

# Mechanical Lock



## #ML-2M U.L. Group 2M / E-VDS Listed Technical Manual

### CHARACTERISTICS


The #ML-2M is a manipulation resistant 3-wheel Combination Lock with new features and is very easy to mount. The lock has the standard foot prints (66,7x41mm) and can be mounted in all four directions. (RH, LH, VU, VD)

Measurements: 85 mm x 61 mm, x 29 mm. Lock bolt: 25 mm x 8mm with two M4 holes on the bolt head. Bolt Travel 8 mm.

**The lock needs no Spline key. It operates with a square 6x6mm shaft as the spindle.**

### Mechanical Dials

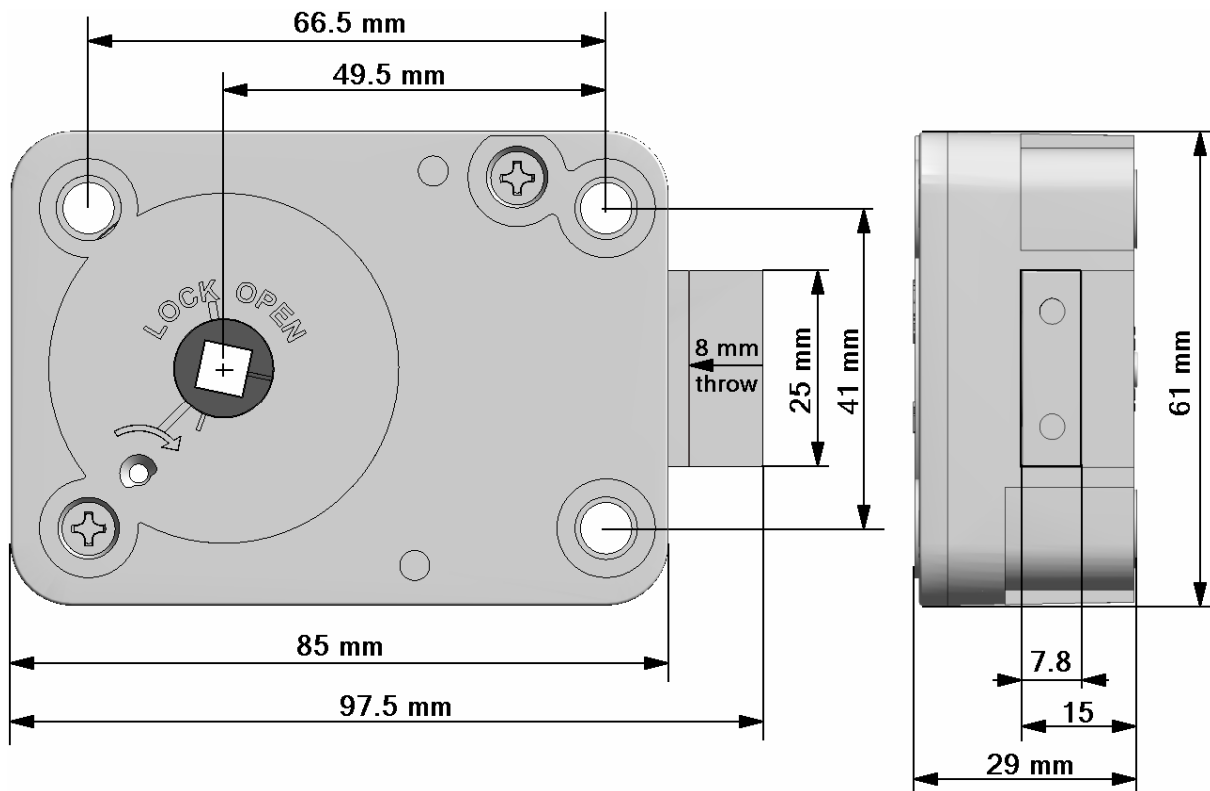
This mechanical lock compatible with the following LpLOCKS dials:

MD-40	MD-50
	
MD-60	
	

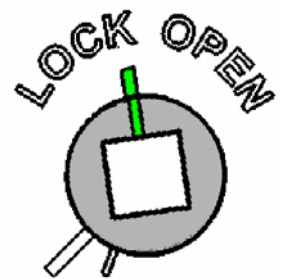
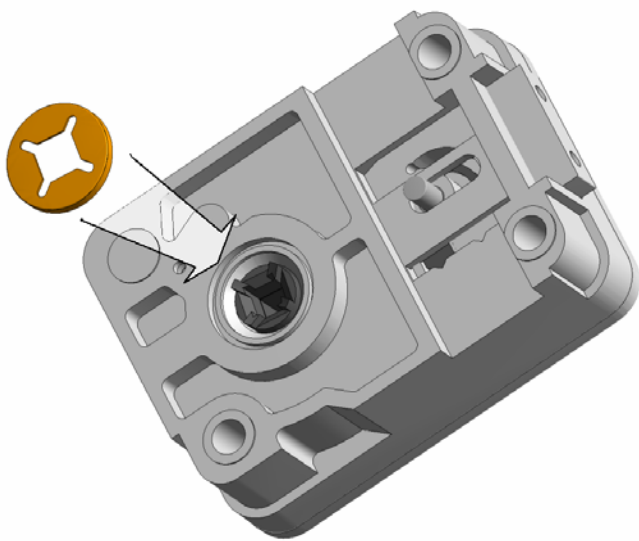
Matching boltwork handles and accessories are available as well. For more information, please read the technical description and mounting instruction of the dial and ring assembly.

Due to the square shaft, the lock is **not** compatible with dials that have a round, threaded spindle. **(Use lock #ML02MR for round threaded shaft compatibility)**

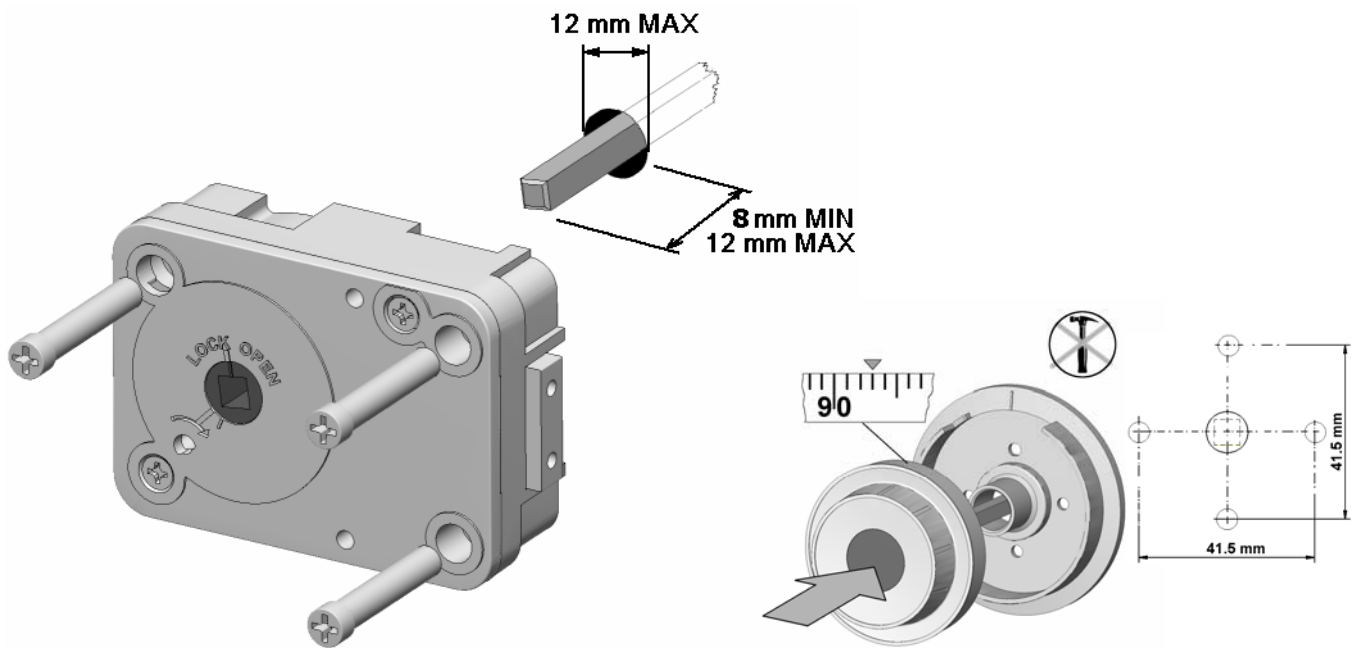
## DIMENSIONS / MOUNTING INSTRUCTION



The Lock is delivered with the Bolt retracted and ready for mounting. Do not move the cam (part with square hole) or the bolt. During installation the **bolt must stay in retracted position and the cam lined up as shown below.**



Put the Star-Washer on the four posts on the cam, located beneath the lock.




Only use the 3 mounting screws (US 1/4 20G BSW) and fasten as usual. (Torque approximately 3,5 Nm). With the lock in OPEN-position (bolt retracted) hold the dial in a way that approximately "93" is lined up with the dial's opening index and push it with some pressure into the lock. The shaft cannot be pulled out.



Turn Dial LEFT to extend the bolt. The bolt must slide easily to the end position and should not be restricted by the bolt work

Delivered Factory Code is "50".

4x  Turn LEFT and pass "50" three times and stop exactly on "50" on the Opening index the fourth time.

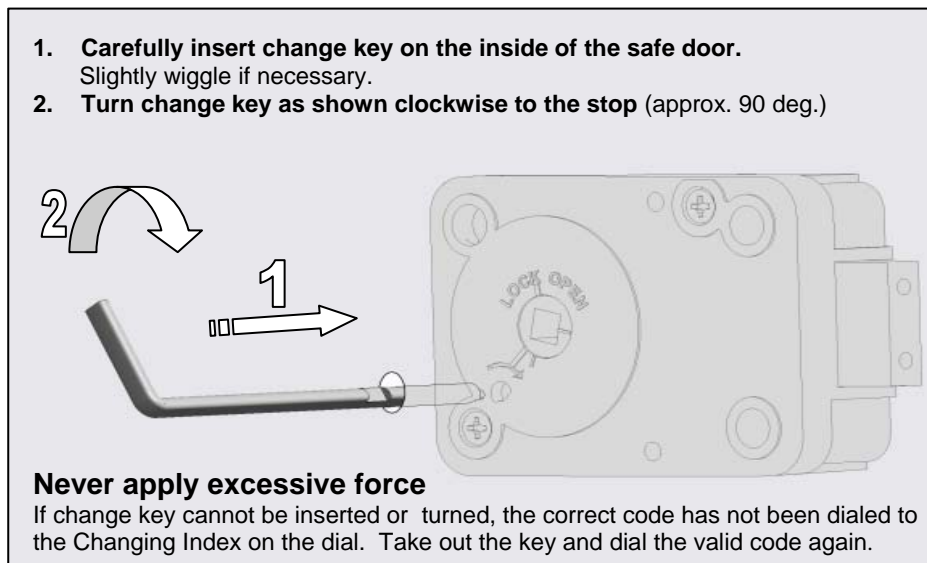
Due to installation tolerances it is possible that the code may have shifted up to two numbers up or down. This shifting is normal and will be eliminated once the code is re-set. If the lock does not open on "50", try to open at "48" then "49", "51" or "52".

Also due to these tolerances it is important to re-set the code after installation.

With door open, turn the bolt work and lock to locked position.  
Dial the code at which the lock opened on the CHANGING INDEX.

Example: If the lock opens at "49".

4 x LEFT until "49" stops exactly at the Changing Index



#### Change Keys




If installers use the same change key to set up several locks, it is important to inspect the change key on a regular basis.

If the change key is bent or shows signs of wear it needs to be replaced. Otherwise the new code will not be set exactly as dialed.

Now dial your factory code using the CHANGING INDEX.

\* We suggest you set the code to 10-30-20 as that matches the user instruction LpLOCKS provides.

**The last number must be higher than 10. For security reasons, each number should be at least 4 increments apart from the others. For example: 49-45-51 and not 51-53-52.**

- 4 x**  Turn LEFT, pass first code number three times and stop exactly on the number on the **Changing Index** the fourth time.
- 3 x**  Turn RIGHT, pass second code number twice and stop exactly on the number on the **Changing Index** the third time.
- 2 x**  Turn LEFT, pass third code number once and stop exactly on the number on the **Changing Index** the second time.

When turning the dial, if a number is passed, start over at the beginning.

After the new Code is completely entered, **turn change key LEFT and remove it.**  
The new Code is installed.

**Try the new code several times (using Opening Index) before closing the door!**

### DATA SHEET

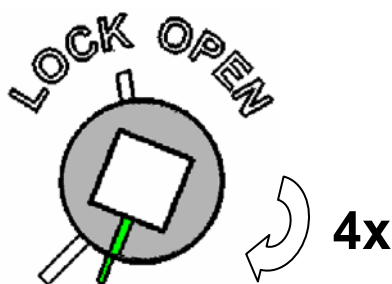
<b><i>Mechanics</i></b>	
Opening	manually
Locking	manually
Blocking element	3 Wheels
Manipulation Protection	yes
Mounting dimensions	standard
<b><i>Certifications</i></b>	
VdS	Class 2
EN 1300	Class B
U.L.	Group 2M

### What if ...

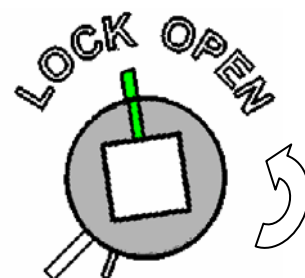
#### ...accidentally the cam got moved before installation?

As long as the code has not been changed with the change key, the lock can be prepared for mounting following the steps below:

1. Hold the lock so that you look at the cover and the bolt is to the right.
2. Turn the cam clockwise minimum 4 complete turns and stop when the cam is lined up as shown in figure 1.
3. Turn cam counterclockwise until lock opens. The cam should be lined up with the "LOCK OPEN" line on the cover (see figure 2).



*figure 1*



*figure 2*

#### ...the dial is hard to turn or the dial is rubbing on the dial plate?

Loosen the screw that holds the shaft in the dial and pull out the dial slightly. Then tighten the screw hand tight. Do not over tighten as that will pull the dial back in. Use liquid threadlocker like Loctite™ if required.



# Zertifikat

über die  
**Anerkennung**  
von  
**Bauteilen und Systemen**

*Inhaber der Anerkennung:*

LOCK Technology BV  
Vlijtstraat 40

NL-7005 BN Doetinchem

**Die Anerkennung**  
umfasst nur das angegebene  
Bauteil/System  
in der zur Prüfung  
eingereichten Ausführung

- mit den Bestandteilen  
nach Anlage 1,
- dokumentiert in den  
technischen Unterlagen  
nach Anlage 2,
- zur Verwendung  
in den angegebenen  
Einrichtungen  
der Brandschutz- und  
Sicherungstechnik.  
Bei der Anwendung  
des Gegenstandes der  
Anerkennung sind  
die Hinweise/Bemerkungen  
nach Anlage 3  
zu beachten.

Die Gültigkeit  
der Anerkennung kann  
auf Antrag  
verlängert werden.  
Antrag auf Verlängerung  
ist spätestens 6 Monate  
vor Ablauf der  
Gültigkeit zu stellen.

Das Zertifikat darf  
nur unverändert und mit  
sämtlichen Anlagen  
vervielfältigt werden.  
Alle Änderungen  
der Voraussetzungen  
für die Anerkennung  
sind der VdS-  
Zertifizierungsstelle  
- mitsamt den erforderlichen  
Unterlagen - unverzüglich  
zu übermitteln.

Eine Werbung mit der  
VdS-Anerkennung des  
Produktes muss den Inhalt  
des Zertifikates korrekt  
wiedergeben und darf nicht  
auf wettbewerbsrechtswidrige  
Art und Weise erfolgen.

Anerkennungs-Nr.:	Anzahl der Seiten:	Gültig vom:	Gültig bis:
M 106323	4	03.05.2006	02.05.2010

*Gegenstand der Anerkennung:*

Hochsicherheits-Zahlenkombinationsschloss - Klasse 2  
ML67•40

*Verwendung:*

in Wertbehältnissen

*Anerkennungsgrundlagen:*

Verfahren für die Anerkennung und Prüfung  
von Geräten, Bauteilen und Systemen  
der Brandschutz- und Sicherungstechnik - VdS 2344 : 1999-02

Richtlinien für mechanische Sicherungseinrichtungen  
Hochsicherheitsschlösser für Wertbehältnisse  
Anforderungen und Prüfmethode - VdS 2396 : 2005-09

Klassifizierung von Hochsicherheitsschlössern nach ihrem  
Widerstandswert gegen unbefugtes Öffnen  
EN 1300 : 2004-06



DAT-ZE 005/92

Köln, den 3. Mai 2006

Schüngel

Geschäftsführer

Conrads

Leiter der Zertifizierungsstelle

**VdS Schadenverhütung GmbH**  
Zertifizierungsstelle  
Amsterdamer Str. 174  
D-50735 Köln

Ein Unternehmen des Gesamt-  
verbandes der Deutschen  
Versicherungswirtschaft e.V. (GDV)  
akkreditiert als Zertifizierungsstelle  
für die Bereiche Brandschutz- und  
Sicherungstechnik von der  
Deutschen Akkreditierungsstelle  
Technik (DATech)