

Workstation Rack Mounted WSR 01

Features



- Industrial workstation in a [VMEbus 1\)](#) magazine for installation in a standard 19 "rack
- Basic version equipped with
 - CPU module(s), various versions
 - Onet connection
 - >2Gbyte hard disk
- Ventilation with fans that can be replaced during operation
- Temperature and fan monitoring
- Free VMEbus 1) slots for installing additional modules:
 - Connection of operation/visualization devices via Xnet
 - Modules for coupling subordinate automation systems
 - Power management for safe start up/shutdown after power failures
 - I/O ports that can be assigned freely

Application

- Central processing unit in the Maestro UX control system for configuration, process operation and visualization and for coupling of process-oriented automation systems.

Description

The Workstation Rack Mounted (19"- [VMEbus 1](#)) magazine) is particularly suitable for use in an industrial environment. It is certified for use in accordance with

- EU conformity declaration (EU guideline 89/336/EWG)
- H&B application classes A & B (see list sheet 72-0.11)
- EMC-Namur measurement report for use in the chemicals industry.

It can be installed in any commercially available 19" cubicle or in a special deskside housing.

Thanks to the modular structure based on [VMEbus 1](#) slots, it offers a possibility of cross-manufacturer integration of special function modules. The available CPU module is based on the [VMEbus 1](#) single board computer type 743I from Hewlett Packard.

All Maestro UX software applications are executable in the Workstation Rack Mounted. Coupling links to the Contronic P automation system are possible via the CCP 01 module of a WSR. Coupling links to the Contronic E, Melody and Freelance 2000 automation systems are realized via the WSL01 module.

For interplay with other process control units, each workstation contains a permanently integrated Ethernet port (Onet). Operation/visualization devices (Xnet) and third-party computers (Performer series) can be connected by way of optionally available additional Ethernet ports.

The workstation features power management. The optional rechargeable battery module UPA 01 has a buffering capacity of around 6 minutes. Brief power failures lasting up to 10 seconds are reliably bridged. A safe SHUT-DOWN is triggered after 10 seconds in the event of prolonged power failures. The power management system also ensures a controlled SHUTDOWN when the "OFF" key on the front panel is pressed.

Fault-free continuous operation is ensured by temperature monitoring as well as fans that are replaceable and are monitored during operation. I/O ports than can be assigned freely (e.g. for horn control or horn acknowledgement) and a terminal port for service work are also available. Just like all external ports, these are also electrically isolated from the internal electronics. The "External Memory Unit EMU02" (see list sheet 72-4.23) can be connected to the SCSI-2 interface. At the same time, the (safeguarded) power supply is provided by the Workstation Rack Mounted.

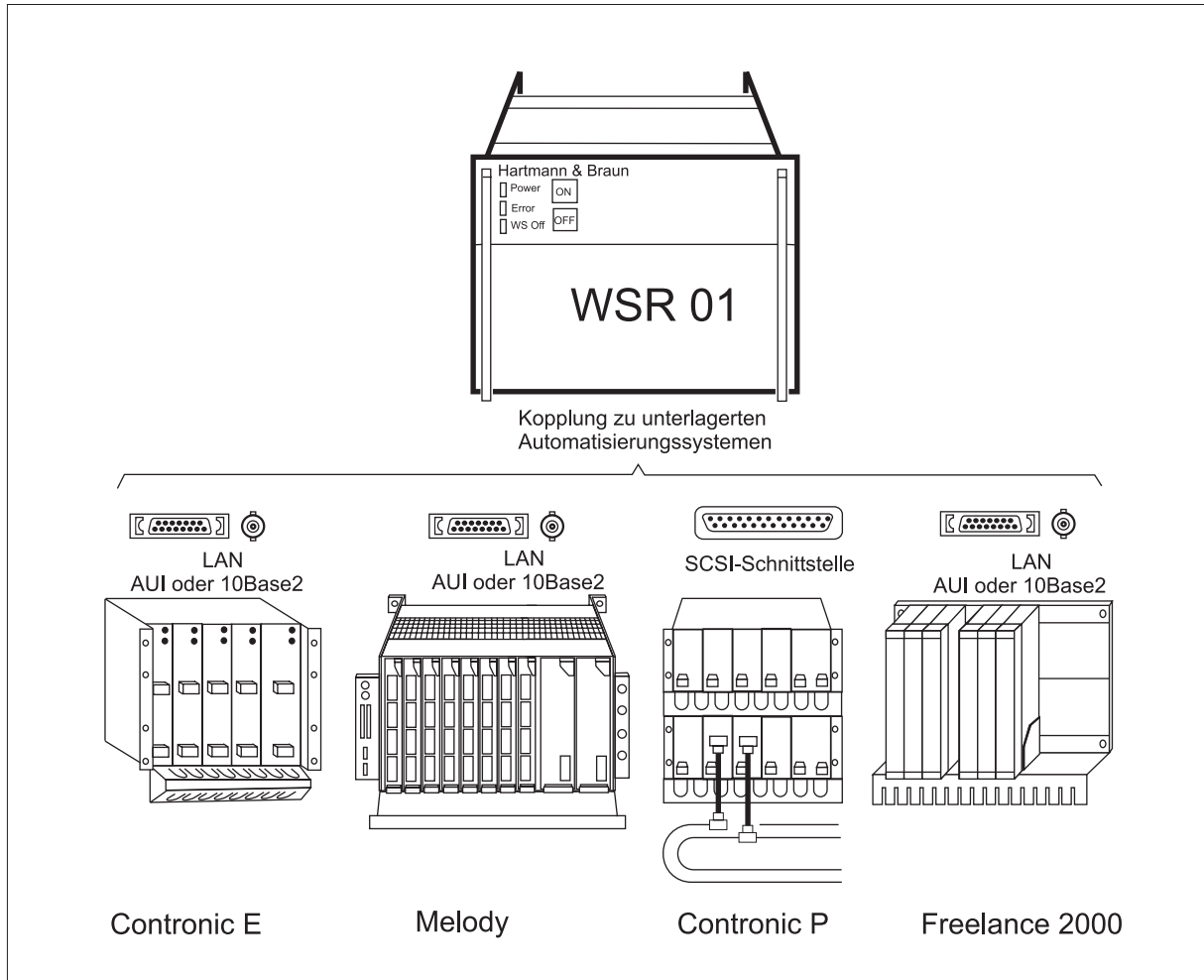
The WSR01 is equipped with a [VMEbus 1](#) backplane RBP 01 and a communication backplane RBP 02. Five free slots are available on the backplane RBP 01 and one free slot on the RBP 02.

The optional [VMEbus 1](#) modules WSL 01 and CCP 01, which can be plugged into the RBP 01, provide interfaces for interworking with other units of the automation system (Xnet, Performance coupling) as well as coupling interfaces to Contronic P systems.

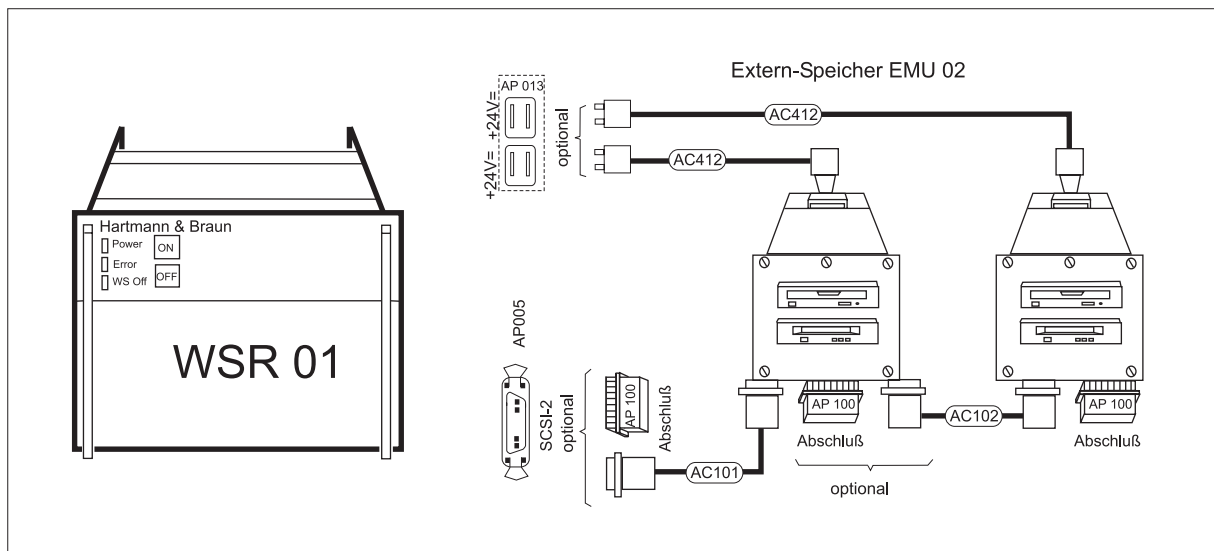
The optional rechargeable battery UPA 01 can be plugged in on the RBP 02.

Overview of connections

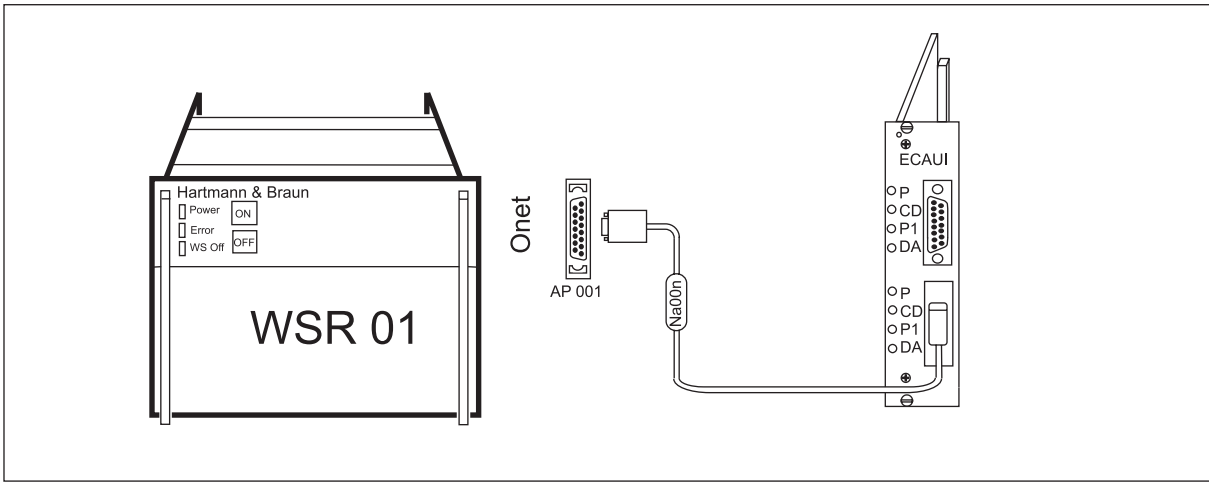
Connecting subordinate automation systems



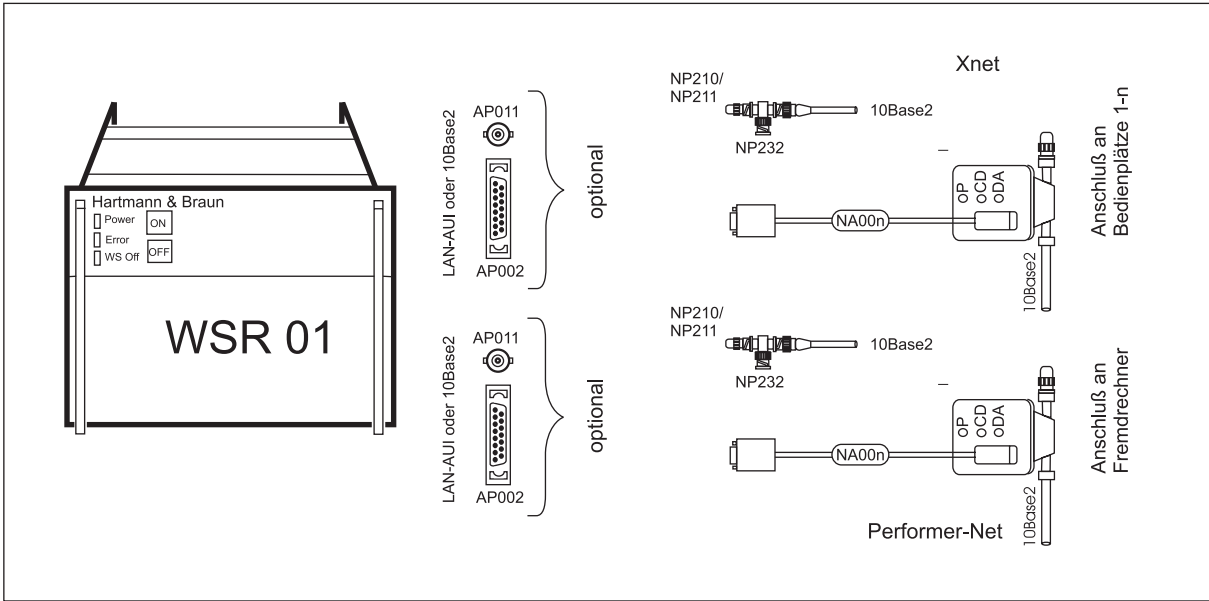
Connecting external storage media



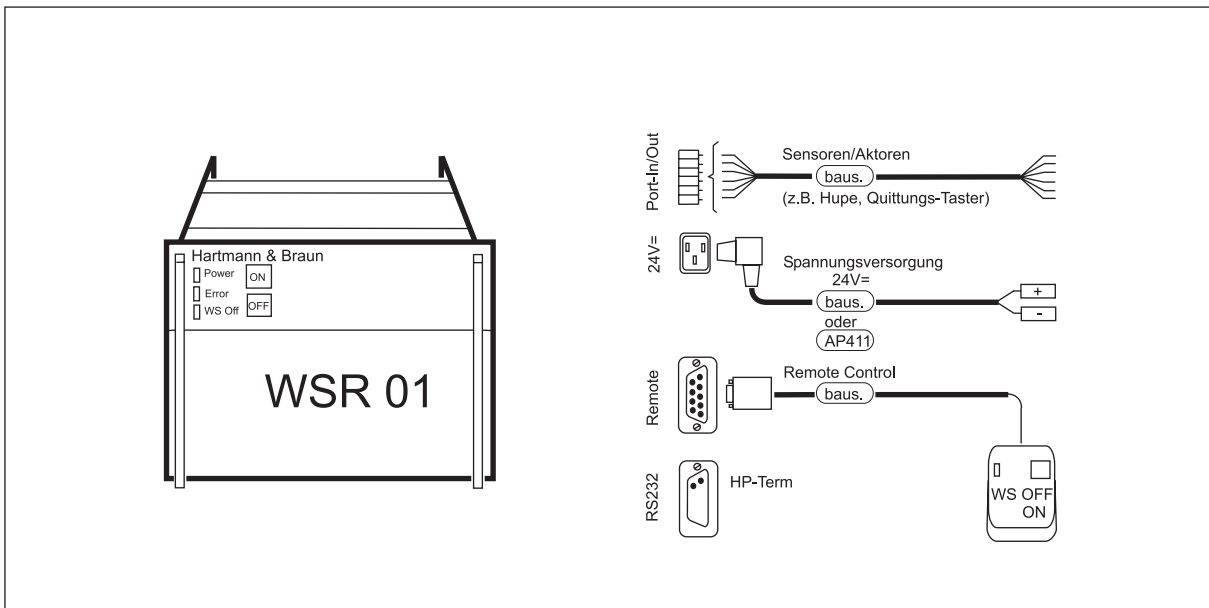
Connecting the operation network (Onet)



Connecting operator stations or third-party computers



Other connections



Technical data

Designation:	WSR01:	
VMEbus Modules:		
RBP 01 modules	Type	
RBP 02 module type	Type	
CPU	WSP 03	HP-743i/100MHz; SPECint95=2.89 100 MHz clock frequency, cache memory, 256kB, AUI ethernet interface for Onet
Hard disk	HDD 11	2.1 GBytes; SCSI-2 controller; data transfer rate 4.6 Mbytes/s for operating system, function data and archive data
	or	
	HDD 12	2.1 GBytes (for operating system, function data) + 4 GByte (for archive data); SCSI-2 controller; 4.6 Mbytes/s data transfer rate
	or	
	HDD 15 8)	9 GB; SCSI-2 controller; 4.6 Mbytes/s data transfer rate for operating system, function data and archive data
Monitoring	COU 01	Central communication and monitoring unit. Electrical isolation for binary/analog and serial inputs and outputs. Temperature/fan monitoring, manual and automatic shutdown management in the event of power failure, interface for Remote and Data Terminal connection.
Power supply unit	PSU 10	U _E 24 VDC / U _{A1} 5V-30A / U _{A2} +12V-5.5 A; -12V 0.35A WSR power supply
Controller	UPC 10	Supply voltage monitoring and rechargeable battery management (2 out of 3 management) Whenever required, switches to rechargeable battery power supply and ensures trickle charging of the UPA 01 batteries. Monitors the operability of the UPA 01 batteries.

Service Control Panel SCP 01:	
Operator controls	2 x membrane keys
Operation indications	3x LEDs

Fan RMF 51	
Design	3(4)x slot with red. fan pair, speed-monitored
Air output per slot	max. 40 m ³ /h
Static pressure per slot	max. 50 Pa

Dimensions		
Design	19" magazine	Deskside housing
Width	483 mm	555 mm
Height	312 mm (7 measures of height) (also make allowance for 2 measures of height from the air baffle under the WSR01 during installation.)	356 mm
Depth (without I/O ports)	350 mm	400 mm

Net weight		
Design	19" magazine	Deskside housing
(without rechargeable battery UPA 01)	max. 25 kg	max. 35 kg
(with rechargeable battery UPA 01)	max. 30 kg	max. 40 kg

Colors of front panel and deskside housing	RAL 7043 / RAL 7035

Power supply via device plug	
Supply voltage	22 ... 32.5 V=
Power consumption	max. 240 W (depending on components installed)
Current consumption	max. 10 A
Supply line fuse	25 A (35 A gL also permitted in the case of PVZ 21/22)

Connection module AP 001	
DATA terminal	1x RS 232 / 110 ... 9600 Bd. (9-pole D-Sub plug connector)
Remote control	Binary inputs/outputs (9-pole D-Sub socket connector)
Sensors	3x binary inputs signal level < 33V= (6 connection terminals 1.52)
Actuators (binary)	3x binary outputs signal level < 33V= (6 connection terminals 1.52)
Actuators (analog)	1x analog output signal level 0 ... 10V (2 connection terminals 1.52)
Onet	1x IEEE802.3/Ethernet AUI (15-pole D-Sub socket connector) TCP/IP protocol
Power supply	3-pole device plug GSN 20 to DIN 43650/B

Connection module AP 005	
Data external memory	1x SCSI-2 Single Ended (LD socket connector, 50-pole, bail locked) including. SCSI 2 terminator AP 100, cable length < 2,5 m max. 8 stations (including 3 internal)

LAN module WSL 01 (can be ordered optionally via Matrix):	
The switchable LAN port via AUI or 10Base2 establishes a connection to the following networks:	
<ul style="list-style-type: none"> • Xnet for connecting Maestro UX operator stations, • Freelance 2000, Melody, Composer; if not coupled via Onet, • Connecting Composer series and third-party computers. 	
with AP002	AUI port on the rear panel of the WSR 01 1x IEEE802.3/Ethernet AUI (15-pole D-Sub socket connector)
with AP011	LAN connection of the WSL to the rear panel of the WSR 01 IEEE802.3/Ethernet 10Base2 BNC socket. .

Xnet stations		
The number and variance of Maestro UX operator stations that can be connected via the Xnet depend on the CPU capacity in the WSR 01:		
		max. per WSR01 with CPU module
Designation	Type	WSP 03
Operator stations		4
Including: graphics interface units	GIU ...	4
Printers	PRT ...	2
Refer to list sheet 10/72-4.50 " Graphics interface unit " for details of suitable operator station variants.		

CP coupling module CCP 01 (can be ordered optionally via Matrix)			
<p>The format of data that is exchanged with the connector Contronic P system is adapted in the CCP 01. To this end, the CCP 01 is connected to the "Contronic P coupling station CKS" in accordance with list sheet 10/72-3.10 via a SCSI connection.</p> <p>The CCP 01 supports all services relevant to Maestro UX such as:</p> <ul style="list-style-type: none"> • Updating • Signalling • Time management • Operator control • Configuring 			
Connection module	AP 008 (optional)	SCSI connection of the CCP 01 SCSI interface (25-pole D-Sub socket connector with coding) for connection and Contronic P gateway	

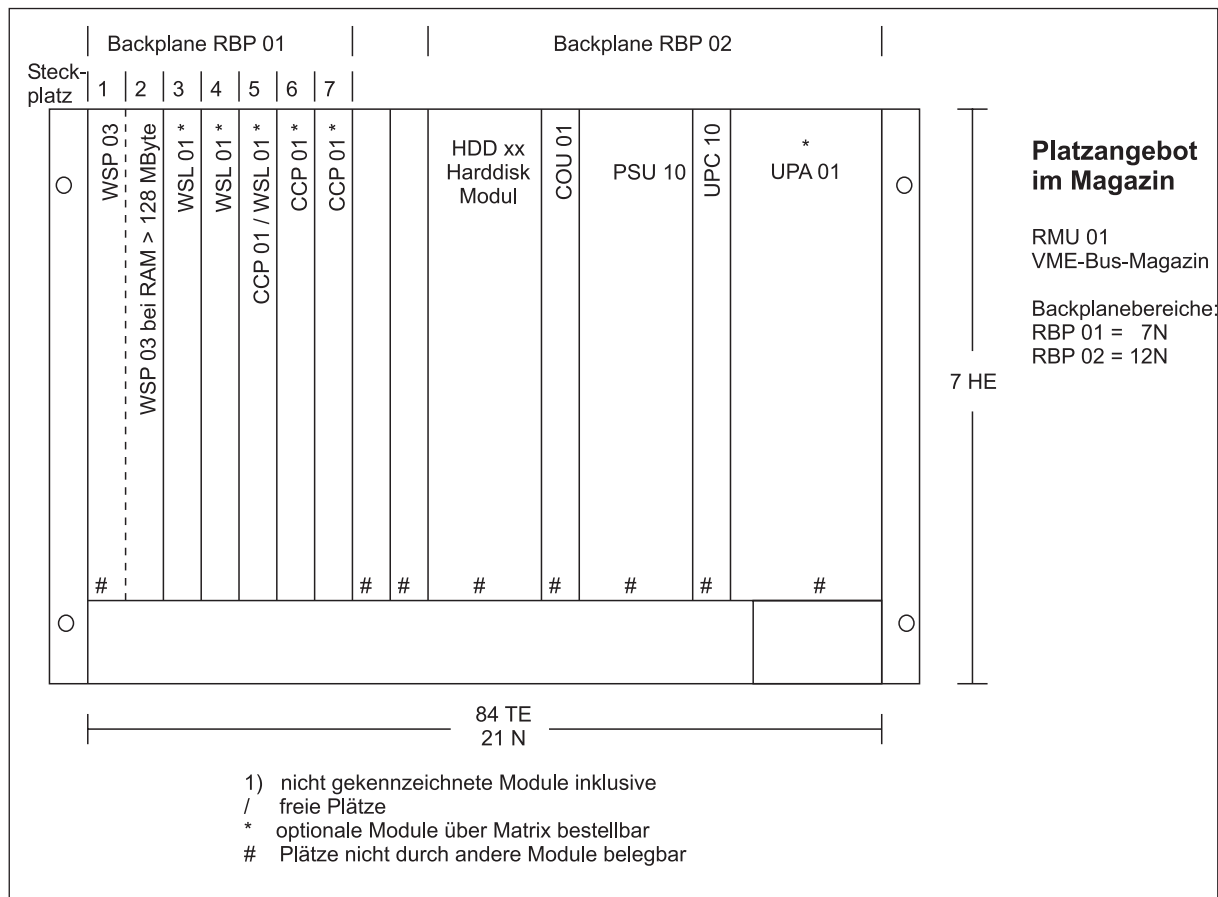
Rechargeable battery module UPA 01 (can be ordered optionally via Matrix)			
<p>Buffering of the 24V power supply for up to 6 minutes.</p> <p>The rechargeable battery module contains 3 x 12 V / 3 Ah rechargeable batteries.</p> <p>It provides the necessary energy in the event of a power failure.</p> <p>Power management (together with the UPC 10) makes sure that orderly shut down of the Maestro UX software and of the WSR's UNIX operating system is guaranteed in the event of a power failure >10 seconds.</p>			

Connection module AP 013 (can be ordered optionally via Matrix):			
Power supply for external memory EMU 02		2 * 24 V= (2*2-pole STASAP2 socket), fused internally with 7.5 A (safeguarded 24 V voltage for the WSR01)	

See list sheet entitled "Standard data" for permissible ambient conditions and physical data.

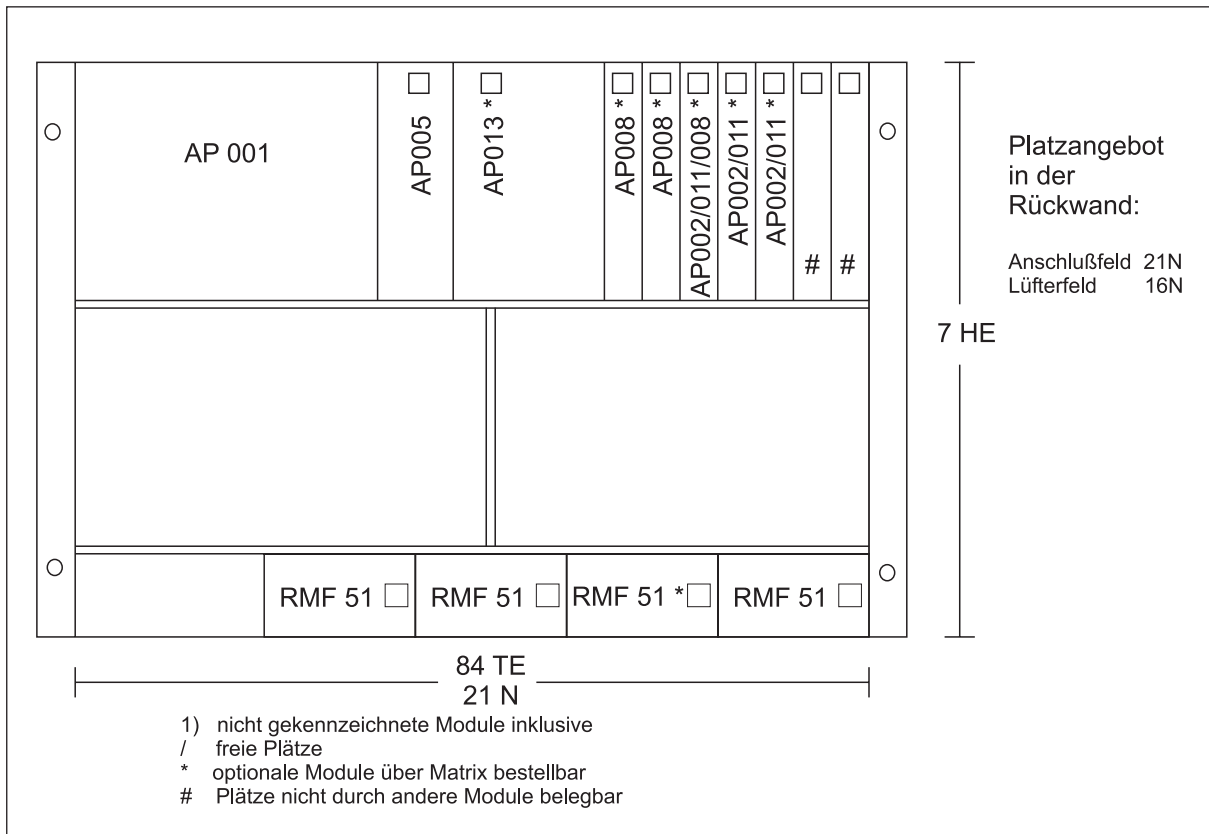
Upgrading

Front view:



Space requirement of plug-in modules	RBP 01 back-plane	Space requirement of plug-in modules	RBP 02 back-plane
WSP 03 CPU HP-743i (RAM ≤128 Mbytes)	1N	HDD xx hard disk	3N
WSP 11 CPU HP-743i (RAM >128 Mbytes)	2N	COU 01 station monitoring	1N
WSL 01 Ethernet coupling	1N	PSU 10 power supply unit DC/DC	3N
CCP 01 Contronic P coupling	1N	UPC 10 network monitoring	1N
		UPA 01 rechargeable battery unit with 3 batteries	4N

Rear view:



Space requirement of connection modules		Space requirement of fan modules	
AP 001 multiple connection	8N	RMF 51 fan module	4N
AP 002 Ethernet connection (AUI)	1N		
AP 013 External memory (power supply)	4N		
AP 005 External memory (SCSI-2)	2N		
AP 011 Ethernet connection (10Base2)	1N		
AP 008 Contrinsic P connection (SCSI)	1N		

Order number		Description						Delivery time											
Workstation Rack Mounted WSR 10 (Maestro UX Version 2.x or higher)																			
72311-0-	x	x	x	x	x	x	x	Basic version WSR 01, 19" magazine, 7 height units with power supply unit, 2 Gbytes hard disk 2) , Onet connection AUI (AP001), SCSI-2 connection (AP005), SCSI-2 terminator (AP100), 3*fan RMF51											
72311-0-Free VME bus slots (4 depth modules each)		x	x																Free slots
Additional ordering data3																			
WSP 03, 100 MHz, 64 MBytes DRAM																			
		Installed in the desk-side housing						Ba No. 301											
		Hard disk memory 2 + 4 GB (HDD 12) instead of 2 GB (HDD 11) 7) Memory upgrade up to 256 Mbytes						Ba No. 351											
extra 64 MBytes DRAM (+ 1*AP 053)		2						Hard disk memory 9 GB (HDD 15) instead of 2 GB (HDD 11) 7) 8)		Ba No. 352									
extra 128 MBytes DRAM (+ 2*AP 053; + 1*AP 070)		3						Delivery with previous software version (enter the version under system capacity 72541-...)		Ba No. 600									
extra 192 MBytes DRAM (+ 3*AP 053; + 1*AP 070)		4						Cubicle installation at the Heiligenhaus works 6)		Ba No. 601									
		Packaging for single delivery (also in the desk-side housing) 5)						Ba No. 602											
		None																	
		With 1 Ethernet module WSL 01, AUI connection AP 002 3)						-1											
		with 2 * Ethernet module WSL 01, AUI connection AP 002 3)						-2											
		with 3 * Ethernet module WSL 01, AUI connection AP 002 3)						-3											
		10Base2 LAN module for coupling and Xnet 3) 4)																	
		None						0											
		with 1 Ethernet module WSL 01, 10Base2 connection AP 011 3) 4)						-1											
		with 2 Ethernet modules WSL 01, 10Base2 connection AP 011 3) 4)						-2											

Important: the energy balance of the chosen upgrade must be checked!

Order number								Description	Delivery time
Retrofit parts									
72405-4-	0	7	4	5	3	8	7	AC 101 SCSI cable, 2 m, LD/LD, 50-pole connection of Rack Mounted WS to EMU	
72392-4-	0	3	3	9	9	1	3	AP 411 coupling 24 V for WSR, 3-pole. Device coupling 24 V power supply of the WSR from the cubicle cable harness	
72392-4-	0	3	3	9	4	9	1	AP 001 connection unit (24 VDC power supply) WSR power supply	
72392-4-	0	3	3	9	4	9	2	AP 002 connection unit (WSR-Ethernet AUI) for WSR, required for additional LAN card WSL 01	
72392-4-	0	3	3	9	4	9	5	AP 005 connection unit (WSR - SCSI - device connection Installation in WSR, connection of DAT and CDROM drives.	
72392-4-	0	3	3	9	4	9	6	AP 006 connection unit (10Base2 - BNC) with screen to ground for WSR for Xnet connection	
72392-4-	0	3	3	9	4	9	7	AP 007 connection unit (10Base2 - BNC) with screen not connected to ground for WSR X-Net connection	
72392-4-	0	3	3	9	4	9	8	AP 008 connection unit (SCSI coupling CP) WSR, coupling to PCP 36	
72392-4-	0	3	3	6	1	3	3	AP 011 connection unit with transceiver (AUI to 10Base2) WSR, for coupling links and X-Net	
72392-4-	0	3	3	6	6	3	6	AP 013 WSR power supply of EMU 02	
72405-4-	0	3	3	6	9	5	2	AP 070 front panel expansion for WSR xx	
72405-4-	0	7	4	5	3	7	3	AP 053 Workstation - RAM 64 Mbytes for WSP 02/03	
72405-4-	0	7	4	5	3	8	6	AP 100 SCSI connector to AP005 of the WSR, EMU, DAT	
72405-4-	0	7	4	5	3	6	8	CCP 01 coupling card Contronic P WSR for coupling of CP-CKS via AP 008	

Order number								Description	Delivery time
Retrofit parts									
72364-4-	0	3	4	5	9	9	0	COU 01 monitoring unit for WSR, WSD 50 Fan, temperaure, voltage monitoring and electrical isolation of RS RS 232 connections of the WSR, WSD 50	
72366-4-	0	3	3	9	5	0	4	HDD 11 Hard Disk slot for WSR, 1 drive: 2 GB	
72366-4-	0	3	3	9	5	5	9	HDD 12 Hard Disk slot for WSR, 2 drives: 2 + 4 Gbytes	
72366-4-	0	3	3	7	4	7	8	HDD15, Hard Disk slot for WSR, 1 drive: 9 GB	
72365-4-	0	3	3	9	9	1	5	PSU 10 19" power supply for WSR	
72365-4-	0	3	3	9	5	3	1	UPA 01 rechargeable battery module	
72365-4-	0	3	3	9	5	3	0	UPC 10 UPS controller	
72405-4.	0	7	6	8	4	7	0	PUN 01 desktide housing für WSR	
72361-4-	0	3	4	5	9	8	1	RMF 51 fan for WSR	
72388-4-	0	3	4	5	9	7	7	SCP 01 operator control moduole in WSR to COU 01	
72405-4-	0	7	4	5	3	7	1	WSP 03 WS processor without RAM for WSR 01 (HP743/100)	

For connecting cables, see list sheet 10/72-6.70 "Connecting cables and connection points".

Footnotes:

- 1) VMEbus to ANSI / IEEE STD 1014-1987
- 2) For larger hard disks, see [Additional ordering data](#)
- 3) Total number of WSL 01 and CCP 01 ≤ 5 !
- 4) Including T-adapter and terminator
- 5) Even if installation in a cubicle is done other parts of the works.
- 6) Note: the BA No. 601 does not substitute the installation code "H"
- 7) Recommendation: should be used as standard.
- 8) Use only in conjunction with software version ≥ 2.0



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