

Safety and process lock

Knox

Knox is a robust lock in stainless steel available in a variety of models: process locks and safety locks, and for most types of doors.

All Knox models offer an interlocking function reaching PL e/SIL3. Knox as safety lock also offers a locking/unlocking function reaching PL e/SIL3 while the locking/unlocking function of Knox as a process lock is not intended for safety functions.

Knox has a front handle and a red back handle. The handles on the lock operate as they would on a normal door, eliminating the needs of other handles for the door. But the front handle also offers a reset function, eliminating the need for a separate reset button, and the red back handle works as an emergency release/opening.



Safety and protection

Safe lock with double locking function

Both the locking function and the interlocking functions of Knox reach PL e/SIL3. Moreover, the mechanical locking is guaranteed by two separate latch bolts.

Emergency release handle on the inside

It is always possible to open the door from inside the dangerous zone, using the emergency release handle.



Continuous operation

LED diagnostics

Integrated LED diagnostics reduce down time when troubleshooting.

Strong holding force

A holding force of up to 5000 N prevents the door from being opened while the machine is running.



Reliable in extreme conditions

Robust design

Made of stainless steel and with a robust construction, Knox is ideal for use in mechanically demanding environments.

Applications and features

Knox

Process lock with safe interlocking

Knox 2X is a process lock, which means that the locking should not be used as a safety function. But it has a safe interlocking function that will stop the process if the door is opened.

Locking and interlocking

An interlocking function indicates if a door is open or closed and prevents movement when the door is open, but it does not prevent the door from being opened. A locking function makes sure the door is kept closed.

Several models

Several different models of Knox are available depending on if the door is left or right-hung, inward or outward opened, sliding door or with manual unlocking function.



Knox door part 1A-R
Right hung
Outwards opening



Knox door part 1B-R
Right hung
Inwards opening



Knox door part 1F-R
Sliding door
Slide right to open



Knox door part 1A-L
Left hung
Outwards opening



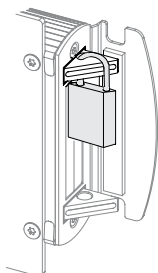
Knox door part 1B-L
Left hung
Inwards opening



Knox door part 1F-L
Sliding door
Slide left to open

Maintenance mode

There are holes in the two latch bolts for placing a padlock and preventing the door from closing/locking. This can be used e.g. by maintenance personnel to indicate the presence of a person inside the dangerous zone, and prevent unintended startup.



Safety lock with safe interlocking and safe unlocking

Knox 2A is a safety lock, which means that the unlocking function is suitable for safety functions, since it cannot be unlocked as a result of e.g. a short-circuit or a power loss. It also has a safe interlocking function that makes sure the machine won't start if the door is open.

Four different states

The front handle works as it would on a normal door with the addition that it offers a reset function when turned upwards, and the red back handle always offers an emergency release/opening. The following four combinations/states are possible.



Open



Emergency opened



Reset
Possible to open



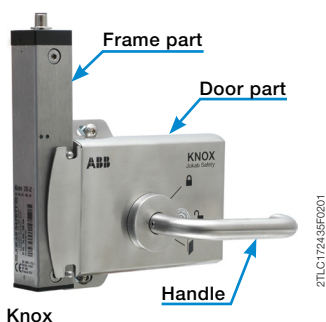
Operational mode
Reset and locked, only emergency opening possible

Manual unlocking/Auxiliary release

In case of power loss, Knox remains in its state (locked or unlocked). Models with manual unlocking function offer the possibility to mechanically unlock Knox with a hex key. For all other models, it is necessary to apply power to unlock.

Ordering information

Knox



Knox

2TLC17438F0201

Door part

Type of opening	Manual unlocking	Right/left hung door	Type	Order code
Outwards opening (away from the dangerous zone)	No	Right	Knox 1A-R v2	2TLA020105R5000
	No	Left	Knox 1A-L v2	2TLA020105R5100
	Yes	Right	Knox 1AX-R v2	2TLA020105R5800
	Yes	Left	Knox 1AX-L v2	2TLA020105R5900
Inwards opening (towards the dangerous zone)	No	Right	Knox 1B-R v2	2TLA020105R5200
	No	Left	Knox 1B-L v2	2TLA020105R5300
	Yes	Right	Knox 1BX-R v2	2TLA020105R6200
	Yes	Left	Knox 1BX-L v2	2TLA020105R6300
Sliding door	No	Slide right to open	Knox 1F-R v2	2TLA020105R6000
		Slide left to open	Knox 1F-L v2	2TLA020105R6100
	Yes	Slide right to open	Knox 1FX-R v2	2TLA020105R6400
		Slide left to open	Knox 1FX-L v2	2TLA020105R6500



Knox frame part

2TLC172850F0201

Frame part

Description	Connector	Type	Order code
Knox frame part for safety lock	M12-8 pole	Knox 2A v2	2TLA020105R2200
Knox frame part for process lock	M12-5 pole	Knox 2X v2	2TLA020105R2300



Knox PC plate

2TLC172031V0201

Accessories

Description	Type	Order code
PC plate for Knox on mesh door to prevent emergency opening from the outside through the mesh.	PC plate for Knox on mesh door	2TLA020106R0000
Cover plate to fit on the door part instead of the emergency release handle.	Escutcheon plate for Knox (without emergency release handle)	2TLA020106R0600
Connection block for serial connection of two Magne, Dalton or Knox (M12-8)	Tina 12A	2TLA020054R1800

Connectors

Description	Type	Order code
M12-5 pole female, straight	M12-C01	2TLA020055R1000
M12-8 pole female, straight	M12-C03	2TLA020055R1600

Cable with 5 conductors

Description	Type	Order code
10m cable with 5x0.34 shielded conductors	C5 10m	2TLA020057R0001
50m cable with 5x0.34 shielded conductors	C5 50m	2TLA020057R0005
100m cable with 5x0.34 shielded conductors	C5 100m	2TLA020057R0010
200m cable with 5x0.34 shielded conductors	C5 200m	2TLA020057R0020
500m cable with 5x0.34 shielded conductors	C5 500m	2TLA020057R0050
6 m cable with straight M12-5 female connector	M12-C61	2TLA020056R0000
10 m cable 5 with straight M12-5 female connector	M12-C101	2TLA020056R1000
20 m cable 5 with straight M12-5 female connector	M12-C201	2TLA020056R1400
6 m cable 5 with angled M12-5 female connector	M12-C61 V	2TLA020056R0100
10 m cable 5 with angled M12-5 female connector	M12-C101 V	2TLA020056R1100

Cable with 8 conductors

Description	Type	Order code
6 m cable with straight M12-8 female connector	M12-C63	2TLA020056R3000
10 m cable with straight M12-8 female connector	M12-C103	2TLA020056R4000
20 m cable with straight M12-8 female connector	M12-C203	2TLA020056R4100

Spare parts

Description	Type	Order code
Knox shear pin for handle	Knox shear pin	2TLA020106R0800
Extra seal labels for Knox with manual unlock. 10 pcs per package.	Knox man. unlock seal-label	2TLA020106R0800
Extra front silver handle	Knox silver handle	2TLA020106R0900
Extra back red handle	Knox red handle	2TLA020106R1000



Knox escutcheon plate

2TLC172889F0201



Tina 12A


2TLC172483F0201



Knox shear pin

2TLC172889F0201

Technical data

Approvals	
Conformity	CE 2006/42/EC, 2004/108/EC EN ISO 12100:2010, EN ISO 13849-1:2008, EN 1088+A2:2008, EN 60204-1:2006+A1:2009, EN 61000-6-2:2005, EN 61000-6-4:2007, EN 61508:2010, EN 62061:2005+A1:2013
Functional safety data	
EN 61508:2010	Interlocking function: SIL3, PFH _D = 4.50×10 ⁻⁹
EN 62061:2005+A1:2013	Interlocking function: SILCL3, PFH _D = 4.50×10 ⁻⁹
EN ISO 13849-1:2008	Interlocking function: PL e, Cat. 4, PFH _D = 4.50×10 ⁻⁹ Locking function: PL e, Cat. 4
Electrical data	
Operating voltage	+24 VDC +/- 10%
Holding force	
Unlocked	5000 N (10 000 N ultimate breaking strength)
Locked	5000 N (10 000 N ultimate breaking strength)
Mechanical data	
Connection	Knox 2A: M12-8 pole male connector Knox 2X: M12-5 pole male connector
Lock function	Knox 2A: unlocked and locked with voltage Knox 2X: locked with voltage, unlocked when no voltage
Operating temperature	+5°C...+55°C
Protection class	IP65

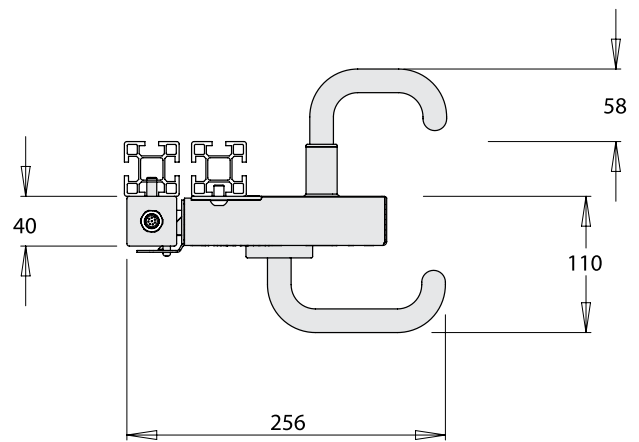
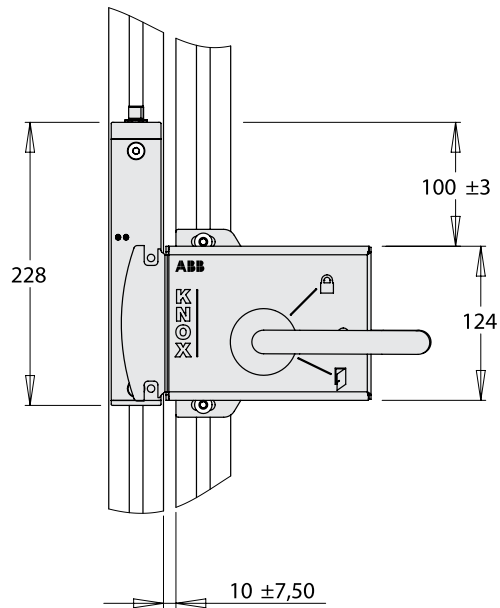
More information

For more information, e.g. the complete technical information, see product manual [2TLC172250M0201](#)

Dimension drawings

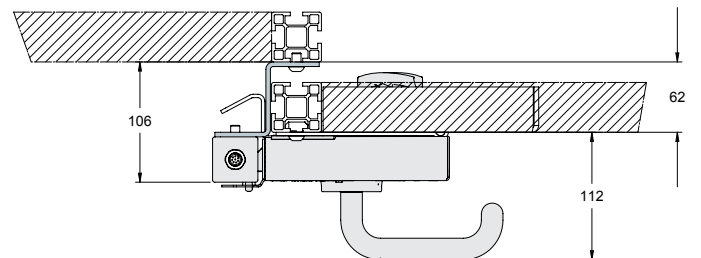
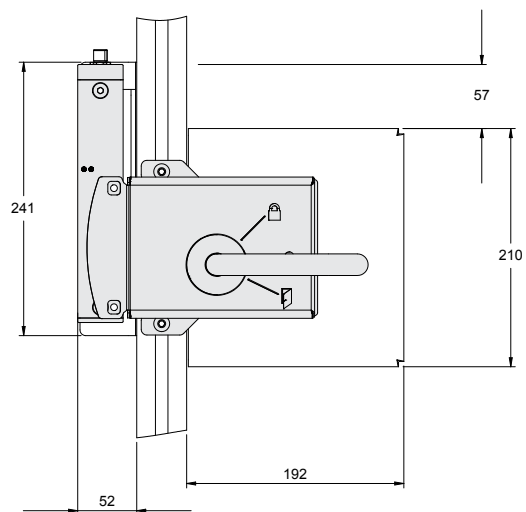
Knox

Knox 1A/B



All dimensions in mm

Knox 1F



All dimensions in mm

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