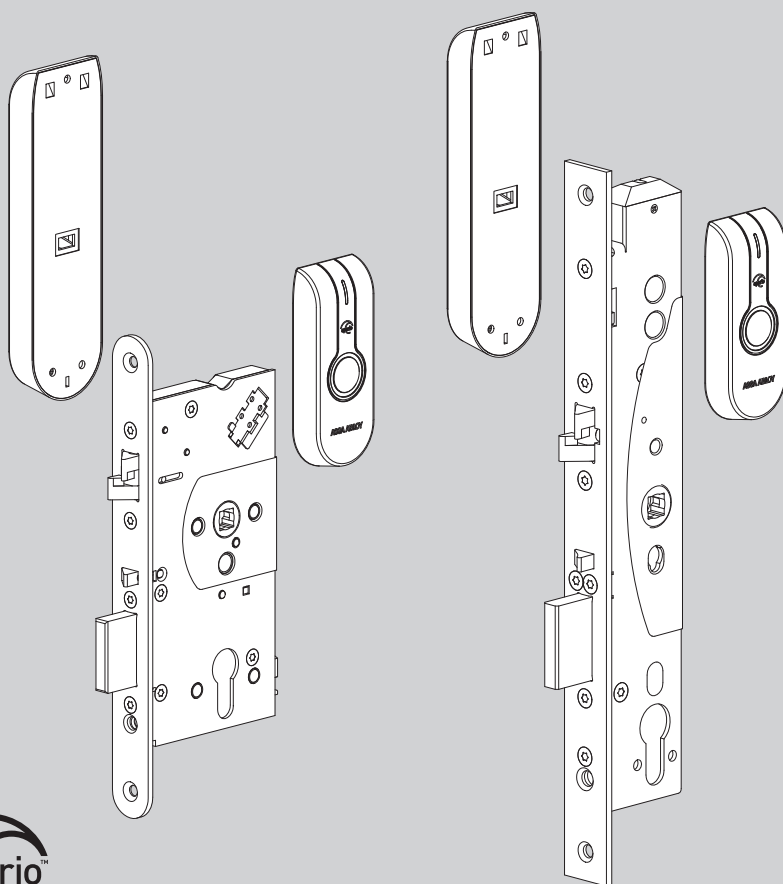


Installation instructions Aperio™ L100 wireless lock (AL560/AL460)

ASSA ABLOY

ASSA ABLOY, the global leader in
door opening solutions



Contents

TECHNICAL DATA	3
LED INDICATIONS	4
DIMENSIONS	6
CONNECTIONS	7
INSTALLATION	9
TECHNICAL DATA AL460 and AL560	16
SPINDLE	17
STANDARDS	17
EMERGENCY EXIT DEVICES INSTALLATION ACCORDING TO EN 179	19
PANIC EXIT DEVICES INSTALLATION ACCORDING TO EN 1125	19
DRILLING SCHEME	20
DRILLING	23
SETTABLE FUNCTIONS OF AL460	26
SETTABLE FUNCTIONS OF AL560	28
DECLARATION OF CONFORMITY	30
CERTIFIRE	32

TECHNICAL DATA

Battery type:	2 pieces Energizer lithium AA size, L91, FR6, 1,5V *	
Battery Lifetime:	3,5 years	
	Max. 70.000 cycles	
	Emergency battery KIT contact in reader	
Encryption (radio communication):	AES 128 Bit, site related encryption key	
Radio Standard:	IEEE 802.15.4 (2,4 GHz)	
Distance between lock and HUB:	AH20 and AH30 max. 25m	
	(Line of sight, no radio disturbance)	
RFID reading:	UID, Sector, Blocks, Pages	
RFID technology:	Mifare classic, Mifare +, DesFire, iClass	
Card reading distance:	<1cm	
Environment:	Inside: 0°C - +40 °C humidity <85%	
	Outside: -40°C - +65 °C humidity <85%	
Altitude:	1 - 2000 m	
IP-degree inside unit:	IP44	
IP-degree outside unit:	IP54	
Colour / surface:	Black/Plastic	
Override:	Up to 10 override credentials / cards	
	Mechanical cylinder	
Monitoring:	Locking status	(unlocked / locked)
	Key cylinder status	(key used)
	Handle status	(handle used)
	Door monitor status / trigger bolt	(door open / not open)
	Tamper / sabotage	
Standards:	EL 14846	Electromechanical locks
	EN 179	Exit
	EN 1125	Panic exit
	EN 61000-6-1:	2007 EMC
	EN 61000-6-3:	2007 EMC

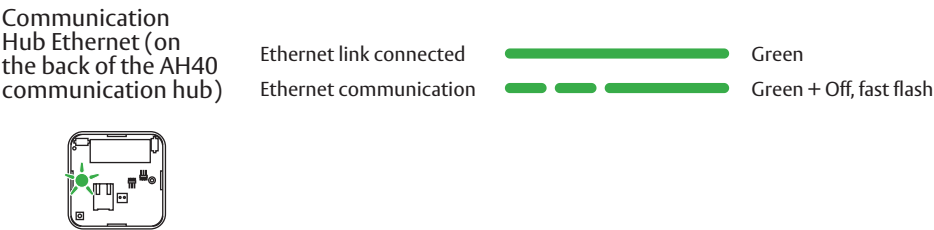
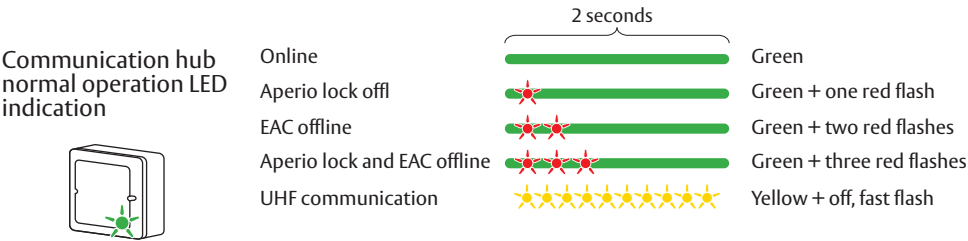
* Changing of battery should be done by instructed person only.

ASSA ABLOY is using open source code in this product.
For more information visit <http://www.assaabloy.com/com/global/opensourcelicense/>

LED INDICATION

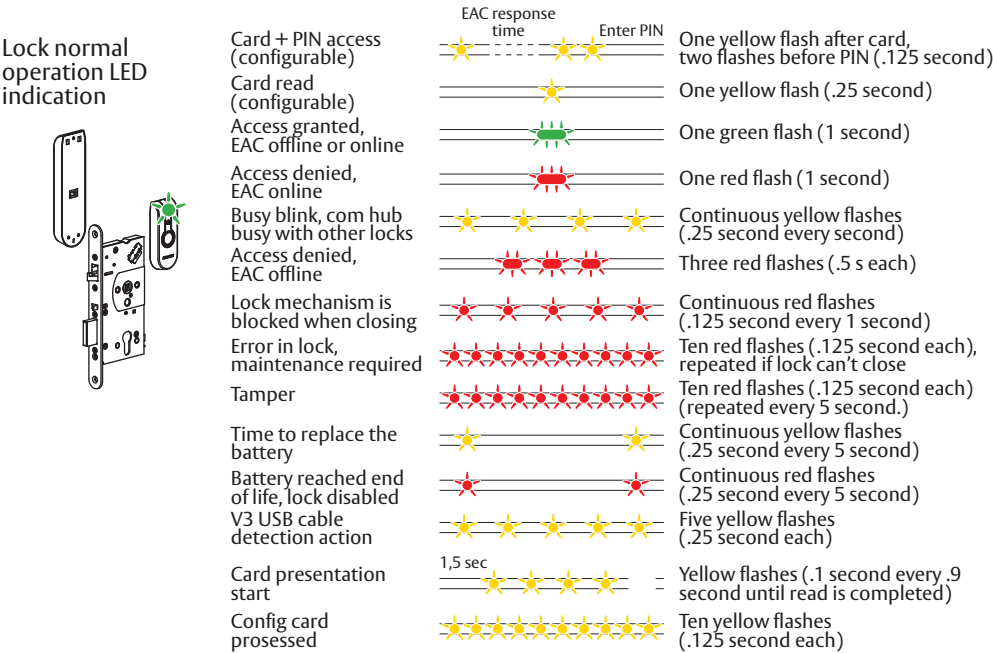
COMMUNICATION HUB LED INDICATION

The communication hub has a single LED. It supports an optical scheme with red, green and yellow. The indication scheme is described by the two figures below:



LOCK NORMAL OPERATION LED INDICATION

The lock has a single LED. It supports an optical scheme with red, yellow and green. The indication scheme is described by the figures below:

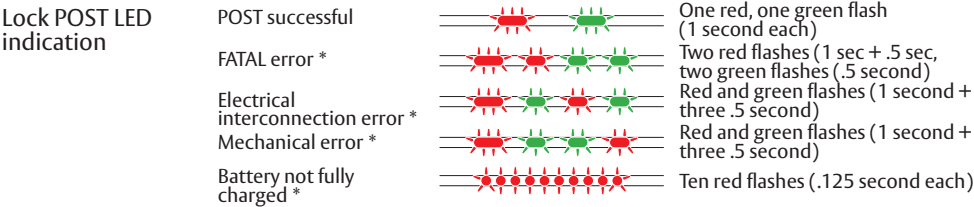


Lock maintenance LED indication



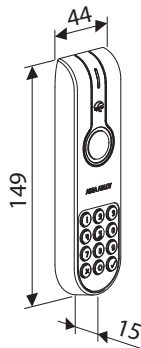
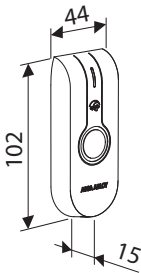
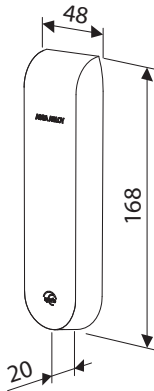
LOCK SELF TEST LED INDICATION

After replacing the battery, a Power On Self Test (POST) is performed. The result is indicated using a series of red and green led flashes as is described by the Figure below:

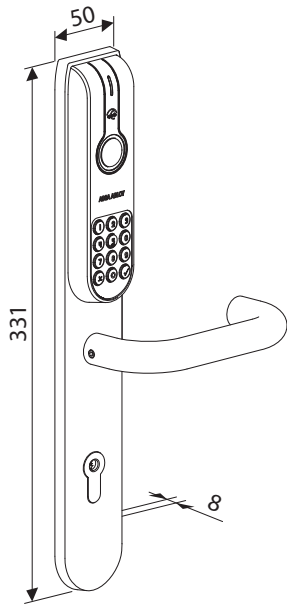
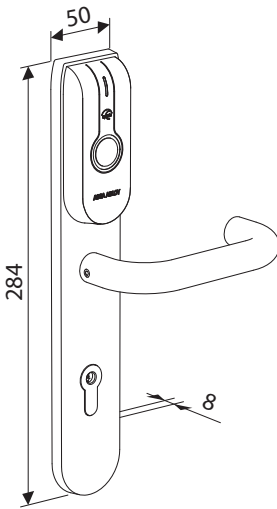
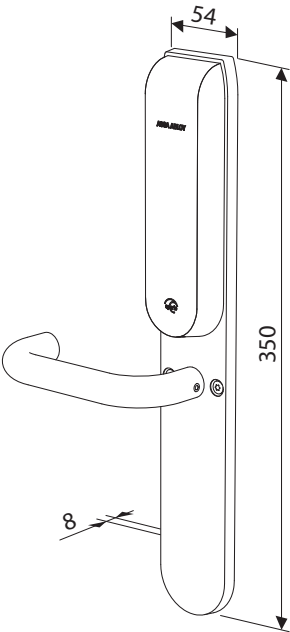


*) More details of the error in the PAP Tool event log.

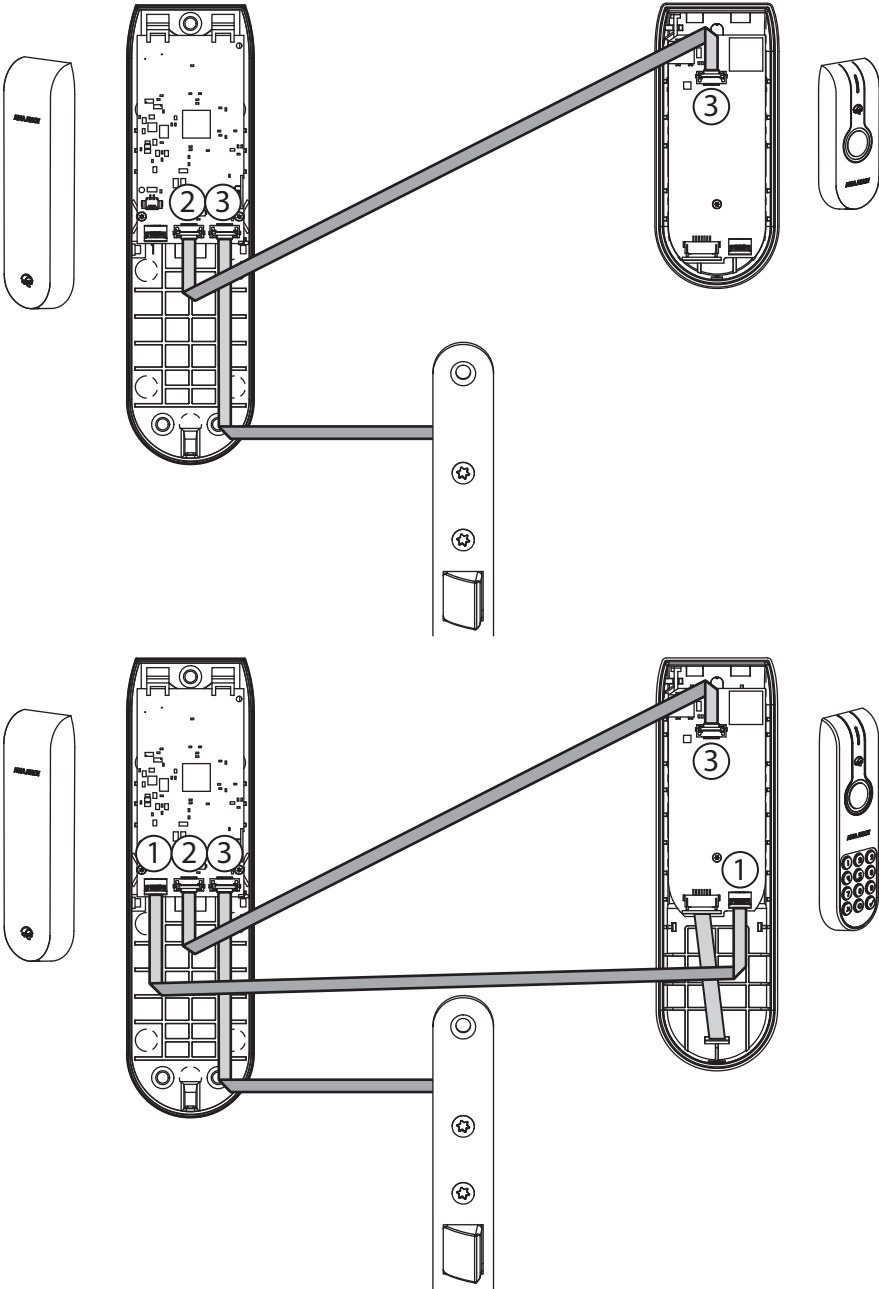
DIMENSIONS

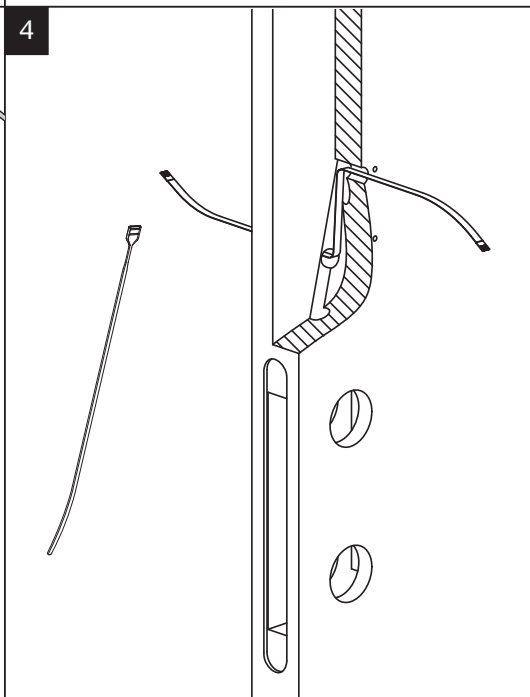
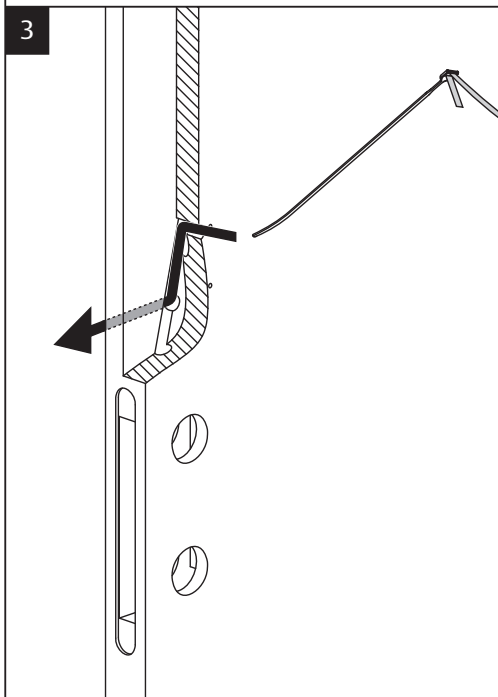
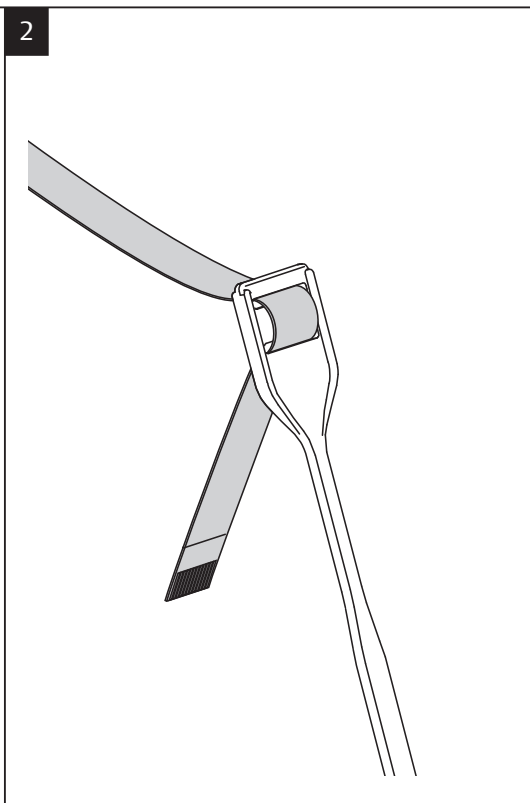
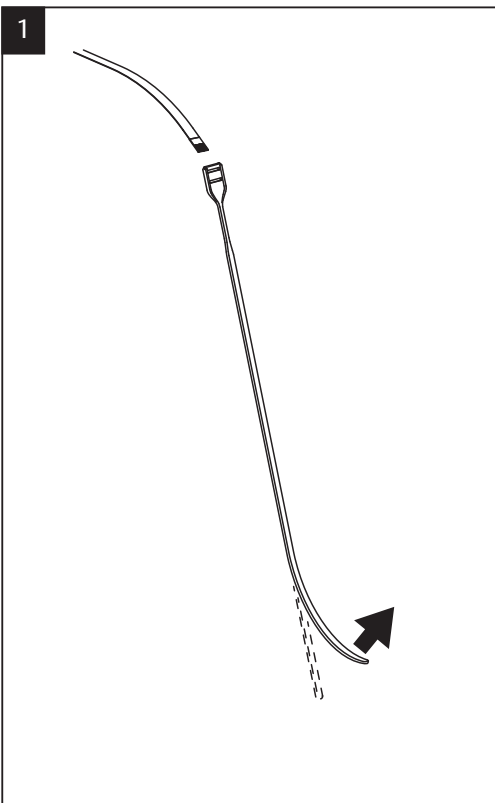


With accessory plates

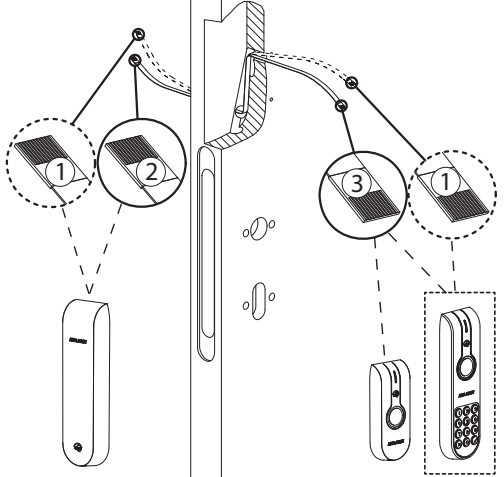
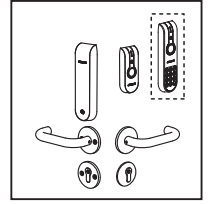
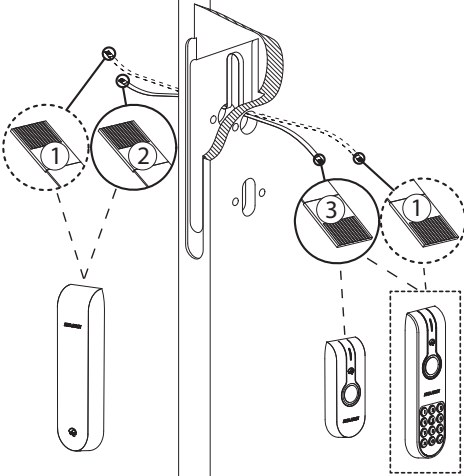
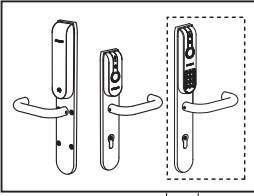


CONNECTIONS

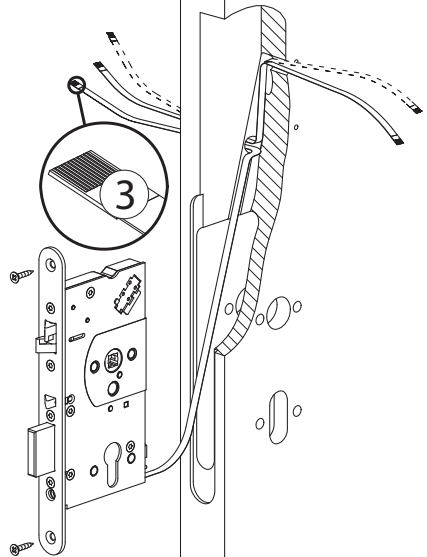
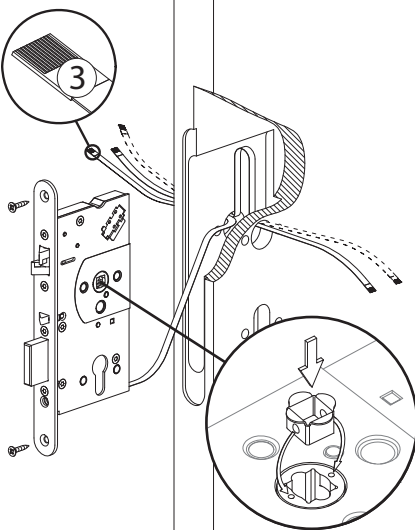




1 A 1 B

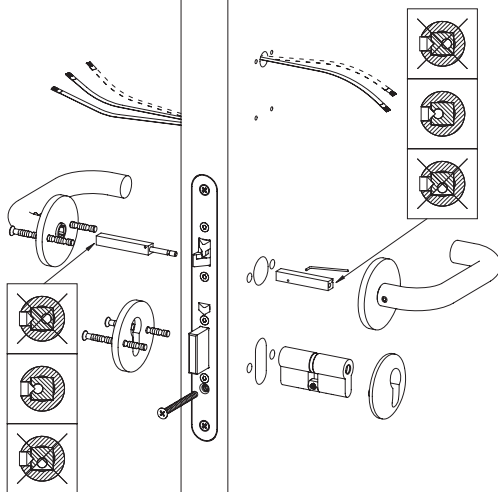
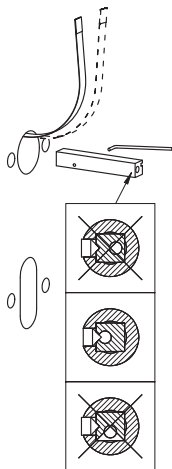
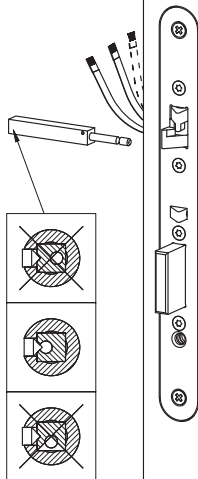


2 A 2 B



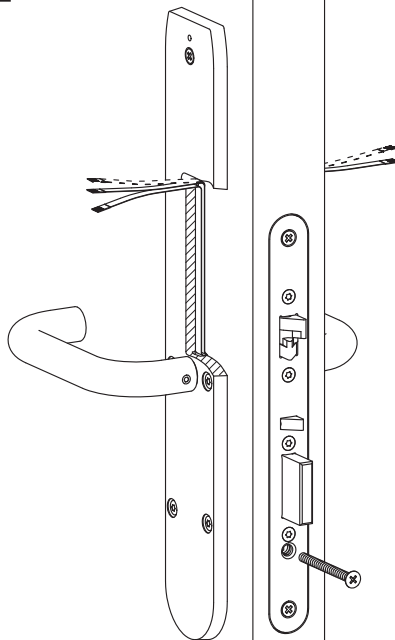
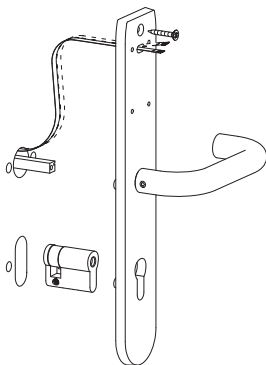
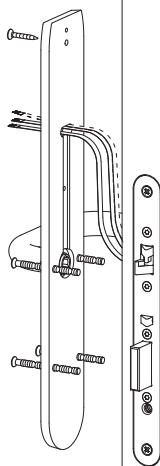
3 A

3 B

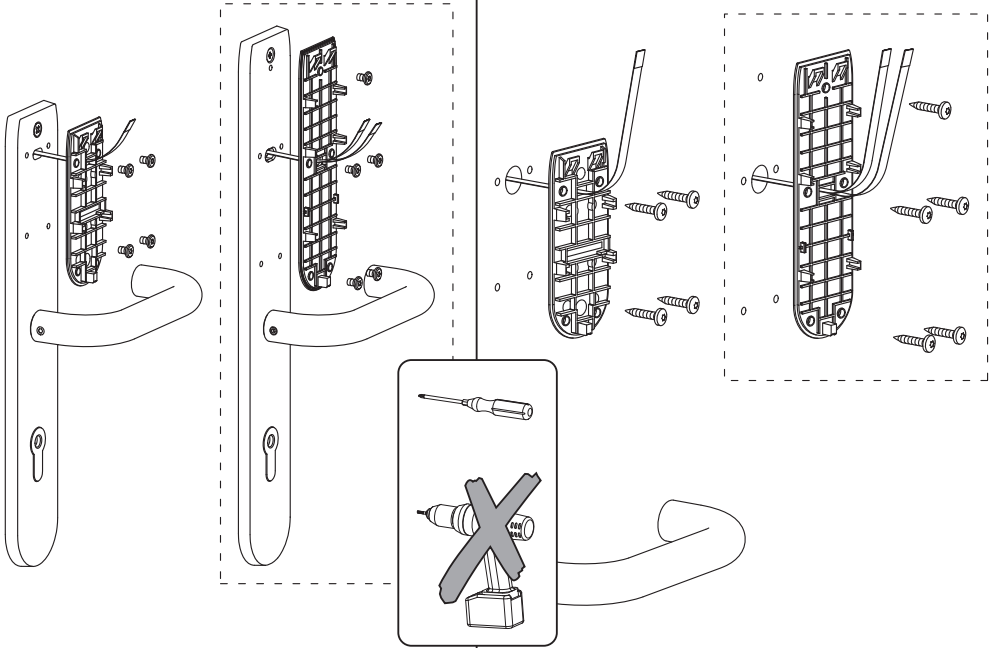


4 A

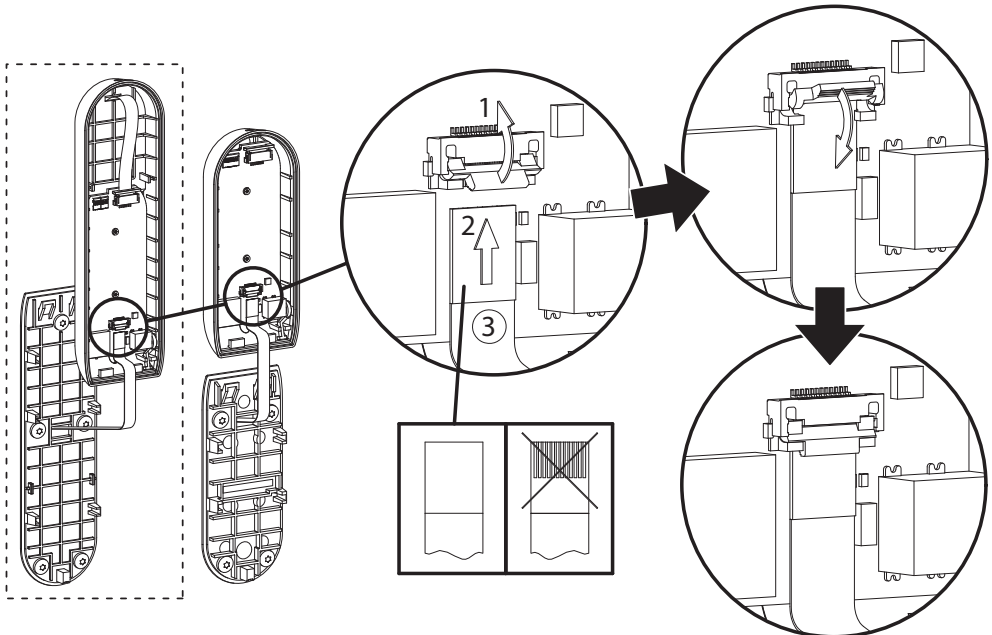
5 A



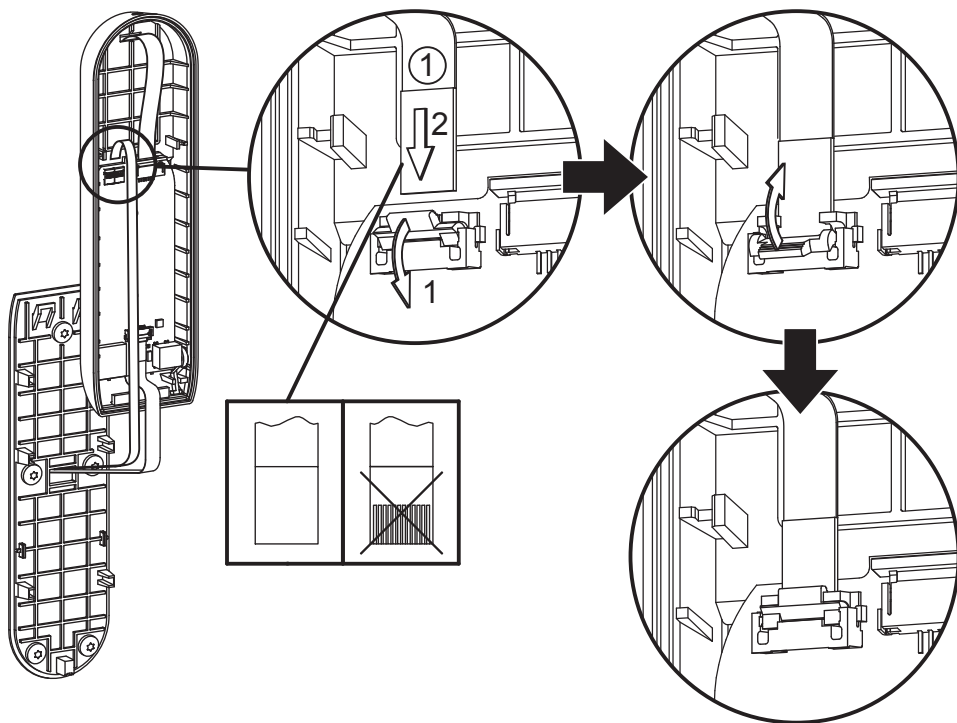
6 A 4 B



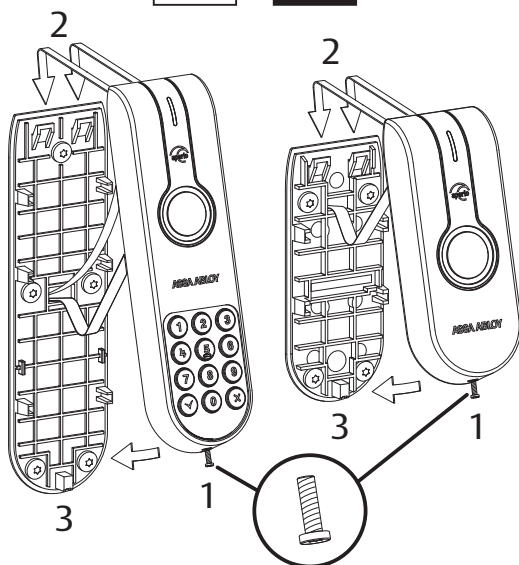
7 A + 5 B



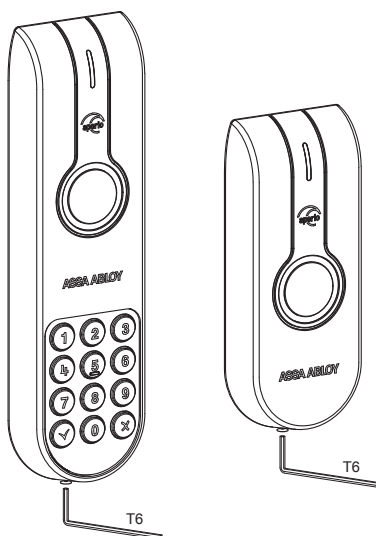
8 A + 6 B



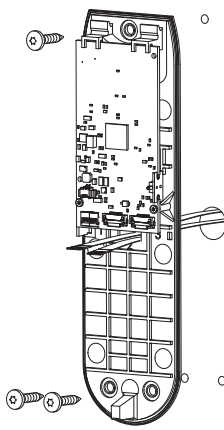
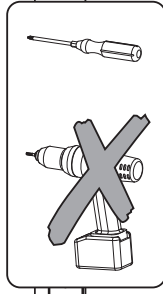
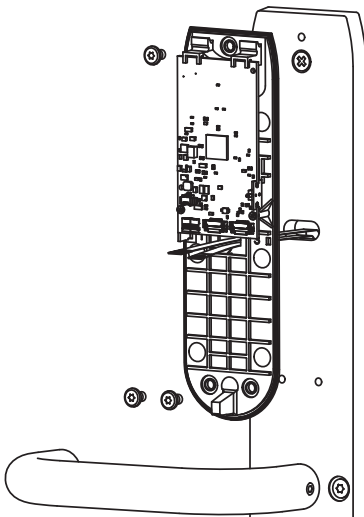
9 A + 7 B



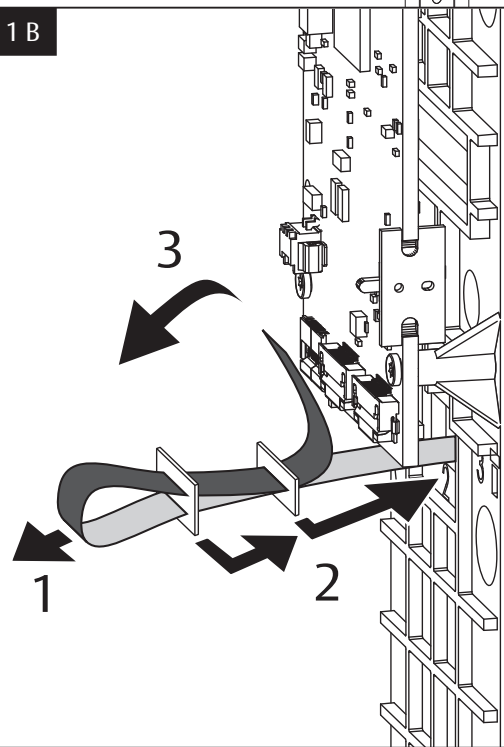
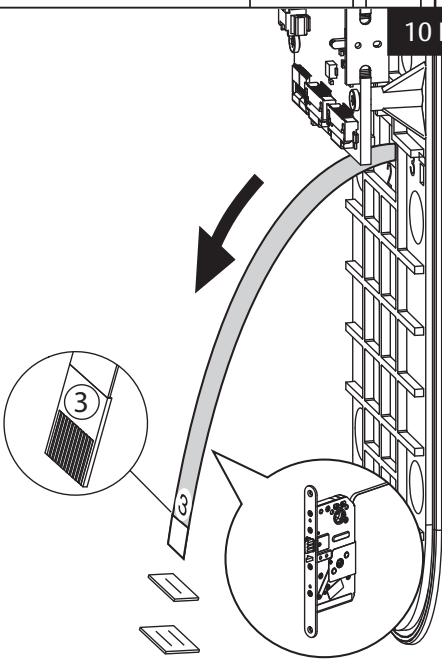
10 A + 8 B

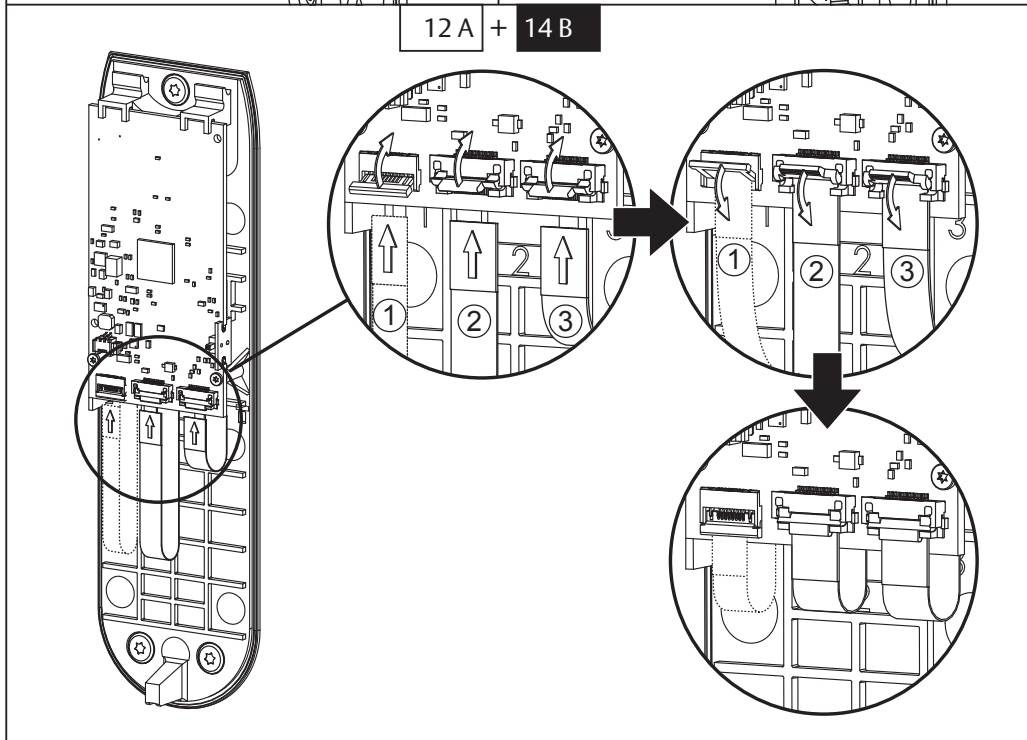
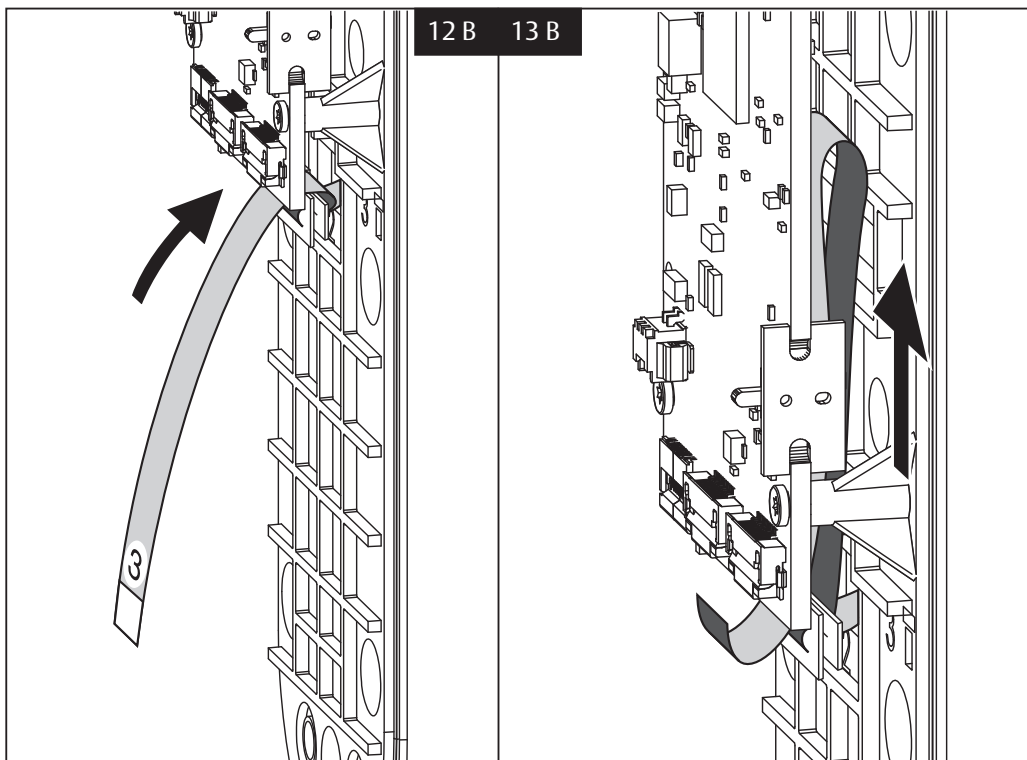


11 A 9 B

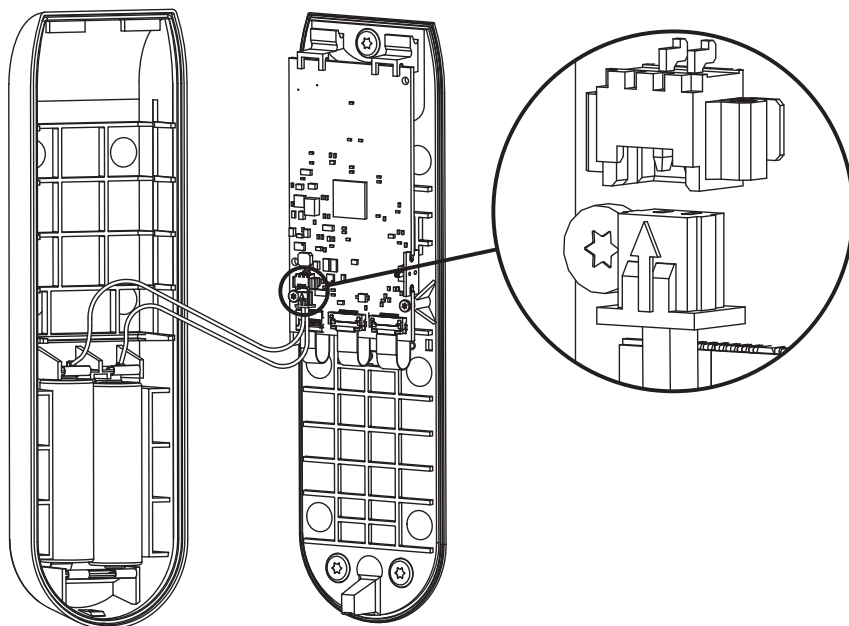


10 B 11 B

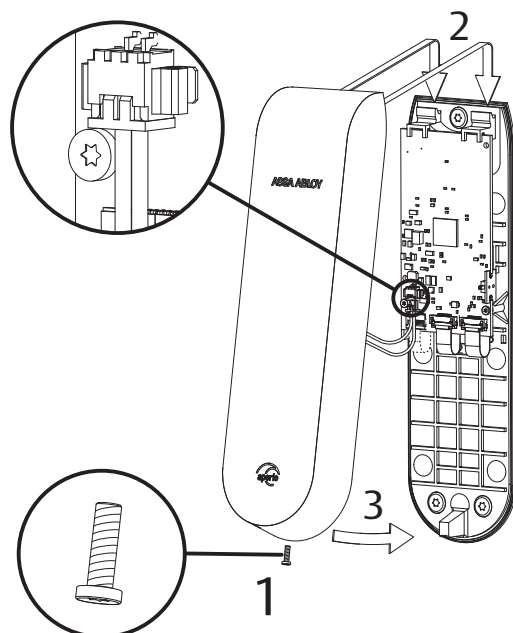




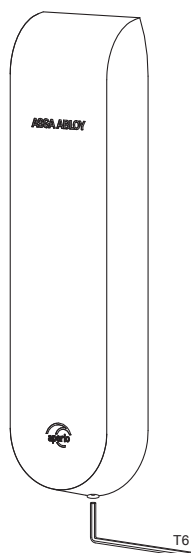
13 A + 15 B



14 A + 16 B

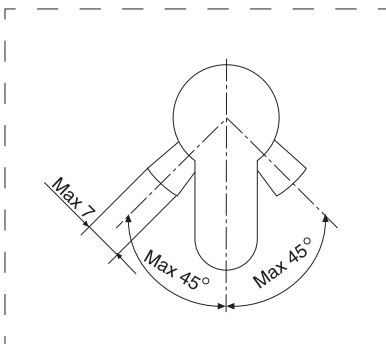


15 A + 17 B

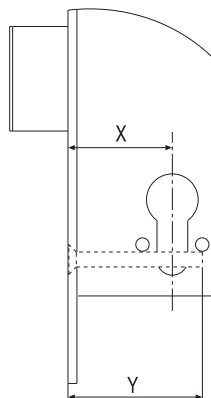


Technical drawing of the AL460 door handle assembly. The drawing includes a front view and a side view with the following dimensions:

- Front View Dimensions:**
 - Overall height: 300
 - Top section height: 101
 - Section height: 22
 - Section height: 39
 - Section height: 12
 - Section height: 6
 - Section height: 35
 - Section height: 20
 - Section height: 8
 - Section height: 24
 - Section height: 3
- Side View Dimensions:**
 - Top section width: 20.5
 - Section width: 45 / 50 / 55 / 60
 - Section width: 30 / 35 / 40 / 45
 - Section width: 20.5
 - Section width: 91
 - Section width: 76
 - Section width: 25
 - Section width: 25
 - Section width: 21.5
 - Section width: 25
 - Section width: 92 (PZ)
 - Section width: 32
 - Section width: 15
 - Section width: 17
 - Section width: 22
 - Section width: 30
 - Section width: 20
 - Section width: 4.5 x 2
 - Section width: 8
 - Section width: 8
 - Section width: 5.5
 - Section width: 8.5
 - Section width: 8 / 9
 - Section width: 5.5
 - Section width: 10.5
 - Section width: 10.5



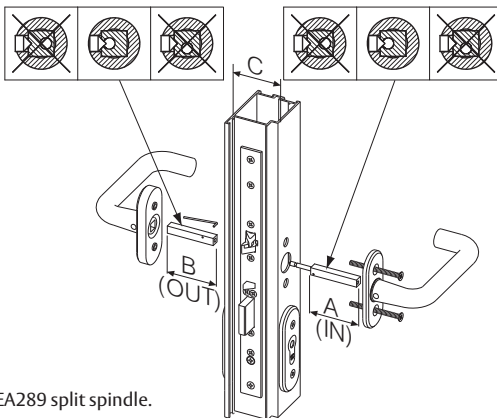
AL460 / AL560



X	Y max.
30	40
35	45
40	50
45	55
50	70
55	75
60	80
65	85
80	90
100	110

C	A(IN)	B(OUT)	□	
40 - 54 mm	47 mm	50 mm	8 mm	EA288 001000
47 - 66 mm	57 mm	50 mm	8 mm	EA288 002000
61 - 80 mm	67 mm	60 mm	8 mm	EA288 003000
66 - 80 mm	74 mm	50 mm	8 mm	EA288 004000
88 mm -	120 mm	120 mm	8 mm	EA288 005000
70 - 87 mm	90 mm	50 mm	8 mm	EA288 006000
C	A(IN)	B(OUT)	□	
40 - 54 mm	47 mm	50 mm	9 mm	EA289 001000
47 - 66 mm	57 mm	50 mm	9 mm	EA289 002000
61 - 80 mm	67 mm	60 mm	9 mm	EA289 003000
66 - 80 mm	74 mm	50 mm	9 mm	EA289 004000

To ensure functionality of the lock case, use ABLOY® EA288 or EA289 split spindle.



EN 14846: 2008	3 5 5 F - H 6 1 1 0809-CPR-1159	BL560
	3 5 5 D - H 6 NPD NPD 0809-CPR-1159	BL460
EN 1634-1		AL560 WF Assessment Report No. 383734
EN 179: 2008	3 7 6 0/B 1 3 4 2 A B 0432-CPR-00008-01	BL460, BL560
EN 1125: 2008	3 7 6 B 1 3 2 1 A B 0432-CPR-00008-02	BL460, BL560
CERTIFIRE	CF5920	AL560

EN 1125	ABLOY® DO 6.7	ASSA ABLOY Sicherheitstechnik DO 22.0	JPM SAS
BL560	Profile door: PBE011 Solid door: PBE011	8000-00-1100 (-) 8000-10-1100 (PZ) 8000-11-1100 (RZ) 8000-20-1100 (PZ) 8000-21-1100 (RZ)	NORMA 990000-XX-0A 990100-XX-0A 991000-XX-0A 991100-XX-0A
BL460 *)			

*) Not for JPM SAS

For UK market

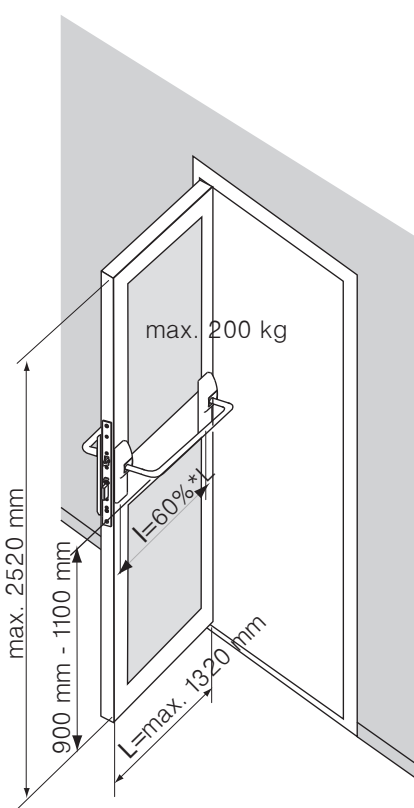
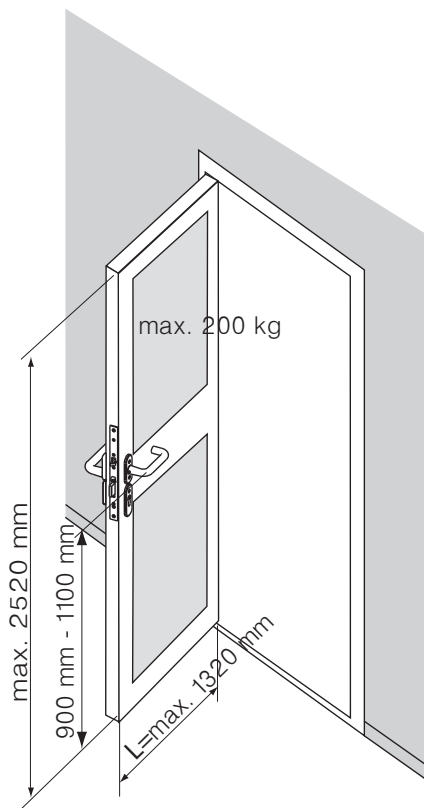
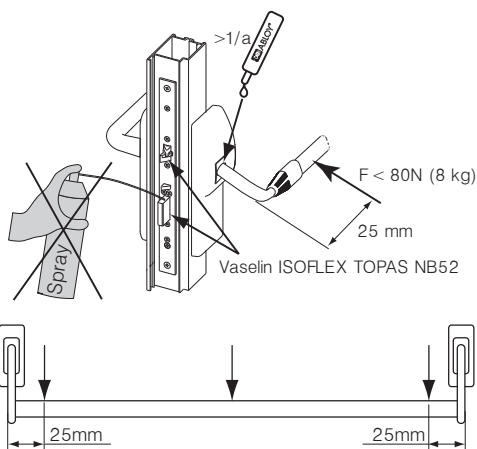
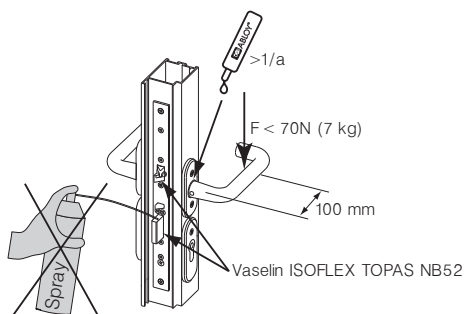
BS EN 14846: 2008	3 5 5 D - H 6 1 1 0843-CPR-1166	BL560
BS EN 1634-1		AL560 WF Assessment Report No. 383734
BS EN 179: 2008	3 7 6 0/ B 1 3 4 2 A B 0843-CPR-1173	BL460, BL560
BS EN 1125: 2008	3 7 6 B 1 3 2 1 A B 0843-CPR-1174	BL560

BS EN 1125	ABLOY® DO 6.7	JPM
BL560	Profile door: PBE011 Solid door: PBE011	NORMA 990000-XX-0A 990100-XX-0A 991000-XX-0A 991100-XX-0A

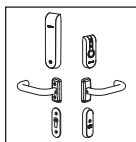
EN 179

EN 1125

EA321, EA322, EA323, EA324, EA325, EA326, EA327, EA328, EA329, EA330, EA331, EA332

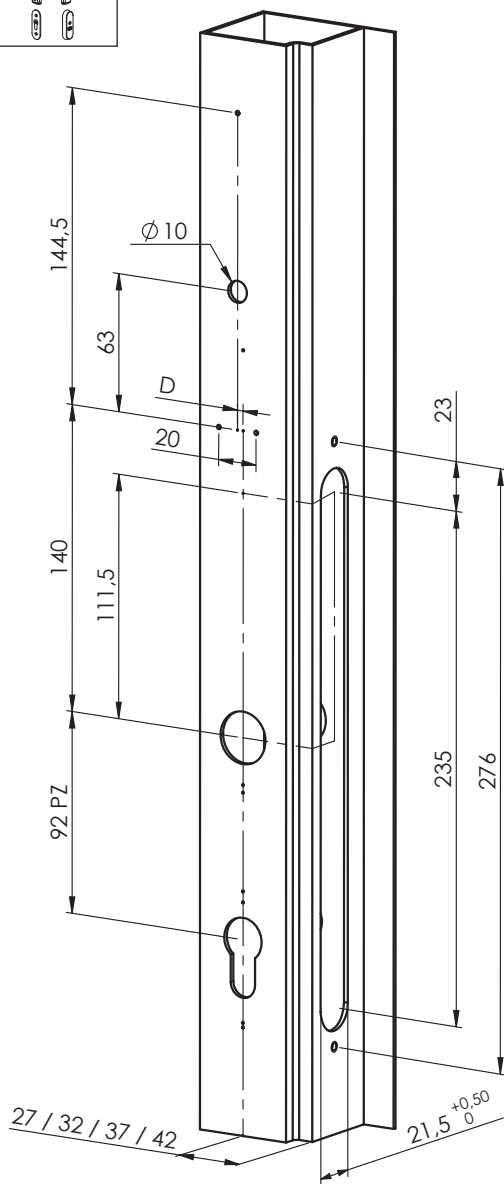


ⓘ The safety features of this product are essential to its compliance with EN 1125 7 BS EN 1125 / EN 179 / BS EN 179 / EN 14846 / BS EN 14846. No modification of any kind, other than those described in these instructions, is permitted

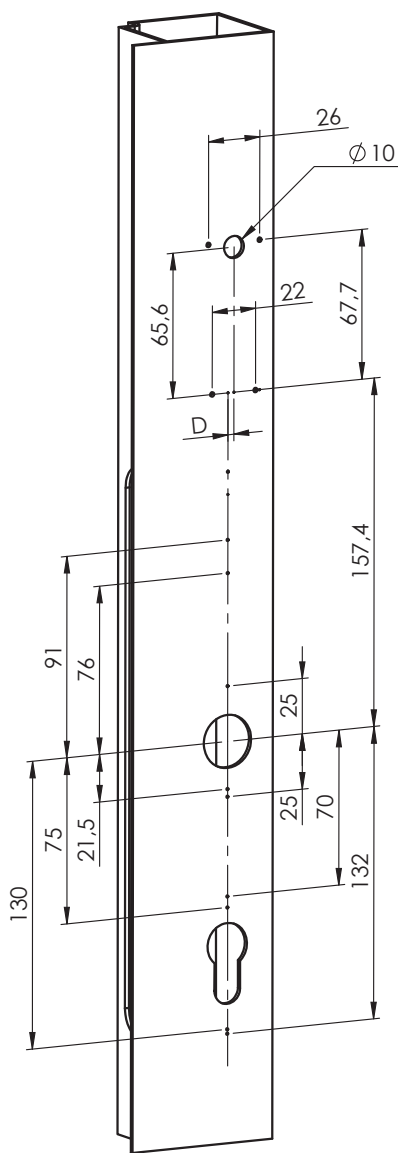


DRILLING SCHEME **AL460**

SELECT SUITABLE DRILLINGS
ACCORDING TO FITTINGS.

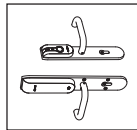


INSIDE

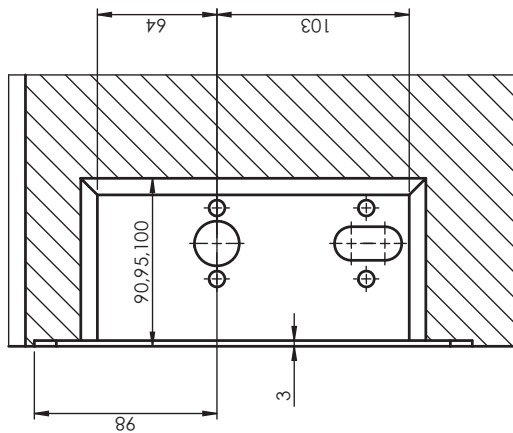
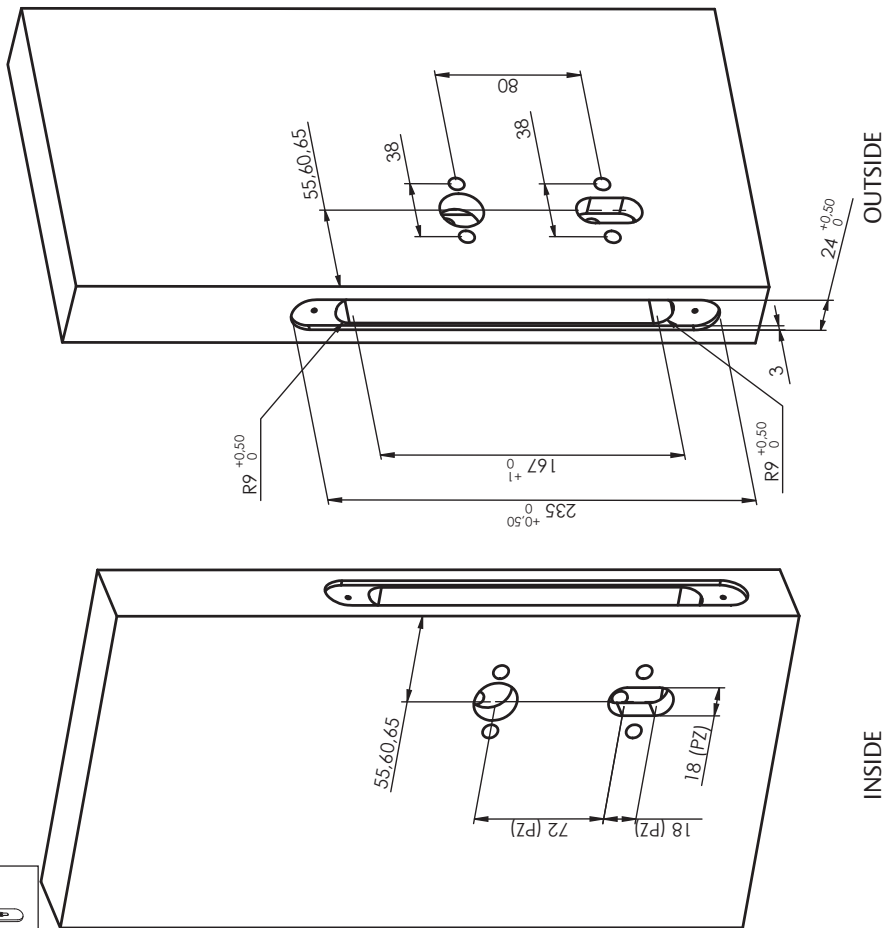


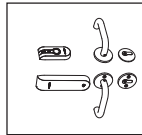
OUTSIDE

D depending on door profile



DRILLING SCHEME AL560 WITH ESCUTCHEON

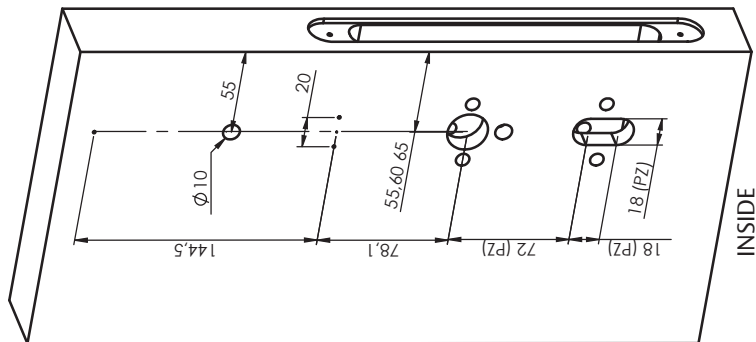
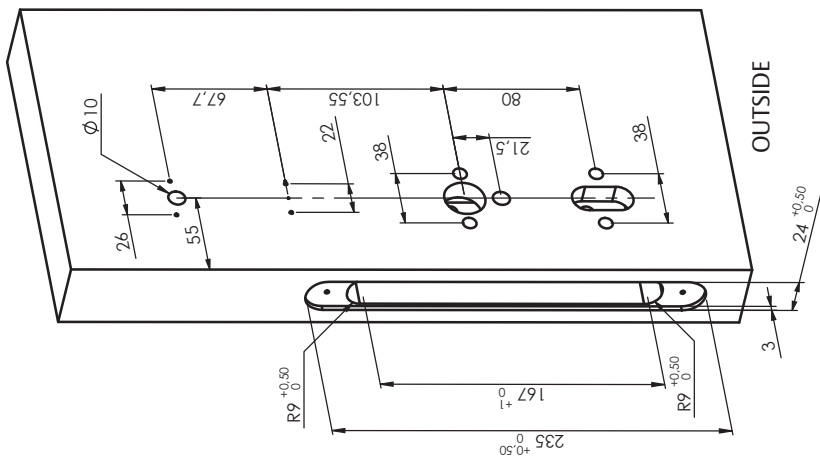
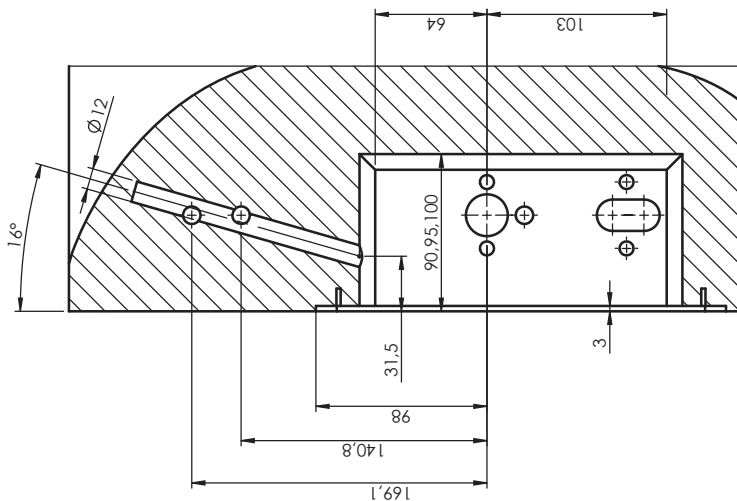




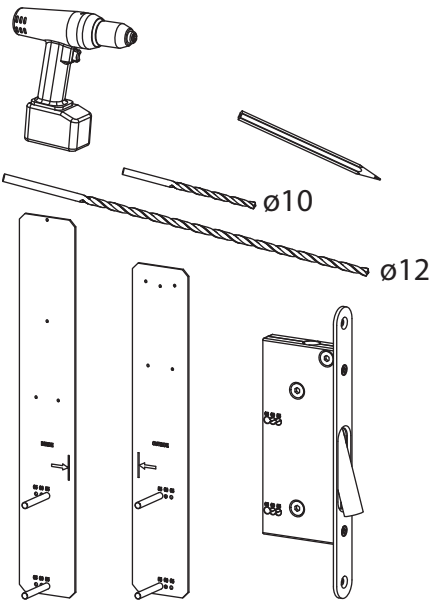
DRILLING SCHEME AL560 WITHOUT ESCUTCHEON

SELECT SUITABLE DRILLINGS
ACCORDING TO FITTINGS.

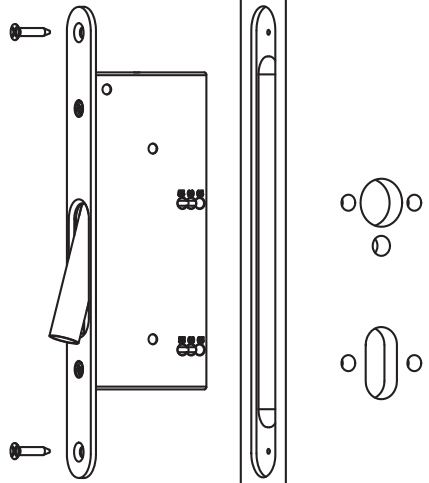
Drill: 12x400



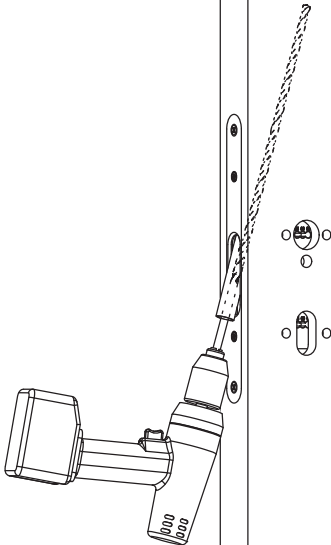
DRILLING



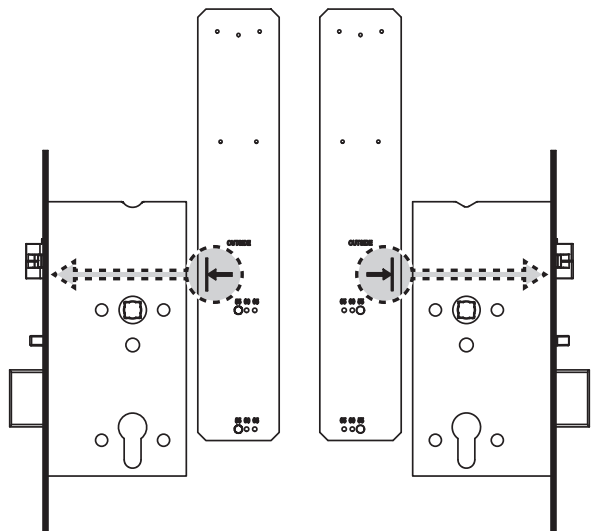
1



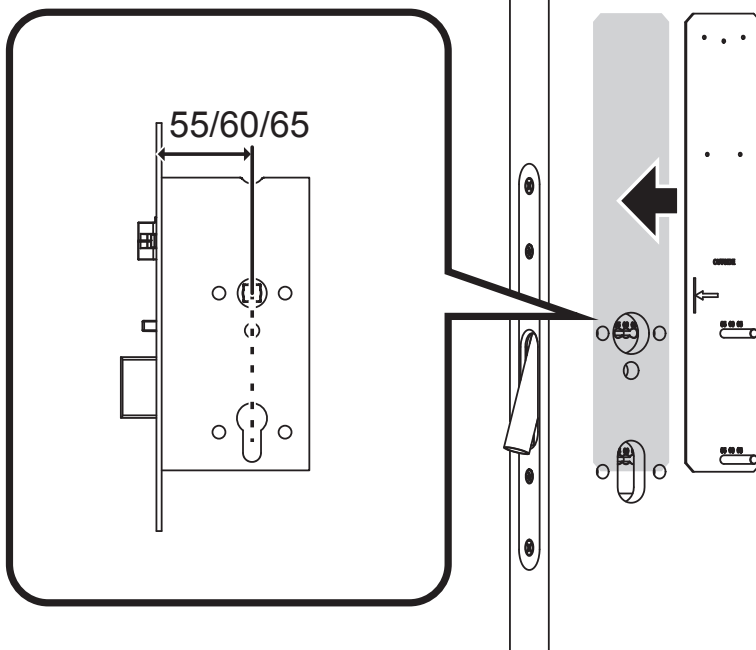
2



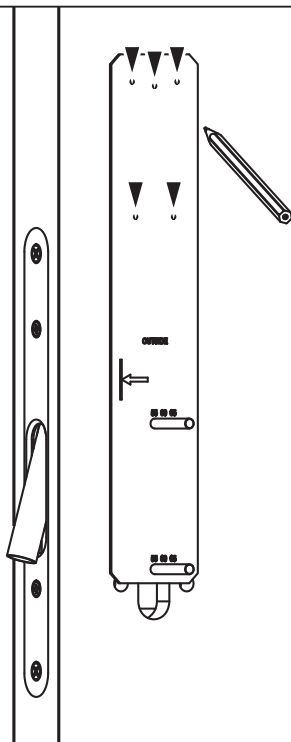
3



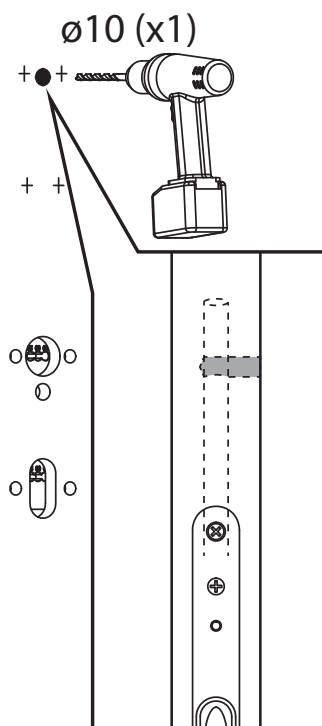
4



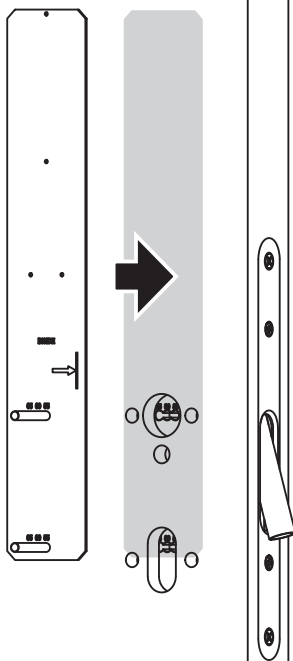
5



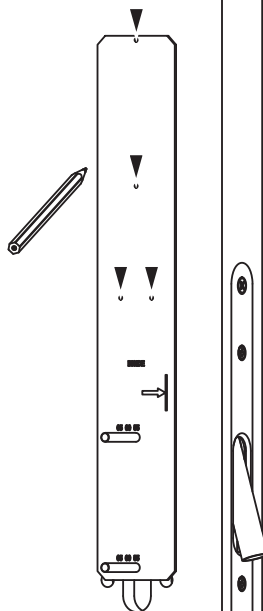
6



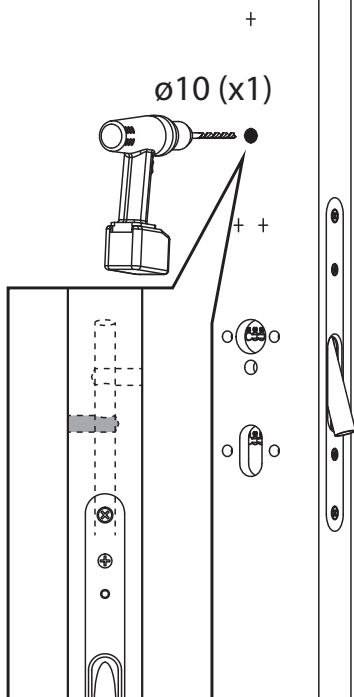
7



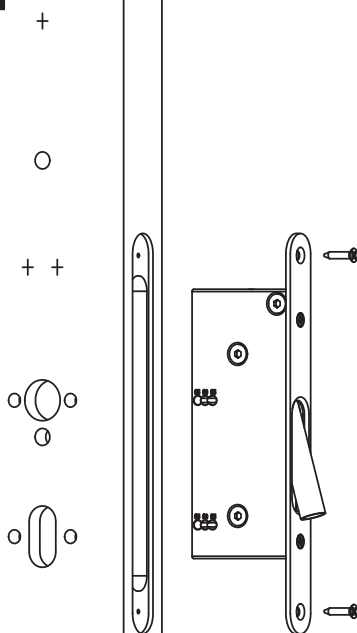
8



9

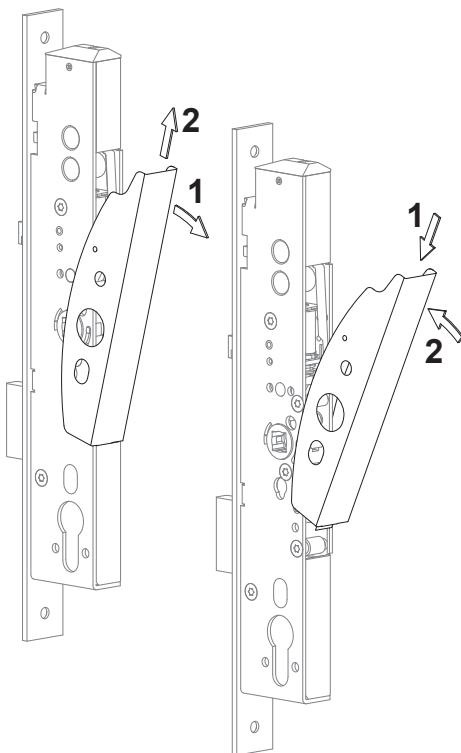


10

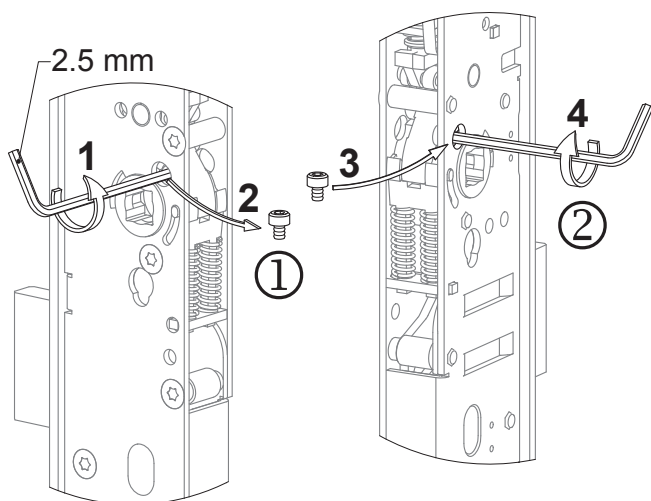


AL460

Removing the manipulation protection cover

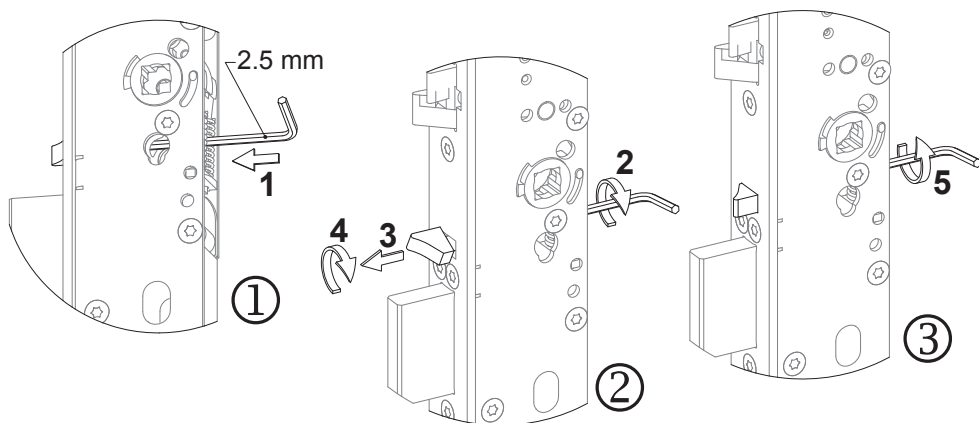


Setting the exit handle side



The handle, of the side where Allen screw is fixed, always opens the lock, while the handle of the other side is controlled electrically.

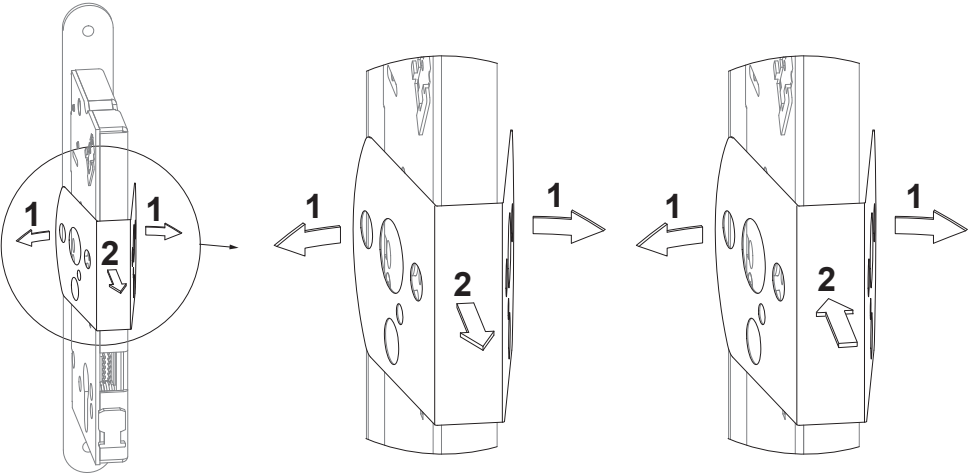
Changing the handing of the trigger bolt



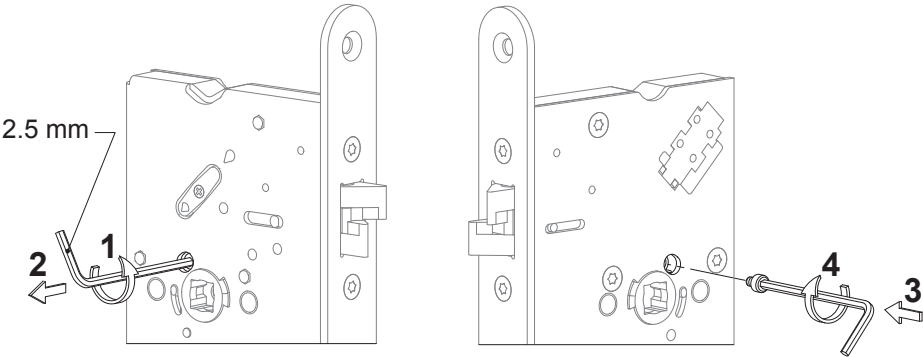
Please note not to unscrew the Allen screw.

AL560

Removing the manipulation protection cover

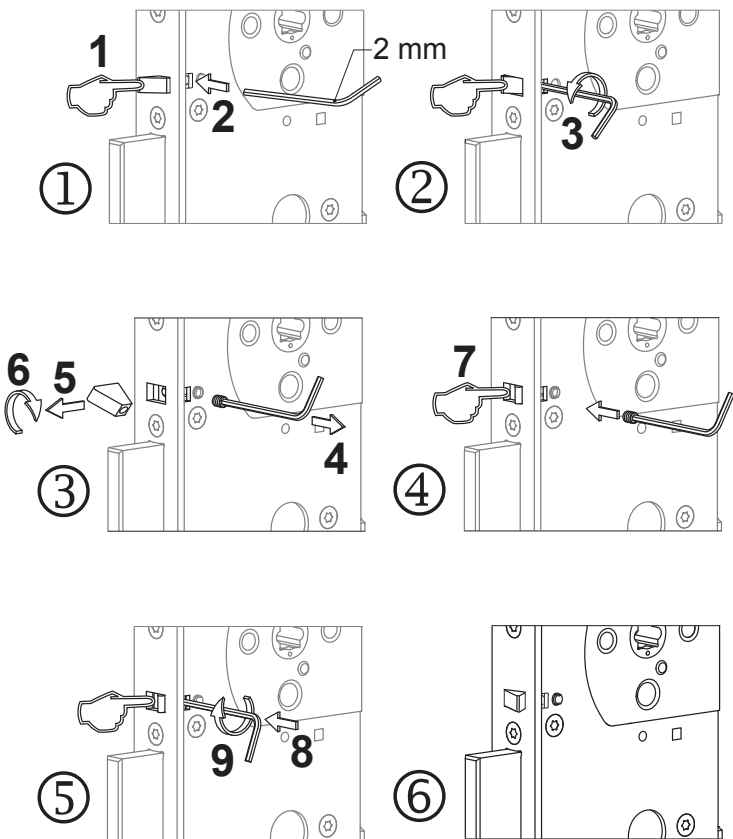


Setting the exit handle side

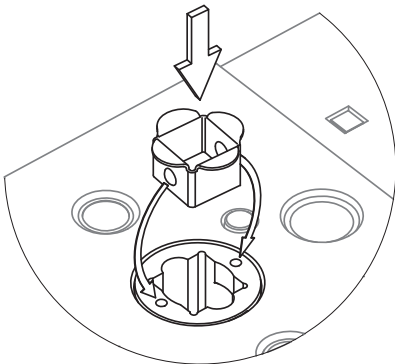


The handle, of which side the Allen screw is fixed, always opens the lock, while the handle of the other side is controlled electrically.

Changing the handing of the trigger bolt



Setting 8/9 snap spindle adapters



EU Declaration of Conformity (DoC)

No: 22001-01

We

Company name: ABLOY Oy
Address: Wahlforssinkatu 20, 80100 Joensuu, Finland
Telephone number: +358 20 599 2501

declare that the DoC is issued under our sole responsibility and belongs to the following product:

Product: Wireless Access Control Lock Systems
Type: APERIO L100 HF

Object of the declaration:

The object of the declaration described above is in conformity with the relevant Union harmonization legislation:

RED Directive 2014/53/EU
EMC Directive 2014/30/EU
RoHS Directive 2011/65/EU and 2015/863/EU

The following harmonized standards and technical specifications have been applied:

Title:	Date of standard / specification
EN 62368-1	2014
ETSI EN 300 328	V2.2.2
ETSI EN 300 330-1	V1.7.1
ETSI EN 300 330-2	V1.5.1
ETSI EN 301 489-1	V2.1.1
ETSI EN 301 489-3	V2.1.1
ETSI EN 301 489-17	V3.1.1
EN 50130-4	2011
IEC 61000-6-2	2005
IEC 61000-6-3	2006+ A1:2010
EN 63000	2018

Joensuu 2022-02-28
Signed for and on behalf of Abloy Oy



Jari Kervinen, VP Abloy Mechanical Solutions

Joensuu 2022-02-28
Signed for and on behalf of Abloy Oy



Minna Sallinen, VP Abloy Digital Access Solutions

UKCA Declaration of Conformity (DoC)

No: 22002-01

We

Company name: ABLOY Oy
Address: Wahlforssinkatu 20, 80100 Joensuu, Finland
Telephone number: +358 20 599 2501

declare that the DoC is issued under our sole responsibility and belongs to the following products:

Product: Wireless Access Control Lock Systems
Type: APERIO L100 HF

Object of the declaration:

The objects of the declaration described above is in conformity with relevant statutory requirements:

Radio Equipment Regulations 2017

Electromagnetic Compatibility Regulations 2016

The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012

The following designated standards and technical specifications have been applied:

Title:	Date of standard / specification
EN 62368-1	2014
ETSI EN 300 328	V2.2.2
ETSI EN 300 330-1	V1.7.1
ETSI EN 300 330-2	V1.5.1
ETSI EN 301 489-1	V2.1.1
ETSI EN 301 489-3	V2.1.1
ETSI EN 301 489-17	V3.1.1
EN 50130-4	2011
IEC 61000-6-2	2005
IEC 61000-6-3	2006+ A1:2010
EN 63000	2018

Joensuu 2022-02-28

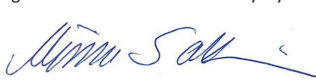
Signed for and on behalf of Abloy Oy



Jari Kervinen, VP Mechanical Solutions

Joensuu 2022-02-28

Signed for and on behalf of Abloy Oy



Minna Sallinen, VP Digital Access Solutions

CERTIFICATE OF APPROVAL
No CF 5920

This is to certify that, in accordance with
TS00 General Requirements for Certification of Fire Protection Products
the aforementioned products of

ABLOY OY

Wahforsinkatu 20
P.O.Box 108
FI-80100 JOENSUU
FINLAND
TEL: +358 20 599 2501

Have been assessed against the requirements of the Technical Schedule(s)
denoted below and are approved for use subject to the conditions
appended hereto:

CERTIFIED PRODUCT
Aperio L100 Electric Lock

TECHNICAL SCHEDULE
TS81 - The Contribution Of
Electromechanically Operated
Locks And Strikes To The
Performance Of Fire Resisting
Doorsets

Signed and sealed for and on behalf of Warringtonfire Testing and Certification Limited

Paul Dugan

Paul Dugan
Certification Manager

Issued:
Frequency:
Valid to:

18th December 2022
Every 5 years
18th December 2027



CERTIFICATE No CF 5290
ABLOY OY

Abloy Oy - Aperio L100 Electric Lock

1. This approval relates to the following specific electromechanically operated locks:

Reference	Product	Description
AL560	Single-point wireless lock	Handle controlled electric lock
BL560	Single-point wireless lock	As AL560 (alternative ABL OY reference)
L100	Reader elements	HF 921103 - Inside reader and accessory plate: • batteries and main electronics • inside handle always engaged HF 927513 & HF 928276 - Outside reader and accessory plate: • keypad/reader element, emergency battery connector and indication LED's • outside handle controlled by electric lock • Single Euro profile cylinder override

Both locks incorporate a 235 mm x 20 mm or 24 mm steel forend, a 168.5 mm x 16.5 mm
or 16.6 mm thick case with a backset size of either 55, 60, 65 mm, a steel latchbolt with a
10 mm throw, and a steel deadbolt.

2. This certification is provided to the client for their own purposes, and we cannot opine on
whether it will be accepted by Building Control authorities or any other third parties for
any purpose.

3. This approval relates to the use of the above locks/latches in contributing to the fire
resistance performance of timber or mineral-based doorsets, as defined in BS EN 1634-1
or BS 476, Part 22: 1987.

4. This approval relates to their use with the following door assemblies: -

Latched and unlatched, intumescent sealed door assemblies consisting of timber
faced and edged leaves with timber, cellulosic or mineral cores in timber frames
having a fire resistance of 60 minutes only (Code IT1).

Signed
X/002

Paul Dugan

Issued:
Valid to:

18th December 2022
18th December 2027

CERTIFICATE NO CF 5290 ABLOY OY

Abloy Oy - Aperio L100 Electric Lock

5. The locks are approved on the basis of:

- Initial type testing to EN 1634-1 and EN 14846
- An appraisal against TS81
- Certification of quality management system
- Inspection and surveillance of factory production control
- On-going audit testing in accordance with TS81 requirements

6. The electromechanically operated locks should only be used with door assemblies of proven fire resistance (as defined in BS EN 1634-1 or BS 476: part 22: 1987) with similar size locks and strikeplates, the critical aspects of the ITT doorset construction are considered to be the material of the door frame, the leaf to frame clearance gaps and the lipping material. Attention should be paid to these details, and these should not be amended from that previously fire tested. The following minimum specification will be followed:

Timber-based assemblies:

- Door frame density - 640 kg/m³ (60 minutes)
- Door leaves shall have a minimum thickness of 54 mm for 60 minute applications.
- Lipping density - 640 kg/m³

7. When fitted to insulated timber or mineral-based door assemblies the required intumescent protection will be as follows:

- The required protection for all 60 minute applications the lock case shall be wrapped with a 2 mm thickness of intenders mono ammonium phosphate to all faces and a 2 mm thickness of the same material shall be provided behind the entire length of the forend, and behind the strike plate.

Note: Failure to install the above protection will invalidate this certificate.

8. The electromechanically operated locks and their associated strikeplates and keeps may only be fitted in the manner described in this certificate and subject to any limitations on the inclusion of electromechanically operated locks specified for the door leaf. This approval is applicable only to the specified electromechanically operated locks used with door assemblies of proven fire resistance (as defined in BS EN 1634-1).

9. The doorset shall have suitable supporting test evidence for any conduit and door loop required to connect the electrical lock elements.

Signed
X002

Issued: 19th December 2022
Valid to: 18th December 2027

CERTIFICATE NO CF 5290 ABLOY OY

Abloy Oy - Aperio L100 Electric Lock

10. EN1634-1 was issued originally in 2000, with amended versions issued in 2008, 2014 and 2016. The differences between each version are mainly procedural and are not considered to have a practical impact on the performance of the samples under test. On this basis this evaluation is considered applicable to all versions of EN1634-1 issued prior to the issue of this certificate.

11. Where self-closing is a requirement, an EN1154 or EN1155 closer with a minimum power size 4 shall be fitted to ensure the self-closing mechanism is capable of overcoming the latch function and returning the door leaf to the fully closed position. A higher power size may be necessary for wider doors and door assemblies incorporating additional smoke or environmental seals.

12. The effectiveness and electrical safety of this electrically operated lock is outside the scope of this certification.

13. Electromechanically operated locks shall only be fitted using the fixings supplied by the manufacturer.

14. Lock assemblies not incorporating a latching mechanism shall only be fitted to proven unlatched door assemblies.

15. The lock/slatches should not be fitted higher than 1100 mm from the spindle to the finished floor level of the surrounding floors.

16. Cylinders shall only be fitted to doors which have previously been shown capable of accommodating the installation of cylinder locks without detriment to the doorset's performance.

17. The mortice locks may incorporate PZ Europrofile cylinders as follows:

- Single cylinder
- Double cylinder*
- Cylinder and thumbturn*
- Brass or steel cylinders

Note: The hole in the door face shall follow the shape of the cylinders and be as tight as possible, furthermore, the single cylinder's door preparation will penetrate through only half the thickness of the door leaf).

Signed
X002

Issued: 19th December 2022
Valid to: 18th December 2027

CERTIFICATE No CF 5290
ABLOY OY

Abloy Oy - Aperio L100 Electric Lock

18. The spindle hole through the door shall be a maximum of 16 mm diameter unless the doorset has test evidence that proves spindle holes of a greater size than this.
19. Recessing for locks shall result in a tight fit, allowing for any intumescent protection where required. Mortices for the latchbolt and deadbolt behind the strikeplate shall be as small as possible.
20. The locks may not be fitted to timber doorsets without perimeter intumescent fire seals to the frame rebate or door edge.
21. Timber doorsets shall be installed in accordance with BS 8214.
22. The approval relates to on-going production. Product and/or its immediate packaging is identified with the manufacturer's name, the product name or number, the CERTIFIRE name or name and mark, together with the CERTIFIRE certificate number and application where appropriate.

Signed
X/002

Issued: 19th December 2022
Valid to: 18th December 2027

CERTIFICATE No CF 5290
ABLOY OY

Abloy Oy - Aperio L100 Electric Lock

23. The following table shows the acceptable doorset types and fire resistance periods:

Class	Approved Door Type			
	IMM	MM	ITT	ITM
FD20	x	x	x	x
FD30	x	x	x	x
FD60	x	x	✓	x
FD90	x	x	x	x
FD120	x	x	x	x
FD240	x	x	x	x
E 20	x	x	x	x
EI 20	x	x	x	x
E 30	x	x	x	x
EI 30	x	x	x	x
E 60	x	x	✓	x
EI 60	x	x	✓	x
E 90	x	x	x	x
EI 90	x	x	x	x
E 120	x	x	x	x
EI 120	x	x	x	x
E 240	x	x	x	x
EI 240	x	x	x	x

Key:

- ✓ - approved
x - Not approved

Signed
X/002

Issued: 19th December 2022
Valid to: 18th December 2027



CERTIFICATE No CF 5290

ABLOY OY

Abloy Oy - Aperio L100 Electric Lock

24. Doors are classified as the following types:

Code ITT - 20 minute to 120 minute doorsets containing intumescent seals and consisting of timber faced and edged leaves with timber, cellululosic or mineral cores, hung in timber-based frames.

Code ITM - 20 minute to 120 minute doorsets containing intumescent seals and consisting of timber faced and edged leaves with timber, cellululosic or mineral cores, hung in steel frames.

Code MM - 20 to 240 minute doorsets consisting of uninsulated or insulated predominantly steel leaves, hung in steel frames without intumescent seals.

Code IMM - 20 to 240 minute doorsets consisting of uninsulated or insulated predominantly steel leaves, hung in steel frames with intumescent seals.

Classification codes

Classification to EN 14846 - all lock cases and configurations:

3	S	5	D	-	-	6	-	-
---	---	---	---	---	---	---	---	---

Scope of approval

- The locks may not be fitted to timber/mineral-based doorsets without perimeter intumescent fire seals fitted with the frame rebate or door edge.
- ITT door leaves shall have solid lignocellulosic construction in the lock area encompassing the entire lock case and reader.
- The locks are approved for use with the following specific strikeplates:

EA321	EA328
EA322	EA329
EA324	EA330
EA325	EA331
EA326	EA332
EA327	EA323

Signed
X/002

Issued: 19th December 2022
Valid to: 18th December 2027



CERTIFICATE No CF 5290

ABLOY OY

Abloy Oy - Aperio L100 Electric Lock

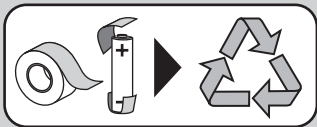
Further Information

Further information regarding the details contained in this certificate may be obtained from ABLOY Oy (Tel: +358 20 599 2501).

Further information regarding CERTIFIRE certification and other approved products can be obtained from CERTIFIRE (Tel: 01925 646777).

Signed
X/002

Issued: 19th December 2022
Valid to: 18th December 2027



This product contains materials, such as electronics, which require specialist recycling techniques. When the product is taken out of use, disassemble it and sort and recycle the different materials as per valid recycling instructions.

ASSA ABLOY is the global leader in door opening solutions, dedicated to satisfying end-user needs for security, safety and convenience.

ASSA ABLOY

Abloy Oy
P.O.Box 108
80101 Joensuu
FINLAND
Tel.: +358-20 599 2501
Fax: +358-20 599 2209

www.assaabloy.com