SIEMENS

Multifunctional Danger Alarm System D100 Stage III

Commissioning and Acceptance Checklist

General information

This guide refers to the D100 Stage III with direct connection of the SIGMASYS control and indicating equipment or modules to S-module.

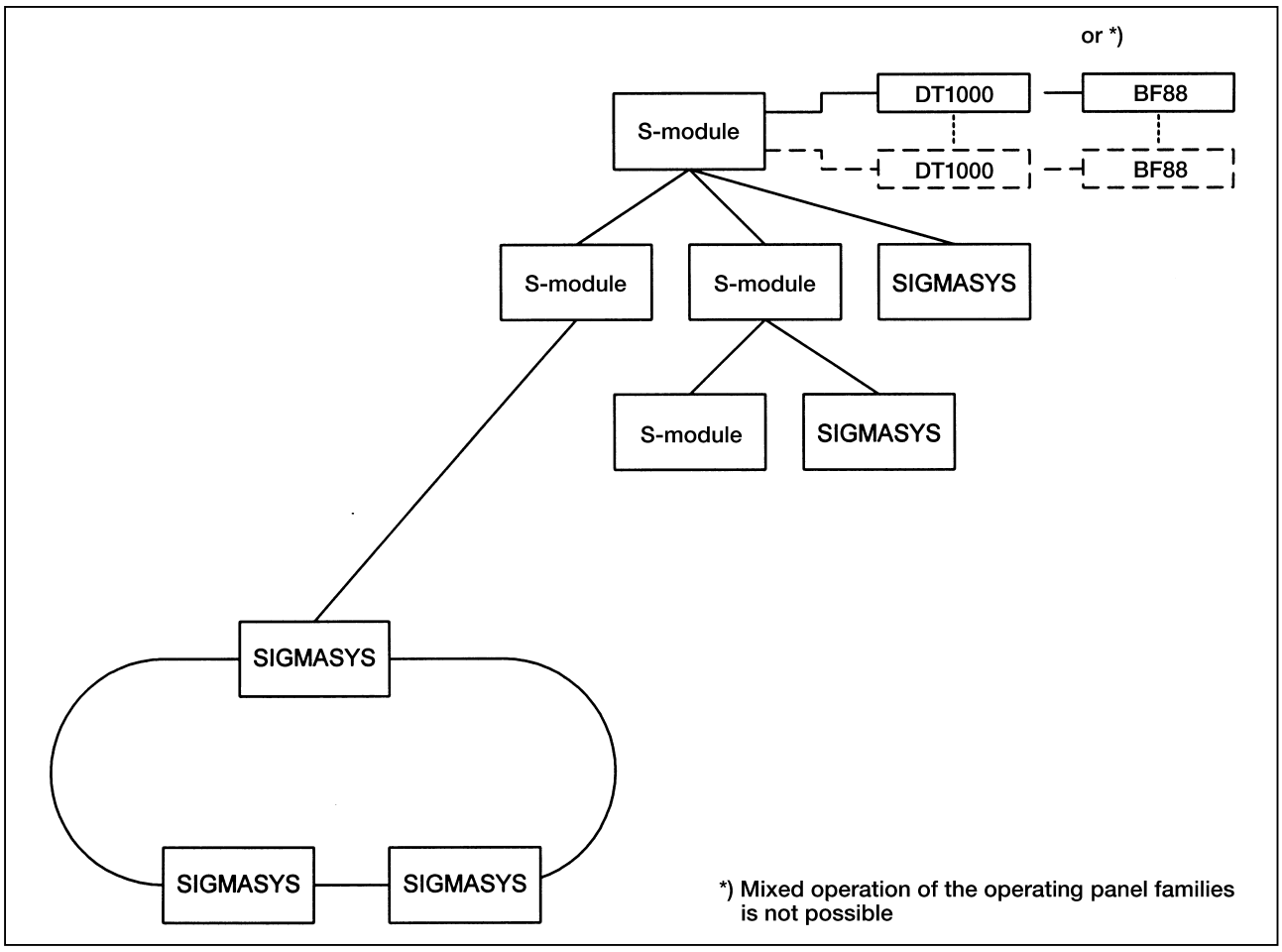
The **Commissioning and Acceptance Checklist for Cerberus D100, A24205-A334-A858 (current edition, German only)** should be used for systems coupled using SIGMALINK.

D100 is designed as a modular system.

It combines SM88 functionality, realized using:
- galvanized 8MF... cabinet
- S-module (node line and mounting plate SS or wall cabinet)

with the SIGMASYS world:
- M-module (19″ M-module on mounting plate SS)
- optional module (19″ optional module on mounting plate SS)

The power for the system is supplied via a PS support SS (150 W power supply) or 20 A transformer.



This Commissioning and Acceptance Checklist refers to the D100 floor cabinet, the S-modules, wall cabinet and PS support SS.

<u>The latest editions of the following instructions are required for SOP-NET, M-modules and S-modules:</u>

Multifunctional Danger Alarm Control and Indicating Panels
SIGMASYS C and M (M-Modules)
Commissioning and Acceptance Checklist
(order no. A24205-A337-B987)

Routing systems SM50U/SM88U/M-ÜE
Description of and information on planning, installation, parameterization, commissioning and maintenance
(order no. A24205-A332-A386, German only)!

0. Procedure – Commissioning of D100

Note:
The Commissioning and Acceptance Checklist will hereinafter be referred to by the abbreviation **CAC**.

The modular concept of the D100 requires the following startup order:

0.1 Check the cable network of the SIGMASYS components
- M-module(s)
- Control and indicating equipment, type M
- Control and indicating equipment, type C

See section I.A. of the CAC for SIGMASYS C/M (M-module)

0.2 Check the cable network of the S-modules
- S-module(s) including the routing system functionality

See sections 1 to 4 of this CAC

0.3 Power supply
See section 5 of this CAC
(The fuses in the SIGMASYS components must previously have been removed!)

0.4 Control and indicating equipment
- S-module(s) including the routing system function

See sections 6, 7 and 9 of this CAC

- M-module(s)
- Control and indicating equipment, type M
- Control and indicating equipment, type C

See section I.B. of the CAC for SIGMASYS C/M (M-module)

0.5 Printer
See section 8 of this CAC

0.6 Check the detectors and terminal devices
- M-module(s)
- Control and indicating equipment, type M
- Control and indicating equipment, type C

See section I.C. of the CAC for SIGMASYS C/M (M-module) and
Sections 10 and 11 of this CAC

0.7 SIGMANET fire commissioning

Finally fill in both acceptance test records
See section II. of the CAC for SIGMASYS C/M (M-module) and
Section 13 of this CAC

Node line of the S-module	Location

Operator of the system

Name, company		
Street	ZIP code	City

Commissioning of all modules (S-module, M-module)

Date	Name	Company/ZN, TB

Acceptance:

Date	Name	Company/ZN, TB

This test record, together with the SMT acceptance test record, is an important part of the above-mentioned system. It is one of the documents that must remain with the system or be stored in its immediate vicinity.

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Commissioning and Acceptance Checklist D100

A. Commissioning

Note

This Commissioning and Acceptance Checklist does not contain:

– specific elements of loop detector technology AMS, SMU and SSV

The tests specified in the checklist for node K01 must also be performed for system configurations with nodes K02 ..., etc.

This test record must be completed for each wall or floor cabinet.

Any software or hardware faults uncovered during the commissioning and acceptance tests must be reported to SGS in Munich.

Symbols used in the checklist and what they mean:

↑	LED	on Acoustic signal sounding
↓	LED	off Acoustic signal silent
↑↓↑↓	LED	flashing Acoustic signal sounding intermittently

Abbreviations used in the checklist and what they mean:

ALZ	Intermediate alarm storage
APL	Connection board
EP	Installation position of the module in the node line
FM	Frequency detector
LED	Light emitting diode
Me	Detector number in the monitored alarm line (MS8)
MG	Detector zone number on the module
MPL	Monitored alarm line
SPL	Monitored control line
ÜE	Routing equipment
UEW	Monitored control
TF	Audio frequency

Commissioning and Acceptance Checklist D100

A. Commissioning

Item no.	System part	Test	Operation/activity	Test result/displays	Compl.
I	Acceptance test record	The acceptance test record consists of the following 4 sheets:			
		Sheet 1 H36-V5068-N43	– A. System scope/commissioning I. Cable network To be completed by the site manager		
		Sheet 2 H36-V5069-N43	– A. System scope/commissioning II. Control and indicating equipment To be completed by the commissioning personnel		
			– B. Acceptance To be completed by the representative authorized to perform the acceptance		
		Sheet 3 H36-V5073-N43	– Handover certificate To be completed by the respective site manager/commissioning technician during the various handovers		
		Sheet 4 H36-V5074-N43	– Third-party services To completed by the checker during the acceptance of the third-party services		
		The checker shall sign the completed acceptance test record and hand it over to the MGL or the responsible sales staff together with a list of any deficiencies.			
II	Imple-mentation documents	Current status	Make any corrections required to the implementation documents. Visual inspection	Implementation documents correspond to the current status of the system. See acceptance test record for completeness.	
III	Distributors	Labeling and identification	Visual inspection	Distributor strips are completely and legibly labeled. Distributors and branching boxes are identified in red.	

A. Commissioning

These commissioning tests shall be performed by the chief engineer.

The nodes shall be interconnected in the following order:

1. Node K01 level 1
2. Subnode K02 . . . level 2
3. Alarm node level 3

The test items contained in the checklist shall be crossed off if the desired result is achieved.

Only measuring equipment that undergoes constant checking may be used.

The following tasks must be performed in advance of commissioning:

- The cable network for the alarm and control lines must be laid in full, switched through to the control and indicating equipment and connected to the 34-fold connection board (APL).
- In the case of automatic detectors in ADW monitored alarm lines with plug-in inserts, the bases must be connected and fitted with detachable blind plates. The last base remains open and disconnected in the case of monitored alarm lines requiring a resistance measurement after item 1.
- All non-automatic detectors (contact detectors) in AMD, ADW, AMFK monitored alarm lines are installed and connected. The last detector in each monitored alarm line requiring a resistance measurement after item 1 or attenuation measurement after item 2 remains open and disconnected.
- Terminal devices such as alarms, parallel indicator panels, etc. are installed and connected. Control units such as magnets, relays, contactors, and solenoid valves remain disconnected (item 1.4/1.6).
- Monitored control lines that are not wired must each be connected with a resistance of 1 kOhm/1 watt.
- Wall cabinet (WS) or floor cabinet (SS) is installed, power supply integrated.
- Switching modules (9AR, 5ARD, etc.) and diode matrices (10/20, etc.) are installed and wired.
- The power supply device is connected to the mains, the mains switch(es) on the PS support SS or on the 150 W power supply modules or the 20 A transformer is in the ‘OFF’ position.
- The function and protection earth (FPE) is connected at both ends. The protection earth (PE) for the mains supply line is connected (see item 5.1 for more information). The connection between the PE and FPE is inserted on the cabinet side.
- The sealed battery is inserted and connected; the battery safety cutout is disconnected.
- In the case of wet batteries: Battery filled and charged, installed and connected ready for operation, battery fuses disconnected.
- The operating panel and log printer are installed and connected.
- The lines for the node-node interface connections or node (S-module)-M-module are switched through and connected.
- Any third-party automatic fire protection facilities (smoke vents, computer system deactivation mechanisms, etc.), that could cause costly damage if triggered, must be deactivated by an employee of the customer or the third-party company. Interventions of this type may not be performed or reversed by Siemens personnel.
- In order to avoid spurious alarms, it has to be clarified (e. g. by an inspection) whether the customer has any works equipment with strong interference parameters turned towards the detector installation site.
- Suitable measures must be put in place to avoid extinguishing systems or routing systems from being released.

In addition to the actions described, the commissioning tests for the control and indicating equipment may result in additional displays appearing on the operating panel. These displays and how they are processed are explained in the Multifunctional Danger Alarm Control and Indicating Panels SIGMASYS C and M SIGMANET, D100: BMT and IMT operating instructions, order no. A24205-A337-B990.

The following must also be ensured:

- The data cable for the log printer (PDR) is only inserted or removed when the 24 V power supply is switched off.
- The node line is reset by pressing the ‘RESET’ button on the MAP module each time fuse 1 on the module (SIB) is switched on.
- The date and time must be checked and if necessary re-entered each time node line K01 is reset (item 7.7. 6).

Any terminal devices or modules in the control and indicating equipment found to be defective during the commissioning tests must be replaced. This hardware may be available in the works spare parts warehouse. Special devices and modules may have to be purchased via the Sales department.

The commissioning technician or installation engineer must complete part A I (system scope/commissioning) and part A II (control and indicating equipment) of the ‘SMT acceptance test record’ (sheet 1 order no. H36-V5068-B43, sheet 2 order no. H36-V4059-N43) upon completion of testing. The signatory accepts full responsibility for the information contained in the acceptance test record.

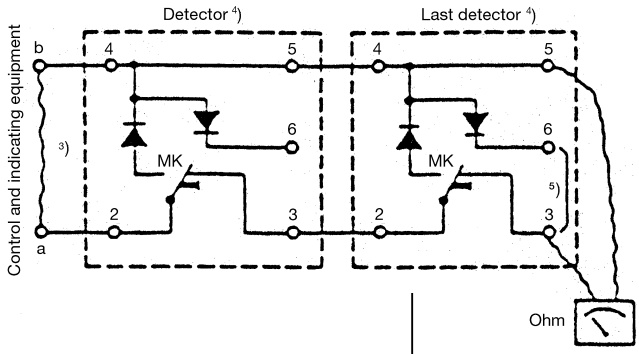
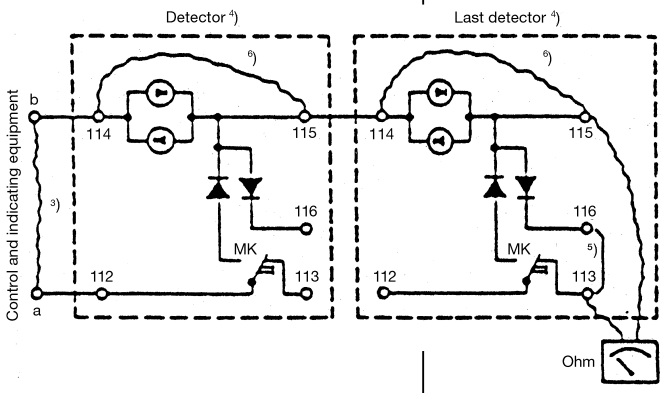
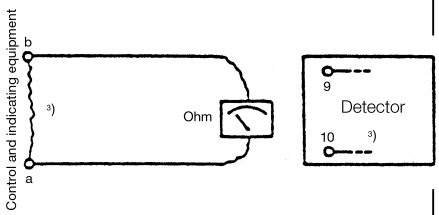
A. Commissioning

<table>
<tr><th>Item no.</th><th>System part</th><th>Test</th><th>Operation/activity</th><th>Test result/displays</th><th>Compl.</th></tr>
<tr><td>1</td><td>Cable network</td><td>Line resistance</td><td>Measure the line resistances using a measuring instrument (Multizet). Check the instrument before performing the measurement, e.g. battery voltage, accuracy of measurement. Enter the measured values in the table opposite (use an extra sheet if necessary). This measurement is only to be performed for monitored alarm lines whose line length is approaching the maximum and which are therefore in the limit range for maximum permissible line resistance.
A/R control circuits and UEW control lines must be measured if maximum values are specified in the implementation documents.
The trip line for the routing equipment must always be checked.
See items 1.1 to 1.5 for special instructions on the individual monitored line types.

The maximum values must not be exceeded!

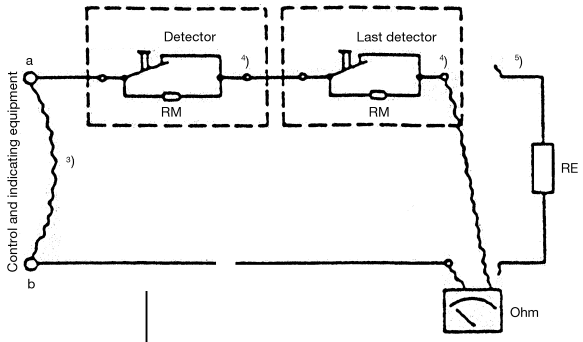
Maximum permissible line length (control and indicating equipment → last detector):
<table>
<tr><th>MPL</th><th>Max. line resistance</th><th colspan="2">Conductor diameter
0.6 mmØ | 0.8 mmØ</th></tr>
<tr><td>AMD</td><td>3,000 Ω</td><td>11 km</td><td>18 km</td></tr>
<tr><td>ADW without speech/ control function</td><td>1,000 Ω</td><td>3.8 km</td><td>7.0 km</td></tr>
<tr><td>ADW with speech/ control function</td><td>700 Ω</td><td>2.6 km</td><td>7.0 km</td></tr>
</table>
</td><td>
<table>
<tr><th>Line no.</th><th>Line type</th><th>Actual value Ω</th><th>Max. perm. value Ω</th></tr>
<tr><td></td><td></td><td></td><td></td></tr>
</table>
*) enter only for UEW control lines
</td><td></td></tr>
</table>

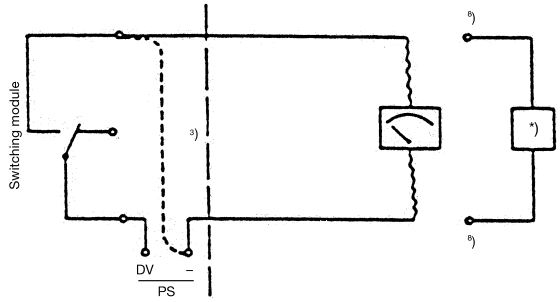
A. Commissioning

Item no.	System part	Test	Operation/activity	Test result/displays	Compl.
1.1	AMD monitored alarm line	Line resistance	**Monitored alarm lines with contact detectors** MDL fire detector (A24226-A12-A4)	The measured actual values for each MPL (see item 1) are beneath the maximum value of 3,000 Ohm.	
					
			MDL-F detector A24226-A12-A1		
					
			MDL-P detector A24214-F75-A9-*-11	The measured actual values for each MPL (see item 1) are beneath the maximum value of 3,000 Ohm.	
					
			3) Insert shorting bridges on the connection board in the control and indicating equipment. Remove the bridges again after the measurement. 4) Connect the contact detectors ready for operation. 5) Only insert bridges 3-6 after the measurement has been performed. 6) Insert the bridges for the duration of the measurement and then remove again. 7) Only connect the detector after the measurement.		

Commissioning and Acceptance Checklist

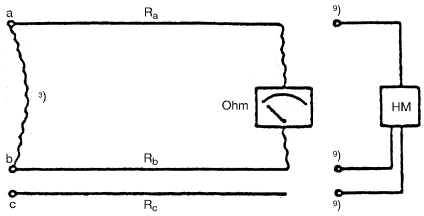
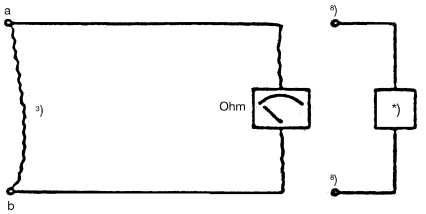
A. Commissioning

<table>
<tr><th>Item no.</th><th>System part</th><th>Test</th><th>Operation/activity</th><th>Test result/displays</th><th>Compl.</th></tr>
<tr><td>1.2</td><td>ADW monitored alarm line</td><td>Line resistance</td><td> 

3) As for item 1.1 point 3)
4) As for item 1.1 point 4)
5) Connect measuring devices to the last detector in the monitored alarm line. Only connect the terminating resistor after the measurement.</td><td>The measured actual values for each MPL (see item 1) are beneath the maximum value of 1,000 Ohm.</td><td></td></tr>
<tr><td>1.3</td><td>A/R control circuits</td><td>Line resistance</td><td>Line resistances should only be measured for control circuits with a maximum permissible value specified in the implementation document and whose control units are supplied by the power supply for the fire alarm system.
 

3) As for item 1.1 point 3)
8) Leave control units *) such as magnets, relays, conductors, solenoid valves that control third-party systems disconnected even after measurement. (This instruction does not apply to alarm devices, parallel indicator panels, etc.)
Caution! Avoid short circuits and earth faults.
Enter the actual values measured in the table opposite, specifying the corresponding control circuit number, maximum permissible values and control unit type.</td><td>Measure all control circuits as per instruction.
<table>
<tr><th>Control circuit no.</th><th>Actual value</th><th>Max. value</th><th>Control unit type</th></tr>
<tr><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td></tr>
</table></td><td></td></tr>
<tr><td></td><td></td><td></td><td>Compare the actual and maximum permissible values.</td><td>The actual values are less than the associated maximum values.</td><td></td></tr>
</table>

A. Commissioning

Item no.	System part	Test	Operation/activity	Test result/displays	Compl.
1.4	Trip line for routing equipment	Line resistance	 3) As for item 1.1 point 3). 9) Do not connect all poles of the routing equipment even after measurement. Caution! Avoid short circuits and earth faults.	SEF m MDL GLU GLS NPF $R_a + R_b$ max. 20 Ohm Desired value: $R_b + R_c$ max. 20 Ohm Actual value: $R_a + R_b$ = . . . Ohm $R_b + R_c$ = . . . Ohm	
1.5	UEW monitored control lines	Line resistance	 $R_L + R_V$ max. 1.2 kOhm $R_L + 5\% R_V$ R_L = Line resistance R_V = Load resistance 3) As for item 1.1 point 3) Compare the measured values with maximum permissible values as specified in the implementation plan. 8) Leave control units *) such as magnets, relays, conductors, solenoid valves that control third-party systems disconnected even after measurement. (This instruction does not apply to alarm devices, parallel indicator panels, etc.) Caution! Avoid short circuits and earth faults.	The actual values measured for each monitored control line (see item 1) are beneath the maximum permissible values specified in the implementation plan for the control and indicating equipment.	
			The implementation plan for the control and indicating equipment contains no maximum values for the UEW monitored control line.	The actual values measured (see item 1) are considered permissible for monitored control lines which have no maximum value specified in the implementation plan.	

Commissioning and Acceptance Checklist

A. Commissioning

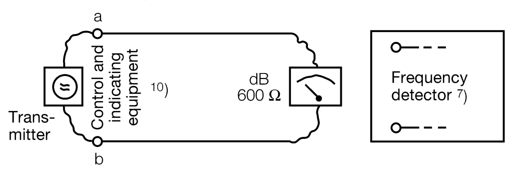
Item no.	System part	Test	Operation/activity	Test result/displays	Compl.
2	Cable network	Line attenuation	Measure the line attenuation using a level measuring instrument. Enter the measured values in the table opposite. This measurement is to be performed only for monitored alarm lines/transmission lines that either display a service requirement/ malfunction during commissioning or whose line length is approaching the maximum and are therefore in the limit range for maximum permissible line attenuation. See item 2.1 for special instructions on the individual monitored line types. The formula for converting decibels to nepers and vice versa is as follows: 1 dB = 0.1151 Np 1 Np = 8.686 dB Maximum permissible line length and line attenuation (control and indicating equipment → last detector):	(see table below)	

MPL	Max. line attenuation at 800 Hz	Conductor diameter 0.4 mm Ø	0.6 mm Ø	0.8 mm Ø
AMFK in AMF-function *)	3.68 Np/ 32 dB	approx. 18 km	approx. 29 km	approx. 40 km
AMFK in AKF function *)	2.88 Np/ 25 dB	approx. 14 km	approx. 23 km	approx. 31 km

*) Values refer to the local supply for the FMK detector.
In the case of remote supply
– max. line resistance of 2,000 Ohm
– max. line capacity of 1 µF
must also be taken into consideration.

Line no.	Line type	Actual dB value

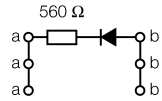
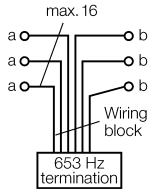
Item no.	System part	Test	Operation/activity	Test result/displays	Compl.
2.1	AMFK in AMF function AMF monitored alarm line	Line attenuation	(see diagram below)	The actual values measured for each monitored alarm line (see item 2) are below the maximum permissible value of 22 dB (2.53 Np)/800 Hz.	

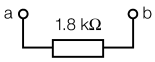


7) As for item 1.1 point 7)

10) Remove the head plug from the module for the duration of the measurement.

A. Commissioning

<table>
<tr><th>Item no.</th><th>System part</th><th>Test</th><th>Operation/activity</th><th>Test result/displays</th><th>Compl.</th></tr>
<tr><td>3</td><td>Monitored alarm lines
AMD
ADW
AMFK or
AKF function</td><td>Line termination</td><td>Connect the terminating components of the monitored alarm lines (MPL) to the output terminals of open monitored alarm lines:
<table>
<tr><th>MPL</th><th>MPL termination</th><th>Remarks</th></tr>
<tr><td colspan="2">AMD
 
</td><td>1 x per module, bridge a and b wires of monitored alarm lines that are not wired and connect diode and resistor at one point</td></tr>
<tr><td colspan="2">AMFK/AMF function *)
 
</td><td>For each module, route the a and b wires of monitored alarm lines that are not wired to the 653 Hz termination.

(See also reference to A24226-A103-A2-*-29).</td></tr>
<tr><td colspan="2">ADW
 
</td><td>For each monitored alarm line</td></tr>
</table></td><td>Monitored alarm lines that are wired are terminated with an appropriate terminating component.</td><td></td></tr>
</table>

A. Commissioning

Item no.	System part	Test	Operation/activity	Test result/displays	Compl.
4	Monitored control lines for ÜE and UEW	Line termination	ÜE and UEW monitored control lines whose trip elements are not terminated must be terminated at the line end (at the unit) with a 1 kΩ/1 W resistor.	ÜE trip lines and monitored control lines are terminated.	
5	Power supply	Mains supply	Visual inspection: Check whether there is a separate circuit.	Circuit is fused separately. Wired in accordance with the VDE-specification and fuse clearly labeled in the power supply distribution. This mains disconnection point must be entered on the adhesive label of the same name (on the PS support, stuck onto the left of the mains distributor). **Caution!** The lettering must be wipe-proof!	
			Before this protection, there may be only one fuse up to the feeding point for the electrical network on the low voltage side.	Only one further fuse up to the feeding point.	
5.1		Protective measures FPE	D100 requires a low impedance function and protection earth (FPE) for fault-free operation. Visual inspection: Check whether both FPE and PE are connected and conform to the VDE specifications. **Also: The functional integrity of the PE and the FPE must be verified prior to commissioning!**	Conductor cross section of the FPE conforms to the provisions of VDE 0800, part 2, section 6 (see also Earthing Instructions A24205-X-A981-*-04, German only!).	
				A green/yellow line is used for FPE and is laid without interruption from the main equipotential bonding bar (main earthing bus) to the ⏚ connection point of the wall or floor cabinet.	
			Before the PE bridge is removed, it must be ensured that the FPE has been correctly wired and checked. The PE bridge must be removed before commissioning (earth faults must be avoided)		
5.2		Protective measures PE (power supply)	Visual inspection	Protection earth (line coming from the rear wall of the housing [(wall cabinet) or 0 V bar (floor cabinet)] is connected to the ⏚ terminals of the power supply modules.	
5.3		Line voltage adjustment	Check the bridges for line voltage adjustment at the 150 W power supply modules. Visual inspection.	The transformer wiring of the power supply modules corresponds to the line voltage.	

A. Commissioning

Item no.	System part	Test	Operation/activity	Test result/displays	Compl.
6	Control and indicating equipment	Preparation:	Visual inspection	The mains switch on the power supply support is switched off.	
				The mains switches for the power supply modules are in 'OFF' position.	
				Monitored alarm lines that are not wired are terminated with appropriate terminating components.	
6.1		Operating panel	For a remote operating panel with separate power supply: Disconnect the 24 V power supply for the operating panel, i. e. disconnect the fuse.	24 V power supply is disconnected.	
6.2		Monitored alarm line	Remove the head plugs for the AMD, AMFK and ADW modules (make sure they do not become mixed up).	The head plugs are removed from all AMD, AMFK and ADW modules.	
6.2.1		Control line	Remove the head plugs for the DA64-module (make sure they do not become mixed up).	The head plugs are removed from all DA64-modules.	
6.3	Power supply	Switch on the power supply, power supply modules	Apply the line voltage (switch on the mains switch on the power supply support).		
			Move the mains switches of the power supply modules to 'ON' position one after the other.		
			Visual inspection	Transformer and printed circuit boards may not show any reaction, e. g. scorching, smoke.	
6.3.1		Supply voltage	Connect a measuring instrument (Multizet) to the right-hand terminal strip (X 8) of the power supply module (M) (M= master, center installation position): + of the instruments → terminal 5 – of the instruments → terminal 2		
			Switch off the power supply modules (mains switch in 'OFF' position). Visual inspection.	Actual value of the power supply modules is in the desired range of 27 . . . 28 V.	
			Switch off power supply module (M) (mains switch in 'OFF' position) and switch on first power supply module) (mains switch in 'ON' position). Visual inspection.		
			First switch off power supply module and second switch on power supply module. Visual inspection.	See malfunction list in item 2 if the test result deviates from this.	
			Return all mains switches to the 'ON' position.		
6.3.2		Trickle charging voltage	Connect a measuring instrument to the right-hand terminal strip (X 8) of the power supply module: + of the instruments → terminal 9 – of the instruments → terminal 1	Actual value of the power supply modules is in the desired range of 27 . . . 28 V.	
			Test the modules as specified in item 6.3.1.	See malfunction list in item 2 if the test result deviates from this.	
			Visual inspection for floor cabinets: Check whether lines +V and +B on the power supply support are transposed.	Terminal $+V_S$ is wired using a brown wire, terminal +B with a black wire.	

A. Commissioning

Item no.	System part	Test	Operation/activity	Test result/displays	Compl.
6.3.3		Switch on the 20 A / 40 A power supply	Apply the line voltage – switch on the mains switch on the power supply support SS. **Caution!** In the case of transformers connected in parallel (40 A), each transformer must be individually checked. The parallel connection (+B, +V, 0 V) must be disconnected to this end.	Mains switch is in 'ON' position.	
			Visual inspection after approx. 3 minutes.	Transformer shows no response. Display DESIRED VOLTAGE lights up Display MAINS FAULT does not light up Display BATTERY FAULT lights us See malfunction list in item 3 if the test result deviates from this.	
			Measurements at the transformer terminals: 1. – of the instrument → terminal – + of the instrument → terminal +V 2. – of the instrument → terminal – + of the instrument → terminal +B	Actual value is in the desired range of 27 V . . . 28.6 V	
			Visual inspection: Check whether the lines at terminals +V and +B of the transformer and the distributor bar have been transposed using the wire color.	The +V and +B lines to the distributor bar have not been transposed. +V = red, 0 V = blue, +B = black.	
			Disconnect lines +V and +B at the transformer, move switch S61 to position 2. Measure the output voltage: Connect the measuring instrument to the transformer at +B and –, if necessary, adjust the output voltage using the potentiometer R62. **Caution!** In the case of transformers connected in parallel, it is important that both transformers have the exact same voltage at +B.	Actual value: 27 V	
			Reconnect lines +V and +B to the transformer, if applicable in parallel. Move switch S61 of the guide transformer to position 1.		
6.4		Battery	Switch on the battery fuse. **Caution!** Check the polarity of the battery first.	Display: 'Battery fault' disappears. See malfunction list in item 4 if the test result deviates from this.	
			In the case of 20 A power supply: Visual inspection.		

A. Commissioning

Item no.	System part	Test	Operation/activity	Test result/displays	Compl.
7	Node line	Preparation	**Never insert or remove a node module while live. Check bridges.**		
7.1		Node 01 (K01)	All interface connections with the exception of the operating panel and log printer must be disconnected. The disconnection is performed at the peripheral devices, not at K01.	The interface connections are disconnected.	
7.1.1		Alarm nodes K10-Kxx	The interface connections to K01 or the alarm nodes must be disconnected. Remove the head plug on the PUS module.	The interface connections to K01 or the alarm node are disconnected.	
7.2	SIB	Supply voltage	Remove all node line modules with the exception of the SIB from the plug-in connection (door contact open).	Modules are removed.	
			Bridges in accordance with the operating mode (see D100 installation instructions).	Bridges are or were inserted.	
			Switch on 24 V system voltage. Press ‘Lamp test’ button.	LED ‘24 V vltg.’ (green) ↑ LED fuse ‘1 – 8’ (yellow) ↑ as long as button is pressed.	
			Voltage at power supply connection board Measuring device + at +S2, – at –S2 . . . –S8	 Display = 27 V ± 0.5 V	
7.2.1		Fuse monitoring	Remove fuses 1-8 one after the other and reinsert.	Corresponding LED (yellow) ↑ as long as fuse is tripped. Corresponding output –S2…-S8 shows voltage of 0 V as long as fuse is tripped.	

A. Commissioning

Item no.	System part	Test	Operation/activity	Test result/displays	Compl.
7.3	SVK	Preparation	Visual inspection of module type.		
7.3.1		Measure supply voltage	Before plugging in the module, insert the adapter plate in the 'SVK' slot. Connect a voltmeter between point A6 (+) and A2 (–). Remove fuse 1 (SIB).	 Voltage is 27 V ± 0.5 V LED '24 V vltg.' (green, SIB) ↓ Voltage slowly drops to 0 V.	
			Move adapter from slot 'SVK' to slot '2', plug in the SVK-module in the slot.		
7.3.2		Measure generated voltages	Insert fuse 1 (SIB). Measure the node lines voltages at the adapter. Apply the negative pole of the instrument to the node line (housing) ground. Apply the positive pole of the instrument to points A2 - + 5 V voltage A29 - –12 V voltage A30 - +12 V voltage A31 - – 5 V voltage at the adapter. On top of that instrument at: B1 (+) and B2 (–) –30 V voltage Point 25 +fuse 5 / 26 –fuse 5 } $+V_S$ Point 27 +fuse 5 / 28 –fuse 5 } $+V_S$ Point 26 (–) - point 29, +fuse 8 ($+V_S$) Point 26 (–) - point 30, +fuse 7 ($+V_S$).	LED '24 V vltg.' (green, SIB) ↑ Voltage is: +5.72 V ± 0.5 V (load with module) +5.72 V ± 0.5 V (idle without module) –14.47 V ± 1 V +13.51 V ± 1 V – 5.87 V ± 0.5 V +36.19 V ± 2 V +27 V ± 0.5 V +27 V ± 0.5 V +27 V ± 0.5 V +27 V ± 0.5 V	

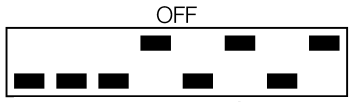
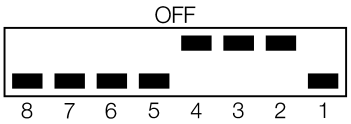
A. Commissioning

Item no.	System part	Test	Operation/activity	Test result/displays	Compl.
7.4	SIB, MAP	Preparation	Visual inspection of module.	Soldering jumpers correspond to: (see D100 installation instructions).	
			Visual inspection: Program ID matches the designation and delivery papers.		
			Interface modules must be plugged in.		
7.4.1		Battery voltage for clock module	Measure battery voltage between X6 (+) and X7 (–).	$V_{batt} \geq 3.25$ V	
			Remove fuse 1 (SIB)	System dead.	
7.4.2		Switch on	Insert module MAP and fuse 1 (SIB).	LED ‘Operation on’ (green) and ’Interface 2’ (green) ↑	
			Briefly press ‘Reset’ button (MAP) using a pointed object.	LED ’Interface 2’ (red) ↑↓ every 2 s. See malfunction list in item 6 if the test result deviates from this.	
7.4.3		Bus stop	Press the ‘Bus stop’ button.	LED ‘Bus stop’ (red) ↑ LED ‘Interface 2’ (red) ↓	
			Press the ‘Bus stop’ button again.	LED ‘Bus stop’ (red) ↑ LED ‘Interface 2’ (red) ↑↓ briefly every 2 s	
7.4.4		Reset	Keep the ‘Reset’ button pressed for approx. 15 s (using a pointed object). After releasing ‘Reset’.	After 8 –12 s: LED ‘Fault’ (yellow) ↑ LED ‘Operation’ (green) ↓ LED ‘Fault’ (yellow) ↑ on SIB-module LED ‘Operation’ (green, MAP) ↑ LED ‘Fault’ (yellow, MAP and SIB) ↓	

A. Commissioning

Commissioning a dual MAP

Both MAPs are interconnected via serial interface 1 using a head plug.

Item no.	System part		Test	Operation/activity	Test result/displays	Compl.
7.4.5	Slot 12 Master	Slot 11 Slave				
			Preparation	Visual inspection of module.	Soldering jumpers correspond to: (see wall/floor cabinet installation instructions).	
				Visual inspection: Module (hardware) matches the designation and delivery papers. Program ID matches the designation and delivery papers.	Module matches delivery note. Program matches delivery note.	
7.4.6	Slot 12		Switch position S5		MAP (S24213-A515-A4) Master MAP for dual-computer mode set.	
7.4.7		Slot 11	Switch position S5		MAP (S24213-A515-A4) Slave MAPs for dual-computer mode set.	
7.4.8	Slot 12	Slot 11		Remove fuse 1 (SIB).	System dead.	
7.4.9	Slot 12		V-RAM	Insert the initialized V-RAM (written with data) into the master MAP. **Caution:** Interface 1 of the 34-fold connection board of the MAP may not be wired.		
7.4.10		Slot 11	V-RAM	Insert the **uninitialized** (empty) V-RAM into the slave MAP.		
7.4.11	Slot 12	Slot 11	Connect the interface	Plug in the modules and establish the interface connection between the master MAP and the slave MAP via a 10-pin flat cable (enclosed with the node line).	Master MAP and slave MAP connected.	
7.4.12	Slot 12	Slot 11	Switch on	Insert fuse 1 (SIB).	The system is live.	

A. Commissioning

Item no.	System part		Test	Operation/activity	Test result/displays	Compl.
	MAP, dual MAP Slot 12 Master	Slot 11 Slave				
7.4.13	Slot 12			Generator startup	LED 'Operation' (green).	
		Slot 11		Generator startup	LED 'Operation' (green) and LED 'Bus stop' (red) lighting up.	
7.4.14	Slot 12		Idle procedure between master MAP and operating panel	Generator startup completed. (Only possible when an operating panel is connected).	Interface 2 – LED (green and red) flashing.	
7.4.15		Slot 11	Slave MAP idle procedure	The slave MAP attempts to receive signals from the operating panel.	Interface 2 – LED (green) flashing.	
7.4.16	Slot 12	Slot 11	Data exchange	Generator startup completed.	The LEDs (green and red) on interface 1 of both MAPs flash intermittently for approx. 3-5 minutes. (This indicates that data are being exchanged.)	
7.4.17	Slot 12	Slot 11	Idle procedure between master MAP and slave MAP	Exchange of data between the two MAPs completed.	The LEDs (green and red) on interface 1 of both MAPs blink at regular intervals.	
7.4.18	Slot 12	Slot 11	Test for slave mode	Remove fuse 1 (SIB).	System dead.	
				Remove master MAP. Insert fuse 1 (SIB).	System live.	
				Initiate startup of the node line.	Once the node line has started up, the master MAP fault must be entered in the operating panel.	
7.4.19	Slot 12	Slot 11	Switch back to master mode	Remove fuse 1 (SIB)	System dead.	
				Insert master MAP. Insert fuse 1 (SIB).	System live.	
				The procedure is then as described above (commissioning the dual MAP).		
				Meaning of the LEDs on interface 1 and 2:	Red LED = transmitting Green LED = receiving	

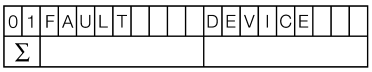
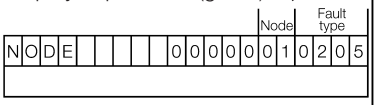
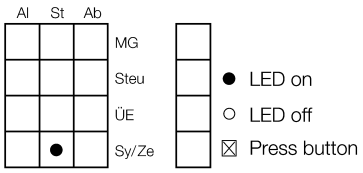
A. Commissioning

Item no.	System part	Test	Operation/activity	Test result/displays	Compl.
7.5	ZSB-module (if used) If using a ZSB in accordance with VdA 2489, the ZSB VdS installation kit (S24213-B510-A1) must be used (see D100 installation instructions, see section 5.1.2).	Preparation	Remove fuse 6, 7 and 8 on SIB. Press the 'Bus stop' button (MAP).	LED 'Bus stop' (red, MAP) ↑ LED 'Fuse' (yellow, SIB) ↑	
			Caution! Only one ZSB may be connected per power supply for earth fault monitoring (bridge X24 – X25 inserted). This bridge may not be inserted on the other ZSB-modules.		
			Visual inspection of the bridge assignment.	Bridges are correctly wired.	
			Insert first ZSB-module in slot 1, attach both head plugs.	LED 'fault' (yellow) ↑ LED '24 V vltg' (green) ↓	
			Insert fuse 6, 7 and 8 on SIB.	LED '24 V vltg' (green) ↑ LED 'Fuse' (yellow, SIB) ↓	
7.5.1		Startup accompanied by measure-ment of the control lines	Briefly press the 'Reset' button using a pointed object.	After approx. 3 s LED 'Fault' (yellow) ↓ after approx. 12 s LED 'Control line 1-4' (yellow) ↑ ↓ ↑ ↓ in 1 Hz cycle for approx. 3 min during the control line measurement phase. The displays for the non-faulty control lines then go out and the displays for faulty lines are permanently on. Once the fault is eliminated, the entire measurement procedure must be repeated by pressing the 'Reset' button once more.	
7.5.2		Lamp test	Briefly press the 'Lp test' (SIB) button.	Once the button is released LED 'Control line 1-4' (yellow) ↑ approx. 2 s LED 'Earth fault' (yellow) ↑ approx. 2 s.	
			Press the 'Bus stop' (MAP) button.	LED 'Bus stop' (red, MAP88) ↓	
7.5.3		Control line: Short circuit	Cause control lines 1-4 at the connection board to short circuit.	LED 'Control line 1-4' (yellow) ↑ of the corresponding control line.	
			Remove the short circuit.	LED 'Control line 1-4' (yellow) ↓	
		Wire breakage	Interrupt control lines 1-4 at the connection board.	LED 'Control line 1-4' (yellow) ↑ corresponding control line.	
			Remove the wire breakage.	LED 'Control line 1-4' (yellow) ↓	
		Fuse failure	Remove fuse 7 (SIB).	Led 'Fuse 7' (yellow, SIB) ↑ LED 'Fault' (yellow, ZSB) ↑ LED '24 V vltg.' (green, ZSB) ↓	
			Insert fuse 7 (SIB).	Led 'Fuse 7' (yellow, SIB) ↓ LED 'Fault' (yellow, ZSB) ↓ LED '24 V vltg.' (green, ZSB) ↑ The processor is restarted concurrently and the measurement procedure for the control lines starts as described under 7.5.1.	
			Check fuse 8 (SIB) in the same way as 7.		

A. Commissioning

Item no.	System part	Test	Operation/activity	Test result/displays	Compl.
7.5.4		Control line: Short circuit	Cause control lines 1-4 at the connection board to short circuit.	LED 'Control line 1-4' (yellow) ↑ of the corresponding control line.	
			Remove the short circuit.	LED 'Control line 1-4' (yellow) ↓	
		Wire breakage	Interrupt control lines 1-4 at the connection board.	LED 'Control line 1-4' (yellow) ↑ of the corresponding control line.	
			Remove the wire breakage.	LED 'Control line 1-4' (yellow) ↓	
		Fuse failure	Remove fuse 7 (SIB).	Led 'Fuse 7' (yellow, SIB) ↑ LED 'Fault' (yellow, ZSB) ↑ LED '24 V vltg.' (green, ZSB) ↓	
			Insert fuse 7 (SIB).	Led 'Fuse 7' (yellow, SIB) ↓ LED 'Fault' (yellow, ZSB) ↓ LED '24 V vltg.' (green, ZSB) ↑ The processor is restarted concurrently and the measurement procedure for the control lines starts as described under 7.5.1.	
			Check fuse 8 (SIB) in the same way as 7.		
7.5.5		Check earth fault	With a resistance of 10 kΩ, establish a connection from $+V_S$ or $-V_S$ to the housing.	LED 'Earth fault' (yellow) ↑ after approx. 9-12 s	
			Remove earth fault.	LED 'Earth fault' (yellow) ↓	
7.6	Modules for monitored alarm lines	Preparation	Withdraw the voltage from the system by switching off the mains switch on the power supply support SS and by pressing the battery safety cutout.	System dead.	
7.6.1		Modules (AMD, ADW, AMFK)	Insert the modules into the appropriate slots.	Modules are inserted.	
			Switch on the system (mains and battery).	System is switched on. Startup procedure runs as previously described. LED of the service displays for the MPL modules light up.	
			Insert the correct head plugs in the respective modules.	LEDs of the service displays for the respective module go out.	
7.6.2		DA64-module	Insert bridge X10-X11. Plug in module in dead condition. Insert head plugs.	Green LED ↑ .	

A. Commissioning

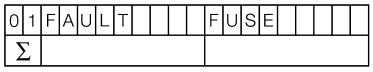
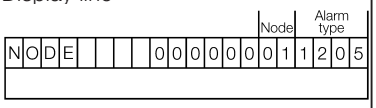
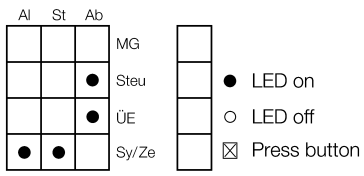
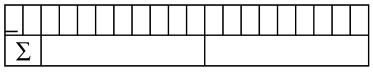
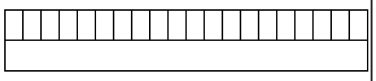
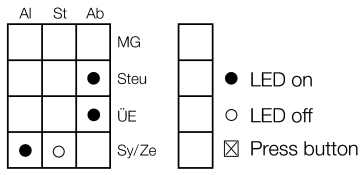
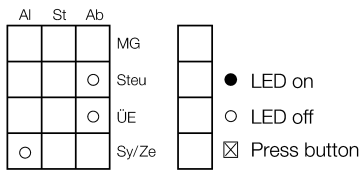
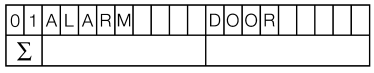
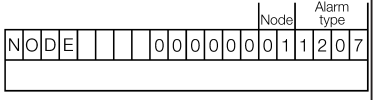
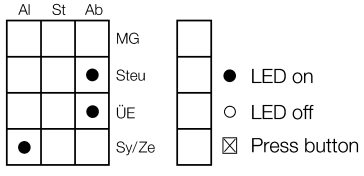
<table>
<tr><th>Item no.</th><th>System part</th><th>Test</th><th>Operation/activity</th><th>Test result/displays</th><th>Compl.</th></tr>
<tr><td>7.7</td><td>Standby/ dynamic operating panel</td><td>Preparation</td><td>Check the program number. Compare operating mode settings (DIP fix switches for plug-in bridges with …-A5 with SM88 wall/floor cabinet installation instructions.</td><td>Program number and operating mode setting correspond with designation, delivery papers and circuit diagram.</td><td></td></tr>
<tr><td></td><td></td><td></td><td>Remove fuse 2 (SIB).</td><td>Fuse 2 removed.</td><td></td></tr>
<tr><td>7.7.1</td><td></td><td>Supply voltage</td><td>Insert the 24 V supply cabinet for the operating panel in the ‘Operating panel power supply’ socket on the node board.
Insert fuse 2 (SIB).
Press the ‘Reset’ button on the rear of the operating panel.
  </td><td>After approx. 2 s.
↑
Display ‘Operation’ (green) 1 ↑
 
INFORMATION (keypad)
  </td><td></td></tr>
<tr><td>7.7.2</td><td></td><td>Acoustic signal off</td><td>Press ‘Acoustic signal off’ button.</td><td>↓</td><td></td></tr>
<tr><td></td><td></td><td></td><td>Press ‘Clear display line’ button.</td><td>Display line disappears.</td><td></td></tr>
<tr><td>7.7.3</td><td></td><td>Lamp test</td><td colspan="2">Press ‘⊗’ button.
Test scope: LEDs (all variants)
7-segment display
Display unit (character generator, individual point test)
Acoustics (all variants)
The lamp test is effective while the button is being pressed. Elements with different display variants (dual color LEDs, acoustic signals) change their status after each lamp test. The individual variants show:
<table>
<tr><th>Variant</th><th>LED</th><th>7-segm. display</th><th>Acoustic signal</th><th>Display unit</th></tr>
<tr><td>1</td><td>1st color, possibly flashing</td><td>0</td><td>loud</td><td>Individual point</td></tr>
<tr><td>2</td><td>2nd color, possibly flashing</td><td>1</td><td>quiet</td><td>Character generator</td></tr>
<tr><td>3</td><td></td><td>2</td><td>slow</td><td></td></tr>
<tr><td>4</td><td></td><td>3</td><td>fast</td><td></td></tr>
<tr><td>5</td><td></td><td>4</td><td></td><td></td></tr>
<tr><td>6</td><td></td><td>5</td><td></td><td></td></tr>
<tr><td>7</td><td></td><td>6</td><td></td><td></td></tr>
<tr><td>8</td><td></td><td>7</td><td></td><td></td></tr>
<tr><td>9</td><td></td><td>8</td><td></td><td></td></tr>
<tr><td>10</td><td></td><td>9</td><td></td><td></td></tr>
</table>
The individual variants do not have to occur together.</td><td></td></tr>
</table>

Commissioning and Acceptance Checklist

A. Commissioning

Item no.	System part	Test	Operation/activity	Test result/displays	Compl.
7.7.4		Authorization switch	Using the key, turn the authorization switch to the '+' position and to the '–' position. Set level 4 and move the switch to the mid-position.	7-segment display 'Operation' shows: 2 3 4 5 6 7 8 9 8 7 6 5 4 3 2 1 0 Display: 4	
7.7.5		Interface cable	Press the 'Bus stop' button on MAP.	LED 'Interface 2' (red) ↓ LED 'Bus stop' (red) ↑	
			Plug in the 'Operating panel' interface cable. Press the 'Bus stop' button on MAP.	Interface cable is plugged in. LED 'Bus stop' (red) ↓ LED 'Interface 2' (red) ↑↓↑↓ ↑ Operating panel display line: 01 ALARM DOOR Σ NODE 000000 Node 01 Alarm type 1207 **INFORMATION** Al St Ab MG Steu ● LED on ÜE ○ LED off Sy/Ze ☒ Press button	
			Press the 'Acoustic signal off' button.	↓	
			Press the 'Clear display line' button, if necessary more than once.	Display line disappears.	
7.7.6		Enter date and time	On the operating panel, press the 'System/Control and indicating equipment' button.	**INFORMATION** Al St Ab MG Steu ● LED on ÜE ○ LED off Sy/Ze ☒ Press button Display field SYSTEM? (flashing)	
			Enter the code number '041' using the command input keys. Enter the date and time in the following order: year, month, day, hour, minute, '0', each with 2 digits. Enter the end-of-command code '159'.	Example: 041 87 09 24 12 25 0 159 End code 0 Minute Hour Day Month Year Starting code Display field: 159 87090714150 TIME ON is briefly displayed.	

A. Commissioning

Item no.	System part	Test	Operation/activity	Test result/displays	Compl.
7.7.7		Fuse failure	Remove a fuse from the SIB-module, i.e. fuse 4. (fuse 1, the system fuse, and fuse 2, the operating panel fuse, should remain switched on) 	LED LED ‘Fuse 4’ (yellow, SIB) ↑ LED LED ‘Fault’ (yellow, SIB) ↑ ↑ Display line  **INFORMATION** 	
			Press the ‘Acoustic signal off’ button.	↓	
			Insert a fuse.	LED ‘Fuse 4’ (yellow, SIB) ↑ LED ‘Fault’ (yellow, SIB) ↑	
			Press the ‘Clear display line’ button. 	Display line  **INFORMATION** 	
7.7.8		Door contact	Close the cabinet door.	**INFORMATION** 	
			Open the cabinet door. 	Display line:  **INFORMATION**  ↑	
			Press the ‘Acoustic signal off’ button.	↓	

A. Commissioning

Item no.	System part	Test	Operation/activity	Test result/displays	Compl.
8	Log printer	Printer	Visual inspection	Printer paper is inserted.	
8.1		Printer FD60 DR2030-9 DL3700 Operation 'ON'	Start up printer according to instructions (enclosed with the printer). Connect and start up FD60 according to section 9.1 of the D100 installation instructions.	Printer paper is inserted. Test page printed correctly.	
			Switch the mains switch on the printer to 'OFF' position.	Printer switches off.	
			Plug in the data line into the printer.	Data line is plugged in.	
			Switch the mains switch on the printer to the 'ON' position.	Printing out of the received/processed alarms begins.	
8.2		Printer FD60 DR2030-9 DL3700 'Fault'	**Caution!** Only applies to nodes with printers. – Printer. . . faulty. 0 1 F A U L T D E V I C E Σ	Display line (operating panel) P R I N T E R 0 0 0 0 0 0 0 χ χ = 1 = 1st printer 2 = 2nd printer . . . . . . **INFORMATION** Al St Ab MG Steu ● LED on ÜE ○ LED off Sy/Ze ☒ Press button ↑	
			Press the 'Acoustic signal off' button.	↓	
		'Idle'	– Printer … not faulty Operating panel: Press the 'Clear display line' button. Σ	Display line: **INFORMATION** Al St Ab MG Steu ● LED on ÜE ○ LED off Sy/Ze ☒ Press button	

A. Commissioning

Item no.	System part	Test	Operation/activity	Test result/displays	Compl.
9	Node ‘K10’…	Preparation	Tests 9.1 to 9.8 must be performed for each node.	Tests completed.	
9.1		Operation ‘ON’	The interface connection to K01 must be started up.	The interface connection is switched through.	
9.2		Restart node Kxx	Press the ‘Reset’ button (MAP) of Kxx 01 FAULT DEVICE Σ	Display line (operating panel, Kxx): Node Type NODE 000000 **INFORMATION** Al St Ab MG ● Steu ● ÜE ● ● Sy/Ze ● LED on ○ LED off ☒ Press button ↑ briefly ↑	
			Press the ‘Acoustic signal off’ button. Press ‘Clear display line’.	↓ Display line disappears.	
			 Σ	Display line (BF88, K01): **INFORMATION** Al St Ab MG Steu ÜE Sy/Ze ● LED on ○ LED off ☒ Press button ↑	
			Press the ‘Acoustic signal off’ button.	↓	

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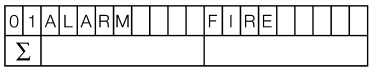
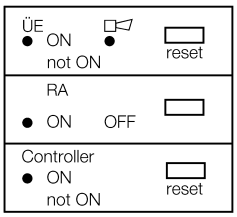
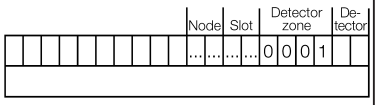
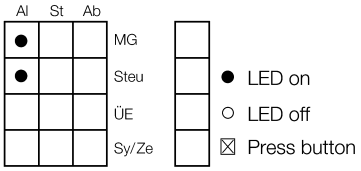
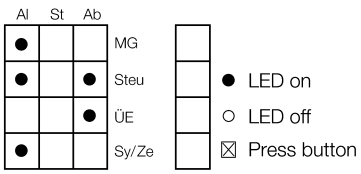
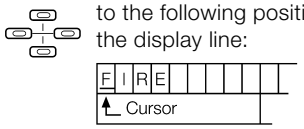
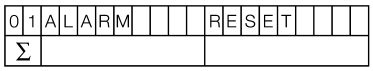
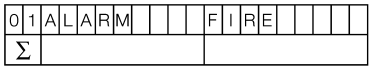
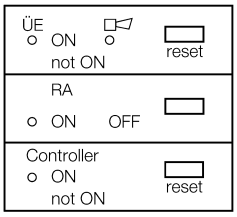
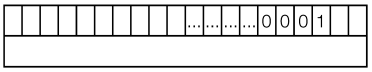
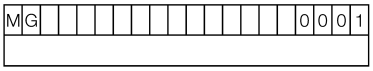
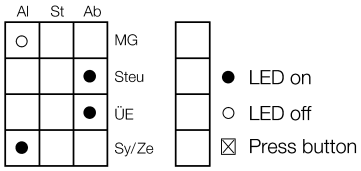
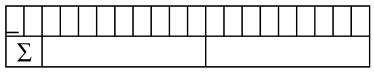
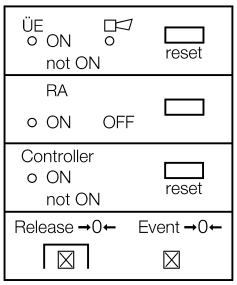
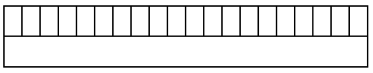
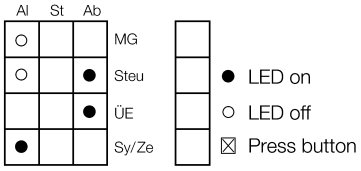
Item no.	System part	Test	Operation/activity	Test result/displays	Compl.
10	Monitored alarm and control lines		A WIRE BREAK/SHORT CIRCUIT alarm must be simulated in all monitored lines in the node using the appropriate test detector. Downstream controllers must also be checked. The door contact must be locked to this end. Suitable measures must be put in place to prevent the triggering of extinguishing systems or routing systems.		
10.1	AMD monitored alarm lines	Preparation	Using test detector MDL (S24220-D101-A1) interrupt the monitored alarm lines at the corresponding 34APL. Always check only one MPL.		
10.1.1		Check wire break	Initiate a wire break at the test detector and eliminate once more.	The display is analog to that when testing the AMI module and also depends on the supply for the respective system.	
10.1.2		Check short circuit	This test is performed in a similar manner to the wire break test.	As for the wire break test.	
10.1.3		Check alarm from 1st detector zone	Initiate an alarm at the test detector (in the case of a detector group with ALZ, trip the detector twice)   The displays depend on the supply for the detector zone.	BF88 shows:  **INFORMATION**  ↑ ↓ ↑ ↓	
			Press the ‘Acoustic signal off’ button.	↓	
			Release the door contact (= door open).	**INFORMATION** 	

A. Commissioning

Item no.	System part	Test	Operation/activity	Test result/displays	Compl.
10.1.3.1		Reset 1	Reset the alarm at the test detector. Using the control keys, move the cursor (_, underscore) to the following position in the display line:  and press the ->0<- command input key.   	Display line briefly shows:  and then for approx. 6 s:  **INFORMATION** 	
10.1.3.2		Reset 2	Another method of resetting an alarm is to press the 'Release ->0<-' button and the 'Event ->0<-' button at the same time.  	Operating panel immediately shows:  **INFORMATION** 	
10.1.4		Check alarms from other detector zones	This test is performed with the door contact open. Reset the detector zone as described in 10.1.4.2. Downstream controllers must be taken into consideration.		

A. Commissioning

Item no.	System part	Test	Operation/activity	Test result/displays	Compl.
10.2	AMFK/funct.: AMF monitored alarm lines	Preparation	Loop in frequency test detector (S24220-D111-A1) at 34APL into the monitored alarm line. Only ever check one detector zone!		
10.2.1		Check wire break	This test is performed in the same way as the AMD test.	The display is analog to that for the AMD test and depends on the supply.	
10.2.2		Check short circuit	This test is performed in the same way as the wire break test.	See above.	
10.2.3		Check alarm	This test is performed in the same way as the AMD test.	The display is analog to that for the AMD test and depends on the supply.	
10.3	ADW monitored alarm lines	Preparation	Loop in frequency test detector (S24220-D131-A1) at 34 APL into the monitored alarm line. Only ever check one detector zone!		
10.3.1		Check wire break	This test is performed in the same way as the AMD test.	The display is analog to that for the AMD test and depends on the supply.	
10.3.2		Check short circuit	This test is performed in the same way as the wire break test.	See above.	
10.3.3		Check alarm	This test is performed in the same way as the AMD test.	The display is analog to that for the AMD test and depends on the supply.	
10.4	AMFK/funct.: AKF		These tests are performed on the tester or FM concentrator.		
10.4.1		Check wire break	Briefly interrupt the monitored line.	The display is analog to that for the AMD test and depends on the supply.	
10.4.2		Check short circuit	Briefly short the monitored line.	The display is analog to that for the wire break test.	
10.4.3		Check alarm	The alarms must be triggered in their installation location, see detector test (item 11)	The display is analog to that for the AMD test and depends on the supply.	

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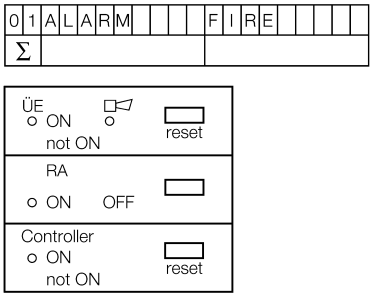
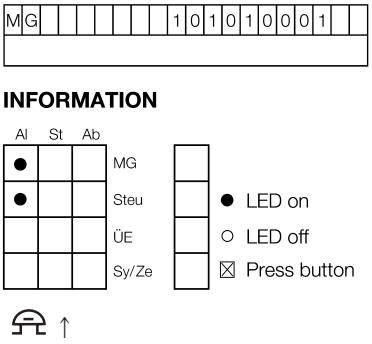
Item no.	System part	Test	Operation/activity	Test result/displays	Compl.
10.5	Monitored control lines		Activation of the controllers must be tested at the same time as the monitored alarm lines. Note the supply!		
		Preparation	Lock the door contact and keep it closed during the test.	Display as for item 7.7.8.	
			Caution! Any third-party automatic fire protection facilities (smoke vents, computer system deactivation mechanisms, etc.), that could cause costly damage if triggered, must be deactivated by an employee of the customer or the third-party company. Interventions of this type may not be performed or reversed by Siemens personnel.	All control units, and if applicable also alarm devices and routing equipment, that should not respond, are disconnected.	
			Trigger the appropriate detector zones.		
		Controller	Check whether the correct wired UEW monitored control line has triggered:  Reset according to item 10.1.3.1 or 10.1.3.2.	Control unit responded. The operating panel shows the corresponding alarm according to the respective supply, for example: 	
			Perform a visual inspection of whether the wired control relay (AR switching module) responded, if necessary measure the voltage at the output terminals.	The AR relay of the defined control circuit responded.	
		Linking/ decoupling	Visual inspection during triggering and control of linked/decoupled monitored control lines and/or control circuits (when using diodes or diode matrix).	All UEW monitored control lines and/or relays respond as defined in the implementation plan.	
				All decoupled UEW-SPL and/or A/R relays have not interfered with each other.	
		Function	Sum of the individual checks.	The function of the wiring blocks of all occupied UEW monitored control lines and/or A/R relays corresponds overall to the entries in the implementation plan.	
		Alarm facility	Audio or visual inspection.	All connected alarm facilities audibly or visibly responded.	

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Item no.	System part	Test	Operation/activity	Test result/displays	Compl.
11	Detector		All detectors must be triggered at their installation location either manually or using an appropriate detector tester.		
		Preparation	The detector zone to be tested must first be switched to 'Revision' if necessary (see the operating instructions for the procedure).		
11.1	Automatic detector MS7/9	Equipping	Plug in the detector inserts line by line, if necessary activate the required sensitivity or visual inspection.	The detector type at all installation locations, e.g. BR716 or BD957 and sensitivity, e.g. switch position for BER 910, correspond to the installation plan/line list.	
11.1.1		Accessibility for servicing	Practical check during insertion and functional testing.	All detector installation locations on ceilings up to a height of 5 m must be accessible using detector exchangers and tester without hindrance from constructions or appliances.	
				The detectors in intermediate ceilings and floors must be accessible using detector exchangers and testers as above once the covering plates have been removed.	
11.1.2		Influence of interference parameters	During insertion, check whether the customer has any works equipment with strong interference parameters turned towards the detector installation site. For intrusion alarms, this includes air jets, steam jets, dust jets, smoke jets (machine exhaust).	All detector installation locations must be optimally selected against impairment by interference parameters. A separate report containing information on critical detector installation for customers was drafted to take account of operational responsibility.	
11.1.3		Detector numbering	During insertion by means of a visual inspection and comparison with the detector zone list.	Zone-by-zone numbering of the detectors is complete and corresponds to the implementation documents.	
11.1.4	with detector display	Alarm function	Trigger all detectors of the detector zone switched to 'revision' using an appropriate detector tester. **Note:** Wait for detectors with a response delay.	The detector display and if applicable external display on all detectors flashed (approx. 9 s) and then automatically resets itself.	
				Number of detectors checked: _____	
11.1.5	without detector display		Trigger all detectors of the detector zone switched to 'revision' using an appropriate detector tester. **Note:** Wait for detectors with a response delay.	All detectors in a detector zone were triggered one after the other and automatically or manually reset after approx. 10 s.	
		Resetting	Once the test is complete, the detector zone must be returned to normal operation. Delete the list of revision messages (see operating instructions).	Detector zone is in idle condition. List is deleted.	

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Item no.	System part	Test	Operation/activity	Test result/displays	Compl.
11.2	Pushbutton fire alarm call point	Visibility/ accessibility	Visual inspection during functional check.	All detector/switch installation locations are optimally arranged in the operating environment in terms of visibility and accessibility.	
				A separate report containing information on critical detector installation for customers was drafted to take account of operational responsibility	
		Installation height	Using scale.	All detectors/switches must be installed at the prescribed height of 1.40 m ±0.2 m above the upper surface of the finished floor.	
		Functional appearance	Visual inspection and comparison with implementation documents.	All detectors/switches correspond in housing color, if applicable with contrast plate, lettering, e.g. ‘Hand triggered, vent’ at the correct installation locations, to the implementation documents.	
				None of the glass panes are damaged.	
				Detectors/switches that are installed but not connected or functioning show the ‘Out of operation’ sign.	
	with/without detector display	Alarm function	Manually trigger and reset all detectors from the detector group set to ‘Revision’. **Note:** Wait approx. 5 s between triggering and resetting. After resetting the detector, wait approx. 20 s (memory/reset time) before triggering the next one.	Number of detectors inspected:____	
		Resetting	Once the test is complete, the detector zone must be returned to normal operation. Delete the list of revision messages (see operating instructions)	Detector zone is in idle condition. List is deleted.	

A. Commissioning

Item no.	System part	Test	Operation/activity	Test result/displays	Compl.
11.3	MDL detector		This test is performed as for the push-button fire alarm call point (see 11.2).	The red LED also lights up on all triggered detectors. Number of detectors inspected:_____	
11.4	Audio Frequency detectors TF2		This test is performed as for the pushbutton fire alarm call point (see 11.2). For this purpose, trigger alarm criterion 1 (pushbutton or A relay) and if applicable criterion 2 (B relay) one after the other.	The red LED also lights up on all triggered detectors. Number of detectors inspected: _____	
11.5	Frequency detector FM1/14		This test is performed as for the pushbutton fire alarm call point (see 11.2). **All** units that trigger an alarm must be activated.	All units were triggered. Number of detectors inspected: _____	
11.6	Call point with speech-communi-cation facility	Speech function	The speech communication connection must be checked in all detectors with this facility.		
11.6.1		Establish connection	The speech communication connection must be established as specified in the operating instructions.		
11.6.2		Test	Test the speech communication connection between BF88 and the detector (loudspeaker).	The speech communication connection is up and of good quality.	
11.6.3		Dismantle abbauen	Dismantle the speech communication connection as specified in the operating instructions.	Number of speech communication connections inspected: _____	
11.7	Control detector	Control function	The control function must be checked in the case of all detectors with controllers. Control units that should not respond must be first disconnected, loop in the corresponding load resistance into the line and measure the control voltage using a measuring instrument.		
11.7.1			Test on the control unit.	Control unit responded or control voltage ≥ minimum operating voltage of the control unit.	
11.7.2			Reconnect disconnected control units.	Number of controllers inspected: _____	

A. Commissioning

Item no.	System part	Test	Operation/activity	Test result/displays	Compl.
12	Installation order	Verification volume	Enter the verification volume in the installation order.	Verification volume corresponds to actual status.	
13	Acceptance test record	Information	The commissioning technician or installation engineer must complete and sign part A I (system scope/commissioning) and part A II (control and indicating equipment) of the 'SMT acceptance test record' (sheet 1 order no. H36-V5068-B43, sheet 2 order no. H36-V4059-N43) or complete them and have them signed.	The information contained in the acceptance test record corresponds to the checklist and is confirmed by the signature.	

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This document contains general description of technical options available, which do not always have to be present. The required features should therefore be specified in each individual case at the time of closing the contract.

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