

Process lock Dalton

Use:

- Door and hatches

Features:

- Small and robust
- Integrated with Eden
- High enclosure classification IP67
- Withstands harsh environments
- Low current consumption
- Status information with LED on the lock housing and in the cable connection.



Dalton – the intelligent process lock

Dalton is a locking unit that is intended for use in preventing unnecessary process stoppages, i.e. it is not a safety lock. It can be used either as a free-standing lock or integrated with Eden as a safety sensor. In the unlocked state the door is held closed by a ball catch and in locked state the balls are mechanically blocked so the lock tongue can not be pulled out. If necessary, the holding force of the ball catch can be adjusted. The device only allows to lock when the ball latch is centred around the lock tongue, and when Eva is with Adam (depending on version). When an input is supplied with voltage, the ball catch is locked.

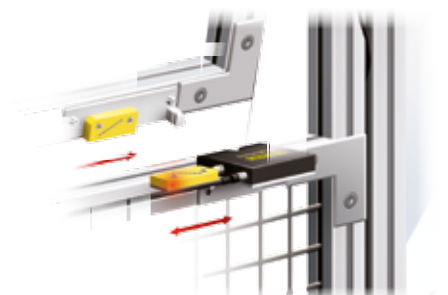
Dalton is easily connected with an M12 connector. The Tina junction block can be used for distribution of both the safety and locking functions. The Dalton status is indicated by LEDs and can also be read by a PLC via the information output.

Dalton has a modular structure

The Dalton process lock has a modular structure and can be combined in different ways depending on position, installation and function. You choose the lock housing, lock tongue and fixing plate yourself to create a complete Dalton.

Installation

Dalton offers many different installation possibilities as the lock tongue may enter the ball catch from three directions. In order to ensure that Dalton works without any problems, the ball catch must be resting, i.e. the balls not pressed in by the lock tongue when the door is in closed position. Dalton's brackets are therefore made to ensure easy adjustment of the lock tongue and ball latch positions.



Dalton is easy to install, adjust and dismantle in the Quick-Guard fence system's T-slots.

Dalton

Modular structure

1. Choose Dalton lock housing according to your preferences:

- Dalton M11/M31 If you only need to be able to lock your door/hatch (8-pin/5-pin M12)
- Dalton M12 If you want to lock your door/hatch and also have the interlocking switch Eden installed with one cable, common for both Dalton and Eden.
- Dalton L00 If you only need to use Dalton to keep the door fixed and closed



Dalton M11

with 8-pin male contact

Dalton M12

with 8-pin male contact, 5 pin female contact for Adam

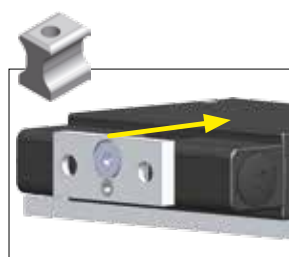
Dalton M31

with 5-pin male contact

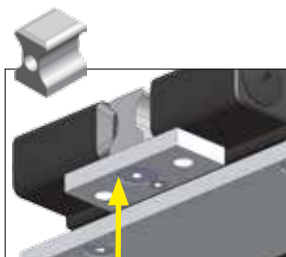
Dalton L00

as ball latch, no electrical functions.

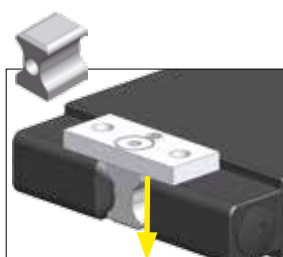
2. Choose a lock tongue depending on how the door/hatch is closed.



Lock from front - Tongue A



Lock from lower side - Tongue B



Lock from upper side - Tongue B

Lock tongue A

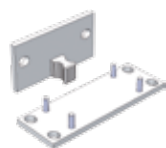
Selected when the door closes to the Dalton front

Lock tongue B

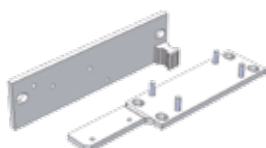
Selected when the door closes to Dalton's upper or lower side

For Dalton L00 both lock tongues can be used regardless of the operating direction

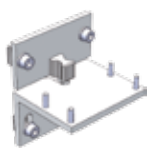
3. Choose a fixing kit that fits your installation.



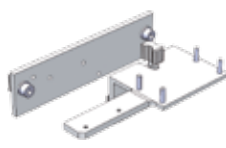
Fixing kit 1
for Dalton and lock tongue



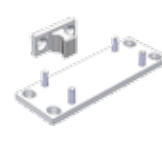
Fixing kit 2
for Dalton and Adam and also for lock tongue and Eva



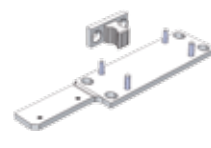
Fixing kit 3
for Dalton adapted to ABB Jokab Safety fencing system



Fixing kit 4
for Dalton and Eden adapted to ABB Jokab Safety fencing system



Fixing kit 5
for Dalton, small bracket for lock tongue



Fixing kit 6
for Dalton and Eden, small bracket for lock tongue

Read the manual for further information about correct installation of Dalton

Accessories - Dalton

Tina 12A junction block

Tina 12A can be used to connect two Daltons with Edens with one cable to the apparatus enclosure. The summed information that indicates the states of both the Dalton and Eden also goes to the apparatus enclosure.







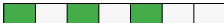






Transfer cables

A transfer cable can be used when the Dalton's 8-pole connector is to be connected to the 5-pole M12 connector of Tina 4A or Tina 8A. Note that the info-signals from Dalton and Adam can not be used.

Technical data – Dalton

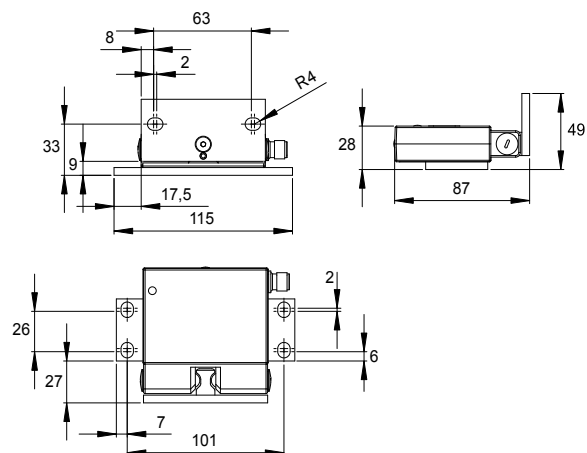
Article number	
Dalton L00	2TLA020038R3000
Dalton M11	2TLA020038R3100
Dalton M12	2TLA020038R3200
Dalton M31	2TLA020038R3300
Lock tongue A	2TLA020039R0800
Lock tongue B	2TLA020039R1000
Fixing kit 1	2TLA020039R0000
Fixing kit 2	2TLA020039R0100
Fixing kit 3	2TLA020039R0200
Fixing kit 4	2TLA020039R0300
Fixing kit 5	2TLA020039R0400
Fixing kit 6	2TLA020039R0500
Accessories	
DA 1	2TLA020053R0000
M12-CT0214	2TLA020060R0100
Tina 12A	2TLA020054R1800
Level of safety	
For interlocking switch Eden. Not valid for locking function.	
IEC/EN 61508-1...7	SIL3
EN 62061	SIL3
EN ISO 13849-1	PL e/Cat. 4
PFH_D	
For interlocking switch Eden. Not valid for locking function.	
	4.50×10 ⁻⁹
Locking function	
M - Locked when energised	
L - Only ball latch	
Colour	
Black	
Operating voltage	
24 VDC +25/-20%	
Current consumption	
Unlocked	40 mA
Locked	130 mA
Lock input	5 mA
Information output	Max. 10 mA
Eden	
See the data for Adam M12	
Operating temp. range	
-10°C to +55°C	
Enclosure classification	
IP67	
Holding force	
Unlocked	25-100 N
Locked	2000 N
Material	
Ball catch, securing plate	Anodised aluminium
Enclosure	Anodised aluminium
Lock tongue, securing plate	Stainless steel
Chemical resistance	
Stainless steel	Good resistance against most acids except hydrochloric acid and sulphuric acid.
Anodised aluminium	Very good resistance against corrosion, good resistance to most acids.

Connections		Connector to connect Dalton (varies depending on type)			
		8-pole male plug, M12			
		5-pole male plug, M12			
		Outlet for externally connected Adam female plug M12, 5-pole			
Colour markings (pins)		8-pole	Colour	5-pole	Colour
Function		1	(White)		
Dynamic input signal, Adam +24 VDC		2	(Brown)	1	(Brown)
Lock signal		3	(Green)	4	(Black)
Not used		4	(Yellow)	2	(White)
Information Adam		5	(Grey)		
Dynamic output signal, Adam 0 VDC		6	(Pink)		
Information Dalton		7	(Blue)	3	(Blue)
		8	(Red)	5	(Grey)
Warning Dalton locks mechanically. If the lock is forced, the Dalton can be permanently damaged.					
Conformity (lock only)		EN 61000-6-4:2007, EN 61000-6-2:2005			

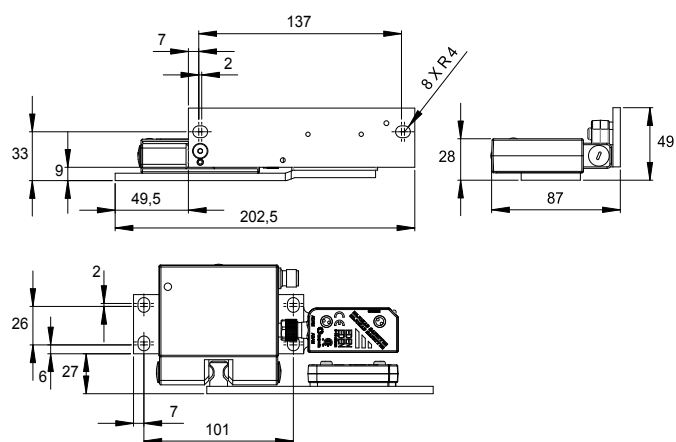
LED indication – Dalton	
LED indication	Information function
 =Red  =Green  =Paus	
	1 Locked
	0 Closed but unlocked
	0 Open
Alarm:	
	1Hz Lock has not entered the unlocked state
	1Hz Eden or ball catch not in position = open
	1Hz Open, locking not permitted
	1Hz Lock has not entered the locked state
	1Hz Undervoltage - locking not permitted
	1Hz Overvoltage
	1Hz Overtemperature (> 80°C)

Dalton

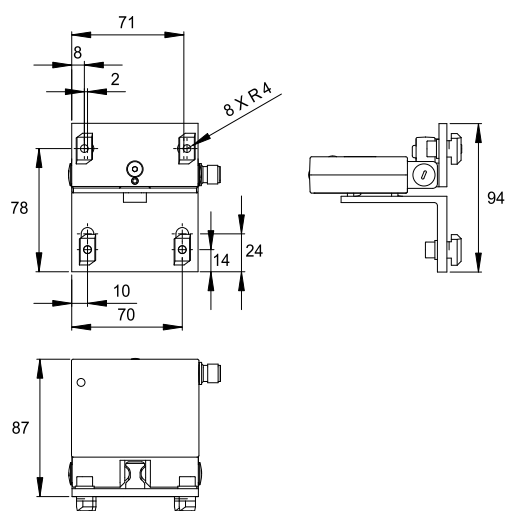
Dimensions



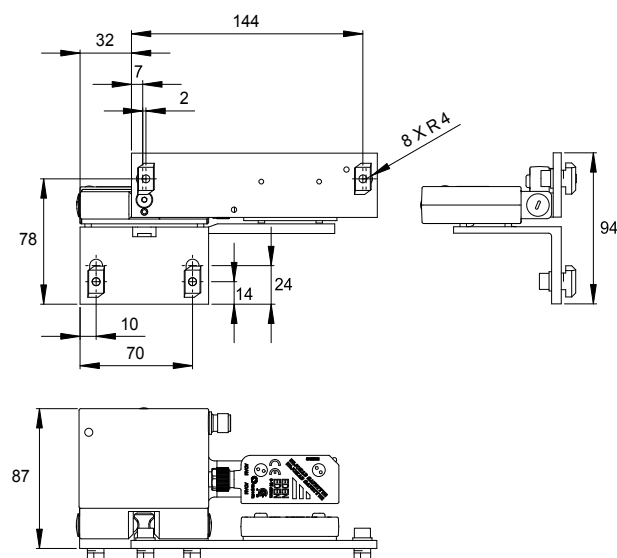
Bracket 1 with Dalton



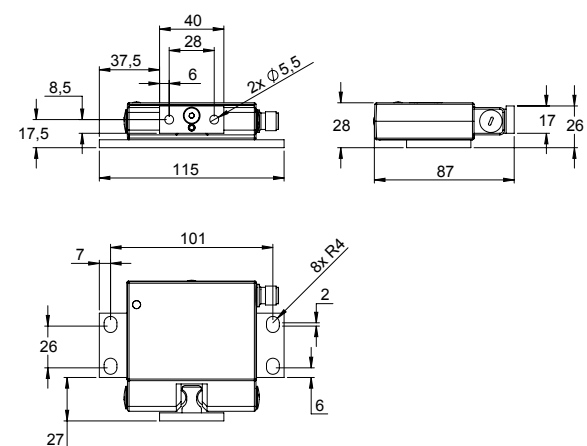
Bracket 2 with Dalton and Eden



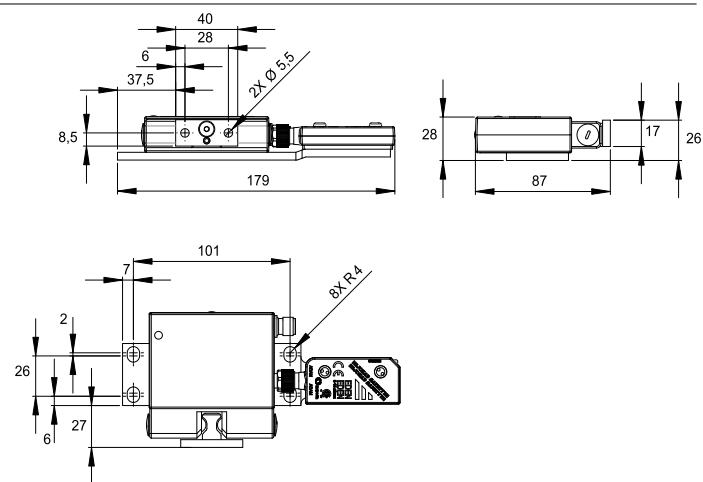
Bracket 3 with Dalton



Bracket 4 with Dalton and Eden



Bracket 5 with Dalton

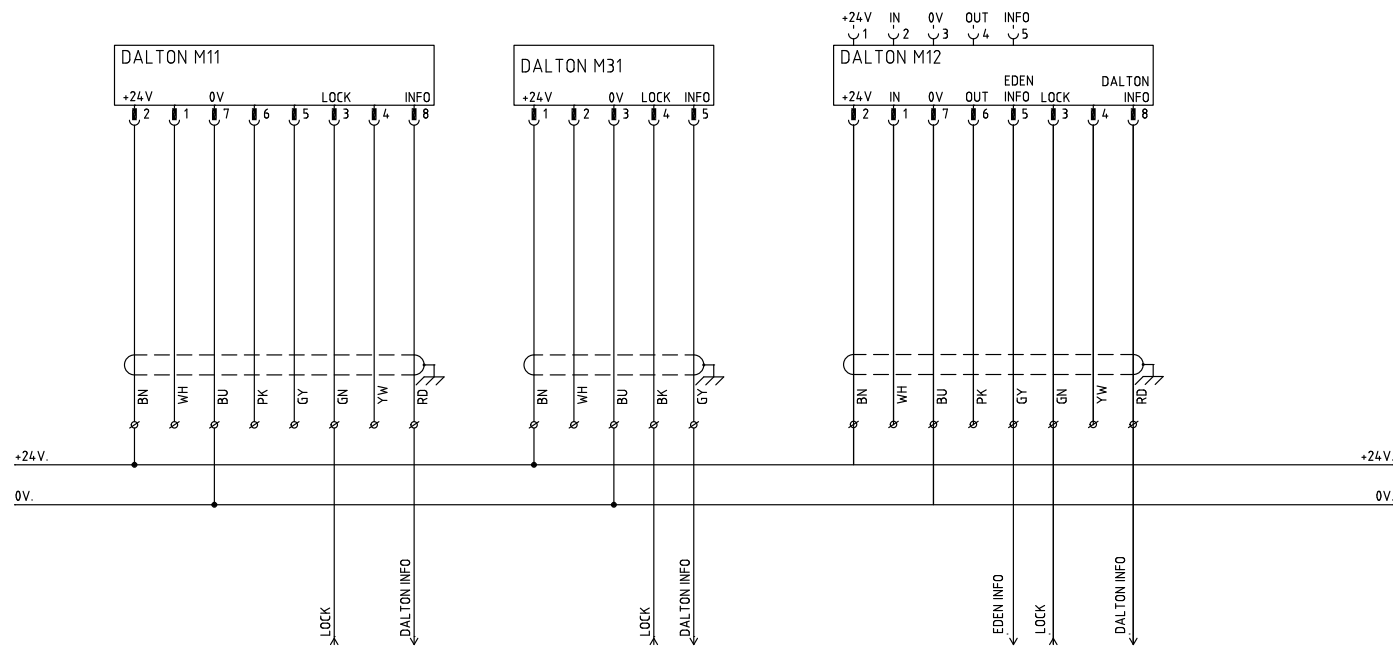


Bracket 6 with Dalton and Eden

Dalton

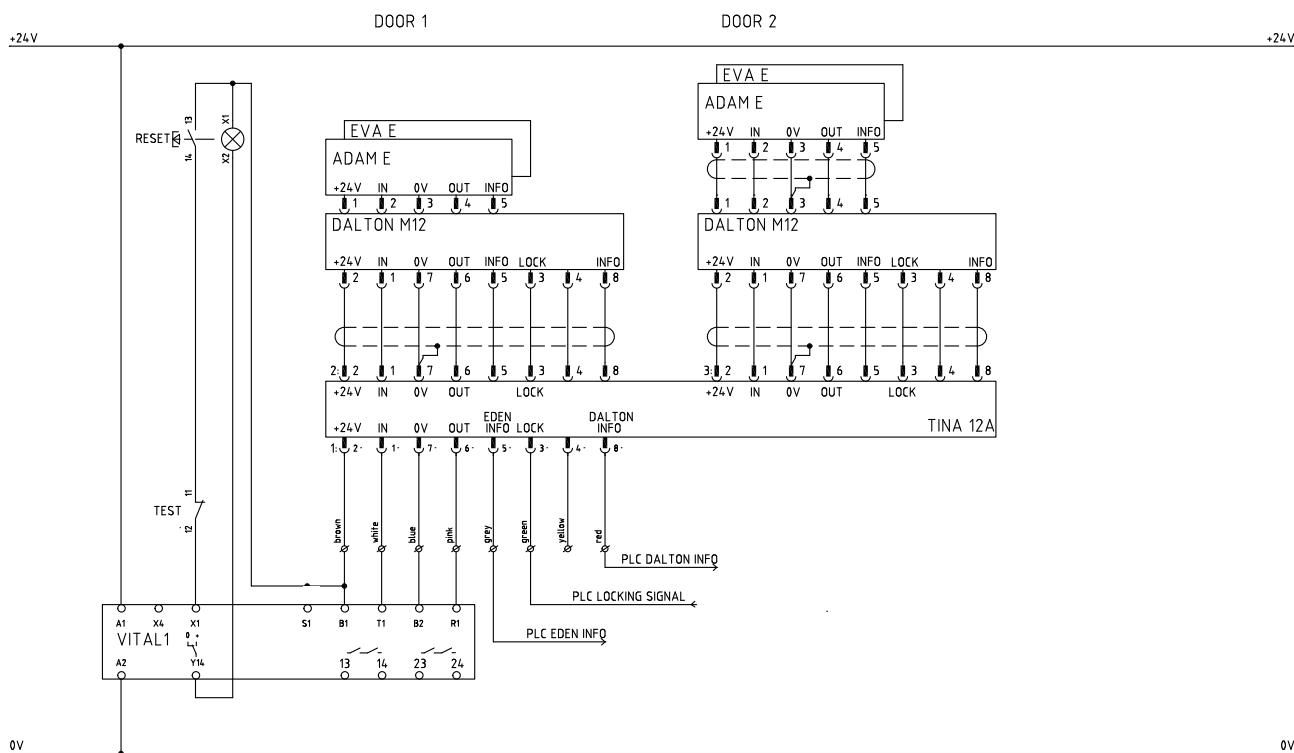
Connection examples

Connection example – Dalton M11, M31 and M12



9

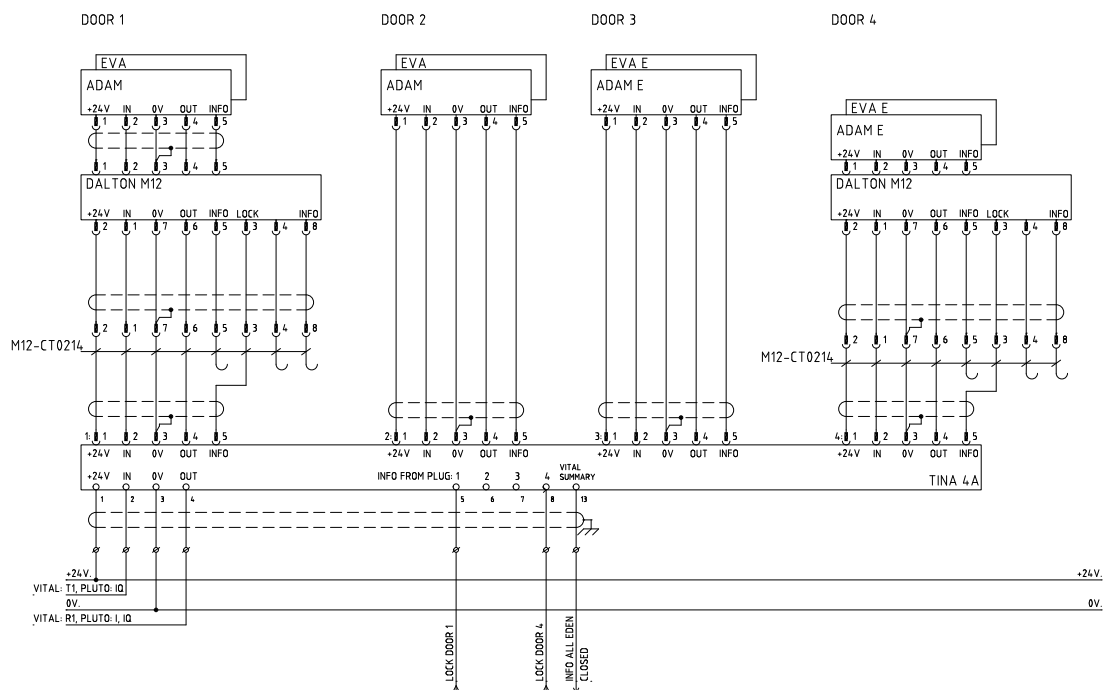
Connection example – Dalton M12 and Vital



Dalton

Connection examples

Connection example – Dalton M12 and Eden through Tina 4A



9

Connection example – Dalton M12 and Eden through Urax (AS-i)

