VOL 3

Components & Accessories

NEUMANN

VOL 1	**Weatherproof call stations** neumann-elektronik.com/vol-1-en.pdf	
VOL 2	**Call stations** neumann-elektronik.com/vol-2-en.pdf	
VOL 3	**Components & Accessories** neumann-elektronik.com/vol-3-en.pdf	
VOL 4	**Loudspeakers** neumann-elektronik.com/vol-4-en.pdf	
VOL 5	**SOS pillars** neumann-elektronik.com/vol-5-en.pdf	
VOL 6	**Emergency call and information pillars** neumann-elektronik.com/vol-6-en.pdf	

NEW*

TIMM V3.0

More stability. More safety. More speed.

- Comprehensive security measures
- Advanced features
- Powerful hardware modules
- Also available as upgrade for existing DS-6 systems

*Previous version of software still available.

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).

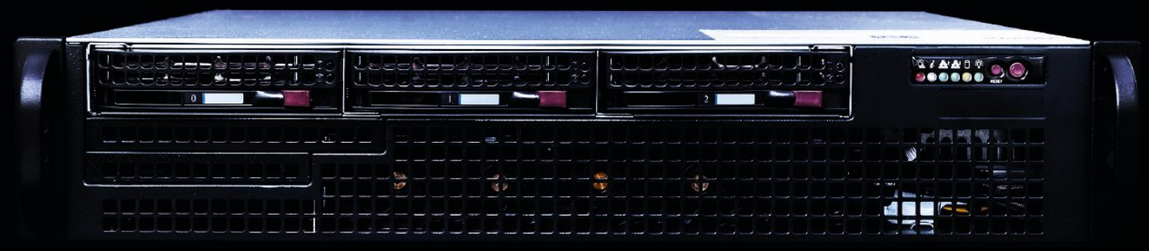
The integrated database enables central configuration, status signalling and logging, and central maintenance and diagnosis, also remotely. In addition to the database, intercom and telephone server cores are included, enabling comprehensive functions from both areas and their combinations. The components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

TIMM components

TIMM ComServer PRO / LIGHT / SMART

- 3x RJ-45 LAN interfaces (1 GBit/s LAN)[1)]
- Redundant power supply[1)]
- Redundant hard disk (RAID 1)[1)]
- Provision of different server services (depending on version)
- Basic server tasks: higher-level functions for intercom, PA and telephony (depending on version)
- Database-based (contains data on configuration, statuses and events)
- Local and remote service
- Programming of connected DS-6 systems
- Fault management via SNMP (depending on version)
- Version with server redundancy (depending on version)

The TIMM communication system 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 as standard.

The TIMM ComServer PRO is an industrial computer that is particularly suitable for use in alarm and evacuation systems with high security requirements. With 2 separately supplied redundant power supply units and a RAID system with 2 mirrored hard disks, it offers the highest level of operational and failure safety. For increased security requirements, the TIMM ComServer can also be designed as a redundant unit.

The TIMM ComServer is built into a 19-inch housing with two height units and an installation depth of 450mm. It is mounted on slide rails to support heavy plug-in units in a frame or cabinet with a minimum depth of 800mm and preferably asymmetrical swivel frames.

For smaller and medium-sized networks, the TIMM ComServer is also available in the LIGHT version (Max. 200 end points) and in the SMART version (Max. 50 end points).

3 35X X

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

TIMM components

TIMM ComServer PRO / LIGHT / SMART

	TIMM ComServer PRO incl. Intercom Software	TIMM ComServer LIGHT incl. Intercom Software	TIMM ComServer SMART incl. Intercom Software
	> 200 end points	Max. 200 end points	Max. 50 end points
Art. no.	3 353 4	3 352 3	3 358 9
Mechanical data			
Weight[1)]	Approx. 24kg	Approx. 10kg	Approx. 0.5kg
Housing dimensions	Width: 19“ ; Height: 2 U	Width: 19“ ; Height: 1U	39mm x 115mm x 107.5mm (HxWxD)[2)]
Mounting depth[1)]	450mm (Housing without connectors)	360mm (Housing without connectors)	150mm (19 inch built-in) (Housing without connectors)
Device data			
Processor[1)]	Intel Xeon	Intel Xeon	Intel J3160
Memory / RAM[1)]	≥ 4GB	≥ 4GB	≥ 8GB
Hard drives[1)]	2x redundant SSD with each ≥ 250GB (RAID 1)	1x SSD with 250GB	1x SSD with 120GB
Network interfaces[1)]	3x RJ-45 LAN interfaces (1GBit/s LAN)	2x RJ-45 LAN interfaces (1GBit/s LAN)	4x RJ-45 LAN interfaces (1GBit/s LAN)
Power supply			
Operating voltage[1)]	2x redundant AC 230V (-10% / +15%)	AC 230V (-10% / +15%)	AC 230V (-10% / +15%) (External power supply unit)
Nominal power consumption[1)]	2x 700W	350W	24W
Environmental conditions			
Permissible temperature range	+5...+40°C	+5...+40°C	+5...+40°C
Protection class according to DIN EN 60529, or IEC 60529	IP20	IP20	IP20

1) The values vary according to version and configuration
2) Horizontal or vertical mounting on TS35 mounting rail

Recommended accessories / TIMM ComServer SMART	
222 0103 358 6	Mounting plate for mounting up to 3 units in a 19“ mounting frame. Mounting depth: 115mm

TIMM ComServer Software	
5 600 1	TIMM Configuration Intercom per intercom line

TIMM ComServer additional software	
5 034 2	TIMM Telephone / Emergency call software
5 065 6	TIMM SIP Trunk software
5 066 7	TIMM SNMP software
5 068 9	TIMM Modbus interface software (Master / Slave)
5 067 8	TIMM Speechbox software
5 095 9	TIMM View Software
5 096 0	TIMM Config Software

TIMM components

TIMM MDK Gateway / TIMM analogue Gateway

- 3x RJ-45 LAN interfaces (1 GBit/s LAN)
- High operating and failure safety
- Fault management via SNMP in TIMM ComServer (depending on version)
- Version with server redundancy (depending on version)

The TIMM MDK / analogue Gateway connects subsystems such as MDK or analogue subsystems (e.g. MZV and MF) to the TIMM system.

In principle, the existing customer network can be used for communication solutions from Neumann Elektronik or third-party systems. Depending on the application, various gateway software packages are available. By default, the gateway control software is installed on every TIMM MDK / analogue Gateway.

The TIMM MDK / analogue Gateway is an industrial computer that is particularly suitable for use in alarm and evacuation systems with high safety requirements. The industrial computer offers a high level of operational and failure safety. For increased security requirements, the TIMM MDK / analogue Gateway can also be designed redundantly.

The TIMM DS-6 Gateway is built into a 19-inch housing with one height unit and an installation depth of 356mm. To connect MDK systems, a free port is also required on a DS-6 U_{k0} Adapter II (art. no. 3 334 3). Analogue subsystems are connected via a free port on a DS-6 analogue Adapter (art. no. 3 331 0) or with the DS-6 Plug-in unit, analogue (art. no. 2 390 4).

Art. no.	3 363 5
Mechanical data	
Weight[1)]	Approx. 10kg
Housing dimensions	Width: 19“ ; Height: 1U
Mounting depth	356mm (Housing without connectors)
Device data	
Memory / RAM[1)]	≥ 4GB
Hard disk[1)]	250GB SSD
Network interfaces	3x RJ-45 LAN interfaces (1GBit/s LAN)
Power supply	
Operating voltage	AC 230V (-10% / +15%)
Nominal power consumption[1)]	260W
Environmental conditions	
Permissible temperature range	+5...+40°C
Protection class according to DIN EN 60529, or IEC 60529	IP20

1) The values vary according to version and configuration.

3 363 5

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

TIMM components

TIMM / DS-6 NECOM Server

- 3x RJ-45 LAN interfaces (1GBit/s)
- High operating and failure safety
- Fault management via SNMP in TIMM ComServer (depending on version)
- Version with server redundancy (depending on version)

Management systems, also called SCADA (Supervisory Control and Data Acquisition) systems with HMI (Human Machine Interface) interface, are responsible for the control, monitoring and visualisation of complete industrial plants.

Today, data communication between the individual components of these systems is almost standardised via the TCP/IP protocol. All data acquisition is done via data points with input or output values. A simple TCP/IP interface is realised via the NECOM interface, which enables data exchange between the most diverse systems. At this point, the TIMM / DS-6 NECOM server, which is based on the Windows® operating system, is used.

The TIMM / DS-6 NECOM server is an industrial computer that is particularly suitable for use in alarm and evacuation systems with high safety requirements. The industrial computer offers a high level of operational safety and reliability.

Art. no.	3 374 7
Mechanical data	
Weight[1)]	Approx. 10kg
Housing dimensions	Width: 19“ ; Height: 1U
Mounting depth	356mm (Housing without connectors)
Device data	
Memory / RAM[1)]	≥ 4GB
Hard disk[1)]	250GB SSD
Network interfaces	3x RJ-45 LAN interfaces (1GBit/s LAN)
Power supply	
Operating voltage	AC 230V (-10% / +15%)
Nominal power consumption[1)]	260W
Environmental conditions	
Permissible temperature range	+5...+40°C
Protection class according to DIN EN 60529, or IEC 60529	IP20

1) The values vary according to version and configuration.

3 374 7

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

TIMM components

TIMM DS-6 Gateway

- 3x RJ-45 LAN interfaces (1GBit/s)
- Programming of connected DS-6 systems
- For connection of up to 250 DS-6 intercom subscribers
- Fault management via SNMP in TIMM ComServer (depending on version)
- Version with server redundancy (depending on version)

The TIMM DS-6 Gateway connects the DS-6 subsystem to the TIMM system. For communication solutions from Neumannn Elektronik, the existing customer network (must be checked if necessary) can be used.

Depending on the application, different gateway software packages are available. By default, the gateway control software is already installed on the TIMM DS-6 Gateway. A special feature is the automatic programming function of the connected DS-6 system. The TIMM DS-6 Gateway receives all data from the TIMM ComServer database and programs all DS-6 units. Should the TIMM DS-6 Gateway or the customer network fail, all DS-6 applications can continue to be made available.

The TIMM DS-6 Gateway is an industrial computer that is particularly suitable for use in alarm and evacuation systems with high safety requirements. The industrial computer offers a high level of operational and failure safety. For increased safety requirements, the TIMM DS-6 Gateway can also be designed redundantly. The TIMM DS-6 Gateway is installed in a 19 inch housing with one height unit and a mounting depth of 356mm.

TIMM DS-6 Gateway additional software	
5 067 8	TIMM Speechbox / Setup of 8 speech-boxes per gateway

Art. no.	3 348 8
Mechanical data	
Weight[1)]	Approx. 10kg
Housing dimensions	Width: 19“ ; Height: 1U
Mounting depth	356mm (Housing without connectors)
Device data	
Memory / RAM[1)]	≥ 4GB
Hard disk[1)]	250GB SSD
Network interfaces	3x RJ-45 LAN interfaces (1GBit/s LAN)
Power supply	
Operating voltage	AC 230V (-10% / +15%)
Nominal power consumption[1)]	260W
Environmental conditions	
Permissible temperature range	+5...+40°C
Protection class according to DIN EN 60529, or IEC 60529	IP20

1) The values vary according to version and configuration.

3 348 8

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

TIMM components

TIMM CANopen Gateway

- 1 Ethernet interface with LED for displaying the communication status
- 1 CAN interface with LED for displaying the communication status1 LED for power supply
- 1 CPU LED for the status of the firmware
- Transmission of monitoring and status messages from DS-6 units to the CAN management system
- Transmission of commands from the CAN management system to DS-6 units

The TIMM CANopen Gateway provides easy and flexible access to CAN systems and thus offers the possibility to integrate the TIMM system into existing management systems.

Thus, the TIMM system with all its subsystems and transmission paths is monitored with the customer‘s existing hardware and software. The software required for CANopen control is installed on every TIMM CANopen gateway as standard.

Art. no.	3 373 6
Mechanical data	
Weight	Approx. 150g
Housing dimensions (HxWxD)	Top-hat rail housing 22,5mm x 100mm x 115mm
Technical data	
Fieldbus interface	1x CAN according to ISO 11898-2
Others Interfaces	1x 10/100Mbit/s Ethernet, Auto Negotiation, Auto Crossover, RJ45 Connector
Power supply	DC 9-32V, 3W
Environmental conditions	
Permissible temperature range	-20...+70°C

3 373 6

TIMM components

TIMM / DS-6 Multi Audio Server 16 Channel

- 3x RJ-45 LAN interfaces (1GBit/s)
- Redundant power supply
- Support of up to 16 channels
- Local and remote service
- Design with server redundancy (depending on version)

The TIMM Multi Audio Server 16 Channel is designed to play existing sound or music files in Mp3 format at TIMM /DS-6 systems. A total of 16 different sound files can be output to different destinations at the same time.

The sequence of the files is organised in play lists and provided with destinations. The time sequence of the programme is visible on a status page. The TIMM Multi Audio Server is installed in a 19 inch case with two height units and a depth of 450mm. It is mounted on slide rails to support heavy slide-in units in a frame or cabinet with a minimum depth of 800mm and preferably asymmetrical swing frames.

3 369 1

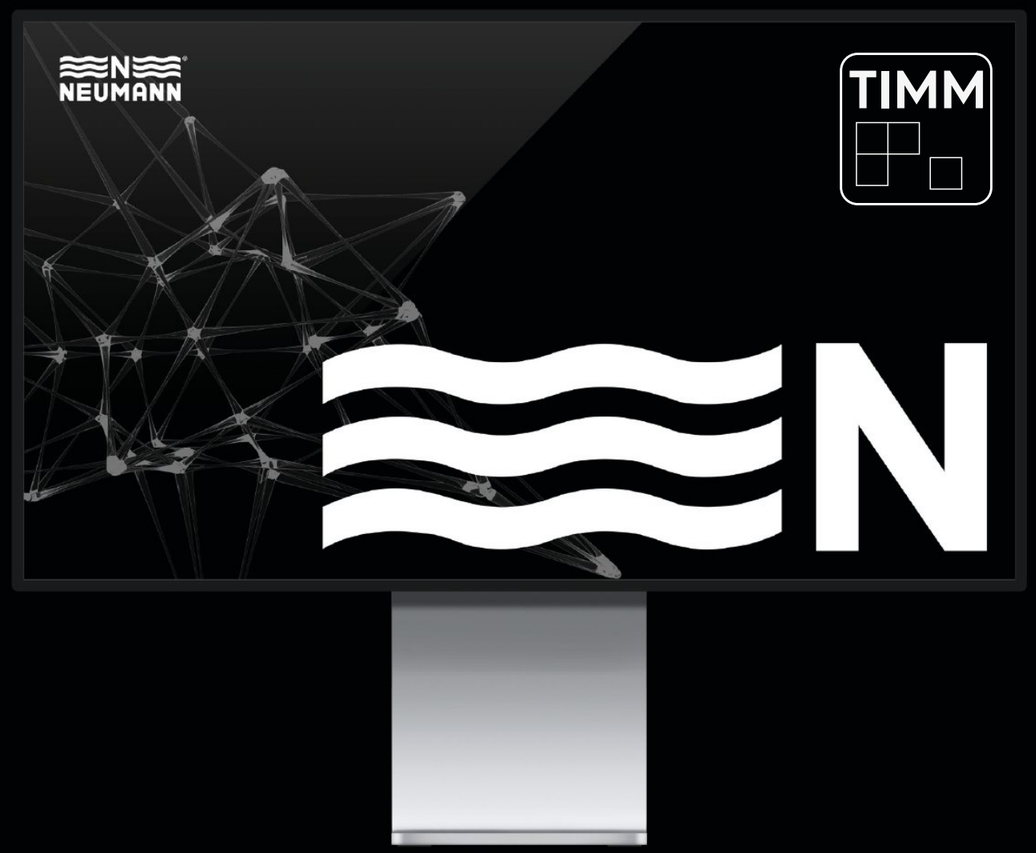
The photos shown are for reference only, the actual product may differ.

TIMM components

TIMM / DS-6 Multi Audio Server 16 Channel

Art. no.	3 369 1
Mechanical data	
Weight	Approx. 23kg
Housing dimensions	Width: 19“ ; Height: 2 U
Mounting depth	450mm (Housing without connectors)
Device data	
Processor	Intel Xeon
Memory / RAM	≥ 4GB
Hard disk	250GB SSD
Network interfaces	3x RJ-45 LAN Interfaces (1GBit/s LAN)
Power supply	
Operating voltage	2x redundant AC 230V (-10% / +15%)
Nominal power consumption	2x 700W
Environmental conditions	
Permissible temperature range	+5...+40°C
Protection class according to DIN EN 60529, or IEC 60529	IP20

TIMM DS-6 Gateway additional software	
5 067 8	TIMM Speechbox / Setup of 8 speech-boxes per gateway



TIMM ComServer additional software

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

TIMM ComServer additional software

TIMM Telephone / Emergency call

The TIMM Telephone / Emergency call software is an additional software package to the TIMM ComServer and connects IP subscribers, such as IP telephones, IP emergency call and information pillars, as well as IP hands-free units to the TIMM system.

The IP protocol SIP is supported by default. With additional gateways, the integration of analogue and digital telecommunication systems into TIMM can also be realised with this software. For the connection of digital telephone systems, the optional software package (art. no. 5 065 6) TIMM SIP TRUNK is required.

The software creates connections between different communication systems, such as 2 way intercom / PAGA, as well as emergency call and public address systems, and the integration of already existing systems, such as management or control desk systems. TIMM thus offers universal communication in industrial, alarm and evacuation systems.

TIMM Telephone / Emergency call	
5 034 2	TIMM Telephone / Emergency call software

TIMM SIP-Trunk

The TIMM SIP Trunk software is an additional software package to the TIMM ComServer and is required for the connection of IP PBX telephone systems. IP PBX stands for Internet Protocol Private Branch Exchange.

IP PBX telephone systems are largely software-based internal company telephone networks that use the Internet Protocol for communication and provide some of the familiar services of previous telecommunications systems.

The TIMM SIP Trunk software enables the TIMM ComServer to communicate with IP PBX telephone systems via the SIP Trunk protocol. 5 034 2 TIMM Telephone / Emergency Call software is required to achieve full telephony capability including end users.

TIMM SIP-Trunk	
5 065 6	TIMM SIP-Trunk software

TIMM SNMP

The TIMM SNMP software is an additional software package to the TIMM ComServer and is required for fault management. The uniform and now standardised protocol called SNMP Simple Network Management Protocol is used to forward faults to management systems that are not part of the TIMM system.

This protocol is used for communication between the TIMM ComServer and the computer of the management system. For this purpose, a database MIB Management Information Base with all faults in the TIMM system and the additional integrated systems is stored and constantly updated on the TIMM ComServer. The management system can access this database and visualise the faults.

TIMM SNMP	
5 066 7	TIMM SNMP software

TIMM ComServer additional software

TIMM MODBUS

The TIMM MODBUS software is an additional software package to the TIMM / DS-6 Gateway and is required for communication via MODBUS.

Modbus is more than just an industrial protocol. It is also found in areas such as security, energy, transport and other types of automation. Its simple configuration and use make it flexible for all these scenarios and more.

Using MODBUS, the TIMM server can be connected as a MODBUS slave to a MODBUS master or as a MODBUS master to a MODBUS slave, e.g. a measurement and control system, or send status messages to a higher-level control system. The TIMM/DS-6 system can also be controlled via MODBUS.

TIMM MODBUS	
5 068 9	TIMM MODBUS software

TIMM Speechbox

Speech-boxes are software-based memories that can be spoken and output by the user himself.

This technology can be realised with the TIMM Speechbox software programme. The software is installed and configured on the TIMM / DS-6 gateway by the manufacturer. Up to eight speech-boxes can be set up on each TIMM / DS-6 gateway.

The TIMM Speechbox software can be used by appropriately configured DS-6 microphone units. Theoretically, speechbox operation can be used from any DS-6 call station, but since at least four buttons are required for control, and these buttons are therefore no longer available as destination buttons, it is recommended to use MTSD DS-6 Multifunctional Desktop Stations or DS-6 PC Stations for speechbox operation.

TIMM Speechbox	
5 067 8	TIMM Speechbox software

TIMM Config

TIMM Config is designed to configure TIMM systems.
The main functions are:
- **Import of an existing database from the ComServer of the TIMM system**
- **Offline editing of the TIMM database**
- **Import of a configuration list with key and group definitions created in the „DS-6 Config“ programme**
- **Automatic maintenance of the „Connection“ and „Connections-lines“ tables.**
- **Import the modified and saved database back online on the TIMM ComServer**

Requirements:
- **A commercially available PC (Microsoft Windows XP or higher) is required**
- **2-day configuration training required**

TIMM Config	
5 096 0	TIMM Config software

TIMM ComServer additional software

TIMM View

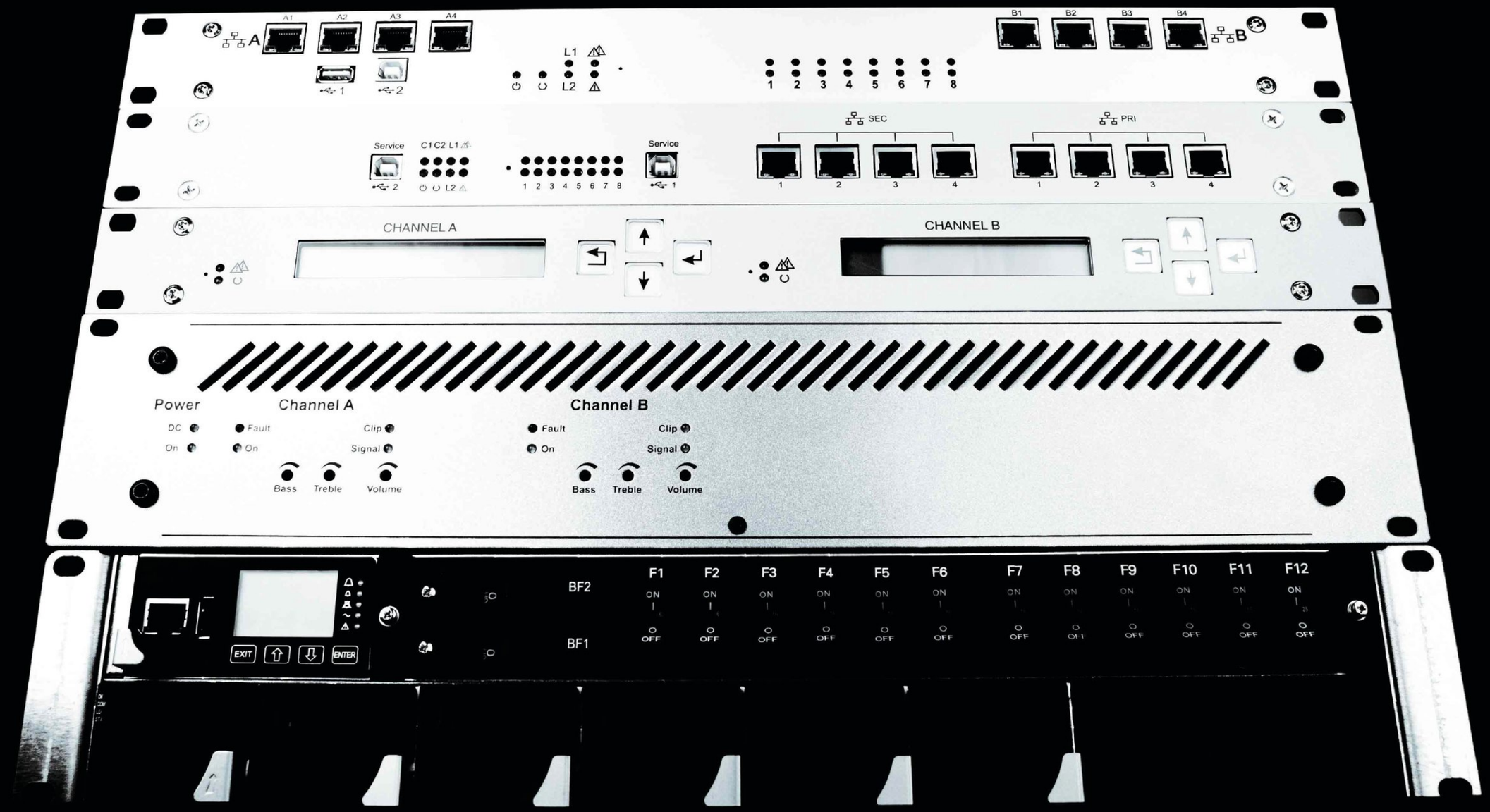
TIMM View is designed to monitor the fault messages in the entire TIMM system.

The web-based programme offers the customer fault management without the need for a customer‘s own SNMP management system. With TIMM View, the customer has a clear monitoring tool that graphically displays the fault messages of the TIMM system via a WEB browser (e.g. Mozilla Firefox).

The software is installed on the TIMM ComServer. TIMM View (art. No. 5 095 9) contains the tabular display of the fault management.

Requirements:
- **A standard PC (Microsoft Windows XP or higher) is required**
- **Web browser required: Mozilla Firefox (version 3.6.12 or higher) or Internet Explorer (version 6 or higher).**

TIMM View	
5 095 9	TIMM View - tabular display software



DS-6

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

The decentralised communication network. Thanks to the serverless design, just two components, connected via a single patch cable, form a DS-6 network.

DS-6 Adapter

DS-6 Audio Device with eight parallel channels and up to 254 audio files

https://neumann-elektronik.com/ds-6-audio-device

- Eight parallel channels can be used individually and without blocking
- Up to 254 audio files can be addressed
- Redundant network operation
- Up to 240 minutes recording capacity
- Manual recording of up to 8 audio files
- Configurable in the DS-6 network via TIMM Config or on the unit via USB
- Audio files can be retrieved with any configured unit in the DS-6 network or in a higher-level TIMM network
- Fault alarm switch-over contact

The DS-6 Audio Device serves as a voice or sound memory within the decentralised, serverless DS-6 communication system.

Up to 254 audio files, e.g. texts for announcements or sounds for alarms, can be stored in a total of eight parallel channels in the DS-6 Audio Device and retrieved by any appropriately configured device in the DS-6 network.

A standard SD card used in the DS-6 Audio Device supports up to 240 min. audio capacity at a sample rate of 24kHz. To ensure the greatest possible flexibility, all eight cables share this memory.

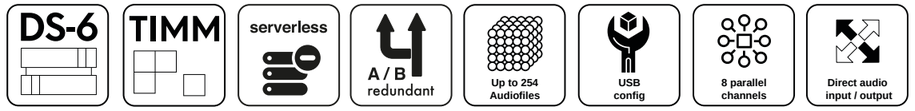
The audio output can be made both to microphone units in communication networks and via loudspeakers in pure public address systems. The audio files are stored inside the unit. The audio files can be transferred to the DS-6 Audio Device via the DS-6 network or discussed via a selected microphone unit in the DS-6 network. The DS-6 Audio Device has two Ethernet ports for redundant network setup.

3 329 7

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

DS-6 Adapter

DS-6 Audio Device with eight parallel channels and up to 254 audio files



Art. no.	3 329 7
Mechanical data	
Weight	Approx. 3kg
Installation / Housing dimensions	Width: 19“ ; Height: 1U / (HxWxD) 43mm x 483mm x 284mm
Mounting depth	284mm (Housing without connectors)
Technical data	
Frequency range	300Hz…12kHz
Number of channels	8
Addressable audio files	Up to 254
Audio capacity (total)	Up to 240min. at 24kHz sampling frequency
LAN interfaces	2x (redundant 2x 1)
IP hardware interface	LAN: 100-BASE-T Autonegotiation Ethernet according to IEEE 802.3u (100Mbit/s)
Transmission protocol	Neumann-DS-6-Protocol
Power supply	
Operating voltage range	DC 48V (-10% / +15%) / optional DC 60V (-10% / +15%)
Current consumption at DC 48V without call station power supply	Approx. 300mA
Environmental conditions	
Permissible temperature range	+5...+40°C
Protection class according to DIN EN 60529, or IEC 60529	IP20

Accessories	
5 096 0	TIMM Config / TIMM Configuration intercom software
21 9 3209 049 3	Stabilisation in built-in or swivel frame for 19 inch units

DS-6 Adapter

DS-6 analogue Adapter II, 8-fold optional connection to burglar alarm and fire alarm systems and provision of alarm contacts

NEW

https://neumann-elektronik.com/ds-6-analog-adapter-8fach/

- Configurable via serial interface
- Fuse monitoring
- Operating voltage monitoring for analogue adapters
- Operating voltage monitoring for line circuit and call stations power supply
- Call station operating current monitoring
- Temperature monitoring
- Watchdog
- Input impedance and output impedance switchable
- Operating mode configurable separately for each component port
- Special operating modes possible e.g. call stations with up to 32 lines connectible
- 2 fault signal change-over contacts
- Galvanic separated line / control lines
- Operating mode can be configured separately for each component port
- c-Point control and line voltage can be configured inside the unit via jumpers

The DS-6 analogue Adapter II is used to connect analogue call stations, amplifiers and other analogue components to the DS-6 decentralised communication system.

The DS-6 analogue Adapter II offers the possibility to connect eight call stations or eight amplifiers for a maximum of four loudspeaker circuits each. It is also possible to connect any combination of call stations, amplifiers and analogue components.

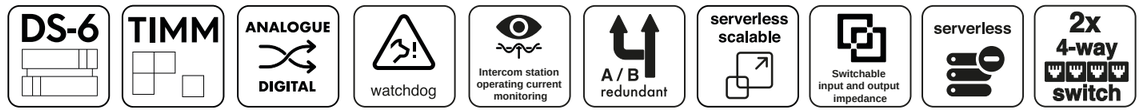
Two redundant switches are integrated in the DS-6 analogue Adapter II, with which the eight analogue subscribers are interconnected. As a single device, the analogue Adapter thus already forms a small network node for eight analogue subscribers. In addition, each switch has four Ethernet ports for redundant network construction and for redundant cascading of the units.

3 341 1

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

DS-6 Adapter

DS-6 analogue Adapter II, 8-fold optional connection to burglar alarm and fire alarm systems and provision of alarm contacts

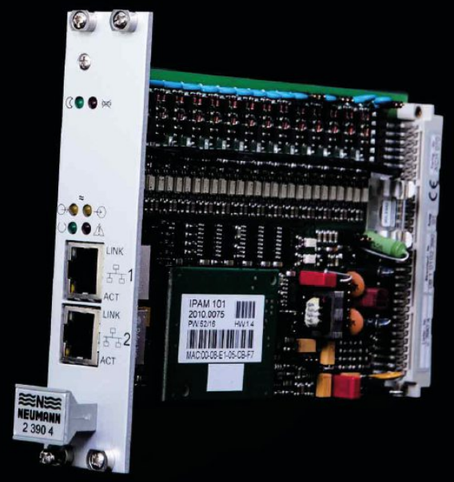


Art. no.	3 341 1
Adjustable line voltage	Approx. 4V
Mechanical data	
Weight	Approx. 4.1kg
Installation / Housing dimensions	Width: 19“ ; Height: 1U / (HxWxD) 43mm x 483mm x 284mm
Mounting depth	284mm (Housing without connectors)
Technical data	
Frequency range	100Hz…12kHz
Number of channels	8
LAN interfaces	2x (redundant 2x 1)
IP hardware interface	LAN: 100-BASE-T Autonegotiation Ethernet: Ethernet according to IEEE 802.3u (100Mbit/s)
Transmission protocol	Analogue / Neumann-DS-6-Protocol
Power supply	
Operating voltage range	DC 48V (-10% / +15%) / optional DC 60V (-10% / +15%)
Current consumption at DC 48V without line and call station power supply	Approx. 400mA
Call station supply current	Max. 1.25A per call station
Line load capacity (Max. current that may be drawn across a line)	90mA
Environmental conditions	
Permissible temperature range	+5...+40°C
Protection class according to DIN EN 60529, resp. IEC 60529	IP20

Accessories	
219 3209 049 3	Stabilisation in built-in or swivel frame for 19 inch units
221 6003 331 1	LPBG diode line ds-6 analogue adapter to adjust the line voltage for old call stations and long lines
1 75X X	MTSA / Multifunctional desk call station (8-16-24-32 keys)
1 58X X	WFA / Weatherproof call station analogue version (2-4-6 lines)
1 57X X	WFA-EX / Weatherproof call station explosion-proof analogue version (2-4-6 lines)

DS-6 Adapter

DS-6 Plug-in unit, analogue



https://neumann-elektronik.com/ds-6-anschalteinschub-analogue

- Full compatibility with DS-6 and TIMM system
- 96-pole connector strip according to DIN 41612 type C
- Front panel contains 2x RJ45 sockets and 6+4 LEDs
- Call station operating current monitoring
- Fuse monitoring
- Temperature monitoring
- Operating mode separately configurable for component port
- Galvanic isolated line / control lines
- Watchdog
- Input impedance and output impedance switchable
- c-Point control and line voltage in the unit always configurable via jumper
- Switchable volume reduction e.g. for night operation

The DS-6 plug-in unit serves as an adapter/interface for connecting analogue call stations, amplifiers and other analogue terminals to the DS-6 decentralised communication system.

The plug-in unit offers the possibility of connecting a call station or an amplifier for a maximum of four loudspeaker circuits. The optional DS-6 backplane is designed for four analogue DS-6 plug-in units and has four USB-A sockets to accept USB sticks on which alarm tones or announcement texts can be stored.

2 390 4

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

DS-6 Adapter

DS-6 Plug-in unit, analogue

Art. no.	2 390 4
Mechanical data	
Weight	Approx. 210g
Housing dimensions	Width: 6HP ; Height: 3U
Mounting depth	160.17mm (Eurocard format without connector)
Technical data	
Frequency range	300Hz…12kHz
Line level	0dB / 775mV
Line lengths analogue interfaces	Max. 3km with twisted sym. copper twin wire with 0.8mm Ø
Input impedance	Ri = 600R or 10K (configurable)
Output impedance	Ri = 600R or 100R (configurable)
IP hardware interface	LAN: 100-BASE-T Autonegotiation Ethernet according to IEEE 802.3u
Transmission protocol	Analogue / Neumann-DS-6-Protocol
Power supply	
Operating voltage range	DC 5V, DC 48V
Current consumption at DC 48V without line and call station power supply	Approx. 600mA
Call station supply current	Max. 1.25A per call station
Line load capacity (Max. current that may be drawn across a line)	90mA
Environmental conditions	
Permissible temperature range	+5...+40°C
Protection class according to DIN EN 60529, resp. IEC 60529	IP20

Accessories	
221 5102 390 5	DS-6 Backplane • Can be installed in 19“ 3U rack according to DIN EN 60297-3-101, or IEC 60297-3 • Interfaces for four analogue DS-6 plug-in units • Four USB interfaces for programmable voice memory sticks
2 184 3	DC / DC converter plug-in unit UE = 48V UA = 5V / 6A - 12V / 2A
3 331 0	DS-6 analogue Adapter 8-fold. The DS-6 analogue Adapter serves as an Adapter or interface for connecting up to eight analogue call stations to the DS-6 decentralised communication system.
1 75X X	MTSA / Multifunctional desk call station (8-16-24-32 keys)
1 58X X	WFA / Weatherproof call station analogue version (2-4-6 lines)
1 57X X	WFA-EX / Weatherproof call station explosion-proof analogue version (2-4-6 lines)
	As well as other Neumann Elektronik products that have an analogue interface. A compact overview of the connection possibilities can be found in the DS-6 module overview.

DS-6 Adapter

DS-6 U_{k0} II Adapter
8 Ports

https://neumann-elektronik.com/ds-6-uk0-Adapter-ii

- IP Adapter for digital call stations
- Serverless operation even with cascaded configuration
- Up to 8 digital call stations without additional power supply
- with cable lengths of up to 6km (with 2-wire technology)
- Two redundant 4-fold switches for connecting the 8 U_{k0} subscribers.
- Four Ethernet ports for redundant network configuration and for redundant cascading of the units
- Can be operated in DS-6 network and in TIMM
- Fuse monitoring
- Temperature monitoring
- Watchdog
- Operating mode can be configured separately for each component port
- Front panel contains 8x RJ45 LAN sockets, 2x USB service sockets, 16x U_{k0} status LEDs and 8x device status LEDs
- Rear panel contains 8x RJ45 U_{k0} sockets, 2 fault alarm contacts, 9 fuses and the connection terminals for the power supply

The DS-6 U_{k0} Adapter II serves as an Adapter or interface for connecting digital U_{k0} call stations to the DS-6 decentralised communication system.

A total of eight digital call stations can be connected with cable lengths of up to 6km without additional power supply. Two redundant 4-way switches are integrated in the DS-6 U_{k0} Adapter II for connecting the eight U_{k0} subscribers to the DS-6 network.

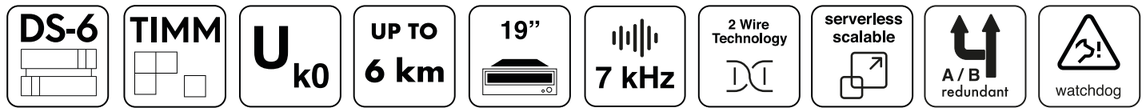
As a single device, the U_{k0} Adapter II already forms a small network node for eight digital U_{k0} participants without additional amplifiers. In addition, each switch has four Ethernet ports for redundant network construction and for redundant cascading of the devices.

3 334 3

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

DS-6 Adapter

DS-6 U_{k0} II Adapter
8 Ports



Art. no.	3 334 3
Mechanical data	
Weight	Approx. 3.5kg
Installation / Housing dimensions	Width: 19“ ; Height: 1U / (HxWxD) 43mm x 483mm x 284mm
Mounting depth	284mm (Housing without connectors)
Technical data	
Frequency range	300Hz…7kHz
Line coding	2B1Q
Line lengths	Max. 3km with twisted pair copper wire with 0.4mm Ø Max. 5km with twisted pair copper wire with 0.6mm Ø Max. 6km with twisted pair copper wire with 0.8mm Ø No terminating resistors required!
LAN interfaces	8 (redundant 2x 4)
IP hardware interface	LAN: 100-BASE-T Autonegotiation Ethernet according to IEEE 802.3u (100Mbit/s)
Transmission protocol	Neumann U_{k0} Protocol
Power supply	
Operating voltage range	DC 48V (-10% / +15%) / optional DC 60V (-10% / +15%)
Current consumption at DC 48V without line and call station power supply	Approx. 300mA
Call station supply current	Max. 1,25A per call station
Line load capacity (Max. current that may be drawn across a line)	90mA
Environmental conditions	
Permissible temperature range	+5...+40°C
Protection class according to DIN EN 60529, resp. IEC 60529	IP20

Accessories	
219 3209 049 3	Stabilisation in built-in or swivel frame for 19“ units
1 5XX X	WFD U_{k0}. Weatherproof digital U_{k0} call stations (each according to version 2-4-6 speech keys + keypad)
1 5XX X	WFD U_{k0} EX. Weatherproof U_{k0} call station explosion-proof version (each according to version 2-4-6 lines)
1 84X X	MTSD U_{k0} Desk call station (8 keys)
	As well as other Neumann Elektronik products that have a U_{k0} interface. A compact overview of the connection possibilities can be found in the DS-6 module overview.
5 096 0	TIMM Config / TIMM Configuration intercom software
3 35X X	TIMM ComServer

DS-6 Adapter

DS-6 U_{p0} Adapter
8 Ports

https://neumann-elektronik.com/ds-6-up0-Adapter

- IP Adapter for digital call stations
- Serverless operation even with cascaded configuration
- Up to 8 digital call stations without additional power supply with cable lengths of up to 2km (with 2-wire technology)
- Two redundant 4-way switches for connecting the 8 U_{p0} subscribers
- Four Ethernet ports for redundant network configuration and for redundant cascading of the units
- Can be operated in the DS-6 network and in TIMM
- Fuse monitoring
- Temperature monitoring
- Watchdog
- Operating mode can be configured separately for each component port
- Front panel contains 8x RJ45 LAN sockets, 2x USB service sockets, 16x U_{p0} status LEDs and 8x unit status LEDs
- Rear panel contains 8x RJ45 U_{p0} sockets, 2 fault alarm contacts, 9 fuses and the connection terminals for the power supply

The DS-6 U_{p0} Adapter serves as an Adapter or interface for connecting digital U_{p0} call stations to the DS-6 decentralised communication system.

A total of eight digital call stations can be connected with cable lengths of up to 2km without additional power supply.

Two redundant 4-fold switches are integrated in the DS-6 U_{p0} Adapter for connecting the eight U_{p0} subscribers to the DS-6 network. As a single device, the U_{p0} Adapter already forms a small network node for eight digital U_{p0} participants without additional amplifiers.

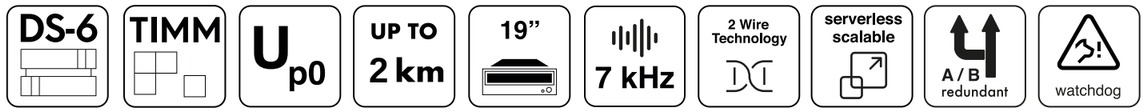
In addition, each switch has four Ethernet ports for redundant network construction and for redundant cascading of the devices.

3 338 7

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

DS-6 Adapter

DS-6 U_{p0} Adapter
8 Ports



Art. no.	3 338 7
Mechanical data	
Weight	Approx. 3.5kg
Installation / Housing dimensions	Width: 19“ ; Height: 1U / (HxWxD) 43mm x 483mm x 284mm
Mounting depth	284mm (Housing without connectors)
Technical data	
Frequency range	300Hz…7kHz
Line lengths	Max. 1km with twisted pair copper wire with 0.4mm Ø Max. 1.5km with twisted pair copper wire with 0.6mm Ø Max. 2km with twisted pair copper wire with 0.8mm Ø No terminating resistors required!
LAN interfaces	8 (redundant 2x 4)
IP hardware interface	LAN: 100-BASE-T Autonegotiation Ethernet according to IEEE 802.3u (100Mbit/s)
Transmission protocol	Neumann U_{p0} Protocol
Power supply	
Operating voltage range	DC 48V (-10% / +15%) / optional DC 60V (-10% / +15%)
Current consumption at DC 48V without line and call station power supply	Approx. 300mA
Call station supply current	Max. 1,25A per call station
Line load capacity (Max. current that may be drawn across a line)	90mA
Environmental conditions	
Permissible temperature range	+5...+40°C
Protection class according to DIN EN 60529, resp. IEC 60529	IP20

Accessories	
219 3209 049 3	Stabilisation in built-in or swivel frame for 19“ units
1 5XX X	WFD U_{p0}. Weatherproof digital U_{p0} call stations (each according to version 2-4-6-8-10 speech keys + keypad).
1 8XX X	MTSD U_{p0} Desk call station (8-16-32 keys)
	As well as other Neumann Elektronik products that have an U_{p0} interface. A compact overview of the connection possibilities can be found in the DS-6 module overview.
5 096 0	TIMM Config / TIMM Configuration intercom software
3 35X X	TIMM ComServer

DS-6 Adapter

DS-6 D/A Range extension up to 6km line length

https://neumann-elektronik.com/ds-6-d-a-reichweitenverlaengerung

- Line length up to 6km with line monitoring
- Phantom power supply / local power supply of the terminals
- Transformer-balanced output (600 Ω)
- Minimum power consumption (typically 3W)
- Terminal equipment / amplifier monitoring by:
  - Potential-free fault signal input
  - Potential-free amplifier switch-on contact
- Weatherproof housing with cable glands
- Suitable for indoor and outdoor use
- Protection class IP65

The DS-6 D/A range extender is used in the DS-6 decentralised PA system as well as in the higher-level TIMM system. It enables a monitored control of an amplifier with a loudspeaker circuit over a distance of up to 6 kilometres to the DS-6 node.

For universal use, several supply options are available for the DS-6 D/A range extender. The standard connection of the DS-6 D/A range extender is via a local power supply, in the immediate vicinity or via the amplifier. In addition, the DS-6 D/A range extender can be supplied directly via the DS-6 mains node.

Phantom powering (two-wire operation) for shorter distances is also provided. With phantom powering, the DS-6 range extender can be powered directly via the U_{k0} connection line, so no additional power supply is required. A potential-free fault signal input can be used to monitor connected amplifiers for failure, and these fault signals can be forwarded via the DS-6 or TIMM system.

For industrial operation, the board provides a potential-free line/contact for switching on the connected amplifier. The DS-6 D/A range extender requires a free U_{k0} port on the DS-6 U_{k0} II Adapter.

4 180 3

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

DS-6 Adapter

DS-6 D/A Range extension up to 6km line length

DS-6 | TIMM | U_{k0} | UP TO 6 km | 2 Wire Technology | PA control compatible | IP65 | ultra compact

Art. no.	4 180 3
Mechanical data	
Weight	Approx. 800g
Housing dimensions	(HxWxD) 220mm x 145mm x 57mm
Technical data	
Frequency range	300Hz…7kHz
Line coding	2B1Q
Audio output level	0dBm or 775mV at 600Ω
Max. Audio output level	Approx. 8dBm or 1.9V at 600Ω
Output impedance	600Ω
Power supply	
Operating voltage range	Local supply DC 24V ... DC 60V (-10 / +15%) / over U_{k0} Adapter DC 48V ... DC 60V (-10 / +15%)
Nominal power consumption	3W
Maximum power consumption	6W
Potential-free fault signal input	DC 24V … DC 60V (-10 / +15%)
Potential-free amplifier switch-on contact	Max. DC 60V, 0.1A
Environmental conditions	
Permissible temperature range	-20...+70°C
Protection class according to DIN EN 60529, resp. IEC 60529	IP65

Accessories		
3 334 3	U_{k0} Adapter II. The DS-6 U_{k0} Adapter II for connecting digital U_{k0} call stations or D/A range extensions to the DS-6 decentralised communication system.	
1 570 3	Universal amplifier 25W	
4 150 0	Compact amplifier 50W	
4 160 1	Compact amplifier 100W	
4 172 4	Class-D technology amplifier 250W	
4 171 3	Class-D technology amplifier 2x 250W	
	The following loudspeakers in 100V technology can only be used in combination with the above amplifiers	
4 805 7	Diffusers 6W / 100V	
4 803 5	Horn loudspeakers 25W / 100V	
4 920 5	Horn loudspeakers 10W / 100V	certified EN 54-24
4 921 6	Horn loudspeakers 15W / 100V	zertifiziert EN 54-24
4 922 7	Horn loudspeakers 20W / 100V	zertifiziert EN 54-24
4 923 8	Horn loudspeakers 25W / 100V	zertifiziert EN 54-24
4 924 9	Horn loudspeakers 30W / 100V	zertifiziert EN 54-24

NEUMANN

DS-6 network controller

I/O module - Freely programmable I/O network controller

https://neumann-elektronik.com/ds-6-i-o-modul

- Digital inputs with configurable pull-up resistors
- Universal inputs analogue / digital with configurable pull-up resistors
- Digital outputs
- Relay (change-over contact) with status display, can be loaded up to 5A at 240V
- Activate alarms in the DS-6 system
- Control of flashing beacons with timer
- Fault monitoring
- 8+2 LED status display
- Configurable in the DS-6 network via TIMM Config or on the unit via Ethernet interface
- Easy top-hat rail mounting
- Plastic housing

The DS-6 I/O module is a freely programmable network controller and can be used in practically all IP-based networks with its 10/100 Mbit Ethernet connection. The module can be used for various applications due to its numerous inputs and outputs and the corresponding software module:

Module: Fault monitoring of network and DS-6 components (art. no. 279 1004 475 9)
The I/O module is used, among other things, for monitoring the IP-DS-6 components (e.g. MTSD) and the additional functional components (e.g. amplifier). The IP DS-6 components are monitored via the Ethernet interface by means of status messages, the additional components via the inputs of the I/O module by means of fault message contacts. All fault messages can be output as collective fault messages on the I/O module via one of the potential-free contacts. In addition, the I/O module manages the SRW button of an alarm, thus a double assignment of the button is possible (alarm/non-alarm).

Module: Alarm control /-server (art. no. 279 1604 475 5)
To prevent the call stations from blocking themselves (occupied state) when an alarm is triggered, the alarm is retrieved via the I/O module from a voice memory, which is either located on an analogue connection module L-no. 2390 4 or in analogue or digital 8-fold Adapters L-no. 3 330 9 / 3 331 0. This allows simultaneous announcements to other areas. In addition to the alarms, the stop button function is also transmitted. Furthermore, a relay control is included in the software, which ensures the switching on and off of an additional device.

Module: Strobe light connection (art. no. 279 1304 475 2)
This I/O module software enables the connection of up to six strobe light lines. The flashing beacons are assigned spatially and from the address to the destination call stations (WFD). Depending on the definition of the WL buttons, both a group call and individual calls to the target stations can be made from the master station. In connection with these calls, the flashing beacons are activated at the push of a button. A timer ensures that the flashing lights are automatically switched off again after an adjustable time of up to 255 seconds.

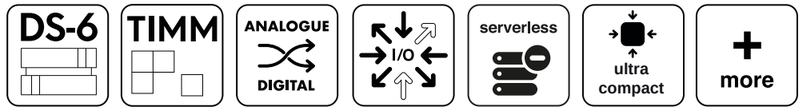
Module: Siren control / Emergency lighting / Fan control (actuator connection via MTSD) (art. no. 279 1904 475 8)
This software module can switch on a device (e.g. a siren, valve, etc.) at the touch of a button on an MTSD. For this purpose, the outputs of the I/O module are used to control a relay. In addition to our own I/O module, a PLC from WAGO can also be connected to the DS-6 system for far-reaching control tasks. This makes any combination of inputs and outputs available for flexible control options. Please contact your sales representative for more information.

4 180 3

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

DS-6 network controller

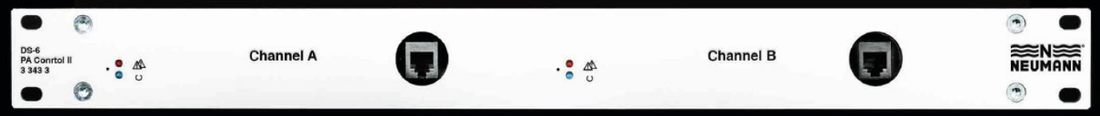
I/O module - Freely programmable I/O network controller



Art. no.	4 475 0
Mechanical data	
Weight	Approx. 320g
Housing dimensions (HxWxD)	105mm x 85mm x 72mm
Connectivity	
LAN interface	1
IP hardware interface	LAN: 100-BASE-T Autonegotiation / Ethernet according to IEEE 802.3u (100Mbit/s)
Serial interfaces	RS232 (DSub-9Connector) / RS422/485 (2/4-wire)
I/O Interfaces:	2 relays (changeover switch, AC 240V, 5A) 4 digital inputs (0...12V), configurable pull-ups 4 universal inputs (analogue 0...5V or digital 0...12V), configurable pull-ups 4 digital outputs (open collector, 24V, 0.1A)
Transmission protocol	Neumann DS-6 IP Protocol
Power supply	
Operating voltage range	DC 9..30V / AC 9…24V
Nominal power consumption	Max. 4W
Environmental conditions	
Permissible temperature range	0...+50°C
Protection class according to DIN EN 60529, resp. IEC 60529	IP20

Software module	
279 1004 475 9	Software module fault monitoring
279 1604 475 5	Alarm control/-server software module
279 1304 475 2	Software module flashing light connection
279 1904 475 8	Software module siren control / emergency lighting / fan control

Control and monitoring components for amplifiers



https://neumann-elektronik.com/ds-6-pa-control-i-und-ii

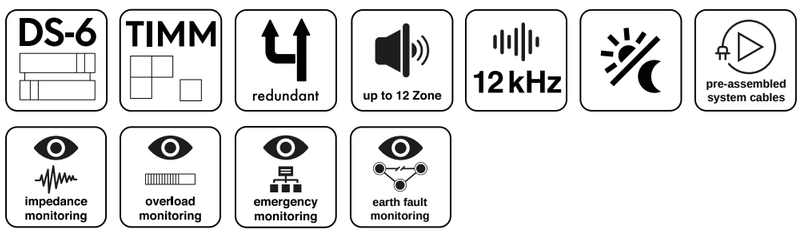
3 342 2
4 171 3

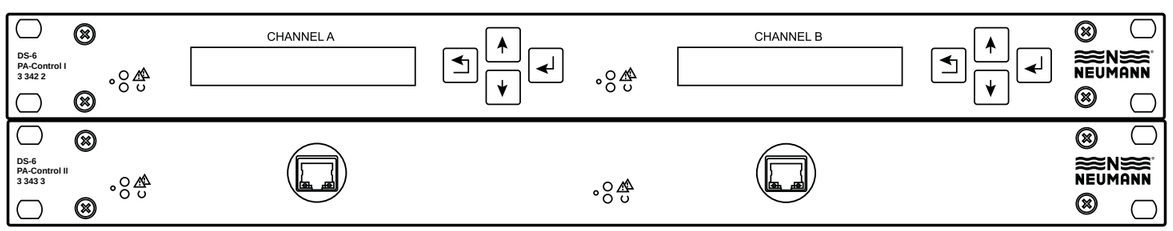
The photos shown are for reference only, the actual product may differ.

3 343 3
4 171 3

DS-6 Control and monitoring components for amplifiers

DS-6 PA-Control I and II





DS-6 PA-Control I and II combine as ELA control units the control and monitoring of a 100V sound system with a maximum amplifier power of 2x 250W on a DS-6 system.

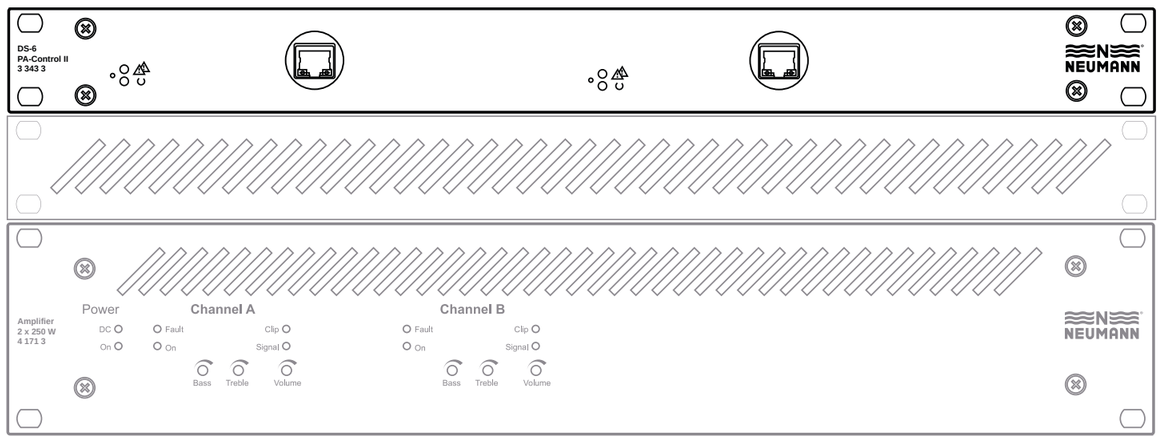
In its compact 19-inch design with one height unit, the units replace a large number of individual components, all of which required a great deal of wiring. A modern sound system with DS-6 PA controls can be wired almost completely with pre-assembled system cables. Depending on the version of the PA Control, configuration can be carried out via the control panel with display or the serial interface or, in the case of the PA Control II, only via the serial interface on the unit.

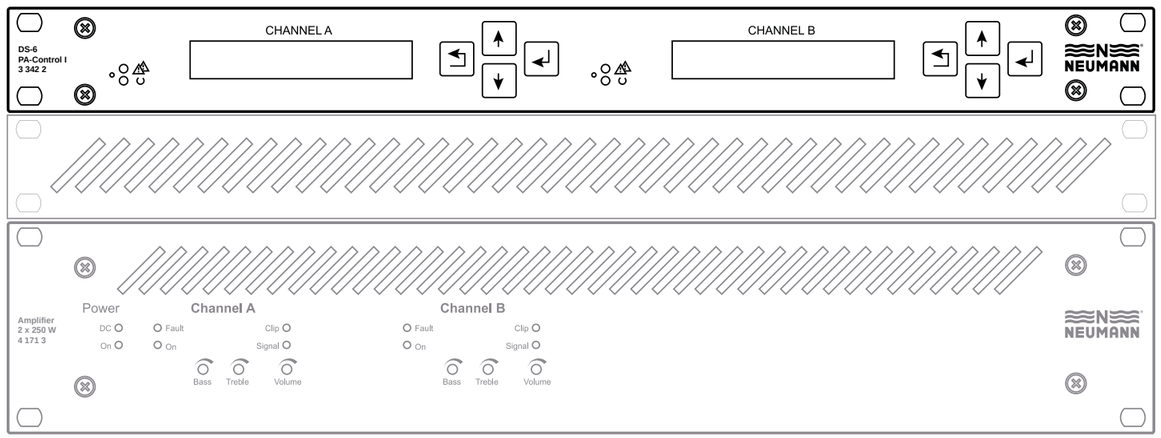
Optionally, a remote solution is also available, in which case the serial interface is integrated into the network via additional components that are available as accessories. Integrated software packages allow the sound system to be configured for impedance monitoring, amplifier failure, overload and earth-fault detection.

As standard, one zone or one loudspeaker circuit can be supplied with Neumann amplifiers of the delivery number 4 171 3 is possible. By means of optional additional components that can be integrated into the unit, an extension to up to six zones with the above-mentioned monitoring is feasible. In addition, in zone one, as well as in the optional zone two, in the case of ring-shaped cabling, the cable loops can be monitored and fed from both sides in the event of an interruption.

DS-6 Control and monitoring components for amplifiers

DS-6 PA Control I and II / Rack structure





DS-6 Control and monitoring components for amplifiers

DS-6 PA-Control I and II

- 2 redundant DS-6 Ethernet RJ45 LAN interfaces
- Monitored DC48V ... DC60V supply input
- Amplifier monitoring with N+1 emergency function
- Depending on the unit, RS232 interface for configuration and error message on front and rear side, or control panel with display and RS232 interface for configuration and error message on rear side
- Main and secondary fault alarm contact with NC and NO contact
- 1 or optionally up to 6 zones or loudspeaker circuits can be controlled
- Fuse monitoring
- Volume night reduction
- Amplifier failure monitoring even during sound reinforcement
- No pilot tone monitoring necessary for automatic switchover to redundant amplifier, no additional power loss at the amplifier
- Loudspeaker circuit impedance monitoring
- Loudspeaker circuit current monitoring
- Earth-fault monitoring of the loudspeaker line
- 1 or optionally 2 loudspeaker loop monitors
- Network monitoring
- Optional environmental noise-dependent volume control

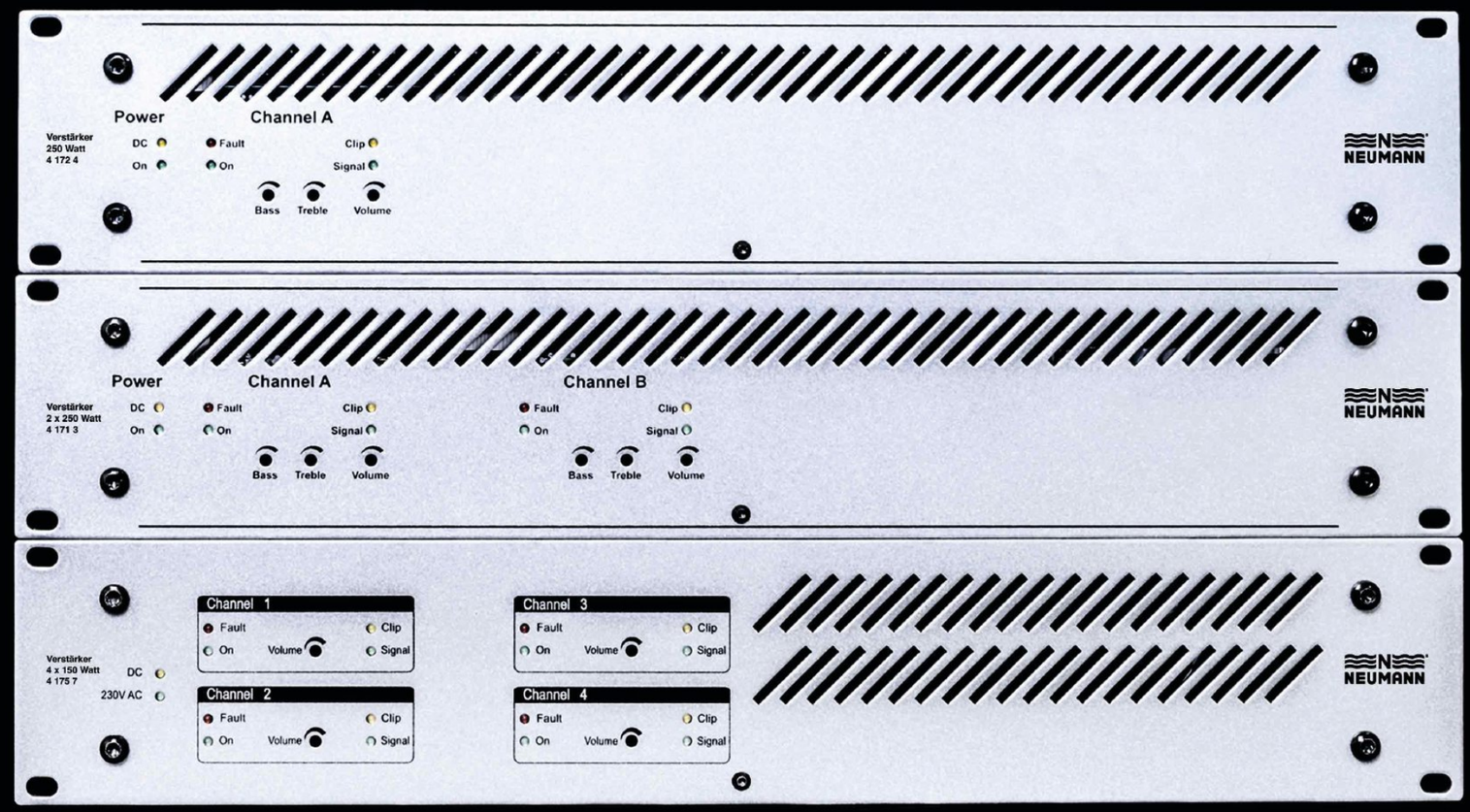
Art.-No.	3 342 2	3 343 3
Version	Control panel with display and RS232 interface on the rear side	RS232 interface on the front and rear
Mechanical data		
Dimensions	Width: 19”, Height: 1U according to DIN EN 60297 Built-in depth (housing without connectors): 284 mm	
Weight	Approx. 4kg	
Technical data		
Audio channels	2 channels	
Network interfaces	2x LAN per channel	
Operating voltage	2x DC43V… DC72V	
Nominal power input min.	4W per channel	
Nominal power input max.	8W per channel	
Max. power to be monitored	250W per channel	
Environmental conditions		
Environmental temperature range	+5 ... +40°C	
Protection class acc. to DIN EN 60529:	IP20	

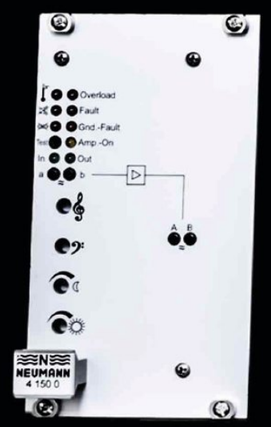
DS-6 Control and monitoring components for amplifiers

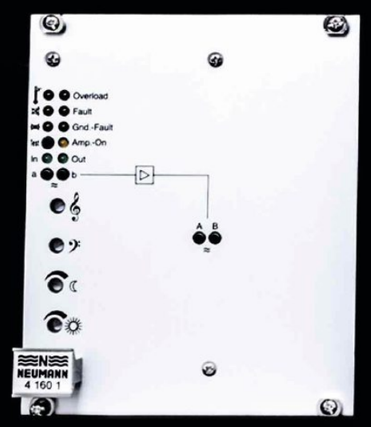
DS-6 PA-Control I and II Accessories

Article	Art.-No.	Description
Additional plate 2 ... 4 zones	22 2 5203 343 6	Analogue additional plate for expansion to up to 4 zones or speaker circuits
Additional plate 2 ... 6 zones	22 2 5303 343 7	Analogue additional plate for expansion to up to 6 zones or speaker circuits
Additional plate 2 ... 6 zones+	22 2 5303 332 3	Analogue additional plate for expansion to up to 6 zones or loudspeaker circuits and environmental noise dependent volume control
Standard steel cabinet	64 1 0136 197 8	Pre-wired standard steel cabinet with temperature controlled roof fan, swing frame, power supply, circuit breaker and switch, including wiring and mounting material. Dimensions: width: 800mm, height: 2000mm, depth: 600mm.
Accident - Unit 2U	62 2 0236 197 8	Consisting of 250W emergency amplifier, including circuit breaker, system cables and mounting material.
Redundancy - Unit 1U	62 2 0336 197 9	Consisting of 19“ switch, including circuit breaker, socket, cables and mounting material
Battery - Unit 3U	62 2 0436 197 0	Consisting of emergency power battery 48V 18AH in 19“ case, including cables and mounting material.
I/O module - unit on mounting rail	62 2 0536 197 1 27 9 1004 475 9 27 9 1904 475 8 27 9 1704 475 6 27 9 2004 475 0	Consisting of I/O module, power supply unit, terminal blocks, cables and mounting material for rear panel mounting. Various software packages are available for the I/O module unit, of which one software can always be saved to an I/O module unit: Fault management Flashlight connection 2-way Virtual keystroke Impedance measurement NTP
System cable DS-6 PA-Control to amplifier, 0.7 m length	22 3 0303 332 1	For connecting a DS-6 PA Control to an amplifier.
System cable zones - loop/back panel	22 2 0903 332 6	This system cable is used to route the ABs of zones 1 ...6, for further cabling on terminal blocks on the rear wall and to route the returns of zones 1 and 2 from the terminal blocks to DS-6 PA Control.
System cable 100V-AB-Bus, 0.3 m length		For connecting the 100V-AB bus of two DS-6 PA Control devices in emergency mode and for one channel.
System cable extension 100V AB bus, 0.7 m length		For extending the system cable. This allows the system cable 100V-AB-Bus to be extended to a length of 1m.
Pre-assembled single wires, 0.3 m length socket housing	96 9 1640 391 8 96 9 1640 381 7	For extending the system cable 100V-AB bus to connect a further amplifier in case of emergency. To extend the complete bus width, 6 single wires and a socket housing are required per DS-6 PA Control.
Single wires, 0.7 m length	22 4 0503 332 4	For extending the system cable 100V AB bus to connect an emergency amplifier. 2 single wires are required for each backup amplifier.
System cable NF-ab bus, 0.5 m length	99 9 1980 162 4	For connecting the NF-ab bus of two DS-6 PA Control devices and for one channel.
System cable NF-ab bus, 1.0 m length	99 9 1980 165 7	For connecting the NF-ab bus of two DS-6 PA Control devices and for one channel.
System cable extension, 0.7 m length	22 4 060 3332 5	For extending the NF-ab bus to connect one or maximum two backup amplifiers. Four wires for the first and four wires for the second backup amplifier.
Bridge for the 100V AB bus		During operation of the system while the DS-6 PA-Control is unplugged
Bridge for the NF-ab bus	96 9 1630 210 7	During operation of the system while the DS-6 PA-Control is unplugged

Amplifiers







4 1XX X

Amplifiers

Amplifier 250 / 300W and 2x 250 / 300W, Class-D-Technology

PA control compatible — Perfect integration with PA control

https://neumann-elektronik.com/verstaerker-250-300-w-2-x-250-300-w

The 1-channel and 2-channel power amplifiers are designed for permanent installation in ELA systems (DS-6, MDK, MF etc.) from Neumann Elektronik.

The amplifiers are designed in Class D technology. This circuit design guarantees a high efficiency and has a low heat generation. The amplifiers generate an output nominal power of 1x 250 / 300W or 2x 250 / 300W at an operating voltage of AC230V / AC115V or DC48V ... DC60V.

4 17X X

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

Amplifiers

Amplifier 250 / 300W and 2x 250 / 300W, Class-D-Technology

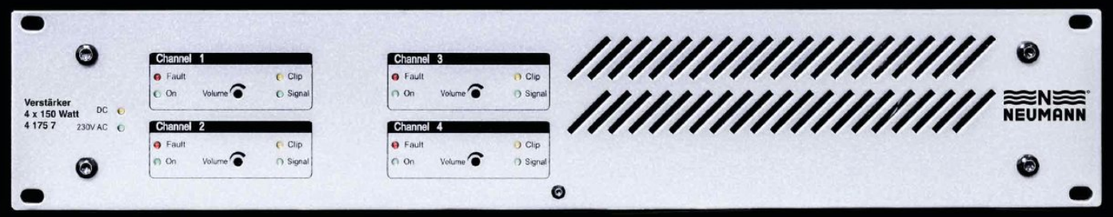
DS-6 · TIMM · CLASS D · NO · PA control compatible · ELA · 100 Volt technology

- High efficiency
- Low heat generation
- No active ventilation required
- Low built-in depth (important for cabinet build-in)
- Control LEDs for all signal and operating states on the front panel: Power ON, DC, Signal OK, Clipping, Fault
- Volume, treble and bass controls accessible from the front (adjustable with screwdriver)
- Transformer-balanced inputs
- Potential-free amplifier switch-on
- One potential-free fault signal change-over contact
- Monitoring: fuse failure, overload, over-temperature
- Protective circuit against no-load, short-circuit, overload
- AC 230V / AC 115V input voltage (switchable)
- DC 48V / DC 60V input voltage
- Amplifier is open-circuit and short-circuit proof
- 100V and 50V output, earth-free
- High-quality toroidal output and mains transformers
- All leads plugged in, with detachable screw connections
- Important: The 2-channel power amplifier (art. no. 4 174 6) is already pre-set by the manufacturer. The settings cannot be changed by the customer!

Art.-No.	4 172 4		4 171 3 / 4 174 6	
Mechanical data				
Dimensions	19“, 2U, Depth: 270mm			
Weight	11.5kg		15kg	
Electrical data				
Operating voltage	DC 48…DC68V	AC 230V /AC 115V	DC 48V…DC 68V	AC 230V / AC 115V
Max. Current consumption	6A	1.4A	12A (both channels)	2.8A (both channels)
Output power according to IEC 268.3/19.3	300W in mains operation		2x 300W in mains operation	
Output power according to IEC 268.3/19.4	250W in mains operation		2x 250W in mains operation	
Input voltage	320mV			
Frequency range	80Hz … 12kHz ± 1db			
Environmental conditions				
Environmental temperature range	+5 ... +40°C			

Amplifier

Amplifier 4x 150W, Class-D-Technology



The 4-channel final stage is designed for the constant installation into PA systems and for connecting loudspeakers in 100V technique. The amplifier can be switched over to 2-channel output using external wiring.

Each final stage is designed as a Class D technology product. This circuit concept guarantees high efficiency, low heat development and a low standby consumption.
The amplifiers produce an actual power output of 4 x 150W respectively 2 x 300W with a power supply of AC 230V and / or DC 48V for redundant operating.

4 17X X

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

Amplifier

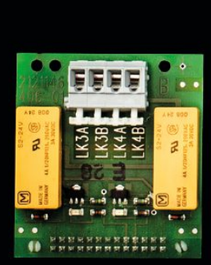
Amplifier 4x 150W, Class-D-Technology

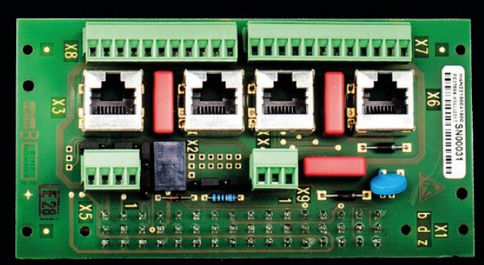
DS-6 TIMM CLASS D NO 100 Volt technology

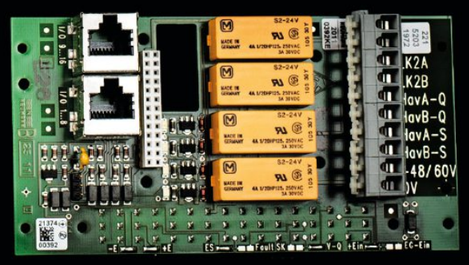
- High efficiency
- Low heat generation
- Active ventilation switched on automatically
- Low built-in depth (important for cabinet build-in)
- Control LEDs for all signal and operating states at the front plate: Power ON, DC, Signal OK, Clipping, Fault
- Volume control for each channel accessible from the front (adjustable with screw driver)
- Electronically-balanced inputs
- Automatically or remote amplifier activation
- Two notification contacts for channel monitoring
- Two notification contacts for power supply monitoring
- Protective circuit against temperature rise and overload
- AC 230V operation voltage and DC 48V operation voltage
- High quality toroid output and mains transformers
- All feed lines plugged, with removable screw connections
- Amplifier controlling via RS485 interface (optional)

Art.-No.	4 175 7
Mechanical data	
Dimensions	19“, 2U, Depth: 280mm
Weight	16.5kg
Electrical data	
Operating voltage	DC 48V / AC 230V
Max. Current consumption	13.5A / 3.7A
Standby	0.3A 14.4W / 0.045A 10W
Output power	4 x 150W, each 100V at 66Ω 2 x 300W, each 100V at 66Ω
Input sensitivity	380mV / 10kΩ
Frequency range	80Hz … 22kHz - 3db
Environmental conditions	
Environmental temperature range	+5 ... +40°C

Compact and additional amplifiers







https://neumann-elektronik.com/kompaktverstaerker-100w-25-50w

4 150 0

4 160 1

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

22 1 5004 150 0 Amplifier backplane for DS-6 PA Control

22 1 5203 197 2 Amplifier backplane, LC 1, LC 2

22 2 5303 197 4 Amplifier backplane extension, LC 3, LC 4

Compact and additional amplifiers

Amplifier 25 / 50W

- Functions according to DIN EN60849 regulation
- Volume separately adjustable for day and night operation
- Low distortion factor ≤0.5%
- Treble and bass control
- Electronic, temperature-dependent
- Switch-off from 85°C ±3K
- Light-emitting diode displays on the front panel of the following Functions:
  - Switch-on control “Amp.-ON”
  - Earth fault, “Gnd.-Fault”
  - Interruption of the loudspeaker circuit
  - Overload or short-circuit “Overload”
  - Over-temperature
  - Fuse failure
  - General fault
  - Level control for input and output signals
  - Output signals “In” and “Out”
- Galvanic free switch-on
- Mandatory call-in for loudspeaker
- Switchable input sensitivities
- Loudspeaker protection by active high-pass filter
- Attenuators for different input voltages
- Open-circuit and short-circuit proof

The 25 / 50W amplifier, which was developed in a very compact design, serves to amplify the power of Neumann Elektronik DS-6 systems and also offers the possibility of connection to all voice communication centres with an analogue interface.

Thanks to different operating voltages, flexible use is possible. A special field of application is the public address and alarm system for small areas and fire compartments in office buildings, warehouses and storage areas, production environments, building yards and workshops.

Art.-No.	4 150 0		
Mechanical data			
Dimensions	14HP and 3U		
Weight	1.039kg		
Electrical data			
Nominal operating voltage	DC 24V (DC26.5V)	DC 48V	DC 60V
Max. current consumption	2.1A	2.1A	1.8A
Audio frequency output power	20 / 25W	50W	50W
Input voltage 1	120mV		
Temperature limitation in °C	≥75° ±3K		
Temperature switch-off in °C	≥85° ±3K		
Frequency range	80Hz … 12kHz (-3db)		
Environmental conditions			
Environmental temperature range	-5 ... +40°C		

Compact and additional amplifiers

Amplifier 100W

- Functions according to DIN EN 60849 regulation
- Volume separately adjustable for day and night operation
- Low distortion factor ≤0.5%
- Treble and bass control
- Electronic, temperature-dependent
- switch-off from 85°C ±3K
- Light-emitting diode displays on the front panel of the following Functions:
  - Switch-on control “Amp.-ON”
  - Earth fault, “Gnd.-Fault”
  - Interruption of the loudspeaker circuit
  - Overload or short-circuit “Overload”
  - Over-temperature
  - Fuse failure
  - General fault
  - Level control for input and output signals
  - Output signals “In” and “Out”
- Galvanic free switch-on
- Mandatory call-in for loudspeaker
- Switchable input sensitivities
- Loudspeaker protection by active high-pass filter
- Attenuators for different input voltages
- Open-circuit and short-circuit proof

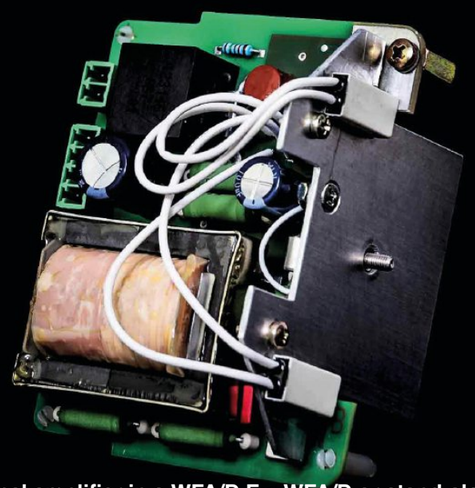
The 100W amplifier, which was developed in a very compact design, serves to amplify the power of Neumann Elektronik DS-6 systems and also offers the possibility of connection to all voice communication centres with an analogue interface.

Thanks to different operating voltages, flexible use is possible. A special field of application is the public address and alarm system for small areas and fire compartments in office buildings, warehouses and storage areas, production environments, building yards and workshops.

Art.-No.	4 160 1	
Mechanical data		
Dimensions	21HP and 3U	
Weight	1.910kg	
Electrical data		
Nominal operating voltage	DC 48V	DC 60V
Max. current consumption	4.3A	3.5A
Audio frequency output power	100W	
Input voltage 1	120mV	
Temperature limitation in °C	≥75° ±3K	
Temperature switch-off in °C	≥85° ±3K	
Frequency range	80Hz … 12kHz (-3db)	
Environmental conditions		
Environmental temperature range	-5 ... +40°C	

Compact and auxiliary amplifiers

Auxiliary amplifier EX 25W / 100V (50V)



- Can be used as an additional amplifier in a WFA/D Ex, WFA/D or stand-alone unit
- Can be retrofitted on site without soldering
- Temperature-controlled power limitation
- 100V operation
- EL operation with own additional loudspeaker
- Disconnection of the additional loudspeaker

In call station mode in conjunction with an additional amplifier and loudspeaker, the additional loudspeaker can take over the function of a call loudspeaker.

In this case, only the first call to the call station is transwithted by the auxiliary loudspeaker. Calls after a call station response are then automatically transwithted only via the call station loudspeaker. After a pause of approx. 20 seconds, this function returns to its original state.

Service	
101 5704	Mounting 25W additional amplifier
Art. no.	1 570 3
Electrical data	
Operating voltage	DC 48...60V
Max. Quiescent current	10mA
Output power	25W at 400Ω
Output voltage	100V (convertible to 50V)
Min. input voltage for nominal power	1V
Input resistance	20kΩ (at 1kHz)
Frequency range (measured at Ua=25 V AC)	200Hz to 10kHz (-3 to ±1dB)
Distortion factor (measured at Ua=70 V AC)	≤ 5%

1 570 3

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

Voice alarm control unit
PACE-VA EN 54-16

https://neumann-elektronik.com/pace-en54-16/

3 344 4

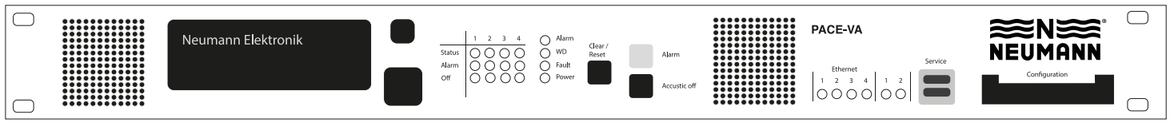
The photos shown are for reference only, the actual product may differ.

Control and monitoring components

certified EN 54-16

PACE-VA, EN 54-16 Voice alarm center unit

PACE EN 54 -16 | TIMM | DS-6 | 100 Volt | CLASS D | 4-way switch | 19” | ultra compact | 1HE 19“ | 4x 150W / 200W or 2x 300W / 400W or 1x 600W / 800W



The PACE-VA is an ultra-compact, multi-channel public address system.

It is used to transmit alarm and evacuation announcements as well as general information and music with high quality.

The PACE-VA fulfils all requirements of EN 54-16 and is designed for use as a voice alarm system (SAA) in accordance with VDE0833-4 and supports staged evacuation by configuring alarm sequencers. The high availability in operation, a free network topology as well as the possibility of redundant interconnection allows the application of PACE-VA for all security levels and in all building classes.

Standard protocols are used for the connection of external network components.

The PACE system setup and configuration is very simple due to the auto-discovery function within WeNet.

The monitoring of the transmission paths and the integrated error check of all system interfaces and ports reduce the effort for inspection and maintenance.

A comprehensive range of products and accessories enables flexible expansion and adaptation of the PACE-VA to different installation environments.

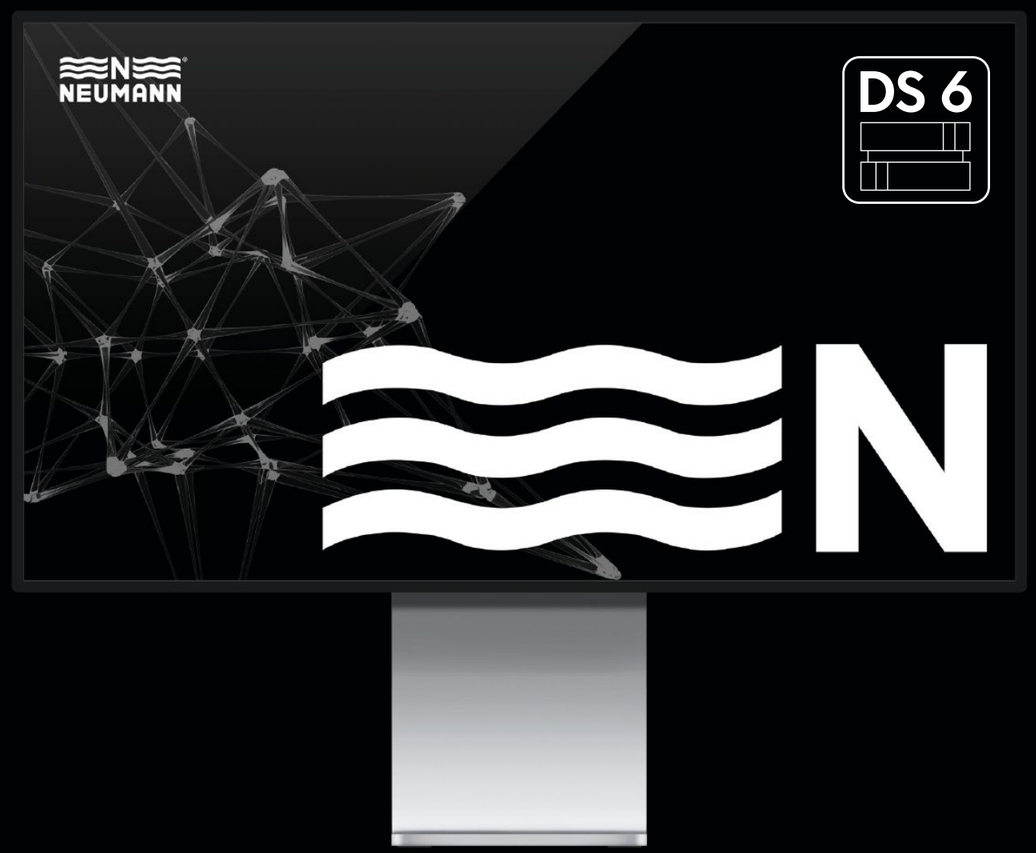
Control and monitoring components

certified EN 54-16

PACE-VA, EN 54-16 Voice alarm center unit

- 19” width with 1U
- 4 integrated amplifiers, 150W each
- 8 loudspeaker circuits, galvanic isolated
- 4 audio outputs
- 4 audio inputs
- 8 control inputs
- 8 control outputs
- 4 inputs for measuring microphone
- 4 Ethernet ports
- 2 USB ports
- EN 54-16 approval
- Amplifier variably configurable
- Impedance monitoring
- Power monitoring
- Earth-fault monitoring
- Backup amplifier switching

Art.-No.	3 344 4
Mechanical data	
Dimensions (HxWxD)	43.7mm x 482.5mm x 360 mm
Built-in dimensions	Width 19“, 1U according to DIN EN 60297, installation depth: 360mm without connectors (space required for cabling >= 90mm)
Weight	Approx. 5.5kg
Technical data	
Nominal operating voltage (voltage range)	DC 48V (DC 42V … DC 60V) AC 230V (AC 100V … AC 260V) , 40Hz … 60Hz
Peak input current	20A (DC 48V), 3,5A (AC 230V)
Inrush current	<25A (DC 48V), <16A (AC 230V)
Power dissipation (in idle mode) plus per active amplifier Speech reinforcement (-12dB) Sound reinforcement (-9dB) Max. output power (0dB)	 25W +10W +15W +30W
Connected load / max. power consumption	1kW
Amplifier data	
Quantity	4x Class D
Amplifier outputs [LS Out]	8 (4x with A/B wiring)
Amplifier type	100V, galvanic isolated
Output power	4 x 150W (4x 200W according to EIA SE-101-A-19149) EN 60268-3:2013 distortion limited output power DIN EN 54-16 Output power requirement FTC 63FR37233 Title 16, paragraph 1, part 432, rated power EIA SE-101-A-1949
Power output configuration	4x 150W (4x 200W according to EIA SE-101-A-1949) 2x 300W (2x 400W according to EIA SE-101-A-1949) 1x 300W, 2x 150W (2x 200W according to EIA SE-101-A-1949) 1x 450W, 1x 150W (1x 200W according to EIA SE-101-A-1949) 1x 600W (1x 800W according to EIA SE-101-A-1949)



DS-6 Software

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

DS-6 Software

DS-6 Manager

DS-6 Manager is designed to maintain and monitor DS-6 systems.

The main functions of the applications are:
- Discovering all devices connected to the DS-6 system.
- Monitoring the activity status of all DS-6 devices
- Monitoring the hardware status of all DS-6 units
- Configurable of the unit properties to be monitored
- Setting the system time on MTSD-DS-6 call stations
- Restart of selected DS-6 units

The following functionalities have been implemented to be able to be informed about status changes:
- On the „System Status“ page, green or red dots show the current status of each unit of the connected DS-6 system.
- The „Event Log“ page shows the current history of status changes of the connected DS-6 system.
- To be informed about system status changes of monitored devices, a notification by email can be set up.
- Status changes of connected devices can be printed on a dot matrix printer.

In addition, the application provides a lot of technical device information such as device numbers, IP addresses, device names as well as configuration and firmware versions of the connected devices.

- Requirements: A commercially available PC (Microsoft Windows XP or higher) is required.

DS-6 Manager	
5 007 2	DS-6 Manager

DS-6 Config (legacy)

DS-6 Config was designed to create and maintain DS-6 systems.
The aim is to automate many activities that would otherwise have to be performed manually.
To achieve this goal, the following functions were implemented:
- Creation and management of directory structures
- Versioning of configuration variants
- Reading, creating and modifying configuration files that contain the configuration of all devices of the entire DS-6 system. Their format is that of a comma-separated list (.csv) and shall therefore be called DS-6 configuration list
- Comparison of devices from a DS-6 configuration list against those of a real DS-6 system
- Configuration of devices with a new or modified DS-6 configuration list
- Configuration of DS-6 I/O modules with a programme and associated parameters

- Requirements: A commercially available PC (Microsoft Windows XP or higher) is required.

DS-6 Config	
5 009 4	DS-6 Config

DS-6 Software

DS-6 Recorder

In communication systems that are used as a security system, e.g. as an evacuation system, there is often the wish or the need to record the voice connection for later listening.

The DS-6 Recorder programme offers, within the framework of the DS-6 system, the possibility to record voice connections, such as manual alarm announcements, for security reasons. The Windows programme can record and save manual announcements from one or also from several call stations without operating them.

At a later time, the recordings can be played back with the DS-6 Recorder programme. It is even possible to make several voice recordings from different call stations in parallel.

Due to its development for the redundant DS-6 system, the DS-6 Recorder programme naturally also offers the possibility to make audio recordings in redundant networks. The programme saves a list of the recorded data in a log file that is automatically created daily.

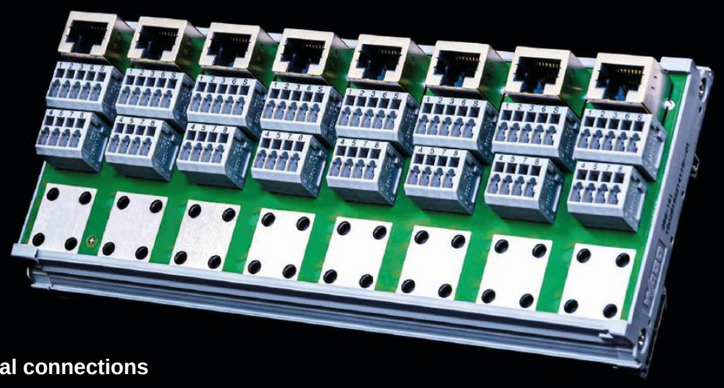
Requirements:

- **Processor: Intel Pentium or equivalent AMD with 1GHz**
- **Operating system: WINDOWS (from Windows XP)**
- **RAM: 2GB**
- **Hard disk: 80GB**
- **Interfaces: 1(2*)x 100MBit LAN, 1x USB interface**
- **Additional hardware: Possibly additional network card (for DS-6 redundancy)**
- **Additional components: Keyboard, mouse**

DS-6 Recorder	
5 011 7	DS-6 Recorder, 8 Recording channels
5 012 8	DS-6 Recorder, 16 Recording channels
5 013 9	DS-6 Recorder, 24 Recording channels

DS-6 Accessories

Transfer module 8x RJ45 slots



- 8x RJ45 slots terminal connections

The transfer module with eight slots is designed for the connection of eight digital or four analogue terminals. The terminal devices are connected by means of terminal connections. Internally, the connections to the backplanes are established by means of ready-made patch cables.

Art. no.	**969 1614 045 5**
Mechanical data	
Dimensions	**210mm x 85mm**
Technical data	
Connecting range	**0,08...1,5mm²**

Programmed USB Memory Stick

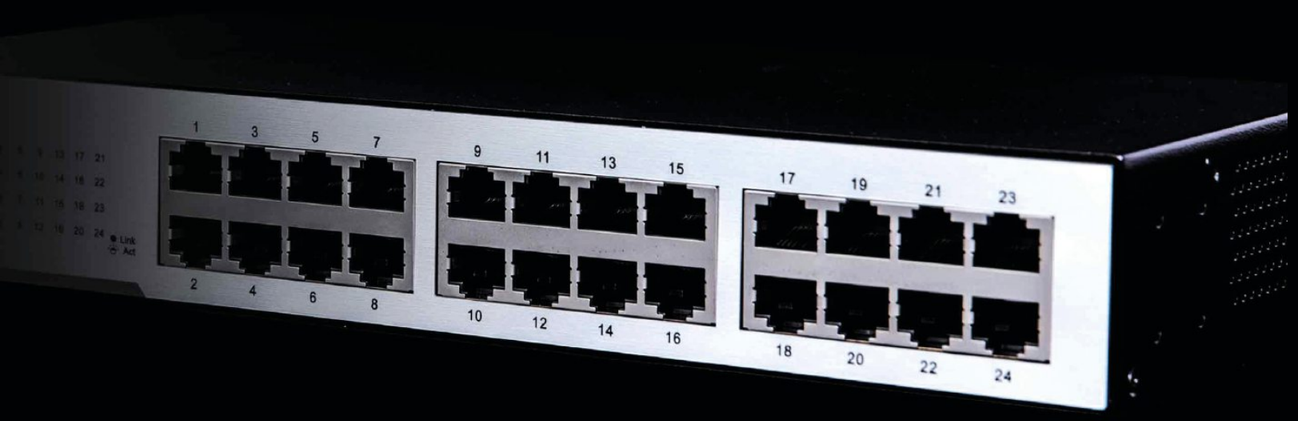
The USB memory stick serves as a voice memory for announcements and audio signals. It is integrated into the desk call stations. The announcements and audio signals are then retrieved manually or automatically from the call station. One USB memory stick can be built-in per call station.

Art. no.	**21 4 1143 001 7**
Mechanical data	
Memory	**512MB to 2GB, each according to version**

NEUMANN

DS-6 Accessories

DS-6 Switch, 24 ports, DC 48V, 19 inch



- Front panel contains 24x 10/100 Mbit/s ports
- Two LEDs per port

The DS-6 switch is a compact Fast Ethernet switch that provides access to all connected devices in the DS-6 system and handles the distribution of all data. The rack is designed for built-in installation in 19 inch racks according to DIN 41494.

Art. no.	**3 326 4**
Mechanical data	
Weight	**Approx. 2.8kg**
Housing dimensions (HxWxD)	**280mm x 180mm x 44mm**
Technical data	
Operating voltage	**DC 48V (24-60V)**
Max. Power consumption	**5W**
Supported standards	**IEEE 802.3, 10BASE-T Ethernet IEEE 802.3u 100 BASE-TX Fast Ethernet ANSI/IEEE 802.3 NWay Auto-Negotiation IEEE 802.3x Flow Control**
Network interfaces	**RJ45 socket for 10BASE-T or 100BASE-TX Ethernet interface**
Data frames	
Filter rate	**Max. 14.800 data frames/s for 10MBit/s port Max. 148.800 data frames/s for 100MBit/s port**
Forwarding rate	**Max. 14.800 data frames/s for 10MBit/s port Max. 148.800 data frames/s for 100MBit/s port**
Queue buffer	**2.5MB**
Environmental conditions	
Operating temperature	**0...40°C**

3 326 4

DS-6 Accessories

PoE Injector 1-Port

- Control LED for power ON
- Distance up to 100m
- Automatic protection against installation errors

The Power over Ethernet injector provides a DC 48V power supply via Ethernet cable. Power and data can be transmitted simultaneously. The maximum distance between the injector and the splitter is 100m.

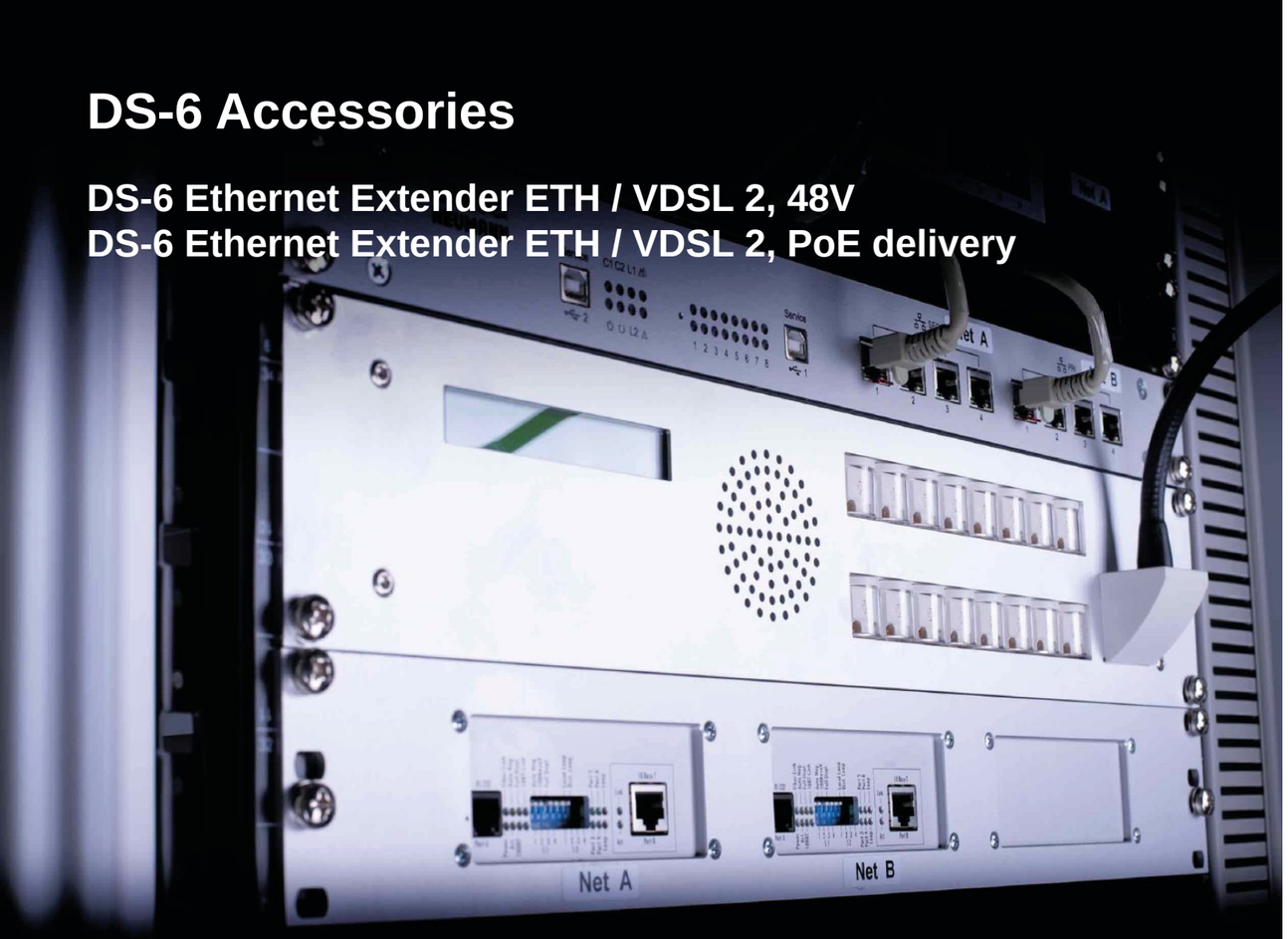
Art. no.	**919 1116 838 7**
Mechanical data	
Weight	**Approx. 50g**
Housing dimensions (HxWxD)	**73mm x 55mm x 24mm**
Technical data	
Input voltage	**DC 48V, 0.4A**
Ethernet connection	**2x RJ45 (1 for data + DC Out, 1 for data In)**
Ethernet data rate	**10/100/1000MBit/s**
Number of units that can be fed	**1**
Supported standards	**IEEE 802.3 Ethernet IEEE 802.3u Fast Ethernet I EEE 802.3ab Gigabyte Ethernet IEEE.802.3af Power over Ethernet**
Environmental conditions	
Operating temperature	**0...+50°C**
Storage temperature	**-20...+70°C**
Permissible humidity	**0...90%**

3 373 6

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

DS-6 Accessories

DS-6 Ethernet Extender ETH / VDSL 2, 48V
DS-6 Ethernet Extender ETH / VDSL 2, PoE delivery



DSL Interface

- Line: SHDSL.bis according to ITU G.991.2
- Coding: 16 TCPAM and 32 TCPAM
- Supports ANSI (Annex A) and ETSI (Annex B)
- Speed: Up to 10MBit/s
- Connection: RJ45 2-wire

LAN Interface

- Ethernet RJ45
- 10/100 Base T
- Auto mode: 10/100
- Half or full duplex
- Auto Crossover
- Self-learning up to 4,096 MAC addresses
- Filter and speed up to 44,000 packets per second
- Integrated High Speed Ethernet Bridge
- PoE / Power Sourcing (only with item no.: 919 1116 749 8)

General

- Activity display for DSL link, power and LAN (Ethernet)
- Robust aluminium housing, designed and tested for EMC compliance
- CE marking

919 1116 7XX X

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

DS-6 Accessories

DS-6 Ethernet Extender ETH / VDSL 2, 48V
DS-6 Ethernet Extender ETH / VDSL 2, 48V, PoE delivery

The DS-6 Ethernet Extender ETH / VDSL 2 connects DS-6 components up to 1km of two-wire line at 10MBit/s.

The DS-6 Ethernet Extender ETH / VDSL 2 offers symmetrical duplex transmission over 2-wire.

Two DS-6 Ethernet Extender ETH / VDSL 2 are required for one connection.

With the article DS-6 Ethernet Extender ETH / VDSL 2, 48V, PoE delivery, PoE voltage can be provided for end device power supply, e.g. desk call station.The cost centre can accommodate ETH / VDSL 2, 48V on one line and ETH / VDSL 2, 48V, PoE delivery on the other.

The ETH / VDSL 2, 48V, PoE delivery itself requires DC 48V as power supply and cannot be PoE-powered. The housing is a robust, EMC-resistant metal housing. Three of these devices can be mounted in a 19“ mounting frame (1U).

Art. no.	919 1116 750 0	919 1116 749 8
Mechanical data		
Weight	Approx. 340g	
Dimensions (HxWxD)	40mm x 120mm x 185mm	
Device data		
Operating voltage range	DC 18...75V	
Power consumption	4W	
Length of the connections	Approx. 1km at 10Mbit/s (0.8mm Ø)	
Supported standards	Ethernet (10/100 Base-T, full/half duplex, auto MDI) according to IEEE802.3u. Transparent bridge according to IEEE802.3d VLAN bridge according to IEEE802.3q and IEEE802.3p IP QoS with evaluation of VLAN ID and/or VLAN priority bit	
PoE power supply for end device	-	PoE 802.3af (12.9W)
Network interface	RJ45 for 10/100 Base-T RJ45 for SHDSL	
Environmental conditions		
Operating temperature	-25...+55°C	

Accessories DS-6 Ethernet Extender ETH / VDSL 48V	
989 3105 130 9	19“ mounting frame
949 1412 054 9	Power supply unit 48V
223 0101 895 1	Wall connection box

Power supply

DC 48V power supply system
3x 230V AC / DC 48V, 17A

- 1 rectifier DC 48V, 17A
- Pre-wired to accept max. five additional redundant parallel 850W rectifier modules
- Status LEDs and display
- Terminal connections:
  AC input 3x L/N/PE
  DC output 2x 6A,3x 16A,1x 25A
  Battery connection 2x fuse 100A
  Max. 2 relay outputs

The power supply system delivers a nominal current of 17A, which can be increased to 100A by adding up to 5 rectifier modules.

It has twelve DC circuits that are individually protected by automatic circuit breakers. It is also possible to connect two battery circuits, which are charged and monitored by means of a control unit integrated in the power supply unit. The configuration can be done directly on the unit or via the network.

Art. no.	3 590 7
Mechanical data	
Weight	Approx. 9.3kg
Dimensions	19“, 2 U, 284mm deep
Technical data	
Input voltage	Nominal AC 230V (AC 80...300V)
Output voltage	Nominal DC 48V (DC 42...58V)
Load-shedding contactor	1x LVD 80A

3 590 7

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

Power supply

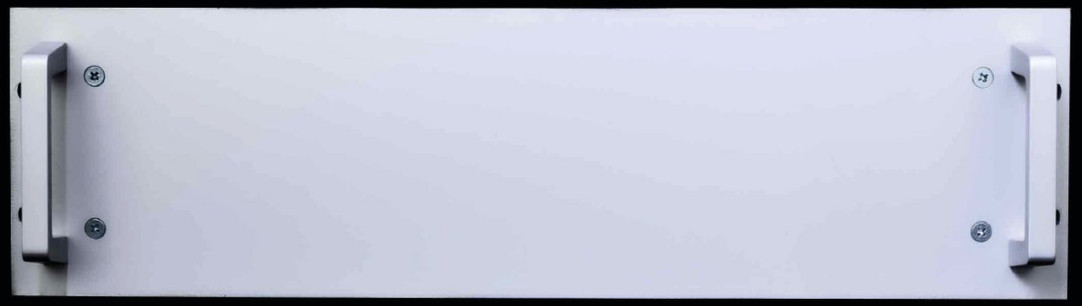
Rectifier module DC 48V, 17A

Art. no.	3 591 8
Mechanical data	
Weight	Approx. 710g
Technical data	
Nominal power consumption	850W
Nominal input voltage	AC 230V
Output voltage	DC 48V
Nominal output current	17A at 48V
Efficiency	> 90%

Accessories power supply system	
91 9 1135 070 6	Temperature sensor for battery monitoring (3m cable length)
91 9 1135 071 7	Temperature sensor for battery monitoring (5m cable length)
97 9 3814 022 5	M6 cage nut
99 8 3723 68 5	M6 x 16 screw
99 8 5524 05 7	Washer 6.4

Power supply

Emergency battery DC 48V, 18Ah



The emergency battery is intended to store electrical energy and to supply it to the communication device at times of mains failure or mains disturbance. The power supply device present in the communication device takes over the targeted charging and monitoring of the emergency battery during the discharge phase.

Art. no.	**3 485 0**
Mechanical data	
Weight	**Approx. 25.7kg**
Housing dimensions	**19“, 3U, 330mm deep**
Technical data	
Nominal voltage	**DC 48V**
Voltage range	**DC 40...57,6V**
Output current max.	**40A**
Capacity	**18Ah**
Quantity batteries	**8**
Quantity strands	**2**
Combo	**2x 4 in series**
Other data	
Technology	**Combination of lead-gel accumulators**
Cooling	**Convection**
Noise level	**0dB**
Environmental conditions	
Permissible temperature range	**0...40°C**
Recommended temperature	**+15...+25°C**
Storage temperature	**0...40°C**
Relative humidity	**20...90% (non condensing)**

Accessories	
22 9 1703 2073	**Mounting bracket for power supply units. 19“, 1U, RAL7032**

3 485 0

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

Power supply

DC / DC converter plug-in unit UE = 48V UA = 5V / 6A - 12V / 2A

Art. no.	**2 183 4**
Mechanical data	
Weight	**Approx. 750g**
Mounting depth	**10ME / 3U**
Device data	
Input voltage	**40V ... 48 V ... 80V**
Power consumption quiescent	**60mA**
Power consumption maximum	**1.2A at Ia = 5V / 5A and 12V / 2A simultaneously**
Output voltage Ua1	**5.1V (+/- 1%)**
Maximum output current Ia1	**6A**
Short-circuit current	**6.1...6.5A**
Output voltage Ua2	**12.4V (+/- 1%)**
Maximum output current Ia2	**2A**
Short-circuit current	**2.1...2.5A**
Degree of efficiency	**Typ. 85% full load, 82% half load**
Bit rate	**100kHz**
Ripple	**< 20mV**
Accuracy	**+/- 1%**
No-load, overload, short-circuit proof	**Yes**
Reverse pole protection	**Yes**
Isolation voltage	**1.5kV / 1min**
Interference emission, emission	**EN 55011 B / EN 50121.3.2**
Stability to disturbance:	
ESD	**EN 61000-4-2**
Burst	**EN 61000-4-4 SGrd3**
Surge	**EN 61000-4-5**
Shock/Vibr.	**EN 50155**
Environmental conditions	
Environmental temperature	**-25°C... +70°C**
Storage temperature	**-40°C... +85°C**

- **15-pole plug connector according to DIN 41612 type H152 LEDs for voltage indication of 5 and 12V**

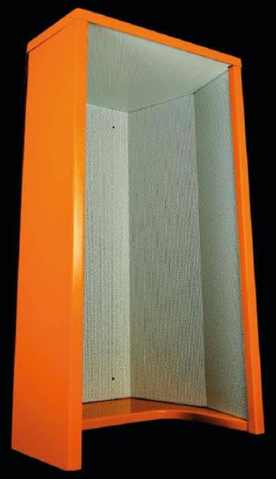
The DC/DC converter plug-in unit is used to generate the internal operating voltage of 5V / 6A and 12V / 2A with a central power supply of 48 / 60V.

It is particularly intended for use in small to medium-sized DS-6 systems, as well as for general use. For use with monitoring contacts, or for voltage monitoring, the backplane with art. no. 22 1 5002 183 4 is available. This backplane is equipped with a monitoring relay, fuse, connection terminals and wrap pins and simplifies the built-in of the transformer module.

For this purpose, one backplane is always required per transformer plug-in unit. The readiness for operation of the transformer plug-in unit is indicated by two LEDs on the front panel and on the circuit board of the backplane. Two potential-free changeover contacts are available per voltage monitor for fault indication.

2 183 4

Accessories Weatherproof call stations



Weatherproof sound-absorbing bonnet,
Plastic, RAL 2004 (other colours available)
Dimensions (HxWxD): 985mm x 580mm x 500mm
Art. no.: 989 3114 399 6

Weatherproof sound-absorbing bonnet,
GPR, RAL 2004 (other colours available)
Dimensions (HxWxD): 985mm x 600mm x 510mm
Art. no.: 989 3114 389 6

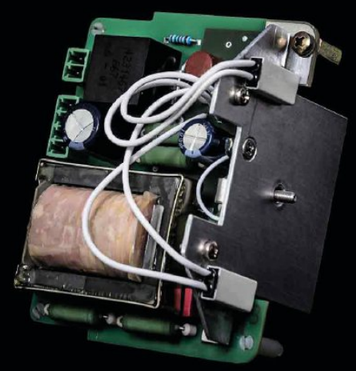
Weatherproof sound absorption bonnet,
Galvanised sheet steel, RAL 2004(other colours available)
Dimensions (HxWxD): 980mm x 585mm x 480mm
Art.-No.: 989 3114 397 4

Protective cover small, V2A, RAL 2004
Dimensions: 600mm x 300mm x 250mm
Art. no.: 212 3408 261 9

Pedestal, For using the call station as a pedestal
Art. no.: 1 950 5

Headset with PTT button
Art.-No.: 212 1130 008 8

Ex flashing beacon DC 48V, yellow
Art. no.: 919 3210 318 7
(other mechanical versions available with different colours and supply voltages available)



Additional amplifier for WF EX 25W / 100V
Art. no.: 1 570 3

Foot switch 1-pedal with accident protection cap and integrated change-over contact
Art. no.: 929 1230 341 4

Inlays as spare parts
Blind insert
Art. no.: 212 1831 193 1
Art. no.: 613 1831 007 0 (metallised)

Double toggle intercom buttons
Art. no.: 221 1201 572 4
Art. no.: 222 1601 560 5 (metallised)

Dial keypad
Art. no.: 223 0101 681 4
Art. no.: 223 1701 560 7 (metallised)

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

Accessories
Desk call stations

All Neumann Elektronik solutions are easy to configure and include a whole range of add-ons. Thanks to our many years of know-how, we are also able to manufacture customised solutions and components according to your requirements.

Available in:

213 1831 155 0	Key cap, ABS plastic, colour: sky blue (RAL 5015)
213 1831 156 1	Key cap, ABS plastic, colour: rape yellow (RAL 1021)
213 1831 157 2	Key cap, ABS plastic, colour: flame red (RAL 3000)
213 1831 158 3	Key cap, ABS plastic, colour: yellow-green (RAL 6018)
213 1831 159 4	Key cap, ABS plastic, colour: turquoise blue (RAL 5018)
213 1831 160 6	Key cap, ABS plastic, colour: signal black (RAL 9004)

229 0601 850 3	Key cover with fixing screws (5 pieces)

229 0701 850 4	Mounting kit for key cover incl. drilling template, drill and mounting instructions

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

Cabinets (Racks) / Cabinet Accessories

Wall housing	
3 215 1	Wall housing 9U: 600mm x 478mm x 575mm
3 216 2	Wall housing 21U: 600mm x 1012mm x 575mm

Steel cabinets / Racks	
649 0136 214 6	Basic steel cabinet VX25 with ventilated base, front door and rear panel Dimensions/colour: Cabinet W= 800, D= 600, H= 2000mm / RAL7035 Base H= 100mm / RAL9005 Including cabinet lighting and door contact, 2 earthing bars Protection class: IP55 according to IEC 60529 / NEMA 12
649 0136 217 9	Basic steel cabinet VX25 with ventilated plinth, front door and rear panel Dimensions/colour: Cabinet W= 800, D= 600, H= 2000mm / RAL7035 Base H= 100mm / RAL9005 Including cabinet lighting and door contact, 2 earthing rails, built-in fan panel, equipped with 2 fans and temperature controller, fuse frame 3U, mains connection plate Protection class: IP55 according to IEC 60529 / NEMA 12
649 0136 215 7	Basic steel cabinet VX25 with ventilated plinth, front door and rear panel Dimensions/colour: Cabinet W= 800, D= 800, H= 2000mm / RAL7035 Base H= 100mm / RAL9005 Including cabinet lighting and door contact, 2 earthing bars Protection class: IP55 according to IEC 60529 / NEMA 12
649 0136 216 8	Basic steel cabinet VX25 with ventilated plinth, front door and rear panel. Dimensions/colour: Cabinet W= 800, D= 800, H= 2000mm / RAL7035 Base H= 100mm / RAL9005 Including cabinet lighting and door contact, 2 earthing rails, built-in fan panel, equipped with 2 fans and temperature controller, fuse frame 3U, mains connection plate Protection class: IP55 according to IEC 60529 / NEMA 12
649 0136 220 3	Basic steel cabinet VX25 with ventilated plinth, front door and rear panel. Dimensions/colour: Cabinet W= 600, D= 600, H= 2000mm / RAL7035 Base H= 100mm / RAL9005 Including cabinet lighting and door contact, 2 earthing bars Protection class: IP55 according to IEC 60529 / NEMA 12
649 0136 213 5	Basic steel cabinet VX25 with base, Dimensions/colour: Cabinet W= 800, D= 600, H= 2200mm / RAL7035 Base H= 100 mm / RAL9005 Including cabinet lighting and door contact, 2 earthing bars Protection class: IP55 according to IEC 60529 / NEMA 12

Accessories cabinets / racks	
3 090 2	Slide-in carrier. For built-in 19“ with 3U and 84U cable duct on 4U with blind plate
979 3301 000 2	Fixed price for blanking plate incl. built-in
3 080 1	Connection panel, 3U, 2 top-hat rail
989 3114 320 0	Cable entry panel with brush
3 174 5	Heat conduction rail 19“ with 1U
989 4721 001 1	Fan, 19“ / 1U, 220V
999 1980 015 1	Patch cable, Cat.5e, 0.5m
999 1980 170 2	Patch cable, Cat.5e, 1m
999 1980 171 3	Patch cable, Cat.5e, 2m
999 1980 169 1	Patch cable, Cat.5e, 5m
999 1980 035 3	Patch cable, Cat.5e, 10m

Cabinets (Racks) / Cabinet Accessories

Accessories cabinets / racks	
989 3114 306 4	Mounting level front, rear and side: chassis 23mm x 64mm (600mm)
989 3114 139 8	Mounting level front, rear and side: chassis 18mm x 64mm (800mm)
989 3209 076 3	Frame 40U Cover one-sided
989 3209 016 7	Frame 40U Cover on both sides
989 3209 015 6	Frame 44U Cover one-sided
989 3209 013 4	Frame 44U Cover on both sides
989 3209 057 2	Installation kit 130°/ Installation kit for swing frame mounting
989 3209 056 1	Hinge 180° / Hinge extension from 130° to 180°
989 3114 173 6	Fan AC 230V / Fan in steel door (Attention, break-out required!)
989 3114 175 8	Fan DC 24V / Fan in steel door (Attention, breakout required!)

Services / Documentation

Services	
279 0101 045 9	Convert and record customer-specific texts or sounds
279 0101 750 2	Customised key labelling of a key
279 0195 005 8	Software data point configuration
100 0300 93	Adaptation by the development department
100 0300 26	Project management per hour
100 0300 60	Project planning per hour
100 0300 82	Programming DS-6 I/O module per hour

Standard documentation

Consisting of (German or English):
- Speech connection plan
- Rack wiring diagram
- Description of devices
- General system description

On customer request additionally:
- Dimensioned drawing
- CE declaration of conformity

699 9856	Documentation new systems CD
699 9968	Documentation expansion CD
699 9159	Documentation duplicate CD

Customised documentation

for example:
- Spare parts list
- Specific description of the system
- Distribution and cable overview plan or cable spider
- Block diagram
- Other customer request

Please fill in the form for documentation.

100 03010 5	Customised documentation (hourly rate)
100 03011 6	Customised documentation (daily rate)

Neumann Elektronik GmbH

Lahnstrasse 31-33
45478 Mülheim an der Ruhr
Germany

info@neumann-elektronik.com
www.neumann-elektronik.com

Tel: +49 208 40 944 0
Fax: +49 208 40 944 260