hodlr
one titanium
24 words numerical

1. pre-mark   2. engrave   3. store

hodlr.swiss/protocols

before you start

STICK TO THE PROTOCOL

it is essential to follow the following steps carefully to reach the full potential of your HODLR.

do not use any other tools than those included in this box.

DEDICATE TIME

schedule a dedicated time of approximately 1/2 hour to prepare your HODLR.

STAY PRIVATE

make sure that no human and camera have visual line-of-sight to your workspace.
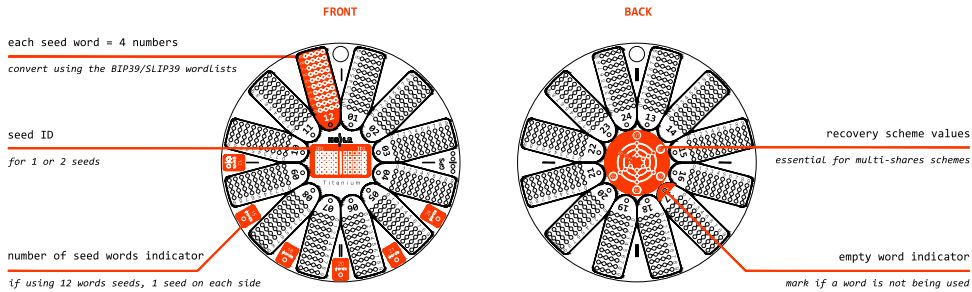
do not read your seed words out loud.

LEAVE NO TRACE

make sure you have a lighter or matches at hand.

destroy your recovery scheme sheet at the end of this protocol.

FRONT

each seed word = 4 numbers
convert using the BIP39/SLIP39 wordlists

seed ID
for 1 or 2 seeds

number of seed words indicator
if using 12 words seeds, 1 seed on each side

BACK

recovery scheme values
essential for multi-shares schemes

empty word indicator
mark if a word is not being used

1.pre-mark

error-free process

A. write down your seed

use the recovery scheme sheet

USE WITH 1x HODLR
12 words

SHARE   01
OF   01
THRESHOLD   01

01 [1][9][9][8]
02 [S][A][T][O][S][H][I] 1 5 3 2

> write down each of your seed words following the words order on your RECOVERY SCHEME SHEET.

this protocol shows the engraving of a 12 words seed on a HODLR ONE.
the process for other seed lenghts is similar.

BIP39/SLIP39 standard wordlists are immutable industry standards, they never change over time.

it will always be safe to recover your hardware or software wallet this way.

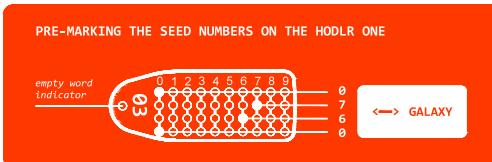## B. convert words to numbers

use the BIP39/SLIP39 wordlists

0001 - 0100 *BIP39*

0001 abandon	0021 action	0041 agree	0061 always	0081 anxiety
0002 ability	0022 actor	0042 ahead	0062 amateur	0082 any
0003 able	0023 actress	0043 aim	0063 amazing	0083 apart
0004 about	0024 actual	0044 air	0064 among	0084 apology
0005 above	0025 adapt	0045 airport	0065 amount	0085 appear
0006 absent	0026 add	0046 aisle	0066 amused	0086 apple
0007 absorb	0027 addict	0047 alarm	0067 analyst	0087 approve
0008 abstract	0028 address	0048 album	0068 anchor	0088 april
0009 absurd	0029 adjust	0049 alcohol	0069 ancient	0089 arch
0010 abuse	0030 admit	0050 alert	0070 anger	0090 arctic
0011 access	0031 adult	0051 alien	0071 angle	0091 area

> convert the words to numbers using the appropriate BIP39 or SLIP39 wordlist.

> write down each number below its seed word.

RECOVERY SCHEME SHEET USE

03 [G][A][L][A][X][Y][ ][ ] ___ seed word
    [0][7][6][0]
    wordlist corresponding number

C. pre-mark your seed

use the permanent marker
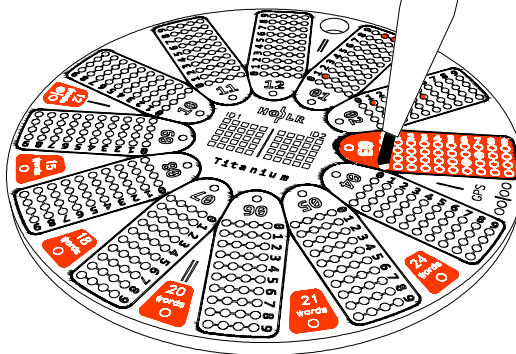
> each horizontal row is marked once, by one number only. a total of four numbers identifies the seed word.

PRE-MARKING THE SEED NUMBERS ON THE HODLR ONE

empty word indicator

03   0 1 2 3 4 5 6 7 8 9   0
                            7
                            6
                            0

<-- --> GALAXY

24 words ⊙ mark the number of words that compose your seed.

12 words ◐ if you are using two 12 words seeds, mark both of the dots next to '12 words', one for each seed engraved.

mistakes: use alcohol to erase the marker.

2.engrave

A. verify your pre-marking

hardware wallets

> verify that your pre-marks are correct by running the 'CHECK RECOVERY SEED' function on your hardware wallet.

software wallets

> verify that your pre-marks are correct by comparing them manually with the words on your software wallet / paper backup. 2 or 3 checks are recommended.

if you have multiple shares (shamir/split), don't forget to cross check them all.
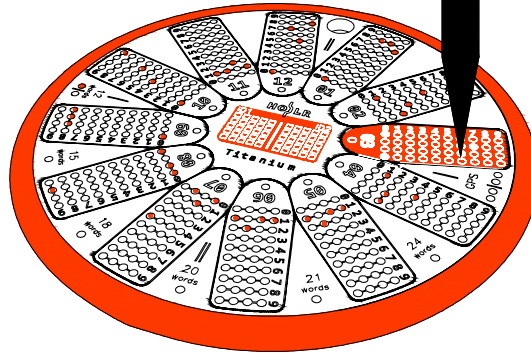
B. punch your seed

use the center punch & silicone mat

> place the HODLR in the included silicone mat.

> once your pre-marking is verified, you can start engraving your HODLR. hit once only, on top of each of your pre-marks.

remember that once your seed is engraved on your HODLR, it is permanent, indelible and unalterable.

CENTER PUNCH USE

1 hold firm
> perpendicular to the disk
> on the pre-marked number

2 hit
> use a standard hammer
> hit once only

C. punch your seed name

choose a name ID

> punch the grid in the center of your HODLR front side. use the 2 grids as a guide to engrave the letters/numbers.

> if you are using more than 1 HODLR for the same seed, bear in mind that every HODLR holding a share of this seed should have the same ID.

SEED NAME USE

ID1   ID2

use ID1 and ID2 if you are using two 12 words seeds.
if not, use only one ID.

D. punch your recovery scheme

use your recovery scheme sheet

> refer to the RECOVERY SCHEME SHEET to read the SHARE / OF / THRESHOLD values.

> punch the S / O / T corresponding numbers onto the back of your HODLR.

SHARE-OF-THRESHOLD USE

SHARE	01
OF	01
THRESHOLD	01

GLOSSARY

SHARE
sub part of the seed.

OF
total number of shares that compose the seed.

THRESHOLD
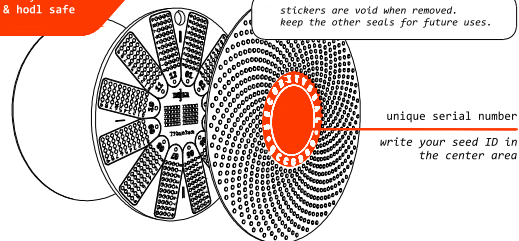minimum number of shares to recover the seed.

3.store

A. seal your HODLR

use 2 tamper-evident security seals

> apply 2 tamper-evident seals on both sides of your HODLR.

SECURITY SEAL STICKERS USE

write down the unique numbers in your notes to compare them later. regularly check on the integrity of your HODLR.

stickers are void when removed. keep the other seals for future uses.

unique serial number

write your seed ID in the center area

LEAVE NO TRACE

safely burn your recovery scheme sheet and old parper seed above a sink.

don't throw it in the garbage.

your seed would be compromised if anyone finds it.

KEEP IT PRIVATE

make your HODLR tamper evident with the included security seals.

choose a safe and discrete location to store your HODLR.

always keep it away from cameras.

EMERGENCY ACCESS

limit the access to a very few trusted individuals.

plan a way for your close ones to access your HODLR in case of accident or death.

RESILIENCE

use multiple HODLRs to split your seed and achieve protection against loss and theft. (split/shamir)

store each HODLR in different locations.

learn more:
hodlr.swiss/resilience