DINI ARGEO
Scales - Weighing systems

A RICE LAKE WEIGHING SYSTEMS COMPANY

D-LEGAL / D-API / D-REPE

ENGLISH

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Introduction

Thank you for purchasing the "D-LEGAL" / "D-API" Dini Argeo software.

This manual contains instructions for the correct installation and commissioning of the "D-LEGAL" and "D-API" PC software.

D-LEGAL and D-API can save the weighings of the connected weight indicator (in an approved memory for D-LEGAL), display the weighing list and export the weighing list in *.csv format (compatible with most calculation and management programs). D-REPE provides a simple repeater interface that displays weight and unit of measure. The software also allows communication with the connected weight indicator using a web API.

The utmost care has been taken in compiling this manual, but reports of any inaccuracies are welcome.

For any additional information or specific requests, please contact your local dealer.

This publication is optimised for A4 printing.

Minimum PC requirements

- Processor Intel Celeron N3350 1.1 GHz or equivalent
- RAM 4GB
- 200 MB of free disk space
- Windows 10
- 800x600 resolution with 256 colours

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Installation

The installation file is in common for both programs. The license code provided by Dini Argeo causes the purchased application to activate. Start the executable file "**Setup_DLL_x.y.z.exe**" and follow the instructions on the screen.

1. Select the installation folder
Click "Next"
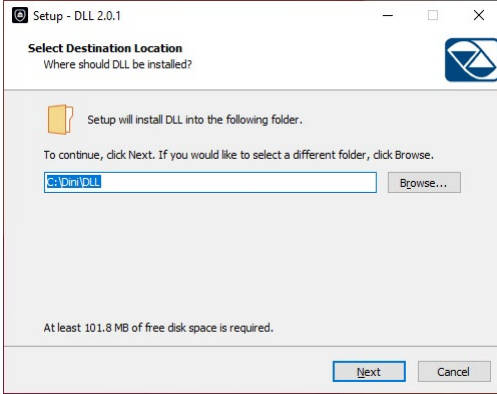
2. Select the shortcut folder in the Start menu
Click "Next"
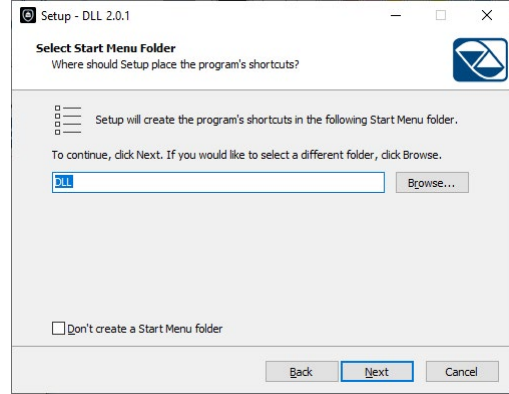
3. Enable the tick to add desktop shortcut
Click "Next"
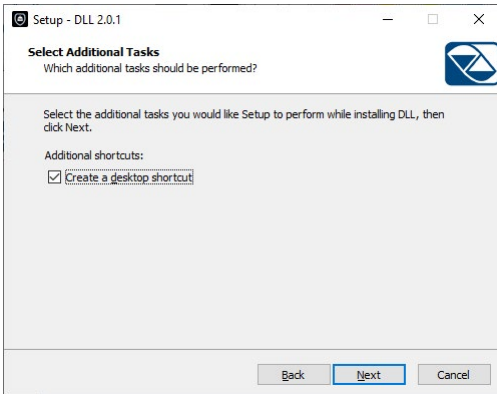
4. Select "Install"
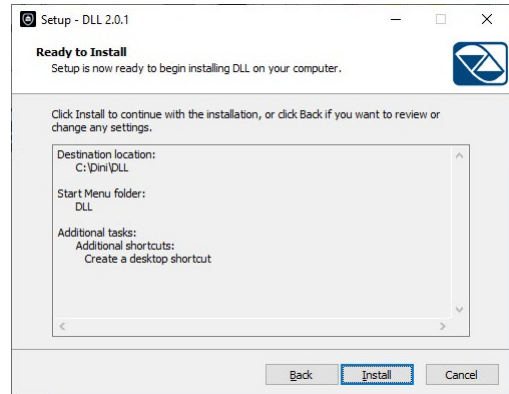
5. Enable the tick to launch the program at the end of installation
Click "Finish"

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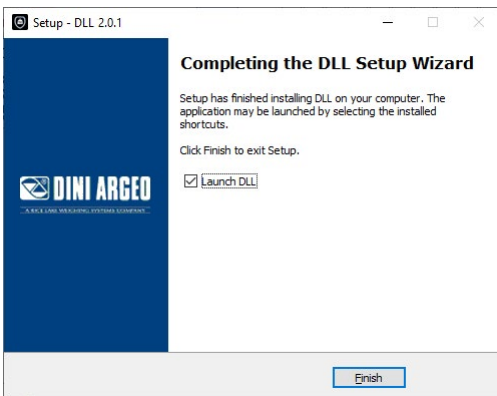
1. Start the program. Select the top bar to open the main D-LEGAL/D-API application.

2. Press ⚙ to open settings.
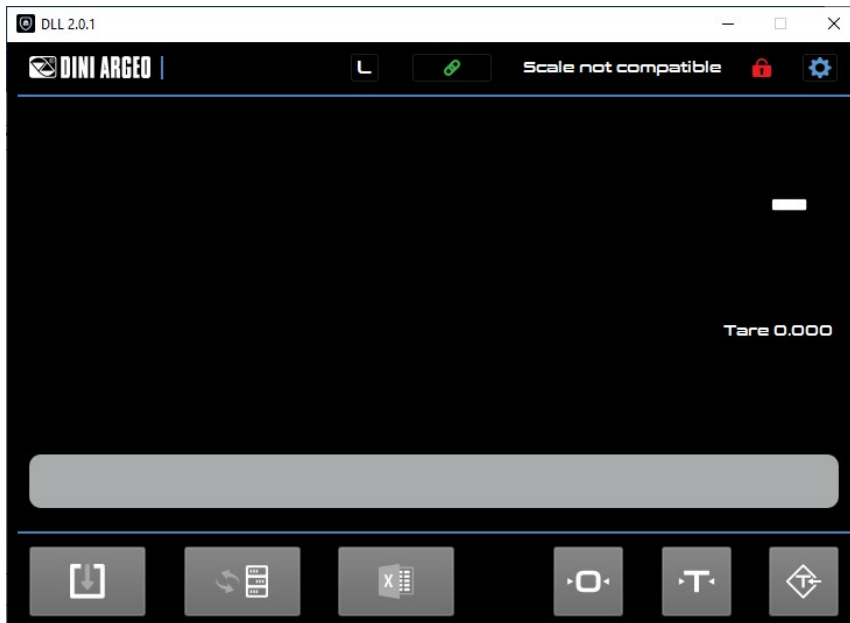
3. Select the "**Connection**" tab.
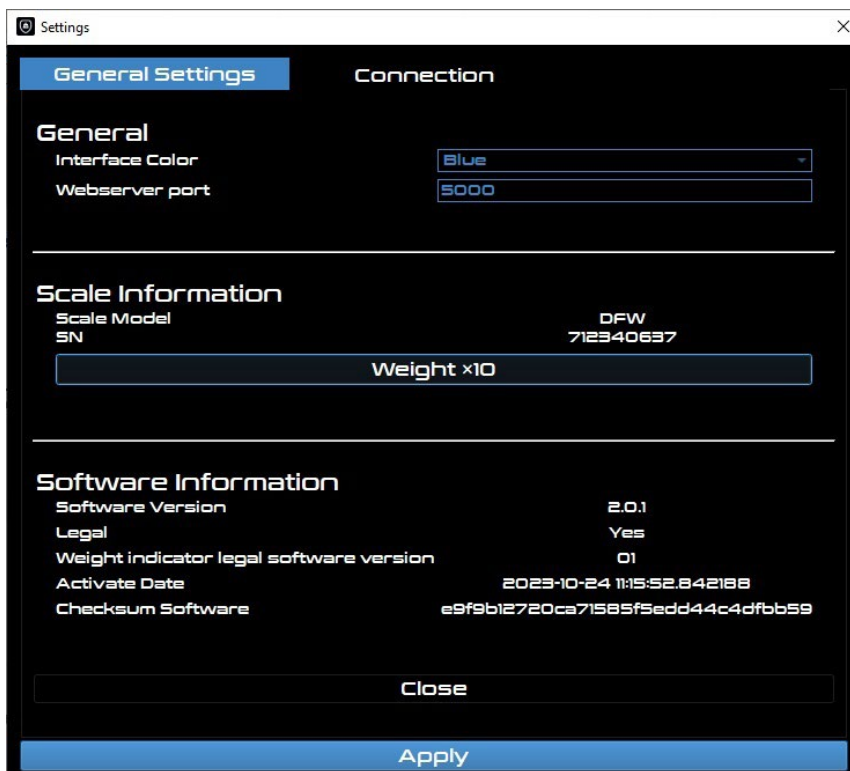
4. Select "**Ethernet**" or "**Serial**" depending on the required connection type and then set the correct parameters.
Click "**Apply**".
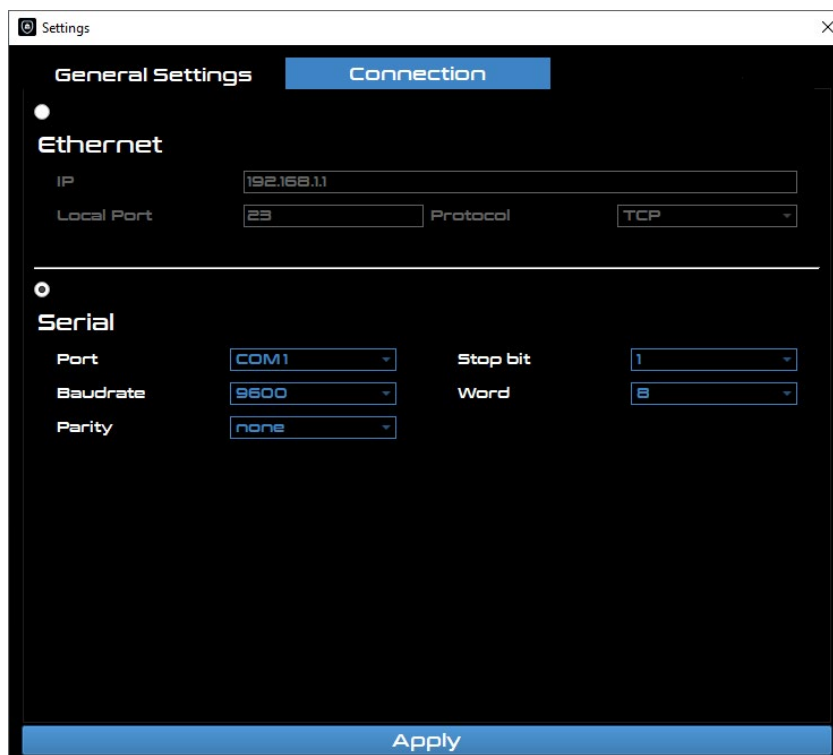
5. The program connects to the indicator.
If the software is inactive, all program functions are inhibited and only the weight displays.

USER_MAN_ENG_DLEGAL_DAPI

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Activation

The software must be communicating with the weight indicator to activate correctly.

1. Press ⌊ to activate the software.
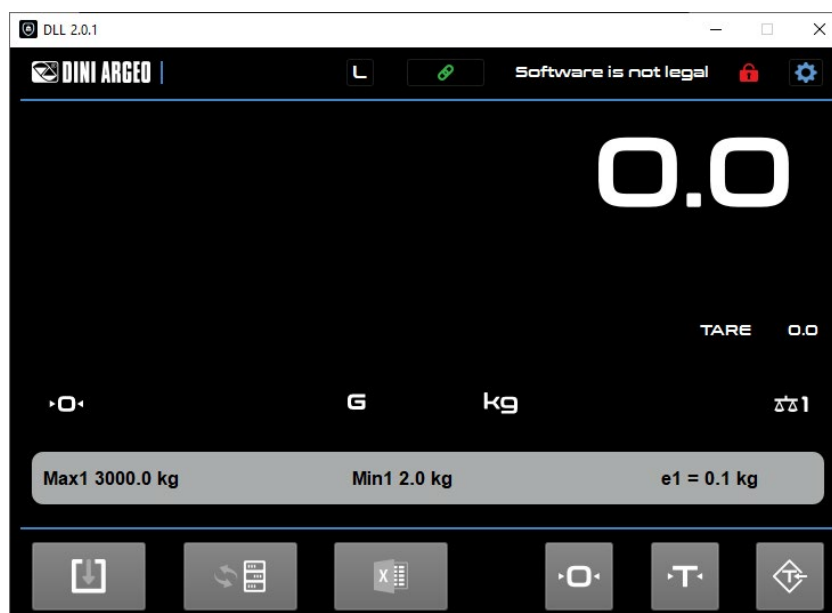
2. Enter the activation code provided on the supplied metrology label and then press "**OK**".


```
Mod: D-LEGAL
Activ. code (sn):    1234567890
Max:      30 kg                        0200-NAWI-12991
Min:      0.1 kg                       0200-WL-05741
e:        5g
Dini Argeo - V.Fisica, 20, 41042 Fiorano (MO) Italy
137 Pastures Av., Weston-super-Mare BS22 7SB - UK
```
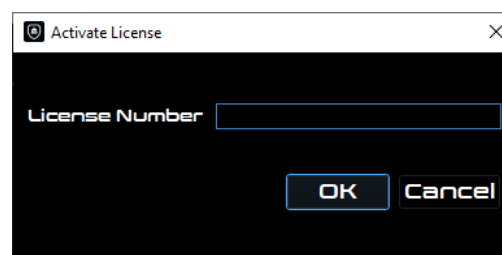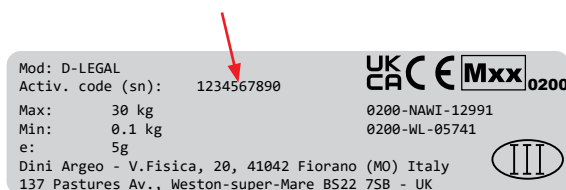
3. The software is now activated.

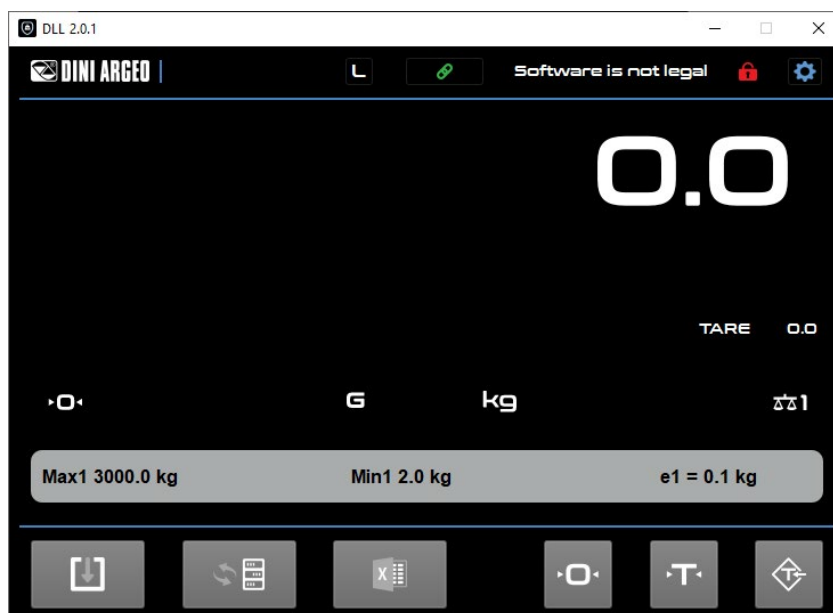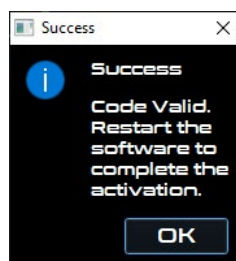ℹ The activation code is linked to the serial number of the weight indicator (shown on the grey label of the instrument). It is only possible to activate and use the software with the associated indicator. The software can be reactivated using the same code in the event of a failure, if the PC is changed, or by copying the "Legal.bin" file in the installation folder. The weighing list can be retrieved in the second case. It is recommended to periodically export the weighing list.

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D-API screen elements

D-API logo

Internal use indication

Red padlock

D-LEGAL screen elements

D-LEGAL logo
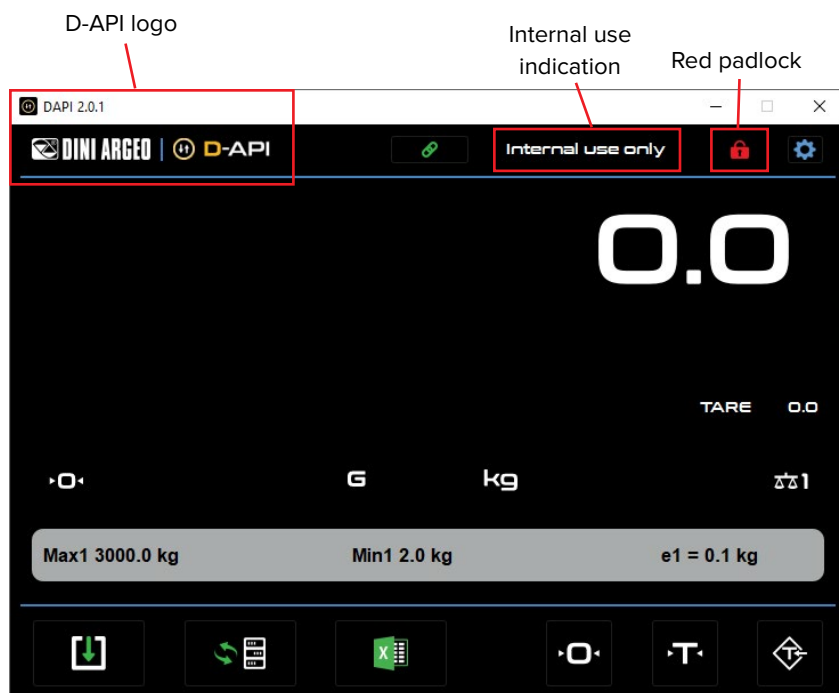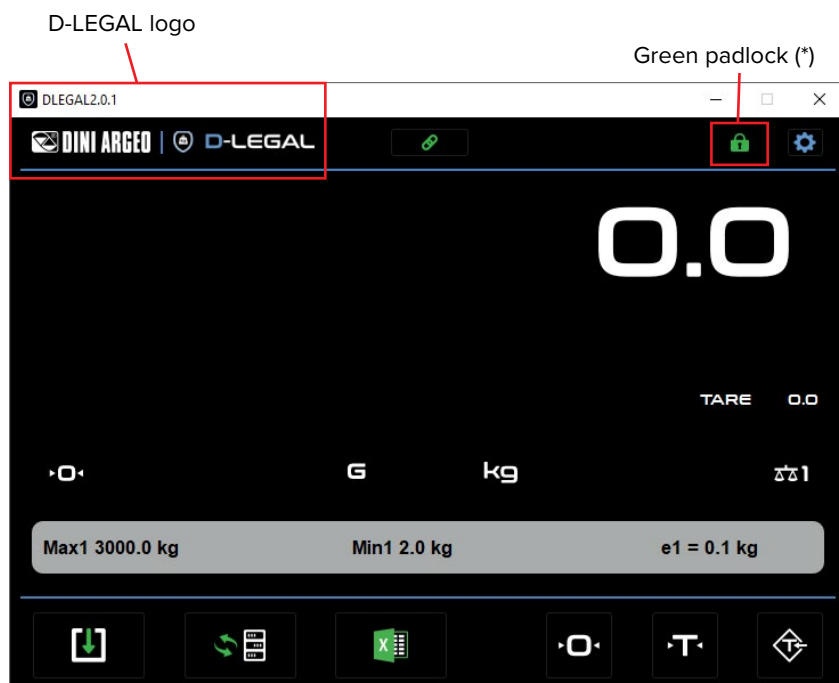
Green padlock (*)

> ✱ All conditions must be fulfilled to display the green padlock. See the "Software Status" paragraph for more information.

Requirements for D-LEGAL approval

The system must meet the following requirements to save approved weighings:

1. The software must be activated with a D-LEGAL license key.

2. The program must be connected to an approved weight indicator.

3. The serial number of the connected weight indicator must match the one provided with the licence application. Once active, D-LEGAL is programmed to operate with only that specific weight indicator.

Note: The padlock in the top upper right corner turns green 🔒 if the above conditions are met.

It is mandatory to apply the metrology label supplied with the order to the PC where the program was installed:
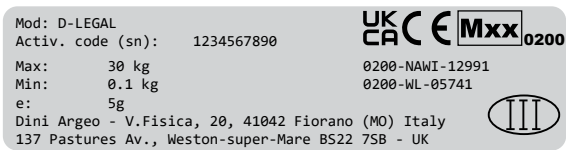
The metrology label contains the following information:
*   Software license code
*   Maximum capacity
*   Minimum weighing
*   Approved division
*   EU type certificate number: 0200-NAWI-12991
*   Number of assessment certificate for the linked indicator: 0200-WL-05741
*   Scale accuracy class
*   Manufacturer's addresses

TOOLS and FIRMWARE VERSIONS COMPATIBLE WITH D-LEGAL		TOOLS and FIRMWARE VERSIONS COMPATIBLE WITH D-API	
DGT1P	01.18.00	EGT-AF01	05.12.00
DGT1SP	01.18.00	EGT-AF02	05.09.00
DGT1SX	01.18.00	EGT-AF03	08.08.00
DGT4X	01.18.00	EGT-AF04	06.13.00
DFWIECEX	01.02.01	EGT-AF05	05.12.00
6116EVO4X	-	EGT-AF08	06.08.00
6116EVO4XKB	-	EGT-AF09	08.08.00
DFWL-10	01.02.01	EGT-BATCH	05.13.00
		EGT-BATCH1	05.12.00
		EGT-CHECK	06.13.00

Top Bars

Top bars appear at the top of the operating system and provide a status display. The information displayed varies depending on if the main D-LEGAL/D-API application is visible.

Top Bar (main application visible)

Top Bar (main application not visible)

> ℹ️ Select the top bar to access the main D-LEGAL/D-API application.

1 This field cycles values for the following data items:
- D-LEGAL / D-API logo is displayed (depending on the application)
- Max 1
- e 1
- min 1
- Max 2
- e 2
- min 2
- Max 3
- e 3
- min 3

Note: max2, e2, min2 values are visible only if the instrument is configured with 2 ranges.
Note: max3, e3, min3 values are visible only if the instrument is configured with 3 ranges.

2 Displays current scale weight or three dashes (- - -).

Note: The weight is only displayed in the top bar when the D-Legal/D-API application is not visible. When the main application is visible, dashes (---) display in the top bar.

3 Displays current indicator status (page 15).

4 Displays current software status (page 14).

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Main screens

> **i** Select outside the D-LEGAL/D-API application (hides the main window) to access the top bar.

D-API
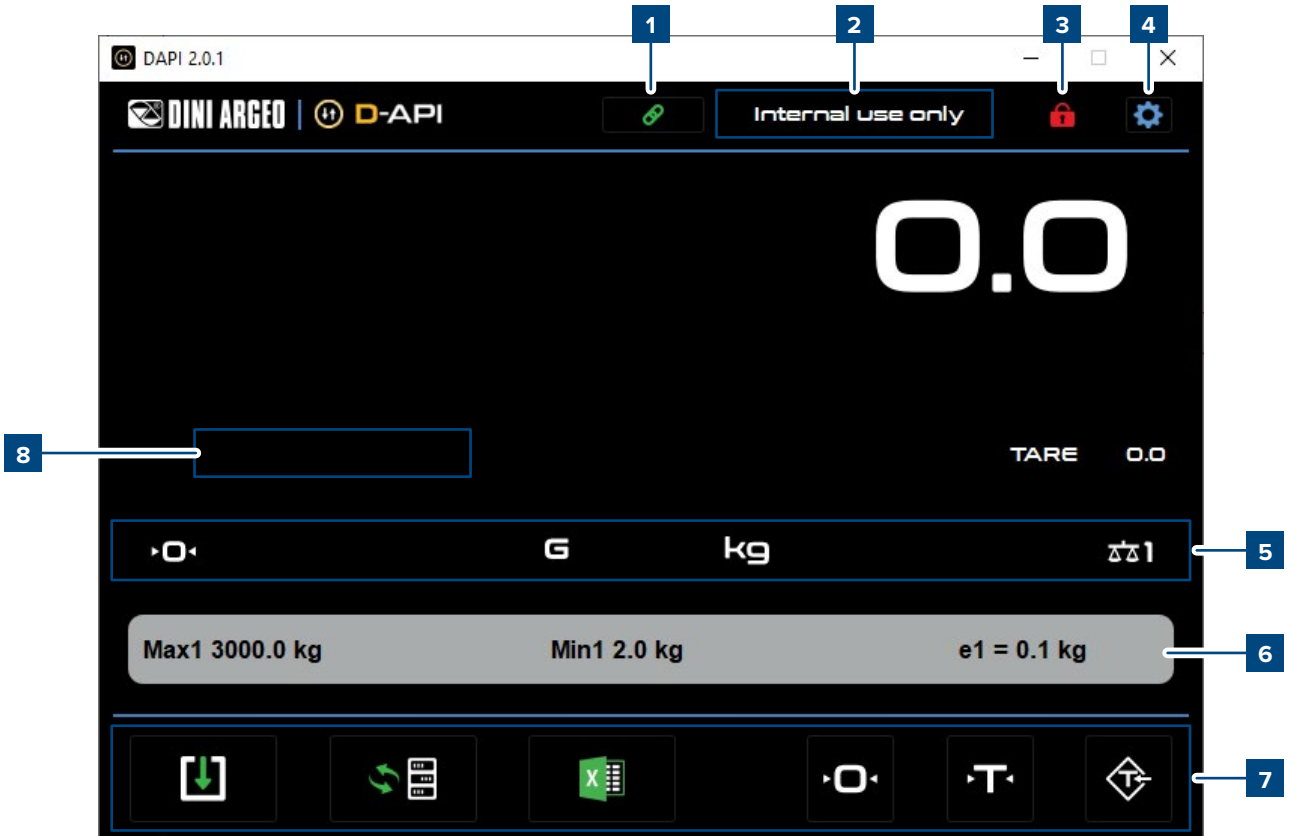
D-LEGAL as primary indicator

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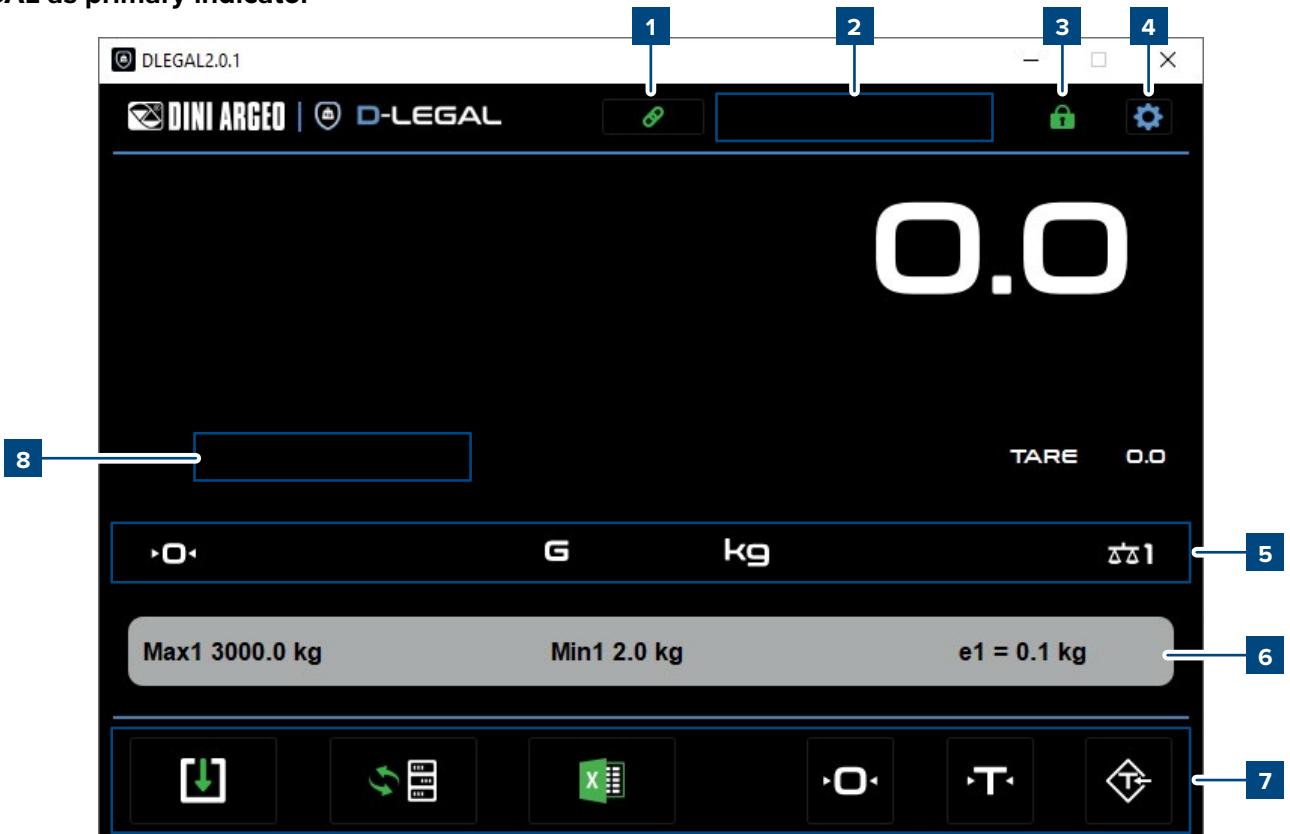
D-LEGAL as secondary indicator
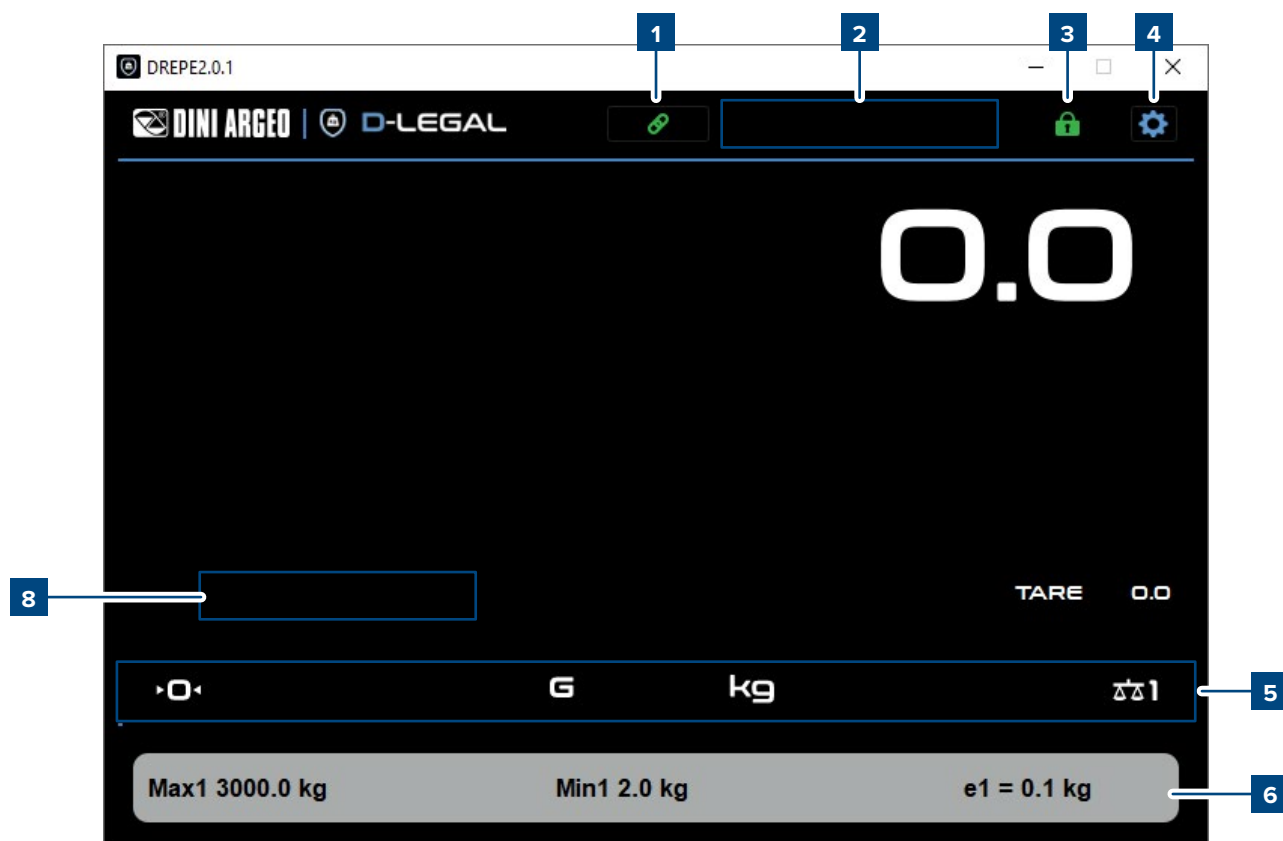
1   Connection to the indicator

 indicates the software is connected to the serial/Ethernet port.

 indicates the software is not connected to the serial/Ethernet port.

Click the button to connect / disconnect the software.

2   Software message area

The messages related to the software are displayed in this area:

	Message	Meaning
D-LEGAL D-API	**Scale not compatible**	The scale is not connected A scale with a different serial number than the one associated with the activation code is connected
	Software is not legal	The software is not active.
D-LEGAL	**Scale is not legal**	The scale connected to D-LEGAL is not approved.
D-API	**Internal use only**	The D-API software allows you to save weighings for internal use only.

3 Software status

🔒 indicates that approved weighings can be saved.

🔓 indicates that it is not possible to save approved weighings. Possible reasons include:

- The D-LEGAL software is not activated. Follow the procedure on page 8 to activate it.
- The software is activated but the indicator is not connected.
- The software is activated but the connected indicator is not approved.
- The serial number of the connected indicator is different from the one provided to the activated the software.
- The D-API software was activated.

4 Settings

Press ⚙ to access settings, which is divided into 3 different tabs:

General Settings
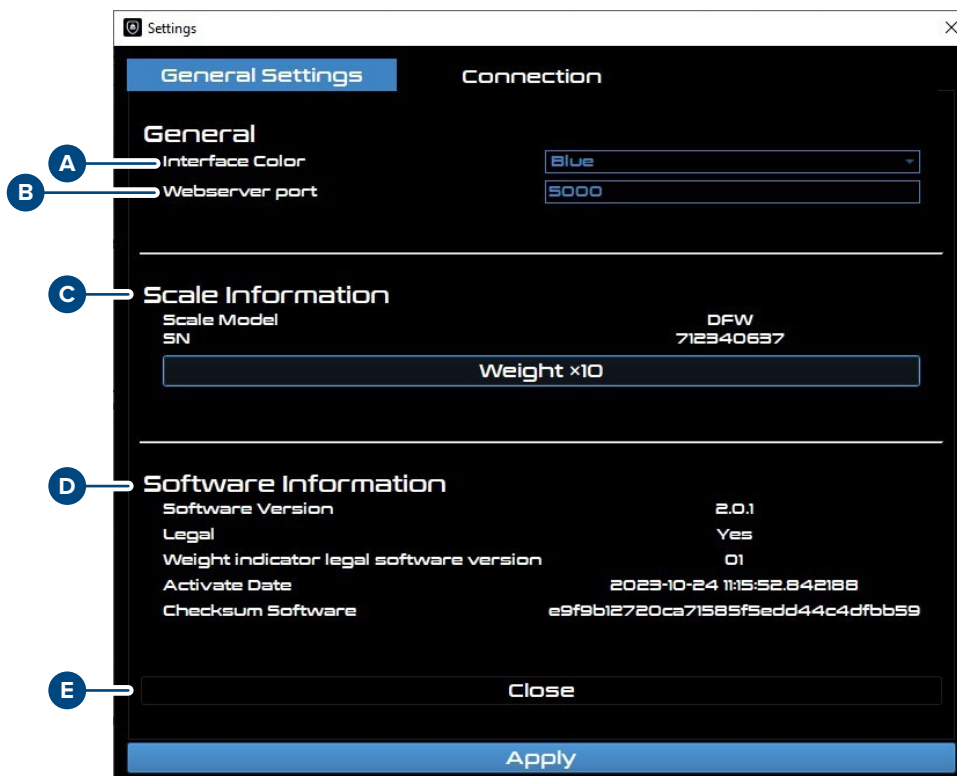
A Colour of the user interface.

B Port number for webserver use.

C Model and serial number of the connected indicator

D Software version, software activation status, weight indicator legal software, activation date and software checksum.

E Closes the D-Legal/D-API application.

Connection
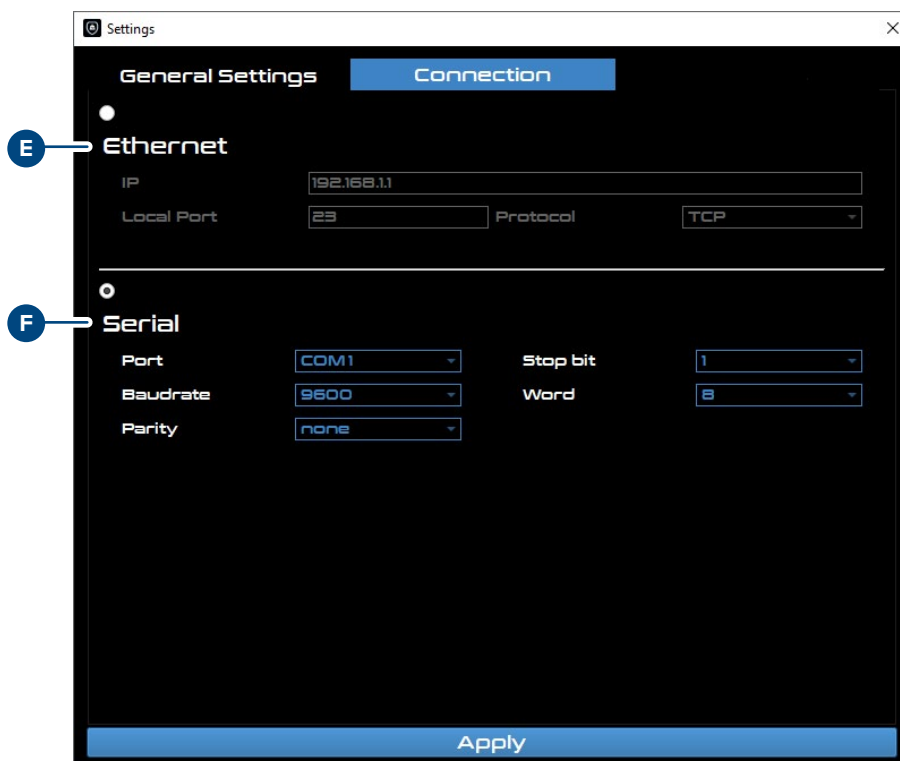
E   Ethernet connection parameters

F   Serial connection parameters

5   Status indicators

The following indicators are visible according to weight status:

Indicator	Description
▸O◂	The gross weight equal to 0
~	The weight is unstable
G NET	The displayed weight is the gross weight (G) or the net weight (NET)
kg g t lb	Unit of measurement of weight
PT	A predetermined manual tare is active
⚖1 ⚖2 ⚖3 ⚖4	Number of the active scale. Click on the icon to go to the next scale.

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6 Electronic metric label

Max1 30.00 kg	Min1 0.20 kg	e1 = 0.01 kg
Max2 60.00 kg	Min2 0.40 kg	e2 = 0.02 kg
Max3 150.00 kg	Min3 1.00 kg	e3 = 0.05 kg

The electronic metric label is automatically acquired by the weight indicator.
It indicates weighing ranges, minimum weighing values and approved divisions.
The bold line indicates the active weighing range.

7 Operating buttons

Saves a weighing operation in virtual alibi memory.
The confirmation of successful weight save or error displays in the operational message area.
Note: Weight save criteria is managed by the weight indicator.

The ID number is shown if the weighing is saved
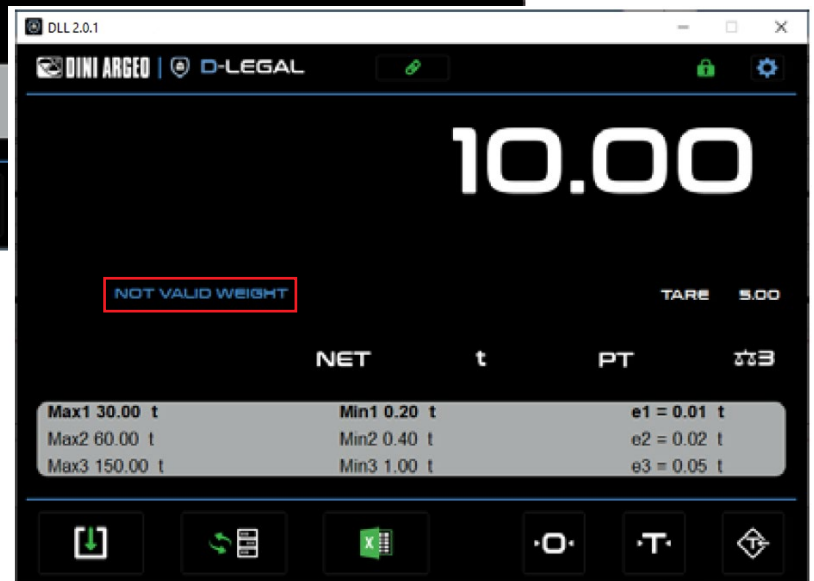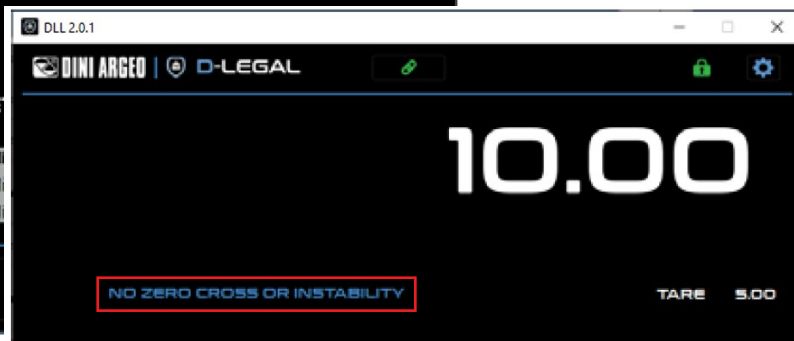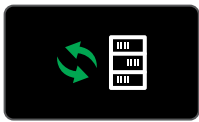
Opens the weighing list:
Note: Column sorting can be edited.

ID ▲	Date	Hour	Scale Number	Um	Tare Weight	Net Weight
0	11/04/2022	10:29:11	1	kg	0	750
1	11/04/2022	11:02:41	1	kg	0	1500
2	11/04/2022	11:02:49	1	kg	0	3000
3	11/04/2022	11:03:09	1	kg	0	2250
4	11/04/2022	11:17:05	1	kg	0	750
5	11/04/2022	11:17:10	1	kg	0	750
6	11/04/2022	11:17:16	1	kg	0	1500
7	11/04/2022	14:38:14	1	kg	0	750

Exports the weighing list in *.csv format.
Selecting the button opens the Save window. Select the destination folder and confirm the Save window.
The *.csv file is named **"export_weights.csv"**

Note: Use the Excel import function to open the .csv file. An example follows:

	A	B	C	D	E	F	G
1	ID	Date	Hour	Scale Number	Um	Tare Weight	Net Weight
2							
3	7	11/04/2022	14:38:14	1	kg	0	750
4							
5	6	11/04/2022	11:17:16	1	kg	0	1500
6							
7	5	11/04/2022	11:17:10	1	kg	0	750
8							
9	4	11/04/2022	11:17:05	1	kg	0	750
10							
11	3	11/04/2022	11:03:09	1	kg	0	2250
12							
13	2	11/04/2022	11:02:49	1	kg	0	3000
14							
15	1	11/04/2022	11:02:41	1	kg	0	1500
16							
17	0	11/04/2022	10:29:11	1	kg	0	750
18							

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▸O◂	Zeros the scale
▸T◂	Tares the scale
⬦T⬦	Sets the predetermined tare

> ℹ The zero, tare and predetermined tare function criteria are managed by the weight indicator.

8 Operational message area

The operational messages are displayed in this area:

Message	Description
WEIGTH STORED ID xx	The weighing was saved with the given ID.
NO ZERO CROSS OR INSTABILTY	The weight has not changed from zero or instability (according to the indicator setting).
NOT VALID WEIGHT	The gross weight is underloaded/overloaded or is under 20 divisions (only in weigh-price systems).
UNSTABLE WEIGHT	The weight is unstable.
ERROR PARSING ANSWER	Communication error with the weight indicator.
PT...	Manual tare setting in progress

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D-LEGAL software allows the use of APIs (application programming interface) using web strings.
The weight indicator does not have to be approved for API use (with the exception of APIs with a function for legal use).

The available APIs include:

Function	
Complete weighing list reading	*
Save weighing	*
Last weighing saving result	*
Weighing reading by ID	*
Zero	
Tare	
Predetermined tare	
Current weight reading	
Change scale	
Bridge	

(*) If used with D-API, the weighings are not approved.

> ℹ️ When D-LEGAL operates as a secondary indicator, API functionality is disabled.

Activating Functions

To activate a function, enter the IP address, port number and function into a web browser:
Syntax: *http://'IP address':'port'/*function}
Response: Refer to function

IP address = Indicator's IP address
Port = Indicator's Local Port number
Function = Desired function

Example: To zero an indicator with an IP address of 1270.0.0.1 on port 23:
http://127.0.0.1:23/Zero

> ℹ️ Refer to page 14 for Ethernet port configuration.

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Complete weighing list reading

Syntax: **http://**'*IP address*'**:**'*port*'**/weights**

Response: {"weight":[

                    {"date":"01/01/2022",   // Date

                     "id":0,   // Unique weighing ID

                     "net":" 1.234",   // Net weight

                     "scale_num":"1",   // Number of the scale

                     "tara_type":" ",   // Tare type (" " = normal, "PT" = preset)

                     "tare":" 0.000",   // Tare value

                     "time":"07:08:09",   // Time

                     "um":"kg"   // Unit of measure

                  },

                  ...

                  }

The display of the weighing list follows.

The browser on the left contains an integrated a JSON reader while the browser on the right does not provide a JSON reader.

```
▼ weight:
  ▶ 0:              {…}
  ▶ 1:              {…}
  ▶ 2:              {…}
  ▶ 3:              {…}
  ▶ 4:              {…}
  ▶ 5:              {…}
  ▶ 6:              {…}
  ▶ 7:              {…}
  ▶ 8:              {…}
  ▶ 9:              {…}
  ▶ 10:             {…}
  ▶ 11:             {…}
  ▶ 12:             {…}
  ▶ 13:             {…}
  ▶ 14:             {…}
  ▶ 15:             {…}
  ▶ 16:             {…}
  ▶ 17:             {…}
  ▶ 18:             {…}
  ▶ 19:             {…}
  ▶ 20:             {…}
  ▶ 21:             {…}
  ▶ 22:             {…}
  ▶ 23:             {…}
  ▶ 24:             {…}
  ▶ 25:             {…}
  ▼ 26:
        date:       "11/07/2022"
        id:         26
        net:        "      126"
        scale_num:  "1"
        tara_type:  " "
        tare:       "        0"
        time:       "13:47:01"
        um:         "kg"
```

```
{"weight":[{"date":"31/01/2022","id":0,"net":"
180","scale_num":"1","tara_type":"   ","tare":"
0","time":"15:29:37","um":"kg"},{"date":"31/01/2022","id":1,"net":"
14.40","scale_num":"3","tara_type":"   ","tare":"
0.00","time":"15:34:33","um":" t"},{"date":"03/02/2022","id":2,"net":"
64.8","scale_num":"2","tara_type":"   ","tare":"
0.0","time":"16:58:36","um":" g"},{"date":"10/02/2022","id":3,"net":"
1008","scale_num":"1","tara_type":"   ","tare":"
0","time":"15:01:53","um":"kg"},{"date":"10/02/2022","id":4,"net":"
4.50","scale_num":"3","tara_type":"   ","tare":"
0.00","time":"15:02:17","um":" t"},{"date":"10/02/2022","id":5,"net":"
202","scale_num":"1","tara_type":"   ","tare":"
0","time":"15:02:40","um":"kg"},{"date":"10/02/2022","id":6,"net":"
90","scale_num":"1","tara_type":"   ","tare":"
0","time":"15:04:07","um":"kg"},{"date":"10/02/2022","id":7,"net":"
108","scale_num":"1","tara_type":"   ","tare":"
0","time":"15:04:13","um":"kg"},{"date":"10/02/2022","id":8,"net":"
84.6","scale_num":"2","tara_type":"   ","tare":"
0.0","time":"15:04:37","um":" g"},{"date":"10/02/2022","id":9,"net":"
0.08","scale_num":"3","tara_type":"   ","tare":"
0.00","time":"15:04:52","um":" t"},{"date":"05/04/2022","id":10,"net":"
16","scale_num":"1","tara_type":"PT","tare":"
20","time":"09:47:56","um":"kg"},{"date":"07/04/2022","id":11,"net":"
538","scale_num":"1","tara_type":"   ","tare":"
0","time":"14:04:53","um":"kg"},{"date":"07/04/2022","id":12,"net":"
196","scale_num":"1","tara_type":"   ","tare":"
0","time":"14:05:16","um":"kg"},{"date":"07/04/2022","id":13,"net":"
103","scale_num":"1","tara_type":"   ","tare":"
0","time":"14:07:04","um":"kg"},{"date":"11/04/2022","id":14,"net":"
317","scale_num":"1","tara_type":"   ","tare":"
0","time":"14:42:50","um":"kg"},{"date":"12/04/2022","id":15,"net":"
1518","scale_num":"1","tara_type":"   ","tare":"
0","time":"12:20:02","um":"kg"},{"date":"12/04/2022","id":16,"net":"
234","scale_num":"1","tara_type":"   ","tare":"
0","time":"12:20:20","um":"kg"},{"date":"12/04/2022","id":17,"net":"
108","scale_num":"1","tara_type":"   ","tare":"
0","time":"12:21:18","um":"kg"},{"date":"12/04/2022","id":18,"net":"
224","scale_num":"1","tara_type":"   ","tare":"
0","time":"12:22:20","um":"kg"},{"date":"12/04/2022","id":19,"net":"
261","scale_num":"1","tara_type":"   ","tare":"
0","time":"12:22:50","um":"kg"},{"date":"12/04/2022","id":20,"net":"
177","scale_num":"1","tara_type":"   ","tare":"
0","time":"12:27:51","um":"kg"},{"date":"12/04/2022","id":21,"net":"
162","scale_num":"1","tara_type":"   ","tare":"
0","time":"12:28:35","um":"kg"},{"date":"27/04/2022","id":22,"net":"
0.08","scale_num":"3","tara_type":"   ","tare":"
0.00","time":"14:09:39","um":" t"},{"date":"29/04/2022","id":23,"net":"
10.00","scale_num":"3","tara_type":"PT","tare":"
5.00","time":"09:53:07","um":" t"},{"date":"29/04/2022","id":24,"net":"
10.00","scale_num":"3","tara_type":"PT","tare":"
5.00","time":"09:53:41","um":" t"},{"date":"29/04/2022","id":25,"net":"
493","scale_num":"1","tara_type":"   ","tare":"
0","time":"14:15:57","um":"kg"},{"date":"11/07/2022","id":26,"net":"
126","scale_num":"1","tara_type":"   ","tare":"
0","time":"13:47:01","um":"kg"}]}
```

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Save weighing

Syntax: **http://**'*IP address*'**:**'*port*'**/saveweight**
Response: {"Result": "OK",
                 "data": {
                 "id": 0,
                 "date": "01/01/2022",
                 "time": "07:08:09",
                 "scale_num": "1",
                 "um": "kg",
                 "net": "   1.825",
                 "tare_type": " ",
                 "tare": "   0.000",
                 "md5checksum": "de3a7c3adb30902c239d4fc9de9e04cb"
                  }
                }

Response	Meaning
OK	Saved weight and ID
NO ZERO CROSS OR INSTABILITY	The weight has not changed from zero or instability since the last weighing
NOT VALID WEIGHT	Invalid weight (e.g. negative weight, weight under 20 divisions in weight/price systems, weight in underload/overload)
UNSTABLE WEIGHT	Unstable weight
ERROR PARSING ANSWER	Communication error between PC and weight indicator

Last weighing saving result

Syntax: **http://**'*IP address*'**:**'*port*'**/getweight**
Response: as "Save weighing"

Weighing reading by ID

Syntax: **http://**'*IP address*'**:**'*port*'**/ID/**'*weigh-ID*'
Response: {"id": 0,
                 "date": "01/01/2022",
                 "time": "07:08:09",
                 "scale_num": "1",
                 "um": "kg",
                 "net": "   1.825",
                 "tare_type": " ",
                 "tare": "   0.000",
                 "md5checksum": "83a5e162f72a29315f6719f8cc55fed7"
                }

Optimized layout for A4 print

Zero

Syntax: **http://**'*IP address*':'*port*'/**zero**
Response: {"OK"}   or   {"ERROR"}

Tare

Syntax: **http://**'*IP address*':'*port*'/**tare**
Response: {"OK"}   or   {"ERROR"}

Predetermined tare

Syntax: **http://**'*IP address*':'*port*'/**pt**/'*value*'
Response: {"OK"}   or   {"ERROR"}

'value' = predetermined tare value without decimal point

Current weight reading

Syntax: **http://**'*IP address*':'*port*'/**weight**
Response: {"weight": "   1.825",
                    "status": "ST",
                    "tare": "   0.000",
                    "tare_type": " ",
                    "scale_number": "1"
                    }

Change scale

Syntax: **http://**'*IP address*':'*port*'/**cgch**/*{'channel'}*
Response: see table below

The *{'channel'}* parameter is optional. The indicator switches to the next channel if it is not specified.

Response	Meaning
{"channel" : "X"}	The channel has been changed and the current channel is displayed
{"channel" : "error"}	Error, check that the selected channel is active
{"channel" : "still switching"}	A channel change is still in progress. Wait a few seconds and try again

Bridge

Syntax: **http://**'*IP address*':'*port*'/**bridge**/'*serial-command'}*
Response: "raw-data"

The weight indicator responds with the raw string to the serial command entered.
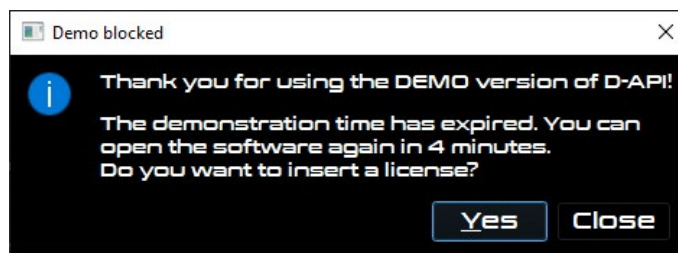
Example:
Syntax: **http://127.0.0.1:5000/bridge/VER**
Response: "VER,512,EGT-AF01\r\n"   (\r\n identifies CRLF terminator characters)

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DEMO version (D-API)

You can try all D-API software functions by entering the activation code "**demo**."
After 30 minutes, the following message displays:

Press CLOSE to automatically close the software. You will not be able to reopen it for 5 minutes.
Press YES to enter the activation code.
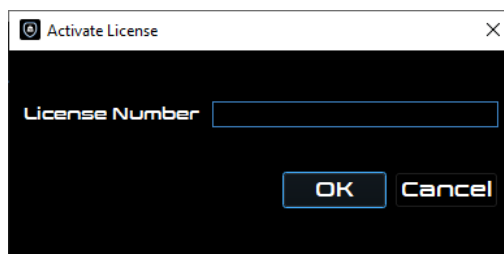
If a valid activation code (D-LEGAL or D-API) is entered, the program will activate and remain open.

> *i*
>
> When the DEMO completes, the software clears the weighing list.

Notes

USER_MAN_ENG_DLEGAL_DAPI

Notes

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