Note In this state the system is set up for testing if individual lines or a group of lines are insulated against earth, but not if two lines are insulated against each other. Otherwise there is a risk of damage.
The guideline for test voltages and insulating resistance is IEC/EN 61131-2 or DIN VDE 0160/EN 50178.

9.5 Switching on Power Supply

The input/output modules and their appertaining cable connectors are fixed with screws. The 24 VDC operation voltage has to be checked for correct polarity, level and ripple before it is connected.
In case of reverse polarity a fuse protects the I/O module of damages.

9.6 Functional Testing

9.6.1 Preparing Functional Testing

For functional testing check the equipment of the control cabinet completely with help of the label and/or documentation printout "I/O subrack". All free connectors of the input/output modules have to be connected to the allocated input/output racks, and the voltage connections of the cable connectors to the allocated voltage distributors. All control elements (control devices) must be released by the factory management or be driven without auxiliary power.

9.6.2 Testing in the Central Devices

The essential tests in the central devices of the H41q/H51q system are:

Central modules	switch positions for bus station no. and transfer rate, version of the operation system via display
Coprocessor module F 8621A	operating system EPROM switch positions for RS 485 interface
Communication modules	switch positions for different operating modes for modules F8627/F8627X and F8628/F8628X, see corresponding data sheet
I/O bus connection	refer to the data sheet of the appertaining assembly kit

We recommend marking all required switch positions etc. in copies of the data sheets of the respective control cabinet and keeping the copies in the pocket of the cabinet door. Should modules have to be exchanged, the necessary information will thus be immediately available.

The additional devices listed below are now described in the catalog "Cabinets and Power Supplies".

K 7212	Feeding and current distribution (with mains filter)
K 7213	Feeding and current distribution, up to 35 A
K 7214	Feeding and current distribution, up to 150 A
K 7215	Feeding and current distribution, up to 150 A, graphical display
K 7216	Feeding and current distribution, up to 63 A, for SELV and PELV
K 7901	Feeding and current distribution, up to 63 A, with two mains filters Z 6015
K 7915	Fuse distributor for lead fuse with certificate of Factory Mutual Research Corporation

10.7 Modules for I/O Bus Coupling

F 7553	Coupling module for H51q

10.8 Communication Modules

F 8621A	H41q/51q coprocessor module
F 8627 / F 8627X	Fast Ethernet communication
F 8628 / F 8628X	Profibus-DP communication

10.9 Relays in Terminal Block Housing

H 4116	Relay in terminal block housing, safety-related, 4 A, SIL 2
H 4135	Relay in terminal block housing, safety-related, SIL 3
H 4136	Relay in terminal block housing, safety-related, operating voltage 48 VDC, SIL 3

10.10 Bus Connection Modules for HIBUS

H 7505	data signal converter V.24 / 20 mA, 2-wire / 4-wire (HIBUS)
H 7506	Bus terminal module for 2-wire buses

10.11 Accessories

H 7014	Electronic fuses
H 7015A	Terminal module
H 7016	Terminal module
H 7017	Shunt with low-pass filter
H 7018	Terminal module
H 7020	Terminal module
RS485 PCI	Interface card