Shakti Hormann
Doors for Home and Industry

High Speed Door

Installation & Operation Manual

HÖRMANN

CONTENT

High Speed Door

High Speed Door Applications:

Food Industry
Pharma Industry
Automobile Industry
Warehouses

Salient Features

HIGH SPEED DOOR

- Saves energy costs with high-speed door opening and closing – Closing speed - 1.5 m/s Opening speed 2 m/s.
- UPVC curtain of 1.5 mm thickness & transparent curtain of 2 mm thickness. Temperature resistance of + 5 to + 40 C
- Silent door travel
- Wind class 2 due to spring steel wind lock with twin rollers in side guides
- Bottom rail Soft Edge with radio crash switch to prevent accidents
- In case of a crash, the profile will be pushed out of the side guides
- Self monitaring Safety light-grille in the door closing area.
- Life cycle of operator is 500000
- Emergency opening via crank handle
- Compact space to install 460 mm operator side and 175 mm other side vertical.

Operation Procedure

1. **Door opens and closes automatically as sensed by the radars (if provided) with the requisite time delay.**
2. **If the doors are to be manually operated, follow the below procedure -**
   - To open the door - press up button
   - To close the door - press down button
   - To stop the door at any interval - press red button
3. **In case of power failure, the door goes into sleep mode, and after restoration of power the door has to be reset manually till the door reaches the top travel limit point as below.**
   - If the door is in fully open position: - press stop button and release - door starts working in auto mode
   - If the door is in mid or closed position: - press stop button, press & hold the up button till the door reaches the top travel limit – door starts working in auto mode
4. **In case controller not operational –**
   - If the door is in fully open position : - clutch release mechanism at the top of the door on the operator to be manually pressed to close the door
   - If the door is in the closed position: - manual handle provided to be inserted and rotate to open the door

Troubleshooting And Remedies

Product: High Speed Door **Model: V5015 SEL, V6030SEL, V4015 ALU**
Controller: BK150FUE1

Error Code	Description	Possible cause
F.000	Door position outside top	• Mechanical brake is defective or incorrectly set • Return to the permitted parameter range via press-and-hold operation • Parameter value for top emergency limit switch is too small • Upper limit switch range (limit switch band) is too small
F.005	Door position outside bottom	• Mechanical brake is defective or incorrectly set • Return to the permitted parameter range via press-and-hold operation • Parameter value for bottom emergency limit switch is too small • Lower limit switch range (limit switch band) is too small
F.020	Operating time exceeded (during opening, closing or hold-open)	• Current motor operation time has exceeded set maximum operation time • Door may be sluggish or blocked • If mechanical limit switches are used, one of the limit switches did not engage
F.021	Testing of the emergency opening failed	• Call service department • The max. permissible runtime during the testing period has been exceeded. • Reset: Press the STOP button long • Door is sluggish or blocked • UPS batteries are too empty or defect
F.030	Contouring error (change in position of door is less than expected)	• Door or motor is blocked • Brake does not release (check connection / check brake rectifier) • Power too low for starting torque (check voltage supply) • Speed insufficient • Mechanical limit switch was not passed or is defective • Fixing to shaft of absolute encoder is not
F.031	Detected direction of rotation differs from the expected direction of rotation	• When using increment encoders: Channel A and B have been swapped • Rotational direction of the motor was switched relative to the calibration. Repeat teach-in door with P.210 = 5. • Too much sagging when door starts to move, brake releases too soon, or torque is too low, boost may need to be adjusted
F.033	Position sensor logs faulty	• The position sensor bus is disrupted • No position data received over a longer period
F.043	Malfunction of photocell's pre-limit switch	• The photocell's pre-limit switch remains engaged also at centre travel limit or upper travel limit • For absolute encoders: Repeat teach-in of end-of-travel positions, distance between Eu and Eo at least 1 m
F.60	Crash recognised	• The control was just connected, one-time reset of the error necessary • The door was crashed Reset procedure, see: • Fitting instructions • Wiring diagram • Control cabinet door outside Only if the error cannot be reset: • With IR transmission – Check optical distance in the side assembly. It must be free of dirt. – Check battery voltage. • With spiral cable – Check spiral cable • In case of radio crash – Teach-in of both transmitters was not carried out on the receiver (see radio crash instruction) – One of the transmitters is defect or the battery is empty
F.061	Belt break	• An input (P.50 x = 0416) configured as a belt break detector has been activated • Travel is not permitted as long as the display is flashing ➔ acknowledgement required • Press-and-hold operation to Close end-of-travel position is enabled by briefly pressing the STOP membrane push button • If a broken belt is mechanically repaired and input is no longer active, self-acknowledgement will take place if the Close position has been reached in press-and-hold operation
F.080	Malfunction: Maintenance is required	• Service counter is run down
F.090	Control is not parameterised	• The basic parameters of the control were not set yet. See P990 and P991
F.201	Internal emergency-off mushroom button activated or watchdog (processor monitoring)	• Emergency stop chain was interrupted at the internal emergency-off input, but parameterisation mode was not selected • Internal parameter or EEPROM tests failed. Activate the STOP membrane key for more information on the cause
F.211	External emergency-off 1 activated	• Emergency stop chain interrupted at emergency-off input 1 (see wiring diagram)
F.212	External emergency-off 2 activated	• Emergency stop chain interrupted at emergency-off input 2 (see wiring diagram)
F.320	Redundancy error at interruption	• During the OPEN movement the door encountered an obstacle (only with obstacle recognition via P480)
F.325	Obstacle blocking the closing run	• During the CLOSE movement the door encountered an obstacle (only with obstacle recognition via P480)
F.360	Short circuit detected at strip input	• The connection of the safety strip is short-circuited • The light beam of the optical safety strip is interrupted • The jumper 1K2 / 8K2 is positioned wrongly
F.361	Set limit for number of strip activations during closing has been reached	• Parameterised, maximum number of safety strip triggers during a door cycle has been exceeded • To reset the error, completely close the door once in press-and-hold operation
F.362	Redundancy error at short circuit	• One of the evaluator channels for short circuit recognition does not respond identically to the second channel. Control unit circuit board defective • Dynamic optical system connected but not set in parameter P.460.
F.363	Interruption at strip input	• Connecting cable defective or not connected • Terminating resistor defective or missing • Jumper set incorrectly
F.364	Safety strip – Testing failed	• Testing request did not activate safety strip as expected. • The time period between testing request and testing is not adjusted

F.365	Redundancy error at interruption	• One of the evaluator channels for interruption recognition does not respond identically to the second channel. Control unit circuit board defective • Dynamic optical system connected but not set in parameter P.460.
F.366	Impulse frequency too high for optical safety strip	• Defective optical safety strip • Defective input for internal safety strip
F.368	Redundancy error of the 8K2 wicket door switch on the internal safety strip evaluation unit	• One of the redundant contacts in the 8k2 wicket door switch is defective • The wicket door has not been completely opened or closed
F.369	Internal safety strip parameterised incorrectly	• An internal safety strip is connected but deactivated, or vice versa
F.385	Malfunction of safety strip's pre-limit switch	• Pre-limit switch for safety switch deactivation, and / or reversal after safety switch activation, remains engaged also at upper travel limit
F.400	Hardware reset of control recognised	• Severe malfunctions in the supply voltage • Internal watchdog has activated • RAM error
F.406	Extension PCB communication error	• Communication disrupted between the main circuit board and extension PCB
F.410	Overload (Motor current or intermediate circuit)	Incorrect nominal specifications set for motor • Voltage increase / boost set not adjusted (P140 or P145) • Motor incorrectly dimensioned for door used • Door is sluggish • Brake does not release (check connecting lead + brake rectifier)
F.420	Overload in intermediate circuit limit 1	• Brake chopper malfunctioning / defective / not present • Supply voltage much too high • The motor feeds too much energy back during generator mode, the kinetic energy of the door cannot be sufficiently reduced
F.425	Mains overvoltage	• The supply voltage of the control is too high
F.426	Mains undervoltage	• The supply voltage of the control is too low
F.430	Heat sink temperature is outside operating range limit 1	• Load on output stage or brake chopper too high • Ambient temperature too low for control operation. • Output stage clock frequency too high (parameter P160)
F.435	Malfunction: Temperature in housing rising above 75°C	• Too much load on the frequency converter / the switch • Control cabinet not sufficiently cooled
F.440	Overload current in intermediate circuit limit 1	• Set voltage increase (boost) not adjusted • Motor incorrectly dimensioned for door used • Door is sluggish
F.510	Overload current in motor / intermediate circuit limit 2	• Incorrect nominal specifications set for motor • Voltage increase / boost set not adjusted (P140 or P145) • Motor incorrectly dimensioned for door • Door is sluggish
F.511	Malfunction in DC supply	• DC supply not possible (overcurrent, IGBT error F.519, phase-to-earth fault, 24 V error, excess temperature) • Emergency off is actuated
F.512	Offset motor current / intermediate circuit current faulty	• Hardware faulty
F.513	Brake chopper overloaded, not available or is defective	• Hardware faulty • Dynamic travel has taken place for too long • The brake chopper is defective or is not connected correctly
F.515	Motor protection function has recognised overload current	• Incorrect motor characteristic curve (motor nominal current) set • Voltage increase / boost set too high (P140 or P145) • Motor incorrectly dimensioned
F.519	IGBT driver module has recognised overload current	• Supply voltage or construction power supply is too weak ensure correct supply: – BK / BS 150 FUE - 1: Connecting lead at least 3 × 2.5 mm ² – AK / AS 500 FUE - 1: Connecting lead at least 5 × 2,5 mm ² • Short circuit or earth contact at motor terminals • Motor nominal frequency set extremely incorrectly • Voltage increase / boost extremely high (P140 or P145) • Motor incorrectly dimensioned • Motor winding defective • Brief interruption of emergency-off circuit
F.520	Overload in intermediate circuit Limit 2	• Brake chopper malfunctioning / defective / not present • Input supply voltage too high • The motor feeds too much energy back during generator mode, as it needs to reduce the kinetic energy of the door
F.521	Undervoltage in intermediate circuit	• Input supply voltage too low, usually with load
F.522	Intermediate circuit current is too high for one-phase supply	• A one-phase supply has been detected for the AK / AS 500 FUE - 1 and the permitted intermediate circuit current is too high for one-phase supply. This error always occurs in conjunction with F.520
F.524	External 24 V supply missing or too low	• Overload, but no short circuit. • If the 24 V short circuits, the control supply does not switch on and the V306 glow lamp lights up
F.525	Overvoltage at the power input	• The supply voltage is too high • The supply voltage has a high fluctuation • For controls with UPS: UPS in battery operation – restore power supply
F.530	Heat sink temperature is outside operating range limit 2	• Load on output stage or brake chopper too high • Clock frequency of output stage too high (P160) • Ambient temperature of control too low
F.535	Malfunction: Temperature in housing rising above critical 80°C	• Interior temperature too high
F.540	Overload current in intermediate circuit limit 2	• Set voltage increase (boost) not adjusted • Motor incorrectly dimensioned for door used • Door is sluggish
F.700	Position detection defective	For mechanical limit switches: • At least one limit switch does not correspond to parameterised active status. • An implausible combination of at least 2 active limit switches. For electronic limit switches: • After factory parameter activation was called up (parameter P.990), the corresponding positioning system was not parameterised • Calibration is incomplete or defective and must be repeated • The intermediate travel limit, when activated, is implausible • Synchronisation not completed or reference switch defective
F.752	Timeout during log transfer	• Carry out hardware reset: Turn the control off, unplug DES, plug back in after a few minutes and turn the control back on • Interface line defective / interrupted • Evaluation electronics of absolute encoder are defective • Defective hardware or an environment with a high level of electrical interference • Check earthing of the door system • Shield connection cable • Fit RC module (100 Ω + 100 nF) to brake
F.760	Position is outside range	• Position sensor operator defective • Evaluation electronics of absolute encoder are defective • Defective hardware or an environment with a high level of electrical interference

F.782	Communication with the existing controls distorted	• Missing, distorted connection between two interlocked doors or two doors operating in air lock mode • Parameter A.831 programmed wrongly • Doors without lock or dock function: Set A.831 = 0000
F.910	Communication not possible with the extension card	• Communication with extension card is disrupted • No extension card inserted • CAN connection disrupted (cable break or no power supply for the extension card)
F.915	Communication error between main processor and I/O processor	• Hardware defects • Extremely disruptive environment • Temperature too high
F.922	Emergency stop chain not complete	• Not all EMERGENCY STOP inputs are bridged separately, even though the entire emergency chain is bridged • Redundant check of the emergency stop chain activated
F.926	Braking current is not OK	• Braking current is not OK – The expected braking current set with parameter P.183 has been exceeded by at least +0.5 A. • Incorrect brake
F.928	Erroneous input test	• Testing of the monitoring function failed • Check monitoring device connection
F.928	Motor wiring test	• Damaged motor cable • Damaged motor
F.930	External watchdog faulty	• 24 V voltage overloaded • Defective hardware or an environment with a high level of electrical interference
F.937	Second cut-out option faulty	• The second microcontroller no longer triggers the watchdog in the first microcontroller
F.960	Parameter check sum faulty	• Connect and disconnect control • Information to service
I.023	Emergency opening message	
I.080	Maintenance will be necessary / service counter will run down soon	
I.100	Speed too high when upper travel limit is reached	
I.150	Speed too high when lower travel limit is reached	
I.160	Permanent OPEN still active	
I.161	Open command encoder priority active, close movement only with a command encoder that has the same priority (see P5 x 4)	
I.170	Safety opening is being carried out	
I.180	Wait for the command of the membrane keypad	
I.185	Waiting for acknowledgement (service request)	
I.199	Door cycle counter implausible (re-initialise)	
I.200	Reference position corrected or recognised after calibration	
I.201	Reference position re-initialised	
I.202	Reference position missing	
I.203	Reference position incorrect	
I.210	Upper pre-limit switch implausible	
I.211	Lower pre-limit switch implausible	
I.310	OPEN command is transmitted to door 2	
I.320	Obstacle in the opening run recognised	
I.325	Obstacle in the closing run recognised	
I.360	Malfunction of the safety strip NC during the last closing, the message is deleted after the close position has been reached without malfunctions	
I.365	Malfunction of the safety strip NO during the last closing, the message is deleted after the close position has been reached without malfunctions	
F.020	Operating time exceeded (during opening, closing or hold-open)	• Current motor operation time has exceeded set maximum operation time • Door may be sluggish or blocked • If mechanical limit switches are used, one of the limit switches did not engage
F.021	Testing of the emergency opening failed	• Call service department • The max. permissible runtime during the testing period has been exceeded. • Reset: Press the STOP button long • Door is sluggish or blocked • UPS batteries are too empty or defect
F.030	Contouring error (change in position of door is less than expected)	• Door or motor is blocked • Brake does not release (check connection / check brake rectifier) • Power too low for starting torque (check voltage supply) • Speed insufficient • Mechanical limit switch was not passed or is defective • Fixing to shaft of absolute encoder is not tightened • Wrong door profile selected (P991)
F.033	Detected direction of rotation differs from the expected direction of rotation	• When using increment encoders: Channel A and B have been swapped • Rotational direction of the motor was switched relative to the calibration. Repeat teach-in door with P.210 = 5. • Too much sagging when door starts to move, brake releases too soon, or torque is too low, boost may need to be adjusted.
F.033	Position sensor logs faulty	• The position sensor bus is disrupted • No position data received over a longer period
F.043	Malfunction of photocell's pre-limit switch	• The photocell's pre-limit switch remains engaged also at centre travel limit or upper travel limit. • For absolute encoders: Repeat teach-in of end-of-travel positions, distance between Eu and Eo at least 1 m.

Product: High Speed Door Controller: TST WU		Model: V4010 SEL
Error number	**Error description**	**Cause of error/troubleshooting**
F.000	Door position too far up	• Too small a parameter value for upper emergency limit switch • Upper limit switch range (limit switch band) too small • Mechanical brake defective or improperly set
F.005	Door position too far down	• Too small a parameter value for lower emergency limit switch • Lower limit switch range (limit switch band) too small • Mechanical brake defective or improperly set
F.020	Run time exceeded (during opening, closing or deadman)	• current motor run time has exceeded set maximum run time, door may be sticking or is blocked • If using mechanical limit switches, one may not have tripped
F.030	Lag error (position change of the door is less than expected)	• Door or motor is blocked • Too little power for lift torque • To little speed • Mechanical limit switch was not left or is defective • Absolute or incremental encoder not tightened sufficiently in its mounting • Wrong positioning system selected (P.205)
F.031	Detected rotational direction deviates from expected	• When using incremental encoders: Channel A and B reversed • Motor rotation direction reversed compared with calibration setting • Too much pancaking when starting, brake releases too soon, or too little torque, adjust boost as necessary
F.043	Pre-limit switch fault (light barrier)	• The pre-limit switch for the light barrier remains activated even in the middle end position or upper end position.
F.050	Reference switch position deviates from permissible range. During cyclical synchronization	• Reference switch constantly tripped (defective) • Reference switch trips too far from the selected reference. • Reference switch trips in the limit switch band • P270 and P280 are both at the reference switch
F.051	Reference switch position deviates from permissible range.	• Reference switch lies in the limit switch band • Reference switch is beyond 15% EO • Reference switch defective
F.052	Reference switch not recognized	• The reference switch is not recognized within 20% EO during automatic synchronization after power-on • The reference switch is not recognized in the associated end position.
F.080	Fault: Maintenance is required	• Service counter has expired
F.090	Controller not parameterized	• The basic parameters (P.205, P.100 to P.103) for the TST FUE controller have not yet been set.
F.201	Internal E-Stop push-button tripped or Watchdog (computer monitor)	• E-Stop chain was interrupted starting at input internal E- Stop without parameterizing mode having been selected • Internal parameter or EEPROM checks defective, pressing the STOP key provides additional information about the cause
F.211	External E-Stop 1 tripped	• E-Stop chain was interrupted starting at Input 1
F.212	External E-Stop 2 tripped	• E-Stop chain was interrupted starting at Input 2
F.360	Short circuit detected on edge input	• Short circuit detected on edges with normally closed contact
F.361	Number of edge trips for closing has reached set limit	• Parameterized, maximum number of safety edge trips during a door cycle was exceeded
F.362	Redundancy error with short circuit	• One of the processing channels for short circuit detection does not react identically with the second channel. • Controller board defective • Dynamic optical system connected but not set in Parameter P.460
F.363	Interruption on edge input	• Connection cable defective or not connected • Termination resistor incorrect or missing • Jumper incorrectly set
F.364	Safety edge testing failed	• Safety edge was not activated as expected when requesting a test. • The time between request for testing and actual testing not in agreement
F.365	Redundancy error with interruption	• One of the processing channels for interruption detection does not react identically with the second channel. • Controller board defective • Dynamic optical system connected but not set in Parameter P.460
F.366	Too high a pulse frequency for optical safety edge	• Defective optical safety edge • Defective input for internal safety edge
F.369	Internal safety edge incorrectly parameterized	• An internal safety edge is connected but deactivated
F.373	Fault in the safety edge (message comes from module)	• Cable break to safety edge, no edge connected, edge termination resistor incorrect or defective • Jumper for termination resistor definition in wrong position. • Safety edge processing selected with Parameter P.470, but module not plugged in or wrong module.
F.374	Safety bar testing failed	• Pre-limit switch for safety edge incorrectly set or defective • Processing module defective • Safety edge defective
F.379	Safety edge detection defective (coding pin or parameter setting)	• No module plugged in but was reported as present by a parameter • The controller was started up with another module than the one currently plugged in
F.385	Fault in pre-limit switch for safety edge	• Pre-limit switch for turning off the safety edge or reversing after safety edge tripping remains tripped even in the upper end position.
F.400	Controller hardware reset detected	• Excessive noise on supply voltage • Internal watchdog tripped • RAM error
F.410	Over-current (motor current or intermediate circuit)	• Wrong motor data set (P100 – P103) • Non-adjusted voltage increase / boost set (P140 or P145) • Motor not properly dimensioned for door • Door sticks
F.420	Overvoltage in intermediate circuit Limit 1	• Brake chopper interference / defective / missing • Feed voltage much to high • Motor feeds back too much energy in generator mode, door motion energy cannot be sufficiently brought down
F.430	Temperature cooler outside of working range Limit 1	• Excessive load on final stages or brake chopper • Ambient temperature too low for controller operation • Clock frequency of final stage too high (Parameter P.160)
F.440	Overcurrent in intermediate circuit Limit 1	• Boost not adjusted • Motor incorrectly dimensioned for door • Door sticks
F.510	Motor / intermediate circuit overcurrent Limit 2	• Wrong motor data set (P100 – P103) • Non-adjusted voltage increase / boost set (P140 or P145) • Motor not properly dimensioned for door • Door sticks
F.515	Motor protection function detected overcurrent	• Incorrect motor curve (motor rated current) set (P101) • Too much boost (P140 or P145) • Motor incorrectly dimensioned
F.519	IGBT driver chip detected overcurrent	• Short circuit or ground fault on motor terminals • Motor rated current setting extremely wrong (P100) • Extremely too much boost (P140 or P145) • Motor incorrectly dimensioned • Motor winding defective • Momentary interruption of the E-Stop circuit.
F.520	Overvoltage in intermediate circuit Limit 2	• Brake chopper interference / defective / missing • Feed voltage much to high • Motor feeds back too much energy in generator mode, door motion energy cannot be sufficiently brought down.
F.521	Overvoltage in intermediate circuit	• Input voltage supply too low, usually at load • Load too great / final stage or brake chopper fault

F.524	Ext. 24 V supply missing or too low	• Overload but no short circuit • When 24V is shorted the controller voltage does not ramp up and glow lamp V306 comes on.
F.530	Temperature cooler outside of working range Limit 1	• Excessive load on final stages or brake chopper • Ambient temperature too low for controller operation • Clock frequency of final stage too high (Parameter P.160)
F.540	Overcurrent in intermediate circuit Limit 2	• Boost not adjusted • Motor incorrectly dimensioned for door • Door sticks
F.700	Position sensing defective	For mechanical limit switches: • At least one limit switch does not correspond to the configured active status. • An implausible combination of at least 2 active limit switches For electronic limit switches: • After invoking activation of the factory parameters (Parameter P.990) the corresponding positioning system was not parameterized. • Calibration not completed or is incorrect and must be repeated. • When activating the intermediate stop the intermediate stop is implausible. • Synchronization not finished or reference switch defective.
F.720	Synchronization error in position sensing with incremental encoder	• Intermediate stop position is less than the minimum incremental value (25). • Synchronization was not finished. • The selected reference switch was not reached or is outside its tolerance • The incremental encoder is not counting or the door is blocked (also F.030, lag error) • Incremental inputs IN 9 and IN 10 are reversed (also F.031 rotation error)
F.750	Protocol Transmission error	• Defective hardware or electrically noisy environment
F.751	Synchronization FU <-> absolute encoder	• Defective hardware or electrically noisy environment • Absolute encoder processor electronics defective
F.752	Timeout with protocol transmission	• Interface cable defective / interrupted • Absolute encoder processor electronics defective • Defective hardware or electrically noisy environment • Use a shielded control cabel • resistance-capacitance element (100 +100nF) put on the brake
F.760	Position outside of window	• Position encoder drive defective • Absolute encoder processing electronics defective • Defective hardware or electrically noisy environment
F.761	Distance Channel 1 <-> Channel 2 outside allowed window	• Position encoder drive defective • Defective hardware or electrically noisy environment
F.000	Door position too far up	• Too small a parameter value for upper emergency limit switch • Upper limit switch range (limit switch band) too small • Mechanical brake defective or improperly set
F.005	Door position too far down	• Too small a parameter value for lower emergency limit switch • Lower limit switch range (limit switch band) too small • Mechanical brake defective or improperly set
F.020	Run time exceeded (during opening, closing or deadman)	• current motor run time has exceeded set maximum run time, door may be sticking or is blocked • If using mechanical limit switches, one may not have tripped
F.030	Lag error (position change of the door is less than expected)	• Door or motor is blocked • Too little power for lift torque • To little speed • Mechanical limit switch was not left or is defective • Absolute or incremental encoder not tightened sufficiently in its mounting • Wrong positioning system selected (P.205)
F.031	Detected rotational direction deviates from expected	• When using incremental encoders: Channel A and B reversed • Motor rotation direction reversed compared with calibration setting • Too much pancaking when starting, brake releases too soon, or too little torque, adjust boost as necessary.

F.043	Pre-limit switch fault (light barrier)	• The pre-limit switch for the light barrier remains activated even in the middle end position or upper end position.
F.050	Reference switch position deviates from permissible range. During cyclical synchronization	• Reference switch constantly tripped (defective) • Reference switch trips too far from the selected reference. • Reference switch trips in the limit switch band • P270 and P280 are both at the reference switch
F.051	Reference switch position deviates from permissible range.	• Reference switch lies in the limit switch band • Reference switch is beyond 15% EO • Reference switch defective
F.052	Reference switch not recognized	• The reference switch is not recognized within 20% EO during automatic synchronization after power-on • The reference switch is not recognized in the associated end position.
F.080	Fault: Maintenance is required	• Service counter has expired
F.090	Controller not parameterized	• The basic parameters (P.205, P.100 to P.103) for the TST FUXE controller have not yet been set.
F.201	Internal E-Stop push-button tripped or Watchdog (computer monitor)	• E-Stop chain was interrupted starting at input internal E- Stop without parameterizing mode having been selected • Internal parameter or EEPROM checks defective, pressing the STOP key provides additional information about the cause
F.211	External E-Stop 1 tripped	• E-Stop chain was interrupted starting at Input 1
F.212	External E-Stop 2 tripped	• E-Stop chain was interrupted starting at Input 2
F.360	Short circuit detected on edge input	• Short circuit detected on edges with normally closed contact
F.361	Number of edge trips for closing has reached set limit	• Parameterized, maximum number of safety edge trips during a door cycle was exceeded
F.362	Redundancy error with short circuit	• One of the processing channels for short circuit detection does not react identically with the second channel. • Controller board defective
F.363	Interruption on edge input	• Connection cable defective or not connected • Termination resistor incorrect or missing • Jumper J600 incorrectly set
F.364	Safety edge testing failed	• Safety edge was not activated as expected when requesting a test. • The time between request for testing and actual testing not in agreement
F.365	Redundancy error with interruption	• One of the processing channels for interruption detection does not react identically with the second channel. • Controller board defective • Dynamic optical system connected but not set in Parameter P.460
F.366	Too high a pulse frequency for optical safety edge	• Defective optical safety edge • Defective input for internal safety edge
F.369	Internal safety edge incorrectly parameterized	• An internal safety edge is connected but deactivated
F.373	Fault in the safety edge (message comes from module)	• Cable break to safety edge, no edge connected, edge termination resistor incorrect or defective • Jumper for termination resistor definition in wrong position. • Safety edge processing selected with Parameter P.470, but module not plugged in or wrong module.
F.374	Safety bar testing failed	• Pre-limit switch for safety edge incorrectly set or defective • Processing module defective • Safety edge defective
F.379	Safety edge detection defective (coding pin or parameter setting)	• No module plugged in but was reported as present by a parameter • The controller was started up with another module than the one currently plugged in
F.385	Fault in pre-limit switch for safety edge	• Pre-limit switch for turning off the safety edge or reversing after safety edge tripping remains tripped even in the upper end position.
F.400	Controller hardware reset detected	• Excessive noise on supply voltage • Internal watchdog tripped • RAM error

F.410	Over-current (motor current or intermediate circuit)	• Wrong motor data set (P100 – P103) • Non-adjusted voltage increase / boost set (P140 or P145) • Motor not properly dimensioned for door • Door sticks
F.420	Overvoltage in intermediate circuit Limit 1	• Brake chopper interference / defective / missing • Feed voltage much to high • Motor feeds back too much energy in generator mode, door motion energy cannot be sufficiently brought down
F.430	Temperature cooler outside of working range Limit 1	• Excessive load on final stages or brake chopper • Ambient temperature too low for controller operation • Clock frequency of final stage too high (Parameter P.160)
F.440	Overcurrent in intermediate circuit Limit 1	• Boost not adjusted • Motor incorrectly dimensioned for door • Door sticks
F.510	Motor / intermediate circuit overcurrent Limit 2	• Wrong motor data set (P100 – P103) • Non-adjusted voltage increase / boost set (P140 or P145) • Motor not properly dimensioned for door • Door sticks
F.515	Motor protection function detected overcurrent	• Incorrect motor curve (motor rated current) set (P101) • Too much boost (P140 or P145) • Motor incorrectly dimensioned
F.519	IGBT driver chip detected overcurrent	• Short circuit or ground fault on motor terminals • Motor rated current setting extremely wrong (P100) • Extremely too much boost (P140 or P145) • Motor incorrectly dimensioned • Motor winding defective • Momentary interruption of the E-Stop circuit.
F.520	Overvoltage in intermediate circuit Limit 2	• Brake chopper interference / defective / missing • Feed voltage much to high • Motor feeds back too much energy in generator mode, door motion energy cannot be sufficiently brought down.
F.521	Overvoltage in intermediate circuit	• Input voltage supply too low, usually at load • Load too great / final stage or brake chopper fault
F.524	Ext. 24 V supply missing or too low	• Overload but no short circuit • When 24V is shorted the controller voltage does not ramp up and glow lamp V306 comes on.
F.530	Temperature cooler outside of working range Limit 1	• Excessive load on final stages or brake chopper • Ambient temperature too low for controller operation • Clock frequency of final stage too high (Parameter P.160)
F.540	Overcurrent in intermediate circuit Limit 2	• Boost not adjusted • Motor incorrectly dimensioned for door • Door sticks
F.700	Position sensing defective	For mechanical limit switches: • At least one limit switch does not correspond to the configured active status. • An implausible combination of at least 2 active limit switches For electronic limit switches: • After invoking activation of the factory parameters (Parameter P.990) the corresponding positioning system was not parameterized. • Calibration not completed or is incorrect and must be repeated. • When activating the intermediate stop the intermediate stop is implausible. • Synchronization not finished or reference switch defective.
F.720	Synchronization error in position sensing with incremental encoder	• Intermediate stop position is less than the minimum incremental value (25). • Synchronization was not finished. • The selected reference switch was not reached or is outside its tolerance • The incremental encoder is not counting or the door is blocked (also F.030, lag error) • Incremental inputs IN 9 and IN 10 are reversed (also F.031 rotation error)
F.750	Protocol Transmission error	• Defective hardware or electrically noisy environment
F.751	Synchronization FU <-> absolute encoder	• Defective hardware or electrically noisy environment • Absolute encoder processor electronics defective
F.752	Timeout with protocol transmission	• Interface cable defective / interrupted • Absolute encoder processor electronics defective • Defective hardware or electrically noisy environment
F.760	Position outside of window	• Position encoder drive defective • Absolute encoder processing electronics defective • Defective hardware or electrically noisy environment
F.761	Distance Channel 1 <-> Channel 2 outside allowed window	• Position encoder drive defective • Defective hardware or electrically noisy environment

Spare Parts

BK150FUE1

TST WU

S.No	German Article No.	SAP Item Code	UOM	Technical Spare Description
HIGH SPEED DOOR - 5015				
1	NA	311081	EA	Frame assembly complete with light grille assy- operator side
2	4992063	311082	EA	Frame assembly complete without light grille assy- operator side
3	NA	311083	EA	Frame assembly complete with light grille assy- bearing side
4	4992062	311084	EA	Frame assembly complete without light grille assy- bearing side
5	4992065	311090	EA	Tube assembly
6	4992067	311091	EA	PVC curtain section for RAL colour- 5015 size
7	4992066	311092	EA	PVC curtain set full for RAL colours- 5015 Incl. wind lock (clear width x clear height)
8	4992068	311094	EA	Rubber profile SE2 (complete bottom part) size
9	159876	311089	EA	Bearing set assy for frame
10	157042 4981139	311093	EA	Wind lock set assy 5015
11	312041	312041	EA	Cover plug Ø 28 (Per Door)
12	159380	311095	EA	Sliding Block set assy 5015
13	“4980417 4980418”	311087	EA	Automatic re-feed set right & left
14	“4981156 4991426 4991427”	311096	EA	Lintel seal set 5015 - size
15	4990754	310201	EA	“Radio crash switch (Minimum order quantity:2 nos)”
16	4990755	311088	EA	Radio crash-reciever set For FUE H
17	NA	311950	EA	Light Grill Full set with cables M8 for BK150 FUE H & FUE 1
18	4990887	311086	EA	light grill fixing set assy
19	“4980180 4980181 4980182 “	312044	EA	“Distributor 6x m8 Snap As per Door Size”
20	4992200	311768	EA	Control box Convertion cables kit / Change from BK 150 FUEH to BK 150 FUE-1
21	49803149 49803539 49803739	312045	EA	CABLE 10-WIRE DO,75 YSLY-IZ As Per door size
22	“157296 159069”	312046	EA	Induction detector, 2 channel for BK 150 FUEH with Loop Wire
23	“1586364 1586404”	312047	EA	PRE-ASSEMBLED CABLE LTYC-JZ 5QMM

24	637939	310213	EA	Telephone cable (6 Core) with bothside Connectors (15Mtrs)
25	NA	312048	EA	HSD- Anchors Kit (5015 / 6030) - Steel/Puff wall
26	159059	312114	EA	159059 HOLDER FOR RADAR SENSOR
27	NA	311984	EA	Surface mounted push button Complete (with Screws & Cable)
28	4991937	311392	EA	Control box BK 150 FU E 1 India with VMR device incorporated
29	NA	311378	EA	Accessory for controlhousing FUE1
30	306457	310208	EA	Cable 3 core D1.5 with CEE-plug
31	NA	310210	EA	Ferrit coils (surge protection)
32	NA	310989	EA	Voltage monitoring relay HRN 33 ELCO
33	4990600	310202	EA	Operator full assy-S1-1,1-180-16-40 DES
34	4991973	311390	EA	4991973Operator S1.1-1,1-180-16-40 DES
35	159034	311101	EA	Brake 9Nm 102V DC
36	158402	312049	EA	Brake 9NM 24 V LH, FEU1
37	“58042 158155”	311099	EA	Encoder (conversion set UNI-DES/AWG-STST for gear box SG 85/ SG 115, from EB 1:20 to EB 1:40)
38	“57449 159221”	311100	EA	Transformer EGR II (230V)
39	4991490	300003	EA	Seal for guide, L6000
40	NA	311111	EA	Barrel cover Painted HSD 5015
41	NA	311112	EA	Operator cover painted right
42	NA	311113	EA	Operator cover painted left
43	NA	310064	EA	Mounting set (anchor kit) HSD (5015 & 6030)
44	NA	311741	EA	4991940 Circuit board E FUE-1 extension linterlock Board)
45	NA	310005	EA	open/emergency off/close push button
46	4991969	310003	EA	Pull switch with 4 m cable, dia 8 mm
47	159681	310118	EA	Galvanised steel cantilever arm, adj upto 3 m with Rope and Anchors
48	4980153	311398	EA	Spring switch receiver snap M8 sw (crash receiver snap)
49	4990602	311926	EA	Radar Falcon (3.5 TO 6 MTS)
50	4991303	310331	EA	Radar presence detector Comfort Mini
51	4980188	311439	EA	bridge plugh snap8 (Cable Ger snap8 M12 4PLG L150)
52	NA	311107	EA	Earth wire 500mm - length
53	NA	311108	EA	Earth wire door width+1000mm
54	637021	311271	EA	Articulated crank handle
55	157297	310007	EA	306314 Radio receiver for high speed door BK 150
56	306315	310006	EA	306315 HANDTRANSMITTER
57	306806	311109	EA	sluice button for interlock
58	637537	310016	EA	TrafficLightHousingLED230VAC
59	NA	310012	EA	159764 Mushroompushbutton
60	NA	310011	EA	159066 Flashing Light Orange
61	NA	310015	EA	159783 RedFlashing Warning Light
62	157563	300005	EA	157563 edge protection seal
63	4980190	311415	EA	4-core cable straight snapL 15000
64	NA	310057	EA	Feather key 12x8x150 with sleeve 2- for 5015

S.No	German Article No.	SAP Item Code	UOM	Technical Spare Description
HIGH SPEED DOOR - 6030				
1	NA	311123	EA	Frame assembly complete with light grille assy- bearing side (6030)
2	4991016	311124	EA	Frame assembly complete without light grille assy- bearing side (6030)
3	NA	311125	EA	Frame assembly complete with light grille assy- operator side (6030)
4	4991017	311126	EA	Frame assembly complete without light grille assy- operator side (6030)
5	4991018	311128	EA	Tube assembly set (shaft assy 6030)
6	4992081	311132	EA	PVC curtain set full for RAL colours- for 6030 size
7	4990856	311134	EA	Roller wind lock assembly set
8	4992082	311129	EA	Rubber profile 6030 (complete bottom part) size
9	“4981156 4991426 4991427”	311133	EA	Lintet seal set - for 6030 size
10	4991052	312042	EA	Plastic end piece, light grille SE3 (Sliding block V6030 SEL with screws) For both sides
11	4992084	311684	EA	Bungee cord with Sprial Hook Per Door (Double Sides)
12	“159245 157891”	312043	EA	Belt 20mm black with metal clip fastner
13	4991596	311130	EA	Guide roller set
14	NA	311127	EA	Suspension pulley set
15	4990754	310201	EA	“Radio crash switch (Minimum order quantity:2 nos)”
16	4990755	311088	EA	Radio crash-reciever set For FUE H
17	NA	311950	EA	Light Grill Full set with cables M8 for BK150 FUE H & FUE 1
18	4990887	311086	EA	light grill fixing set assy
19	“4980180 4980181 4980182 “	312044	EA	“Distributor 6x m8 Snap As per Door Size”
20	4992200	311768	EA	Control box Convertion cables kit / Change from BK 150 FUEH to BK 150 FUE-1
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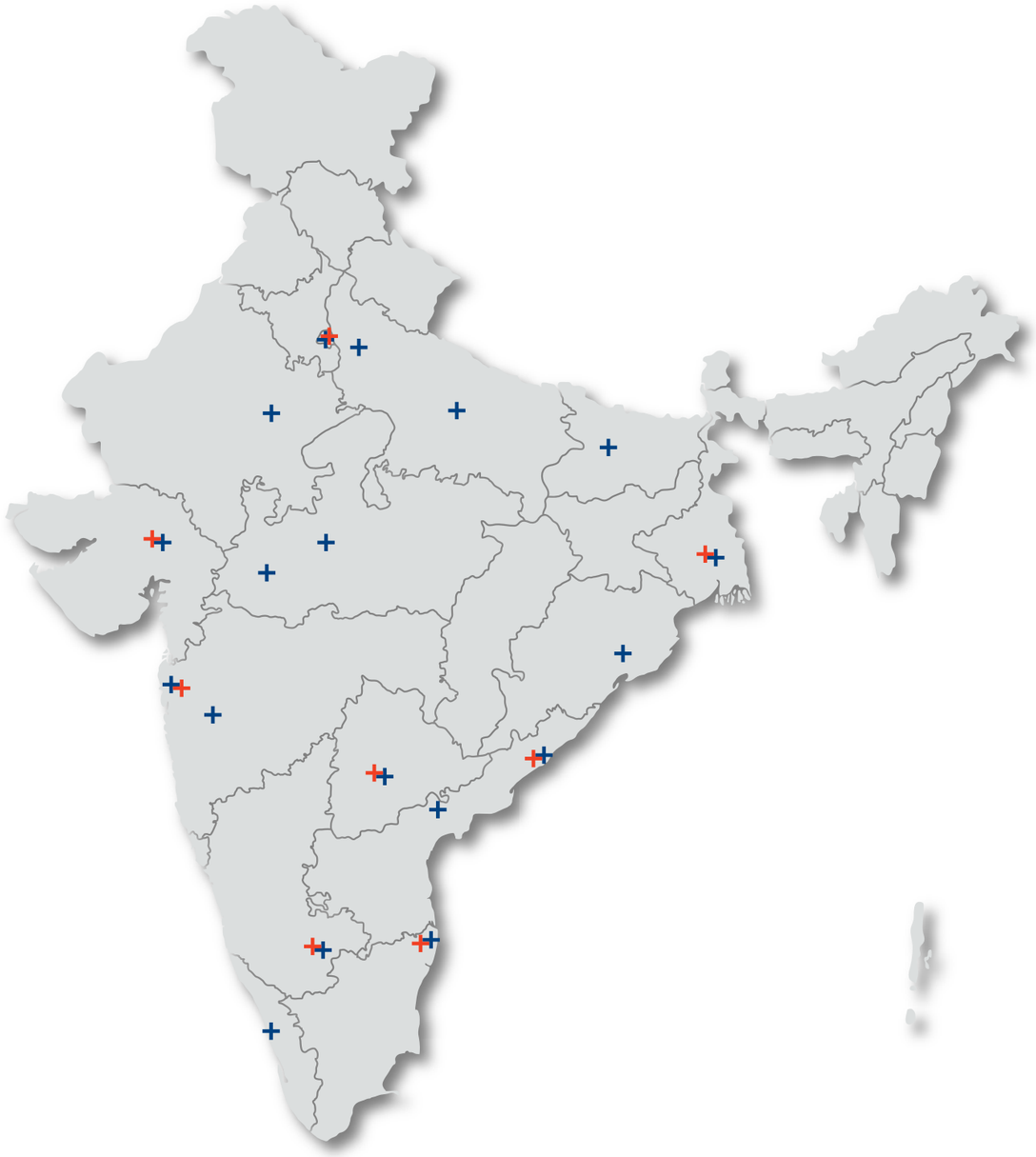
61	NA	310015	EA	159783 RedFlashing Warning Light
62	4980153	311398	EA	Spring switch receiver snap M8 sw (crash receiver snap)
63	159839	300010	Mtrs	Rubber Cased profile EPDM ShoreA63
64	159403	310131	EA	Grooved ball-bearing ASPFL 208
65	157563	311136	EA	Edge guard (Safety edge 2,2x7,6x15 LDPE)
66	4980190	311415	EA	4-core cable straight snapL 15000
67	4981160	311439	EA	Cable Ger snap8 M12 4PLG L150
68	NA	310086	EA	Feather key 12x8x150
69	NA	310079	EA	Feather key 12x8x40
70	NA	310184	EA	Return pulley for belt
71	NA	310125	EA	Return pulley for rubber spring



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