

IZI-Access(Pro) Manual



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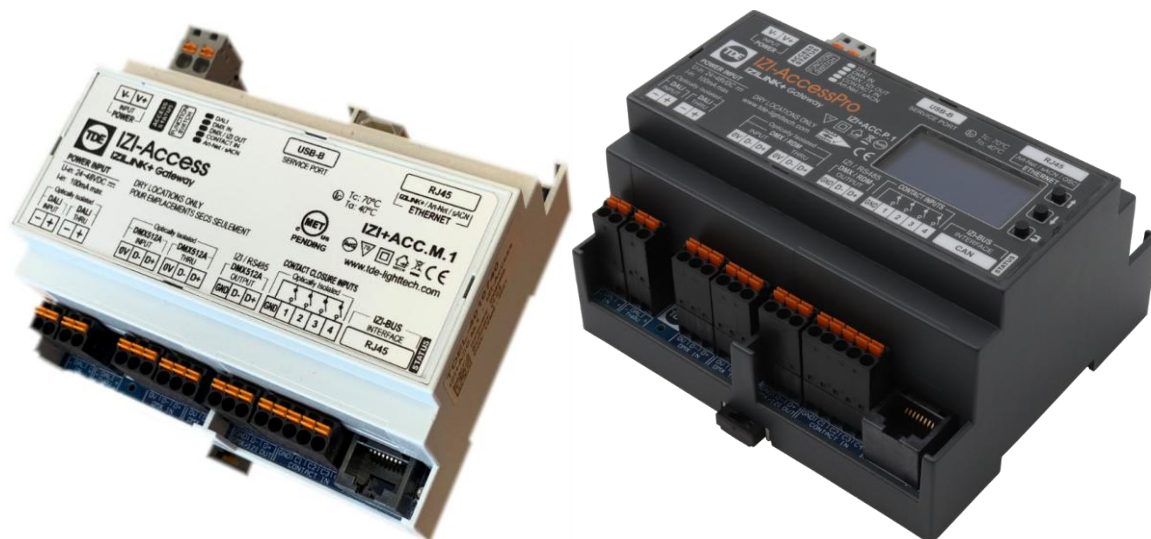
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General

The IZI-Access is designed to create a gateway to the IZI-Link and IZI-Link+ system. Multiple interfaces will be offered to access/control/monitor/update the system via ethernet and usb. There are 2 types of the IZI-Access, the IZI-Access and the IZI-AccessPro.



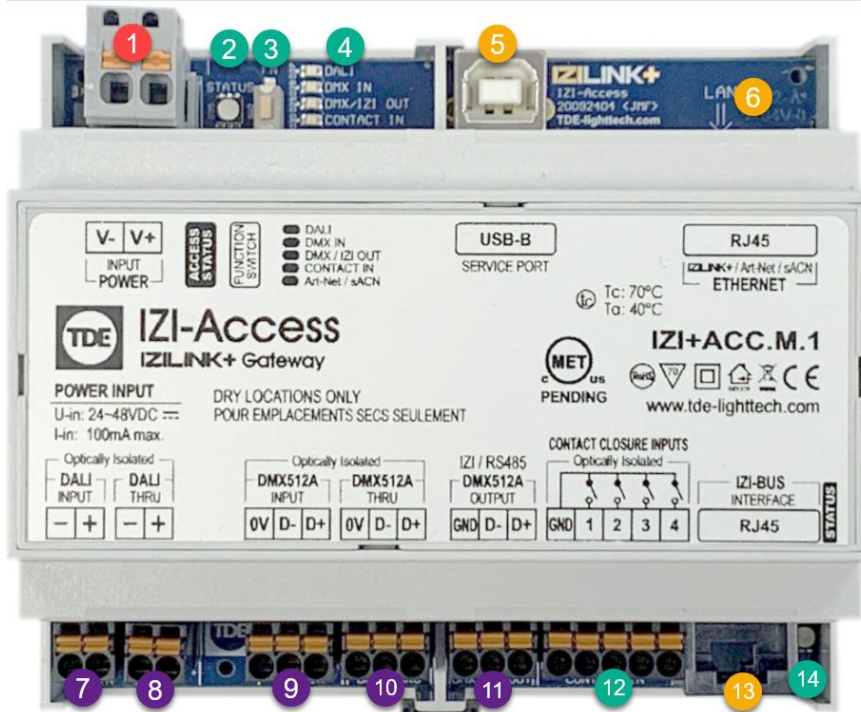
Version

Version	Author	Date	Firmware	Changes
0.1	MZ	8-6-2021		Initial document
0.2	MZ	17-6-2021		Added scene priorities and protocol fail actions
0.3	MZ	6-7-2021		Added photos, updated web page appendix
0.4	MZ	12-7-2021		Dali support added
0.5	MZ	5-10-2021	1.1.x	Added virtual contact inputs
0.6	MZ	9-11-2021	1.1.x	Added OSC and playbacks
1.1	MZ	22-11-2021	1.1.x	Removed Draft watermark
1.2	MZ	19-7-2022	1.1.x	Corrections
1.3	MZ	26-7-2023	1.2.x	OSC messages added Debounce adjusted IZI-bus LED functionality extended
1.4	MZ	11-9-2023	1.2.x	2 nd universe added for Art-Net and sACN (1024 channels) 3 rd patch universe available for Art-Net and sACN Dmx speed
2.0	MZ	18-4-2024	2.0.x	Added Scheduler Added Timers Added Macros Added Rules Added Special events (Power-up, function button, ... events) Added Variables Added leader follower OSC messages added New web pages RDM added
2.1	MZ	20-10-2025	2.0.x	No 2 universes without Pro New web pages
2.2	MZ	16-12-2025	2.0.x	Added display menu for the IZI-AccessPro
2.3	MZ	30-6-2026	2.1.x	New web pages. Shared Playback 7 and 8 can be accessed by user
2.4	MZ	5-7-2026	2.1.x	New OSC commands (scene, sequence and channel)

Attention: tip of the day

If you power-up the IZI-Access for the first time, the default password is 'p@\$word'. This password must be used in the IZI-Supervisor and the IZI-Manager.

Overview



1. Power connector
2. Access Status LED
3. Function switch
4. IO LEDs
5. USB-B connector
6. RJ45 ethernet input
7. Dali input
8. Dali Thru
9. DMX in
10. DMX thru
11. DMX out
12. Contact inputs
13. IZI-BUS
14. IZI-BUS Status LED

Functionality versions

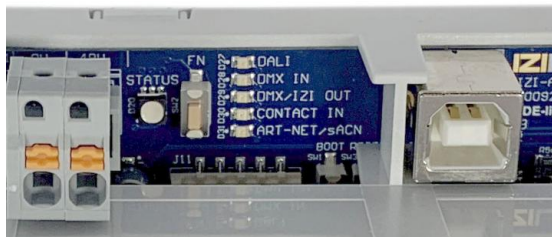
There are 2 functionality versions of the IZI-Access:

- IZI-Access
- IZI-Access-Pro

Function	IZI-Access	IZI-Access-Pro
Hardware		
Ethernet	Yes	Yes
USB	Yes	Yes
Dali	Yes	Yes
DMX in	Yes	Yes
DMX out	Yes	Yes
DMX thru	Yes	Yes
4 contacts	Yes	Yes
Display	-	Yes
Real time clock with battery backup	-	Yes
Software		
Art-net/ sACN in/out 1 st universe	Yes	Yes
Art-net/ sACN in/out 2 nd universe	-	Yes
Art-net/ sACN in patched	Yes	Yes
Patch	Yes	Yes
OSC	Yes	Yes
Web server	Yes	Yes
Dali slave	Yes	Yes
Scheduler	-	Yes
Timers	-	Yes
Macros	-	Yes
Rules	-	Yes
IZI-Touch	-	Yes
Master slave vinputs	-	Yes
DMX RDM	-	Yes

LEDs

The IZI-Access has 2 status LEDs (RGB) and 5 single colour indicators.



Status LED

The status LED is a RGB LED which will reflect the state of the IZI-Access.

Color	Pattern	State	Description
Blue	Blink fast	Init	Initialising after start-up or reset
Blue	Heart beat	Idle	No active connections but still alive
Green + aqua	Heartbeat in aqua	Network connection	A remote application is connected to the device via local network (for configuration, monitoring, control)
Green + pink	Heartbeat in pink	USB connection	A remote application is connected to the device via USB (for configuration, monitoring, control)
Orange	Blink pattern	Warning(s) pending	Can be shown during all states above, a blink pattern every 10 seconds. Count blinks for specific warning.
Red	Blink pattern	Error(s) pending	A continuous blink pattern with pause for error indication. Count blinks for specific error.

Errors

If an error is detected the LED will blink red only (no other colours). An error is a severe malfunction, meaning the IZI-Access cannot function normally. Errors will not be cancelled, only a reset can 'solve' the error.

A blink pattern will show the error with the highest priority (lowest number). A pause will be in between the blink pattern, count the blinks for the specific error.

Blink	Error	Description
1	Hardware error	Extern RAM not functioning OK
2	Hardware error 2	Extern flash not functioning OK
3	Supply voltage too high	The supply voltage is above 52V
4	Temperature too high	The temperature of the processor is above 85 degrees Celsius
5	Supply voltage too low	The supply voltage is under 18V
6	OS assert	Software error in OS (watchdog reset will follow)
7	System assert	Software error in network (watchdog reset will follow)
8	File system error	No file system or corrupt
9	Safe mode active	Problems occurred during boot, some features are not started until reset to be able to keep running without reset

Warnings

If a warning is detected the LED will blink orange only. The blue heartbeat or connection state will also be shown, the highest warning will be shown every 10 seconds. Warnings can be cancelled by software, if the warning has been solved.

A warning is an indication to the user not everything is operating as expected, but the operation can continue. A blink pattern will show the warning with the highest priority (lowest number). A pause will be in between the blink pattern, count the blinks for the specific warning.

Blink	Warning	Description
1	No DHCP	DHCP is enabled, but using fall back IP

2	Temperature high	The temperature of the processor is above 65 degrees Celsius
	Reserved	
4	OS warning	High stack usage
5	No NTP or no time set	No time received from internet or local network
6	Art-Net too many sources	Receiving data from more than 2 sources
7	Too many failed logins	Too many incorrect logins on one or multiple interfaces (kept per interface like ethernet/usb)
8	OSC parse err	Too many OSC parse errors (possibly other protocol uses same port)
9	Web page corrupt	Web page content not valid (or erased)
10	Device type corrupt	Device type files not valid or incomplete
11	Too much modules	Too much modules connected (IZILink+)

IZI Bus LED

The IZI Bus is part of the IZI-Link+. It will blink blue every 10 sec when nothing is connected.

Color	Pattern	State	Description
Blue	Blink slow	Idle	No modules connected on IZI-Bus
Green + aqua	Fading	Connected	Connected OK to one or more modules on the IZI-bus
Yellow	On	Discover	Discovering CAN modules
Orange	On	Storage	Shortly when storing new system config. If it stays on too many modules in system

The LED will be used for attention signals, blinking inversed with the status LED.

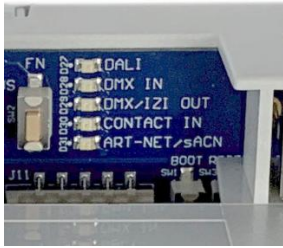
IO LEDs

The IZI-Access has 5 single colour blue indicators for all its interfaces (except USB and Ethernet, Ethernet LEDs are in the connector).

- Dali com indicator Blinking when Dali data is send or received
- DMX in Blinking when data is received (toggle on new valid frame)
- DMX/IZI out Blinking when izi or dmx data is send or received (izi)
- Contact in Blink pattern, indicating which contact input is active (can be multiple)
- ART-Net/sACN Blink when Art-Net or sACN data is received

Switches

The IZI-Access has 3 switches on the PCB.



Function switch

The function switch is the only switch that can be reached without opening the housing. The function switch depends on the length and number of presses.

When performing a long press multiple LED blink sequences appear to indicate what action will be executed when the switch is released.

Press	Function	Description	LED Pattern
Release between: 2s - 4s	All off	Manual/Park released Scenes off Hold of Art-Net/Dmx off	Blink: Magenta/Blue
Release between: 10s - 12s	Password default	Password is reset to 'p@\$word', the http password is also reset to 'p@\$word'	Blink: White/Blue
Release between: 20s - 22s	Factory default	Settings are set to default Log is cleared Scenes are cleared	Blink: White/Red
Double click (short press on/off 0.1s – 0.5s)	Clear login attempt	If interfaces are blocked because of too many failed logins. It can be cleared by clicking 2 times.	Blink: Green/Blue (after clicks)
Triple click (short press on/off 0.1s – 0.5s)	Grant access with manufacturer password for 1 hour	Possibility to grant access for TDE without knowing the password of the customer.	Blink: Aqua/Yellow (after clicks)

Reset

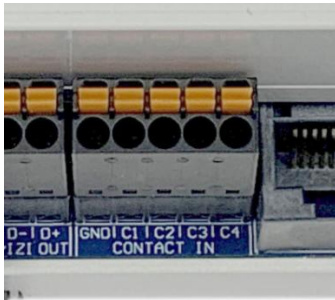
The reset button is positioned in the housing and can be used to reset the IZI-Access.

Boot button

The boot button is positioned in the housing and is used to force an update possibility of the controller on the IZI-Access. The switch should not be used by customers.

Contact inputs

The IZI-Access contains 4 contact inputs. The inputs have to be pulled low for at least 12ms (at least 100ms for versions 1.1.x and lower) to be activated.



Actions

With an input multiple actions can be performed:

- Activate scenes (1 to 32)
- Activate sequences (1 to 12)
- Activate patches (1 to 4)
- Activate macros (Pro only)
- Release actions

Actions can be set for active and inactive state.

Types

Contact inputs can be configured as 6 types of inputs:

- Toggle NO
*Normally open toggle switch. Contact transition from **Open** to **Closed** (to GND) is active, **Open** to **Closed** is inactive (toggle switch or PIR)*
- Toggle NC
*Normally closed toggle switch. Contact transition from **Closed** to **Open** is active, **Closed** to **Open** is inactive (toggle switch or PIR)*
- Pulse NO
*Normally open pulse switch. Contact transition from **Open** to **Closed** (to GND) is active/inactive alternately (pulse switch).*
- Pulse NC
*Normally closed pulse switch. Contact transition from **Closed** to **Open** is active/inactive alternately (pulse switch)..*
- Trigger NO
*Normally open pulse switch. Contact transition from **Open** to **Closed** is always activate (never inactivate action)*
- Trigger NC
*Normally closed pulse switch. Contact transition from **Closed** to **Open** is always activate (never inactivate action)*

Mode

The mode of a contact input can be set (in case of scenes and sequences) how to be handled when an input source (sACN/Art-Net/Dmx) is present.

- Merge Merge with input sources (default)
- Source Contact inputs overrule input sources
- Contact Contact inputs are overruled by any input source

Please be careful to mix all types on the same contact inputs, this can lead to unexpected behaviour when multiple inputs are activated at the same time with different modes.

When 'Source' mode is used, the active scene or sequence will fade out in 2 seconds when an input source gets active, if the input sources are all disconnected, the fade in of possible active scenes will be in 4 seconds (both fixed).

Priority

For every contact input a priority can be set:

- Lowest
- Low
- Medium (default)
- High
- Highest

Priorities will be used for the activation of scenes, sequences and patches. If multiple (v)inputs are activated to highest priority will 'win', meaning levels of a scene or sequence will override scenes and sequences started with a lower priority, and patches activated with a higher priority will 'win' from patches activated with a lower frequency. If the priority is the same the levels will be merged, and for patches the last activated will 'win'.

Long press action

A long press action is available when the input type is set to pulse or trigger. The long action will be executed when a input is active for more than second. When a long press action is configured the normal active action will be triggered when the input is released again.

After a reset (software update or extern reset) the state of the inputs will be remembered and should work directly as before the reset.

Contact inputs	
Activation	Input contacts
Configuration	IZI-Supervisor
Current State	IZI-Supervisor Web page IZI-Touch

Virtual Contact inputs

32 virtual contact inputs are available. The virtual inputs are not directly coupled to hardware like the 'Contact inputs' of the IZI-Access itself. The virtual inputs can be triggered by multiple sources:

- Dmx
- Art-Net
- sACN
- OSC
- IZI-Link+ modules
- IZI-Bus modules
- Master IZI-Access

A virtual contact input will merge multiple states set by the sources mentioned above. The sources will 'simulate' a level for the input. A maximum of 12 sources can be merged per virtual contact input, if only one of the 12 (possible) sources is triggering the active state, the virtual contact will be set to active.

The handling of the level transitions is the same as the 'Contact inputs' described in the previous chapter. All functionality is the same (type, mode, priorities).

If a virtual contact is triggered by DMX/Art-Net/sACN the channel used for the trigger will be set to 0 on the output, so the trigger channel level can not be seen. If the trigger channel is used in a scene that is activated via a contact input, this will be set to the output.

Good to know. If a virtual input is activated and the source is removed, the state will be retained. In case of a Pulse input, this is less of a problem because other source can inactivate the virtual input, but in case of a Toggle input, the input will stay active. Of course, this the input can be deactivated by other ways (function switch or macros).

Contact inputs	
Activation	IZI-IO IZI-Link+ devices DMX/Art-net/sACN/OSC Master IZI-Access
Configuration	IZI-Supervisor
Current State	IZI-Supervisor Web page IZI-Touch

Virtual outputs

32 virtual outputs are available, the outputs can only be used with IZI-Link+ or the IZI-IO. The virtual outputs are not directly coupled to hardware, but IZI-Link+ devices or the IZI-IO can have the ability to map the virtual output state to a real output.

The virtual outputs can be set via scenes or macros.

Contact inputs	
Activation	Virtual inputs
Configuration	IZI-Supervisor
Current State	IZI-Supervisor Web page IZI-Touch

Input to protocol output mapping

It is possible to configure an output mapping on the activation of a contact input or virtual contact input. This will mean if an input gets active, the channel on a selectable output source will be set to 255 (100%). If it gets inactive it will be set to 0%. The original value on the output source will be ignored.

The mapping can be output on 3 output sources or a combination of these outputs:

- Dmx
- Art-Net
- sACN

If mapped to sACN or Art-Net, do not forget to enable the sACN/Art-Net output in the settings.

IZI-Access-Pro

Macros

Macros are implemented to execute multiple actions by a single event. Macros are only available for the IZI-Access Pro version.

Macros can be called by:

- (Virtual) Input events (active/inactive/long)
- Scheduler
- Special events
- Timers

There are currently 16 macros available, every macro has 10 lines, so max 10 actions per macro. A macro cannot call another macro. There are more actions available in macro's than in normal event actions.

Per macro line a rule can be assigned. A rule determines if the action in that line may be executed at the time it is called.

All macro lines are executed sequentially and a delay can be added between every line. If multiple lines take longer than 2ms to execute, 25ms delay is automatically added, to make sure other tasks don't get delayed. This will (almost certainly) never occur, but it is measured.

Rules

Rules are implemented to determine if a macro line may be executed at the time that it is called as I sort of 'if then' statement. Every rule has 8 lines where a statement can be defined, like is the output level of channel 3 is higher than 50% or if (virtual) input is active. Per line a logic AND or OR can be set to define the relation to the prior lines.

Scheduler

The scheduler can trigger events on a fixed time or at sunrise/sunset. The scheduler is only available for the IZI-Access Pro version. For the scheduler a valid time is needed, that can be set via the IZI-Supervisor or via a NTP server (internet or local).

There are currently 8 scheduler items available. Every item has a start and end action, the end action does not have to be used. The start and end time can be a fixed time in a day or a sunset/sunrise time (possible with offset). To use the sunset/sunrise time a valid city has to be chosen in the IZI-Supervisor, to be able to determine the coordinates.

It is possible to execute a scheduler item every day or on selected weekdays. It is not possible to execute items on specific dates.

There is an action to restart the scheduler, this can come in hand after a restart. A restart means that all scheduler items are executed that have an action between 0:00 to the current time on the current day.

Timers

Timers can trigger actions with fixed intervals or after a single period. Timers can be started/stopped/reset via actions that are only available in macro's. There are 4 timers available.

Timer intervals occur periodically (every configured time in seconds) until the total period has passed, if no period is set it will be repeated infinitely. Intervals can be used to check things once in a while, or change things for example the output every 'hour'.

Timer period is a single event where an action can be executed after a specific time after the timer has been started.

Variables

To be able to remember states or count events, variables are added to the IZI-Access-Pro. Variables can only be used in macro's and rules. Variables can be set from 0 to 65535 (16-bit), multiple actions are available to alter variables (clear, set, increase, decrease, bit set/clear).

An example of the use of variables can be that you can create multiple functions for buttons. On a button press Macro x is called and the macro has 3 lines, let's say:

- | | |
|---------------------|--------|
| 1. Call scene 1 | Rule 1 |
| 2. Call scene 2 | Rule 2 |
| 3. Activate Patch 1 | Rule 3 |

The rules will determine which of the three actions will be executed.

1. Var 1 = 0
2. Var 1 = 1
3. Var 1 = 2

By setting Var 1 with an other event to a value (from 0 to 2), the user can use the same button, with multiple functions.

Leader follower

With leader follower it is possible to trigger a virtual input from another IZI-Access. One IZI-Access is the leader and there can be multiple followers that receive all virtual input events of the leader module. The incoming events of the leader can be mapped to an input on the follower module(s). By this principle it is possible to execute actions on multiple IZI-Access modules, by a single trigger on a leader module.

The leader follower functionality is one way only, so local contact triggers on the follower modules can not be reported to the leader.

The leader follower principle uses a multicast principle (just like sACN). For now 4 channels are implemented, so there can be 4 masters in a network, and a slave can only subscribe to a single master.

Display menu

The IZI-AccessPro has a display build in the front plate.

IZI-AccessPro

```
IP   : 192.168.2.154
Stat: OK
Time: 14:47:22
Date: 2025-12-16
```

The display contains status and configuration possibilities, and is controlled by 3 buttons.

- Up
- Down
- Enter

To exit a menu, there are 2 possibilities, scroll to the 'Exit menu' item, or hold the Enter button for more than 1 sec.

The menus brightness will be reduced after 1 minute of 'no usage' and the menu display will go off after 1 hour. Pressing any key will increase the brightness and restart the menu (if off).

Base menu

The base menu has 5 screens, and contains only status

IZI-AccessPro

```
IP   : 192.168.2.154
Stat: WARNING
Time: 14:47:27
Date: 2025-12-16
```

The first screen contains:

- The current IP address
- Status, OK, WARNING, ERROR (indicating the current state of the system)
- Time and date

Input event log

```
- Switch1 - Vin2
  Active 14:45:07
- PIR2 - In 4
  Inactive 14:22:11
```

The third screen shows the latest 2 input events, events on local inputs contacts and virtual input (contacts) will be shown. If the input has a name it will also be (partly) displayed. The events will be automatically be updated.

Information

```
Serial: 12345
Version: 0.8.1
Boot: 1.0.3
Stat: Ok
```

The fourth screen is the information screen about the device, serial, application version, bootloader version and hardware status.

Status

WARNING (1 of 6)
 Hall
 MoodSpot+LP WRGB1465
 offline

This screen will only be shown if there on or multiple warnings or errors. The name of the device will be shown, the type and the warning/error text.

Main menu

The first menu layer, contains 3 items to configure the device. The menu is entered by pressing the enter button.

Main menu 1/5
 > Network settings
 Time settings
 Patch
 Test outputs
 Exit menu

Network settings

In the network settings it is possible to change network settings, like the IP address and DHCP.

Main menu 1/4
 > Network settings
 Time settings
 Test outputs
 Exit menu

Network settings 1/3
 > Network mode
 IP settings
 Exit menu

Network mode 1/3
 >*DHCP
 Static IP
 Exit menu

Network store 1/2
 > Save & reboot
 Cancel

The network mode contains the option to enable or disable the DHCP server. If 'Static IP' is selected (DHCP disable), the IP address must be set in the next menu.

To select an option press the 'Enter' button, if changed a screen will be shown with the question if the user wants to reboot now. This is needed to activate the new setting, if cancel is pressed the new setting is discarded.

Network settings 2/3
 Network mode
 > IP settings
 Exit menu

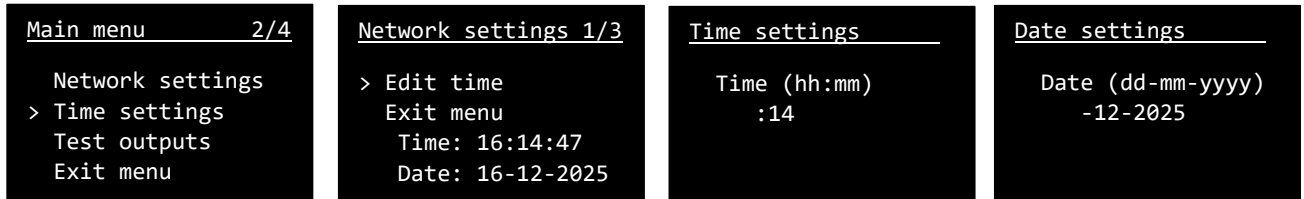
IP settings 1/3
 > Edit IP
 Cancel
 192.168.2.154
 255.255.255.0

IP address
 IP settings
 .168.2.154

In the 'IP setting' menu the IP address, Subnet mask and Gateway address can be changed. The three 'Addresses' will be shown sequentially. They can be edited per 'field' with the up and down button, and enter will take the user to the next field. When all settings are changed/checked, the question will appear if the settings may be saved and if the device should be rebooted (needed for activation).

Time settings

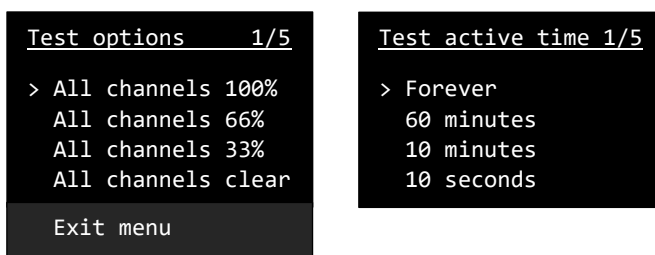
In the time settings menu the time and date can be set.



They can be edited per 'field' with the up and down button, and enter will take the user to the next field. When all settings are changed/checked, the time will directly be set.

Test outputs

Via the test outputs menu fixtures on the output can be tested, by generating DMX with a given level to all channels or a stored scene.



A level can be chosen, which will be send on all 512 channels. Second option is to test a stored scene on the output. A last option 'All channels clear' can be chosen to manually stop the test output.

If a level (with the Enter button), a second option appears to select the time the test output will stay active. When the time is selected, the test output will directly be started.

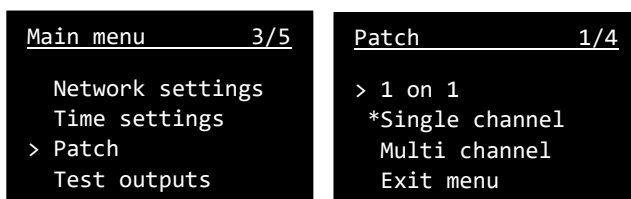
When the time is chosen, the menu will jump back to the 'Test options' menu and a dot will be shown before the selected option, indicating this is active now.

The test output be set as a 'Manual' action just as it can be done in the outputs window of the IZI-Supervisor.

Warning: Although the time option says 'Forever', a power down will clear the manual setting.

Patch

The patch menu is only shown when there are patches configured.



The current patches are shown, including a 1 on 1 patch (or no patch). A dot will show there current patch that is selected. By pressing 'Enter' on a patch, the patch will directly be activated.

Special events

The IZI-Access has a few special events, giving some extra possibilities on specific events.

At the time of writing the following events are available:

- Power-up/Reset Single execute directly after power-up
- Power-up/Reset RTC Single execute when time is 'really known' by: NTP/Local RTC (pro)
- Function button Single action on short press function button
- Dmx|Art-Net|sACN active Action when one of the protocols is present
- Dmx|Art-Net|sACN inactive Action when none of the protocols is present any more
- OSC active First OSC command received
- OSC inactive Last OSC command received x sec ago (see OSC paragraph)

Interfaces

Ethernet

The IZI-Access has one ethernet RJ-45 connector with two activity LEDs. The ethernet connection supports DHCP or static IP. Also a combination is possible, when no DHCP is found a fallback is done on the static IP after a configurable amount of seconds.

The default settings are:

DHCP: enabled

IP address: 192.168.2.102

Subnet: 255.255.255.0

Gateway: 192.168.2.254

DNS primary: 192.168.2.254

DNS secondary: 0.0.0.0

Fallback time: 15 sec

USB

The IZI-Access has a USB-B connector for USB support. When connected to a PC it will be reported as a COM port (if the driver is installed). It can only be used in combination with the IZI-Supervisor and IZI-Manager.

IZI-Bus

The IZI-Bus is also a RJ45 connector on the IZI-Access and will be used for future expansion for communication with other IZI-Link+ modules.

Scenes

The IZI-Access can store 64 scenes containing level information for 512/1024 channels. Timing of fade in/out is not stored in the scene. A tiny effect engine is stored in the scene, which will make it possible to add delay patterns within the scene (which is stored in the scene).

It is also possible to store scenes as 'partial scenes', meaning there is only data in the scene for specific fixtures/channels. Channels that are not part of the scene will never be affected when activating the scene.

Scenes can also contain states for virtual outputs.

Scenes	
<i>Activation</i>	<i>IZI-Supervisor Web page Input contacts</i>
<i>Store/Create</i>	<i>IZI-Supervisor</i>

Sequences

The IZI-Access can store 12 sequences. A sequence is list of max 128 scenes that can be executed with settable fade and delay times. A sequence can also contain loops to repeat certain scenes. The trigger to go to a next can be automatic or triggered by an extern source.

A sequence must be 'played' on an executor, 4 executors are available.

Sequences	
<i>Activation</i>	<i>IZI-Supervisor Input contacts</i>
<i>Store/Create</i>	<i>IZI-Supervisor</i>

Patches

The IZI-Access can store 4 soft patches (in addition to the default one on one patch). A soft patch will be applied to all input protocols such as Dmx, sACN and Art-Net. A patch can be extremely useful to bundle channels in some situations. For example, sometimes you want to control all your fixtures separately but mostly it will be needed that the fixtures are controlled as one. To save the channel amount over a universe, a patch can be very helpful.

A patch also gives the possibility to set a maximum output per channel or set it to a fixed value.

Patches	
<i>Activation</i>	<i>IZI-Supervisor Web page Input contacts</i>
<i>Store/Create</i>	<i>IZI-Supervisor</i>

Data buffers

To have a better understanding how the IZI-Access works and processes its signals to an output protocol, a short attempt is made to explain how it works internally.

The IZI-Access has 5 main data buffers:

1. DMX
2. Art-Net
3. sACN
4. Scene
5. Manual/Park

The basic theory is that all the buffers will be merged into HTP and that result will be used for the output of DMX/Art-Net/sACN. Exceptions can be made with the contact inputs when the input sources are overruled by a scene or vice versa, and the Manual/Park buffer has an override option.

DMX/Art-Net/sACN

The input protocol buffers are normal buffers with one universe. Sending input with all 3 protocols at the same time, will always be merged into HTP. How multiple protocol inputs of the same type are handled, refer to the specific chapter of that protocol.

Scene

The scene buffer is more complex. The scene buffer consists of 8 playback buffers, which are merged according to the priority that they were executed with. A scene can be executed with 5 priorities:

- Lowest
- Low
- Medium (default)
- High
- Highest

At the time of writing these are the sources that can execute a scene:

- Contact input 1 .. 4
- Virtual contact inputs 1 .. 32
- Dali mapped scenes/sequences
- Timeout scenes of DMX/Art-Net/sACN
- Web/IZI-Supervisor activation

Every playback has its own buffer with corresponding priority. On every change a new result will be calculated taking all priorities into account. The calculation is done per channel, because a scene does not have to contain information for all channels. Sources with the same priority will be merged into HTP. See [Appendix B](#) for how priorities from all sources are handled.

The playbacks 7 and 8 are available for users (since IZI-Supervisor 2.1.6), but share the playback with functionality. Playback 7 is used for Dali mapping, playback 8 is used for testing with Web/IZI-Supervisor and for protocol timeouts.

Playback masters

Every playback has its own master (from 0%-100%/ 0 – 255). The playback master is 100% after power-up. The master level can be changed via (virtual) contacts (choosing Dim up/down), via OSC or Dmx/Art-Net/sACN mapping.

No real crossfades are possible in the IZI-Access, only fading to a scene via the playback master.

If IZI-Link modules with a master channel are known in the IZI-Access, the level set by the playback master will only apply to the master channel (and channels not assigned to any fixture or fixtures with no master channel). So when fading a master from 0 to value 1 (and higher) of a scene with a fixture with RGBW and a master, will directly set the color channels to the scene value, while the master channel will follow the playback master. If an IZI-Link module does not have a master, all channels will fade according to the level of the playback master.

Manual/Park

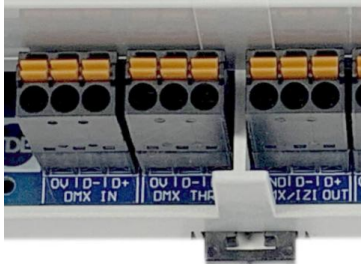
The manual/park buffer will be used for temporary test actions. If channels are set via the web server or IZI-Supervisor, this will be done in the Manual/Park buffer. The buffer will stay valid after a reset (or software update), but not after power-down.

The Manual/Park buffer also has the possibility to override all other buffers. This way it is possible to set a channel or channels of a fixture to a fixed value. Please keep in mind the overridden values won't be there any more after power-down.

Protocols

Dmx

The IZI-Access has 3 Dmx connectors: in, out, thru. At the moment of writing the direction of the Dmx in and out are fixed and not configurable.



DMX in

The standard DMX protocol is supported, RDM messages will be ignored. The DMX signal is considered valid when two frames of the same length are successfully received (of course separated by a break). If the signal is valid, the content will be used when the complete frame is in. This will mean that the Dmx out is always one frame behind.

An action can be configured in the application settings what should happen when the DMX signals drops (to zero, to full, hold, to scene x). The scenes will be activated in 4 seconds and will have priority Low (same for to full). The timeout action will only be executed when Art-Net and sACN have no valid input at that time. Scenes activated by a timeout will be fade out in 2 seconds, when any protocol input (Dmx/Art-Net/sACN) receives a valid input.

DMX out

The DMX out is also standard DMX protocol (always 512 channels), no RDM support. The default output rate is 33.3Hz fixed (was 40Hz in 1.1.x and below). The speed is configurable in 4 speeds:

- 25Hz
- 30.3Hz
- 33.3Hz
- 40Hz

The DMX will be activated with a short delay after power-up or reset (max 10 seconds). The delay is used to make sure no initial 0-s are send when there is already an input sending data to our device. So the dmx in or Art-Net input has max 10 seconds to get stable or connected, before the initial 0-s are send. If the DMX in is stable or the Art-Net/sACN in is connected before the 10 seconds is shortened and the output will get active immediately.

The DMX out will also be used for 'IZI-Link' communication, which can only be used via the IZI-Manager.

RDM

The IZI-AccessPro supports RDM (in a non 'Pro' IZI-Access, incoming RDM frames are ignored). You can enable an option to forward RDM frames to the 'Out' port. When this option is active and a DMX signal is detected on the input port, the output port synchronizes to the same refresh rate, ensuring RDM frames are forwarded seamlessly.

Additionally, you can enable 'RDM Virtual Modules', allowing modules on the IZI-Bus and IZI-Link+ to simulate connected RDM devices. This feature provides access to module status, version information, and other details. It also supports configuring key parameters, such as addresses, operating modes, and custom text.

Art-Net

Art-Net in

The IZI-Access (v1.2.x and higher) supports two universes as an input, meaning 1024 channels can be used. For now the 2nd universe is only enabled for the IZI-AccessPro. Also there is a 3rd universe available for a direct patch (see next paragraph). ArtRdm is supported, but is still under development.

The Art-Net is received on a fixed port 6454. For now these commands are supported:

- ARTNET_OP_POLL
- ARTNET_OP_DMx
- ~~ARTNET_OP_SYNC~~
- ARTNET_OP_ADDRESS
- ARTNET_OP_RDM
- ARTNET_OP_TOD_CONTROL
- ARTNET_OP_TOD_REQUEST

The name reported is the name of the application configuration. The name can not be changed by the ARTNET_OP_ADDRESS command.

The IZI-Access has only one IP address, meaning the static IP or the IP assigned by a DHCP will be used for the Art-Net communication. The default for Art-Net is the 2.x.x.x range, if this must be supported the complete device will use this IP address.

The IZI-Access will accept 2 sources for the ARTNET_OP_DMx command. The signals will be HTP merged, a third input via Art-Net will be ignored. If one of the signals will drop, the signal content will be freed (to zero) after 6 seconds. This applies to all input universes (including the patch universe).

If the last Art-Net input signal drops, an action is configurable in the application config (to zero, to full, hold, to scene x). The scenes will be activated in 4 seconds and will have priority Low (same for to full). The timeout action will only be executed when Dmx and sACN have no valid input at that time.

Scenes activated by a timeout will be fade out in 2 seconds, when any protocol input (Dmx/Art-Net/sACN) receives a valid input.

Art-Net Patch

A 3rd (or 2nd when no Pro is used) universe is available (v1.2.x and higher). For this universe a patch can be selected which is always applied to the input send to the Art-Net patch universe. This will make it possible to make a patch selection via a universe selection.

The patch is applied before the general patch that can be applied to all input sources (Dmx/Art-Net/sACN). If a general patch is active and the patch universe is used, the input source is patched twice, which can result in unwanted output.

Art-Net out

Art-Net output can be enabled for a 2 universes (2nd universe from v1.2.x). The 2nd universe can only be used when IZI-Link+ products are present. The IZI-Access can be used as a DMx to Art-Net converter. But also manual input or scenes can be output via Art-Net or a combination.

The refresh rate of the Art-Net out is 40 packets/sec. This rate is only send when data (to be output) really changes. If no output changes, the rate will drop to 1 packet/s.

The Art-Net out will be activated with a short delay after power-up or reset (max 10 seconds). The delay is used to make sure no initial 0-s are send when there is already an input sending data to our device. So the dmx in or Art-Net input has max 10 seconds to get stable or connected, before the initial 0-s are send. If the DMx in is stable or the Art-Net or sACN in is connected before the 10 seconds is shortened and the output will get active immediately.

sACN

sACN in

The IZI-Access (v1.2.x and higher) supports two universes as an input, meaning 1024 channels can be used. For now the 2nd universe is only enabled for the IZI-AccessPro. Also there is a 3rd universe available for a direct patch (see next paragraph).

The sACN is received on a fixed port 5568. Packets will be accepted on the corresponding Multicast address (for the chosen universe) or the unicast address, the IP address of the IZI-Access itself. This is an advantage to the Art-Net implementation that the also the 192.168.x.x can still be used.

For now only the 'Data Packet' is supported, the 'Synchronization Packet' is not supported yet.

The IZI-Access will accept 2 sources for sACN and merge them HTP. If a third source will come along with a higher priority than one of the already incoming sources, the new higher prio source will take the place of the lower prio source. If 3 sources all have the same priority one of them will be ignored. This applies to all input universes (including the patch universe).

Priority per channel is not supported. The source name in the packets is filled by the name of the IZI-Access (configured with the IZI-Supervisor). The CID is a fixed number, ending with the MAC address of the IZI-Access, which should make it unique.

If the last sACN input signal drops, an action is configurable in the application config (to zero, to full, hold, to scene x). The scenes will be activated in 4 seconds and will have priority Low (same for to full). The timeout action will only be executed when Dmx and Art-Net have no valid input at that time.

Scenes activated by a timeout will be fade out in 2 seconds, when any protocol input (Dmx/Art-Net/sACN) receives a valid input.

sACN Patch

A 3rd (or 2nd when Pro is used) universe is available (v1.2.x and higher). For this universe a patch can be selected which is always applied to the input send to the sACN patch universe. This will make it possible to make a patch selection via a universe selection.

The patch is applied before the general patch that can be applied to all input sources (Dmx/Art-Net/sACN). If a general patch is active and the patch universe is used, the input source is patched twice, which can result in unwanted output.

sACN out

sACN output can be enabled for 2 universes. The IZI-Access can be used as a DMX to sACN converter. But also manual input or scenes can be output via Art-Net or a combination.

For now the sACN output will only support Multicasts to 239.255.x.x (depending on the chosen universe, starting from 1 unlike Art-Net). The priority only can be set for the complete frame at once, not per channel. The default priority is 100.

The refresh rate of the sACN out is 40 packets/sec. This rate is only send when data (to be output) really changes. If no output changes, the rate will drop to 1 packet/s.

The sACN out will be activated with a short delay after power-up or reset (max 6 seconds). The delay is used to make sure no initial 0-s are send when there is already an input sending data to our device. So the dmx in, sACN or Art-Net input has max 10 seconds to get stable or connected, before the initial 0-s are send. If the DMX in is stable or the Art-Net in or sACN in is connected before the 10 seconds is shortened and the output will get active immediately.

The 'Universe Discovery Packet' is supported and will be send on 'universe 64214', reporting the universe it is transmitting on. It wil not be send if the output is disabled.

IziTopic

The IziTopic protocol is used as communication protocol for the IZI-Supervisor. The protocol is not an open protocol.

The protocol is a readable TCP protocol using port 4445. Although it is readable, security is added, so messages cannot be copied.

The protocol is used over USB and Ethernet communication.

Login

To login to the IZI-Access a password is needed. After 4 failed attempts the access will be blocked on that interface for 1 minute. If the user tries again after 1 minute and fails again 4 times within 2 minutes, the IZI-Access is blocked for 2 minutes. If the user tries again after 2 minute and fails again 4 times within 4 minutes, the IZI-Access is blocked for 4 minutes. And so on, to a max of 16 minutes.

By double clicking the switch, the attempts can be cleared.

Special care should be taken if security is very important. The web server is http and is protected with a username and password, but no max attempts are kept, and all other security used by the IZI-Supervisor and IZI-Manager is not present. Disable the web server if security is important.

Connections

Multiple connections can be made at the same time to the IZI-Access. A connection with USB, and ethernet is possible at the same time. Every connection results in a session after entering the correct password. A maximum of 4 sessions at the same time is supported (a session can be started with any protocol or interface).

Interface	Max session per interface	Remark
USB	1	
Ethernet Tcp	3	Max 3 sockets at a time
Ethernet Udp	4	Used for IZI-Touch

Dali



The Dali port can be used to connect 3rd party Dali devices like displays, switches and PIRs. If a commissioning session is started (on a external device) on the Dali bus and IZI-link fixtures are successfully configured, the IZI-Access will simulate the presence of the modules. This is only possible in small systems, because Dali only supports 64 devices per bus. Also if a CC2 or CC4 is used, this will result in the simulation of 2 and 4 Dali fixtures respectively.

Only Dali v1 is supported for now. Most basic commands are supported, only the scene store commands are not handled for now. Scenes have to be created with the IZI-Supervisor. Scenes can be recalled by Dali, which will only work for known fixtures. If scenes are created with channels which are not channels of a known fixtures, these channels will not be activated.

A mapping can be done on the Dali scene activation (broadcast only) via the IZI-Supervisor. Actions like patches, scenes and sequences can be started via a Dali 'Go to scene' command, so 16 mappings can be made.

Scenes and sequences activated via mapping, all will execute on the same playback (playback 7).

OSC

The OSC protocol (Open Sound Control) has been implemented to control the IZI-Access (UDP only). Almost the complete implementation is available, including wildcards and bundled messages. The only type that is not supported for now is 'Float'.

OSC in

The input for OSC can be enabled and disabled and it can be assigned to a specific network port. Seven action types are supported via OSC:

- Activate/De-activate Virtual Contact1 – 32
- Fade Virtual Contact1-32
- Playback Master1-8
- Set variables (Pro only)
- Activate or stop a Scene on a Playback
- Activate, stop or trigger a Sequence on a Playback
- Manually set output channels

Activate Virtual Contact

By means of OSC commands the state of the VContact can be set, so it is a simulation. The VContact itself will contain the real action executed (like set patch or goto scene).

Command: '/buttonx' (x=1 to 32) Value: Integer (0 or 1), or Boolean (True/False)

Note: The way the command is handled also depend on the input type. If the input type of vcontact 1 is 'Toggle NO' for example, sending state True (or not 0) will result in the Active action, and False (or 0) will result in the inactive action. Input type 'Pulse' or 'Trigger' is also possible, meaning the state should change twice (True and False) for a complete pulse. With Pulse or trigger it is also possible to trigger the 'Long press' action.

Fade Virtual Contact

By means of OSC commands it is possible to activate and fade Scenes or sequences that are set as active action in a VContact. What actually happens, is that if faded from 0 to 1 or higher, the corresponding Vcontact is activated and the playback master (of the corresponding VContact) is set to the value received. This way it is possible to fade a scene from 0 to 100% (0 .. 255).

Command: '/faderx' (x=1 to 8) Value: Integer (0 to 255)

Command: '/tempfaderx' (x=1 to 8) Value: Integer (0 to 255)

Note: 'tempfader' is only useful with IZI-Link+. With the 'fader' command RGB(W) fixtures will 'snap' to the color as soon as the fader is 1 percent or higher, with the 'tempfader' command the color channels will also fade according to the fader state.

Note2: Fading the scene or sequence will use the master of the playback configured on the corresponding VContact. This means that other actions that are active and which use the same playback, will also fade (only possible with partial scenes).

Playback master

By means of OSC commands it is possible to set the playback masters.

Command: '/masterx' (x=1 to 8) Value: Integer (0 to 255)

Set variables

By means of OSC commands it is possible to set the value of a variable (Pro license required).

Command: '/varx' (x=1 to 16) Value: Integer

Activate Scene on Playback

By means of OSC commands it is possible to directly activate (recall) a stored Scene on a given Playback, with a specific fade time and priority. Unlike the Fade Virtual Contact command, no VContact needs to be configured for this action.

Command: '/scenegox' (x=1 to 8) Value: Integer, Float, Integer

Note: The three values are, in order: the Scene number (1 to 64), the fade time in seconds, and the priority. Priority is a value from 0 to 4, mapping to 0=Lowest, 1=Low, 2=Medium, 3=High, 4=Highest; a Scene with a higher priority takes precedence over a lower priority Scene active on the same Playback. Any other priority value is ignored (the command has no effect). See [Appendix B](#) for how priorities are handled.

Command: '/sceneoffx' (x=0 to 8) Value: none, or Float

Note: Stops the Scene (and any running Sequence) active on Playback x, fading over the given time in seconds, or instantly if no value is given. Playback 0 is special: it clears Scenes on all Playbacks at once.

Activate Sequence on Playback

By means of OSC commands it is possible to start, stop or manually trigger the next step of a Sequence on a given Playback.

Command: '/seqgox' (x=1 to 8) Value: Integer, Integer

Command: '/seqoffx' (x=1 to 8) Value: none, or Float

Command: '/seqtriggerx' (x=1 to 8) Value: none

Note: For 'seqgo' the two values are, in order: the Sequence number (1 to 12) and the priority (see above, 0 to 4). For 'seqoff', giving no value stops the Sequence using its own configured fade off time; a Float value (fade time in seconds) overrides this. 'seqtrigger' advances a running Sequence to its next manually triggered step and has no effect otherwise.

Set Output Channels Manually

By means of OSC commands it is possible to directly force one or more output channels to a level, bypassing the normal Scene/Sequence system. A manually set channel keeps showing its forced value — regardless of any Scene or Sequence activity — until it is released with the clear command.

Command: '/chanset' Value: Integer, Integer, Float

Note: The values are, in order: the channel number (1 to 1024), the level (0 to 255), and the fade time in seconds.

Command: '/chanrange' Value: Integer, Integer, Integer, Float

Note: The values are, in order: the first channel, the last channel (inclusive), the level (0 to 255) applied to the whole range, and the fade time in seconds.

Command: '/chanmulti' Value: (Integer, Integer) x8, Float

Note: Sets up to 8 channels in one message. Each pair is a channel number and a level (0 to 255); an unused pair should use channel -1. The final value is the fade time in seconds, shared by all 8 channels.

Command: '/chanclear' Value: Float

Note: Releases every currently manually set channel back to normal Scene/Sequence control, fading over the given time in seconds. Channels set with 'chanset', 'chanrange' or 'chanmulti' are independent of each other — setting one does not affect previously set channels; only 'chanclear' releases them all.

Command examples

The examples below assume no prefix is configured. If a prefix is set (see Prefix), it precedes the address, e.g. '/IZI-Access1.1/scenego1 12 2.5 3'. Values shown in green are the message arguments.

Command	Example	Effect
/buttonx	/button1 1	Activate Virtual Contact 1 (runs its configured action)
/faderx	/fader1 128	Activate VContact 1 and set its playback master to ~50%
/tempfaderx	/tempfader1 128	As fader, but colour channels fade along too (IZI-Link+)
/masterx	/master1 200	Set the master level of Playback 1 to 200
/varx	/var1 5	Set variable 1 to the value 5 (Pro only)
/scenego	/scenego1 12 2.5 3	Recall Scene 12 on Playback 1, fade in 2.5 s, priority High
/sceneoffx	/sceneoff1 3.0	Stop the Scene on Playback 1, fading out over 3 s
/sceneoffx	/sceneoff0	Clear the Scenes on all Playbacks instantly
/seqgo	/seqgo1 4 2	Start Sequence 4 on Playback 1, priority Medium
/seqoffx	/seqoff1 3.0	Stop the Sequence on Playback 1, fading out over 3 s
/seqtriggerx	/seqtrigger1	Advance the Sequence on Playback 1 to its next step
/chanset	/chanset 5 255 2.0	Set channel 5 to full (255) over 2 s
/chanrange	/chanrange 1 24 128 1.5	Set channels 1 to 24 to ~50% over 1.5 s
/chanmulti	/chanmulti 1 255 5 128 -1 0 -1 0 -1 0 -1 0 -1 0 2.0	Set channel 1 to 255 and channel 5 to 128 over 2 s (unused pairs use channel -1)
/chanclear	/chanclear 2.0	Release all manually set channels over 2 s
/present	/present 30	Set the OSC presence time-out to 30 seconds

OSC out

The Osc out can be enabled and disabled. When enabled the IZI-Access will report feedback when some parameters are changed by another source than OSC (via local inputs or other devices).

If the OSC out is enabled the following commands will be send to report updates:

- Status containing the current system state (reported every minute, and when changed)
 - Command: '/status' Value: String ('OK' or pending errors/warnings)
- Transitions of a VContact state (triggered by another source like Art-Net or extern modules)
 - Command: '/buttonx' (x=1 to 32) Value: Integer (0, 1)
- Update of a VContact state (triggered by another source like Art-Net or extern modules)
 - Command: '/buttonall' Value: Integer (bitmap of vinputs)
- Transitions of a local Contact state (triggered by 4 local contacts)
 - Command: '/lbuttonx' (x=1 to 4) Value: Integer (0, 1)
- Transitions of scheduler events
 - Command: '/sbuttonx' (x=1 to 16) Value: Integer (0, 1)
- Update of a Contact state (triggered by another source like Art-Net or extern modules)
 - Command: '/lbuttonall' Value: Integer (bitmap of local contacts)
- Updates of a Playback masters (triggered by another source like fade via local inputs)
 - Command: '/masterx' (x=1 to 8) Value: Integer (0 - 255)
- Updates of the active Scene and Sequence on a Playback (only sent while a Scene or Sequence is active; nothing is sent for an empty Playback)
 - Command: '/pbstatusx' (x=1 to 8) Value: Integer, Integer (Scene nr, Sequence nr; 0 = none)

- Updates of current Patch
 - Command: '/patch' Value: String ('No patch', or the name of the active patch)
- Custom message by macro
 - Command: '/x' (x=string from macro) Value: Integer (0 - 65535)

Prefix

It is possible to add a prefix to the commands parsed and send by the IZI-Access. For instance the prefix can be set to 'IZI-Access1.1/' meaning the command for setting playback master 2 will be: 'IZI-Access1.1/master1'. This way it is possible to make some tree structures when multiple IZI-Access modules are active. Let's say the first number in the example is the floor in a building, a wildcard can be used to address all IZI-Access modules on the same floor: 'IZI-Access1.*/master1'.

Feedback

A setting is available to enable feedback to commands of extern sources. By default this feature is off, meaning if an external source sends a command no response will be returned. If feedback is enabled (and OSC out) the commands buttonx/faderx/masterx will be acknowledged by an 'écho' of the message on the OSC out port.

The same setting applies to 'pbstatus': when a Scene or Sequence is started or stopped via OSC ('scenego', 'seqgo', 'sceneoff', 'seqoff'), the resulting 'pbstatus' update is only sent when feedback is enabled. Changes from any other source (local inputs, IZI Topic, DALI, scheduler, protocol timeouts, etc.) are always reported.

Feedback is only returned for commands that actually change something. The button, fader and master commands are mirrored directly on the OSC out port. Scene and Sequence commands (scenego, sceneoff, seqgo, seqoff, seqtrigger) are reported through the combined pbstatus message of the affected Playback. The manual channel commands (chanset, chanrange, chanmulti, chanclear) and the variable command give no feedback. The status, patch, buttonall and lbuttonall messages are always sent periodically, independent of this setting.

Incoming command	Feedback returned (when enabled)
/button1 1	/button1 1
/fader1 128	/button1 1 and /master1 128
/master1 200	/master1 200
/scenego1 12 2.5 3	/pbstatus1 12 0
/seqgo1 4 2	/pbstatus1 <scene of step> 4
/sceneoff1 / /seqoff1 / /seqtrigger1	/pbstatus1 ... (or nothing once the Playback is empty)
/chanset / /chanrange / /chanmulti / /chanclear	(no feedback)
/var1 5	(no feedback)

Unknown traffic

Since the port of the OSC in is free configurable a check is done if no other UDP messages are received, not meant for the IZI-Access. If more than 10 messages per second are not parsed as a correct OSC command, a warning will be logged and shown, to indicate it is probably better to use another port.

Presence

A 'Special events' are available to trigger an action when OSC input is present and when it is not present any more. Any valid OSC command will result in the OSC active event (triggered only once). If no command is received in 15 seconds, the OSC inactive event will be triggered. The 15 second timeout can be changed by the command 'present' setting the timeout in seconds as integer.

Monitor

In the IZI-Supervisor the possibility exists to monitor the OSC messages coming in and going out of the IZI-Access.

Tools

IZI-Supervisor

A new tool has been developed, the IZI-Supervisor. The purpose of the IZI-Supervisor is to:

- Configure/Update/Monitor the IZI-Access
- To be the IZI-Manager replacement for IZI-Link+ products

This means the IZI-Manager is still needed for IZI-Link projects.

A password is needed to get access from the IZI-Supervisor, default this is 'p@\$word'.

Web server

The IZI-Access also has a web server available. The web server contains a subset of configuration and monitoring possibilities. See Appendix A for more detailed description.

IZI-Manager

The IZI-Manager version 1.8.x.x and higher supports the IZI-Access. In the list of comports the IZI-Access comports (USB) should appear, but it is also possible to connect via ethernet (when enabled by the user in the menu).

A password is needed to get access from the IZI-Manager, default this is 'p@\$word'. This is the same password that is used for the IZI-Supervisor. When a new configuration is written by the IZI-Manager, the connected IZI fixtures will be downloaded in the IZI-Access.

Logging

The IZI-Access can log events to search for errors or other events that have happened in the past. The level of logging can be configured.

- | | |
|------------------------|---|
| • Critical errors only | Only critical errors |
| • Errors only | Only critical and non-critical errors will be logged |
| • Errors and warnings | All errors and warnings will be logged |
| • Info (default) | All errors, warnings and general info about actions and events will be logged |
| • Trace | All will be logged, including debug info to search for specific situations or crashes |

In theory any log level should not change the behaviour of the IZI-Access, although trace level does force to write more to memory.

Time

If there is a connection to the ethernet, a NTP server will be used to set the time every log occurred. If not, no worries, to offset to the time of reading will be used to calculate the time it occurred. This solution will only work if the device has not been without power too long.

Events

More than 150 types of log events are available right now. Not all types will be described in this manual. But some examples will be given what to expect. Some are a bit complex to describe, but they can help to solve or recreate the situation the event occurred in.

Critical errors

- Supply voltage too high
- Processor temperature too high (> 85 degrees)
- OS (operating system, no linux) crashed
- Network stack crash

Errors

- Corrupt memory
- File system corrupt
- Supply voltage too low
- Too many incorrect logins

Warnings

- Module was reset (cause of reset is described, power-down, reset ...)
- Too many Art-Net sources
- Too many logins at the same time (IZI-Supervisor, IZI-Manager)
- Incorrect login
- Factory default occurred
- Processor temperature high (> 65 degrees)
- No DHCP server, fallback on static IP

Info

- Application settings changed (with sector of change)
- Update of firmware (with (new) version)
- Update of device types or web pages
- Art-Net input source start and stop
- sACN input start and stop
- DMX in start and stop
- Patch activation
- Patch storage/update

- Scene activation
- Scene storage/update
- Sequence activation
- Sequence storage/delete
- Network (ethernet) OK with IP address
- Web page requests
- IZI-Link usage (IZI-Manager)
- Contact input activated/deactivated
- Local switch activated
- NTP time syncs
- Processor temperature OK (logged every 12 hours or 5 degrees difference)
- Supply voltage OK (voltage logged every 12 hours)

Debug/Trace

- Art-Net input higher than 0% (with average over how many channels, only when stable for 1 minute)
- Art-Net input 0% over all channels (stable for 1 minute)
- sACN input higher than 0% (with average over how many channels, only when stable for 1 minute)
- sACN input 0% over all channels (stable for 1 minute)
- Dmx in input higher than 0% (with average over how many channels, only when stable for 1 minute)
- Dmx in input 0% over all channels (stable for 1 minute)
- Connections via USB/ethernet (low-level)
- Stack reports of OS

Logging	
<i>Read</i>	<i>IZI-Supervisor</i>
<i>Set (level)</i>	<i>IZI-Supervisor</i>

Appendix A

Webserver

The web server is http (not https), and is only meant for internal use, so on the intranet and not the internet. Authentication is added to access any part of the pages. The user and password can be set as a setting.

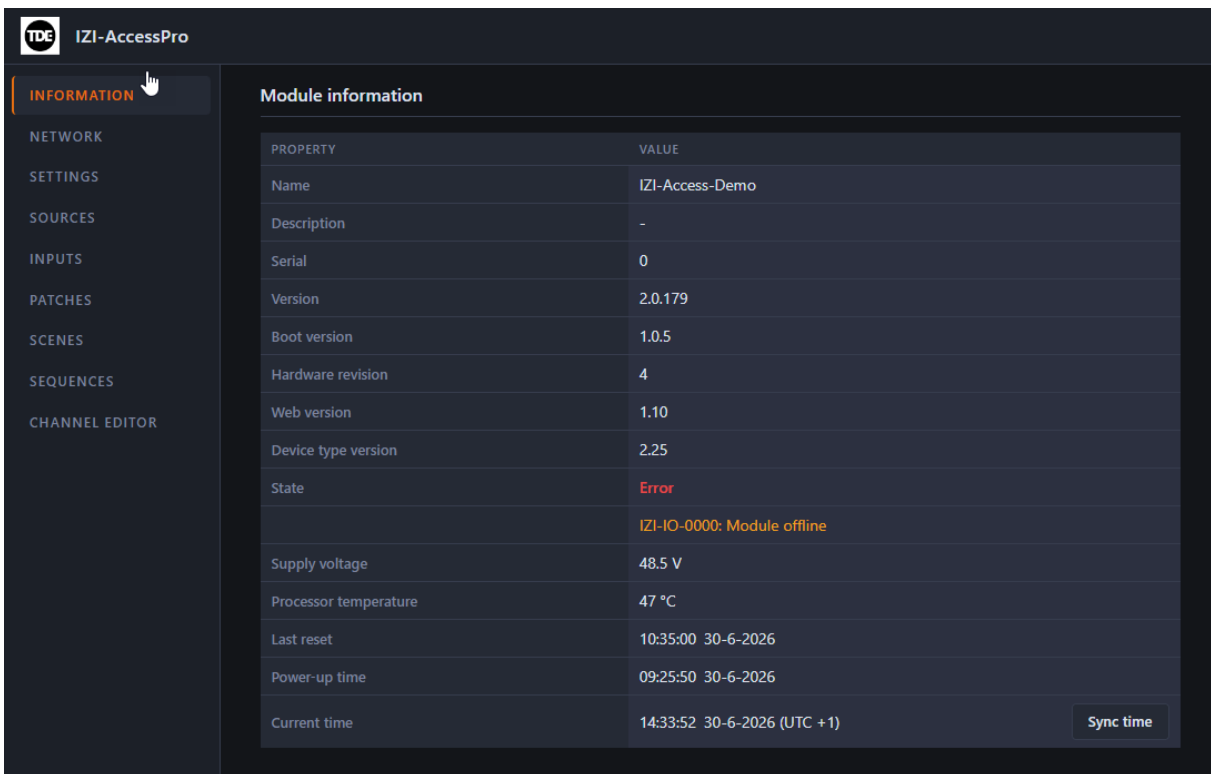
The web server can also be disabled via the settings, by default it is enabled and the username and password is: 'admin', 'p@\$word'.

mDNS

The IZI-Access supports mDNS. With mDNS it is possible to open the web page of an IZI-Access without knowing its IP address. What you do have to know is its name, the name can be set with the IZI-Supervisor. If you know the name, fe 'IZI-Access-Manual', you can type:

[http:// IZI-Access-Manual.local](http://IZI-Access-Manual.local) in your browser.

Information

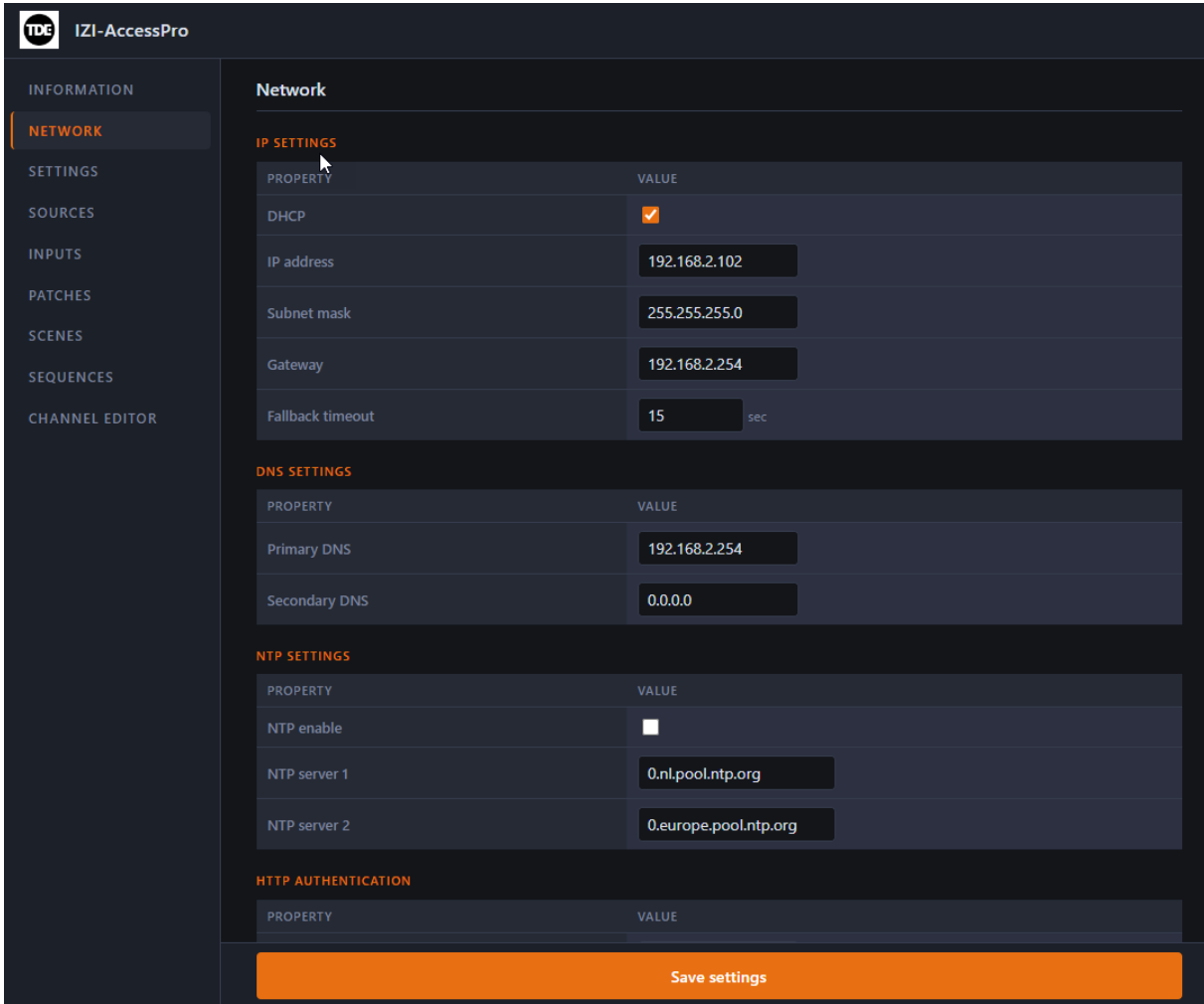


PROPERTY	VALUE
Name	IZI-Access-Demo
Description	-
Serial	0
Version	2.0.179
Boot version	1.0.5
Hardware revision	4
Web version	1.10
Device type version	2.25
State	Error
	IZI-IO-0000: Module offline
Supply voltage	48.5 V
Processor temperature	47 °C
Last reset	10:35:00 30-6-2026
Power-up time	09:25:50 30-6-2026
Current time	14:33:52 30-6-2026 (UTC +1)

Sync time

The information page data about the current state of the IZI-Access(Pro).

Network



Network

IP SETTINGS

PROPERTY	VALUE
DHCP	☒
IP address	192.168.2.102
Subnet mask	255.255.255.0
Gateway	192.168.2.254
Fallback timeout	15 sec

DNS SETTINGS

PROPERTY	VALUE
Primary DNS	192.168.2.254
Secondary DNS	0.0.0.0

NTP SETTINGS

PROPERTY	VALUE
NTP enable	☐
NTP server 1	0.nl.pool.ntp.org
NTP server 2	0.europe.pool.ntp.org

HTTP AUTHENTICATION

PROPERTY	VALUE
----------	-------

Save settings

In the network page the network settings can be altered.

DHCP

When DHCP is enabled the IZI-Access will search for an DHCP server after reset or power-up. If the DHCP server is not found it will 'fallback' into its static configured address, the time to wait for the DHCP server can be configured with the 'Fallback timeout'. If the DHCP server gets online again, it will use the DHCP server and drop its static IP.

Static IP

If the DHCP server is not enabled or the server is not online, the static IP address will be used after reset of power-up.

DNS

A primary and secondary DNS server can be set. The IZI-Access uses DNS servers for resolving names for NTP. A primary and secondary server can be set, which are only used when DHCP is disabled or the DHCP server cannot be found. If the DHCP server assigns a DNS address this will overrule the settings here.

NTP

The NTP server is used for getting the current time. At the moment of writing the time is only used for logging and showing the 'Power-up time' and 'Last reset time'.

Two servers can be set to retrieve the time, the fallback on the second will happen automatically.

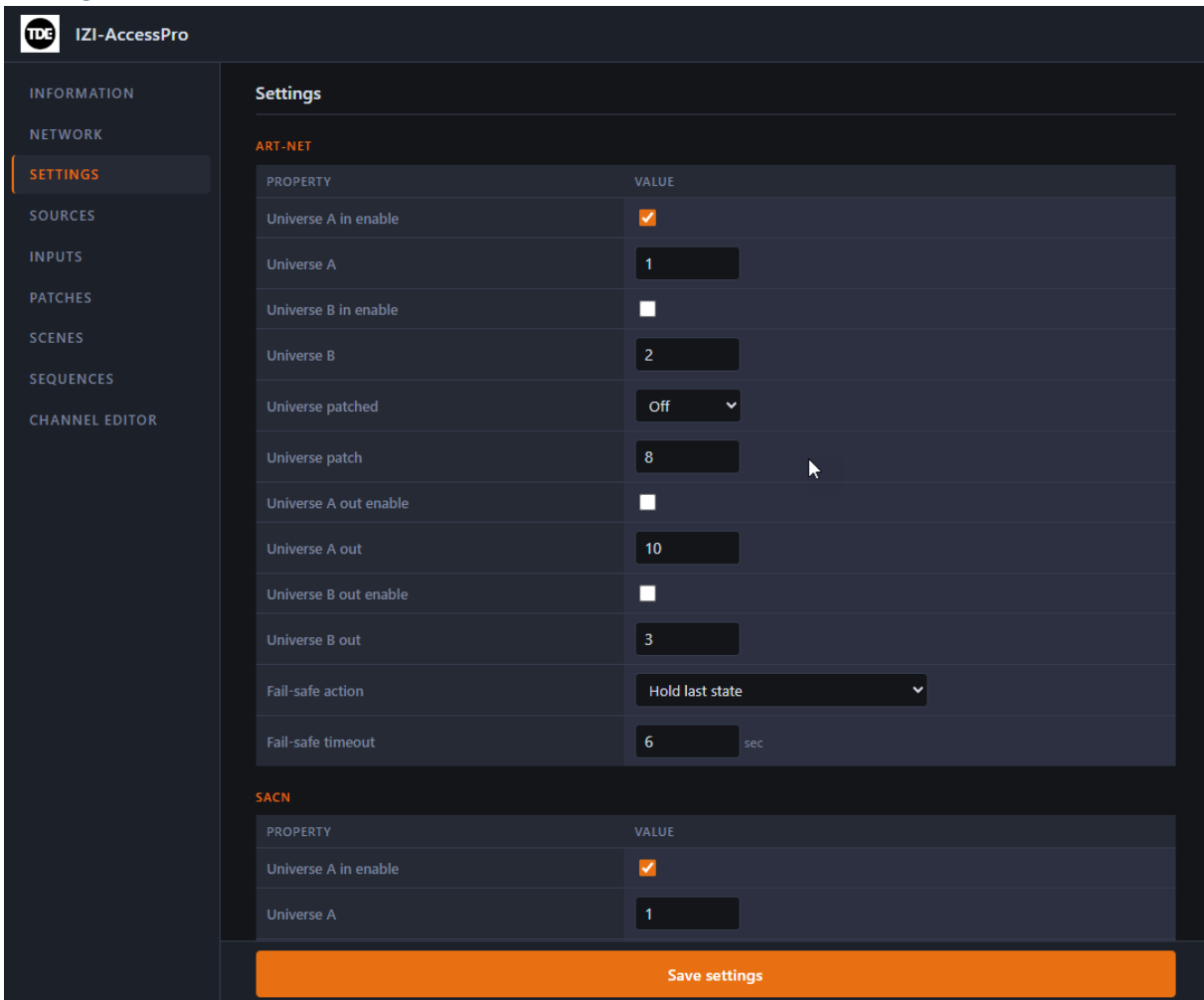
HTTP settings

The username and password for accessing the web page can be set. This is not the same password as the IZI-Supervisor and IZI-Manager uses.

Save settings

All settings will only get active after 'Save settings' is pressed. If a reset is needed for the settings to active, a pop-up will appear that the 'IZI-Access' has to be reset manually. This is done on purpose, since the protection is not very high on the web page access, resetting the device remotely is protected in a higher level.

Settings



PROPERTY	VALUE
Universe A in enable	☒
Universe A	1
Universe B in enable	☐
Universe B	2
Universe patched	Off
Universe patch	8
Universe A out enable	☐
Universe A out	10
Universe B out enable	☐
Universe B out	3
Fail-safe action	Hold last state
Fail-safe timeout	6 sec

PROPERTY	VALUE
Universe A in enable	☒
Universe A	1

Save settings

The settings will contain protocol settings for Art-Net, Dmx and sACN.

Art-Net

Art-Net in and Art-Net out can both be enabled and disabled separately. Both have their own universe which may not be the same for both in and out.

The action what should happen when the Art-Net signal drops can be set with a specific timeout, which is default (and minimal) the protocol timeout.

sACN

sACN in and sACN out can both be enabled and disabled separately. Both have their own universe which may not be the same for both in and out.

The action what should happen when the sACN signal drops can be set with a specific timeout, which is default (and minimal) the protocol timeout.

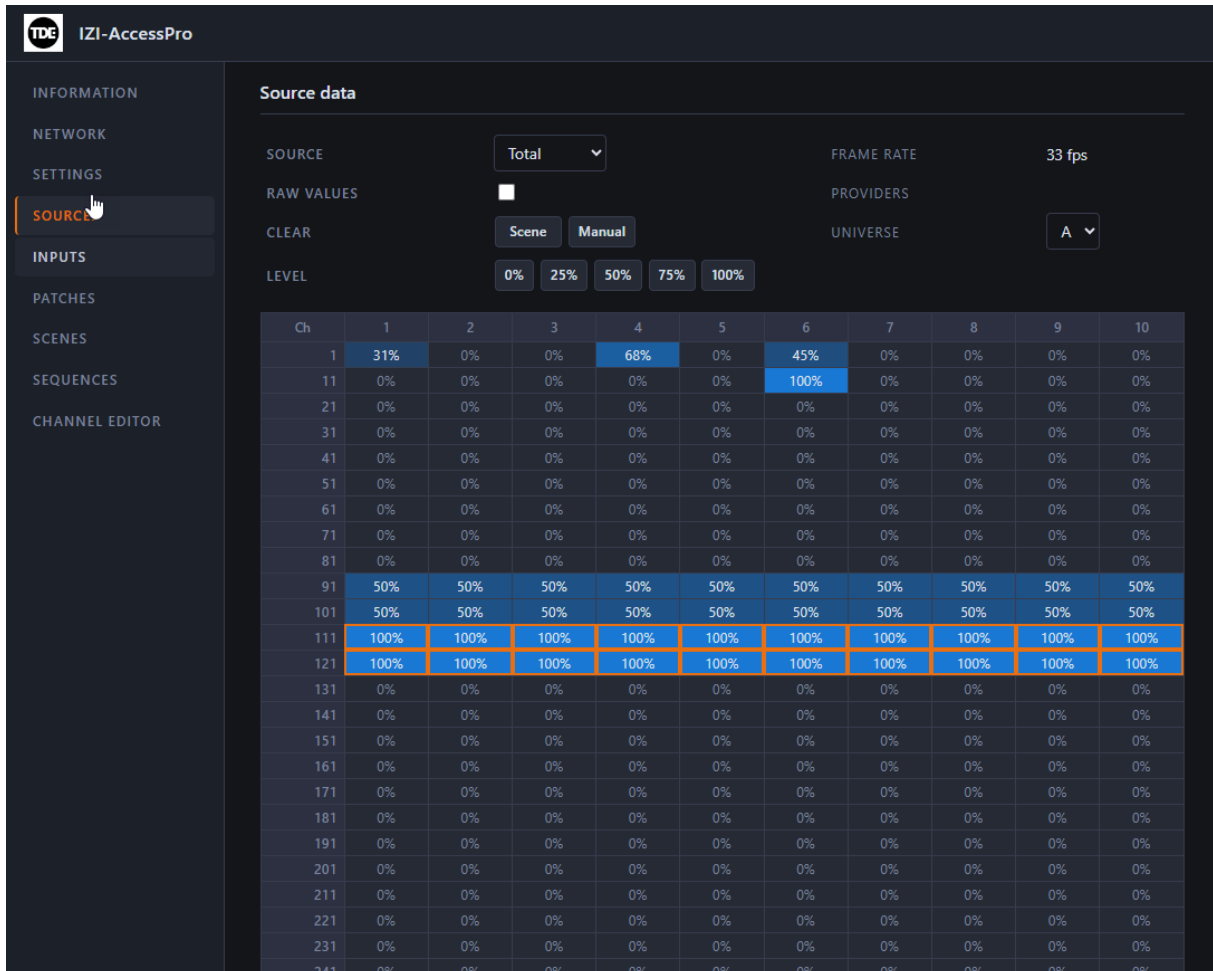
Dmx

The only setting for DMX is what should happen when the Dmx signal drops, there can be set with a specific timeout, which is default (and minimal) the protocol timeout.

OSC

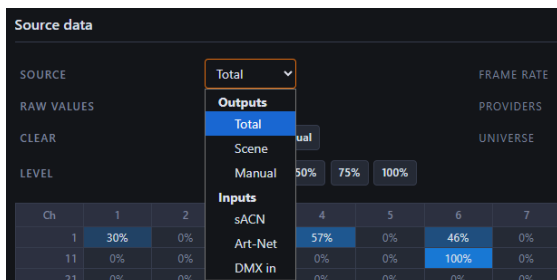
OSC in and OSC out can both be enabled and disabled separately. Ports, prefix, IP and feedback can be set here.

Sources



The name sources, refers to input and output sources like Art-Net and Dmx. In the view the inputs and outputs of the single universe of the IZI-Access can be visualised.

By default the total is shown (meaning all sources mixed). It is possible to select a single source, to view only the data of that particular source.



Select

It is possible to select channels (multiple with shift or control) and set the level for these channels. The levels are 'Manual' levels and will be remembered after reset but not after power-down.

The level can be set with the buttons in the menu, but also by pressing 0 to 9 and f, where 0 – 0% 1 = 10% ... and f = Full 100%.

The mode will only work when 'Total' or 'Manual' is selected as source.

Show raw values

When 'Show raw values' is checked, the values will be shown as decimals (0 to 255), not checked, the percentage will be shown.

Frame rate

The frame rate is most interesting when selecting individual sources. Selecting Dmx in, the frame rate of the incoming DMX signal will be shown. Selecting Art-Net it will show the incoming Art-Net packet rate.

Providers

The providers will hold more info about the sender or last initiator of incoming data. For example if source 'Scene' is selected, it will show the active inputs that could have initiated the current output. If sACN is selected, the IP address of the sending device will appear.

Clear

Manual clear is clear all values set via the web page or via the IZI-Supervisor. Scene clears activated scenes activated by any source (inputs, web page, IZI-Supervisor).

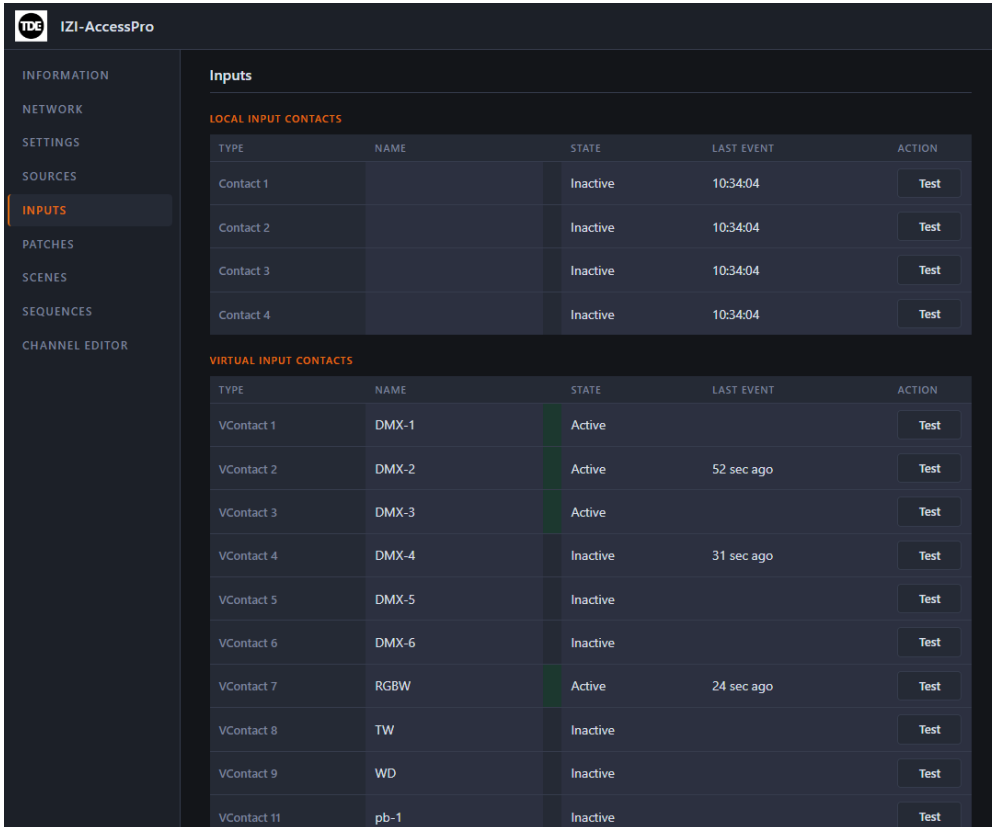
Level

The selected cells (that can be clicked in the grid, multiselect with Ctrl or by clicking a row) will get the value that is clicked.

Universe

Select the universe that will be displayed here.

Inputs

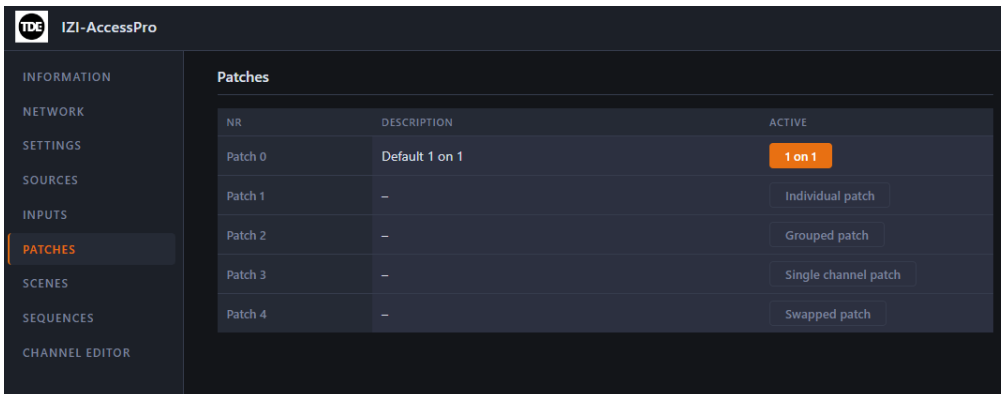


LOCAL INPUT CONTACTS				
TYPE	NAME	STATE	LAST EVENT	ACTION
Contact 1		Inactive	10:34:04	<button>Test</button>
Contact 2		Inactive	10:34:04	<button>Test</button>
Contact 3		Inactive	10:34:04	<button>Test</button>
Contact 4		Inactive	10:34:04	<button>Test</button>

VIRTUAL INPUT CONTACTS				
TYPE	NAME	STATE	LAST EVENT	ACTION
VContact 1	DMX-1	Active		<button>Test</button>
VContact 2	DMX-2	Active	52 sec ago	<button>Test</button>
VContact 3	DMX-3	Active		<button>Test</button>
VContact 4	DMX-4	Inactive	31 sec ago	<button>Test</button>
VContact 5	DMX-5	Inactive		<button>Test</button>
VContact 6	DMX-6	Inactive		<button>Test</button>
VContact 7	RGBW	Active	24 sec ago	<button>Test</button>
VContact 8	TW	Inactive		<button>Test</button>
VContact 9	WD	Inactive		<button>Test</button>
VContact 11	pb-1	Inactive		<button>Test</button>

The inputs menu gives the option to view the current state of the inputs and an indication is given when the inputs were last activated or deactivated. A test button is added to test the action that is configured for the input.

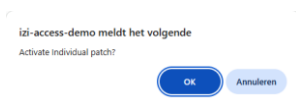
Patch



NR	DESCRIPTION	ACTIVE
Patch 0	Default 1 on 1	<button>1 on 1</button>
Patch 1	–	<button>Individual patch</button>
Patch 2	–	<button>Grouped patch</button>
Patch 3	–	<button>Single channel patch</button>
Patch 4	–	<button>Swapped patch</button>

The patch menu option gives the ability to activate created patches. The patches must be created with the IZI-Supervisor.

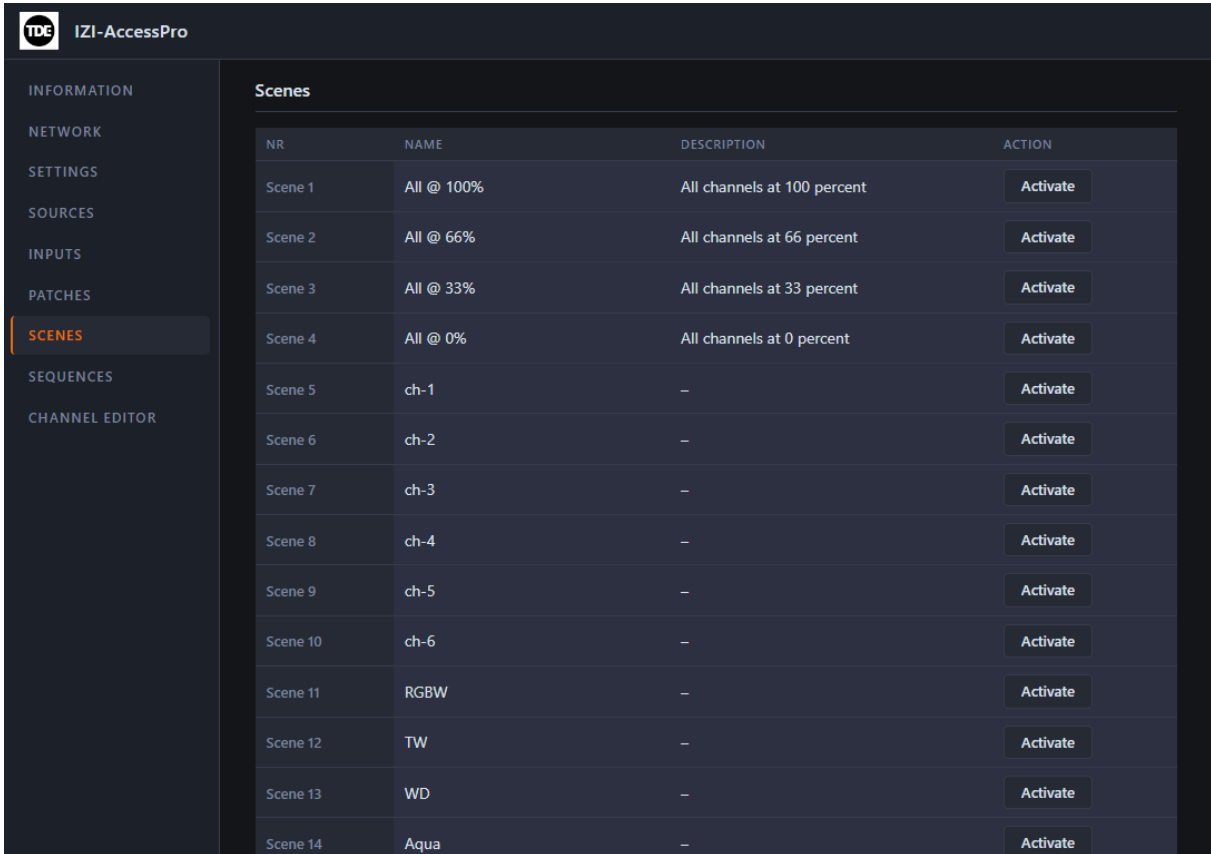
When a value is selected a question will pop-up if you are sure, to avoid switching patches by accident.



It is possible to only load this page, without the menu buttons on the side, by using the patch.html.

For example: <http://izi-access-manual.local/patch.html>

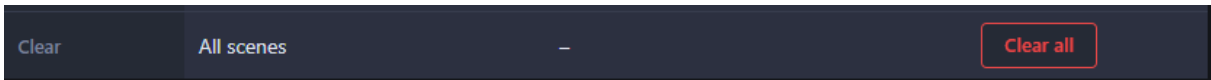
Scenes



NR	NAME	DESCRIPTION	ACTION
Scene 1	All @ 100%	All channels at 100 percent	<button>Activate</button>
Scene 2	All @ 66%	All channels at 66 percent	<button>Activate</button>
Scene 3	All @ 33%	All channels at 33 percent	<button>Activate</button>
Scene 4	All @ 0%	All channels at 0 percent	<button>Activate</button>
Scene 5	ch-1	–	<button>Activate</button>
Scene 6	ch-2	–	<button>Activate</button>
Scene 7	ch-3	–	<button>Activate</button>
Scene 8	ch-4	–	<button>Activate</button>
Scene 9	ch-5	–	<button>Activate</button>
Scene 10	ch-6	–	<button>Activate</button>
Scene 11	RGBW	–	<button>Activate</button>
Scene 12	TW	–	<button>Activate</button>
Scene 13	WD	–	<button>Activate</button>
Scene 14	Aqua	–	<button>Activate</button>

The scenes menu option gives the ability to activate created scenes. The scenes must be created with the IZI-Supervisor. All activation will be done with a 2 second fade time with priority High.

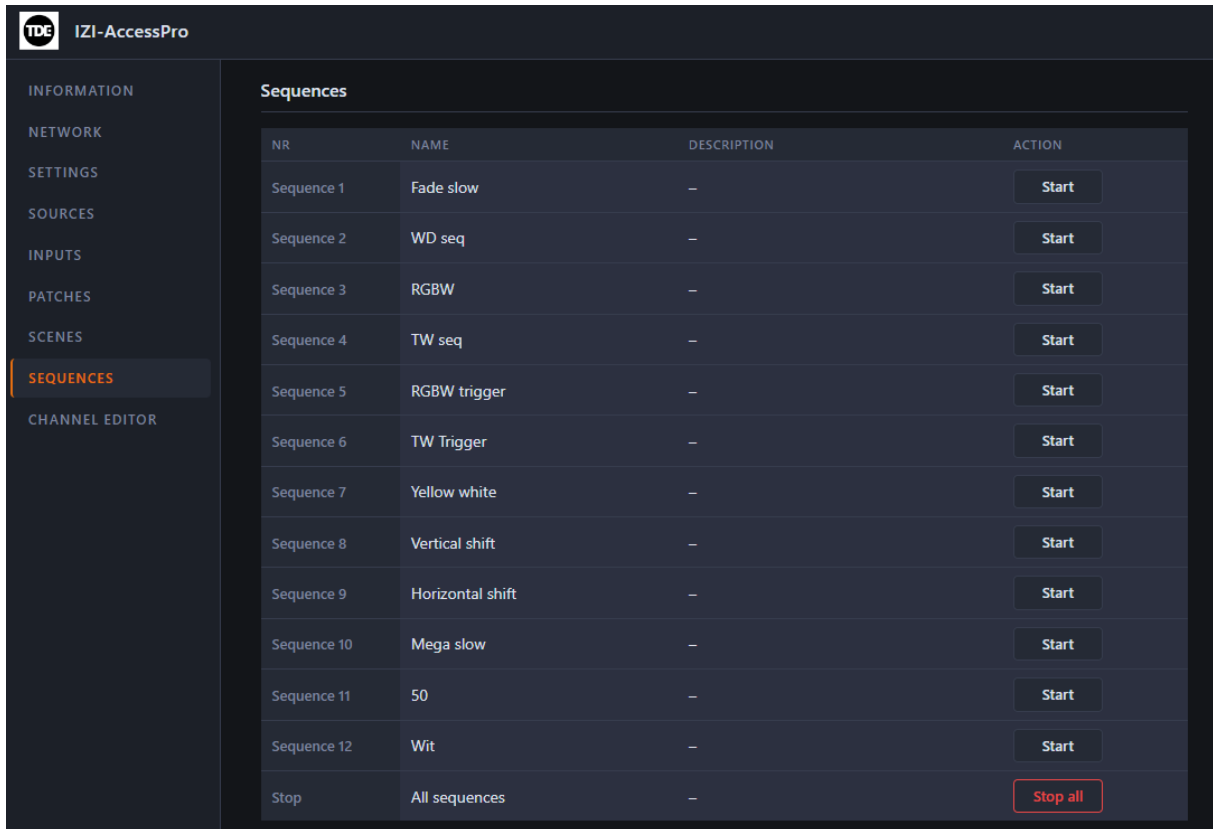
At the bottom of the scene list the 'Clear' button is present, to clear all scene data.



It is possible to only load this page, without the menu buttons on the side, by using the scene.html.

For example: <http://izi-access-manual.local/scene.html>

Sequences



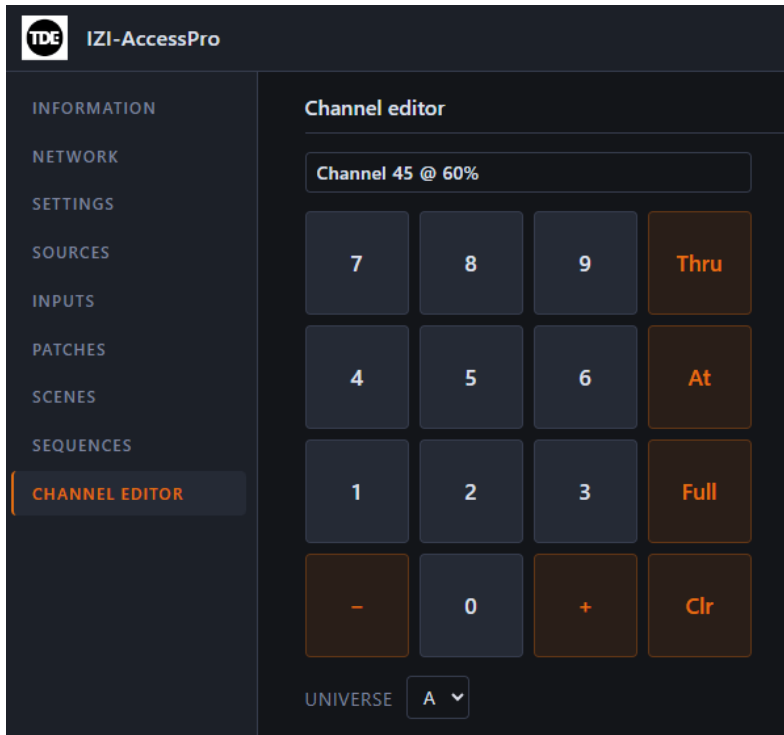
The screenshot shows the IZI-AccessPro interface with the 'SEQUENCES' menu option highlighted. The main area displays a table of sequences with columns for NR, NAME, DESCRIPTION, and ACTION.

NR	NAME	DESCRIPTION	ACTION
Sequence 1	Fade slow	–	Start
Sequence 2	WD seq	–	Start
Sequence 3	RGBW	–	Start
Sequence 4	TW seq	–	Start
Sequence 5	RGBW trigger	–	Start
Sequence 6	TW Trigger	–	Start
Sequence 7	Yellow white	–	Start
Sequence 8	Vertical shift	–	Start
Sequence 9	Horizontal shift	–	Start
Sequence 10	Mega slow	–	Start
Sequence 11	50	–	Start
Sequence 12	Wit	–	Start
Stop	All sequences	–	Stop all

The sequences menu option gives the ability to activate created sequences. The sequences must be created with the IZI-Supervisor.

At the bottom of the scene list the 'Stop all' button is present, to stop all sequences.

Editor



The editor can be used to change the levels of channel 1 to 512.

It is possible to only load this page, without the menu buttons on the side, by using the editor.html.

For example: <http://izi-access-manual.local/editor.html>

Numeric

The numeric keys can be used to type the channel number or the level.

Clr

The Clear button can be used to clear the editor (first press). The second press will clear all channels set above 0% with the editor.

Full

The full button will set all selected channels in the editor to 100%.

At

The At button can be used to assign a level with a multiple of 10%. Pressing it twice will result in 50%.

Thru

To select a range use the 'Thru' button, to complete range can be set to selected level at once.

-

Go to previous channel (-1) and set this channel to the current level and set the current value to 0%. When a range is selected to range will be made smaller, channels that 'fall out' of the range will be set to 0%.

+

Go to next channel (+1) and set this channel to the current level and set the current value to 0%. When a range is selected to range will be made larger, added channels will be set to the selected level.

Universe

All actions are performed on a single universe, If IZI-Link+ is available, it is possible to switch to universe B.

Appendix B

Priorities

Several sources can control the lighting at the same time: local contacts, virtual contacts, the scheduler, timers, DALI, incoming protocols (DMX, Art-Net, sACN), remote control and OSC. When more than one source wants to control the same output at the same time, the IZI-Access uses a priority to decide which one is shown.

Five priority levels are available, from low to high: Lowest, Low, Medium, High and Highest. There is also a special level above Highest that is reserved for the output test in the commissioning tool, so a wiring test always overrides normal operation.

How priority is handled

The rules are applied per output (per light or channel):

- The source with the highest priority is shown. A lower priority source is ignored for that output while a higher priority source is active, and becomes visible again as soon as the higher priority source is released (for example when its Scene is stopped).
- When two sources have the same priority, the highest value wins (the brightest level is shown). This is the normal 'highest takes precedence' behaviour.
- The Playback master (the dimmer of a Playback) is separate from priority. It always scales the level of whatever Scene or Sequence is active on that Playback; it does not fight other sources through priority.
- Sequences also use priority at Playback level: a Sequence can only be replaced by another Sequence of equal or higher priority on the same Playback. A lower priority Sequence sent to a busy Playback is refused.

Which priority is used by which source

Most sources that a user configures (contacts, virtual contacts, DALI scene mappings, scheduler and timers) default to Medium and can be changed per item. Special events default to Low. The values below are the defaults / typical values:

Source	Priority used
Contact inputs	Medium (configurable per input)
Virtual contacts	Medium (configurable per input)
DALI scene mappings	Medium (configurable per input)
Scheduler	Medium (configurable per entry)
User timers	Medium (configurable per timer)
Special events	Low (configurable per event)
DMX / Art-Net / sACN signal-loss fallback	Low
DALI controller	Medium
Remote control (IZI-Supervisor / IZI Topic) – Scene	High
Remote control – Sequence	Chosen per command
OSC – Scene and Sequence	Chosen per command (Lowest ... Highest)
Output test (commissioning tool)	Highest (reserved)

For OSC, the Scene and Sequence commands carry the priority as a value from 0 to 4, which maps to the named levels: 0 = Lowest, 1 = Low, 2 = Medium, 3 = High, 4 = Highest.