



## DMX512 Gateway

M/DMX512.1



Guangzhou Hedong Electronic CO., Ltd(HDL)

# HDL KNX / EIB-BUS

## (Intelligent Installation Systems)

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## 1- General

HDL KNX / EIB series DMX recorder modules are developed by HDL. Using KNX/EIB BUS communicate with other KNX devices. The database needs to be downloaded to the dimmer actuator using ETS2 V1.3 or ETS 3.0, and the document describes how to use these products. Our products use standard according to EMC, electrical safety, environmental conditions.

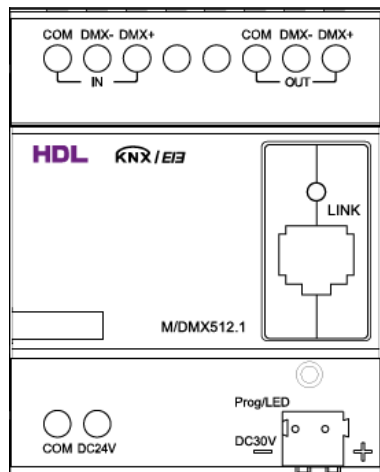
The DMX recorders are used to control some devices, such as:

- \* **Dimming**
- \* **Relay**
- \* **Motor**
- \* **Curtain**
- \* **Other Equipments**

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## 1.1-Product Function

The DMX Recorder there is 3 work modes:



M/DMX512.1

- **External record mode**

The mode as a recorder, it can record some scenes, and then you can play the scenes by other devices after record.

The objectives are devices which have DMX input. You can control it by panel and other devices.

- **DMX dimming (EIB to DMX)**

The mode as a dimmer, it can control channel, scene and sequence.

\*\*\* 48 channels

\*\*\* 24 scenes

\*\*\* 6 sequences

The objectives are the lights that controlled by DMX input signal.

- **DMX to EIB**

The mode as converters, can achieve the DMX signal to control EIB devices.

There are 48 channels at all, that is, it can control 48 objectives.

The objectives are dimming, relay and other devices.

## 2- Hardware

The technical properties of HDL KNX/EIB DMX Recorder's parameters set as following sections.

### 2.1- Technical data

#### Power supply

* Operating voltage (supply by the bus)	21...30 V DC,
* Current consumption EIB / KNX (operate)	< 15 mA
* Current consumption EIB / KNX (standby)	< 5 mA
* Power consumption EIB / KNX (operate)	< 450 mW
* Power consumption EIB / KNX (standby)	< 150 mW

#### Output nominal values

* Type of Device	M/DMX512.1
* Number of contacts	1
* In rated current	6 A
* Power loss per device at max. load	2.7 W

#### Output life expectancy

* Mechanical Life	50 years
* Electrical Life	20 years

Output dimmer actuator without additional DC power

#### Connections

* EIB / KNX	Bus Connection Terminal 0.8 mm Ø, single core
* Load circuits	Screw terminal with Slotted head 0.2...4 mm <sup>2</sup> multi-core 0.4...6 mm <sup>2</sup> single-core
* cable shoe	12 mm
* Tightening torque	Max. 0.8 Nm

#### Operating and display

\* Red LED and EIB / KNX program button for assignment of the physical address

#### Temperature range

* Operation	- 5 °C ~ + 45 °C
* Storage	- 25 °C ~ + 55 °C
* Transport	- 25 °C ~ + 70 °C

#### Environment conditions

* humidity	max. 95 % Non-condensing
------------	--------------------------

**Appearance design**

- \* Modular
- \* Type
- \* Dimensions (H x W x D)

DIN-Rail Modular installation  
 M/DMX512.1  
 90 x 72 x 66  
 0.26

**Weight** (unit kg)

**Installation**

Use 35 mm mounting rail

**Mounting position**

Electric dimmer box

**Material and Colour**

Plastic, Black

**Standard and Safety**

Certificated

- \* LVD Standard
- \*EMC Standard

EN60669-2-1 , EN60669-1  
 EN50090-2-2

**CE mark**

- \* In accordance with the EMC guideline and low voltage guideline

**Pollutant**

Comply with RoHS

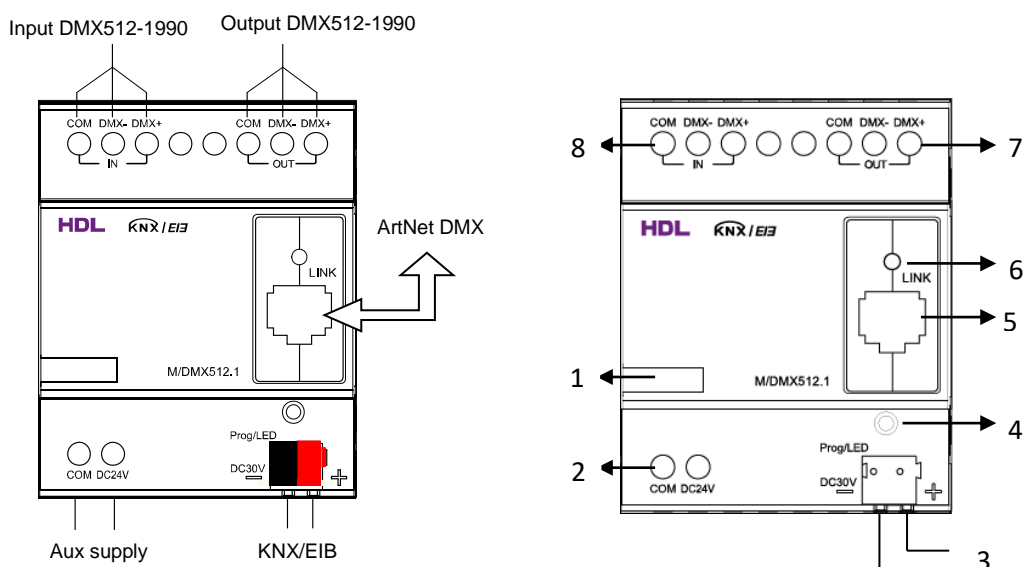
**Application table**

<b>Type</b>	<b>M/DMX. 1</b>
<b>External record mode</b>	<b>24 programs</b>
<b>DMX dimming (EIB to DMX)</b>	<b>48 channels</b>
<b>DMX to EIB</b>	<b>48 channels</b>

Note: The programming requires the EIB Software Tools ETS2 V1.3 or ETS3.0. If use

ETS2 V1.3, then import "\*.vd2". If use ETS3.0, then Import "\*.vd3

2.2- Dimension drawings and Wiring diagram



- 1-Label area
- 2-Output DC24V
- 3-KNX/EIB Bus Connector
- 4-Programming button&Programming LED
- 5- RJ45 Port
- 6-Led state
- 7- DMX output
- 8-DMX input

- Note:**
- a) Dimensions of the space to be provided for each device.
  - b) Dimensions and position of the means for supporting and fixing the DMX Recorder within this space
  - c) Minimum clearance between the various parts of the DMX Recorder and the surrounding parts where fitted
  - d) Minimum dimensions of ventilating opening, if needed, and their correct arrangement.

## 2.3- Maintenance and Cautions

- \*Please read this user manual carefully before any operation.
- \*Don't close to the interfering devices.
- \*The site should be ventilated with good cooling environment.
- \*Pay attention to damp proof, quakeproof and dustproof.
- \*Avoid rain, other liquids or caustic gas.
- \*Please contact professional maintenance staff or HDL service center for repair or fix.
- \*Remove the dust regularly and do not wipe the unit with the volatile liquids like alcohol, gasoline, etc.
- \*If damaged by damp or liquid, turn off it immediately.
- \*Regularly check the circuitry and other related circuit or cables and replace the disqualified circuitry on time.
- \*For security, each circuit to connect an MCB or fuse
- \*Installation location should be well-ventilated, pay attention to moisture, shock, dust proof.

### 3- Software

HDL KNX/EIB DMX512 database use ETS3.0 to do the design. The device type is M/DMX512.1, and the database name is “DMX512 Gateway”. All Interface and the functions Apply parameters please overview the following description of the paragraph.

DMX512 Gateway has 3 work modes, External record mode , DMX dimming ( EIB to DMX), DMX to EIB .The following paragraph will description of the work mode in detail.

#### 3.1- Database functions Overview

The following table provides an overview of the functions and some parameters with the DMX Recorder:

M/DMX512 Work mode	function	
External record mode	Change DMX input/output type	Y
	Read DMX input/output	Y
	DMX output type HDL Net DMX	Y
	DMX output type Art DMX	Y
	DMX output type DMX 1990	Y
	Play program mode	Y
	Record program mode	Y
	Delete program mode	Y
	---	---
DMX dimming ( EIB to DMX)	DMX output type HDL Net DMX	Y
	DMX output type Art DMX	Y
	DMX output type DMX 1990	Y
	Channel control(absolute/relative dimming) (total 48 channels)	Y
	Scene control (total 24 scenes)	Y
	Sequence control (total 6 sequences )	Y
	---	---
DMX to EIB	DMX output type HDL Net DMX	Y
	DMX output type Art DMX	Y
	DMX output type DMX 1990	Y
	Switch ON/OFF	Y
	Relative dimming	Y
	Absoluter dimming	Y

Table1: Database application overview.



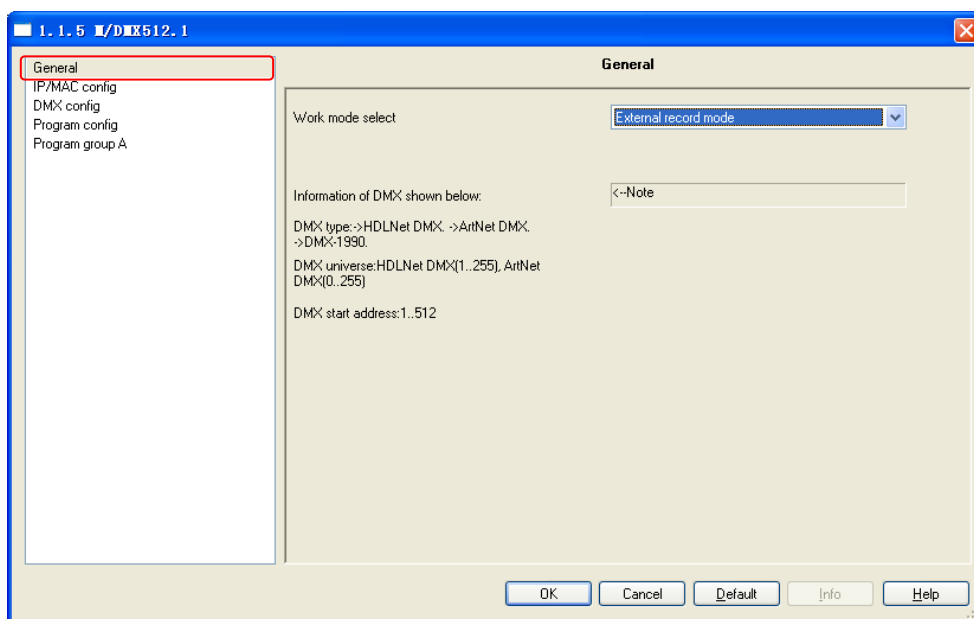
### 3.2- Object/Association/Group address define

In following table, The objects is assigned to the some function of the channel output pages, If active some functions and the object will be valid. One or more group addresses can be assigned to a object. The association will connect group addresses to the object.

**Table2:** Overview the max. number of the objects, max. number of associations and max. number of the group addresses

**Note:** If you use ETS2V1.3, Please import “VD2”, But if you use the ETS3.0, Please Import “VD3” to “VD3”.

### 3.3- Function parameter “General”



**Fig1:** “General” parameter window

“In the parameter of the general windows can set the work mode.

DMX Recorder has 3 work modes.

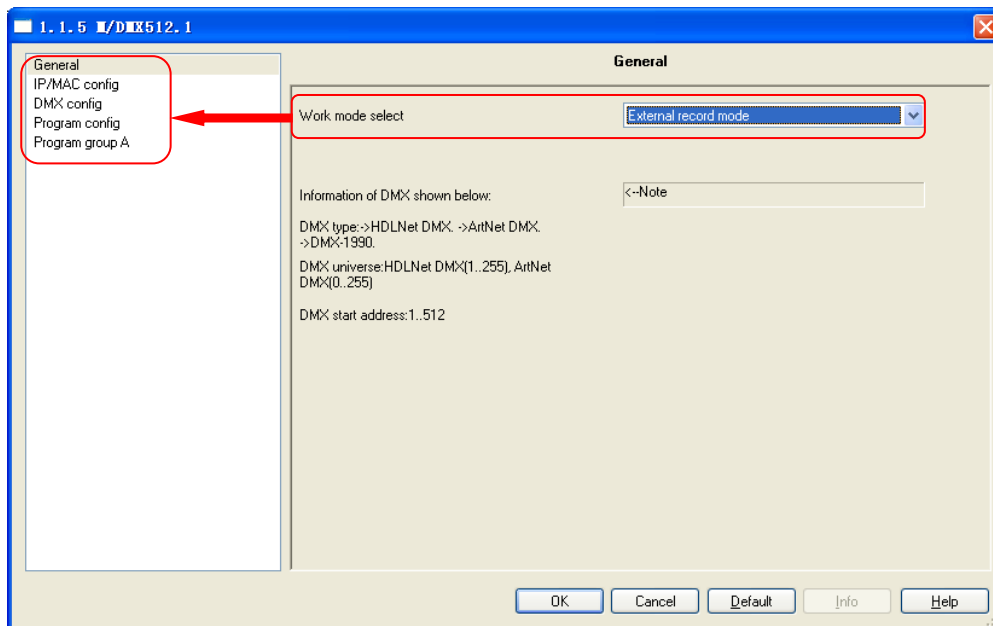
#### ---Work mode select

Options: **external record mode**

**DMX dimming (EIB to DMX)**

**DMX to EIB**

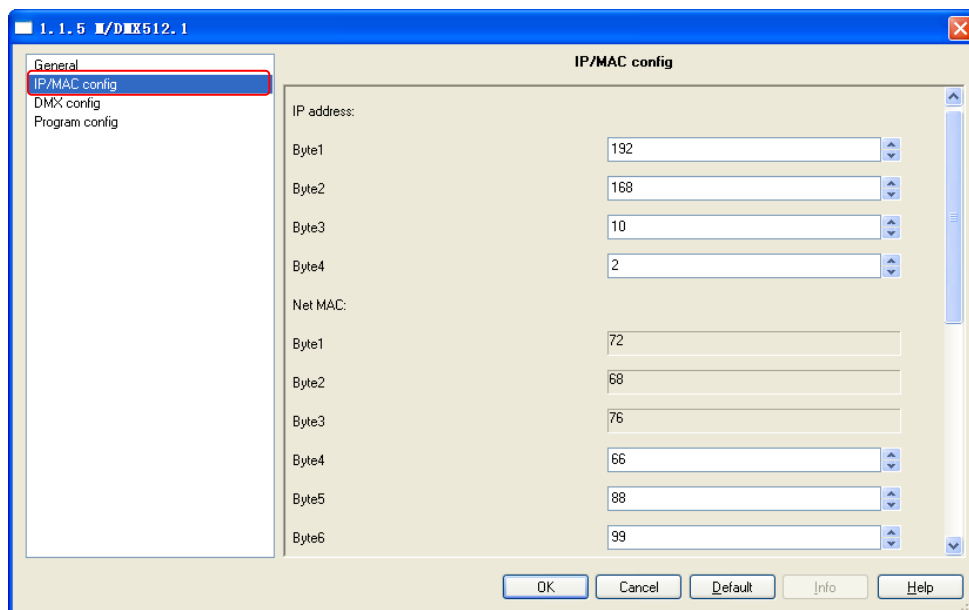
#### 3.3.1 Function parameter “external record mode”



**Fig2:** “external record mode” parameter window

When you select the different mode, you need set the different parameter. Follow will show you how to set the parameter.

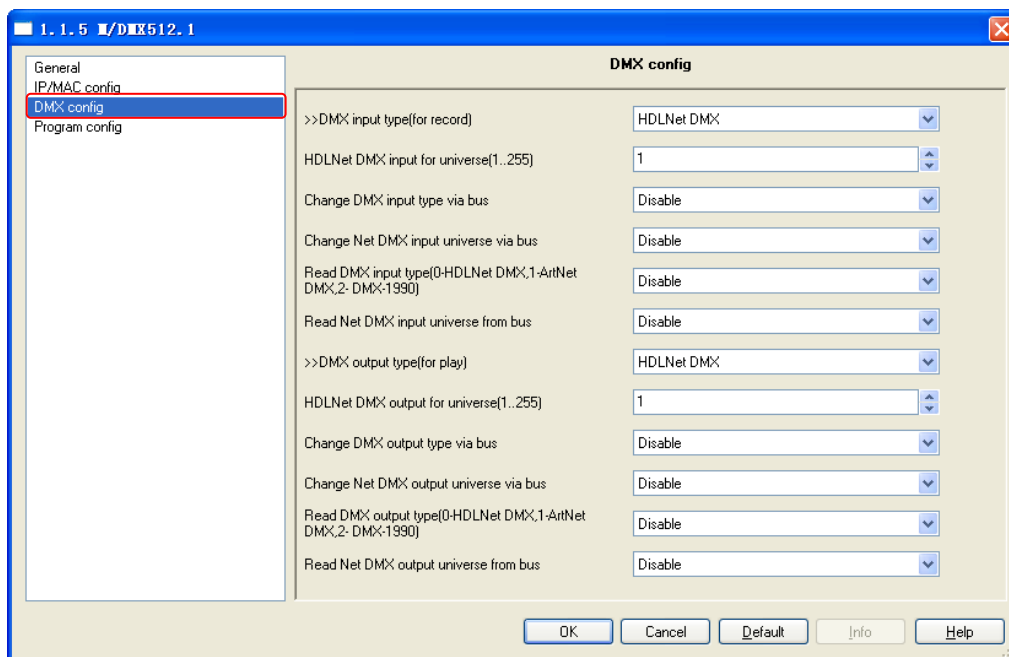
- IP/MAC config



**Fig2.1:** “IP/MAC config” parameter window

“In the parameter window can set the IP Address and Net MAC of the M/DMX512.

- DMX config



**Fig2.2:** “DMX config” parameter window

In the parameter window can set DMX Input type, Output type and the other parameters.

--- >>DMX input type (for record)

Options: **HDLNet DMX**

**ArtNet DMX**

**DMX1990**

The DMX input has 3 communication modes.

**HDLNet DMX:** it's belong to HDL protocol,

**ArtNet DMX:** it's an Ethernet protocol based on the TCP/IP protocol suite.

**DMX1990:** standard DMX512 protocol.

According to need to choose communication mode. Now, Take the HDLNet DMX as an example.

--- HDLNet DMX input for universe (1...255)

Options: **1...255**

Set the NO. for universe, the NO. is same to the object's universe.

The range is 1 to 255.

--- Change DMX input type via bus

Options: **Disable**

**Enable**

If choose the Enable, other devices on the bus can send telegram to change the DMX input type.

If you chose the Disable, you can't change the DMX input type by other devices.

**--- Change NetDMX input universe via bus**

Options: **Disable**  
**Enable**

If choose the Enable, other devices on the bus can send telegram to change the DMX input universe.

If you chose the Disable, you can't change the universe via bus.

**--- Read DMX input type(0-HDLNet DMX,1-ArtNetDMX 2-DMX-1990)**

Options: **Disable**  
**Enable**

If you choose the Enable, you can read the DMX input type by other devices.

If you set Disable, you can't read the DMX input type by other devices.

**--- Read Net DMX input universe from bus**

Options: **Disable**  
**Enable**

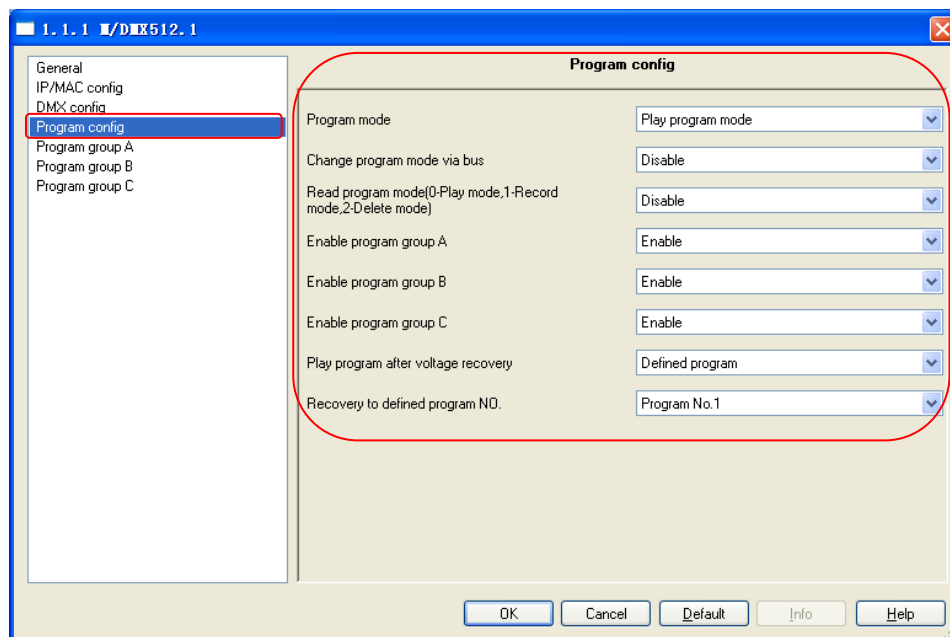
If you chose the Enable, you can read the DMX input universe by other device.

If you set Disable, you can't read the DMX input universe by other device.

**--- >>DMX Output type (for record)**

The settings are same to the DMX Input type.

● Program config



**Fig2.3:** “Program config” parameter window

The parameter window is set the

**--- Program mode**

Options: **Play program mode**

**Record program mode**

**Delete program mode**

The DMX Reader has 3 work modes, so you have to programming for these three modes.

**--- Change program mode via bus**

Options: **Disable**

**Enable**

If choose the Enable, other devices on the bus can send telegram to change the program mode of the module.

If choose the Disable, there isn't the function.

**--- Read program mode (0-play mode,1-Record mode,2-Delete mode)**

Options: **Disable**

**Enable**

If choose the Enable, other devices on the bus can send telegram to read the program mode of the module. The telegram is 0 that the mode is play mode; the telegram is 1 that the mode is record mode; the telegram is 2 that is the mode is delete mode.

If choose the Disable, there isn't the function.

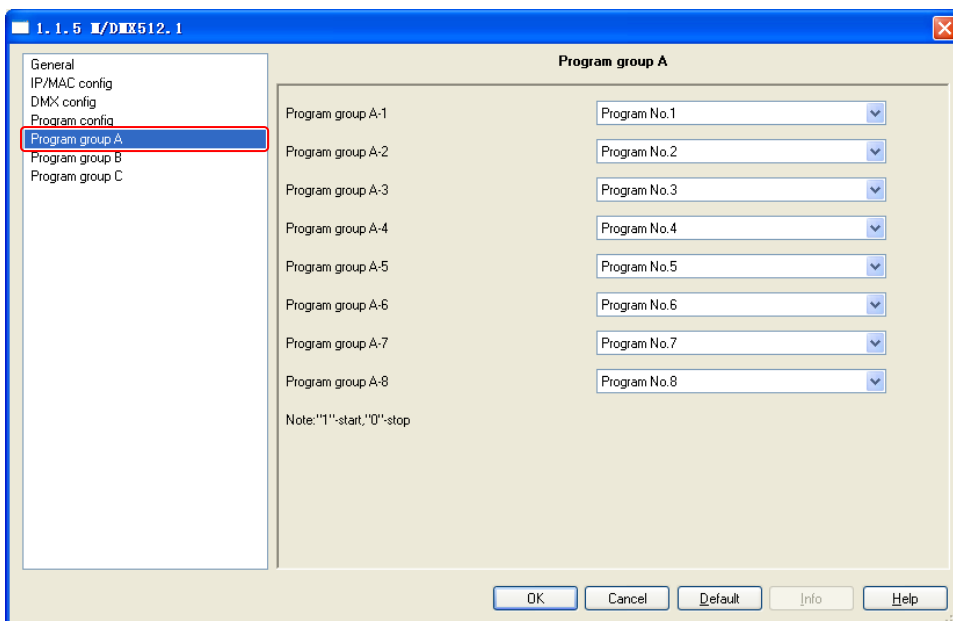
**--- Enable program group A**

Options: **Disable**

**Enable**

Set the enable of the program group A. If you choose the Enable, you can set the follow parameter.

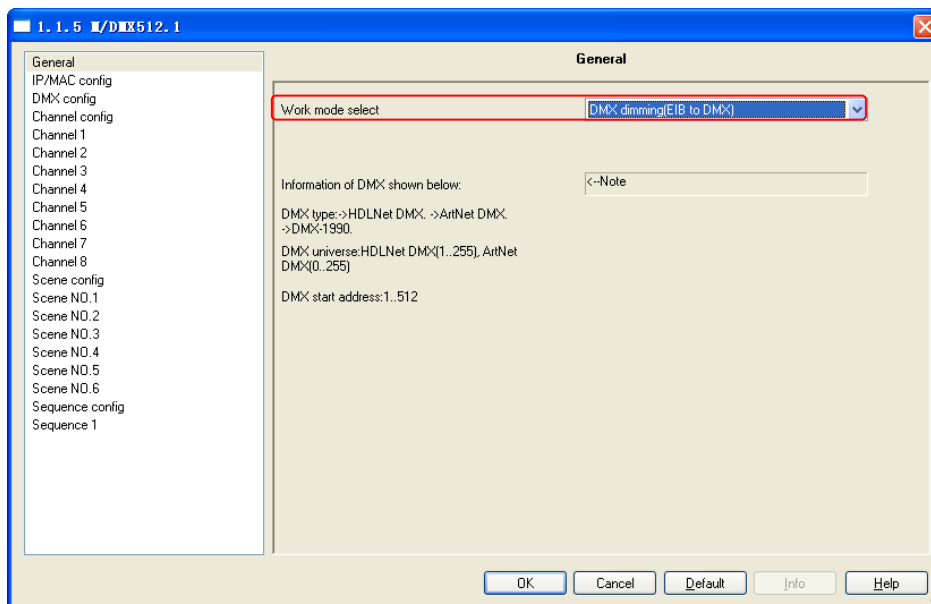
Other program groups are same as program group A.



**Fig2.4:** “Program group A” parameter window

Each program group has 8 groups and each group can set one program, the program range is NO.1 to NO.50, and you can set invalid, too. After that, you can use panel play this program. Of course, panel button’s address must match with the program.

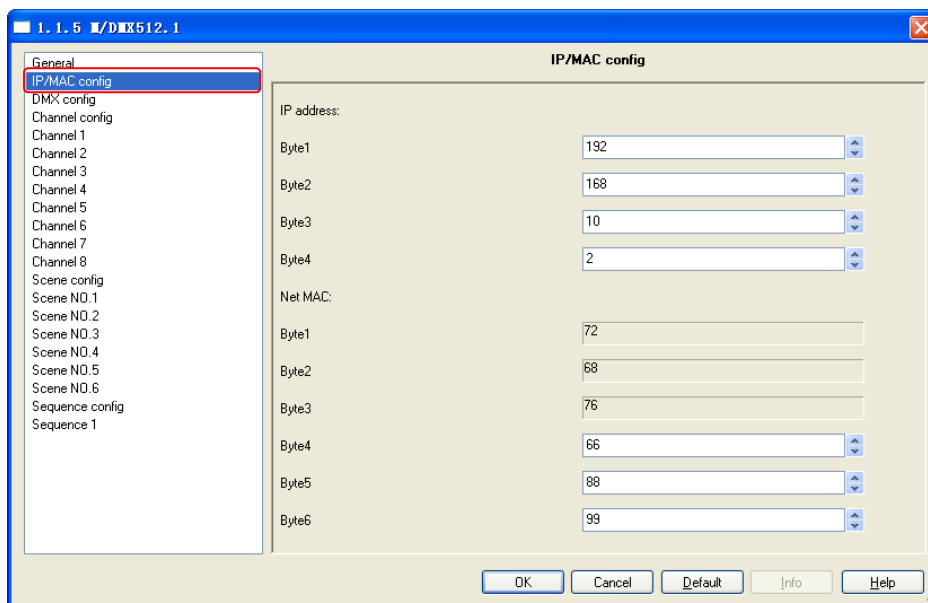
### 3.3.2 Function parameter “DMX dimming(EIB to DMX)”



**Fig3:** “external record mode” parameter window

When you select the mode, you need set the follow parameter.

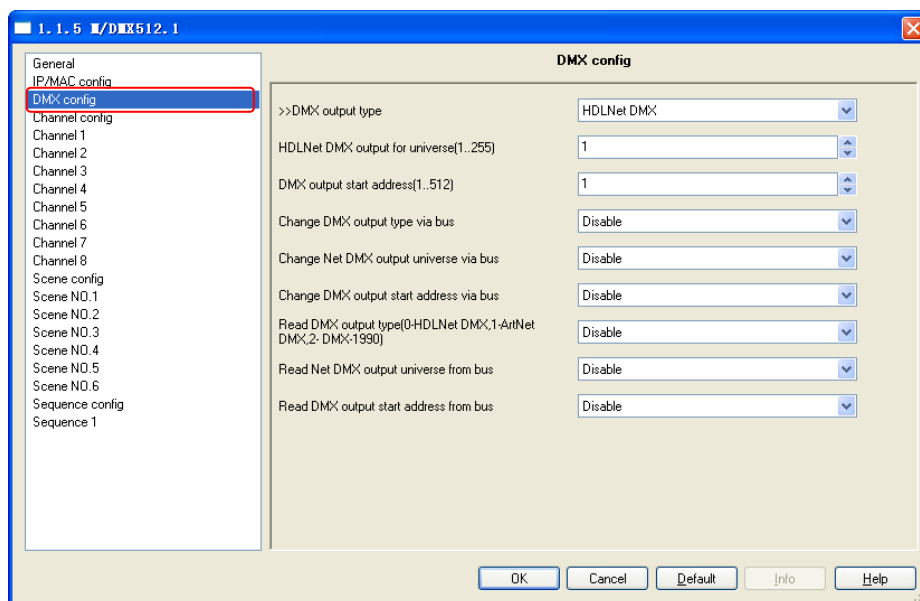
- IP/MAC config



**Fig3.1:** “IP/MAC config” parameter window

“In the parameter window can set the IP Address and Net MAC.

- DMX config



**Fig3.2:** “DMX config” parameter window

In the parameter window can set DMX Input type, Output type and the other parameters.

--- >>DMX output type

- Options: **HDLNet DMX**  
**ArtNET DMX**  
**DMX1990**

The DMX output has 3 communication modes. Now, Take the HDLNet DMX as an example.

--- HDLNet DMX output for universe (1...255)

**Options: 1...255**

Set the NO. for universe, the NO. is same to the object's universe.  
The range is 1 to 255.

**--- DMX output start address(1...512)****Options: 1...512**

Set the start address of DMX output. The range is 1 to 512.

**--- Change DMX output type via bus**

Options: **Disable**  
**Enable**

If choose the Enable, other devices on the bus can send telegram to change the DMX output type.

If you choose the Disable, you can't change the DMX output type by other devices

**--- Change NetDMX output universe via bus**

Options: **Disable**  
**Enable**

If choose the Enable, other devices on the bus can send telegram to change the DMX output universe.

If you choose the Disable, you can't change the universe via bus.

**--- Change DMX output start address via bus**

Options: **Disable**  
**Enable**

If choose the Enable, other devices on the bus can send telegram to change the DMX output start address.

If you choose the Disable, you can't change the start address via bus.

**--- Read DMX output type(0-HDLNet DMX,1-ArtNetDMX 2-DMX-1990)**

Options: **Disable**  
**Enable**

If you choose the Enable, you can read the DMX output type by other devices.

If you set to Disable, you can't read the DMX output type by other devices.

**--- Read Net DMX output universe from bus**



Options: **Disable**  
**Enable**

If you chose the Enable, you can read the DMX output universe by other device.

If you set to Disable, you can't read the DMX output universe by other device.

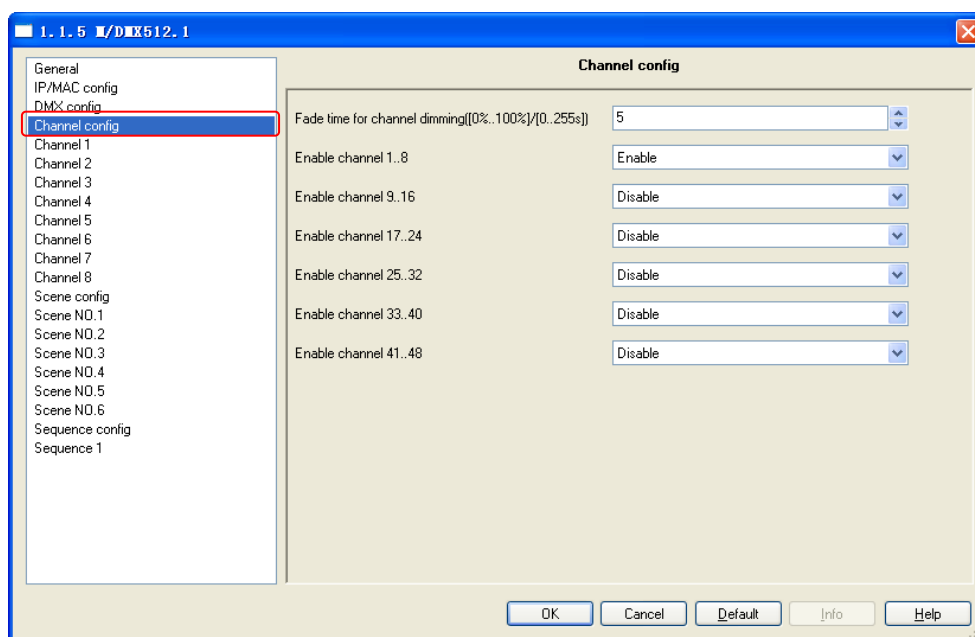
### --- Read Net DMX output start address from bus

Options: **Disable**  
**Enable**

If you chose the Enable, you can read the DMX output start address by other device.

If you set to Disable, you can't read the DMX output start address by other device.

### ● Channel config



**Fig3.3:** “Channel config” parameter window

In the parameter window can set the channel's parameter. There are 48 channels.

### --- Fade time for channel dimming ((0%..100%)/(0...255S))

Options: **0...255**

Set the time about bright from 0 to 100% is needed, time range is 0 to 255.

### --- Enable channel 1...8

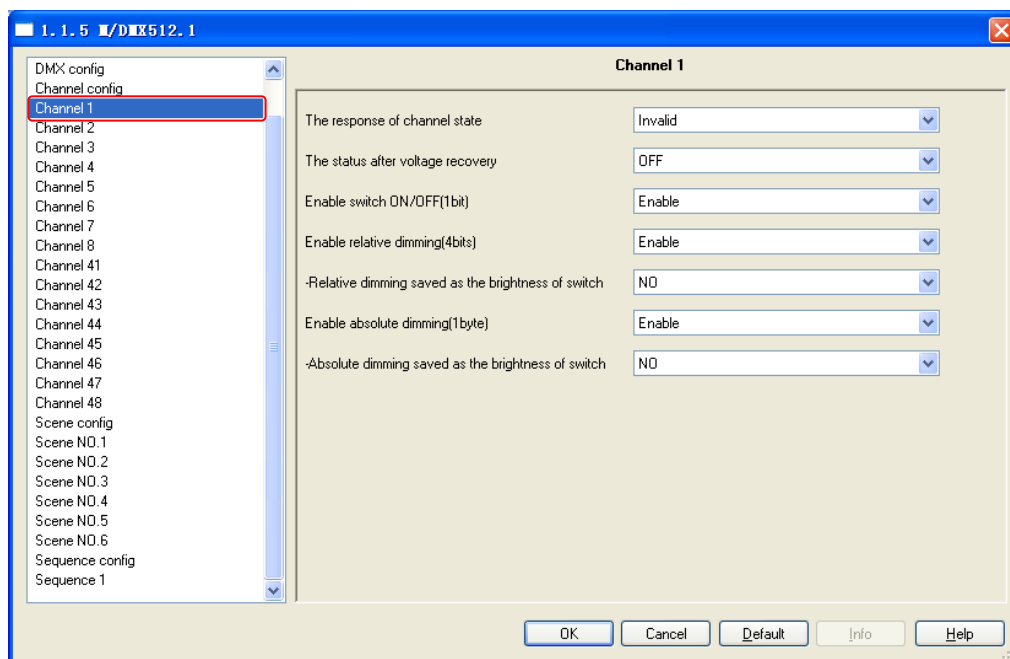
Options: **Disable**  
**Enable**

Set the enable of the channels 1 to 8, if you set the enable, you can dimming the 1 to 8 channels.

- Enable channel 9...16,
- Enable channel 17...24,
- Enable channel 25...32,
- Enable channel 33...40,
- Enable channel 41...48,

The settings are all same to the 1 to 8.

- The channel's setting as follows.



**Fig3.4:** “Channel config” parameter window

In the parameter windows of the “Channel N”, you can set some common functions. Through functional selection and download the database to the device, and device will work in accordance with the selected function.

#### ---The response of channel state

If the dimmer was controlled will be response of the channel state.

Options: **Invalid**

**1 bit always response**

**1 bit only changed**

**1 byte always response**

**1 byte only changed**

**1 bit always response:** it always response,

If the channel is ON, then response 1

If the dimmer is OFF, response 0

**1 bit only changed:** it will be response when the dimmer state was changed

**1 byte always response:** it always response of the light level value.

**1 byte only changed:** it will be response when the light value was changed.

#### ---The Status after voltage recovery

Set the status of restore mode after power on for channel.

Options: **Off**

**Defined brightness value**

**Last brightness value**

**Off:** After power on and the channel's status is off.

**Defined brightness value:** After power on and the channel's status is defined brightness value

**Last brightness value:** After power on and the channel's status is last brightness value

**---Enable switch ON/OFF(1bit)**

Options: **Disable**

**Enable**

Set the enable of switch control. If you choose the enable, you can use other devices control the channel on or off.

**---Enable relative dimming(4bits)**

Options: **Disable**

**Enable**

Set the enable of relative dimming. If choose the Enable, allow to relative dimming, If you choose the disable ,not allow to relative dimming.

Note: Relative dimming fade time (brightness0%...100%/0..255s),the data length is 4bits

**---Relative dimming saved as the brightness of switch**

Options: **YES**

**NO**

Whether or not save the dimming brightness. If you choose the YES, the light will maintain this brightness the next time you open it. If you choose the NO, the light is not save the brightness.

**---Enable absolute dimming**

Options: **Disable**

**Enable'**

Set the enable of absolute dimming. If choose the Enable, allow to absolute dimming, If you choose the disable, not allow to absolute dimming.

Note:Abllolute dimming fade time(brightness0%...100%/0..255s),the data length is 1byte

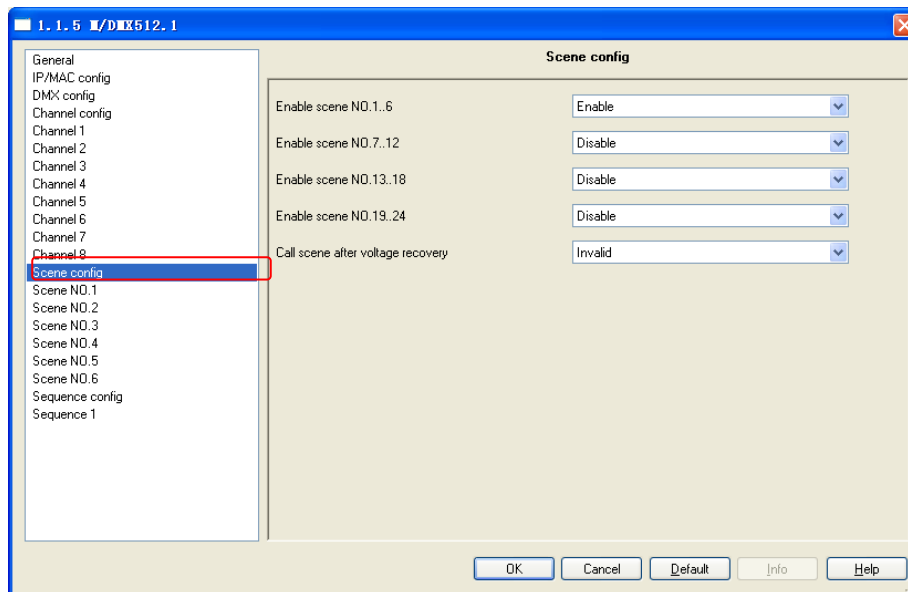
**---Absolute dimming saved as the brightness of switch**

Options: **YES**

**NO**

Whether or not save the dimming brightness. If you choose the YES, the light will maintain this brightness the next time you open it. If you choose the NO, the light is not save the brightness.

● Scene config



**Fig3.5:** “Scene config” parameter window

In the parameter window can set the scene’s parameter. There are 24 scenes.

--- **Enable scene1...6**

Options: **Disable**  
**Enable**

Set the enable of the scenes 1 to 8, if you set to the enable, you can control the 1 to 6 scenes.

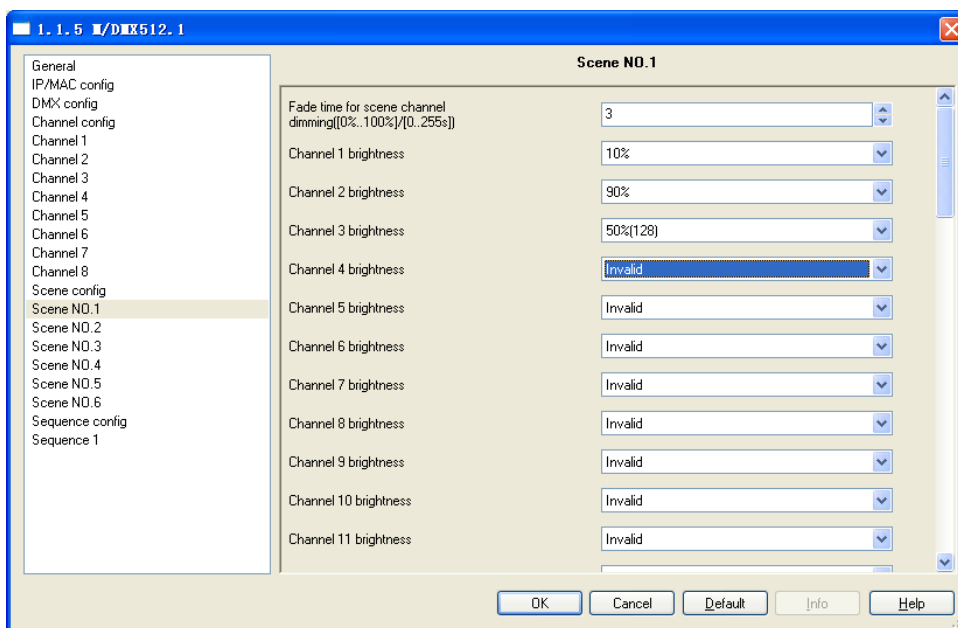
--- **Enable scene 7...12**

--- **Enable scene 13...18**

--- **Enable scene 19...24**

The settings are all same to the 1 to 6.

- The scene's setting as follows.



**Fig3.6:** “Scene NO.” parameter window

In the parameter window can set the scene's parameter. There are 24 scenes.

**--- Fade time for scene channel dimming ((0%..100%)/(0...255S))**

Options: **0...255**

Set to the fade seconds in the brighter state. The range is 0 to 255.

**--- Channel 1 brightness**

Options: **Invalid**

**0%(0)**

.....

**100%(255)**

There are 48 channels each scene. You can set the channels' brightness you needed. The brightness 's range is 0% to 100%.

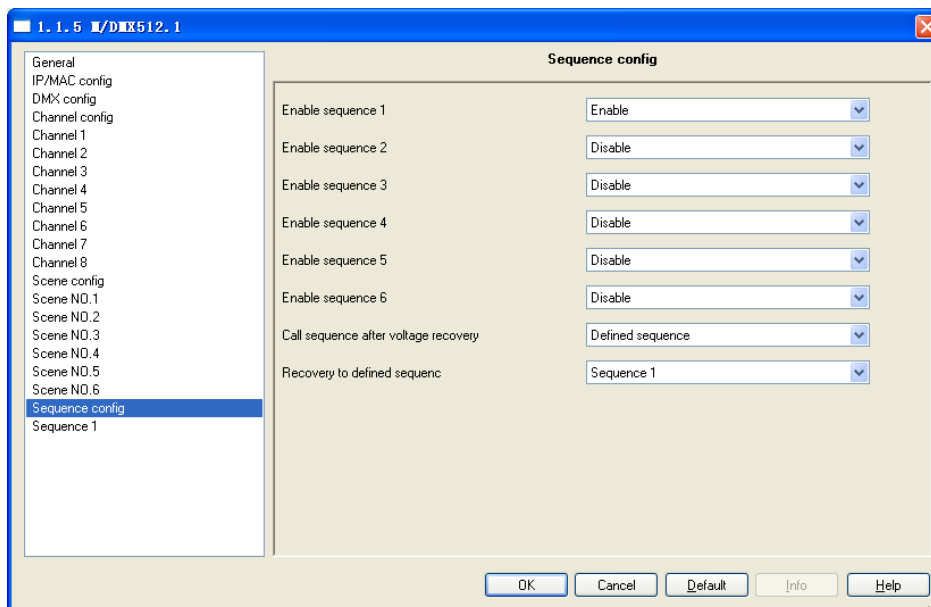
**--- Channel 2 brightness**

.....

**--- Channel 48 brightness**

Setting the brightness's of the 48 channels.

- Sequence config



**Fig3.7:** “Sequence config” parameter window

In the parameter window can set the sequence’s parameter. There are 6 sequences.

--- **Enable sequence 1**

Options: **Disable**

**Enable**

Set the enable of the sequence 1 function. if you set to the enable, you can set the parameter of sequence.

--- **Enable sequence 2**

--- **Enable sequence 3**

--- **Enable sequence 4**

--- **Enable sequence5**

--- **Enable sequence 6**

The settings are all same to the sequence 1.

--- **Call sequence after voltage recovery**

Options: **Invalid**

**Defined sequence**

**Last sequence**

Which sequence should working after voltage recovery, you can set here.

**Invalid:** no working

**Defined sequence:** you can select one sequence for working after voltage recovery.

**Last sequence:** it should working the sequence before off power.

- The sequence's setting as follows.

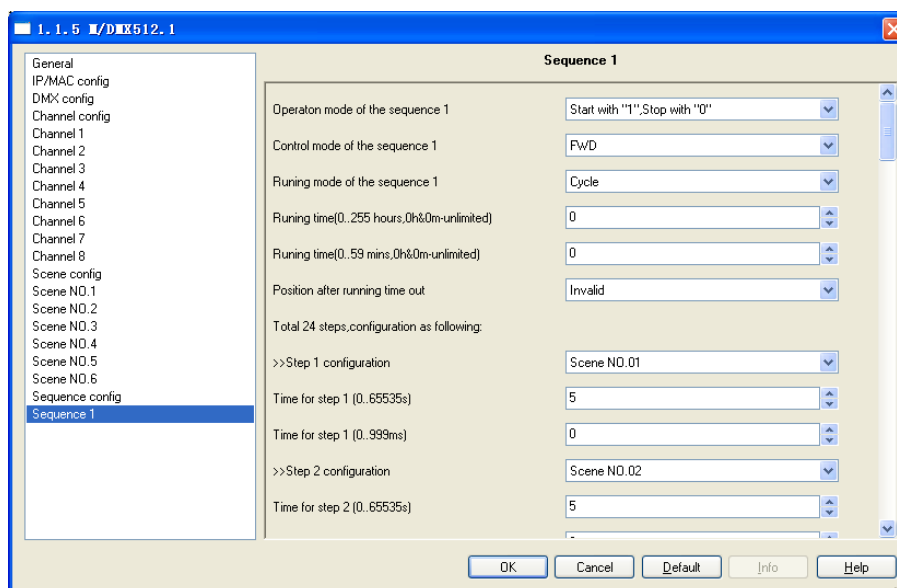


Fig3.8: “Sequence NO.” parameter window

#### ---Operation mode of the sequence 1

Set the operation mode.

Options: **Start with “1”,Stop with “0”**

**Start with “0”,Stop with “1”**

**Start with “1/0”,can’t stop**

**Start with “1”,Stop with “0”:** When receives “1”, then run sequence 1,When receives 0, then stop sequence 1.

**Start with “0”, Stop with “1”:** when receives 0, then run sequence 1, When receives 1, then stop sequence 1.

**Start with “1/0”,can’t stop:** Both receive 1 or 0,.start the sequence 1.

#### ---Control mode of the sequence 1

Set the control mode.

Options: **FWD**

**REW**

**Random**

**FWD:** Forward mode

**REW:** Back work mode

**RANDOM:** Random mode

#### ---Running mode of the sequence 1

Set the running mode

Options: **Single**

**Cycle**

**Single:** Run only once.

**Cycle:** Cycle run.

#### ---Running time (0...255hours,0h&0m-unlimited)

Set the sequence running time.

Options: **0-255**

**---Running time(0...59mins, 0h&0m-unlimited)**

Set the sequence running time. The longest time is 59mins.

Options: **0-59**

**Note: Unlimited when the time set to 0h&0m.**

**---Position after time out**

If the sequence running in Cycle mode, and is run time greater than zero, After time out, the sequence will back to this set position.

**Total 24steps, configuration as following:**

**---Step 1 configuration**

Options: **invalid**

**Scene NO.01**

...

**Scene NO.24**

**---Time for step 1(0...65535s)**

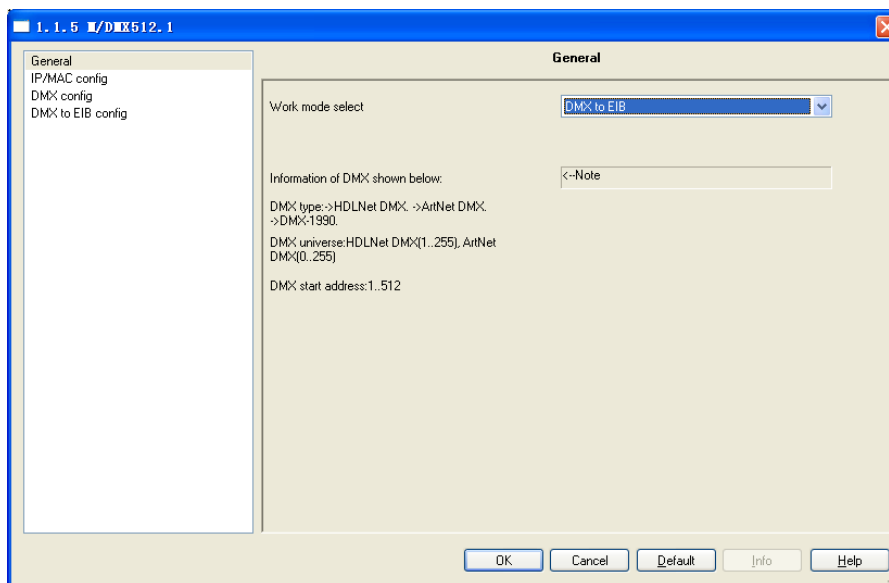
Set the time for the step. The longest time is 65535s.

**---Time for step 1(0...999ms)**

Set the time for the step. The longest time is 999ms.

**Other steps setting are same as the step 1.**

### 3.3.3 Function parameter “DMX to EIB”

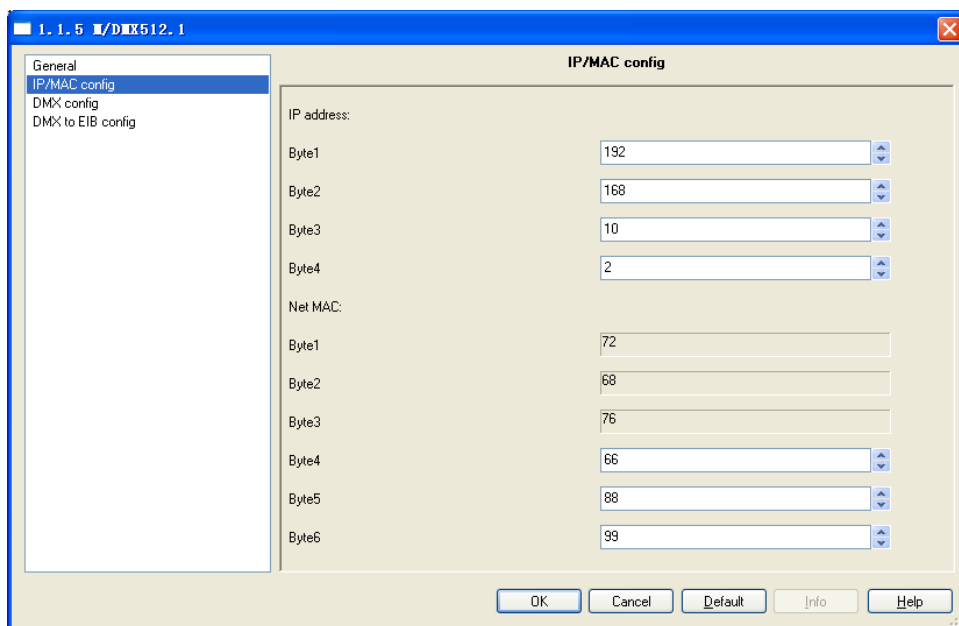


**Fig4:** “DMX to EIB” parameter window

When you select the mode, you need set the follow parameter.



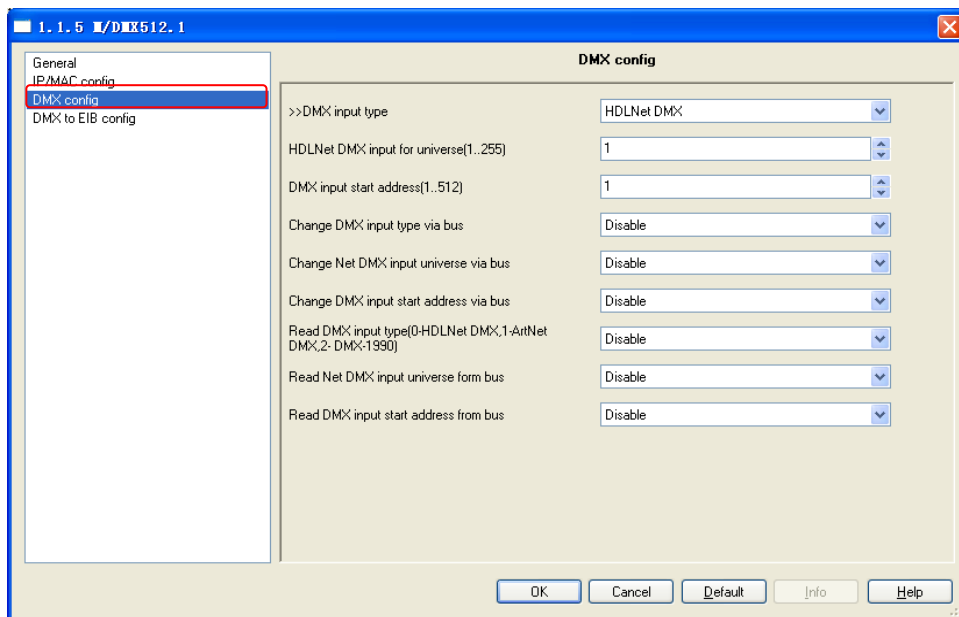
● IP/MAC config



**Fig4.1:** “P/MAC config” parameter window

“In the parameter window can set the IP Address and Net MAC of M/DMX512.

● DMX config



**Fig4.2:** “DMX config” parameter window

In the parameter window can set DMX Input type, Output type and the other parameters.

--- >>DMX input type

Options: HDLNet DMX

ArtNET DMX

DMX1990

The DMX input has 3 communication modes. Now, Take the HDLNet DMX as an example.

**--- HDLNet DMX input for universe (1...255)**

Options: **1...255**

Set the NO. for universe, the NO. is same to the object's universe.

The range is 1 to 255.

**--- DMX input start address(1...512)**

Options: **1...512**

Set the start address of the DMX input by other device.

The range is 1 to 512.

**--- Change DMX input type via bus**

Options: **Disable**

**Enable**

If choose the Enable, other devices on the bus can send telegram to change the DMX input type.

If you chose the Disable, you can't change the DMX input type by other devices.

**--- Change NetDMX input universe via bus**

Options: **Disable**

**Enable**

If choose the Enable, other devices on the bus can send telegram to change the DMX input universe.

If you chose the Disable, you can't change the universe via bus.

**--- Change DMX input start address(1...512)**

Options: **1...512**

Change the start address of the DMX input by other devices.

The range is 1 to 512.

**--- Read DMX input type(0-HDLNet DMX,1-ArtNetDMX 2-DMX-1990)**

Options: **Disable**

**Enable**

If you choose the Enable, you can read the DMX input type by other devices.

If you set to Disable, you can't read the DMX input type by other devices.

**--- Read Net DMX input universe from bus**

Options: **Disable**  
**Enable**

If you chose the Enable, you can read the DMX input universe by other device.

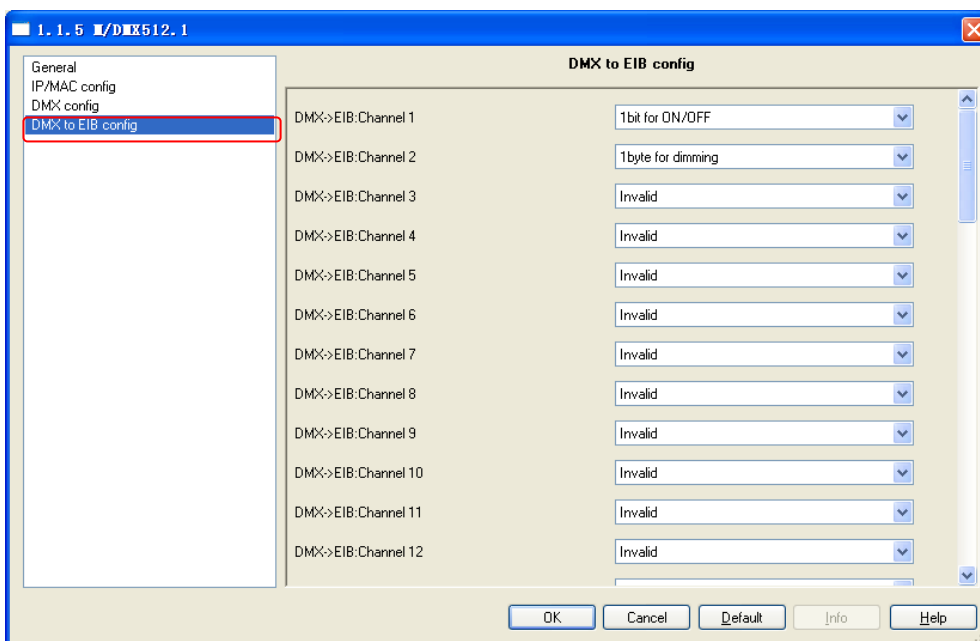
If you set to Disable, you can't read the DMX input universe by other device.

--- **Read DMX input start address from bus**

Options: **Disable**  
**Enable**

If you chose the Enable, you can read the DMX input start address by other device.

● **DMX to EIB config**



**Fig4.3:** “DMX to EIB config” parameter window

--- **DMX-> EIB: Channel 1**

Options: **Invalid**  
**1 bit for ON/OFF**  
**1 byte for dimming**

DMX to EIB is control 48 channels at all; each channel has 2 control modes, 1 bit for ON/OFF and 1 byte for dimming. The control objectives are dimming channels and relay channels.

**1 bit for ON/OFF:** the mode is a switch.

When the control objective is received the value of 0 to 127 the objective will off. When the control objective is received the value of 128 to 255 the objective will on.

**1 byte for dimming:** the mode is a dimming.

## 4- Communication objects description

### 4.1 External record mode

#### 4.1.1 DMX config

● Change DMX input type via bus

Number	Name	Object Function	Group Addre...	Length	C	R	W	T	U	Data Type
0	DMX input type	ON switching to "HDLNet DMX"		1 bit	C	-	W	-	U	1 bit DPT_Switch
1	DMX input type	ON switching to "ArtNet DMX"		1 bit	C	-	W	-	U	1 bit DPT_Switch
2	DMX input type	ON switching to "DMX-1990"		1 bit	C	-	W	-	U	1 bit DPT_Switch

NO.	Object name	Function	Flags	Data type
0	DMX input type	ON switch to HDLNet DMX	C W U	DPT 1.001 1bit
This communication is change DMX input type via bus. Send telegram value is "1", the DMX input type will change to HDL Net DMX.				
1	DMX input type	ON switch to ArtNet DMX	C W U	DPT 1.001 1bit
This communication is change DMX input type via bus. Send telegram value is "1", the DMX input type will change to ArtNet DMX				
2	DMX input type	ON switch to DMX-1990	C W U	DPT 1.001 1 bit
This communication is change DMX input type via bus. Send telegram value is "1", the DMX input type will change to DMX-1990.				

You can use KNX/EIB panel or other device send telegram to M/DMX512.1, and you must set button's group address same to M/DMX512.1.

● Change Net DMX input universe via bus

Number	Name	Object Function	Group Addre...	Length	C	R	W	T	U	Data Type
3	DMX input universe	Change Net DMX input universe		1 Byte	C	-	W	-	U	

NO.	Object name	Function	Flags	Data type
3	DMX input universe	Change Net DMX input universe	C W U	DPT 5.004 1 byte
You can use other devices on the bus send telegram to change the DMX input universe.				

● Read DMX input type

Number	Name	Object Function	Group Address	Length	C	R	W	T	U	Data Type
5	DMX input type	Read DMX input type		1 Byte	C	R	-	T	-	

NO.	Object name	Function	Flags	Data type
5	DMX input type	Read DMX input type	C R T	DPT 5.004 1 byte

You can use other devices on the bus read the DMX input type. If the telegram value is "0", the DMX input type is HDLNet DMX.

The telegram value	the DMX input type
0	HDLNet DMX
1	ArtNet
2	DMX-1990

● Read Net DMX input universe from bus

Number	Name	Object Function	Group Address	Length	C	R	W	T	U	Data Type
6	DMX input universe	Read Net DMX input universe		1 Byte	C	R	-	T	-	

NO.	Object name	Function	Flags	Data type
6	DMX input universe	Read DMX input universe	C R T	DPT 5.004 1 byte

You can use other devices on the bus read the DMX input universe.

● Change DMX output type

Number	Name	Object Function	Group Address	Length	C	R	W	T	U	Data Type
8	DMX output type	ON switching to "HDLNet DMX"		1 bit	C	-	W	-	U	1 bit DPT_Switch
9	DMX output type	ON switching to "ArtNet DMX"		1 bit	C	-	W	-	U	1 bit DPT_Switch
10	DMX output type	ON switching to "DMX-1990"		1 bit	C	-	W	-	U	1 bit DPT_Switch

NO.	Object name	Function	Flags	Data type
8	DMX output type	ON switching to HDLNet DMX	C W U	DPT 1.001 1bit

This communication is change DMX output type via bus. Send telegram value is "1", the DMX output type will change to HDL Net DMX.

NO.	Object name	Function	Flags	Data type
9	DMX output type	ON switch to ArtNet DMX	C W U	DPT 1.001 1bit

This communication is change DMX output type via bus. Send telegram value is "1", the DMX output type will change to ArtNet DMX

NO.	Object name	Function	Flags	Data type
10	DMX output type	ON switch to DMX-1990	C W U	DPT 1.001 1 bit

This communication is change DMX output type via bus. Send telegram value is “1”, the DMX output type will change to DMX-1990.

● Change Net DMX output universe via bus

Number	Name	Object Function	Group Address...	Length	C	R	W	T	U	Data Type
11	DMX output universe	Change Net DMX output universe		1 Byte	C	-	W	-	U	

NO.	Object name	Function	Flags	Data type
11	DMX output universe	Change Net DMX output universe	C W U	DPT 5.004 1 byte

You can use other devices on the bus send telegram to change the DMX output universe.

● Read DMX output type

Number	Name	Object Function	Group Address...	Length	C	R	W	T	U	Data Type
13	DMX output type	Read DMX output type		1 Byte	C	R	-	T	-	

NO.	Object name	Function	Flags	Data type
13	DMX output type	Read DMX output type	C R T	DPT 5.004 1 byte

You can use other devices on the bus read the DMX output type. If the telegram value is “0”, the DMX output type is HDLNet DMX.

The telegram value	The DMX input type
0	HDLNet DMX
1	ArtNet
2	DMX-1990

● Read Net DMX output universe from bus

Number	Name	Object Function	Group Address...	Length	C	R	W	T	U	Data Type
14	DMX output universe	Read Net DMX output universe		1 Byte	C	R	-	T	-	

NO.	Object name	Function	Flags	Data type
14	DMX output universe	Read DMX output universe	C R T	DPT 5.004 1 byte

You can use other devices on the bus read the DMX output universe.

4.1.2 Program config

● Change program mode via bus

Number	Name	Object Function	Group Addr...	Length	C	R	W	T	U	Data Type
16	Program mode	ON switching to "Play mode"		1 bit	C	-	W	-	U	1 bit DPT_Swi
17	Program mode	ON switching to "Record mode"		1 bit	C	-	W	-	U	1 bit DPT_Swi
18	Program mode	ON switching to "Delete mode"		1 bit	C	-	W	-	U	1 bit DPT_Swi

NO.	Object name	Function	Flags	Data type
16	Program mode	ON switch to Play mode	C W U	DPT 1.001 1bit
This communication is change program mode via bus. Send telegram value is "1", the DMX output type will change to play mode.				
17	Program mode	ON switch to Record mode	C W U	DPT 1.001 1bit
This communication is change program mode via bus. Send telegram value is "1", the DMX output type will change to record mode.				
18	Program mode	ON switch to Delete mode	C W U	DPT 1.001 1 bit
This communication is change program mode via bus. Send telegram value is "1", the DMX output type will change to delete mode.				

● Read program mode

Number	Name	Object Function	Group Addr...	Length	C	R	W	T	U	Data Type
19	Program mode	Read program mode(0-P,1-R,2-D)		1 Byte	C	R	-	T	-	

NO.	Object name	Function	Flags	Data type
19	Program mode	Read program mode(0-P,1-R,2-D)	C R T	DPT 5.004 1 byte
You can use other devices on the bus read the DMX output universe.				
The telegram value                      program mode				
0	Play mode			
1	Record mode			
2	Delete mode			

● Enable program group A



Number	Name	Object Function	Group Address...	Length	C	R	W	T	U	Data Type
20	Program pause	Pause (0-pause, 1-continue)		1 bit	C	-	W	-	U	1 bit DPT_Start
21	Program stop	Stop (0-stop, 1-start)		1 bit	C	-	W	-	U	1 bit DPT_Start
30	Program group A	Group A-1		1 bit	C	-	W	-	U	1 bit DPT_Start
31	Program group A	Group A-2		1 bit	C	-	W	-	U	1 bit DPT_Start
32	Program group A	Group A-3		1 bit	C	-	W	-	U	1 bit DPT_Start
33	Program group A	Group A-4		1 bit	C	-	W	-	U	1 bit DPT_Start
34	Program group A	Group A-5		1 bit	C	-	W	-	U	1 bit DPT_Start
35	Program group A	Group A-6		1 bit	C	-	W	-	U	1 bit DPT_Start
36	Program group A	Group A-7		1 bit	C	-	W	-	U	1 bit DPT_Start
37	Program group A	Group A-8		1 bit	C	-	W	-	U	1 bit DPT_Start

NO.	Object name	Function	Flags	Data type
20	Program pause	Pause(0-pause,1-continue)	C W U	DPT 1.010 1 bit
You can use other devices control program pause or continue				
21	Program stop	Stop(0-stop,1-start)	C W U	DPT 1.010 1 bit
You can use other devices control program stop or start				
30... 37	Program group A	GroupA-1...A-8	C R T	DPT 1.010 1 bit
You can use other devices control the program groups.				

The group B and group C are same to the group A.

## 4.2 DMX dimming (EIB to DMX)

### 4.2.1 DMX config

● Change DMX output type via bus

Number	Name	Object Function	Group Address...	Length	C	R	W	T	U	Data Type
8	DMX output type	ON switching to "HDLNet DMX"		1 bit	C	-	W	-	U	1 bit DPT_Switch
9	DMX output type	ON switching to "ArtNet DMX"		1 bit	C	-	W	-	U	1 bit DPT_Switch
10	DMX output type	ON switching to "DMX-1990"		1 bit	C	-	W	-	U	1 bit DPT_Switch

NO.	Object name	Function	Flags	Data type
8	DMX output type	ON switch to HDLNet DMX	C W U	DPT 1.001 1bit
This communication is change DMX output type via bus. Send telegram value is "1", the DMX input type will change to HDL Net DMX.				
9	DMX output type	ON switch to ArtNet DMX	C W U	DPT 1.001 1bit
This communication is change DMX output type via bus. Send telegram value is "1", the DMX input type will change to ArtNet DMX				

<b>10</b>	DMX output type	ON switch to DMX-1990	C W U	DPT 1.001 1 bit
This communication is change DMX output type via bus. Send telegram value is "1", the DMX input type will change to DMX-1990.				

● Change Net DMX output universe via bus

Number	Name	Object Function	Group Address	Length	C	R	W	T	U	Data Type
11	DMX output universe	Change Net DMX output universe		1 Byte	C	-	W	-	U	

NO.	Object name	Function	Flags	Data type
11	DMX output universe	Change Net DMX output universe	C W U	DPT 5.004 1 byte
You can use other devices on the bus send telegram to change the DMX output universe.				

● Change DMX output universe via bus

Number	Name	Object Function	Group Address	Length	C	R	W	T	U	Data Type
12	DMX output start ...	Change DMX output address		2 Byte	C	-	W	-	U	

NO.	Object name	Function	Flags	Data type
12	DMX output start address	Change DMX output address	C W U	DPT 7.001 2 Byte
You can use other devices on the bus send telegram to change the DMX output start address.				

● Read DMX output type

Number	Name	Object Function	Group Address	Length	C	R	W	T	U	Data Type
13	DMX output type	Read DMX output type		1 Byte	C	R	-	T	-	

NO.	Object name	Function	Flags	Data type
13	DMX output type	Read DMX output type	C R T	DPT 5.004 1 Byte

You can use other devices on the bus read the DMX output type. If the telegram value is “0”, the DMX output type is HDLNet DMX.

The telegram value	the DMX input type
0	HDLNet DMX
1	ArtNet
2	DMX-1990

● Read Net DMX output universe from bus

Number	Name	Object Function	Group Address	Length	C	R	W	T	U	Data Type
14	DMX output universe	Read Net DMX output universe		1 Byte	C	R	-	T	-	

N O.	Object name	Function	Flags	Data type
14	DMX output universe	Read DMX output universe	C R T	DPT 5.004 1 Byte

You can use other devices on the bus read the DMX output universe.

● Read Net DMX output universe from bus

Number	Name	Object Function	Group Address	Length	C	R	W	T	U	Data Type
15	DMX output start ...	Read DMX output address		2 Byte	C	R	-	T	-	

NO.	Object name	Function	Flags	Data type
15	DMX output start address	Read DMX output address	C R T	DPT 7.001 2 Byte

You can use other devices on the bus read the DMX output universe.

4.2.2 Channel config

● Enable channel 1...8

E.g channel 1

Number	Name	Object Function	Group Address	Length	C	R	W	T	U	Data Type
30	Channel 1	Switching(1bit)		1 bit	C	-	W	-	U	1 bit DPT_Sw
31	Channel 1	Relative dimming(4bits)		4 bit	C	-	W	-	U	3 bit contro
32	Channel 1	Absolute dimming(1byte)		1 Byte	C	-	W	-	U	8 bit unsign

NO.	Object name	Function	Flags	Data type
-----	-------------	----------	-------	-----------

30	Channel 1	Switching(1 bit)	C W U	DPT 1.001 1 bit
You can use other devices on the bus control channel 1.				
31	Channel 1	Relative dimming	C W U	DPT 3.007 4bit
You can use other devices on the bus control channel 1for relative dimming.				
32	Channel 1	Absolute dimming	C R T	DPT 5.001 1 byte
You can use other devices on the bus control channel 1for absolute dimming.				

All channels are same to the channel 1.

● Scene config

Number	Name	Object Function	Group Addresses	C	R	W	T	U	Data Type
230	Scene	Call scene(8bit)		C	-	W	-	U	
231	Scene	Scene dimming(4bit)		C	-	W	-	U	3 bit controll

NO.	Object name	Function	Flags	Data type
230	Scene	Call scene(8 bit)	C W U	DPT 18.001 1 byte
231	Scene	Scene dimming(4 bit)	C W U	DPT 3.007 4 bit
You can use other devices on the bus control the scene. Total 24 scenes, all the scenes have a same address, you can send the value 000000 to 111111 call the scenes.				

● Sequence config

Number	Name	Object Function	Des...	Grou...	Length	C	R	W	T	U	Data Type	Priority
230	Scene	Call scene(8bit)		1/2/3	1 Byte	C	-	W	-	U		Low
231	Scene	Scene dimming(4bit)			4 bit	C	-	W	-	U	3 bit con...	Low
232	Sequence	Sequence 1			1 bit	C	-	W	-	U	1 bit DPT...	Low
233	Sequence	Sequence 2			1 bit	C	-	W	-	U	1 bit DPT...	Low
234	Sequence	Sequence 3			1 bit	C	-	W	-	U	1 bit DPT...	Low
235	Sequence	Sequence 4			1 bit	C	-	W	-	U	1 bit DPT...	Low
236	Sequence	Sequence 5			1 bit	C	-	W	-	U	1 bit DPT...	Low
237	Sequence	Sequence 6			1 bit	C	-	W	-	U	1 bit DPT...	Low

NO.	Object name	Function	Flags	Data type
232...237	Sequence	Sequence 1 ... Sequence 6	C W U	DPT 1.010 1 bit

You can use other devices on the bus control the sequence.

### 4.3 DMX to EIB

#### 4.3.1 DMX config

● Change DMX input type via bus

Number	Name	Object Function	Group Addre...	Length	C	R	W	T	U	Data Type
0	DMX input type	ON switching to "HDLNet DMX"		1 bit	C	-	W	-	U	1 bit DPT_Switch
1	DMX input type	ON switching to "ArtNet DMX"		1 bit	C	-	W	-	U	1 bit DPT_Switch
2	DMX input type	ON switching to "DMX-1990"		1 bit	C	-	W	-	U	1 bit DPT_Switch

NO.	Object name	Function	Flags	Data type
0	DMX input type	ON switch to HDLNet DMX	C W U	DPT 1.001 1bit
This communication is change DMX input type via bus. Send telegram value is "1", the DMX input type will change to HDL Net DMX.				
1	DMX input type	ON switch to ArtNet DMX	C W U	DPT 1.001 1bit
This communication is change DMX input type via bus. Send telegram value is "1", the DMX input type will change to ArtNet DMX				
2	DMX input type	ON switch to DMX-1990	C W U	DPT 1.001 1 bit
This communication is change DMX input type via bus. Send telegram value is "1", the DMX input type will change to DMX-1990.				

You can use KNX/EIB panel or other device send telegram to M/DMX512.1, and you must set button's group address same to M/DMX512.1.

● Change Net DMX input universe via bus

Number	Name	Object Function	Des...	Grou...	Length	C	R	W	T	U	Data Type	Priority
3	DMX input universe	Change Net DMX input universe			1 Byte	C	-	W	-	U		Low
4	DMX input start address	Change DMX input address			2 Byte	C	-	W	-	U		Low

NO.	Object name	Function	Flags	Data type
3	DMX input universe	Change Net DMX input universe	C W U	DPT 5.004 1 byte
You can use other devices on the bus send telegram to change the DMX input universe.				
4	DMX input start address	Change DMX input address	C W U	DPT 7.001 2 byte
You can use other devices on the bus send telegram to change the DMX input start address.				

● Read DMX input type

Number	Name	Object Function	Group Adre...	Length	C	R	W	T	U	Data Type
5	DMX input type	Read DMX input type		1 Byte	C	R	-	T	-	

NO.	Object name	Function	Flags	Data type
5	DMX input type	Read DMX input type	C R T	DPT 5.004 1 byte

You can use other devices on the bus read the DMX input type. If the telegram value is "0", the DMX input type is HDLNet DMX.

The telegram value	the DMX input type
0	HDLNet DMX
1	ArtNet
2	DMX-1990

● Read Net DMX input universe from bus

Number	Name	Object Function	Group Adre...	Length	C	R	W	T	U	Data Type
6	DMX input universe	Read Net DMX input universe		1 Byte	C	R	-	T	-	

NO.	Object name	Function	Flags	Data type
6	DMX input universe	Read DMX input universe	C R T	DPT 5.004 1 byte

You can use other devices on the bus read the DMX input universe.

● Read DMX input address

Number	Name	Object Function	Des...	Grou...	Length	C	R	W	T	U	Data Type	Priority
7	DMX input start address	Read DMX input address			2 Byte	C	R	-	T	-		Low

NO.	Object name	Function	Flags	Data type
7	DMX input start address	Read DMX input address	C R T	DPT 7.001 2 byte

You can use other devices on the bus read the DMX input start address.

4.3.2 DMX to EIB config

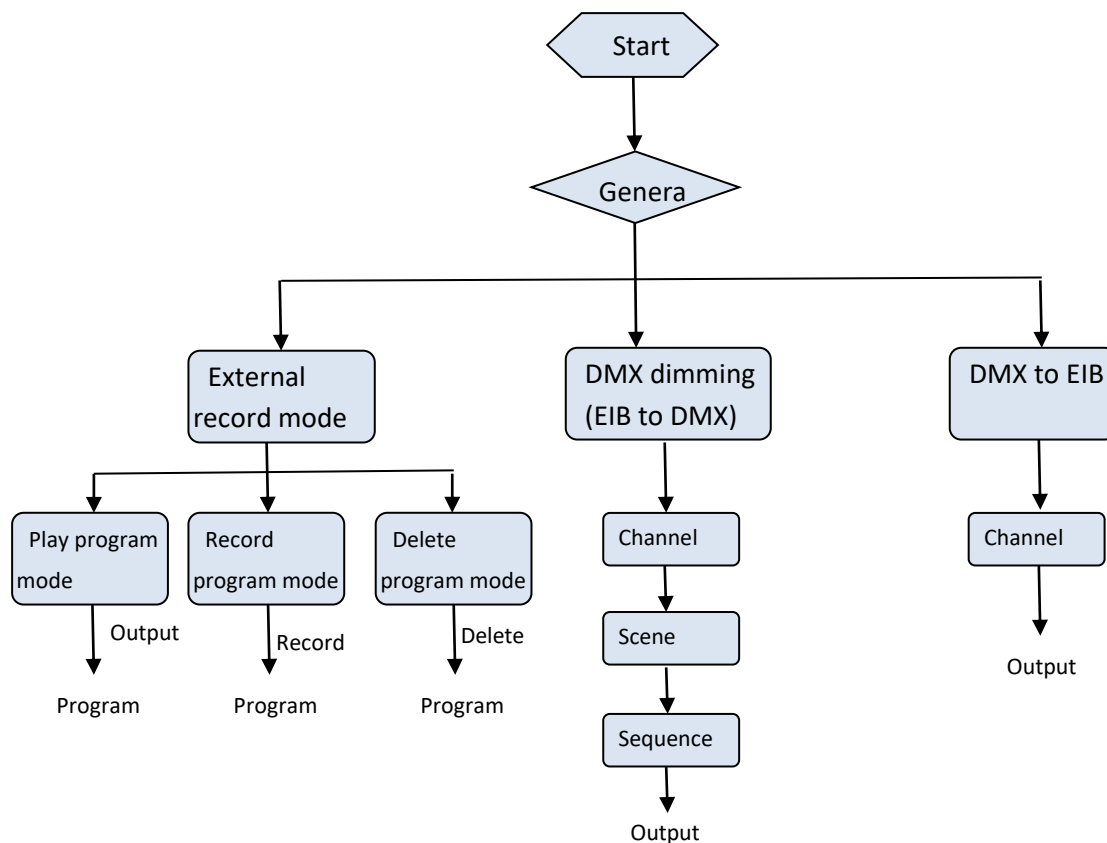
Number	Name	Object Function	Des...	Grou...	Length	C	R	W	T	U	Data Type	Priority
30	DMX to EIB	Channel 1			1 bit	C	-	-	T	-	1 bit DPT...	Low
31	DMX to EIB	Channel 2			1 bit	C	-	-	T	-	1 bit DPT...	Low
32	DMX to EIB	Channel 3			1 bit	C	-	-	T	-	1 bit DPT...	Low
77	DMX to EIB	Channel 48			1 Byte	C	-	-	T	-	8 bit uns...	Low

NO.	Object name	Function	Flags	Data type
30	DMX to EIB	Channel1	C R T	DPT1.001/3.007/ 5.001
...		...		
220		48		1 bit/4bit/1 byte

There are 48 channels at all, that is, it can control 48 objectives.  
The objectives are dimming, relay, response state.

## 5- Application

### 5.1 Program functions diagram





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