



NEUMANN
COMMUNICATIONS::SYSTEMS

ms NEUMANN ELEKTRONIK GmbH

System Manufacturer and System Integrator
for Information and Safety Technology



**Communication and Information Systems
in Harsh Environments**

Product Catalogue 2013

Issue 5



MATTIG



SCHAUER



WENZEL

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TIMM Components

TIMM ComServer



Exemplary Picture

TIMM ComServer
Art.-No. 3 353 4

The TIMM communication system includes various server cores for different basic applications like PA, intercom, telephony and control. The TIMM Intercom Software for PA and intercom functions is installed on every TIMM ComServer as standard. Furthermore, additional software packages can be installed if needed.

For configuration the TIMM Configuration Software per Intercom Line (Art.-No. 5 600 1) is additionally required.

The TIMM ComServer is an industrial computer that is specially designed for alarm and evacuation systems with high safety requirements. Two separate power supply units as well as a RAID system with two mirrored hard-disks ensure optimal reliability and system stability. In case of highest safety requirements the TIMM ComServer can be designed redundantly.

The TIMM ComServer is integrated in a 19" housing with two height units and an installation depth of 450 mm. To install the TIMM ComServer, use sliding rails to support heavy devices in a frame or cabinet with a minimum depth of 800 mm and preferably asymmetrical pivoting frames.

Equipment Features

- 3 LAN interfaces (1 GBit/s LAN (RJ-45))
- Redundant power supply
- Redundant hard disk (RAID 1)

Facilities

- Providing various server services*
- Basic server functions: higher-level functions for intercom, PA and telephony*
- Database-supported (includes data for configuration, statuses and events)
- Service local and remote
- Linked DS-6 Systems can be programmed*
- Error management via SNMP*
- Version with server redundancy*

* depending on version

Art.-No.	3 353 4
Physical data	
Dimensions	Width: 19"; height: 2 HU
Installation depth	450 mm (housing without connectors)
Weight	approx. 24 kg
Device data	
Type of processor	Intel Xeon
RAM	≥ 4GB
Hard disk	2 redundant each ≥ 250GB (RAID 1)
Network interfaces	3 x LAN 1 GBit/s LAN (RJ-45)
Power supply	
Operating nominal voltage	2 x redundant 230V AC -10%/+15%
Power consumption	2 x 700W
Environmental data	
Admissible climatic conditions	3K4 in conformity with DIN EN 60721 part 3-3
Admissible temperature range	+5 ... +40°C
Protection class	IP20 in conformity with DIN EN 60529

TIMM ComServer Software

Article	Art.-No.
TIMM Configuration Intercom Software per Intercom Line	5 600 1

TIMM ComServer Additional Software

Article	Art.-No.
TIMM Telephone/Emergency Call Software	5 034 2
TIMM Configuration Telephone Software per Subscriber/Channel	5 601 2
TIMM Configuration Emergency Call Telephone Software per Subscriber/Channel	5 608 9
TIMM SIP Trunk Software	5 065 6
TIMM SNMP Software	5 066 7
TIMM View Software	5 095 9
TIMM Configuration TIMM View Graphic per Subscriber	5 611 3

TIMM DS-6 Gateway



Exemplary Picture

TIMM DS-6 Gateway
Art.-No. 3 348 8

The TIMM DS-6 Gateway connects the subsystem DS-6 to the TIMM system. Thus, the existing customer network¹⁾ can be used for communication solutions from ms Neumann Elektronik. There are different gateway software packages depending on the application. By default, the software for operating and controlling 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 the data from the TIMM ComServer database and programs all DS-6 devices. Even if the TIMM DS-6 Gateway or the customer's network fails, all DS-6 applications will still be available.

The TIMM DS-6 Gateway is an industrial computer that is specially designed for alarm and evacuation systems with high safety requirements. The industrial computer provides a high degree of reliability and system stability. In case of highest safety requirements the TIMM DS-6 Gateway can also be designed redundantly.

It is integrated in a 19" housing with, however, only one height unit and a small installation depth of 356 mm.

Equipment Features

- 3 LAN interfaces (1 GBit/s LAN (RJ-45))

Facilities

- Linked DS-6 Systems can be programmed
- For connection of up to 250 intercom subscriber
- Error management via SNMP in the TIMM ComServer*
- Version with server redundancy*

* depending on version

Art.-No.	3 348 8
Physical data	
Dimensions	Width: 19"; height: 1 HU
Installation depth	356 mm (housing without connectors)
Weight	approx. 10 kg
Device data	
Type of processor	Intel Xeon
RAM	≥ 4GB
Hard disk	≥ 250GB
Network interfaces	3 x LAN 1 GBit/s LAN (RJ-45)
Power supply	
Operating nominal voltage	230V AC -10%/+15%
Power consumption	260W
Environmental data	
Admissible climatic conditions	3K4 in conformity with DIN EN 60721 part 3-3
Admissible temperature range	+5 ... +40°C
Protection class	IP20 in conformity with DIN EN 60529

¹⁾ has to be checked if required

TIMM DS-6 Gateway Additional Software

Article	Description	Art.-Nr.
TIMM Speechbox	Set up of 8 speechboxes per gateway	5 067 8

TIMM MDK/Analogue Gateway



Exemplary Picture

TIMM MDK/Analogue Gateway
Art.-No. 3 363 5

The TIMM MDK/Analogue Gateway connects subsystems like MDK or analogue subsystems (e.g. MZV or MF) to the TIMM system. Thus, the existing customer network¹⁾ can be used for communication solutions from ms Neumann Elektronik or from other companies. There are different gateway software packages depending on the application. By default, the software for operating and controlling is already installed on the TIMM MDK/Analogue Gateway.

The TIMM MDK/Analogue Gateway is an industrial computer that is specially designed for alarm and evacuation systems with high safety requirements. The industrial computer provides a high degree of reliability and system stability. In case of highest safety requirements the TIMM MDK/Analogue Gateway can also be designed redundantly.

It is integrated in a 19" housing with, however, only one height unit and a small installation depth of 356 mm.

For the connection of an MDK system a free port at a DS-6 U_{K0}-Adapter (Art.-Nr. 3 330 9) is required. Analogue Subsystems are connected by a free port at a DS-6 Analogue Adapter (Art.-No. 3 331 0).

Equipment Features

- 3 LAN interfaces (1 GBit/s LAN (RJ-45))

Facilities

- Error management via SNMP in the TIMM ComServer*
- Version with server redundancy*

* depending on version

Art.-No.	3 363 5
Physical data	
Dimensions	Width: 19"; height: 1 HU
Installation depth	356 mm (housing without connectors)
Weight	approx. 10 kg
Device data	
Type of processor	Intel Xeon
RAM	≥ 4GB
Hard disk	≥ 250GB
Network interfaces	3 x LAN 1 GBit/s LAN (RJ-45)
Power supply	
Operating nominal voltage	230V AC -10%/+15%
Power consumption	260W
Environmental data	
Admissible climatic conditions	3K4 in conformity with DIN EN 60721 part 3-3
Admissible temperature range	+5 ... +40°C
Protection class	IP20 in conformity with DIN EN 60529

¹⁾ has to be checked if required

ISDN Telephone Gateway

Exemplary Pictures



**ISDN Telephone Gateway
1xS0/2xAnalogue**
Art.-No. 3 377 0



ISDN Telephone Gateway 2xS0
Art.-No. 3 378 1



ISDN Telephone Gateway 1xE1
Art.-No. 3 379 2

The ISDN Telephone Gateway is used for the integration of an ISDN PABX into the TIMM system. Therefore, there are different versions according to the application:

- 1xS0/2xAnalogue
- 2xS0
- 1xS2M

All required licences as well as the installation are inclusive. In addition, the configuration of the ISDN Telephone gateway per channel (Art.-No. 5 609 0) is required.

For mounting into a cabinet a 19" mounting frame with one high unit (Art.-No. 919 1116 716 2) is optional available.

Art.-No.	3 377 0	3 378 1	3 379 2
Physical Data			
Dimensions	210 x 134 x 32 mm	210 x 134 x 32 mm	210 x 184 x 32 mm
Weight	680 g	660 g	1050 g
Technical data			
Interfaces	2 x a/b 1 x S0 2 x Ethernet 10/100-BASE-TX (auto negotiation)	2 x S0 2 x Ethernet 10/100-BASE-TX (auto negotiation)	1 x E1 2 x Ethernet 10/100-BASE-TX (auto negotiation)
Power supply	Power over Ethernet acc. to 802.3af, Class 3 or power supply adapter primary: 100-240V, 50Hz, 200mA secondary: 40VDC, 12W	Power over Ethernet acc. to 802.3af, Class 3 or power supply adapter primary: 100-240V, 50Hz, 200mA secondary: 40VDC, 12W	Power over Ethernet acc. to 802.3af, Class 3
Operating temperature	0...+45°C	0...+45°C	0...+45°C
Storage temperature	-10...+70°C	-10...+70°C	-10...+70°C
Relative humidity	10...90 % (not condensing)	10...90 % (not condensing)	10...90 % (not condensing)

ISDN Telephone Gateway Software

Article	Art.-No.
TIMM Configuration Analogue/ISDN-Gateway Software per Port/Channel	5 609 0

Analogue Telephone Gateway



Exemplary Picture

The Analogue Telephone Gateway provides four analogue interfaces and it is used for the connection of maximum four analogue telephones to the TIMM system. The exchange of these telephones is done by the TIMM ComServer. The installation of the Analogue Telephone Gateway is inclusive. In addition, the configuration of the gateway per port (Art.-No. 5 609 0) is required. For mounting into a cabinet a 19" mounting frame with one high unit (Art.-No. 919 1116 716 2) is optional available.

Analogue Telephone Gateway 4x Art.-No. 3 394 9

Art.-No.	3 394 9
Physical Data	
Dimensions	210 x 134 x 32 mm
Weight	680 g
Technical data	
Interfaces	4 x a/b for the connection of each one RJ-11 connector per analogue channel, connection at the middle PINs 2 x Ethernet 10/100-BASE-TX (auto negotiation)
Power supply	Power over Ethernet acc. to 802.3af, Class 3 or power supply adapter primary: 100-240V, 50Hz, 200mA secondary: 40VDC, 12W
Operating temperature	0...+45°C
Storage temperature	-10...+70°C
Relative humidity	10...90 % (not condensing)

Analogue Telephone Gateway Software

Article	Art.-No.
TIMM Configuration Analogue/ISDN-Gateway Software per Port/Channel	5 609 0

TIMM OPC Server



Exemplary Picture

TIMM OPC Server
Art.-No. 3 372 5

The TIMM OPC Server provides an OPC interface for the integration into supervising management systems. In this way the communication between our systems and a SCADA system, for example can be established.

By means of the TIMM OPC Server, DS-6 devices can be controlled by the management system or send messages to be displayed at the management system.

By default, the software which is required for OPC controlling is installed on every TIMM OPC Server. Additionally, the TIMM Configuration OPC Software per line (Art.-No. 5 610 2) is required.

The TIMM OPC Server is an industrial computer that is specially designed for alarm and evacuation systems with high safety requirements. The industrial computer provides a high degree of reliability and system stability.

It is integrated in a 19" housing with, however, only one height unit and a small installation depth of 356 mm.

Equipment Features

- 3 LAN interfaces (1 GBit/s LAN (RJ-45))

Facilities

- Forwarding of monitoring and status messages of DS-6 devices to the management system
- Transmission of instructions from the management system to DS-6 devices

Art.-No.	3 372 5
Physical data	
Dimensions	Width: 19"; height: 1 HU
Installation depth	356 mm (housing without connectors)
Weight	approx. 10 kg
Device data	
Type of processor	Intel Xeon
RAM	≥ 4GB
Hard disk	≥ 250GB
Network interfaces	3 x LAN 1 GBit/s LAN (RJ-45)
Power supply	
Operating nominal voltage	230V AC -10%/+15%
Power consumption	260W
Environmental data	
Admissible climatic conditions	3K4 in conformity with DIN EN 60721 part 3-3
Admissible temperature range	+5 ... +40°C
Protection class	IP20 in conformity with DIN EN 60529

TIMM OPC Server Software

Article	Art.-No.
TIMM Configuration OPC Software per Line	5 610 2

TIMM CANOPEN Gateway



Exemplary Picture

TIMM CANOPEN Gateway
 Art.-No. 3 373 6

The TIMM CANopen Gateway provides a simple and flexible access to CAN systems. It enables the integration of the TIMM system into existing management systems. Thus, the TIMM system with all its subsystems and transmission paths can be monitored with existing hardware and software from the customer.

By default, the software which is required for CANOPEN controlling is installed on every TIMM CANOPEN Gateway.

Equipment Features

- 1 Ethernet interface with LED for indication of the communication status
- 1 CAN interface with LED for indication of the communication status
- 1 LED for power supply
- 1 CPU LED for the status of the firmware

Facilities

- Forwarding of monitoring and status messages of DS-6 devices to the CAN management system
- Transmission of instructions from the CAN management system to DS-6 devices

Art.-No.	3 373 6
Physical data	
Dimensions	DIN rail housing 22,5 x 100 x 115 mm
Technical data	
Field bus interface	1 x CAN acc. to ISO 11898-2
Further interfaces	1 x 10/100 Mbit/s Ethernet, Auto Negotiation, Auto Crossover, Stecker RJ45
Power supply	9-32V DC, 3W
Admissible temperature range	-20 ... +70°C

TIMM Multi Audio Server 16 Channel



Exemplary Picture

**TIMM Multi Audio Server
16 Channel**
Art.-No. 3 369 1

The TIMM Multi Audio Server 16 Channel provides playing sound or music files (mp3) in playlists with scheduling parameters to targets in the TIMM/DS-6 system. Totally, it enables playing 16 different sound files at different targets. A status side gives information about the current playing situation. The TIMM Multi Audio Server is integrated in a 19" housing with two height units and an installation depth of 450 mm. To install the TIMM ComServer, use sliding rails to support heavy devices in a frame or cabinet with a minimum depth of 800 mm and preferably asymmetrical pivoting frames.

Equipment Features

- 3 LAN interfaces (1 GBit/s LAN (RJ-45))
- Redundant power supply

Facilities

- Providing of up to 16 channels
- Service local and remote
- Version with server redundancy*

* depending on version

Art.-No.	3 369 1
Physical data	
Dimensions	Width: 19"; height: 2 HU
Installation depth	450 mm (housing without connectors)
Weight	approx. 23 kg
Device data	
Type of processor	Intel Xeon
RAM	≥ 4GB
Hard disk	≥ 250GB
Network interfaces	3 x LAN 1 GBit/s LAN (RJ-45)
Power supply	
Operating nominal voltage	2 x redundant 230V AC -10%/+15%
Power consumption	2 x 700W
Environmental data	
Admissible climatic conditions	3K4 in conformity with DIN EN 60721 part 3-3
Admissible temperature range	+5 ... +40°C
Protection class	IP20 in conformity with DIN EN 60529

Switches

DS-6 Fast Ethernet Switch Module, 5 Ports



**DS-6 Fast Ethernet
Switch Module**
Art.-No. 2 391 5

The DS-6 Fast Ethernet Switch Module enables you to access all connected devices within the DS-6 system. It distributes all data. The module is designed to be installed in 19 inch slot carrier according to DIN 41494.

Equipment features

- Front plate contains five 10/100 Mbit/s Ports
- Two green LEDs per port

Art.-No.	2 391 5
Physical Data	
Dimensions	6 MU and 3 HU
Technical Data	
Operating voltage	12 V DC
Supported standards	IEEE 802.3i, 10BASE-T Ethernet IEEE 802.3u 100 BASE-TX Fast Ethernet IEEE 802.3x Flow Control 100 Mbit/s with 4B/5B coding and MLT-3 interface for 100 BASE-TX10 or 100 Mbit/s half duplex
Network interface	RJ45 socket for 10 BASE-T or 100 BASE-TX-Ethernet interface
Operating temperature	0...40°C
Data frame filter rate	max. 14.800 data frame for 10 Mbit/s-Port max. 148.800 data frame for 100 Mbit/s-Port
Date frame transmission rate	max. 14.800 data frame for 10 Mbit/s-Port max. 148.800 data frame for 100 Mbit/s-Port
Network latency (with 64 byte packets)	100 Mbit/s- Port on 100 Mbit/s- Port: max. 20 µs
Size of address database	1024 MAC addresses
Addressing	48-Bit MAC addresses
Queue buffer	64 kb

DS-6 Switch, 24 Ports



DS-6 Switch
Art.-No. 3 326 4

The DS-6 Switch is a compact fast Ethernet switch, which enables you to access all connected devices within the DS-6 system. It distributes all data.

The module is designed to be installed in 19 inch slot carrier according to DIN 41494.

Equipment features

- Front plate contains 24 10/100 Mbit/s Ports
- Two green LEDs pro Port

Art.-No.	3 326 4
Physical data	
Dimensions (W x D x H)	280 x 180 x 44 mm
Weight	2,8 kg
Technical data	
Operating voltage	48V DC (24-60V)
Maximum power consumption	5 W
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 interface	RJ45 socket for 10BASE-T or 100BASE-TX-Ethernet interface
Operating temperature	0...40°C
Data frame filter rate	max. 14.800 data frame for 10 Mbit/s-Port max. 148.800 data frame for 100 Mbit/s-Port
Date frame transmission rate	max. 14.800 data frame for 10 Mbit/s-Port max. 148.800 data frame for 100 Mbit/s-Port
Queue buffer	2,5 MB

Adapters and Gateways

DS-6 U_{K0}-Adapter, 8 Folds

The DS U_{K0}-Adapter can be used as an adapter respectively interface for the connection of digital U_{K0}-call stations to the decentralized communication system DS-6. Altogether eight digital weather-proof as well as explosion-proof call stations can be connected using a cable of up to 6 km.

In the DS-6 U_{K0}-Adapter includes two redundant switches that connect the eight U_{K0}-subscribers with each other. The U_{K0}-Adapter as a stand-alone device constitutes a small netnode for eight digital U_{K0}-subscribers. Additionally, each switch includes four Ethernet ports for a redundant network design as well as redundant cascading of the devices.

Front side:



Back side:



DS-6 U_{K0}-Adapter, 8 Folds
Art.-No. 3 330 9

Equipment features

- Front plate contains 8 RJ45 sockets, 2 USB sockets and 16+6 LEDs
- Back side contains 8 RJ45 sockets, 1 RS232 socket, 2 fault indication toggle contacts, 9 fuses and the connecting terminals for power supply

Facilities

- IP-Adapter for digital call stations
- Integrated double switch
- Configurable over serial interface
- Operating voltage monitoring of the U_{K0}-Adapter
- Operating voltage monitoring of the call station energizing
- Fuse monitoring
- Temperature monitoring
- Watchdog
- 2 two-way contacts for fault indication
- Separately configurable operating mode for each component port

Art.-No.	3 330 9
Physical data	
Dimensions (H x W x D)	43 x 483 x 284 mm
Weight	4,1 kg
Technical data	
Operating voltage range	48 V...60 V
Power input for 48V DC without call station energizing current	approx. 600 mA
Cable lengths	max. 3km balanced line (shielded twisted pair) 0,4 mm Ø max. 5km balanced line (shielded twisted pair) 0,6 mm Ø max. 6km balanced line (shielded twisted pair) 0,8 mm Ø No terminal resistor required!
Frequency range	300 Hz...7 kHz
Line coding	2B1Q
Communication protocols	U _{K0} : Neumann-WL protocol IP: Neumann-DS-6 protocol
IP hardware interface	LAN: 100-BASE-T Autonegotiation Ethernet: Ethernet in conformity with IEEE 802.3u (100 Mbit/s)
Environmental data	
Admissible climatic conditions	3K4 in conformity with DIN IEC 721 part 3-3 (-5... +40°C, 5... 95% r. F.)

DS-6 Analogue-Adapter, 8 Folds

The DS-6 Analogue-Adapter can be used as an adapter respectively interface for the connection of analogue calls stations, amplifier and other analogue components to the decentralized communications system DS-6. The Analogue-Adapter enables users to connect eight call station respectively eight amplifiers for max. four loudspeaker circuits per amplifier. A user-defined mixed combination of call stations, amplifiers and analogue components is also possible. The DS-6 Analogue-Adapter includes two redundant switches that connect eight analogue subscribers with each other. The Analogue-Adapter, when used as a stand-alone device, constitutes a small net node for eight analogue subscribers. Additionally, every switch has four Ethernet ports for a redundant network design as well as redundant cascading of the devices.

Front side:



Back side:



DS-6 Analogue-Adapter, 8 Folds
Art.-No. 3 331 0

Equipment features

- Front plate contains 8 RJ45 sockets, 2 USB sockets and 16+6 LEDs
- Back side contains 8 x 2 RJ45 sockets, 1 RS232 socket, 2 two-way contacts for information of fault, 9 fuses and the connector for power supply

Facilities

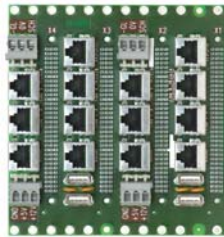
- Configurable over serial interface
- Fuse monitoring
- Operating voltage monitoring of Analogue-Adapter
- Operating voltage monitoring of line circuit and call station energizing
- Operating current monitoring of the call stations
- Temperature monitoring
- Watchdog
- Switchable input and output impedance
- Separately configurable operating mode for each component port
- Special operating modes possible, e.g. by using call stations maximum extended to 32 lines
- 2 two-way contacts for fault indication
- Galvanic isolation of line connection / control lines
- c-point control and line voltage are configurable with jumper in the housing

Art.-No.	3 331 0
Physical data	
Dimensions (H x W x D)	43 x 483 x 284 mm
Weight	4,1 kg
Technical data	
Operating voltage range	48 V...60 V
Power input for 48V DC without line and call station energizing current	approx. 600 mA
Frequency range	300 Hz...10 kHz
Line level	0 dB/775 mV
Input impedance	Ri = 600R or 10K (configurable)
Output impedance	Ri = 600R or 100R (configurable)
IP hardware interface	LAN: 100-BASE-T Autonegotiation Ethernet: Ethernet in conformity with IEEE 802.3u (100 Mbit/s)
Environmental data	
Admissible climatic conditions	3K4 in conformity with DIN IEC 721 Part 3-3 (-5... +40°C, 5... 95% r. F.)

DS-6 Interface Module, Analogue



**DS-6 Interface Module,
Analogue**
Art.-No. 2 390 4



DS-6 Backplane
Art.-No. 22 1 5102 390 5

The DS-6 Interface Module can be used as adapter/interface for the connection of analogue call station, amplifier or other analogue end devices to the decentralized communication system DS-6.

The Module enables you to activate a call station respectively an amplifier for up to four loudspeaker circuits.

The DS-6 Backplane is designed for four analogue interface modules (Art.-No. 2 390 4) and contains four USB interfaces.

Equipment features

- 96-pole multiway connector according to DIN 41612 design C
- Front plate contains 2 RJ45 sockets and 6+4 LEDs

Art.-No.	2 390 4
Physical data	
Dimensions	6 MU and 3 HU
Technical data	
Operating voltage	5 V DC, 48 V DC
Current consumption	max. 500 mA
Line level	0 dB/775 mV
Transmission protocol	DS-6 protocol
AF bandwidth	12 kHz
Codec sampling rate	24 kHz/16 bit
Environmental data	
Admissible climatic conditions	3K4 in conformity with DIN IEC 721 Part 3-3

DS-6 Ethernet Extender ETH-2W



**DS-6 Ethernet Extender ETH-2W,
incl. power supply adapter**

Master (0...+50°C)

Art.-No. 1 890 8

Slave (0...+50°C)

Art.-No. 1 891 9

Master (-25...+55°C)

Art.-No. 1 892 0

Slave (-25...+55°C)

Art.-No. 1 893 1



Mounting frame
Art.-No. 919 1116 828 6

The DS-6 Ethernet Extender ETH-2W connects DS-6 components via 2 copper wires with 5,7 MBit/s over several kilometres. The device enables connections for a range of up to 2 km via 2-wire transmission.

The DS-6 Ethernet Extender ETH-2W provides symmetrical duplex transmission via 2-wire.

A complete link of 2 DS-6 Ethernet Extender ETH-2W converters consist of one master device and one slave device. Master and slave are physically identical but have a different software setup.

The housing is a robust, EMC proofed metal case.

Two of these devices fit into one 19" mounting frame (1 HU).

Facilities

DSL interface

- Line: SHDSL.bis conform ITU G.991.2
- Line coding: 16 TCPAM and 32 TCPAM
- Supports ANSI (Annex A) and ETSI (Annex B)
- Data rate: up to 5.7 MBit/s
- Interface: RJ45 2-wire

LAN interface

- Ethernet RJ45
- 10/100 Base T
- Automode: 10/100 Half or Fullduplex
- Auto Crossover
- Self learning bridge with 4.096 MAC address storage
- Packet switching and filtering up to 44.000 packets per second
- Integrated high speed Ethernet bridge

General information

- LED indicators for DSL Link, power and Ethernet (LAN)
- Robust aluminium housing, EMC-compliant designed and proofed
- CE marked

Art.-No.	1 890 8	1 891 9	1 892 0	1 893 1
Physical data				
Dimensions (H x W x D)	44 x 225 x 137 mm			
Weight	645 g			
Technical data				
Operating power range	18...75 V DC			
Power consumption	12 VA			
Connection length	approx. 2 km at 5,7 Mbit/s (0,8 mm Ø)			
Supported standards	Ethernet (10/100 Base-T, full/half-duplex, auto MDI) acc. to IEEE802.3u. Transparent Bridge acc. to IEEE802.3d VLAN Bridge acc. to IEEE802.3q and IEEE802.3p IP-QoS with evaluation VLAN-ID and/or VLAN priority bit			
Network interface	RJ45 for 10/100 Base-T RJ45 for SHDSL			
Operating temperature	0...+50 °C		-25...+55 °C	

DS-6 Telephone Server ISDN



DS-6 Telephone Server ISDN
(exemplary figure)
Art.-No. 3 375 8

The DS-6 Telephone Server enables connections between ISDN subscriber and subscriber from a DS-6 system for intercom and PA. Several ISDN subscribers can be called by pressing a defined key at the call stations in the DS-6 system. Vice versa, the ISDN subscribers can call several DS-6 subscribers by dialling a special number. There are maximum two calls at the same time between ISDN subscribers and DS-6 subscribers possible.

Equipment features

ISDN subscriber connection with integrated ISDN adapter

- 1 x ISDN interface (S0: Four-wire circuit, 144 kbit/s (2B+D) user rate)
- 2 x Ethernet interfaces (RJ45)

Art.-No.	3 375 8
Physical data	
Dimensions (H x W x D)	43 mm x 437 mm x 249 mm
Weight	ca. 6 kg
Technical data	
Operating voltage	230V AC -10%/+15%
	200W
Connection	ISDN
Network interfaces	2 x Ethernet: 100/1000 Base-T 1 x ISDN interface: S0 (Four-wire circuit, 144 kbit/s (2B+D) user rate)
Operating system	Linux
Environmental data	
Admissible climatic conditions	3K4 in conformity with DIN IEC 721 Part 3-3
	+5 ... +40°C
	IP20 acc. to DIN EN 60529

Analogue Telephone Connection



Analogue Telephone Connection (exemplary figure)

Art.-No. 649 0153 002 0

The analogue telephone connection serves as interface between an analogue PABX port and a PA System. The main function of the telephone connection is to record an incoming call and play back the announcement via the PA System. Acoustic feedback can be avoided by buffering the announcement.

If acoustic feedback does not occur the live announcement mode can be applied. In this mode the announcement is broadcast directly via the PA System.

In addition to the PC the telephone connection includes an analogue PABX port and the necessary hardware components for control of the VF and lines as well as fault reporting contacts.

The software is protected by a dongle.

Performance features analogue telephone connection

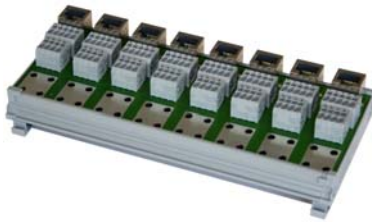
- 1 x analogue PABX interface (RJ-11)
- a/b (VF) port and line
- Potential free fault contacts
- 4 x USB connection (for Dongle)

Optional

- Power Supply 48 V
- Operating system German / English

Art.-No.	649 0153 002 0
Physical data	
Dimensions (H x W x D)	43 mm x 437 mm x 249 mm
Weight	4,2 kg
Technical data	
Operational voltage	230 V
Connection	analogue
Operating system	Windows
Environmental data	
Climatic conditions	3K4 in conformity with DIN IEC 721 Part 3-3

Transfer Module 8 Slots RJ45



**Transfer Module
8 Slots RJ45**
Art.-No. 969 1614 045 5

The transfer module with eight slots is designed for the connection of eight digital or four analogue terminals. The terminals are connected via clamp connections. Inside, the connections to the backplanes are established via converted patch cables.

Equipment features

- 8 RJ45 slots
- Clamp connections

Art.-No.	969 1614 045 5
Physical data	
Dimensions	210 x 85 mm
Technical data	
Connection range	0,08...1,5 mm ²

PoE Injector 1-Port



PoE Injektor 1-Port
Art.-No. 919 1116 838 7

The Power over Ethernet Injector provides DC 48 V over Ethernet cables. It allows the cable to transfer power and data simultaneously. The maximum distance between the Injector and the splitter is 100 m.

Equipment features

- LED indicators power input indication
- Distance up to 100 m
- Auto-detect of PoE equipment and devices from being damaged by incorrect installation

Art.-No.	919 1116 838 7
Physical data	
Dimensions (W x D x H)	73 x 55 x 24 mm
Weight	50 g
Technical data	
Input voltage	48 V DC, 0,4 A
Ethernet connector	2 x RJ45 (1 for data + DC Out, 1 for data in)
Ethernet data rate	10/100/1000 Mbps
Number of devices can be powered	1
Operating temperature	0...+50°C
Storage temperature	-20...+70°C
Relative humidity	0...90 %
Standard compliance	IEEE 802.3 Ethernet IEEE 802.3u Fast Ethernet IEEE 802.3ab Gigabit Ethernet IEEE.802.3af Power over Ethernet

Call Stations

Indoor Call Stations

MTSD DS-6 Call Station

The MTSD DS-6 Call Station is used in the decentralized communication system DS-6. It allows direct calls to other call stations, make loudspeaker announcements and also programmable local functions. A built-in display offers additional display options for status and error messages in plaintext. The call station has 16 keys. These can be extended up to 64 respectively 112 keys by suitable additional casing.

Beside the destination keys, the call station has also a volume control as well as a speech memory. It meets all requirements of a dispatcher station.

A USB stick (Art.-No. 21 4 1143 001 7) that is inside the call station on the circuit board serves as speech memory. This USB stick provides standard tones and texts. Additionally, it can be loaded with customized announcements, tone sequences or other audio files which can be played back by pressing a key.

Normally, the call station is powered by Power over Ethernet. If a local power supply is required, several AC/DC adapters are available (see Accessories in description No. 18 4 0101 045).



MTSD DS-6, 16 Keys
Art.-No. 1 045 0



MTSD DS-6, 64 Keys
Art.-No. 1 045 0 with 1 047 2

Equipment features¹⁾

- Impact and break resistant ABS plastic housing
- Flexible gooseneck electret microphone (300 mm)
- Integrated full range speaker, 8 Ω
- Replaceable illuminated pushbuttons with LED signalling
- Illuminated 2-line LC display
- USB stick optional

Facilities

- Switch to off or low volume (low volume of 12 dB)
- Direct speech connections via key pushbuttons line selection
- Functions configurable by DS-6
- High speech intelligibility (12kHz band width)
- Free key configuration as intercom destination keys or for local functions
- Two slots for text memories
- Low wiring required

Art.-No.	1 045 0
Physical data	
Number of illuminated pushbuttons	16
Dimensions (H x W x D)	88 x 183 x 260 mm
Weight	approx. 1,1 kg
Colour top / base	oyster white (RAL 1012) / graphite black (RAL 9011)
Technical data	
Power supply	Via network interface 1: Power over Ethernet in conformity with IEEE 802.3af AC adapter: 24V DC -10/+15 % centralized power supply: 48V -10/+15 %
Power consumption	5 W
Maximum power consumption	10 W
Frequency range	100 Hz ... 12 kHz
IP Hardware interface	LAN: 100-BASE-T Autonegotiation Ethernet: Ethernet in conformity with IEEE 802.3u (100 Mbit/s)
Transmission protocol	IP: Neumann-DS-6 protocol
Operating temperature	0...+50°C

Environmental data	
Admissible climatic conditions	3K4 according to DIN IEC 721 Part 3-3 (-5... +40°C, 5... 95% r. F.)
Protection class	IP20 acc. to DIN EN 60529

¹⁾ Wall-mounted Terminal Box and connection cable are **not** included in delivery of the MTSD DS-6 Call Station.

MTSD DS-6 Additional Casing



MTSD DS-6 Additional casing
Art.-No. 1 047 2

MTSD DS-6 Call Stations can be extended by attaching max. two additional casings up to 112 keys.

Equipment features

- Impact and break resistant ABS plastic housing
- Incl. second connector terminal board and 3 m connector cable
- Incl. accessories for attaching to the basic unit

Art.-No.	1 047 2
Physical data	
Dimensions (H x W x D)	88 x 183 x 235 mm
Weight	approx. 0,8 kg
Colour top / base	oyster white (RAL 1012) / graphite black (RAL 9011)
Environmental data	
Admissible climatic conditions	3K4 according to DIN IEC 721 Part 3-3 (-5... +40°C, 5... 95% r. F.)
Protection class	IP20 acc. to DIN EN 60529

MTSD DS-6 Accessories

Article	Description	Art.-No.
Button cover	includes 5 screws	22 9 0601 850 3
Mounting kit for button cover	incl. drill hole template, drill and assembly instructions	22 9 0701 850 4
Pushbutton cap	ABS plastic, Colour: sky blue (RAL 5015)	21 3 1831 155 0
Pushbutton cap	ABS plastic, Colour: rape yellow (RAL 1021)	21 3 1831 156 1
Pushbutton cap	ABS plastic, Colour: fire red (RAL 3000)	21 3 1831 157 2
Pushbutton cap	ABS plastic, Colour: yellow green (RAL 6018)	21 3 1831 158 3
Pushbutton cap	ABS plastic, Colour: turquoise blue (RAL 5018)	21 3 1831 159 4
Pushbutton cap	ABS plastic, Colour: signal black (RAL 9004)	21 3 1831 160 6
Clear plastic hood for pushbutton cap	PC plastic, Colour: transparent	21 2 1831 121 2

MTSD U_{K0} Call Station

The MTSD UK0 Intercom Call Station can be used as components not only of the local DS-6 communication system but also of the higher-level TIMM system. In addition to providing direct speech connections to other call stations, they allow loudspeaker announcements and additional programmable local functions.

Art.-No. 1 846 9 is an inexpensive indoor call station whose eight destination keys are able to directly reach a maximum of eight users, signalling included. If more than eight users need to be reached, Art- No. 1 845 9 provides an extra dial-pad for reaching a large number of users. Please note that in this case the number of destination keys with a signalling function is limited to six, as one key needs to be set up as the "Call" key and another as the "Dial cancellation" key.

MTSD UK0 Intercom Call Station is directly connected by one of the eight UK0 interfaces provided by the DS-6 UK0 Adapter. This connection can also be used for powering the call station, so no extra power supply is required. Phantom powering (two-wire operation) for short distances is also possible. If local cabling should be unfavourable, extra AC/DC converters are provided as accessories for local power supply, see Accessories.

A call station with a dial-pad has the option of configuring the dial-pad keys as destination keys. Then the call station can directly build up speech connections with 20 destinations. Note that there is no LED signalling for the additional destination keys on the dial-pad. The dial-pad's original function is then no longer available.



MTSD U_{K0} without dial pad
Art.-No. 1 846 9



MTSD U_{K0} with dial pad
Art.-No. 1 845 8

Equipment features

- 8 illuminated pushbuttons with LED signalling
- Dial pad*
- Impact and break resistant ABS plastic housing
- Flexible gooseneck electret microphone (300 mm)
- Integrated full range speaker, 8 Ω
- USB stick optional

Facilities

- Switch to off or low volume (low volume of 12 dB)
- Direct speech connections via key pushbuttons line selection
- Functions configurable by DS-6 respectively TIMM
- Free key configuration as intercom destination keys or for local functions

* depending on version

Art.-No.	1 846 9	1 845 8
Physical Data		
Number of keys	8	6 + dial pad bzw. 20
Dimensions (H x W x D)	88 x 183 x 260 mm	
Weight	ca. 1,2 kg	ca. 1,5 kg
Colour top / base	oyster white (RAL 1012) / graphite black (RAL 9011)	
Technical Data		
Power supply	via DS-6 U _{K0} -Adapter: 48V DC -10/+15% via AC-Adapter: 24V DC -10/+15 %	
Frequency range	300 Hz ... 7 kHz	
Power consumption	5 W	
Maximum power consumption	10 W	
Permissible line resistance: for current supply	150 Ohm at 48 V / 1 W	
for UK0- interface	80 Ohm at 48 V / max. modulation 400 Ohm	
Admissible temperature range	0...+50°C	
Environmental Data		
Admissible climatic conditions	3K4 acc. to DIN EN 60721 part 3-3 respectively IEC 721 part 3-3	
Protection class	IP20 acc. to DIN EN 60529	

MTSD U_{K0} Accessories

Article	Description	Art.-No.
Button cover	includes 5 screws	22 9 0601 850 3
Mounting kit for button cover	incl. drill hole template, drill and assembly instructions	22 9 0701 850 4
Pushbutton cap	ABS plastic, Colour: sky blue (RAL 5015)	21 3 1831 155 0
Pushbutton cap	ABS plastic, Colour: rape yellow (RAL 1021)	21 3 1831 156 1
Pushbutton cap	ABS plastic, Colour: fire red (RAL 3000)	21 3 1831 157 2
Pushbutton cap	ABS plastic, Colour: yellow green (RAL 6018)	21 3 1831 158 3
Pushbutton cap	ABS plastic, Colour: turquoise blue (RAL 5018)	21 3 1831 159 4
Pushbutton cap	ABS plastic, Colour: signal black (RAL 9004)	21 3 1831 160 6

DS-6 PC Call Station Standard

The DS-6 PC Call Station is a display operable call station that enables an operation with supported visual information. It will be used in DS-6 systems, if a graphically supported destination key structure shall increase the operation comfort. The PC call station provides a very good overview by partitioning in freely definable functional areas. The destination keys can be programmed e.g. appropriate to their function, their local allocation or other assignments on different, separately selectable pages. The individual pages can each be subdivided in several windows. Each window can be deposited with a user-defined graphic in the background. Bitmaps on the keys can be displayed depending on the key status.

The operation is done by touch panel. The monitor with touch panel is designed as a desktop device.

The interface to the system is realized by one or two Ethernet ports. The version with two ports complies the DS-6 redundant function of all decentralized DS-6 components.



DS-6 PC Call Station Standard
Art.-No. 1 295 7

Equipment features

- Industry PC
- Robust touch monitor 17"
- Audio module for the connection to a microphone, loudspeaker or head set
- Microphone and loudspeaker individually placeable for the work space
- Pages with background graphic and overlaid destinations
- Incl. 40 buttons/symbols
- Incl. 3 user interface pages
- Direct connection to DS-6 (also redundantly)
- USB stick optional

Facilities

- DS-6 functions see MTSD DS-6
- 2 Ethernet interfaces with DS-6 redundancy
- User interface (pages) configurable
- Freely programmable buttons/symbols
- Freely programmable user interface pages
- Display of statuses, date and time
- Optimal connection establishment and signalling speed
- High speech intelligibility (12kHz band width)
- Generate an own configuration during operation

Art.-No.	1 295 7
Physical data	
Casing dimensions PC (H x W x D)	100 mm x 425 mm x 241 mm
Casing dimensions monitor (W x H x D)	391 mm x 366 mm x 203 mm
Technical data	
Operating voltage	230V
Frequency range	100 Hz ... 12 kHz
Connection interface	Ethernet (2x)
Transmission protocol	Neumann protocol (DS-6)
Screen definition	1280 x 1024 at 60 Hz
Number of keys/buttons	40 incl.
Number of the screen pages	3 incl.
Audio interface	Microphone and loudspeaker / headphone / headset
Picture graphics	user-defined
Environmental data	
Admissible climatic conditions	3K4 according to DIN IEC 721 Part 3-3 (-5... +40°C, 5... 95% r. F.)
Protection class	IP30

DS-6 PC Call Station Standard Accessories

Article	Art.-No.
Configuration for each additional key / symbol executed by manufacturer	279 1001 285 5
Configuration for each additional screen with rastered surface area executed by manufacturer	279 1101 285 6
IEC320 supply cable with C14 plug and connector for the UK market	999 1980 004 9
Headphone	969 1130 906 6
Headset	989 1130 903 3
USB cable extension up to 100 m	919 1116 833 2
VGA extender up to 100 m: Transmitter	919 1116 834 3
VGA extender up to 100 m: Receiver	919 1116 835 4

DS-6 PC Call Station Universal



DS-6 PC-Call Station Universal
Art.-No. 1 285 6

The DS-6 PC Call Station universal is a freely assembling PC call station. The L.-No. includes the software and the audio module. All further components can be freely selected from the accessories. The operation can be carried out with every type of pointing device like a mouse, a touchpad or similar as well as a touch panel. The monitor with or without touch panel can be designed as a mounting or a desktop device in different sizes.

The following parts are included in scope of delivery of the device.

View	Description	Art.-No.
	<p>Software DS-6 PC call station</p> <p>Inclusive Hardware-Dongle</p> <p>Inclusive documentation of Hardware and Software</p> <p>Inclusive label with PC identification</p>	5 010 6
	<p>Audio module PC call station</p>	1 299 1
	<p>Inclusive USB cable 3m</p>	

DS-6 PC Call Station Universal Accessories

These accessories can be ordered from the manufacturer under the relevant reference number.

View



Description

Compact industry PC
(Standard configuration 230VAC operation)
with a IEC320-C14 connector for adapting
country specific supply cable. Inclusive cable
for European using and Windows XP® Pro
multilingual

Art.-No.

919 1116 871 4

Compact industry PC
(Raid configuration 230VAC operation) with a
IEC320-C14 connector for adapting country
specific supply cable. Inclusive cable for Euro-
pean using and Windows XP® Pro multilingual

919 1116 872 5

Configuration for each key / symbol executed
by manufacturer

279 1001 290 1

Configuration for each screen with rastered
surface area executed by manufacturer

279 1101 285 6



Open frame touch monitor 15"
Mounting frame 15" for front panel

1 395 8
919 1116 898 3

Open frame touch monitor 17"
Mounting frame 17" for front panel

1 396 9
919 1116 899 4

Open frame touch monitor 19"
Mounting frame 19" for front panel

1 397 0
919 1116 891 6

All devices are inclusive USB cable, VGA
cable and AC/DC desktop adapter with a
IEC320-C14 connector for adapting coun-
tryspecific supply cable and supply cable for
European using.



Desktop touch monitor 15"

1 391 4

Desktop touch monitor 17"

1 392 5

Desktop touch monitor 19"

1 393 6

All devices are inclusive USB cable, VGA
cable and AC/DC desktop adapter with a
IEC320-C14 connector for adapting country
specific supply cable and supply cable for
European using.



IEC320 supply cable with C14 plug and connector for the UK market 999 1980 002 7



Mounting elektret gooseneck microphone length: 350mm 1 247 4



Mounting elektret gooseneck microphone length: 450mm 1 260 9



Desktop elektret gooseneck microphone length: 350mm with stereo jack 3,5mm 1 267 6

Desktop elektret gooseneck microphone length: 450mm with stereo jack 3,5mm 1 270 0



Mounting loudspeaker 8R 1W 1 214 8



Desktop loudspeaker 8R with with 15-pin D-Sub female connector 4 760 7



Headphone with stereo jack 3,5mm 969 1130 906 6



Headset with stereo jack 3,5mm 989 1130 903 3



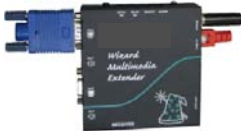
USB cable extension up to 100m via Cat.5 connection

919 1116 833 2



Transmitter
919 1116 834 3

VGA extender up to 100m via Cat.5 cable



Receiver
919 1116 835 4



Loudspeaker cable 3m with 15-pin D-Sub female connector with hand guard and knurled-head screws

223 0201 299 0

DS-6 Panel-mounted Call Station

The DS-6 Panel-mounted Call Station allows direct voice communication with other call stations. It can also be used for loudspeaker announcements and even for programmable local functions. The panel-mounted call station enables the assembly of call stations into switch boards and control consoles of control rooms.

The functions of the DS-6 Panel-mounted Call Station are consistent with the DS-6 desktop call station but it is subdivided into single hardware modules. It consists of a switch plate with push to talk buttons, flush-mounted loudspeaker, gooseneck microphone and a separate housing for electronic components and connectors. The switch plate and the flush-mounted loudspeaker are built in standard housings of 96 mm x 96 mm. They match to the assembly holes according to IEC 61554.

In addition to the destination keys for intercom/PA, the DS-6 Panel-mounted Call Station consists of a volume control function as well as a speech memory. A USB stick (Art.-No. 21 4 1143 001 7) is used as speech memory and it is attached at the circuit board inside of the electronic housing. This USB stick provides standard tones and texts. Additionally, it can be loaded with customized announcements, tone sequences or other audio files which can be played back by pressing a key.



DS-6 Panel-mounted Call Station

Equipment features

- 12 to 48 push to talk buttons possible
- Differently coloured illuminated pushbuttons with LED signalling
- Integrated full range speaker, 1 W / 8 Ω
- Gooseneck electret microphone (420 mm or 550 mm)
- Dust- and water-tight electronic and terminal housing
- USB stick optional

Hardware modules	Art.-No.
Switch plate with 12 keys	1 287 8
Flush-mounted loudspeaker	1 214 8
Gooseneck electret microphone (approx. 420 mm)	1 288 9
Gooseneck electret microphone (approx. 550 mm)	1 289 0
Electronic and terminal housing	1 282 3
Physical data	
Dimensions of housing for electronic components and terminals (H x W x D)	110 x 230 x 300 mm
Weight	approx. 3,5 kg
Technical data	
Power supply	Via network connection 1: Power over Ethernet in conformity with IEEE 802.3af Via AC adapter: 24 V DC -10/+15 % Centralized power supply: 48 V -10/+15 %
IP hardware interface	LAN: 100-BASE-T Autonegotiation Ethernet: Ethernet in conformity with IEEE 802.3u (100Mbit/s)
Transmission protocol	IP: Neumann DS-6 protocol
Operating temperature	0...+50°C
Environmental data	
Admissible climatic conditions	3K4 according to DIN IEC 721 Part 3-3 (-5... +40°C, 5... 95% r. F.)
Protection class	IP20 acc. to DIN EN 60529

DS-6 Panel-mounted Call Station 19" / Fire Department Call Station

The DS-6 Panel-mounted Call Station 19" allows direct voice connections to other call stations. It can also be used for loudspeaker announcements and even for programmable local functions. The call station signals call and busy states at the keys. A built-in display offers additional display options in plain text, like date, time, own name, call destinations according to the keypress, for example.

It is designed for mounting in 19" frames or cabinets. The call station can also be mounted in control consoles, of course.

The call station has 16 line keys. The functions of the DS-6 Panel-mounted Call Station 19" are consistent with the MTSD DS-6 desktop call station.

A USB stick is used as speech memory and it is attached at the circuit board inside the DS-6 Panel-mounted Call Station 19". This USB memory stick is available at ms Neumann Elektronik with the article number 21 4 1143 001 7 and it contains standard tones and texts. Additionally, it can be loaded with customised announcements, tone sequences or audio files which can be played back by pressing a key.



DS-6 Panel-mounted Call Station 19"
Art.-No. 1 279 9

Equipment features

- 16 illuminated pushbuttons (destination keys)
- Differently coloured pushbutton caps with LED signalling
- Replaceable pushbutton caps
- Integrated full range speaker 1W, 8Ω
- Flexible gooseneck electret microphone (300mm)
- Illuminated LC display
- USB stick optional

Art.-No.	1 279 9
Physical data	
Number of network interfaces	2
Number of illuminated pushbuttons	16
Dimensions	width 19", height 2 HU, installation depth 220 mm (without plug-in connectors and clamps)
Weight	approx. 2 kg
Housing	aluminium, frontplate anodised
Technical data	
Power supply	via network connection 1: PoE acc. to IEEE 802.3af via AC adapter: 24V DC -10/+15% centralised power supply: 48V-10/+15%
Network connection (IP hardware)	100-BASE-T Autonegotiation Ethernet acc. to IEEE 802.3u (100M/bit/s)
Power consumption	5 W
Maximum power consumption	10 W
Frequency range	100Hz...12kHz
Transmission protocol	Neumann-DS-6 protocol
Environmental data	
Admissible temperature range	0...+50°C
Climatic conditions	3K4 acc. to DIN EN 60721 part 3-3
Protection class	IP20 acc. to DIN EN 60529

DS-6 Crane Call Station with external WLAN

The DS-6 Crane Call Station with external WLAN can be used in conjunction with the DS-6 Decentralized Communication System. It is connected with a DS-6 ground station as an access point by wireless LAN. The DS-6 Crane Call Station with external WLAN allows direct voice communication with other terminals. It can also be used for loudspeaker announcements and even for programmable local functions. The DS-6 Crane Call Station with external WLAN has 16 line keys. There can be used the two standards IEEE 802.11a/b/g/h/i and IEEE.11n for the WLAN connection with two different frequency bands, 2.4 GHz and 5 GHz for each standard.

In addition to target keys for WL/EL, the DS-6 Crane Call Station with external WLAN has volume control and an optional speech memory.

For easier mounting at the seat of the crane operator the DS-6 Crane Call Station WLAN external will be delivered inclusive a mounting plate with quick access fasteners. The call station can also be used as a wall-mounted call station by moving the mounting plate to the backside.

Using the DS-6 Crane Call Station WLAN external a WLAN Access Client for mounting in the crane cabin is required. The WLAN Access Client and the additional antennas for mounting outside the crane cabin are not including the scope of delivery.



**DS-6 Crane Call Station
with external WLAN**
Art.-No. 1 156 3

Equipment Features

- 16 illuminated pushbuttons (destination keys)
- Replaceable pushbutton caps
- Integrated full range speaker 1W, 8Ω
- Integrated power supply with 230V input voltage
- Four plug-in connectors for easy mounting
- Flexible gooseneck electret microphone
- USB stick optional
- External WLAN Access point supplied by call station (PoE)

Facilities

- Distances of several 100m possible
- Flexible mounting possibilities

Art.-No.	1 156 3
Physical data	
Number of illuminated pushbuttons	16
Dimension (H x W x D)	270 x 194 x 90 mm (without gooseneck microphone and mounting plate)
Weight	< 5 kg
Colour	Orange (RAL 2004 smooth finish)
Technical data DS-6 Crane Call Station	
Power supply	230 V AC / 50 Hz
Network connection (IP hardware)	100-BASE-T Autonegotiation Ethernet acc. to IEEE 802.3u (100M/bit/s) PoE acc. to IEEE 802.af
Frequency range	300Hz...12kHz
Transmission protocol	Neumann DS-6 Protokoll
Technical data WLAN	
Frequency band	2,4 GHz and 5 GHz
WLAN Standard	IEEE 802.11 a/b/g/h/i
Operating range (depending on type of antenna, frequency range and data rate)	≥ 100 m
Environmental data	
Admissible temperature range	0...+50C°
Climatic conditions	3K4 acc. to DIN EN 60721 part 3-3 respectively IEC 721 part 3-3
Protection class	IP65 acc. to DIN EN 60529

Accessories for DS-6 Crane Call Station with external WLAN

Article	Description	Art.-No.
WLAN Access Client/Point	Acc.to IEEE 802.11 a/b/g/h/i For mounting inside the Crane cabin and/or for using as ground station with frequency band 2,4GHz and 5GHz	91 9 1116 941 2
Omni directional antenna	For 5GHz band and outdoor using	91 9 1150 019 6
Omni directional antenna	For 2,4GHz band and outdoor using	91 9 1150 018 5
Antenna cable	3 m	99 9 1980 263 6
Lamp remover		92 9 1216 022 4
Lens remover		92 9 1215 051 5

Weather-proof Call Stations

Weather-proof Digital Call Stations (WFD)

The weather-proof digital WFD Call Station enables direct connections to other call stations. They can also be used for outdoor as well as indoor loudspeaker announcements in harsh environments, e.g. in factories of heavy industry. Light barriers (optoelectronic coupler) are activated contactlessly by pressing the robust double toggle keys. This allows durable using in abrasive and damp environments. The call stations are designed for wall mounting. The WFD Additional Casing allows extending the WFD Call Station by additional 3 double toggle keys.



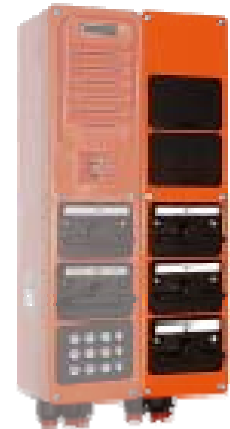
**WFD Call Station,
3 Double Toggle**
Art.-No. 1 595 0



**WFD Call Station,
2 Double Toggle
Dial Pad**
Art.-No. 1 681 6



**WFD-Additional Casing,
3 Double Toggle**
Art.-No. 1 630 0



Equipment features

- Dust and water tight case with key inserts consist of glass-fibre reinforced wet polyester
- Double toggle speech keys with opto-electronic coupler, each with 2 lines
- Integrated Pressure Chamber loudspeaker and electret microphone
- Connector for optional auxiliary amplifier

Facilities

- Spacious connecting compartment, two wires can be connected per terminal
- The line keys can be freely assigned as destination keys
- Dial pad
- Extensible with additional casing
- 25 W auxiliary amplifier that can be locally retrofitted solder-free
- Temperature controlled power limitation of the 25 W amplifier
- LEDs for busy and call indication
- After the case has been removed the 4 holes in the base case become accessible to install the unit
- Second priority circuit as standard feature
- Switchable volume reduction, e.g. for night time operation
- Additional loudspeaker switched off after the first intercom response as a standard feature
- Adjustable microphone sensitivity (noise compensated microphone)
- Compression gland for additional loudspeaker line as a standard feature

WFD Call Station

Art.-No.	1 595 0	1 681 6
Physical data		
Number of double toggle speech keys	3	2 + Dial pad
Dimensions (H x W x D)	500 x 120 x 180 mm	
Weight (without Auxiliary amplifier)	approx. 6,5 kg	
Colour	pure orange (RAL 2004)	
Electrical data		
Operating voltage range	48...60 V DC	
max. quiescent current	25 mA	
max. operating current	approx. 125 mA	
Nominal output power amplifier	1 W	
min. input voltage for nominal output	150 mV	
Average sound level (1 W / 1 m)	86 dB	
Frequency range	300 Hz to 7 kHz (-3 to ±1 dB)	
Transmission protocol	Neumann WL protocol	
Environmental conditions		
Climate class according to DIN EN 60721-3-3	3K6 (extended temperature range -25° to +70°C)	
Protection class according to DIN EN 60529	IP66	
Device group, category according to 94/9/EG-RL	II 3G and 3D	

WFD Additional Casing

Art.-No.	1 630 0
Physical data	
Number of double toggle keys	3
Dimensions (H x W x D)	500 x 120 x 180 mm
Weight (without auxiliary amplifier)	approx. 5 kg
Colour	pure orange (RAL 2004)
Cable entries	2 x M25; 1 x M20
Cable length to the WFD Call Station	approx. 1m
Environmental conditions	
Climate class according to DIN EN 60721-3-3	3K6 (extended temperature range -25° to +70°C)
Protection class according to DIN EN 60529	IP66
Device group, category according to 94/9/EG-RL	II 3G and 3D

WFD Accessories

Article	Description	Art.-No.
Accessories WFD Call Station		
25 W Auxiliary Amplifier ¹⁾	25 W / 48/60 V DC	1 570 3
Mounting Kit	Adapter for drill holes of older call stations, incl. 2 angle brackets and 4 steel hexagon socket screws M6 x 18	22 9 0501 560 0
Blank Panel	Instead of Key Insert	21 2 1831 193 1
Hexagon socket screw wrench SW5	For hexagon socket screws on housing panel	97 9 4413 561 9

¹⁾ not included in delivery of the WFD Call Stations Art.-No. 1 593 8, 1 594 9 and 1 595 0, for technical data see page 28.

Weather-proof Analogue Call Stations (WFA)

The weather-proof analogue WFA Call Station enables direct speech connections to other call stations. They can also be used for outdoor as well as indoor loudspeaker announcements in harsh environments, e.g. in factories of heavy industry.

Light barriers (optoelectronic coupler) are activated contactless by pressing the robust double toggle keys. This allows durable using in abrasive and damp environments. The call stations are designed for wall mounting and they cannot be extended with supplementary cases.



**WFA Call Station,
3 Double Toggle**
Art.-No. 1 590 5

Equipment features

- Dust and water tight case with key inserts consist of glass-fibre reinforced wet polyester
- Double toggle speech keys with opto-electronic coupler, each with 2 lines
- Integrated Pressure Chamber loudspeaker and electret microphone
- Connector for optional auxiliary amplifier

Facilities

- Direct speech connections, key controlled
- Can be switched to low volume (night time operation)
- LED indication of incoming call and line busy, prioritized
- Functions configurable via DS-6
- Less wiring required

Art.-No.	1 590 5
Physical data	
Number of double toggle speech keys	3
Dimensions (H x W x D)	500 x 120 x 180 mm
Weight (without auxiliary amplifier)	approx. 6,5 kg
Colour	pure orange (RAL 2004)
Electrical data	
Operating voltage range	48...60 V DC
max. quiescent current	10 mA [
max. operating current]50 mA [1 A (with 25 W auxiliary amplifier)
Nominal output power amplifier	280 mW
min. input voltage for nominal output	150 mV
Average sound level (1 W / 1 m)	86 dB
Frequency range	300 Hz to 10 kHz (-3 to ±1 dB)
Environmental conditions	
Climate class according to DIN EN 60721-3-3	3K6 (extended temperature range -25° to +70°C)
Protection class according to DIN EN 60529	IP66
Device group, category according to 94/9/EG-RL	II 3G and 3D

WFA Accessories

Article	Description	Art.-No.
Accessories WFA Call Station		
25 W Auxiliary Amplifier ¹⁾	25 W / 48/60 V DC	1 570 3
Mounting Kit	Adapter for drill holes of older call stations, incl. 2 angle brackets and 4 steel hexagon socket screws M6 x 18	22 9 0501 560 0
Blank Panel	Instead of Key Insert	21 2 1831 193 1
Hexagon socket screw wrench SW5	For hexagon socket screws on housing panel	97 9 4413 561 9

¹⁾ not included in delivery of the WFA Call Stations Art.-No. 1 588 2, 1 589 3 and 1 590 5, for technical data see page 88.

Weather-proof Analogue Compact Call Stations (WFAK)

The weather-proof analogue Compact Call Stations (WFAK) is designed for using in normal environments with lowly acoustic noise levels.

By means of the compact design which is adjusted to the environmental conditions an optimal price performance ratio is incidental. The WFAK Call Station can be extended up to a compact multiple-line call station by adding a 6-button WFAK additional casing.



**WFAK-Call Station,
3 Keys**

Art.-No. 1 960 6 (orange)



**WFAK-Additional Casing,
6 Keys**

Art.-No. 1 967 3 (orange)

**As above, but with
Connector for
Auxiliary Amplifier**

Art.-No. 1 964 0 (orange)

Equipment features

- Dust and water tight case with key inserts consist of glass-fibre reinforced wet polyester with UV-protective coating
- Illuminated line selection keys with associated fields for labels
- Integrated full range speaker and electret microphone
- Incl. hexagon socket screw wrench SW5
- For WFAK Call Stations 1 964 0 and 1 974 1 only:
 - > Connector for 25 W Auxiliary Amplifier (1 842 5)
 - > Plug-in connector for built-in 1 W amplifier (1 841 4)

Facilities

- Line selection via keys
- Line functions configurable via DS-6
- Individual gain adjustments of microphone and speaker amplification
- Incoming call and line busy indication

Art.-No.	1 960 6	1 964 0	1 967 3
Physical data			
Number of keys	3		6
Dimensions (H x W x D)	250 x 100 x 195 mm		250 x 100 x 150 mm
Weight (without auxiliary amplifier)	approx. 2,3 kg		approx. 2,1 kg
Colour	pure orange (RAL 2004)		
Electrical data			
Operating voltage range	24...60 V DC		—
max. quiescent current	30 mA		—
max. operating current	approx. 100 mA		—
Nominal output power amplifier	1 W		—
min. input voltage for nominal output	100 mV		—
Average sound level (1 W / 1 m)	86 dB		—
Frequency range	150 Hz to 10 kHz		—
Environmental conditions			
Climate class according to DIN EN 60721-3-3	3K6 (extended temperature range -25° to +70°C)		
Protection class according to DIN EN 60529	IP65		
Device group, category according to 94/9/EG-RL	II 3G and 3D		

Explosion-proof Call Stations

Weather-proof Digital Call Stations, Explosion-proof (WFD-EX)

The explosion-proof digital WFD Call Station enables direct connections to other call stations. They can also be used for loudspeaker announcements in explosion-endangered environments.

Light barriers (optoelectronic coupler) are activated contactlessly by pressing the robust double toggle keys. This allows durable using in abrasive and damp environments, especially in areas with explosive gases and dusts. The call stations are designed for wall mounting and they cannot be extended with supplementary cases.



**WFD-EX Call Station,
1 Double Toggle**
Art.-No. 1 564 6

**As above, with Auxiliary
Amplifier¹⁾**
Art.-No. 1 561 3



**WFD-EX Call Station,
2 Double Toggle**
Art.-No. 1 565 7

**As above, with Auxiliary
Amplifier¹⁾**
Art.-No. 1 562 4



**WFD-EX Call Station,
3 Double Toggle**
Art.-No. 1 563 5

**As above, with Auxiliary
Amplifier¹⁾**
Art.-No. 1 560 2



**WFD-EX Call Station,
2 Double Toggle
Dial Pad**
Art.-No. 1 521 9



**As above, with Auxiliary
Amplifier¹⁾**
Art.-No. 1 522 0

Equipment features

- Dust and water tight case with key inserts consist of glass-fibre reinforced wet polyester
- Double toggle speech keys with opto-electronic coupler, each with 2 lines
- Active parts are compression-proof capsuled
- Integrated Pressure Chamber loudspeaker and electret microphone
- Connector for optional auxiliary amplifier

Facilities

- Direct speech connections, key controlled
- Can be switched to low volume (night time operation)
- LED indication of incoming call and line busy, prioritized
- Functions configurable via DS-6
- Less wiring required

Art.-No.	1 564 6 / 1 561 3	1 565 7 / 1562 4	1 563 5 / 1 560 2
Physical data			
Number of double toggle speech keys	1	2	3
Dimensions (H x W x D)	500 x 120 x 180 mm		
Weight (without auxiliary amplifier)	approx. 6,5 kg		
Colour	pure orange (RAL 2004)		
Electrical data			
Operating voltage range	48...60 V DC		
max. quiescent current	≤25 mA		
max. operating current	≤100 mA		
Nominal output power amplifier	1 W		
min. Input voltage for nominal output	150 mV		
Frequency range	300 Hz to 7 kHz		
Transmission protocol	Neumann WL protocol		
Environmental conditions			
Climate class according to DIN EN 60721-3-3	3K6 (but extended temperature range -20° to +70°C)		
Protection class according to DIN EN 60529	IP66		
Ex-certification according to EG-RL 94/9/EG	 II 2 G EEx d e ib IIC T4 (PTB 01 ATEX 2070)  II 2 D IP66 T135°C (PTB EX 05-25008)		

Weather-proof Analogue Call Stations, Explosion-proof (WFA-EX)

The explosion-proof analogue WFA Call Station enables direct speech connections to other call stations. They can also be used for loudspeaker announcements in explosion-endangered environments.

Light barriers (optoelectronic coupler) are activated contactlessly by pressing the robust double toggle keys. This allows durable using in abrasive and damp environments especially in areas with explosive gases and dusts. The call stations are designed for wall mounting and they cannot be extended with supplementary cases.





<p>WFA-EX Call Station, 1 Double Toggle Art.-No. 1 575 8</p> <p>As above, with Auxiliary Amplifier¹⁾ Art.-No. 1 578 1</p>	<p>WFA-EX Call Station, 2 Double Toggle Art.-No. 1 576 9</p> <p>As above, with Auxiliary Amplifier¹⁾ Art.-No. 1 579 2</p>	<p>WFA-EX Call Station, 3 Double Toggle Art.-No. 1 577 0</p> <p>As above, with Auxiliary Amplifier¹⁾ Art.-No. 1 580 4</p>
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Equipment features

- Dust and water tight case with key inserts consist of glass-fibre reinforced wet polyester
- Double toggle speech keys with optoelectronic coupler, each with 2 lines
- Active parts are compression-proof capsuled
- Integrated Pressure Chamber loudspeaker and electret microphone
- Connector for optional auxiliary amplifier

Facilities

- Direct speech connections, key controlled
- Can be switched to low volume (night time operation)
- LED indication of incoming call and line busy, prioritized
- Functions configurable via DS-6

Art.-No.	1 575 8 / 1 578 1	1 576 9 / 1 579 2	1 577 0 / 1 580 4
Physical data			
Number of double toggle speech keys	1	2	3
Dimensions (H x W x D)	500 x 120 x 180 mm		
Weight (without auxiliary amplifier)	approx. 6,5 kg		
Colour	pure orange (RAL 2004)		
Electrical data			
Operating voltage range	48...60 V DC		
max. quiescent current	10 mA		
max. operating current	approx. 50 mA		
Nominal output power amplifier	1 W		
min. Input voltage for nominal output	150 mV		
Frequency range	300 Hz to 10 kHz (-3 to ±1 dB)		
Environmental conditions			
Climate class	3K4 according to DIN IEC 721 part 3-3 (-5... +40°C, 5... 95% r. F.)		
Protection class according to DIN EN 60529	IP66		
Ex-certification according to EG-RL 94/9/EG	 II 2 G EEx d e ib IIC T4 (PTB 01 ATEX 2070)  II 2 D IP66 T135°C (PTB EX 05-25008)		

¹⁾ the 25 W auxiliary amplifier Art.-No. 1 570 3 is installed, for technical data see page 28.

Accessories Outdoor Call Stations

Auxiliary Amplifier EX 25 W

A call station in combination with an auxiliary amplifier and a loudspeaker can use the auxiliary loudspeaker as a PA speaker for incoming calls. Only the initial call to the call station is transmitted over the auxiliary loudspeaker. If the call station answers, its internal speaker is automatically used for the rest of the call. After approx. 20 seconds pause in the conversation, the call station returns to using the PA loudspeaker.



25-W-Auxiliary amplifier¹⁾
Art.-No. 1 570 3

Facilities

- Installable solder-free, on site
- Temperature-controlled power limiter
- PA operation with separate auxiliary loudspeaker
- Auxiliary loudspeaker can be switched off
- Installable in the following call stations:
 - WFA: Art.-No. 1 590 5
 - WFD: Art.-No. 1 595 0 and 1 681 6
 - WFD-EX: Art.-No. 1 563 5, 1 564 6, 1 565 7
And 1 521 9
 - WFA-EX: Art.-No. 1 575 8, 1 576 9 and 1 577 0
- Already included in the following call Stations:
 - WFD-EX: Art.-No. 1 560 2, 1 561 3 und 1 562 4
 - WFA-EX: Art.-No. 1 578 1, 1 579 2 und 1 580 4

Art.-No.	1 570 3
Mounting 25 W auxiliary amplifier	10 1570 4
Electrical data	
Operating voltage range	48...60 V DC
max. quiescent current	10 mA
max. operating current	
Output power	25 W at 400 Ω
Output voltage	100 V (can be changed to 50 V)
min. input voltage for nominal output	1 V
Input impedance	20 kΩ (at 1 kHz)
Frequency range (measured at $V_0=25$ V AC)	200 Hz to 10 kHz (-3 to ±1 dB)
Distortion factor (measured at $V_0=70$ V AC)	≤5 %

¹⁾ we recommend the heat conducting plate Art.-No. 99 8211 003 3 for mounting.

Acoustic Hood



**Acoustic Hood, V4A
(weather-proofed)**
 Art.-No. 64 9 0109 031 3

Art.-No.	64 9 0109 031 3
Physical data	
Dimensions (H x W x D)	844 x 690 x 615 mm
Surface	structured coating RAL 7035
Inside glued with foam	10 mm thick (bw)
Electrical data	
Surface impedance	$<5 \times 10^{-3} \Omega$



**Acoustic Hood, Indoor
(not weather-proofed)**
 Art.-No. 64 9 0109 004 3

Art.-No.	64 9 0109 004 3
Physical data	
Dimensions (H x W x D)	900 x 650 x 530 mm
Surface	structured coating RAL 7035
Inside lined with foam	10 mm thick (bl)
Electrical data	
Surface impedance	5×10^4 to $5 \times 10^6 \Omega$

WFA/WFD Stand



WFA/WFD Stand
Art.-No. 1 950 5

WFA/WFD Stand, Hot-dip Galvanised
Art.-No. 989 3106 105 2

Facilities

- Mounting option for the following call stations:
 WFA: Art.-No. 1 590 5
 WFD: Art.-No. 1 595 0
 WFD-EX: Art.-No. 1 563 5, 1 564 6 and 1 565 7
 WFA-EX: Art.-No. 1 575 8, 1 576 9 and 1 577 0

Art.-No.	1 950 5	98 9 3106 105 2
Physical data		
Dimensions (H x W x D)	1701 x 128 x 152,5 mm	
Weight	25 kg	
Material	Steel with corrosion protection coating	Steel, hot-dip galvanised and coated
Colour	pure orange (RAL 2004)	

WFAK Stand



WFAK Stand, Orange
Art.-No. 1 953 8

Facilities

- Mounting option for the following call stations:
 WFAK, orange: Art.-No. 1 960 6, 1 964 0 and 1 967 3

Art.-No.	1 953 8
Physical data	
Dimensions (H x W x D)	1701 x 128 x 152,5 mm
Colour	pure orange (RAL 2004)

PA Components

Indoor Loudspeakers

Wall-mounted Loudspeakers



**Wall-mounted Loudspeaker,
6 W / 100 V**
Art.-No. 4 775 3
(without volume control)
Art.-No. 4 776 4
(with volume control)

The Wall-mounted Loudspeaker is equipped with a high-quality, full range loudspeaker and is distinguished by good music reproduction and clear speech intelligibility.

To mount the unit, the loudspeaker rear panel is first mounted to the wall with two screws. Afterwards, the housing is placed onto the panel and fastened with two sturdy springs.

Equipment features

- White wooden housing with perforated face plate
- Connection to the 100 V network
- Built-in volume control with spring terminals

Art.-No.	4 775 3 / 4 776 4
Physical data	
Dimensions (W x H x D)	280 x 170 x 65 mm
Weight	approx. 1,4 kg
Colour	white
Volume control	– / ●
Electrical data	
Nominal output	6 W
Transformer matching (100 V)	6; 3; 1,5 W
Impedance	1,66; 3,33; 6,66 kΩ
Frequency range	150 Hz to 20 kHz
Average sound pressure (1 W / 1 m)	96 dB
max. sound pressure P _{max} / 1 m	102 dB (6 W)

Ceiling Loudspeaker



Ceiling Loudspeaker,
50 W / 8 Ω
 Art.-No. 4 793 3
6 W / 100 V
 Art.-No. 4 794 4

This Ceiling Mounted Loudspeaker with white painted metal screens and bevels is suitable for mounting in ceilings of all types of materials. The connection to the 100 V network (version with transformer) as well as the possibly required input level compensator is accomplished with easy operate spring terminals. The Ceiling Mounted Loudspeaker is a space saving and good sounding professional solution for use in hallways and corridors.

Equipment features

- Moisture-proof impregnated membrane, UV-resistant
- Easy mounting in circular cutout with spring clips
- Metal construction, corrosion resistant
- 100 V versions incl. transformer

Art.-No.	4 794 4
Physical data	
Weight	approx. 1,5 kg
Loudspeaker diameter	Ø 218 mm
Ceiling cutout diameter	Ø 200 mm
Mounting depth	84 mm
Colour	pure white (RAL 9010)
Connection cable length	–
Electrical data	
Nominal output	6 W
Transformer rating (100 V)	6; 3; 1,5 W
Impedance	1,66; 3,33; 6,66 kΩ
Frequency range (-10 dB)	70 Hz to 20 kHz
Average sound pressure (1 W/1 m)	90 dB

Ceiling Loudspeaker, Fire-proof



Ceiling Loudspeaker, 6 W / 100 V
In Fire-proof Enclosure
 Art.-No. 4 795 5

This two-part Ceiling Mounted Loudspeaker is featured with a fire-proof installation housing (fire pot), which is fastened with screws or nails before pouring the concrete. The fire pot is made of sheet steel. Additionally, it is coated with a fire resisting lacquer coat.

Equipment features

- Fire proof sheet steel housing on concrete ceilings
- Fire resistant lacquer coat
- Quick mounting of the loudspeaker with 2 spring clamps

Art.-No.	4 795 5
Physical data	
Weight	approx. 1,8 kg
Loudspeaker dimensions (D x L)	Ø 232 mm x 95 mm
Ceiling cutout diameter	Ø 200 mm
Housing colour	pure white (RAL 9010)
Electrical data	
Nominal output	6 W
Transformer rating (100 V)	6; 3; 1,5 W
Impedance	1,66; 3,33; 6,66 kΩ
Frequency range (-10 dB)	200 Hz to 16 kHz
Average sound pressure (1 W/1 m)	88 dB

Weather-proof Loudspeakers

Weather-proof Omni-directional PA Loudspeakers



Omni-directional PA Loudspeaker, 1,5/3/6 W, 100 V, Dual Horn
Art.-No. 4 805 7



Omni-directional PA Loudspeaker, 1,5/3/6 W, 100 V, Single Horn
Art.-No. 4 806 8

Omni-directional PA Loudspeakers can be used in closed spaces or outdoors. They are especially suitable for PA applications in environments with bad acoustics or with changing noise levels.

Announcements with high syllable intelligibility can be achieved with omni-directional PA Loudspeakers both in subway facilities and railway platforms as well as in spacious outdoor facilities such as railway track fields, outdoor sites or plant premises.

Equipment features

- Horn and middle piece are made of flame-resistant, fibreglass-reinforced polyester (colourfast, non-fading)
- Good speech reproduction, high syllable intelligibility
- Post and wall mounting, mounting on suspension cables

Art.-No.	4 805 7	4 806 8
Physical data		
Enclosure dimensions (L x W x D)	405 x 192 x 170 mm	260 x 192 x 170 mm
Weight	approx. 2,1 kg	approx. 1,6 kg
Enclosure colour	Iron grey (RAL 7011)	
Number of horns	2	1
Electrical data		
Nominal output	6 W	
Transformer rating (100 V)	6; 3; 1,5 W	
Impedance	1,66; 3,33; 6,66 kΩ	
Frequency range	250 Hz to 10 kHz	
Average sound pressure (1 W / 1 m)	96 dB	98 dB
max. sound pressure P _{max} / 1 m	102 dB (6 W)	103 dB (6 W)
Environmental conditions		
Climate class according to DIN EN 60721-3-3	3K6 (extended temperature range -25° to +70°C)	
Protection class according to DIN EN 60529	IP54	
Housing flammability	UL94 V-0	

Weather-proof Pressure Chamber Loudspeaker



Pressure Chamber Loudspeaker,
25 W / 100 V ¹⁾
 Art.-No. 4 803 5

Pressure Chamber loudspeakers are designed for applications in harsh environments. They are preferably used as long-range loudspeakers in spacious facilities as well as in environments with high noise levels. They are distinguished by their high efficiency, excellent speech reproduction, and good directivity.

Equipment features

- Dust- and watertight, fiberglass reinforced plastic enclosure
- Weatherproof and heat resistant
- High efficiency, good directivity
- Incl. U-shaped, stainless steel bracket (1.4301), tiltable

Art.-No.	4 803 5
Physical Data	
Enclosure dimensions (Ø x L)	Ø 235 x 345 mm
Weight	approx. 3,1 kg
Enclosure colour	silver grey (similar to RAL 9006))
Electrical data	
Power rating	25 W
Transformer matching (100 V)	1, 3, 6, 8, 12, 25 W
Frequency range	300 Hz bis 7 kHz
Mean sound pressure level (1W/1m)	108 dB
Max. sound pressure level P _{max} / 1 m	121 dB
Impedance	10000, 3333, 1667, 1250, 833, 400 Ω
Environmental Conditions	
Ambient temperature	-25 to +70 °C
Protection class	IP 65

¹⁾ For mounting we recommend using the Hook Wrench, Art. No. 97 9 4410 001 5.



Pressure Chamber Loudspeaker
15 W / 100 V
 Art.-Nr. 4 904 7

A reliable and UV-resistant horn speaker with IP66 in light grey (similar to RAL 7035). The loudspeaker is provided with a one meter cable. The U-bracket made of V2A (1.4301) is included in the delivery and allows flexible and quick mounting on walls and ceilings.

Equipment features

- High UV- and weather resistance
- High efficiency, wide frequency range
- Flexible wall and ceiling mounting
- Incl. U-shaped, stainless steel bracket (1.4301), tiltable
- Incl. 1 m connecting cable

Art.-No.	4 904 7
Physical data	
Enclosure dimensions (D x L)	Ø 208,5 x 271,5 mm
Weight	1,55 kg
Enclosure colour	light grey (similar RAL 7035)
Connecting cable	1 m
Electrical data	
Nominal output	15 W
Transformer rating (100 V)	15; 7,5; 3,75; 1,87 W
Impedance	0,66; 1,33; 2,66; 5,3 kΩ
Frequency range	300 Hz to 12,5 kHz
Average sound pressure (1 W / 1 m)	107,3 dB
max. sound pressure P _{max} / 1 m	119 dB (15 W)
Environmental conditions	
Protection class	IP66

Explosion-proof Loudspeakers

Pressure Chamber Loudspeaker, Explosion-proof T6

The Explosion-Proof Pressure Chamber Loudspeaker is designed to be used in Zones 1, 2, 21 and 22 potentially explosive areas and in all temperature classes (atmospheres with gases and vapours with an ignition temperature from $>85^{\circ}\text{C}$ to $\leq 100^{\circ}\text{C}$).




**Pressure Chamber Loudspeaker,
25 W / 100 V, Ex-proof¹⁾**
Art. No. 4 970 0

The extremely corrosion- and heat-resistant loudspeaker is especially well suited for use in spacious, loud and harsh environments and it features high efficiency, excellent syllable intelligibility and good directional broadcasting.

In addition to being suitable for use as PA system speakers connected to a central power amplifier, they can also be connected to intercom call stations as local paging speakers.

Equipment Features

- Explosion-proof, dust- and waterproof housing of conductive antistatic plastic (Vestamid ®)
- Robust construction, corrosion- and heat-resistant
- Flameproof enclosure for all electronic components
- Sintered metal filter
- Approved cable entries (M20 EExe ATEX), one fitted with removable plug
- U-shaped, adjustable stainless steel mounting bracket (1.4301)
- Light weight and easy mounting

Art. No.	4 970 0
Physical data	
Loudspeaker diameter (\varnothing x L)	\varnothing 235 x 345 mm
Weight	4 kg
Enclosure colour	black
Electrical data	
Power rating	25 W
Transformer matching (100 V)	1, 3, 6, 8, 12, 25 W
Frequency range	300 Hz to 7 kHz
Mean sound pressure level (1 W/1 m)	103 dB +1dB / -3dB
Max. sound pressure level $P_{\text{max}} / 1 \text{ m}$	115 dB +1dB / -3dB
Impedance	10000, 3333, 1667, 1250, 833, 400 Ω
Environmental conditions	
Ambient temperature	-20 to +50 $^{\circ}\text{C}$
Protection class	IP 65; proofed by RWTÜV No. 970/91
Ex-proof certification	 II 2 G Ex de IIC T6 and II 2D Ex tD A21 IP65 T80 $^{\circ}\text{C}$ / PTB 00 ATEX 1060

¹⁾ For mounting we recommend using the Hook Wrench, Art. No. 97 9 4410 001 5.

Pressure Chamber Loudspeaker, Explosion-proof, T4 ... T6




**Pressure Chamber Loudspeaker,
LP115 / LP125,
15 / 25 W / 100 V, Ex-proof**
Art.-No. 4 973 3 / 4 972 2

The loudspeaker with built-in 100 V transformer can be connected to 100 V loudspeaker systems.

Explosion protection class II 2 G Ex demb IIC T4, T5, T6 allows the loudspeaker to be operated in Ex areas of the zones 1 and 2.

Equipment features

- Explosion-proof, dust and water tight enclosure of conductive and UV-resistant plastic
- Robust construction, corrosion and heat resistant
- Pressure resistant encapsulation
- U-shaped, stainless steel bracket, tiltable
- Light weight and easy mounting

Art.-No.	4 973 3	4 972 2
Physical data		
Enclosure dimensions (D x L)	Ø 219 x 287 mm	
Weight	approx. 3,5 kg	
Enclosure colour	black	
Electrical data		
Nominal output	15 W	25 W
Transformer rating (100 V)	15; 8; 4; 2 W	25; 12,5; 8; 4; 2; 1 W
Frequency range	280 Hz to 10 kHz	
Average sound pressure (1 W / 1 m)	107 dB	
max. Sound pressure P _{max} / 1 m	119 dB (15 W)	119 dB (25 W)
Environmental conditions		
Enclosure protection class	IP 66 IEC 60529	
Ex-proof certification	 II 2 G Ex demb IIC T4, T5, T6 / PTB 05 ATEX 1097	

IP Loudspeakers

DS-6 IP Active Loudspeaker

The DS-6 IP Active Loudspeaker consists of a white wooden housing with perforated face plate. It is equipped with an internal Class-D amplifier and a high-quality full range loudspeaker and is distinguished by good music reproduction and clear speech intelligibility.

The loudspeaker can be powered by Power over Ethernet via the network as well as by local power supply. Inside the device the circuit board is located with its electronic components and the required interfaces.

To mount the unit, the loudspeaker rear panel is first mounted to the wall with two screws. Afterwards, the housing is placed onto the panel and fastened with two sturdy springs.

DS-6 IP Loudspeakers are only used in DS-6 systems. They are connected directly to a DS-6 netnode (switch). Using switches with Power over Ethernet supply is recommended.



DS-6 IP Active Loudspeaker
Art.-No. 4 740 5

Equipment Features

- White wooden housing with perforated face plate
- Internal Class-D amplifier
- High-quality full range loudspeaker
- Internal DS-6 connection

Facilities

- Direct DS-6 netnode connection
- PoE possible
- Redundant power supply possible
- Redundant power supply loss signalling via DS-6
- Amplifier protection for short cut
- Loudspeaker interruption and short cut signalling via DS-6

Art. No.	4 740 5
Physical data	
Dimensions (W x H x D)	280 x 170 x 65 mm
Weight	approx. 1,9 kg
Colour	white
Technical data	
Loudspeaker amplifier	5 W
Frequency range	300 Hz ... 10 kHz
Nominal power consumption	10 W
Max. power consumption	12 W
Power supply from netnode	48V DC -10%/+15% PoE (Power over Ethernet) acc. to IEEE 802.3af
Power supply from AC/DC adapter ¹⁾	12-26V DC -10/+15%
Network interface	LAN 100-BASE-T Autonegotiation
Ethernet	Ethernet acc. to IEEE 802.3u (100Mbit/s)
IP transmission protocol	Neumann-DS-6 Protocol
Environmental conditions	
Admissible climatic conditions	3K4 in conformity with DIN EN 60721 part 3-3 resp. IEC 721 part 3-3
Admissible temperature range	0°C ... +50°C
Admissible storage temperature range	0°C ... +70°C
Protection class	IP20 in conformity with DIN EN 60529

¹⁾ not included in delivery

DS-6 IP Active Loudspeaker Accessoires

Articlel	Description	Art.-No.
Cat.5e cable, 5m	For connection to the DS-6 System	99 9 1980 169 1
AC/DC adapter	For local power supply	22 3 0101 045 8
AC/DC adapter for international using	With additional connector adapters for UK, USA and Australia	22 9 0301 045 6
AC/DC desktop adapter for international using	With a IEC320-C14 connector for adapting country-specific supply cable	22 3 0401 045 1
IEC320 supply cable	With C14 connector for the European market	99 9 1980 002 7
Ethernet Extender Master	Inclusive AC converter	1 890 8
Ethernet Extender Slave	Inclusive AC converter	1 891 9
Mounting frame for Ethernet Extender	For assembling in 19" frames in the DS-6 system	91 9 1116 828 6
Ethernet Extender fibre optic	Inclusive AC converter	1 889 6
Power over Ethernet Injector		91 9 1116 838 7

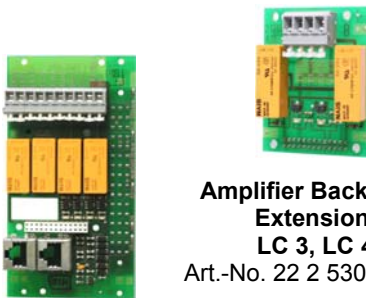
Amplifiers

Amplifier 25 / 50 W

The 50 W amplifier, which has been developed in a very compact design, serves as a power amplifier in ms Neumann Elektronik DS-6 systems and also offers the capability to be connected to all voice communication centrals with an analogue interface. Because it is available with different operating voltages, it is suitable in versatile use in a variety of different applications. Important applications include PA and emergency warning systems in smaller areas or fire zones in office buildings, warehouses, storage areas, production environments, construction facilities and workshops.



Amplifier 25 / 50 W
Art.-No.: 4 150 0



**Amplifier Backplane
Extension,
LC 3, LC 4**
Art.-No. 22 2 5303 197 4

**Amplifier Backplane,
LC 1, LC 2**
Art.-No.: 22 1 5203 197 2



**Amplifier Backplane
for DS-6 PA Control**
Art.-Nr.: 22 1 5004 150 0

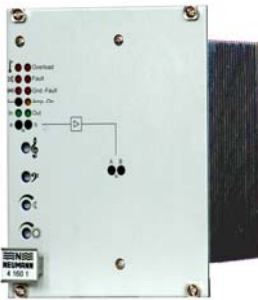
Facilities

- Functions complying with DIN EN 60849 standard
- Output volume adjustable for day and night operation
- Low distortion factor $\leq 0,5\%$
- Treble and bass controls
- Electronic, temperature dependent switch off at $85^{\circ}\text{C} \pm 3\text{K}$
- Front panel LED indicators for the following functions:
 - Power control „Amp.-ON“
 - Ground fault „Gnd.-Fault“
 - Interruption of the loudspeaker circuit
 - Overload or short circuit „Overload“
 - Temperature too high
 - Blown fuse
 - General fault „Fault“
 - Signal level indicators for input and output „In“ and „Out“
- Electrical isolated power switch
- Emergency override power on for loudspeakers
- Switch selectable input sensitivity
- Loudspeaker protection via active high pass filter
- Reducer for different input voltages
- No-load safe and short circuit proof

Art.-No.	4 150 0		
Physical data			
Dimensions	14 MU and 3 HU		
Weight	1039 g		
Electrical data			
Operating voltage	24 V (26,5 V)	48 V	60 V
Max. power input	2,1 A	2,1 A	1,8 A
Audio frequency output power	20/25 W	50 W	50 W
Input voltage 1	120 mV		
Temperature limiting in °C	$\geq 75^{\circ}\pm 3\text{K}$		
Temperature switch off in °C	$\geq 85^{\circ}\pm 3\text{K}$		
Frequency range	80 Hz to 12 kHz-3db		
Environmental conditions			
Climate class	3K4 according to DIN IEC 721 part 3-3 (-5... +40°C, 5... 95% r. F.)		

Amplifier 100 W

The 100 W Amplifier, which has been developed in a very compact design, serves as a power amplifier in ms Neumann Elektronik DS-6 systems and also offers the capability to be connected to all voice communication centrals with an analogue interface. Because it is available with different operating voltages, it is suitable in versatile use in a variety of different applications. Important applications include PA and emergency warning systems in smaller areas or fire zones in office buildings, warehouses, storage areas, production environments, construction facilities and workshops.



Amplifier 100 W
Art.-No.: 4 160 0



**Amplifier Backplane,
LC 1, LC 2**
Art.-No.: 22 1 5203 197 2



**Amplifier Backplane
Extension,
LC 3, LC 4**
Art.-No. 22 2 5303 197 4



**Amplifier Backplane
for DS-6 PA Control**
Art.-Nr.: 22 1 5004 150 0

Facilities

- Functions complying with DIN EN 60849 standard
- Output volume adjustable for day and night operation
- Low distortion factor type 1%
- Treble and bass controls
- Electronic, temperature dependent switch off at 85°C ±3K
- Front panel LED indicators for the following functions:
 - Power control „Amp.-ON“
 - Ground fault „Gnd.-Fault“
 - Interruption of the loudspeaker circuit
 - Overload or short circuit „Overload“
 - Temperature too high
 - Blown fuse
 - General fault „Fault“
 - Signal level indicators for input and output „In“ and „Out“
- Electrical isolated power switch
- Emergency override power on for loudspeakers
- Switch selectable input sensitivity
- Loudspeaker protection via active high pass filter
- Reducer for different input voltages
- No-load safe and short circuit proof

Art.-No.	4 160 1	
Physical data		
Dimensions	21 MU and 3 HU	
Weight	1710 g	
Electrical data		
Operating voltage	48 V	60 V
Max. power input	4,3 A	3,5 A
Audio frequency output power	100 W	
Input voltage 1	120 mV	
Temperature limiting in °C	≥ 75°±3K	
Temperature switch off in °C	≥ 85°±3K	
Frequency range	80 Hz to 12 kHz-3db	
Environmental conditions		
Climate class	3K4 according to DIN IEC 721 part 3-3 (-5... +40°C, 5... 95% r. F.)	

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

The 1- channel and 2-channel outputs are designed for the constant installation into PA systems (DS-6, MDK, MF etc.) by ms Neumann Elektronik.

The amplifiers are a Class D technology product. This circuit concept guarantees high efficiency and low heat development.

The amplifiers produce an actual power output of 1 x 250 / 300 W respectively 2 x 250 / 300W with an operating voltage of 230 / 115 V AC or 48...60 V DC.



Amplifier 250 / 300 W, 1-Channel
Art.-No.: 4 172 4



Amplifier 2 x 250 / 300 W, 2-Channel
Art.-No.: 4 171 3

Facilities

- High efficiency
- Low heat development
- No active ventilation required
- Low installation depth (important for cabinet installation)
- Control LEDs for all signal and operating states at the front plate: Power ON, DC, Signal OK, Clipping, Fault
- Volume, treble and bass control accessible from the front (adjustable with screw driver)
- Transformer-balanced inputs
- Potential-free amplifier activation
- One potential-free fault notification switch contact
- Monitoring: Fuse failure, overload, temperature rise
- Protective circuit against no-load, short-circuit, overload
- 230V/115V AC input voltage (switchable)
- 48V/60V DC input voltage
- Amplifier is no-load-proof and short-circuit-proof
- 100V and 50V output, unearthed
- High quality toroid output and mains transformers
- All feed lines plugged, with removable screw connections

Art.-No.	4 172 4		4 171 3	
Physical data				
Dimensions	19", 2HU, 270mm deep			
Weight	11,5 kg		15 kg	
Electrical data				
Operating voltage	48...68 V DC	230 V/115 V AC	48...68 V DC	230 V/115 V AC
Max. power input	6 A	1,4 A	12 A (both channels)	2,8 A (both channels)
Output power according to IEC 268.3/19.3	300 W at mains operation		2 x 300 W at mains operation	
Output power according to IEC 268.3/19.4	250 W at mains operation		2x 250 W at mains operation	
Input voltage	320 mV			
Frequency range	80 Hz to 12 kHz ± 1db			
Environmental conditions				
Climate class	3K4 according to DIN IEC 721 part 3-3 (-5... +40°C, 5... 95% r. F.)			

DS-6 PA-Control

DS-6 PA-Control 2 Channels

The DS-6 PA-Control controls and monitors a 100 V public address system and it provides amplification of up to 400 W when connected to a DS-6 System. In its compact 19" design with only one height unit, the DS-6 PA Control replaces a large number of individual components that previously required sophisticated wiring outlay. A modern public address system linked with a DS-6 PA-Control can be wired almost completely by simple plug-in using pre-assembled system cables. Each channel of the device can be configured using the four configuration keys provided. This process is further aided by the system's multilingual menu navigation which can easily be followed on a double-spaced display.

Using integrated software packages, the following control procedures can be configured: impedance monitoring, amplifier failure, overload and earth fault detection as well as an ambient noise dependent volume control.

All NEUMANN amplifiers are enabled to cover six zones / loudspeaker circuits with public address announcements. The above control procedures can be performed in all six zones. In addition, if zones 1 and 2 use loop wiring, the cable loops can be monitored and even fed from both sides in case of failure or interruption.



DS-6 PA-Control 2 Channels*
Art.-No.: 3 333 2

Facilities

- Multilingual intuitive menu navigation
- Easy cabling
- Up to 6 areas / loudspeaker circuits can be activated
- Fuse monitoring
- Volume night-time attenuation
- 100V level display
- Loudspeaker circuit power monitoring
- Amplifier failure control during ongoing operation of PA systems
- A pilot tone monitoring is not required to ensure automatic change-over to a redundant amplifier, no additional power dissipation at the amplifier
- Loudspeaker circuit impedance monitoring
- Loudspeaker circuit current monitoring
- Earth fault monitoring for loudspeaker cables
- Two loudspeaker loop monitoring
- Ambient noise dependent volume control

Equipment Features

- 2 redundant DS-6 Ethernet RJ45 LAN interfaces
- 2 monitored 35 V to 60 V power inputs
- N+1 or N+2 amplifier monitoring
- RS-232 interface for information of fault
- Main fault indicator with normally open and normally closed contact
- Sub fault indicator with normally open and normally closed contact
- External microphone input for ambient noise or analogue input signal
- Analog output signal ($V_{\text{ein}} + \text{ab}$)
- Analogue input signal ($V_{\text{in}} + \text{ab}$)

Art.-No.	3 333 2
Physical data	
Dimensions	Width: 19", Height: 1HU acc. to DIN EN 60297 Installation depth (housing without connectors): 284 mm
Weight	ca. 4 kg
Technical data	
Audio channels	2 channels
Network interfaces	2 x LAN per channel
Operating voltage	2x 35V ... 60V DC
Nominal power consumption min.	2x 4W
Nominal power consumption max.	2x 8W
Environmental data	
Admissible climatic conditions	3K4 in conformity with DIN EN 60721 part 3-3
Admissible temperature range	+5 ... +40°C
Protection class	IP20 in conformity with DIN EN 60529

DS-6 PA-Control Accessoires

Article	Description	Art.-No.
Standard steel cabinet	Pre-wired, temperature controlled standard steel cabinet with roof ventilation, a pivoting frame, voltage supply, an automatic circuit breaker and switch, including cabling and installation material. Dimensions: Width: 800mm, height: 2000mm, depth: 600mm.	64 1 0136 197 8
PA-Control – Unit 4HU	Consisting of a PA control, a 250W power amplifier and a heat dissipater, including an automatic circuit breaker, system cables and installation material.	62 2 0136 197 7
Switch-over – Unit 2HU	Consisting of a 250W switchover amplifier, including an automatic circuit breaker, system cables and installation material.	62 2 0236 197 8
Redundancy – Unit 1HU	Consisting of a 19" switch, including an automatic circuit breaker, a mains socket, cables and installation material.	62 2 0336 197 9
Battery – Unit 3HU	Consisting of a floating battery 48V 18AH in a 19" housing, including cables and installation material. One battery unit supplies one PA-Control unit for approx. 48h without alarm and for a maximum of 24h for an alarm of 30 minutes.	62 2 0436 197 0
I/O-Module – Unit on DIN rail	Consisting of an I/O module, terminals, cables and material for rear panel installation. For varied functions there are several software packages to install in the I/O module: Fault management Controlling of flashing beacons Virtual keystroke Measuring impedance via NTP	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
System cable DS-6 PA-Control to amplifier, 0.7 m length	This system cable connects the DS-6 PA-Control with an amplifier.	22 3 0303 332 1
A/B-Cabling System Cable	This system cable is required when A/B cabling is used. It connects two DS-6 PA Controls so that run time errors can be avoided.	22 2 0803 332 5
Zone-Loop/Rear Panel System Cable	This system cable is used to conduct the ABs of zones 1 ... 6 to the unit's rear panel on rail-mounted terminal blocks. It is also used to conduct the refeeds of zones 1 and 2 from the rail-mounted terminal blocks to the DS-6 PA Control.	22 2 0903 332 6
100V-AB-Bus System Cable, 0.3 m length	This system cable connects the 100V-AB-Bus of two DS-6 PA-Control devices in switch over operation and for one channel.	22 4 0403 332 3
100V-AB-Bus extension, 0.7 m length	To extend the 100V-AB-Bus System Cable for getting higher distances. So a 100V-AB-Bus System Cable with 1m length is possible.	22 4 0703 332 6
Extra pre-assembled single wires, 0.3 m length connector housings	For cascading several devices in switch over operation. To extend the total bus width, six single wires as well as one connector housing are required for each DS-6 PA-Control device.	96 9 1640 391 8 96 9 1640 381 7
Preassembled single cable, 0.7m length	To extend the 100V-AB-Bus System Cable for connecting a switch over amplifier. Note that for each switch over amplifier two single wires are required.	22 4 0503 332 4
NF-ab-Bus System Cable 0.5 m length	Connects the NF-ab-bus of two DS-6 PA-Control devices and for one channel.	99 9 1980 162 4
NF-ab-Bus System Cable 1.0 m length	Connects the NF-ab-bus of two DS-6 PA-Control devices and for one channel.	99 9 1980 165 7
NF-ab-Bus Switch Over Cable, 0.7m length	For connecting one or two switch over amplifier to the NF-ab-Bus. Four wires will be used for the first switch over amplifier und the other 4 wires to connect a second switch over amplifier.	22 4 060 3332 5
Weather-proof connection box	For connecting loudspeakers to the NEUMANN smart speaker system	22 2 6103 332 4
Bridge for 100V-AB-Bus	In operating systems while a DS-6 PA-Control is disconnected.	22 9 0203 332 6
Bridge for NF-ab-Bus bus	In operating systems while a DS-6 PA-Control is disconnected.	96 9 1630 210 7

Accessories

Volume Control 6 Channel, 100 W



Volume Control 6 Channel
Art.-No.: 93 9 1313 330 5

The 6 channel volume control is for the integration in 100 V systems and offers in addition to the volume control one 24 V emergency relays for each channel. Via this switching, incoming calls (announcements etc.) can be heard on full blast at the loudspeaker separately for each channel and independent of the current adjustment of the Volume Control.

Equipment features

- 6 volume controls
- Not overflow rotatable control

Art.-No.	93 9 1313 330 5
Physical data	
Dimensions	19" and 2 HU
Technical data	
Operating voltage	no
max. capacity to 100 V	(6x) 50 W RMS respectively. (6x) 100 W
10 steps reduction	7 x 3 dB, at the end 2 x 6 dB steps
max. reduction	33 dB

I/O-Module

DS-6 I/O-Module



DS-6 I/O-Module
Art.-No. 4 475 0

The DS-6 I/O Module is a freely programmable network controller with a 10/100 Mbit Ethernet link that can be used in practically all IP based networks.

The module can be used in different applications due to its numerous inputs and outputs, e.g.:

- communication and control systems
- safety applications
- the opening and closing of doors by means of relays

A WAGO PLC can also be connected to our DS-6 intercom system, just like our own I/O module. This enables users to handle complex control tasks. Inputs and outputs for flexible control options, to be used in any combination, are supplied by a large range of functional modules. Please ask your competent sales manager.

Equipment features

- Plastic enclosure
- 8+2 LED for status indication

Art.-No.	4 475 0
Physical data	
Dimensions (H x W x D)	105 x 85 x 72 mm
Weight	320 g
Technical data	
I/O interfaces	2 Relays (change-over gate, 240 V AC, 5 A) 4 digital inputs (0...12 V), configurable pull-ups 4 universal inputs (analogue 0...5 V or digital 0...12 V), configurable Pullups 4 digital outputs (open collector, 24 V, 0,1 A) extendable, Dallas I-Wire® interface
Serial interfaces	1 RS232* (DSub-9 plug) 1 RS422/485* (2/4- wire) 600...19200 Baud, 7/8 bit, Odd/Even/No par
Network interface	RJ45 10/100 Mbit Ethernet (Autodetect) TCP/IP, UDP, ICMP, DHCP, AutoIP, IPzator™, Modbus/TCP, SNMP, CGI, HTTP
Power supply	9...24 V AC / 9...30 V DC, 4 W max.
Input power	max. 4 W
Operating temperature	0...50°C
Humidity	0...70 % rel. humidity, not condensing
Certificates	FCC, CE (A and B)

Relay Module, 8 Folds



Relay Module, 8 Folds
Art.-No.: 2 027 1

This relay module is applied in DS-6 systems. It is suitable for almost all switchings, e.g. for AF connection circuits or loudspeaker switchings or as potential free interface to external systems. One module comprises eight independent relay circuits with two potential free switch-over contacts.

Equipment features

- 64-pole multiway connector according to DIN41612 Type C
- 8 test sockets
- 8 green LEDs for external switching-on and for indication of the activated relay

Art.-No.	2 027 1
Physical data	
Dimensions	4 MU and 3 HU
Weight	approx. 200 g
Technical data	
Operating voltage	24...60 V
Range of operation	39...110 V
Operating current	approx. 8,5 mA per relay coil
Contact load	
max. switch-off voltage	250 V
max. switch-on/continuous/switch-off current	20 / 5 / 5 A
max. switch-off power	100 W
Response/releasing/chatter time	8 / 3 / 0,5 ms
Environmental conditions	
Climate class	3K4 according to DIN IEC 721 part 3-3 (-5... +40°C, 5... 95% r. F.)

Power Supply

DC/DC Converter Module VIN = 48 V VOUT = 5 V / 6 A – 12 V / 2 A

The DC/DC Converter Module with a central power supply of 48 / 60 V generates the internal operating voltage of 5 V / 6 A and 12 V / 2 A. It is designed especially 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 article no. 22 1 5002 183 4 is available. This backplane is supplied with monitoring relays, fuse, connection clamps and wrap pins, and facilitates the installation of the converter module.

If two converter modules are used, a redundant operation is possible. In that case, one backplane per converter module is required. The operating state of the converter module is displayed by two LEDs on the front plate and on the conductor board of the backplane.

Two potential-free switch contacts per voltage monitoring unit are supplied for failure notifications.



Backplane

Art.-No. 22 1 5002 183 4

Equipment features

- 15 pole multiway connector according to DIN 41612 Type H15
- 2 LEDs for the voltage display of 5 and 12 V

DC/DC-Converter Module,
VIN = 48 V VOUT = 5 V /
6 A – 12 V / 2 A
 Art.-No. 2 183 4

Art.-No.	2 183 4
Physical data	
Dimensions	10 MU and 3 HU
Weight	approx. 750 g
Technical data	
Input voltage	40 V ... 48 V ... 80 V
Power input, idle	60 mA
max. power input	1,2 A at Ia = 5 V / 5 A u. 12 V / 2 A simultaneously
Output voltage Va1	5,1 V +/- 1%
max. output current Ia1	6 A
Short circuit current	6,1...6,5 A
Output voltage Va2	12,4 V +/- 1%
max. output current Ia2	2 A
Short circuit current	2,1...2,5 A
Efficiency	typ. 85% full load, 82% half load
Pulse frequency	100 kHz
Residual ripple	< 20 mV
Accuracy	+/- 1%
No-load/overload/short circuit proof	yes
Inverse polarity protection	yes
Insulation voltage	1,5 kV / 1 min
Transient emission, emission	EN 55011 B / EN 50121.3.2
Transient resistance:	
ESD	EN 61000-4-2
Burst	EN 6100-4-4 SGrd3
Surge	EN 61000-4-5
Shock/Vibr.	EN 50155
Ambient temperature	-25°C ... + 70°C
Storage temperature	-40°C ... +85°C

48 V DC System

Power Supply System 3 x 230 V AC / 48 V DC 66 A



Power Supply System
3 x 230 V AC / 48 VDC 66 A
 Art.-No.: 3 490 6

The Power Supply System is designed for maximum four additional modules. It has a controller for monitoring, signalling and controlling of the system with diverse, free programmable relay contacts and LC display.

Equipment features

- 2 rectifiers 48 V DC 33 A
- Clamp connections:
 - > AC input 3 x L/N/PE
 - > DC output 3 x 6 A, 3 x 10 A, 3 x 16 A Si-Automat
 - > Max. 6 relay outputs

Art.-No.	3 490 6
Physical data	
Dimensions	19", 3HU, 300 mm deep
Weight	11,5 kg
Technical data	
Input voltage	nominal 230 V AC (80...300 V AC)
Output voltage	nominal 48 V DC (42...58 V DC)
Load shedding contactor	2 x PLD 80 A

Rectifier Module 48 V DC 33 A



Rectifier Module 48 V DC 33 A
 Art.-No.: 3 491 7

Equipment features

- Status LED

Art.-No.	3 491 7
Physical data	
Weight	approx. 1,25 kg
Technical data	
Input voltage	80...300 V AC
Output voltage	48 V DC (42...58 V DC)
Output current DC	33 A at 48 V for input voltage over 130 V 22 A at 48 V for input voltage under 130 V
Efficiency	> 92%

Power Supply System 230 V AC / 48 V DC 25 A and 50 A



Power Supply System
230 V AC / 48 VDC 25 A
Art.-No.: 3 492 8



Power Supply System
230 V AC / 48 VDC 50 A
Art.-No.: 3 493 9

The Power Supply System is designed for maximum four rectifier modules. It has a controller for monitoring, signalling and controlling of the system with diverse, free programmable relay contacts and LC display.

Equipment features

- 2 respectively. 4 rectifier 48 V DC 12,5 A
- Clamp connections:
 - > AC input 1 x L/N/PE
 - > DC output 8 x 10 A and 8 x 20 A automobile fuses
 - > Battery connection 2 x fuses 50 A
 - > Max. 6 relay outputs

Art.-No.	3 492 8	3 493 9
Physical data		
Dimensions	19", 2HU, 300 mm deep	
Total weight	approx. 8,8 kg	approx. 10,6 kg
Technical data		
Input voltage	nominal 230 V AC (80...300 V AC)	
Output voltage	nominal 48 V DC (42...58 V DC)	
Load shedding contactor	1 x LVD 60 A	

Rectifier Module 48 V DC 12,5 A



Rectifier Module 48 V DC 12,5 A
Art.-No.: 3 488 3

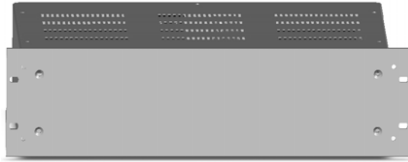
Equipment features

- Status LED

Art.-No.	3 488 3
Physical data	
Weight	approx. 0,9 kg
Technical data	
Input voltage	80...300 V AC
Output voltage	48 V DC (42...58 V DC)
Output current DC	12,5 A at 48 V
Efficiency	> 92%

Battery

Battery Backup 48 V DC 18 Ah



Battery Backup
48 V DC 18 Ah
 Art.-No.: 3 485 0

The purpose of the Battery Backup is to store electrical energy and to pass it on to the communication system in case of power failures or mains disturbances.

The power supply equipment available in the communication system is controlling the accumulator condition during unloading process.

Art.-No.	3 485 0
Physical data	
Dimensions	19", 3 HU, 330 mm deep
Weight	approx. 25,7 kg
Technical data	
Nominal voltage	48 V DC
Voltage range	40...57,6 V DC
max. output current	40 A
Capacity	18 AH
Quantity of the accumulators	8 pc.
Quantity of strings	2
Combination	2 x 4 in line
Allowed temperature range	0...+40°C
Suggested temperature	+15...+25°C
Storage temperature	0...+40°C
Rel. humidity	20...90% (not condensing)
Technology	Combination of lead-gel accumulators
Cooling	Convection
Acoustic level	0 dB

Accessories

Article	Description	Art.-No.
Mounting bracket for power supply units	19", 1 HU, RAL 7032	22 9 1703 2073

Cabinets

Wall Mounted Cabinet



Wall Mounted Cabinet, 9 HU
Art.-No.: 3 215 1

Wall Mounted Cabinet, 21 HU
Art.-No.: 3 216 2

Dimensions (W x H x D)

- Wall Mounted Cabinet 9 HU: 600 x 478 x 575 mm
- Wall Mounted Cabinet 21 HU: 600 x 1012 x 575 mm

Steel Cabinet



TS8 steel cabinet, 40 HU
Swing frame middle
Art.-No.: 64 2 0136 176 6

TS8 steel cabinet, 40 HU
Swing frame right
Art.-No.: 64 2 0136 114 8

Equipment features

- Protection class IP 55
- Colour: RAL 7035
- Door right (left possible)
- Swing frame middle or sidewise and left hinged (right possible)
- Cap: 100 mm RAL 7022

Dimensions (W x H x D)

- 40 HU: 800 x 2000 x 600 mm

Accessories

Article	Description	Art.-No.
Cabinet fan	TS-Series	64 9 0136 155 0
Module rack	for installation in 19" with 3 HU and 84 HU cable channel at 4 HU with blind plate	3 090 2
Allowance for blind plate	incl. mounting	97 9 3301 000 2
Terminal board	3 HU, 2 top hat rails	3 080 1
Cable entry panel	with brushes	98 9 3114 320 0
Heat dissipation	19" with 1 HU	3 174 5
Rack mount fan	19" with 1 HU, 220 V	98 9 4721 001 1
Patch cable	Cat.5e, 0,5 m	99 9 1980 015 1
Patch cable	Cat.5e, 1 m	99 9 1980 170 2
Patch cable	Cat.5e, 2 m	99 9 1980 171 3
Patch cable	Cat.5e, 5 m	99 9 1980 169 1
Patch cable	Cat.5e, 10 m	99 9 1980 035 3

Accessories

DS-6 FTP Data Server

The DS-6 FTP Data Server serves to save data of a DS-6 exchange. It will be mounted in the netnode cabinet by means of a DIN rail mount. It saves all project specific data and configuration files.

The saving process will be initiated by the configuration program DS-6 Config (Art.-No. 5 009 4). Retrieving the data will also be carried out by DS-6 Config. For data saving and retrieving, the configuration program DS-6 Config as of version 1.0.97 is available.

The DS-6 FTP Data Server includes an internal memory and is equipped with an USB interface. For data saving the internal memory is used. The data exchange is achieved via the RJ45 interface by patch cable to the switch of the netnode.

The DS-6 FTP Data Server can be powered either via PoE (Power over Ethernet) or via an external power supply (power supply module).



DS-6 FTP Data Server
 Art.-No. 2 382 5

Equipment features

- Integrated autosensing and autocrossing function
- Internal memory: 750 MB
- Interface: USB 2.0
- Network port RJ45 with integrated LED
- Integrated DIN rail mounting

Art.-No.	2 382 5
Physical data	
Dimensions	105 x 75 x 22 mm
Weight	0,14 kg
Technical data	
Network	10/100Base T
Interfaces	1 x network (RJ45) 1 x USB 2.0, Fullspeed
Supply voltage	Power over Ethernet (PoE) 24VDC 240mA ... 48VDC 120mA
Operating temperature	0 ... +65°C

Programmable USB Memory Stick

The USB Memory Stick serves as speech memory for announcements and tone signals. It is integrated in the call station respectively in the associated adapter (by outdoor call stations). Announcements and tone signals are manual or automatically retrieved from the call station. It is possible to install one USB Memory Stick per call station.



Programmable USB-Stick
(picture exemplary)
Art.-No. 21 4 1143 001 7

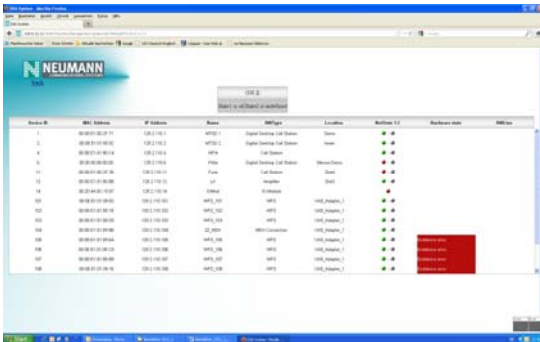
Equipment features

- 512 MB to 2 GB memory, depending on the type

Software

TIMM View

TIMM View is designed for monitoring of fault messages in the entire TIMM system. The WEB-based program provides a fault management without having an SNMP Management System. TIMM View is a clearly arranged monitoring tool, which shows the fault messages of the TIMM systems graphically on a WEB browser (e.g. Mozilla Firefox). The software will be installed at the TIMM ComServer. TIMM View (Art.-No. 5 095 9) includes the tabular view of the fault management.



- Requirements**
- A conventional PC (Microsoft Windows XP or above) is needed
 - Web-Browser required: Mozilla Firefox (Version 3.6.12 or higher) or Internet Explorer (Version 6 or higher)

TIMM View – tabular view
Art.-No. 5 095 5

TIMM Config

TIMM Config has been designed to configure TIMM systems.

The main functions are:

- Import of an existing database from the Comserver of the TIMM system.
- Offline processing of the TIMM database.
- Import of a configuration list created in the „DS-6 Config“ program with key and group definitions.
- Automatic maintenance of the „Connection“ and „Connectionslines“ tables.
- Online distribution of the modified and saved database from the TIMM ComServer.



- Requirements**
- A conventional PC (Microsoft Windows XP or above) is needed
 - 2 days configuration training required

TIMM Config
Art.-No. 5 096 0

DS-6 Manager

DS-6-Manager has been developed to manage and monitor DS-6 Systems. Its main features are:

- discovering all DS-6 devices of the connected DS-6 System
- survey of the activity status of all DS-6 devices
- checking the hardware status of all DS-6 devices
- configurability of the device properties to be monitored
- setting the system clock
- restarting chosen devices

The following features are implemented to get information about status changes:

- The "System Status" page shows a green or red dot according to the actual device status for each device of the connected DS-6 system
- The "Event Log" page shows the current history of status changes of the connected DS-6 system.
- To get informed about system status changes of monitored devices a notification can be send per e-mail.
- Event changes of the connected devices can be printed out at a line printer

Besides, the software offers many technical device information such as device id's, IP addresses, device names as well as firmware - and configuration list version of the connected devices.



DS-6 Manager
Art.-No. 5 007 2

Requirements

- A conventional PC (Microsoft Windows XP or above) is needed

DS-6 Config

DS-6-Config has been designed to build and maintain DS-6 systems. It shall help to automate many steps, which otherwise must be done manual. To achieve this aim, the following functions were implemented:

- creating and managing directory structures
- configuration versioning
- reading, creating and modifying configuration files, which contain the configuration of all devices of the whole DS-6 system. Its format is a comma separated list of values.
- comparison of the devices from the DS-6 configuration list with this one of a real DS-6 system
- configuration of the devices with a new or a modified DS-6 configuration list
- configuration of DS-6 I/O-Modules with a program and the related parameters



DS-6 Config
Art.-No. 5 009 4

Requirements

- A conventional PC (Microsoft Windows XP or above) is needed

DS-6 Recorder

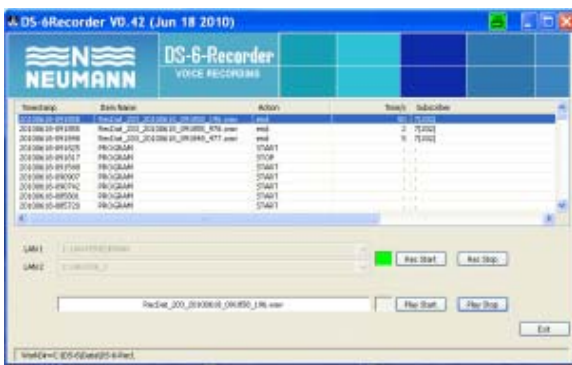
Users of communication systems that are implemented as security or evacuation systems frequently need to record voice communication so they can re-play and listen to it again at a later time.

Within the framework of the DS-6 system, the DS-6-Recorder program enables you to record voice communication such as manual alarm announcements.

The Windows program automatically records and saves manual announcements from one or several call stations so that these announcements can later be re-played using the DS-6-Recorder program. You can even run a number of voice recordings from different call stations parallel to each other. However, this functionality is mostly used in connection with a central call station.

Due to the fact that it was developed for the redundant DS-6 system, the DS-6 Recorder program also is enabled to run audio recordings in redundant networks.

All information that is recorded by the program within the space of twenty-four hours is saved in a special automatically generated log file.



DS-6 Recorder, 8 Recording Channels
Art.-No. 5 011 7

DS-6 Recorder, 16 Recording Channels
Art.-No. 5 012 8

DS-6 Recorder, 24 Recording Channels
Art.-No. 5 013 9

Hardware requirements

- Processor Intel Pentium or equivalent AMD with 1GHz
- Operating system WINDOWS (Windows XP or higher)
- RAM 2 GB
- Hard disk 80 GB
- Interfaces 1(2*)x100MBit LAN, 1 x USB interface
- Additional hardware: possibly extra network interface card *
- Additional components: keyboard, mouse

* for DS-6 redundancy

Services

Article	Art.-No.
Upload of customized audio files	27 9 0101 045 9
Customized key captions	27 9 0101 750 2
Software data point configuration	27 9 0195 005 8
Adjustment by the R&D department	1 0003 009 3
Project management per hour .	1 0003 002 6
Engineering per hour	1 0003 006 0
Programming DS-6 I/O-Module per hour	1 0003 008 2

Documentation

Standard documentation

Consisting of (German or English):

- speech connection diagram
- rack wiring diagram
- description of devices
- general system description

Additional on customer request:

- dimensional drawing
- CE declaration of conformity

Article	Art.-No.
Documentation new systems CD	69 9985 6
Documentation extension CD	69 9996 8
Documentation duplicate CD	69 9915 9
Documentation new systems paper	69 9982 3
Documentation extension paper	69 9993 5
Documentation duplicate paper	69 9912 6

Customized documentation, for example:

- Spare part list
- Special description of the system
- Distribution and cable overview plan
- Block diagram
- Other customer desire

Please fill out the documentation form.

Article	Art.-No.
Customized documentation (hourly rate)	1 0003 010 5
Customized documentation (daily rate)	1 0003 011 6

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