight	Approx. 59kg
Dimensions (H x W x D)	2500mm x 538mm x 135mm Dimensions ram protection frame (W x D) 710mm x 320mm
Colour	As shown in the design examples Optionally customised
Housing material	Aluminium
Release	2 illuminated push buttons
Reachable destinations	2
Connection signalling	Light ring signalling
Call readiness signalling	Optional
Printing	<ul style="list-style-type: none">• As shown in the design examples• Optionally customised• Optionally handicapped accessible with Braille or pyramid writing
Assembly	Stand mounting
Electrical data	
All electrical and connectivity data are technology-dependent and can be found in the chapter on technologies.	
Environmental data	
Ambient temperature range	-20°C to +55°C
Protection class according to DIN EN 60529	IP65

Accessories	
223 1008 240 2	Mounting plate for floor mounting



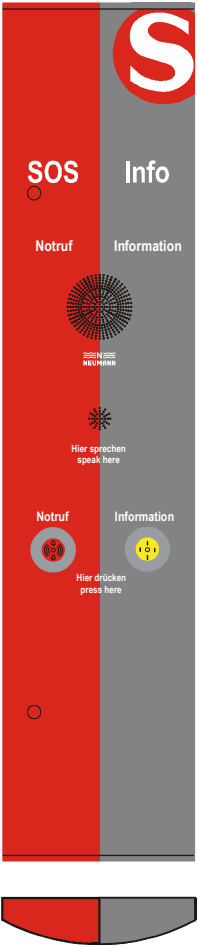
Basic equipment

- Wall mounting
- Emergency call and info button
- Loudspeaker, microphone
- Operating failure display
- Complete wiring

Equipment options

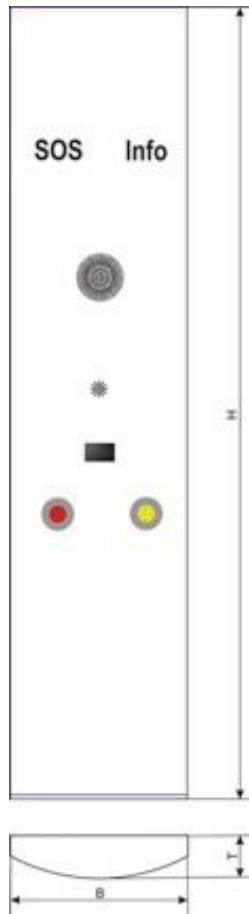
- DS-22 SIP installation kit, with or without additional amplifier
- Analogue installation kit
- Customised colour selection and disability-friendly labelling

Mechanical data	
Weight	Approx. 42kg
Dimensions (H x W x D)	1630mm x 360mm x 110mm
Colour	As shown in the design examples Optionally customised
Housing material	Aluminium
Release	2 illuminated push buttons
Reachable destinations	2
Connection signalling	Light ring signalling
Call readiness signalling	Optional
Printing	<ul style="list-style-type: none">• As shown in the design examples• Optionally customised• Optionally handicapped accessible with Braille or pyramid writing
Assembly	Wall mounting
Electrical data	
All electrical and connectivity data are technology-dependent and can be found in the chapter on technologies.	
Environmental data	
Ambient temperature range	-20°C to +55°C
Protection class according to DIN EN 60529	IP65



NIS 01 Design example:
S-Bahn Hamburg

- Art.-No. 8 080 6
- Colour: traffic red (RAL3020) / iron grey (RAL7011)
 - Incl. hands-free box, but without hands-free electronics



Basic equipment

- Emergency call and info button
- Loudspeaker
- Microphone
- Complete wiring

Equipment options

- Hands-free insert DS-22 SIP, with or without additional amplifier
- Hands-free analogue insert
- Customised colour selection and disability-friendly labelling

Mechanical data	
Weight	Approx. 30kg
Dimensions (H x W x D)	1380mm x 168mm x 140mm
Colour	As shown in the design examples optionally customised
Housing material	Aluminium
Release	2 illuminated push buttons
Reachable destinations	2
Connection signalling	Light ring signalling
Call readiness signalling	Optional
Printing	<ul style="list-style-type: none"> • As shown in the design examples • Optionally customised • Optionally handicapped accessible with Braille or pyramid writing
Assembly	Stand mounting
Electrical data	
All electrical and connectivity data are technology-dependent and can be found in the chapter on technologies.	
Environmental data	
Ambient temperature range	-20°C to +55°C
Protection class according to DIN EN 60529	IP65



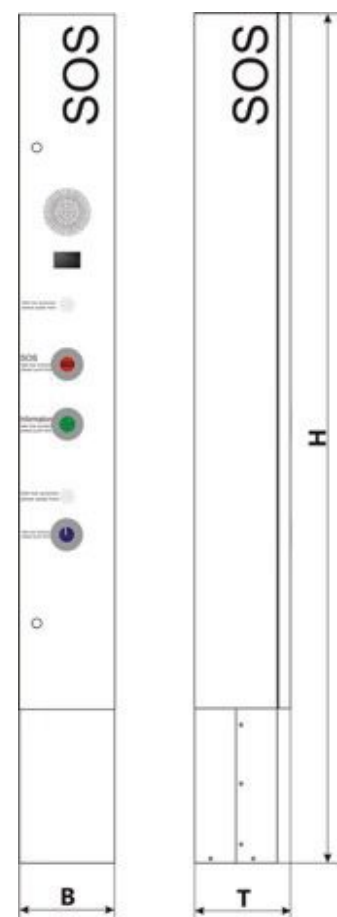
NIS 02 Design example:
 üstra Hannoversche Verkehrsbetriebe AG

- Art.-No. 8 090 7
- Colour Floor pillar: traffic red (RAL3020) / opel green (OP308)
 - Handsfree colour: white aluminium (RAL9006)
 - incl. 10W amplifier and wiring
 - Hands-free kit not included in the delivery!



NIS 02 Design example:
 GYSEV Raaberbahn

- Art.-No. 641 0104 314 4
- Colour Floor pillar: mint green (RAL6029)
 - Hands-free kit colour: traffic yellow (RA1023)
 - incl. S0-DSS1 hands-free kit



Basic equipment

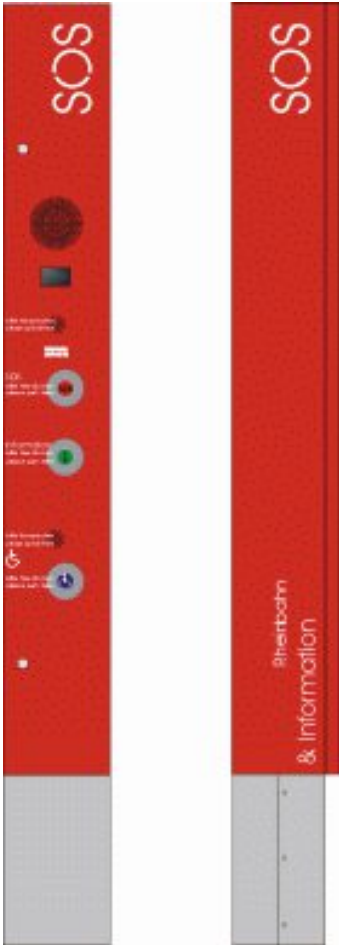
- Emergency call and info button
- Wheelchair button
- Braille around speech button border
- Operating failure display
- Loudspeaker, microphone
- Complete wiring
- Incl. 1400mm standpipe (1000mm sunk into the ground) and brushed stainless steel base cladding

Equipment options

- DS-22 SIP installation kit, with or without additional amplifier
- Analogue installation kit
- Customised colour selection and disability-friendly labelling
- Standpipe fastening, for mounting on foundation

Mechanical data	
Weight	Approx. 50kg
Dimensions (H x W x D)	2200mm x 250mm x 250mm
Colour	<ul style="list-style-type: none"> • As shown in the design examples • Optionally customised
Housing material	V2A stainless steel
Release	3 illuminated push buttons
Reachable destinations	2
Connection signalling	Light ring signalling
Call readiness signalling	Optional
Printing	<ul style="list-style-type: none"> • As shown in the design examples • Optionally customised • Optionally handicapped accessible with Braille or pyramid writing
Assembly	Stand mounting
Electrical data	
All electrical and connectivity data are technology-dependent and can be found in the chapter on technologies.	
Environmental data	
Ambient temperature range	-20°C to +55°C
Protection class according to DIN EN 60529	IP65

Accessories	
213 3906 042 0	1400-mm standpipe, for mounting on foundation



NIS 03 Design example:
Rheinbahn Düsseldorf

- Art.-No. 641 0104 231 2
- Colour: signal red (RAL3001)
 - Incl. hands-free kit „S0-DSS1“
 - Incl. emergency flash light (behind upper “SOS” cut-outs)

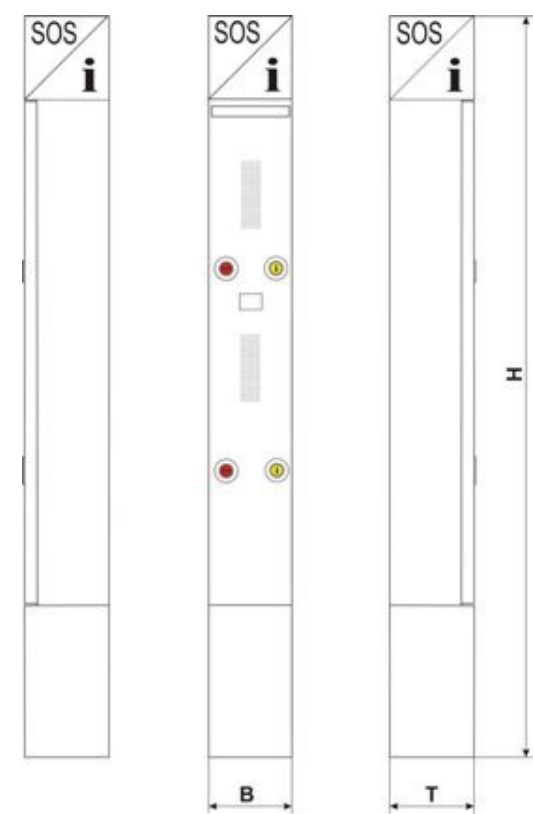
- Art.-No. 641 0104 306 5
- Colour: signal red (RAL3001)
 - Incl. hands-free kit „S0-DSS1“
 - Incl. emergency flash light (behind upper “SOS” cut-outs)
 - Incl. fibre optic multimodem



NIS 03 Design example:
Luxembourg Railway Company CFL

- Art.-No. 8 125 6
- Colour: traffic red (RAL3020)
 - Incl. hands-free kit „S0-DSS1“
 - Incl. energy-saving lamp and flashing light

- Art.-No. 641 0104 306 5
- Colour: traffic red (RAL3020)
 - Incl. hands-free kit „IP“
 - Incl. energy-saving lamp and flashing light

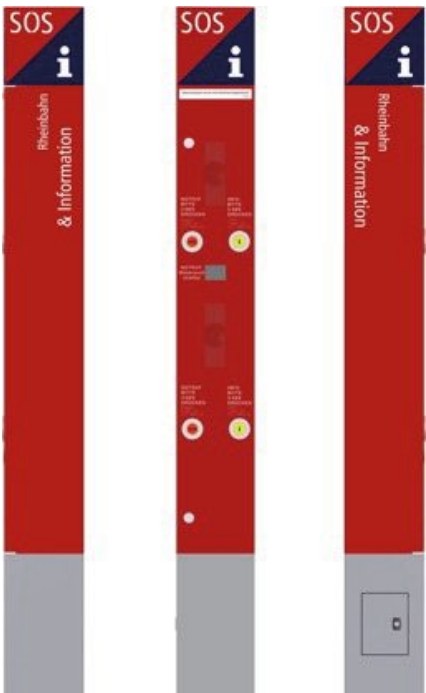


Basic equipment

- Emergency call and info button
- Wheelchair button
- Braille around speech button border
- Operating failure display
- Loudspeaker, microphone
- Complete wiring
- Brushed stainless steel plinth cladding

Equipment options

- DS-22 SIP installation kit, with or without additional amplifier
- Analogue installation kit
- Customised colour selection and disability-friendly labelling
- Mounting plate, for mounting on foundation
- Mounting plate with standpipe, for mounting on foundation

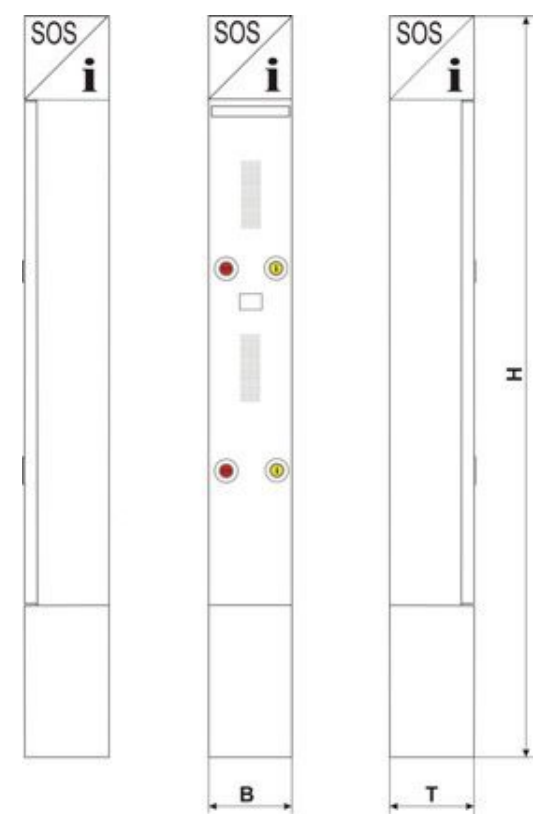


NIS 03 Design example: Rheinbahn Düsseldorf

- Art.-No. 641 0104 306 5
- Colour: signal red (RAL3001)
 - Incl. hands-free kit „S0-DSS1“
 - Incl. emergency flash light (behind upper “SOS” cut-outs)
 - Incl. fibre optic multimodem

Mechanical data	
Weight	Approx. 50kg
Dimensions (H x W x D)	2200mm x 250mm x 250mm
Colour	As shown in the design examples optionally customised
Housing material	V2A stainless steel
Release	4 illuminated push buttons
Reachable destinations	2
Connection signalling	Light ring signalling
Call readiness signalling	Optional
Printing	<ul style="list-style-type: none"> • As shown in the design examples • Optionally customised • Optionally handicapped accessible with Braille or pyramid writing
Assembly	Stand mounting
Electrical data	
All electrical and connectivity data are technology-dependent and can be found in the chapter on technologies.	
Environmental data	
Ambient temperature range	-20°C to +55°C
Protection class according to DIN EN 60529	IP65

Accessories	
622 1004 293 9	Mounting plate, for mounting on foundation
212 3906 046 3	Mounting plate with standpipe, for mounting on foundation



Basic equipment

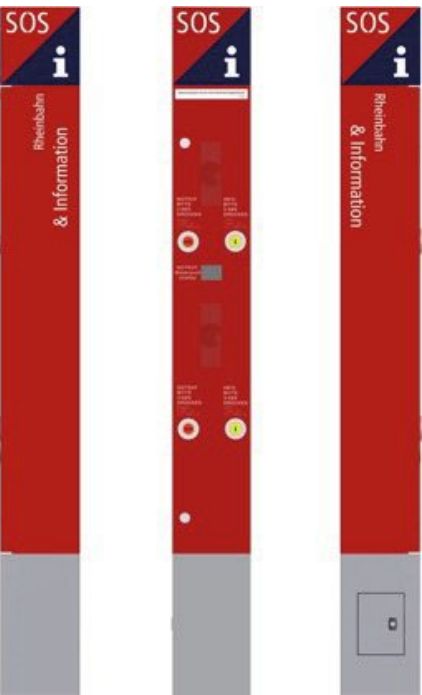
- Emergency-button
- Wheelchair button
- Braille around speech button border
- Operating failure display
- Loudspeaker, microphone
- Complete wiring
- Brushed stainless steel plinth cladding

Equipment options

- DS-22 SIP installation kit, with or without additional amplifier
- Analogue installation kit
- Customised colour selection and disability-friendly labelling
- Mounting plate, for mounting on foundation
- Mounting plate with standpipe, for mounting on foundation

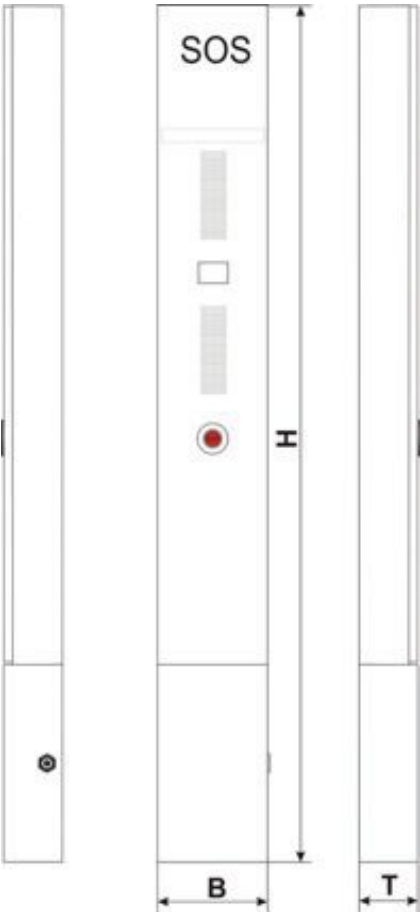
Mechanical data	
Weight	Approx. 50kg
Dimensions (H x W x D)	2200mm x 250mm x 250mm
Colour	<ul style="list-style-type: none">• As shown in the design examples• Optionally customised
Housing material	V2A stainless steel
Release	8 illuminated push buttons
Reachable destinations	2
Connection signalling	Light ring signalling
Call readiness signalling	Optional
Printing	<ul style="list-style-type: none">• As shown in the design examples• Optionally customised• Optionally handicapped accessible with Braille or pyramid writing
Assembly	Stand mounting
Electrical data	
All electrical and connectivity data are technology-dependent and can be found in the chapter on technologies.	
Environmental data	
Ambient temperature range	-20°C to +55°C
Protection class according to DIN EN 60529	IP65

Accessories	
622 1004 293 9	Mounting plate, for mounting on foundation
212 3906 046 3	Mounting plate with standpipe, for mounting on foundation



NIS 03 with DYFA Design example: Rheinbahn Düsseldorf

- Art.-No. 641 0104 293 0
- Colour: signal red (RAL3001)
 - Incl. hands-free kit „IP“
 - Incl. emergency flash light (behind upper “SOS” cut-outs)
 - Incl. fibre optic multimodem
 - Incl. DYFA buttons and loudspeaker for timetable enquiry



Basic equipment

- Emergency call and info button
- Wheelchair button
- Braille around speech button border
- Operating failure display
- Loudspeaker, microphone
- Complete wiring
- Brushed stainless steel plinth cladding

Equipment options

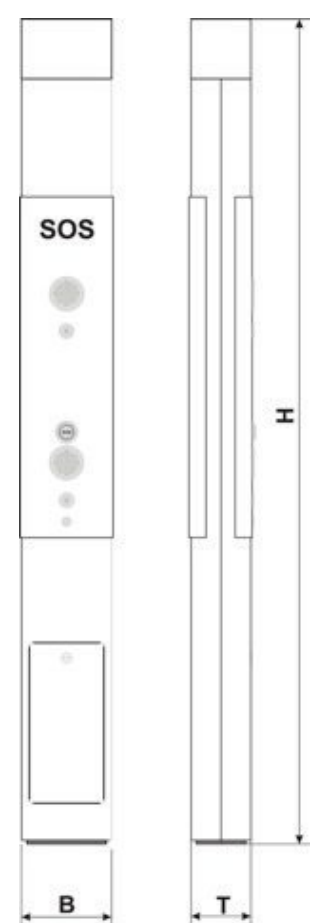
- DS-22 SIP installation kit, with or without additional amplifier
- Analogue installation kit
- Customised colour selection and disability-friendly labelling

Mechanical data	
Weight	Approx. 40kg
Dimensions (H x W x D)	1900mm x 250mm x 125mm
Colour	<ul style="list-style-type: none">• As shown in the design examples• Optionally customised
Housing material	V2A stainless steel
Release	1 illuminated push buttons
Reachable destinations	1
Connection signalling	Light ring signalling
Call readiness signalling	Optional
Printing	<ul style="list-style-type: none">• As shown in the design examples• Optionally customised• Optionally handicapped accessible with Braille or pyramid writing
Assembly	Wall mounting
Electrical data	
All electrical and connectivity data are technology-dependent and can be found in the chapter on technologies.	
Environmental data	
Ambient temperature range	-20°C to +55°C
Protection class according to DIN EN 60529	IP65



NIS 03 Design example:
Rheinbahn Düsseldorf Wandsäule

- Art.-No. 641 0104 313 3
- Colour: signal red (RAL3001)
 - Incl. hands-free kit „IP with PoE power supply“



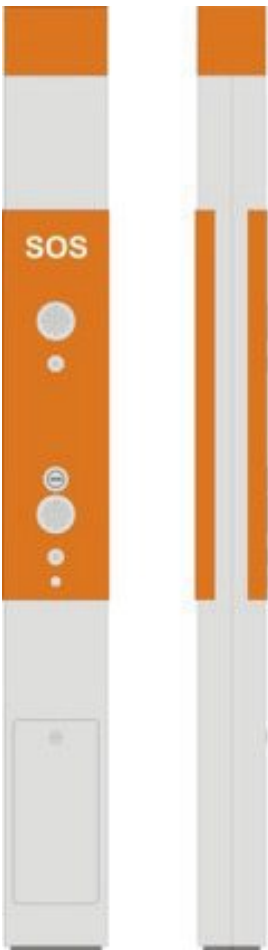
Basic equipment

- Illuminated emergency call button
- Loudspeaker, microphone
- Loudspeaker, microphone for wheelchair users
- Complete wiring

Equipment options

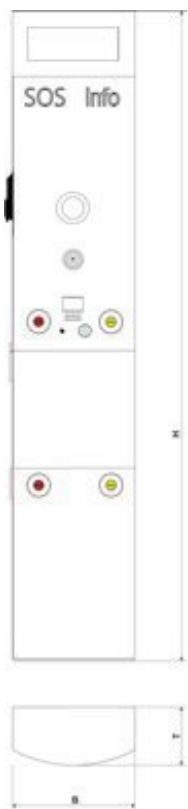
- DS-22 SIP installation kit, with or without additional amplifier
- Analogue installation kit
- Customised colour selection and disability-friendly labelling

Mechanical data	
Weight	Approx. 60kg
Dimensions (H x W x D)	2205mm x 240mm x 160mm
Colour	<ul style="list-style-type: none">• As shown in the design examples• Optionally customised
Housing material	V4A stainless steel
Release	1 illuminated push buttons
Reachable destinations	1
Connection signalling	Light ring signalling
Call readiness signalling	Optional
Printing	<ul style="list-style-type: none">• As shown in the design examples• Optionally customised• Optionally handicapped accessible with Braille or pyramid writing
Assembly	Stand mounting
Electrical data	
All electrical and connectivity data are technology-dependent and can be found in the chapter on technologies.	
Environmental data	
Ambient temperature range	-20°C to +55°C
Protection class according to DIN EN 60529	IP65



**Emergency call pillar Design example:
Schweitzer Bundesbahn SBB, stand pillar**

- Art.-No. 8 093 0
- Colour: brushed stainless steel, bonnet and flap NCS1080-Y60R
 - Hands-free kit not included



Basic equipment

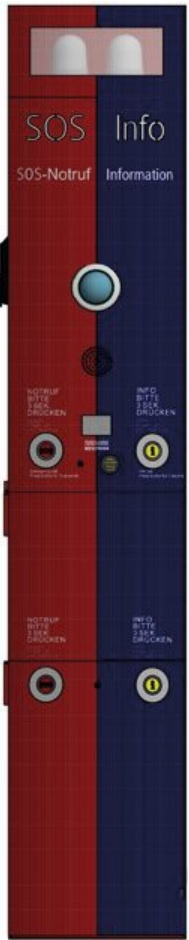
- Wall mounting
- Illuminated emergency call and info button
- Loudspeaker, microphone
- Illuminated emergency call and info button, as well as microphone for wheelchair users
- Incl. hands-free kit IP-II
- Operating failure display
- LED illumination behind SOS and Info cut-outs
- Flash signalling in the column head when the door is opened
- IP Dome Camera
- Call readiness indicator
- Integrated UPS with energy storage
- Publicly accessible and monitored fire extinguisher area
- Publicly accessible and monitored defibrillator area
- Complete wiring

Equipment options

- DS-22 SIP installation kit, with or without additional amplifier
- Analogue installation kit
- Customised colour selection and disability-friendly labelling
- Fire extinguisher equipment
- Defibrillator equipment

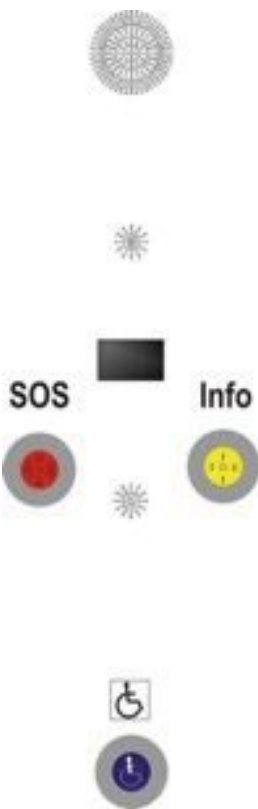
Mechanical data	
Weight	Approx. 60kg
Dimensions (H x W x D)	1912mm x 400mm x 196.5mm
Colour	<ul style="list-style-type: none">• As shown in the design examples• Optionally customised
Housing material	V2A stainless steel
Release	4 illuminated push buttons
Reachable destinations	2
Connection signalling	Light ring signalling
Call readiness signalling	Optional
Printing	<ul style="list-style-type: none">• As shown in the design examples• Optionally customised• Optionally handicapped accessible with Braille or pyramid writing
Assembly	Stand mounting
Electrical data	
All electrical and connectivity data are technology-dependent and can be found in the chapter on technologies.	
Environmental data	
Ambient temperature range	-20°C to +70°C
Protection class according to DIN EN 60529	IP65

Accessories	
621 1004 347 8	Drilling template
614 3634 004 1	Variable rear wall spacer adjustable between 102.5mm and 132.5mm, 4 pieces per column are required for mounting
614 3634 005 2	Variable back panel spacer adjustable between 20mm and 27.5mm, 4 pieces per column are required for mounting



Emergency call / information pillar wall version
Design example:
Verkehrsbetriebe Karlsruhe

- Art.-No. 641 0104 347 0
- Colour: red Pantone 200 u/c and blue Pantone 3015 u/c
 - Including hands-free kit IP-II



Basic equipment

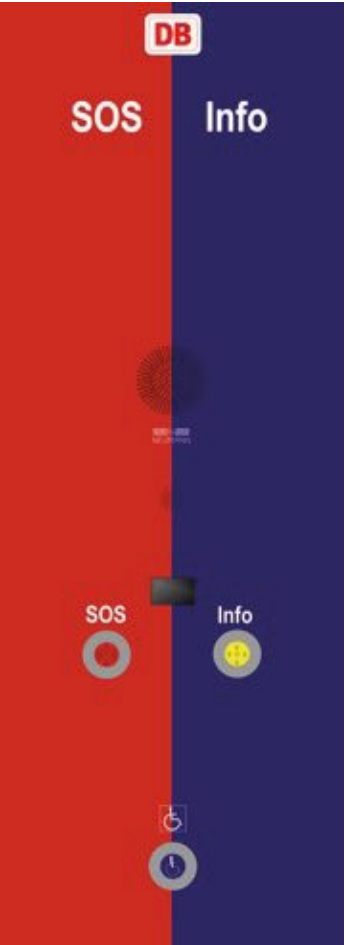
- Emergency call and info button
- Wheelchair button
- Operating failure display
- Loudspeaker, 2 microphones
- Complete wiring

Equipment options

- DS-22 SIP installation kit, with or without additional amplifier
- Analogue installation kit
- Customised colour selection and disability-friendly labelling

Mechanical data	
Weight	Approx. 40kg
Dimensions (H x W x D)	Electronics housing: approx. 380mm x 180mm x 90mm Housing power supply: approx. 385mm x 190mm x 180mm
Colour	<ul style="list-style-type: none">• As shown in the design examples• Optionally customised
Housing material	V2A stainless steel
Release	3 toggle switches
Reachable destinations	2
Connection signalling	Light ring signalling
Call readiness signalling	Optional
Printing	<ul style="list-style-type: none">• As shown in the design examples• Optionally customised• Optionally handicapped accessible with Braille or pyramid writing
Installation depths 1) Standard loudspeaker, microphone, push-button, operating failure indicator	35mm
Installation depths 1) Horn loudspeaker, microphone, push-button, operating failure indicator	100mm
Assembly	Integrated wall mounting
Electrical data	
All electrical and connectivity data are technology-dependent and can be found in the chapter on technologies.	
Environmental data	
Ambient temperature range	-20°C to +70°C
Protection class according to DIN EN 60529	IP65

Accessories	
4 891 2	Horn loudspeaker 4Ω
213 1120 010 1	Horn loudspeaker 45Ω



Emergency call / information built-in wall Design example:
Karlsruhe public transport company
DB PlusPunkt Deutsche Bahn AG

- Art.-No. 8 281 9
- Signal red (RAL3001) / midnight blue (RAL5022)
 - Including 30W additional amplifier for platform sound reinforcement
 - Hands-free kit not included in the delivery!
- Art.-No. 221 0408 241 4
- incl. hands-free kit “6-wire technology”
- Art.-No. 221 0208 241 2
- incl. hands-free kit “S0-DSS1 technology”

TIMM

Total Information ManageMent

TIMM enables a hierarchical structure of a system using an existing network - when pure serverless DS-6 solutions reach their limits. It links DS-6 systems, connects many standard systems and enables integration into existing systems, such as management systems (control centres).

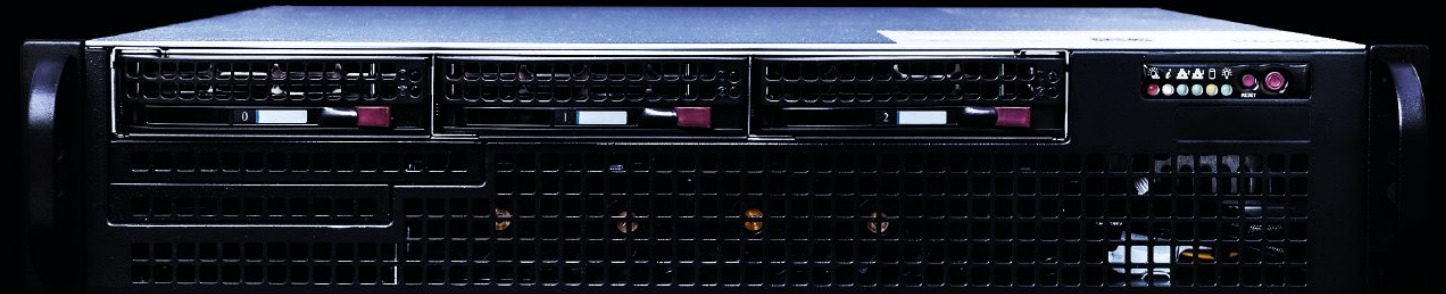
The integrated database enables central configuration, status signalling and logging, and central maintenance and diagnosis, also remotely. In addition to the database, intercom and telephone server cores are included, enabling comprehensive functions from both areas and their combinations. The components can be run redundantly.

TIMM is essentially software and contains various server cores for different basic applications. The server software is installed on the so-called ComServer and communicates either directly with standard IP terminals or systems and via gateways with special and non-IP systems.

For more information about the complete TIMM system, please contact us directly. The performance and function overview is too immense to list it in detail here. Therefore, we only show examples of the system.

The TIMM ComServer is an industrial computer that is available in three different hardware versions depending on its application. All variants provide the same performance in terms of software.

TIMM ComServer PRO

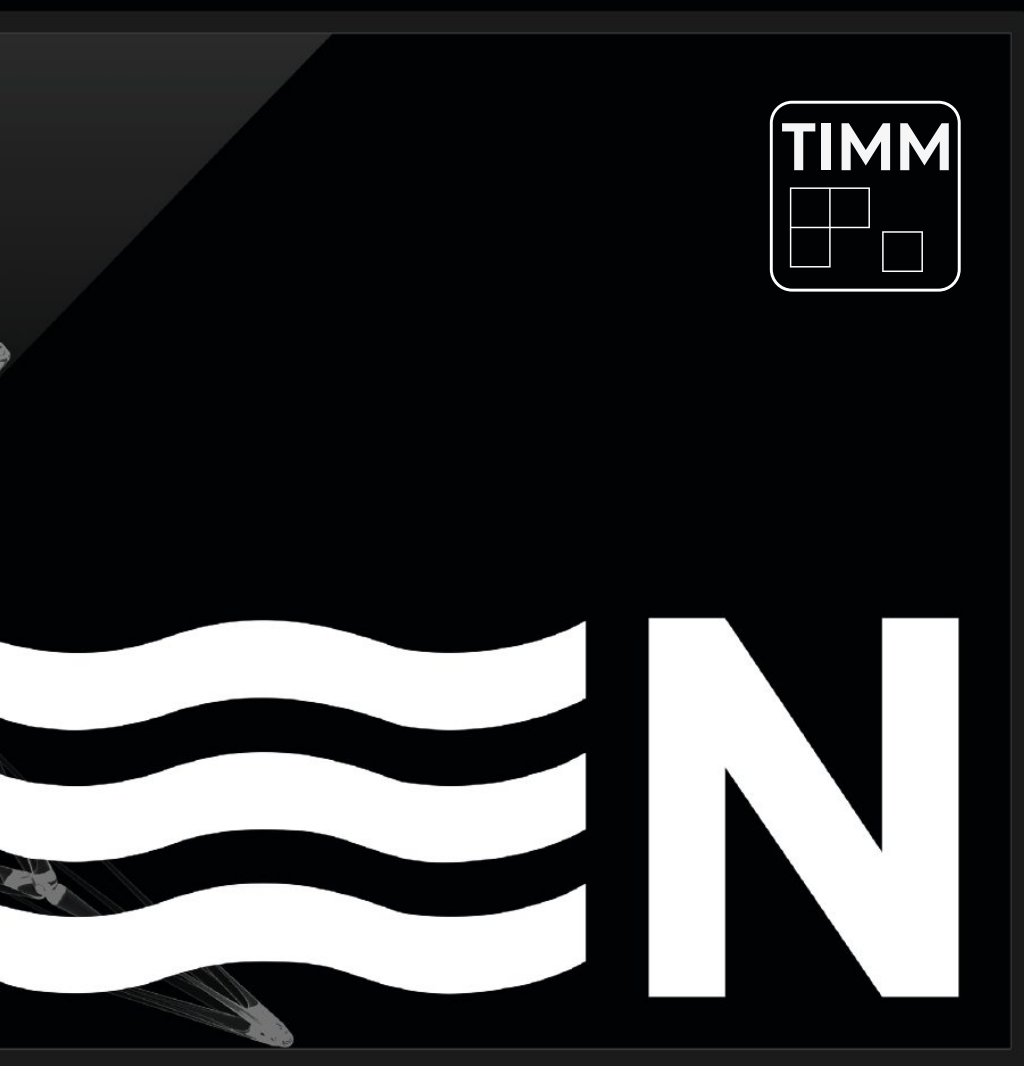


TIMM ComServer SMART

TIMM ComServer SMART contains various server cores for different basic applications. These include public address, intercom, telephony and control. The TIMM Intercom software for public address and intercom functions is installed on every TIMM ComServer SMART as standard.

In addition, further software packages can be installed if required. The TIMM ComServer SMART is designed for smaller systems with up to 50 participants.

The TIMM ComServer SMART is an industrial computer that is particularly suitable for 24/7 continuous use in alarm and evacuation systems with high security requirements. The TIMM ComServer SMART is designed as a compact module for horizontal or vertical mounting rail installation.



3 358 9	TIMM ComServer SMART
3 353 4	TIMM ComServer PRO
5 034 2	TIMM Emergency call Software
5 065 6	TIMM SIP Trunk
5 066 7	TIMM SNMP
5 068 9	TIMM MODBUS
5 096 0	TIMM Config
5 095 9	TIMM View
699 862 0	LTE Monitoring

The photos shown are for reference only, the actual product may differ.



**Detailed
information about
TIMM and the
accessories can
be found in Vol 3**



<https://neumann-elektronik.com/vol-3-en.pdf>

Communication techniques

DS-22 SIP Technology		
Connection	Network connection	
Feeding	Two-pair PoE according to IEEE 802.3bt Class 4, also called PoE+	Standard operation without optional additional components and throughput operation with onboard 7W amplifier
	Four-pair PoE according to IEEE 802.3bt Class 8, also called PoE++	Standard operation with optional additional components and flow-through operation with 100V technology
	Local feeding	DC 48V
	Mains node supply	DC 48V
	Optional mains supply	AC 230V
Reach	Until the next network node	up to 100m
	Optional 2-wire range extension point to point	up to 1000m
	Optional 2-wire range extension point to multipoint	up to 1000m
	Optional fibre optic multimode range extension	up to 3000m
	Optional fibre optic singlemode range extension	up to 15000m

LTE / UMTS / GSM radio technology		
Connection	Radio networks	
	LTE networks	700MHz, 800MHz, 900MHz, 1800MHz, 2100MHz,2600MHz
	UMTS networks	900MHz, 1800MHz, 2100MHz
	GSM networks	900MHz, 1800MHz
Feeding	Solar power supply	DC 12V
	Mains supply	AC 230V
	Local feeding	DC 12V
Solar module	DC 12V / 30W	
Energy storage	18Ah	

Analogue technology PBXs		
Connection	2-wire	
	2-wire with power supply Double	
	2-wire with power supply	
Feeding	Line feed from the PABX	
	Mains supply	AC 230V
	Local feeding	DC 24V
Reach		

6-wire technology (NES92) (EOL / redesign)		
Connection	At the MDK	
Feeding	Via the 3DA 0.8mm2 connection cable	
Reach	Point-to-point connection	16000m
	Point-to-multipoint connection (party line, 20 participants evenly distributed)	16000m

S0-DSS1 / ISDN technology (EOL)		
Connection	S0-DSS1 at the MDK	
Feeding	via the S0 line	
	Central supply	
	Local feeding	AC 230V
Reach	Point-to-point connection	up to 1000m
	Point-to-multipoint connection	up to 100m
Replacement	Analogue technology with use of the existing cable property. DS-22 SIP technology optionally with 2-wire modem to use the existing cable property. LTE / UMTS / GSM radio technology, possibly with solar power supply.	

IP II Technology			
Connection	Network connection		
Feeding	Mains supply	AC 230V	
	Mains node supply	DC 24V	
Reach	Until the next network node		up to 100m
	Optional 2-wire range extension point to point		up to 1000m
	Optional 2-wire range extension point to multipoint		up to 1000m
	Optional fibre optic multimode range extension		up to 3000m
	Optional fibre optic singlemode range extension		up to 15000m
Replacement	DS-22 SIP technology optionally with 2-wire modem for using the existing cable, but only up to 1000m line length, or optional fibre-optic modem with existing fibre-optic cable laying up to 3000m. LTE / UMTS / GSM radio technology, possibly with solar power supply.		

IP Technology (EOL)			
Connection	Network connection		
Feeding	Mains supply	AC 230V	
	Mains node supply	DC 48V	
Reach	To the next network node		up to 100m
	Optional 2-wire range extension point to point		up to 1000m
	Optional 2-wire range extension point to multipoint		up to 1000m
	Optional fibre optic multimode range extension		up to 3000m
	Optional fibre optic singlemode range extension		up to 15000m
Replacement	DS-22 SIP technology optionally with 2-wire modem for using the existing cable, but only up to 1000m line length, or optional fibre-optic modem with existing fibre-optic cable laying up to 3000m. LTE / UMTS / GSM radio technology, possibly with solar power supply.		

U-DSS1 / ISDN technology (EOL)		
Connection	U-DSS1 at the MDK	
Feeding	Via the U line	
	Central supply	
	Local feeding	AC 230V
Reach	Up to 7000m	
Replacement	Analogue technology with use of the existing cable property DS-22 SIP technology optionally with 2-wire modem for using the existing cable, but only up to 1000m line length, or optional fibre-optic modem with existing fibre-optic cable laying up to 3000m, or 15000m. LTE / UMTS / GSM radio technology, possibly with solar power supply.	

GSM (EOL)		
Connection	GSM radio network	
Feeding	Solar power supply	DC 28V
	Mains supply	AC 230V
	Local feeding	DC 24V
Solar module		
Energy storage	DC 12V / 15Ah	
Replacement	LTE / UMTS / GSM radio technology, possibly with solar power supply.	

GSM-R (EOL)	
Connection	GSM-R radio network
Feeding	AC 230V

Analogue technology 2-wire (public telephone network)	
Versionen	NRT80 FeAp86
Connection	Public telephone network
Feeding	Via the telephone line
Reach	
Replacement	Analogue technology with use of the existing cable property DS-22 SIP technology with 2-wire modem for use of existing cable, but only up to 1000m line length, or optional fibre-optic modem with existing fibre-optic cable laying up to 3000m. LTE / UMTS / GSM radio technology, if necessary with solar power supply.



The technology in detail

IP protection classes

According to DIN 40 050 / IEC / VDE 0470 / EN 60529.

The degrees of protection are identified by internationally valid abbreviations: a two-digit IP code number (International Protection) indicates the degree of protection of the enclosure against the ingress of foreign bodies, dust and water.

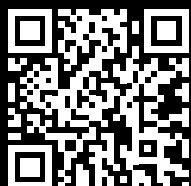
Example of a code number: IP65¹⁾.

First IP code number	Protection levels for contact and foreign body protection	Second IP code number	Degrees of protection for water protection
0	Unprotected	0	Unprotected
1	Protected against the penetration of large foreign bodies with a diameter greater than 50mm.	1	Protected against the penetration of vertically falling dripping water
2	Protected against the penetration of medium-sized foreign bodies with a diameter greater than 12mm	2	Protected against dripping water falling at an angle of up to 15° from the vertical.
3	Protected against the penetration of small foreign bodies with a diameter greater than 2.5mm.	3	Protected against water spray falling at any angle up to 60° from vertical
4	Protected against the penetration of tools, wires (granular foreign bodies) with a diameter greater than 1.0mm.	4	Protected against water splashing against the equipment from all directions.
5	Complete protection against contact with live or internal moving parts. Protection against harmful dust deposits. The ingress of dust is not completely prevented, but the dust must not penetrate in such quantities that the function is impaired.	5	Protected against water jets from a nozzle directed against the equipment from all directions.
6	Complete protection against contact with live or internal moving parts. Protection against ingress of dust.	6	Protected against strong jets of water or temporary flooding
		7	Protected against temporary immersion in water, under the specified pressure/time conditions of 0.15-m
		8	Protected against permanent immersion in water
		9K	Protected against water directed against the enclosure from any direction under high pressure/steam jet cleaning

1) If no IP degree of protection is specified, the letter X replaces the respective digit, e.g. IPX4.

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