

ALCATRAZ[®]

I N T E R L O C K S

Vendor Document Nr.: ALC-PDS-ML1-FR04


Product Data Sheet

Integral Interlocks

All <> Multiple-Turn Variations: **Size 1**




1	12-04-2024	CY	DK	HB	Final
Rev	Date	Originator	Reviewed	Approved	Description
		Alcatraz	Alcatraz	Alcatraz	

Product Data Sheet Multi-Turn Lock Size 1		
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1. PRODUCT STANDARD FEATURES

Features

- ✓ Integral parallel splined drive-tube
- ✓ Mechanically programmed key codes
- ✓ Encapsulated lock portion preventing ingress & contamination
- ✓ Bespoke nameplate / tagging
- ✓ Compact design
- ✓ Tamperproof mounted solutions
- ✓ Interlocked open / closed position
- ✓ Alcatraz 5 step safety integrity design

Operational Keys

- ✓ Mechanically programmed keys
- ✓ Unique coding assigned
- ✓ Bespoke nameplate / tagging
- ✓ ASTM E208 25 metre drop test approved
- ✓ Encapsulated key housing

Installation

- ✓ Cold work permit for installation
- ✓ No modification to host equipment
- ✓ Bespoke mounting bracket to suit host application
- ✓ Bespoke drive bush adaptor to suit host application
- ✓ Tamperproof fixings used throughout

A **Multi-Turn Size 1** interlock can be mounted onto all host valves with a drive bush edge to edge dimension less than 55mm

Above these sizes a bespoke solution would be designed by Alcatraz to suit applications needs.

Key Options


- ✓ Alcatraz can supply the following key options.
- ✓ **Replacement** key kit
- ✓ **Spare** key
- ✓ **Group** key
- ✓ **Master** key
- ✓ **Commissioning** key
- ✓ All the above are suitable for our complete product range.

A **Group** key would be used within a dedicated zone, system, or process.

A **Master** Key allows an end client to operator regardless to product type, process logic situation all the Alcatraz products.

A **Commissioning** Key is used during the construction / commissioning phase of a project.

Ensuring the programmed sequence logic does not interfere with steam blowing, flushing or leak testing activities.

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2. DATA SHEET DML1 (DOUBLE KEYED)

Dimensions DML1

Dimension		
Length	(mm)	164
Width	(mm)	125
Height	(mm)	114
Mass of Interlock (kg)*		3,74
Hand wheel sizes	Various Options	
Max. valve spindle Diameter (mm)		25,04

* Not including bracket, adaptor & hand wheel

Certificate & Standards


Certificate & Standards	
Product Material	2.1
Cert.*	
Fire Test	ANSI / API 607
ISO	ISO 9001 2015
Electro Polishing	ASTM B912-02
	ISBN 978-2-87997-310-4
Atex	EU 2014/34/EU Atex
	Declaration of Conformity

* 3.1 material certificate available upon request

Material Grades

Material Grades	
Interlock housing	SS 316
Internal Components	SS 316
Bracket	SS 316
Adaptor	SS 316
Hand wheel	Composed Carbon Steel
	Coating Interpon D1036
Hand wheel *	SS 316
Operational Key	SS 316
Tag plates	RESOPAL®

* AISI 316 hand wheels available upon request

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3. EXPLODED VIEW DML1 (DOUBLE KEYED)

Hand Wheel



Interlock & Lock Portions



Host valve nut

Bespoke Adaptor

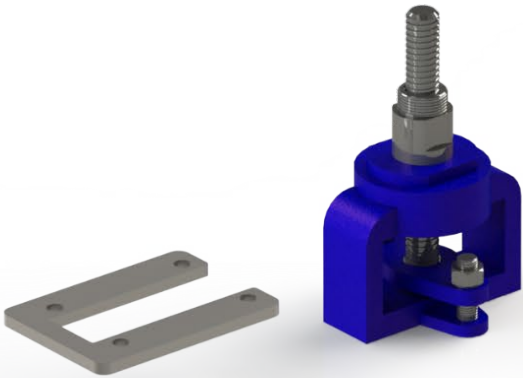


Bespoke Bracket Part 1



Host Valve

Bespoke Bracket Part 2



Product Data Sheet

Multi-Turn Lock

Size 1

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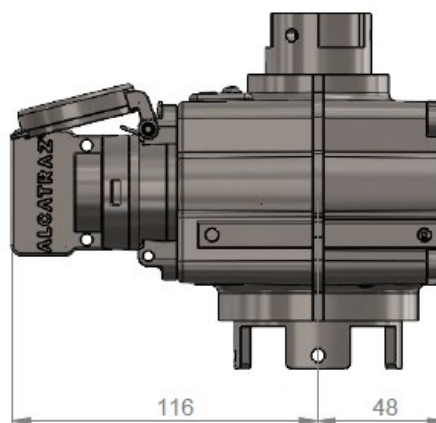
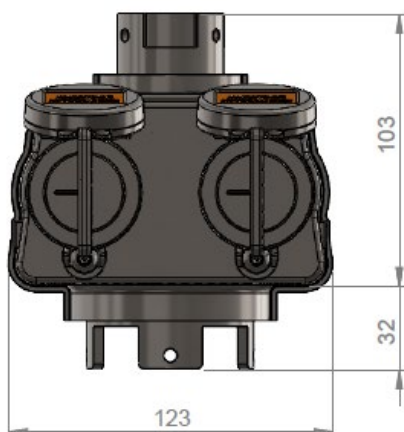
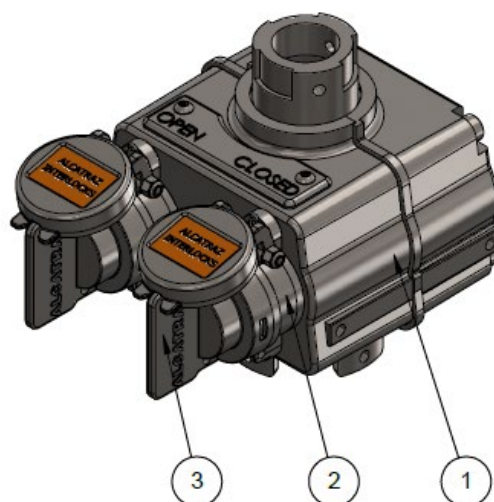
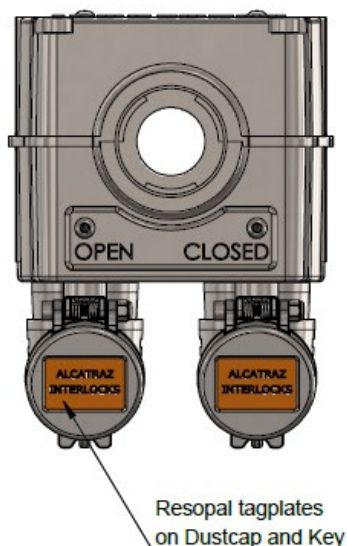
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4. GAD DML1 (DOUBLE KEYED)



Bill of Materials

Pos	Description	Material
1	Multi-turn main unit	SS 316 – Electro Polished
2	Lock portion including dust cap	SS 316 – Electro Polished
3	Key	SS 316 – Electro Polished
*	Hand wheel	Composed Carbon Steel Coating Interpon D1036
*	Hand wheel diameters Ø D and height H refer to document ALC-MC-HW-CCS-ML1	

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5. DATA SHEET SML1 (SINGLE KEY OPEN)

Dimensions SML OPEN

Dimension		
Length	(mm)	164
Width	(mm)	125
Height	(mm)	114
Mass of Interlock (kg)*		3,35
Hand wheel sizes	Various Options	
Max. valve spindle Diameter (mm)		25,04

* Not including bracket, adaptor & hand wheel

Certificate & Standards


Certificate & Standards	
Product Material	2.1
Cert.*	
Fire Test	ANSI / API 607
ISO	ISO 9001 2015
Electro Polishing	ASTM B912-02
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Material Grades

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Bracket	SS 316
Adaptor	SS 316
Hand wheel	Composed Carbon Steel
	Coating Interpon D1036
Hand wheel *	SS 316
Operational Key	SS 316
Tag plates	RESOPAL®

* AISI 316 hand wheels available upon request

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6. EXPLODED VIEW SML1 (SINGLE LOCKED OPEN)

Hand Wheel



Interlock & Lock Portions



Host valve nut



Bespoke Adaptor



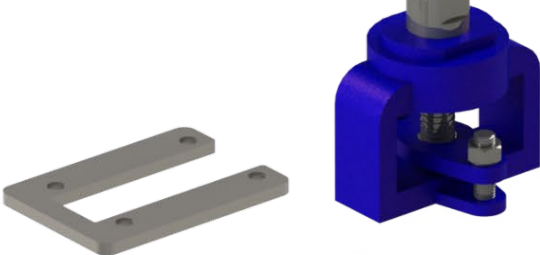
Bespoke Bracket Part 1




Host Valve

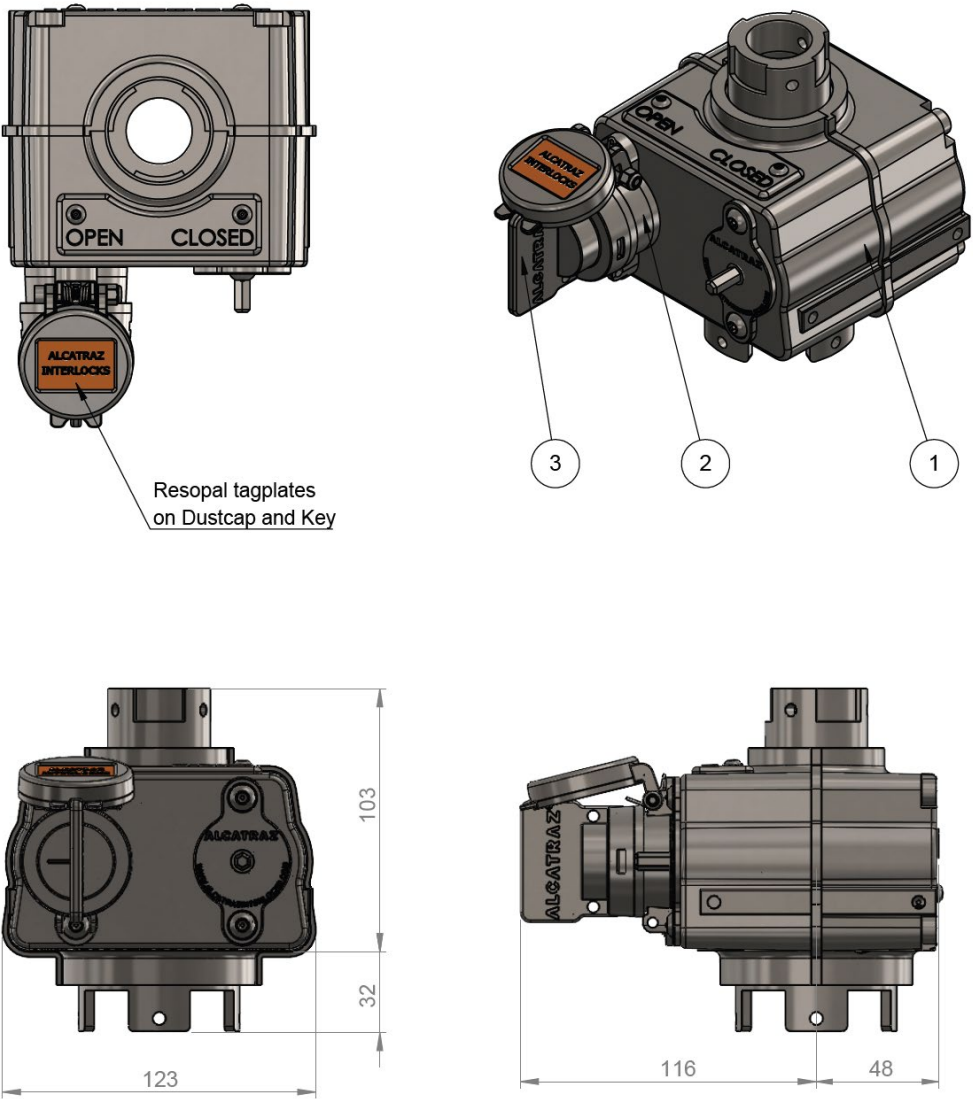


Bespoke Bracket Part 2




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7.
 GAD SML1 (SINGLE KEY OPEN)



Bill of Materials		
Pos	Description	Material
1	Multi-turn main unit	SS 316 – Electro Polished
2	Lock portion including dust cap	SS 316 – Electro Polished
3	Key	SS 316 – Electro Polished
*	Hand wheel	Composed Carbon Steel Coating Interpon D1036
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8. DATA SHEET SML1 (SINGLE KEY CLOSED)

Dimensions SML Closed

Certificate & Standards

Dimension			Certificate & Standards	
Length	(mm)	164	Product Material	2.1
Width	(mm)	125	Cert.*	
Height	(mm)	114	Fire Test	ANSI / API 607
Mass of Interlock (kg)*		3,35	ISO	ISO 9001 2015
Hand wheel sizes	Various Options		Electro Polishing	ASTM B912-02
Max. valve spindle Diameter (mm)		25,04	ISBN 978-2-87997-310-4	
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* Not including bracket, adaptor & hand wheel

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Material Grades

Material Grades	
Interlock housing	SS 316
Internal Components	SS 316
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Hand wheel	Composed Carbon Steel
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Hand wheel *	SS 316
Operational Key	SS 316
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9. **EXPLODED VIEW SML1 (SINGLE LOCKED CLOSED)**

Hand Wheel



Interlock & Lock Portions



Host valve nut

Bespoke Adaptor

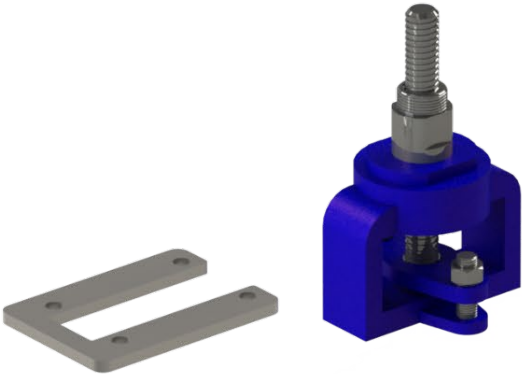


Bespoke Bracket Part 1



Host Valve

Bespoke Bracket Part 2



Product Data Sheet

Multi-Turn Lock

Size 1

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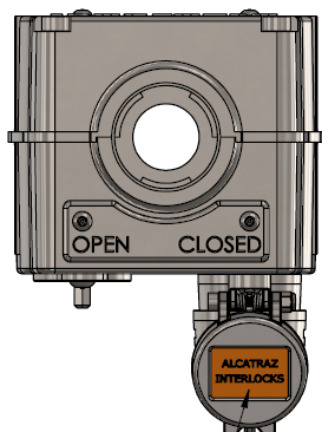
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Rev.: 1

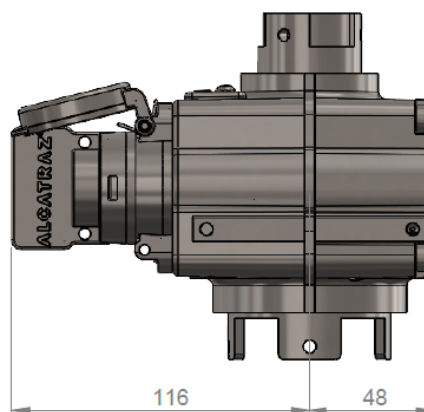
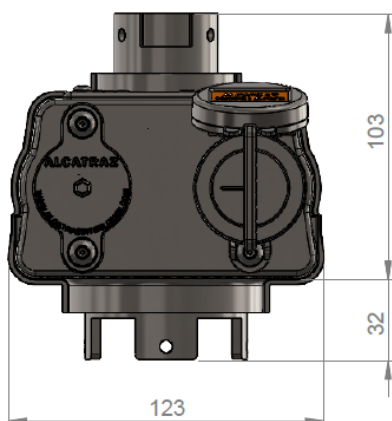
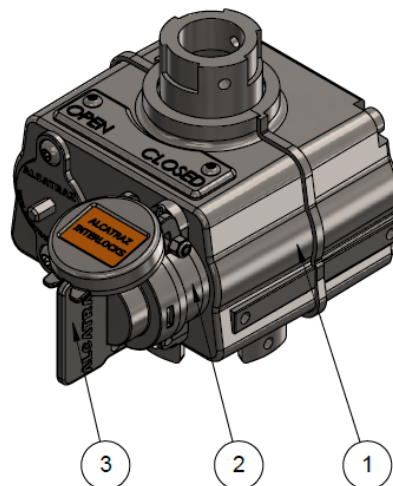
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10. GAD SML1 (SINGLE KEY CLOSED)




Resopal tagplates
on Dustcap and Key



Bill of Materials

Pos	Description	Material
1	Multi-turn main unit	SS 316 – Electro Polished
2	Lock portion including dust cap	SS 316 – Electro Polished
3	Key	SS 316 – Electro Polished
*	Hand wheel	Composed Carbon Steel Coating Interpon D1036
*	Hand wheel diameters Ø D and height H refer to document ALC-MC-HW-CCS-ML1	

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11. SUMMARY OF SAFETY INTEGRITY STEPS

Alcatraz Integrity Step	Action	Purpose
Step 1	Insert operational key into key lock portion (LP) in a linear action	First stage linear action, to confirm the Mechanically Programmed Key Codes
Step 2	Rotation of engaged operational key within lock portion (LP)	Second stage action, to engage or disengage the internal interlock input driveshaft & lock finger
Step 3	Operational key encapsulates Lock Portion (LP) housing	Ensuring zero ingress or contamination into the Lock Portion coding (LP)
Step 4	Lock Portion (LP) separates & seals lock body from any external ingress and product tampering	<p>An extra level of defence & separation between lock portion and interlock housing internal workings.</p> <p>No access / zero possibility to override internal lock workings or have exposure to ingress / contamination</p>
Step 5	Parallel Splined Key (PSK) connection between Interlock drive-tube & its mated assigned hand wheel	<p>Robust mechanical connection whereby the rotational torques & forces are evenly shared across the drive tube connection and mated hand wheel.</p> <p>Prevents loose handwheels and HSE issue. Plus, there is No operational forces solely focused on the hand wheel fixation screws as per all other brands.</p>
Alcatraz Mechanical Coded Key Interlock devices are in accordance to EN ISO 14119:2013 Type-2 B.2		