AUSTRALIAN RAIL TRACK CORPORATION

INFRASTRUCTURE, STRATEGY AND PERFORMANCE

Engineering Standards and Documents

The following recommendation, together with attached supporting documentation, was considered by ARTC Risk & Safety Committee Meeting held 10th April 2007.

Documents:

Ref No:	**02-0703-060** - System & Equipment Approval
Subject:	Fortress Lever lock & Release Switch
Dated:	27th March 2007

Prepared By: Trevor Moore, Signalling Standards Engineer

Items Considered for Approval:

Manufacturer:	Hunter Engineering and Union Switch & Signal
Product:	Point Lever Lock and Releasing Switch system using 'Fortress' keys.
Item Identification:	Fortress components as per attached data sheets CL A1 and CL B2.

The items in the form presented at the review date were approved for System & Equipment Approval to be used on all ARTC jurisdictions in accordance with the manufacturers published performance criteria and subject to the following.

Relevant ARTC Specifications:

Ref. No.	Title	Status	Date
SPS 02	Environmental Conditions	Issue 1 Revision 2	May '05
SPS 16	Point Mechanisms	Issue 1 Revision 3	May '05
SDS 14	Points	Issue 1 Revision 2	March '05

Specific Conditions of Approval:

i.	For use in accordance with ARTC specifications SDS 14 and standard typical circuits only.
ii.	Only components from attached data sheets CL A1 and CL B2 may be utilised.
iii.	Key codings are only to be allocated in accordance with the procedure and the Fortress Lever Lock form.

Certificate Issued to:

Ansaldo – STS
11 Viola Place
Eagle Farm
Queensland

AND

Hunter Engineering
29 Kings Road
New Lambton
N.S.W. 2305

A general condition of approval is that the supplier remains accredited to ISO 9001 specifically for these products and ARTC is advised on a 12 monthly basis that accreditation is current. ARTC reserves the right to conduct its own audit of the manufacture and supply of these components to AS 19011:2003.

Any subsequent change to the design, materials or manufacturing process is not covered by this approval.

Approved for use in the ARTC.

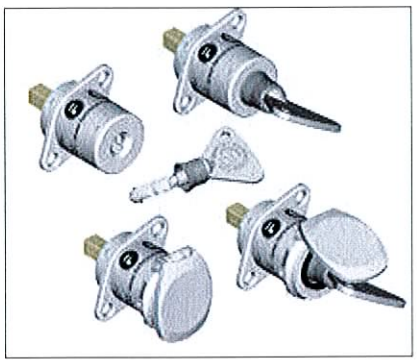
Manager Standards

APPROVAL No: 08-08-10-062

Approval Date: **10th April 2007**

Data Sheet

Ref. CL A1



CL
Basic Interlocks & Keys

Description

A robust radial disc tumbler lock, the building block of the Fortress range, offering in excess of 200,000 non-masterable combinations. A spring-loaded stainless steel dustcover is available as an optional extra. Combinations are determined by customer defined coding details supplied at the time of ordering, giving full control over the integrity of the interlock system. A limited number of masterable locks are available to suit certain applications.

Application

As part of an interlock system the basic lock directly or indirectly isolates energy sources.

Operation

The key is inserted and turned, turning the spindle projecting from the basic lock. (With mounting bracketry the spindle can operate switchgear etc.). The key is freed in the 12 o'clock position. Standard movement is 90 Degrees clockwise and 45 and 65 degrees options are available on request.

Features & Benefits

- Ease of operation
  - Dual orientation key entry leading to easy operation.
  - Smooth and effortless rotation.
  - Standard clockwise operation to provide consistency (Anti-clockwise available upon request).
- 1,000,000 operations tested.
- All contact surfaces made of stainless steel.
- Over 200,000 lock combinations.
- Suitable for high frequency applications.
- Heavy Duty.
- High Integrity.
- Standard key can not be mastered.
- Colour coded locks and keys available to aid system operation.
- Wide temperature range -40° + 150°C.
- Master series available.

Construction

Lock mechanism - Zinc alloy with a durable satin-chrome finish to the lock casing. The internal lock components are made from stainless steel.

Options (See Options Data Sheet)

- Right Hand or Left Hand
- Stainless Steel Dustcover
- Optional spindle dimensions
- Colour Coding of locks and seals
- CLS - Full stainless steel lock version
- ML - Master series lock version
- MLS - Full stainless steel lock version of ML
- Additional 'key free' positions
- Locking lever

Keys

Keys are manufactured in full Stainless Steel.

Please note keys are ordered separately.

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Fortress Systems Pty Ltd
324 Governor Road, (PO Box 572) Braeside, Victoria 3195 Australia
Tel: +61 (0)3 9587 4099 Fax: +61 (0)3 9587 4130
e-mail: vicfsp@fortress.com.au www.fortress.com.au

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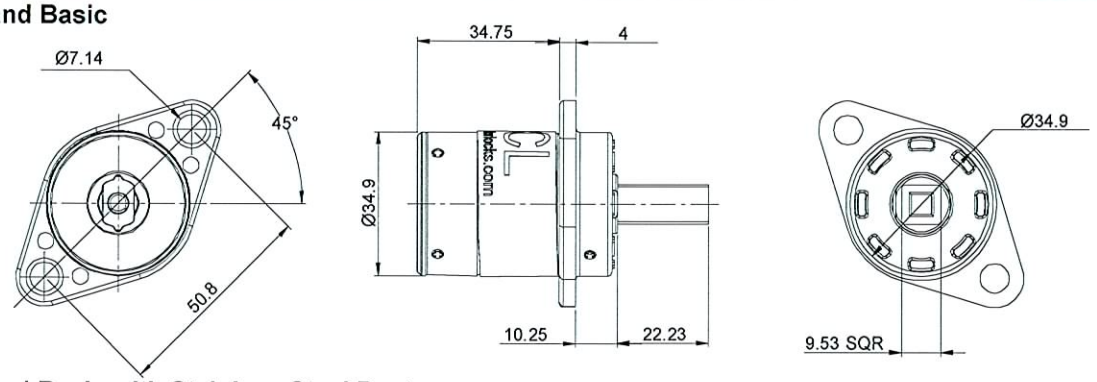
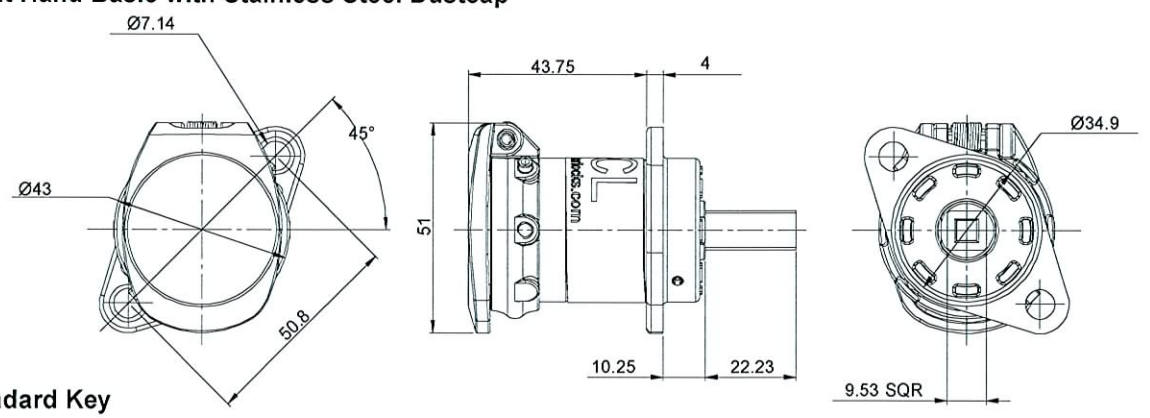
Technical Data *(all dimensions in mm)*

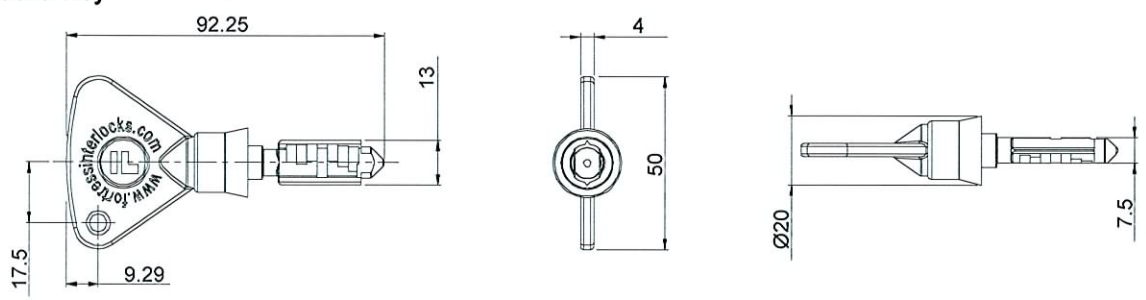
Right Hand Basic



Right Hand Basic with Stainless Steel Dustcap



Standard Key



Basic Lock - Ordering Information

1.	Handing	LH or RH
2.	Construction	CL or CLS
3.	Dustcover	None (standard) or Stainless Steel
4.	Movement	65°, 90°, 45°, Other (special) Clockwise, Anticlockwise.
5.	Spindle Size	Specify
6.	Coding Details	Specify - up to 20 characters.

Basic Lock - Order Example

1.	Handing	CL/RH
2.	Construction	CL
3.	Dustcover	None
4.	Movement	65° Clock
5.	Spindle	9.5mm sq x 22mm
6.	Coding	ISOL

Keys - Ordering Information

1.	Type	CL
2.	Coding	Specify - up to 20 characters

Keys - Order Example

1.	Type	CL
2.	Coding	ISOL

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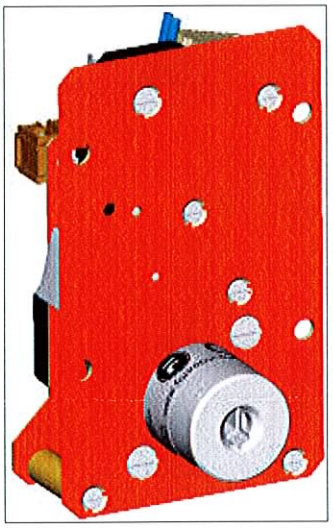
Data Sheet

Ref. CL B2



SS CL
Solenoid Controlled Interlock Unit

Description

A range of solenoid controlled key operated rotary switches, available in panel (BOB) and surface (FOB) mounting. Units with up to 7 locks are available. Normally supplied for vertical mounting.

Application

As part of an interlock system, the units are used for interruption of control or power circuits operating plant or machinery. The solenoid allows for integration with other electrical control processes within the system. (e.g. where a machine must come to end of a cycle before the power can be isolated).

Operation

The solenoid locks the primary key in the trapped position (normally power ON), and must be energised by an electrical signal before the key can be released. Removal of the key alters the switch contact status (isolating the machine). In multiple lock units the primary key is released first, followed by the others in sequence. All keys must be replaced in the correct order before the primary key can be returned and the equipment restarted.

Switch Ratings

16 to 125 Amp.

Standard contact arrangement (key free):

2 N/O, 4 N/O, 2 N/O - 2 N/C

Switch Ratings cont.:

Other contact arrangements and special approvals on switches, are available to order.

Standard solenoids are 24V, 110V, and 240V, AC and DC and continuously rated. Further technical information on switches and solenoids can be provided on request.

Construction

Lock mechanism - Die-cast zinc body with 316 stainless operating mechanism
Key: Stainless Steel (316 S31)

Enclosure - None, mild steel mounting plate
SC - Mild steel
SW - Polycarbonate, IP66

Options (See Options Data Sheet)

- Additional 'key free' positions
- Stainless Steel dustcover
- Special switch contact configurations
- Colour Coding of locks and seals
- CLS - Full stainless steel lock version
- ML - Master series lock version
- MLS - Full stainless steel lock version of ML

Keys

Keys are ordered separately. See Datasheet CL A1.

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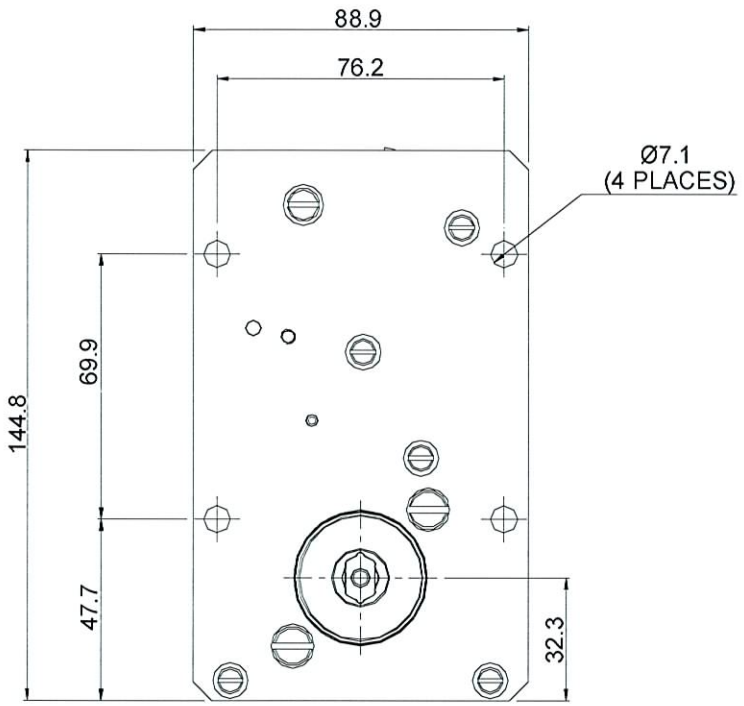
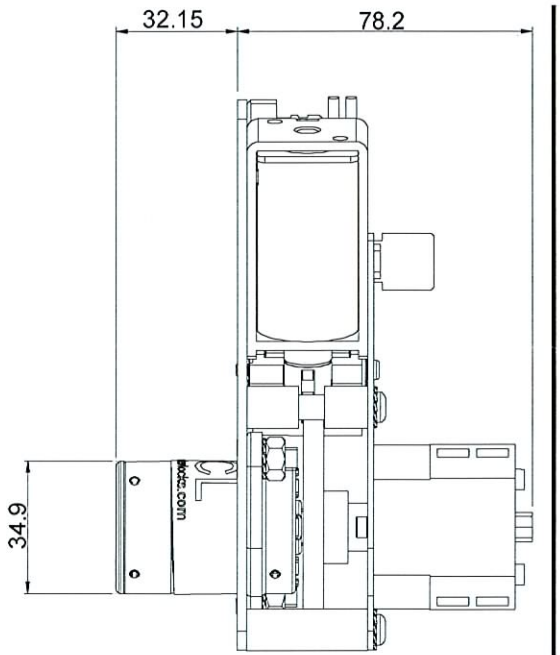
Technical Data *(all dimensions in mm)*



CL SS1/FOB
Front View



Side View

Ordering Information

1.	Type	SS (1,2,3,4,5,6,7) CL
2.	Mounting	Panel (BOB) or Surface (FOB)
3.	Solenoid	24V, 110V, and 240V, AC or DC
4.	Switch	16A 2NO or 4 N/O or 2N/O 2N/C (Specials on request)
5.	Construction	CL or CLS
6.	Dustcover	None or Stainless Steel
7	Coding Details	Specify - up to 26 characters.

Order Example

1.	Type	SS1 CL
2.	Mounting	FOB
3.	Solenoid	24V DC
4.	Switch	16A 2NO/2NC AC
5.	Construction	CL
6.	Dustcover	None
7.	Coding	ISOL

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