ESA II
ASP MANUAL

Distributed by:
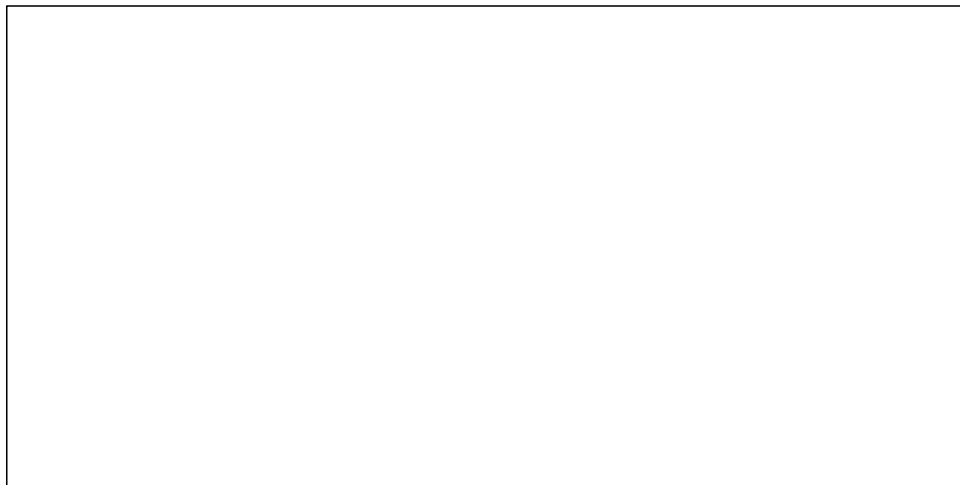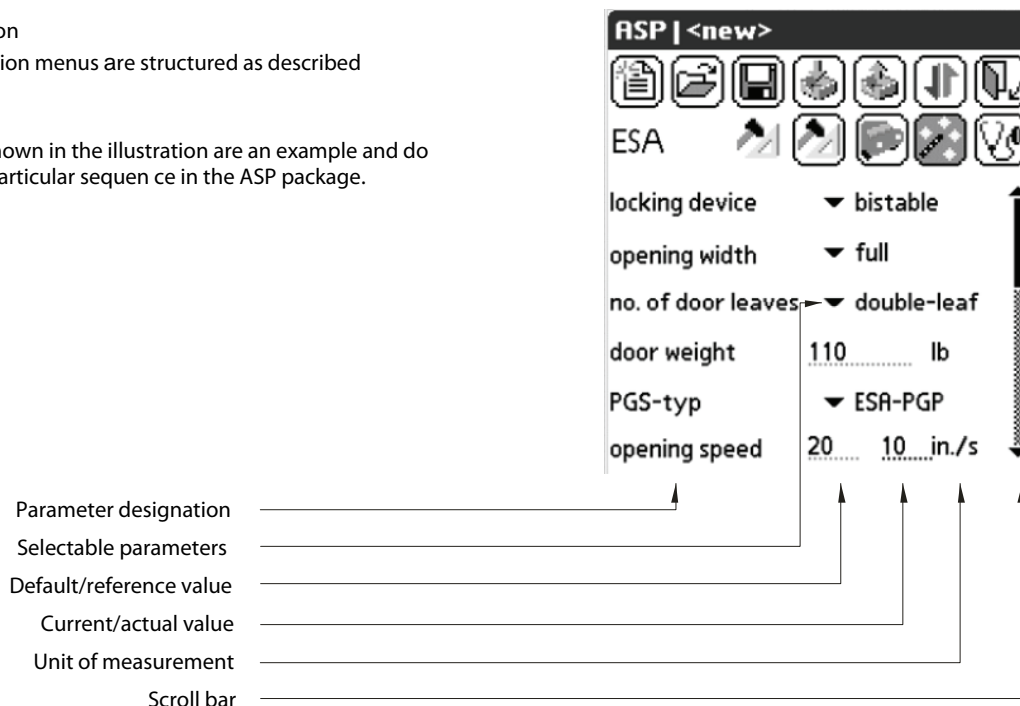
Index

General information

The parameterisation menus are structured as described
in the following:

The parameters shown in the illustration are an example and do
not occur in this particular sequen ce in the ASP package.

ASP | <new>		
ESA		
locking device	▼ bistable	
opening width	▼ full	
no. of door leaves	▼ double-leaf	
door weight	110	lb
PGS-typ	▼ ESA-PGP	
opening speed	20 10	in./s

Parameter designation
Selectable parameters
Default/reference value
Current/actual value
Unit of measurement
Scroll bar

Parameters with no automatic correction

These values are always used on the basis of their set value.

Parameter	Setting		Unit
Example			
Hold-open time	10		s

Parameters with automatic correction

The reference value is always the set value.
The current value shows the value being applied by the control unit
e.g. due to compliance with certain specifications or the system.

Example: The user adjusts 33 in./sec., while the system only allows 30 in./sec.

| Parameter	Setting	Current value	Unit
Example			
Opening speed	33	30	in./s

Parameters with selectable variables

For these parameters, a selection has to be made rather than an entry of values.
Clicking on ▼ offers further options in the small selection window:

Parameter	Setting		Unit
Example			
No. of leaves	▼ single-leaf double-leaf		

Configuration menu:

The configuration menu contains all the system-specific parameters relating to the application concerned.

These parameters are described in the following.
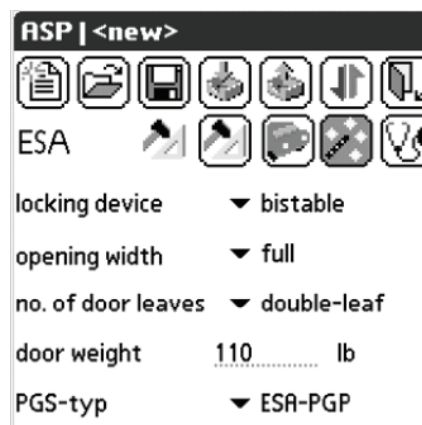
Parameter name	Description	Value range
locking device	Integrated locking device No locking device Bistable locking device Bistable locking with feedback contact (NC) Monostable locking device (fail-safe design)	 none bistable bist. resp. monostable
opening width	Full opening width Partial Open width	full partial
no. of door leaves	single-leaf door double-leaf door	single-leaf double-leaf
door weight	Door weight that is determined during learning cycle.	0-1102 lb 110 lb
PGP-type	Integrated program switch: mechanical program switch program panel	 mech.l ESA PGP

Default values are printed in bold .

Control parameter menu

The control parameter menu contains all the parameters necessary for setting the acceleration and deceleration curves.
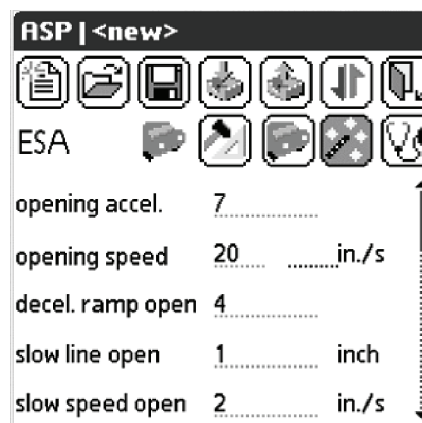
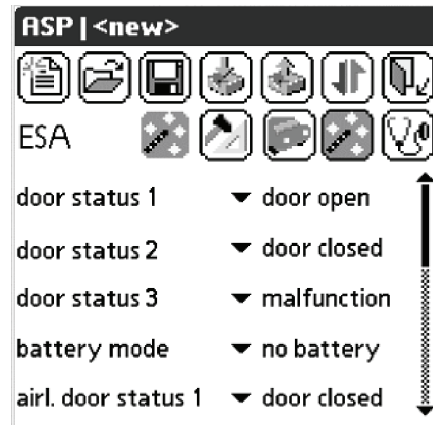| Parameter name	Description	Value range
opening accel.	Closed loop in which the door is accelerated from standstill to operating speed in the OPEN direction. Following the learning cycle, the acceleration value is adapted to the door weight.	1-9 7
opening speed	Max. opening speed. This may not be reached in the case of heavy doors or small opening widths.	4-30 in./s 20 in./s
decel. ramp open	Deceleration ramp at the end of the opening cycle. Following the learning cycle, the deceleration ramp is adapted to the door weight.	1-9 4
creep sp. dist. open	Low (creep) speed distance at the end of the opening cycle.	0-12 inch 1 inch
creep speed open	Low (creep) speed at the end of the opening cycle.	1-4 in./s 2 in./s
force limit. open	Force limita tion for the opening cycle.	11-70 lbf 30 lbf

Default values are printed in   bold .

Parameter name	Description	Value range
part. open. width	Partial opening width as factory setting. After learning cycle half opening width.	from 100 x 0,1 inch 315 x 0,1 in
with PDA only	Partial opening width can only be adjusted using the PDA.	no yes
hold open time	Retriggerable hold-open time	15-1800 x 0,1s 15 x 0,1s
closing accel.	Closed loop in which the door is accelerated to operating speed in closing direction. After the learning cycle, the acceleration value is adapted to the door weight	1-9 7
closing speed	Closing speed	4-12 in./s 12 in./s
decel. ramp close	Deceleration ramp at the end of the closing cycle. After the learning cycle, the deceleration ramp is adapted to the door weight	1-9 4
creep sp. dist. close	Low (creep) speed distance at the end of the closing cycle.	0-12 inch 2 inch
creep speed close	Low (creep) speed at the end of the closing cycle.	1-4 in./s 2 in./s
force limit close	Force limitation for the closing cycle.	11-70 lbf 20 lbf
latch. action	Force that keeps the door closed	0-9 6
hold op. time NB	NIGHT-BANK hold-open time	15-600 x 0,1s 15 x 0,1s
opening delay	Opening delay following a NIGHT-BANK signal	0-10 s 0 s

Default values are printed in bold .

Special function menu:

This menu contains all the settings likely to deviate from those for the standard operation of a sliding door.
Note: PGS = program switch.

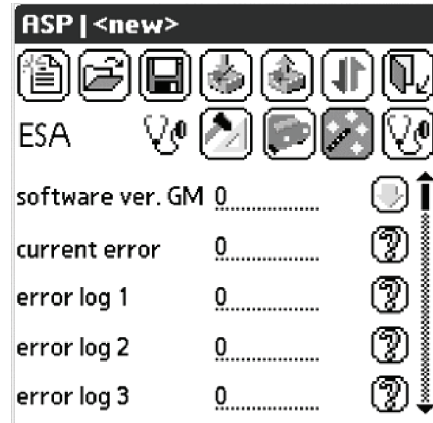| Parameter name	Designation	Value range
door status 1	The potential-free contact OUT 1 on the function module (FM) (Addr. 48) is closed as the door leaves the CLOSED position (original setting).	none door open door closed malfunction closed+locked closing alert
door status 2	The potential-free contact OUT 2 on the function module (FM) (Addr. 48) is closed when the door is in the CLOSED position (original setting).	none door open door closed malfunction closed+locked closing alert
door status 3	The potential-free contact OUT 3 on the function module (FM) (Addr. 48) is closed if a malfunction (Error >0) occurs (original setting).	none door open door closed malfunction closed+locked closing alert

Default values are printed in bold .

Parameter name	Designation	Value range
battery mode	Setting of the rechargeable battery pack mode of the basic module (BM).	no battery emerg.-clos. emerg.-open. emerg.-mode
airl. door status 1	The potential-free contact OUT 2 on the Function module (FM) (Addr. 49) is closed when the door is in the CLOSED position (original setting). This disables the opening action of door 2 (IN 3).	none door open door closed malfunction; closed+locked closing alert
airl. door state 2	Potential-free contact OUT 3 on the function module (FM) (Addr. 49) emits an opening signal at the end of the closing cycle (pulse relaying) to door 2 (IN1). (original setting).	none door open door closed malfunction closed+locked closing alert airlock airlock pulse airlock time
panic closing	Setting of the panic closing function. Door closes immediately following a signal (safety deactivaton (Totmann system)) to the function module. Activators/detectors, safety beams and blocking sensor are all shut down. The door locks in the CLOSED position.	off on
locking mode	Setting of the program switch (PGS) position at which the door is to be locked by the BM basic module when in the CLOSED position.	OFF OFF/ExitOnly
self-reg. part. op.	Where the self-regulating Partial Open Function has been activated, the door is opened to the preset partial open position in response to an activator signal. If one or several opening signals remain active for longer than 7 seconds, the door opens to its full width.	off on
ext. s. in EXIT	Program switch/panel position EXIT ONLY. During the closing cycle the external sensor is active.	off active
sensor test	If function module DIN 18650 is installed, detector test type can be selected (SE = secondary closing edge, ME = main closing edge)	off SE ME SE + ME
sensor test level	Signal level during test	Low active high active
sst door status 1	potential-free contact	none door open door closed malfunction closed+locked closing alert bell contact
SE-function	As soon as a secondary closing edge is activated during an opening cycle, the door either continues its opening cycle at low (creep) speed or stops.	stop slow

Default values are printed in   bold .

Diagnostics menu:
Meaning of symbols:

Select

Error

Proceed

Back

Help

Parameter name	Designation	Value range
software ver. GM	Indication of the current BM (basic module) software version. The select symbol calls up the firmware list. Select the firmware and activate the select symbol in order to load it into the Service-Key. Or cancel by clicking on the back symbol.	i.e. 0100 = version 1.00
current error	Displays the current error. Clicking on the help symbol calls up the error description screen. Clicking on the error symbol calls up the error help function.	error messages 0-29
error log 1 to error log 9	Displays old errors. Clicking on the error symbol calls up the error description function. Clicking on the help symbol calls up the error help function.	error memory 1-9 error memory 0-29
reset all errors	The proceed function erases the list of error messages.	
DCW reset	The proceed function erases the DCW list in order to remove old bus devices.	
DCW list	The proceed function shows the first DCW bus devices. Then ▾ shows the complete DCW list.	i.e.: 48 = FM with Adr. 00 49 = FM with Adr. 01
battery voltage	Measures battery voltage of BM or FST.	x 0.1V
LON adapter	This interface enables transmission of information via LON to a personal computer.	off on
reference cycle	The proceed function initiates a reference cycle. The test cycle is designed to assist the technician in finding and removing frictions or jams during the opening/closing cycles. Once the test cycle has been started, the door moves at constant speed and with the controller switched off. The speed is indicated and decreases in the event of friction and jams. The leg where the decrease in speed has occurred is indicated in a table on the PDA. Following activation of the emergency off push button, the door can be moved manually to the relevant leg in order to check for smooth operation (see display "current door position" on the PDA.) The level of sensitivity can be adjusted with the aid of the PDA.	
probe - value	click on proceed transmits position of tightness	x 0,1in.
probe - level	Here you can adjust the sensitivity level where the system recognizes "rough running".	0 - 100 % 30 %
cur. door speed	Displays the current door speed.	in./s
cur. door position	Displays the current door position.	x 0,1in.
opening width	Displays the learnt opening width (or original setting).	x 0,1in.
partial open	Displays the set partial open width.	x 0,1in.
operating hours	Displays the operating hours of the BM (basic module). The data is stored in the EPROM every 24 hours.	h
batt. op. hours	Displays the operating hours of the rechargeable battery pack. The data is stored in the EPROM every 24 hours.	h
no. of openings	Displays the number of opening cycles or reversing events. The data is stored in the EPROM every 24 hours.	

Default values are printed in **bold**.

DORMA AUTOMATICS, Inc.
924 Sherwood Drive
Lake Bluff, IL 60044
E-mail: automatics@dorma-usa.com

Toll-Free: 877-367-6211
Fax: 877-423-7999

DL2843-010
Jan. 2007
Subject to change without notice

Parameter name	Designation	Value range

The framed data can be entered here and stored in   the BM basic module using the "Upload" function.

Parameter name	Designation	Value range
system no.	Door/System number	
DORMA-prod.-no.	DORMA Production Number	
installation date	Date of installati on (month month year year)	mm yy
last maintenance	Last maintenance activity (month month year year)	mm y
maintenance interval	Adjustment of time interval where the next maintenance is required: 1. The date of the installation has to be entered. 2. Enter maintenance interval. Following maintenance, the date has to be typed in under "last maintenance" in order to reset the service display.	0-60 mm
SID no.	Service Ident number: designed to determine the system and its location.	
project	Project	
contact person	Contact person	
service-contract	Service agreement in place?	no yes
cycle service	Adjustment of number of opening cycles until the next maintenance is required: 1. The date of the installation has to be entered. 2. Enter number of opening cycles. Following maintenance, the date has to be typed in under "last maintenance" in order to reset the service display.	
no. of cycles	Number of cycles since last maintenance	
ID code ST	ID code service technician	
production no.	Serial number	
AB no.	Order confirm number, designed to determine all system data incl. glazing etc.	
operation module	Enable or disable actuati on control module on the BM basic module Enabling the operating module: 1. Select "Enable" 2. Perform upload. 3. Disconnect Service Tool. 4. Wait 30 seconds. The operating module is enabled. Disabling the operating module: 1. Select "Disable" 2. Perform upload 3. Disconnect Service Tool 4. Wait 30 seconds. The operating module is disabled. The display should only show the error list.	enable disable
original setting	⚠ Only with PGP/PGS set to OFF and with door in CLOSED position. Click on proceed to upload the original settings. Once the 8 in the BM display flashes twice, the process has been completed. A learning cycle must then be performed. Check parameters P. A. r. and L. on the BM. *A* Battery mode *r* Locking in Program switch positions *L* Locking type	
learning cycle	⚠ Only with PGP/PGS set to OFF. Click on the proceed to start the learning cycle. The 8 in the BM display flashes twice to signal that t he learning cycle has been completed.	
bootloader ver.	Bootloader version in BM.	i.e. 0100 = Version 1.00
software ver.	Displays the current software version of the service-key	i.e. 0100 = Version 1.00

Default values are printed in bold .

Parameter name	Designation	Value range
external sensor	Indicates external detector status.	inactive active
internal sensor	Indicates internal detector status.	inactive active
PGS OFF	Indicates PGS mode.	inactive active
PGS AUTOMATIC	Indicates PGS mode.	inactive active
PGS EXIT ONLY	Indicates PGS mode.	inactive active
PGS PART. OPEN	Indicates PGS mode.	inactive active
PGS PERM. OPEN	Indicates PGS mode.	inactive active
key switch NB	Indicates Night/-Bank Function.	inactive active
safety beam 1	Indicates safety beam 1 status.	inactive active
safety beam 2	Indicates safety beam 2 status.	inactive active
emergency off	Indicates emergency off function.	inactive active
sec.closing edge 1	Indicates secondary closing edge 1 status on Function Module (FM).	inactive active
sec.closing edge 2	Indicates secondary closing edge 2 status on Function Module (FM).	inactive active
main closing edge	Indicates main closing edge status on Function Module (FM).	inactive active
panic closing 1	Indicates panic closing 1 status on Function Module (FM) (Addr. 00).	inactive active
airlock pulse input	Indicates airlock signal input status on Function Module (FM) (Addr. 01).	inactive active
airlock inhibit inp.	Indicates airlock disabling input status on Function Module (FM) (Addr. 01).	inactive active
panic closing 2	Indicates panic closing 2 status on Function Module (FM) (Addr. 01)	inactive active
panic closing 3	Indicates panic closing 2 status on Function Module (FM) DIN18650	inactive active
door status 1 - 4	Indicates status on Function Module (FM) (Addr. 00) for door status 1 to 4.	inactive active
door status 5 - 8	Indicates status on Function Module (FM) (Addr. 01) for door status 5 to 8.	inactive active
door status 9	Door status 9 indicates the status of FM DIN 18650.	inactive active
error 4 diagnosis	Error 4 is indicated in detail. SE = secondary closing edge, ME = main closing edge, SB = safety beam	error-free ME-error SE1-error SE2-error SB1-error SB2-error
malfunction	Indicates malfunctions of the status, airlock or FM DN 18650.	inactive active
fuses basic mod.	current fuse settings of the basic-module will be displayed	niO. iO.
ambient temp.	current ambient temperature	68 F
motortemp.	current motor temperature	68 F

Default values are printed in **bold** .

PDA, error and help texts
Characters in parentheses are shown in the 7-segment display of the basic module.

Error-No.	Error	Help text
0	control unit is error-free	Contol unit is error-free
1	door blocked (obstacle)	Remove obstacle! Check floor guide! Adjust blocking sensor and force limitation!
2	locking error	Correct locking type selected? Check mechanical adjustments! Check wiring!
3	program switch error	Check wiring! Check program switch and exchange if required!
4	safety beam check error or sensor check error	Check safety beam wiring! Check if transmitter and receiver are on the same level! If sunlight reaches the receiver, swap transmitter with receiver! For standard operation both transmitters should be located on opposite sides. Exchange safety beam, secondary closing edge and main closing edge sensor if required.
5	incremental encoder error	Check wiring! Check connection of the incremental encoder on motor side! Check function with PDA! Check rotation, if wrong execute RESET and change direction with minus-button at basic module (BM).
6	rechargeable battery pack error	Check setting "rechargeable battery pack mode"! Battery pack connected? Battery pack charged sufficiently? Check battery voltage!
7	Basic module system - error	Exchange Basic Module.
8	emergency off pushbutton active	Release emergency off pushbutton, if wrong check wiring.
9	learning cycle acquiring error	Execute learning cycle!
10 (A)	motor error	Check motor wiring! Exchange motor and/or basic module (BM).
11 (b)	battery is missing during battery check	Check setting "battery mode"!
12 (C)	force check error	Rechargeable battery pack connected Rechargeable battery pack charged sufficiently? Check voltage!
13 (d)	motor over current	Check motor wiring! Check setting of force limitation! Exchange motor.
14 (H)	Overheating of motor	The motor was overheated. The hold-open time of the Night-/ Bank function will be extended.
14 (H)	FST control unit: RAM ROM CPU error	Check motor wiring! Exchange motor and/or basic module (BM).
15 (2)	locking contact error	Check connection of FST-module with basic-module (BM)! Exchange FST-module.
16 (2)	locking impossible	Check locking contact with multimeter. Check function of the locking device. Exchange lock-responding-switch and/or lock.
21 (7)	Alternative deactivation error (motor relay)	Exchange Basic Module (BM).
22 (3)	DCW program switch error	Check wiring! Exchange DCW-program-switch.
23 (2)	closing alert	Set program-switch to OFF position with bottom-lock closed or open bottom-lock in AUTOMATIC mode.
29 (F)	DCW error	DCW communication error. Check connection and wiring of the DCW-participants. Execute hard RESET (disconnect mains voltage and rechargeable battery pack and reconnect). Exchange Basic Module and/or FM-module.

ESA II Service-Key:

The service key is the linking element between the PDA (Personal Digital Assistant) and the ES 200 control unit. It may also be used with the control unit without PDA, in order to disable the control keys of the control unit, or to update the software of the control unit.

Operation via PDA:

The PDA is connected to the service key (9-pole SUB D plug), with a serial connecting cable. (Bluetooth Added). Connect the service key via the connecting cable to the control unit (Port 13 behind the service keys). Establish a connection between the controller and the PDA (see ASP operating instructions). The LED status indicator on the service key turns green. Now the settings may be changed via the PDA. An upload must be performed in case any settings have been changed. The LED status indicator, of the service key, lights red in the event that an error occurs during upload. In this case, the upload must be repeated. If the upload was successful, the LED is green. The PDA may also be used to install a new software version on the service key. Software upload from PDA to service key: See ESA II ASP data base recording.

Software update of ESA II control unit via service key:

The service key must contain the latest software version.

⚠ **The software update may not be done while the door is under operation, as it could get out of control.**
Take the ESA II sliding door out of operation (set Program switch to OFF, or use the EMERGENCY OFF push button, if necessary.) Press and hold the start push button for three seconds. The LED status indicator on the service key flashes orange while it performs the update. It flashes red in the event that an error occurs during upload. In this case, the upload must be repeated. If the upload was successful, the LED turns green.

⚠ **Following a software update, the power supply must be reset (battery pack and power plug must be Removed for a short time) and a learning cycle has to be performed. The door settings must be checked and reset if required. (e.g. locking type, motor type, operation via batter pack, etc.).**

## Locking the control panel via service key:

If the control panel of the ESA II control system is locked, the service key unlocks it, by connecting it. The settings can now be changed. As soon as the service key is disconnected from the control unit, the panel is locked automatically.

LED Status Indicator

LED Status Indicator	Update PDA Service Key	Update SK Control Unit
Green	Update successful	Update successful
Orange	Update in progress	
Red	Error during update	
Orange (flashing)		Update in progress
Red (flashing)		Error during update

Troubleshooting

The control unit indicates an error code in the event of an incomplete update. The LED status indicator on the service key goes out:

Error Code	Possible reasons	Error display
01	System	𝐻
03	Program sequence	𝑏
05	Ram error	𝑦
07	Interrupt Vector not defined	𝑡
15	RAM-check	𝐹
31	DMOS-Clock Handler sequence (DCW-Timing)	𝐿
Boot loader CRASH	ROM checksum error	𝓊

Should one of the above mentioned errors occur, the system must be disconnected from power supply and the ESA II control unit has be programmed again.

⚠ **The system cannot be updated via infrared device.**

DORMA AUTOMATICS, Inc.

924 Sherwood Drive
Lake Bluff, IL 60044
E-mail: automatics@dorma-usa.com

Toll-Free: 877-367-6211
Fax: 877-423-7999