

TS 981 door control

Control panel with traffic management for GfA ELEKTROMATEN® drives with DES digital limit switch

Approvals and certificates

TS 981 / TS 981 FT

Type test according to:
DIN EN 12453
DIN EN 12978
DIN EN 60335-1
DIN EN 60335-2-103
TÜV NORD CERT GmbH



TS 981 – Control panel with traffic management for DES

Technical data

- For GfA ELEKTROMATEN drives with digital limit switch DES
- Supply voltage:
1N~230V, PE / 3~230V, PE / 3N~400V, PE / 3~400V, PE
- Operating frequency: 50 / 60 Hz
- Control voltage: 24V DC
- Mains supply ratings for external devices: 24V DC (1,0A) / 230V AC (1,6A)
- Permissible temperature range: -10°...+50°C

Housing

- Dimensions WxHxD [mm]: 190x300x115 mm
- IP65 rated when hard wired or IP54 with CEE plug
- Live electrical parts covered
- Incl. drilling template and fixing elements

Description

- Integrated OPEN-STOP-CLOSE control device
- Connection points for two external three push buttons
- For hard wiring or with ready wired CEE plug and mains supply cable of length 0,7m
- Settings via selector switch with digital display
- Pluggable connection technology
- Connection cable running to ELEKTROMATEN available in various lengths
- Two independent, programmable relay contacts¹, e.g. for use as status contacts
- UBS² module with 5 plug-in points for the simple connection of control devices, photo cells, radio receivers etc. (for details on UBS accessories, see 8.091)
- Slack-rope and pass-door plug-in connection points
- Terminals for two pull-switches or radio control 1- or 2-channel available, functions programmable

Accessories

- Emergency-stop switch
- Key switch
- For description and details on further accessories, see 8.085

¹ Additional five contacts available (via optional SMF module)

² UBS universal command sensor system (see S. 8.091)

TS 981



Functions

- Adjustment of limit positions and all functions from the operator level
- Selectable operating mode:
 - CLOSE/OPEN in hold-to-run mode
 - CLOSE in hold-to-run mode/OPEN in self-hold mode
 - CLOSE/OPEN in self-hold mode
- Automatic safety edge detection and evaluation:
 - Optical safety edge system (e.g. Vitector system)
 - NO-contact principle, 8k2
 - NC-contact principle, 1k2, with testing
- Automatic closing with adjustable time setting (1-240 seconds) (function can also be activated/deactivated):
 - Once the top limit position or intermediate open position has been reached, the door closes automatically after the set duration
 - Interruption to timer possible via photo cell activation
- Adjustable intermediate open position with individual programming options
- Entrapment evaluation, selectable:
 - Optical systems
 - NC/NO contact with resistor
 - Safety photo cells
- Automatic ground adjustment to compensate for rope stretch or subsequent change in ground height (not for pressure-wave switches)
- Overrun correction to compensate for changes to overrun, e.g. due to influence of temperature
- Status and information display (including display of the two recent faults)
- Cycle counter (non-resettable)

Further functions

- Maintenance-cycle counter:
 - Setting range: 1,000-99,000 cycles
 - Display or switch to hold-to-run operation once the maintenance-cycle limit is reached
- Detects door/drive blockage; in this event the control deactivates the drive unit
- Adjustable force monitoring in OPEN direction:
 - For counterbalanced doors, sudden changes to the counter-balancing are detected
 - Self-learning feature and consequently no activation of force monitoring function due to, e.g., a change in spring tension
- Automatic detection of ELEKTROMATEN unit with direct inverter (DI) or frequency inverter (FI):
 - Setting of output speed
 - Soft start and soft stop through automatic adjustment of acceleration and braking ramps
 - Possible to modify acceleration and braking ramps
- RWA function (smoke draining) actuates a compulsory door opening, to be used with external smoke alarm systems

- One-way and two-way traffic control with adjustable functions such as: fore-warning time, extension of greenlight period, clearance time as well as priority to entry or exit
- Slot for memory cards², for installing or upgrading software with SD or MMC cards

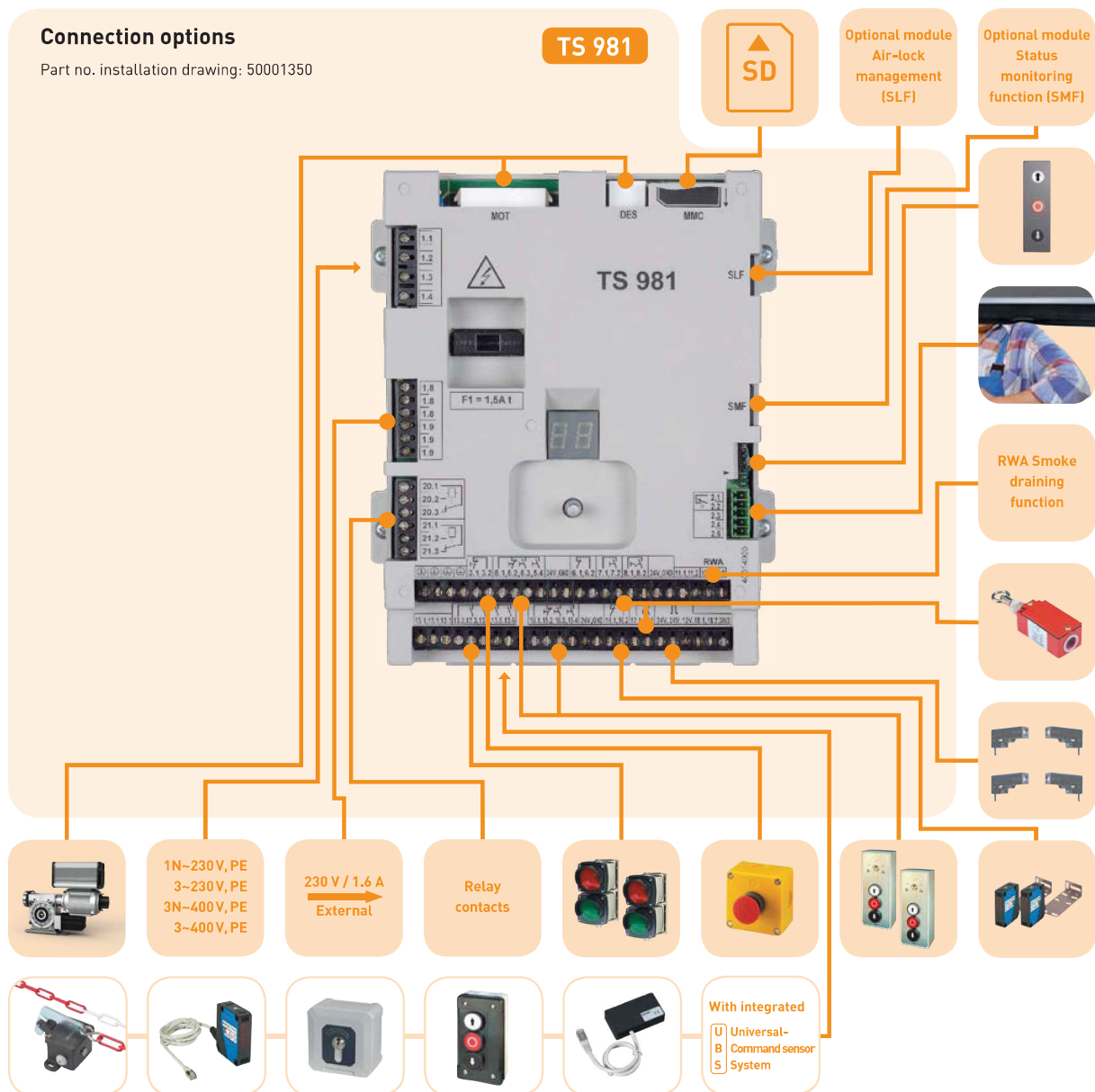
Special functions via optional modules

- Status monitoring module (SMF): Additional five contacts available for positioning and fault information
- Air-lock module (SLF): For operating two TS 981 as an air-lock
- Panic module (extension to the SLF module): Interrupting the air-lock function if an additional control device is actuated

¹ Only for memory cards up to 1 GB

Connection options

Part no. installation drawing: 50001350



Door control

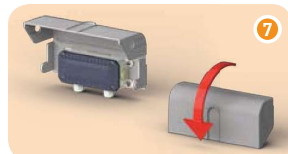


Designation	Description	Part no.
TS 981 for hardwiring	① Without mains supply cable	20098100.00001
TS 981 with CEE 3N-400V (5-pole)	② With mains supply cable of length 0.7m	20098100.00002
TS 981-FT with CEE 3N-400V (5-pole)	③ For Folding-door-ELEKTROMATEN FT; with mains supply cable of length 0.7m	20098151.00002
TS 981 with CEE 1N-230V (3-pole)	④ With mains supply cable of length 0.7m	20098100.00006
TS 981 with CEE 1N-230V asym. (3-pole)	④ For SI 25.15 WS / SI 45.7 WS / ST 16.24 WS; with mains supply cable of length 0.7m	20098100.00014

Designation	Description	Part no.
TS 981-XL in plastic housing	W x H x D [mm]: 300 x 400 x 132 (165); Protection class: IP65 - Slide gland for pluggable connection cable running to ELEKTROMATEN drives - 3 DIN mounting rails - 6 x M20 cable glands	
Part no. installation drawing: 50001908	⑤ Version with mains switch 3N-400V ⑥ Version when hardwired 230-400V ⑦ Lock for padlock (2 pc.)	20098100.20021 20098100.20001 40019408

Designation	Description	Part no.
TS 981 in stainless steel control enclosure	⑧ W x H x D [mm]: 400x400x200; Protection class: IP66 - 4-pole mains switch - 3 DIN mounting rails - 8 cable glands	
(For areas with high demands on hygiene or corrosion protection)	Version AISI 304L (V2A) Version AISI 316L (V4A)	20098199.00001 20098199.00002

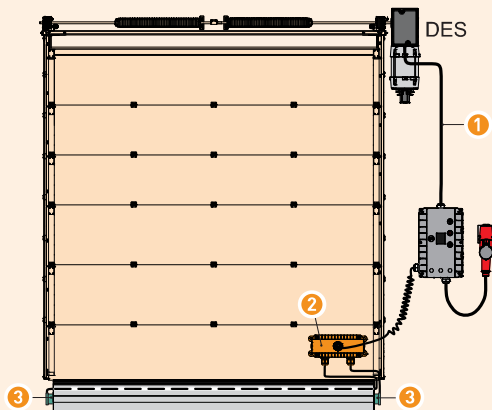
Accessories



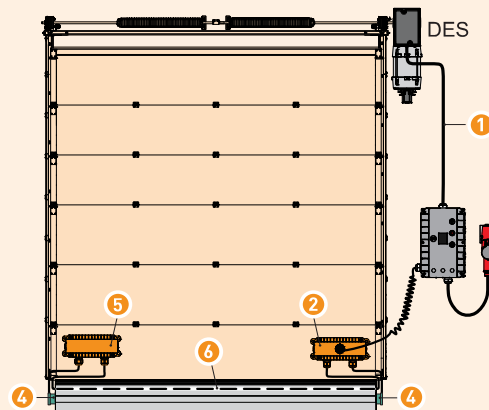
Designation	Description	Part no.
DES connection cable	1 Connection to ELEKTROMATEN drives with digital limit switch, pluggable on both sides; length of cable: 3,0m 5,0m 7,0m 9,0m 11,0m 13,0m 15,0m Further lengths available, upon request	20002420.00300 20002420.00500 20002420.00700 20002420.00900 20002420.01100 20002420.01300 20002420.01500
Spiral cable with junction box (IP65)	2 Straight cable ends (2.0m/0.35m); length of coiled cable: 0.9m; max. stretched length: 4.0m - For OSE (optical safety edge system, e.g. Vitector system) - Can be combined with OSE system 1 or 2	20002620.00001
Universal OSE set, for system 1	3 System 1 = one junction box; transmitter + receiver, pluggable design with receiver (0.5m long cable) and transmitter with 4 6.5m cable 10.5m cable	30005185.00650 30005185.01050
Universal OSE set, for system 2	4 System 2 = junction box + junction end box; transmitter + receiver, pluggable designs with 0.5m long cables for each Are also required for system 2: 5+6	30005185.0060
Junction end box (IP65) for system 2	5 With plug-in connection points for transmitter / receiver, as well as for pass-door and slack-rope switches	30004834
Connection cable for system 2	6 Pluggable on both sides, 5-wire, cable length: 4,5m 6,5m 8,5m 10,5m	20002630.00450 20002630.00650 20002630.00850 20002630.01050
Splash guard	7 Mechanical protection against water; For spiral cable with junction box 2 and junction end box 5	40017478.00001

■ Further accessories are described in Section 9, e.g. radio from page 9.023

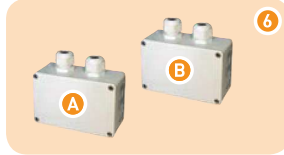
Example with system 1



Example with system 2



Accessories



Designation	Description	Part no.
Key switch	1 Assembly kit for installation in top section of the housing, supplied with 2 keys	30004616
Emergency-stop switch	2 Assembly kit for installation in top section of the housing	30004615
Toggle switch for intermediate open position	3 Assembly kit for installation in top section of the housing	30004679
Water protection shield stainless steel made	4 Recommended to guard the door control	40015005
Status monitoring module SMF	5 Additional five potential-free relay contacts Activation at: 1. Safety edge activated 2. STOP 3. Photo cell activated 4. Final limit position CLOSE 5. Final limit position OPEN incl. connection cable to the door control	30004743
Air-lock module SLF	6 For operating two TS 981 as an air-lock; consisting of module A + B ; incl. connection cable to the door control the connection between the modules should be realized on site	30004742
Panic module	7 Extension to the SLF module 6 ; for fast Activating/Deactivating of the air-lock-function or opening of both doors in an emergency situation (an additional control device is needed)	30004824

Arrangement



Spare parts TS 981



Designation	Description	Part no.
TS 981 board	1 Within cover	30004613
Housing TS-A1 cpl.	2+3+4+5 Top section with screws, keyboard, hinges, bottom section	20002984.00001
Top section of housing TS-A1 cpl.	2+3+4 Top section with screws, keyboard, hinges	20002985.00001
Keyboard for TS-A1	3 With mounting material	30004638
Hing TS-A	4 2 pc.	30004632
Bottom section of housing TS-A	5	40014770

Spare parts TS 981-XL



Designation		Description	Part no.
Mounting kit for housing XL	1	4 pc.	40017128
Membran push button for TS-A	2	With viewing window	40016547
Hing	3	2 pc.	30005828
Top section of housing XL for TS-A	2+3+4	Consists of: Membran push button for TS-A, hing, cover	30005827.00004
Housing XL for TS-A	3+4+5	Consists of: Hing, cover, bottom section with mounting plate and 3 DIN mounting rails	30005246
TS 981 board	6	Within cover	30004613
Mains switch for housing XL	7	4-pole	40015183
Housing XL for TS-A with mains switch, complete	1+2+3+4+5+7	Consists of: Mounting kit for housing XL, Membran push button for TS-A, Housing XL for TS-A, mains switch for housing XL	20002984.20006
Lock for padlock	8	2 pc. (without padlock)	40019408