Easypanel series products
Product Manual

Contents

Product introduction
1.1 Product Function ................................................................. 4

2 Hardware ............................................................................. 5
2.1 Technical data ................................................................. 5
2.2 Dimension drawings ....................................................... 7
2.3 Wiring diagram ............................................................... 7
2.4 Maintenance and Cautions .............................................. 7

3 Software ............................................................................ 9
3.1 Function parameter “General” ........................................... 9
3.2 Function parameter Rocker “N” ...................................... 12
3.3.1 Button mode “Switch controller” ................................. 13
3.3.2 Button mode “Dimming controller” ............................. 14
3.3.3 Button mode “Shutter controller” ................................. 16
3.3.4 Button mode “Flexible controller” ............................... 17
3.3.5 Button mode “Scene controller” ................................. 18
3.3.6 Button mode “Sequence controller” ......................... 20
3.3.7 Button mode “Percentage controller” ....................... 21
3.3.8 Button mode “Combination controller” .................... 22
3.3.9 Button mode “String(14 bytes) controller” ............... 23

4 Communication objects description .................................. 24
4.1 Objects “General” ............................................................ 24
4.2 Objects “Switch controller” ............................................. 26
4.3 Objects “Dimming controller” ......................................... 26
4.4 Objects “Shutter controller” ........................................... 27
4.5 Objects “Flexible controller” .......................................... 27
4.6 Objects “Scene controller” ............................................. 28
4.7 Objects “Sequence controller” ....................................... 28
4.8 Objects “Percentage controller” .................................... 29
4.9 Objects “Combination controller” ................................. 30
4.10 Objects “String(14 bytes) controller” ......................... 31

5 Application .................................................................... 32
5.1 Program functions diagram ......................................... 32
1- Product introduction

HDL KNX / EIB series Panel controller are developed by HDL. Using KNX/EIB BUS Communication with other KNX devices. Database need to be downloaded to the Panel controller by using the ETS2 V1.3(*.vd2)/ETS 3.0(*.vd3). The document describes how to use the products. Our products use standard according to EMC, electrical safety, environmental conditions. This product has the accept function of infrared remote control. So, Through infrared remote control can be reach the aim of control directly.

The panels are can be use as:
   * Switch
   * Dimmer
   * Shutter
   * ....
   * Other Controlled equipments

The rights and the copyright to this manual are exclusively the property of HDL.
1.1-Product Function

For M/P04.1 and the M/P02.1 require. The following functions can be set individually for each control channel:
* Switch controller
* Dimming controller
* Shutter controller
* Flexible controller
* Scene controller
* Percentage controller
* Combination controller
* 14 bytes value controller

Additional functions as following:
* IR Remote control
* Dimming LED brightness
* Dimming LED background light brightness
* Night mode (automatic darker after a delay)
* Infrared remote control
* Lock buttons via KNX/EIB BUS
* Trigger buttons via KNX/EIB BUS
2- Hardware

The technical properties of HDL KNX/EIB Panel controller as the following sections.

2.1 Technical data

Panel type and buttons

<table>
<thead>
<tr>
<th>Type of Device</th>
<th>M/P02.1</th>
<th>M/P04.1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of button</td>
<td>2</td>
<td>4</td>
</tr>
</tbody>
</table>

Power supply

<table>
<thead>
<tr>
<th>Operating voltage(supply by the bus)</th>
<th>21...30 V DC,</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current consumption EIB / KNX(operate)</td>
<td>&lt; 25 mA</td>
</tr>
<tr>
<td>Current consumption EIB / KNX(standby)</td>
<td>&lt; 5 mA</td>
</tr>
</tbody>
</table>

Connections

<table>
<thead>
<tr>
<th>EIB / KNX</th>
<th>Bus Connection Terminal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Load circuits</td>
<td>Bus Connection Terminal</td>
</tr>
<tr>
<td>Screw terminal with Slotted head</td>
<td>0.2...4 mm² multi-core</td>
</tr>
<tr>
<td>0.4...6 mm² single-core</td>
<td>0.8 mm Ø, single core</td>
</tr>
<tr>
<td>Cable shoe</td>
<td>12 mm</td>
</tr>
<tr>
<td>Tightening torque</td>
<td>Max. 0.8 Nm</td>
</tr>
</tbody>
</table>

Operating and display

<table>
<thead>
<tr>
<th>Push Diagonal combination button</th>
<th>Programming mode</th>
</tr>
</thead>
<tbody>
<tr>
<td>eg:M/P04.1:button left of rocker A and button right of rocker D</td>
<td>Programming mode</td>
</tr>
<tr>
<td>M/P02.1:button left of rocker A and button right of rocker B</td>
<td>Programming mode</td>
</tr>
<tr>
<td>Backlight led go round</td>
<td>For assignment of the physical address</td>
</tr>
</tbody>
</table>

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

| Type–M/P  | 02.1 | 04.1 |
| Dimensions (H x W x D) | 86 x 86 x35 | 86 x 86 x35 |
| Weight (unit kg) | 0.26 | 0.26 |
| Installation | Standard GI Box 86x86 |
Mounting position: The wall
Material and Colour: Glass and plastic, Black
Standard and Safety:
  * LVD Standard: EN60669-2-1, EN60669-1
  * EMC Standard: EN50090-2-2
CE mark: In accordance with the EMC guideline and low voltage guideline
Pollutant: Comply with RoHS

Application table:

<table>
<thead>
<tr>
<th>Type</th>
<th>M/P02.1</th>
<th>M/P04.1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. number of communication objects</td>
<td>130</td>
<td>230</td>
</tr>
<tr>
<td>Max. number of group addresses</td>
<td>254</td>
<td>254</td>
</tr>
<tr>
<td>Max. number of associations</td>
<td>254</td>
<td>254</td>
</tr>
</tbody>
</table>

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

N = A, B, C, D: Order from top to bottom

2.3 Wiring diagram

N = A, B, C, D: Order from top to bottom

2.4 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 Panel Actuators database use ETS3.0 to do the design. The device types are M/P02.1 and M/P04.1. All Interface and the functions Apply parameters please overview the following description of the paragraph.

3.1 Function parameter “General”

---Cycle send general telegram(1..65535s,0-invalid)
The range of the parameter is 0 to 65535s. Zero of parameter disable the function, other of parameter enable this function.

Options: 0…65535s
The parameter set to nonzero, Device will send a telegram data cyclically when time out. Send the value alternately between 0 and 1.

---LED Level of the button
Set the LED level of the button.
The LED level setting range is 00% ... Level100%
Options: Level 00%...Level100%

---LED Level of the backlight
Set the LED level of the backlight.
The LED brightness of the backlight setting range is 00% ... Level100%
Options: Level 00%...Level100%

---Change button LED level via bus
If choose the Enable, other devices on the bus can send telegram to change the LED brightness of the button.
If you choose the Disable, the LED brightness of the button can't change by other KNX/EIB devices.
Options: Disable
      Enable

---Change backlight LED level via bus
If choose the Enable, other devices on the bus can send telegram to change the backlight LED brightness of the rocker.
If you choose the Disable, the backlight LED brightness of the button can't change by other devices.
Options: Disable
      Enable

---LED automatic darker after a delay (3-255s, 0-2invalid)
If the value set between 0 to 2,The function is invalid. Otherwise, the function is valid. If valid, and when push the button, the button LED brightness and backlight LED brightness change to maxe level. when time out, the LED will automatic darker to the set level, eg: 1%. So, the function is very useful in the evening and energy.
Options: 0-255s

0-2s:Invalid
3-255s:valid

---LED automatic darker level
Set the darker level when LED automatic darker.
Options: 0%-100%

---Enable infrared remote function via bus
If set to Enable, infrared remote will be enable controlled by IR remote controller.
Options: Disable
      Enable
Disable: disable infrared function.
Enable: Enable infrared function.

---Infrared default state
Options: Disable
         Enable

---Lock the buttons via bus
The button can locked via bus, if receive the telegram value is 0, and the button locked, if receive telegram value is 1, and the button unlock. If the button locked, the button will is invalid and the button will can not operated.
Options: invalid
         Lock together
         Single lock
         Lock with together or single
Lock together: All buttons locked together.
Single lock: Can locked one of the button.

---Enable remote trigger buttons
If set to enable, the buttons will may to triggered through remote objects which send telegram to EIB, if receive the value is “1” then triggered, otherwise do not triggered.
It is only can get a short operation when using the remote trigger button objects, Long operate is impossible.

Options: Disable
         Enable
3.2 Function parameter Rocker “N”

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

---Rocker “N (N=A,B,C…)” work mode:
The function of the Rocker “N” work mode can be selected with the following parameter.

Options:  
* Switch controller  
* Dimming controller  
* Shutter controller  
* Flexible controller  
* Scene controller  
* Sequence controller  
* Percentage controller  
* Combination controller  
* 14 bytes value controller
### 3.3.1 Button mode “Switch controller”

---Rocker A operation mode

This parameter determines the work mode of the rocker A.

Options:
- **Left=toggle, Right=toggle**
  - Left=ON, Right=OFF
  - Left=OFF, Right=ON
- **Left=ON, Right=OFF**: Left button is on, right button is off.
- **Left=OFF, Right=ON**: Left button is off, right button is on.

---Delay operation after press (0-255S)

Set the delay time after pressing a short button. The delay time range is 0-255S.

Options: **0-255S**

---LED of the operation mode

Set LED of the operation mode.

Options:
- **Show via object status**
- **Always on**
- **Always off**

Show via object status: the LED’s status shows object’s status.

Always on: the LED is always on.
Always off: the LED is always off.
3.3.2 Button mode “Dimming controller”

---Rocker A operation mode
Set to the button’s functions
Options: Left= Brighter/Toggle, Right= Darker/Toggle
  Left= Darker/Toggle, Right= Brighter/Toggle
  Left= Brighter /ON, Right= Darker/OFF
  Left= Brighter /OFF, Right= Darker /ON
  Left= Darker /ON, Right= Brighter /OFF
  Left= Darker/OFF, Right=Brighter /ON

Left= Brighter/Toggle, Right=Darkner/Toggle:
left button: press to switch on/off, long press to increase light brightness.
right button: press to switch on/off, long press to decrease light brightness.

Left= Darker/Toggle, Right= Brighter/Toggle
left button: press to switch on/off, long press to decrease light brightness
geright button: press to switch on/off, long press to increase light brightness.

Left= Brighter /ON, Right= Darker/OFF
left button: press to switch on, long press to increase light brightness.
right button: press to switch off, long press to decrease light brightness

Left= Brighter /OFF, Right= Darker /ON
left button: press to switch off, long press to increase light brightness.
right button: press to switch on, long press to decrease light brightness

Left= Darker /ON, Right= Brighter /OFF
left button: press to switch on, long press to decrease light brightness.
right button: press to switch off, long press to increase light brightness.
HDL KNX / EIB – BUS

Panel controller

Left= Darker/OFF, Right=Brighter /ON
left button: press to switch off, long press to decrease light brightness
right button: press to switch on, long press to increase light brightness.

---Delay operation after press (0-255S)
Set the delay time after press short button. The delay time range is 0-255S.
Options: 0-255S

---LED of the operation mode
Set LED of the operation mode.
Options: Show via object status
Always on
Always off
Show via object status: the LED’s status shows object’s status.
Always on: the LED is always on.
Always off: the LED is always off.
3.3.3 Button mode “Shutter controller”

---Rocker A operation direction
Options: Left=UP, Right=DOWN
Left=DOWN, Right=UP

Left=UP, Right=DOWN:
- left short button: Adjust OPEN for shutter, value is “0”
- left long button: Move UP for shutter, value is “0”
- right short button: Adjust CLOSE for shutter, value is “1”
- right long button: Move DOWN for shutter, value is “1”

Left=DOWN, Right=UP:
- left short button: Adjust CLOSE for shutter, value is “1”
- left long button: Move DOWN for shutter, value is “1”
- right short button: Adjust OPEN for shutter, value is “0”
- right long button: Move UP for shutter, value is “0”

---LED of the operation mode
Set LED of the operation mode.
Options: Show via object status
- Always on
- Always off

Show via object status: the LED’s status shows object’s status.
Always on: the LED is always on.
Always off: the LED is always off.

### 3.3.4 Button mode “Flexible controller”

---Operation of the left
---Operation of the right
Options: Invalid
- Toggle
- Press="ON"
- Release="ON"
- Press="ON", Release="ON"
- Press="OFF"
- Release="OFF"
- Press=" OFF", Release=" OFF"
- Press=" ON", Release=" OFF"
- Press=" OFF", Release=" ON"

---LED of the operation mode
Set LED of the operation mode.
Options: Show via object status
- Always on
- Always off
- Show via object status: the LED’s status shows object’s status.
- Always on: the LED is always on.
Always off: the LED is always off.

3.3.5 Button mode “Scene controller”

---Call scene number of the left
Call the scene number of left button.
Options: Scene NO.01—Scene NO.64

---Call scene number of the right
Call the scene number of right button.
Options: Scene NO.01—Scene NO.64

---Long time pressing button operation as
Set the button’s functions when long time press.
Options: Scene dimming
          Scene saving
          Dimming and Saving

---Scene dimming
Options: Left=Brighter, Right=Darker
        Left= Darker, Right= Brighter
        Left=Brighter, Right=Darker: left button: press to decrease light brightness.
right button: press to increase light brightness
Left= Darker, Right= Brighter: left button: press to decrease light brightness.
right button: press to increase light brightness

---Scene saving
Saving the scene, and the scene number is 1..64

---Dimming and Saving
Dimming and saving together.

---Delay operation after press (0-255S)
Set the delay time after press. The delay time range is 0-255S.
Options: 0-255S

---LED of the operation mode
Set LED’s mode.
Options: Show via object status
   Always on
   Always off
Show via object status: the LED’s status shows the object’s status.
Always on: the LED is always on.
Always off: the LED is always off.
3.3.6 Button mode “Sequence controller”

---Rocker A operation mode
   Options: Left/Right=Toggle (Start with "1", Stop with "0")
       Left = Start with "1", Right=Stop with "0"
       Left = Stop with "0", Right= Start with "1"
       Left/Right=Always start with"1"

---Delay operation after press (0-255S)
   Set the delay time after press short button. The delay time range is 0-255S.
   Options: 0-255S

---LED of the operation mode
   Set LED of the operation mode.
   Options: Show via object status
       Always on
       Always off
   Show via object status: show the object’s status.
   Always on: the LED is always on.
   Always off: the LED is always off.
3.3.7 Button mode “Percentage controller”

---Percentage (value %) of the left
Light level setting 0%(0)—100%(255)
Options: 0%(0)—100%(255)

---Percentage (value %) of the right
Light level setting 0%(0)—100%(255)
Options: 0%(0)—100%(255)

---Delay operation after press (0-255S)
Set the delay time after press short button. The delay time range is 0-255S.
Options: 0-255S

---LED of the operation mode
Set LED of the operation mode.
Options: Always on
Always off
Always on: the LED is always on.
Always off: the LED is always off.
3.3.8 Button mode “Combination controller”

![Combination controller window](image)

---Button of left
---Button of right

**Type of the object 1…12**: Invalid
- Switch controller
- Shutter controller
- Scene controller
- Sequence controller
- Percentage controller
- 14 byte value controller (string)

For left or right of button, if set some these items, and when press short button and can send several control telegram simultaneously. Can control of multiple targets function simultaneously.

---LED of the operation mode

Set LED of the operation mode.
- Options: Always on
  - Always off
  - Always on: the LED is always on.
  - Always off: the LED is always off.

Button of the left
Type of the Object 1:
3.3.9 Button mode “String(14 bytes) controller”

---Sends value of the left
Press left button can sends the value to the bus. The value type is string. Max length is 14 bytes.

---Delay operation after press (0-255S)
Set the delay time after press short button. The delay time range is 0-255S. Options: 0-255S.

---Sends value of the right
Press right button can sends the value to the bus. The value type is string. Max length is 14 bytes.

---LED of the operation mode
Set LED of the operation mode. Options: Always on, Always off.
Always on: the LED is always on.
Always off: the LED is always off.

Fig11: 14 bytes value controller window
4-Communication objects description

In this section will introduce the communication objects, The objects will show by setting the function enable.

Note: In following sections the N=A,B,C,D

4.1 Objects “General”

<table>
<thead>
<tr>
<th>No.</th>
<th>Object name</th>
<th>Function</th>
<th>Flags</th>
<th>Data type</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>General</td>
<td>Send cycles</td>
<td>C R T</td>
<td>DPT 1.003 1bit</td>
</tr>
</tbody>
</table>

This communication object is always active and valid. invert the value send telegram to bus in next frame. e.g. last telegram value is “1”, the next telegram value is “0”
### HDL KNX / EIB – BUS

#### Panel controller

<table>
<thead>
<tr>
<th>NO.</th>
<th>Object name</th>
<th>Function</th>
<th>Flags</th>
<th>Data type</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>General</td>
<td>Change button LED level</td>
<td>C W T U</td>
<td>DPT 5.001 1byte</td>
</tr>
<tr>
<td>2</td>
<td>General</td>
<td>Change backlight LED level</td>
<td>C W T U</td>
<td>DPT 5.001 1byte</td>
</tr>
</tbody>
</table>

The two communication objects of the rocker N used to change LED brightness. The LED brightness will changed when objects receive the telegram value, The value range is 0%(0)...100%(255)

<table>
<thead>
<tr>
<th>NO.</th>
<th>Object name</th>
<th>Function</th>
<th>Flags</th>
<th>Data type</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>General</td>
<td>Infrared remote enable</td>
<td>C W T U</td>
<td>DPT 1.003 1bit</td>
</tr>
</tbody>
</table>

This communication object used to enable or disable the infrared function. If receive the value “1”, and the infrared function is enabled, if receive the value “0”, and the infrared function is disabled.

<table>
<thead>
<tr>
<th>NO.</th>
<th>Object name</th>
<th>Function</th>
<th>Flags</th>
<th>Data type</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>General</td>
<td>Lock button together</td>
<td>C W T U</td>
<td>DPT 1.003 1bit</td>
</tr>
</tbody>
</table>

This communication object used to lock the button. If receive the value “1”, and all buttons locked, if receive the value “0”, and all buttons is unlocked.

<table>
<thead>
<tr>
<th>NO.</th>
<th>Object name</th>
<th>Function</th>
<th>Flags</th>
<th>Data type</th>
</tr>
</thead>
<tbody>
<tr>
<td>5..12</td>
<td>General</td>
<td>Lock left or right of rocker N</td>
<td>C W T U</td>
<td>DPT 1.003 1bit</td>
</tr>
</tbody>
</table>

Three communication objects used to lock the single button. If receive the value “1”, and the single button locked, if receive the value “0”, and the single button is unlocked.

<table>
<thead>
<tr>
<th>NO.</th>
<th>Object name</th>
<th>Function</th>
<th>Flags</th>
<th>Data type</th>
</tr>
</thead>
<tbody>
<tr>
<td>13..20</td>
<td>General</td>
<td>Trigger left or right of rocker N</td>
<td>C W T U</td>
<td>DPT 1.011 1bit</td>
</tr>
</tbody>
</table>

Three communication objects used to trigger the single button. If receive the value “1”, and the single button triggered, if receive the value “0”, and the single button no triggered. It is only can get a short operation when using the remote trigger button objects, Long operate is impossible.
### 4.2 Objects “Switch controller”

<table>
<thead>
<tr>
<th>Number</th>
<th>Name</th>
<th>Object Function</th>
<th>Description</th>
<th>Group Add...</th>
<th>Length</th>
<th>C</th>
<th>R</th>
<th>W</th>
<th>T</th>
<th>U</th>
</tr>
</thead>
<tbody>
<tr>
<td>30</td>
<td>Rocker N left</td>
<td>Switching</td>
<td></td>
<td></td>
<td>1 bit</td>
<td>C</td>
<td>R</td>
<td>W</td>
<td>T</td>
<td>U</td>
</tr>
<tr>
<td>31</td>
<td>Rocker N right</td>
<td>Switching</td>
<td></td>
<td></td>
<td>1 bit</td>
<td>C</td>
<td>R</td>
<td>W</td>
<td>T</td>
<td>U</td>
</tr>
<tr>
<td>...</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

These communication objects used for switching other switch device. Send telegram value “1” for ON, send telegram value “0” for OFF.

### 4.3 Objects “Dimming controller”

<table>
<thead>
<tr>
<th>Number</th>
<th>Name</th>
<th>Object Function</th>
<th>Description</th>
<th>Group Add...</th>
<th>Length</th>
<th>C</th>
<th>R</th>
<th>W</th>
<th>T</th>
<th>U</th>
</tr>
</thead>
<tbody>
<tr>
<td>32</td>
<td>Rocker N long</td>
<td>Dimming</td>
<td></td>
<td></td>
<td>1 bit</td>
<td>C</td>
<td>R</td>
<td>W</td>
<td>T</td>
<td>U</td>
</tr>
<tr>
<td>...</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

These communication objects used for dimming the dimmer. Increase or decrease the light brightness.
### 4.4 Objects “Shutter controller”

<table>
<thead>
<tr>
<th>NO</th>
<th>Name</th>
<th>Function</th>
<th>Flags</th>
<th>Data type</th>
</tr>
</thead>
<tbody>
<tr>
<td>35</td>
<td>Rocker N short</td>
<td>Adjust for shutter</td>
<td>C W T U</td>
<td>DPT 1.007</td>
</tr>
<tr>
<td>36</td>
<td>Rocker N long</td>
<td>Move for shutter</td>
<td>C W T U</td>
<td>DPT 1.008</td>
</tr>
</tbody>
</table>

These communication objects used for Adjust and Move the shutter. Send the telegram value “1” to adjust or move, or send telegram value “0” to stop adjust.

### 4.5 Objects “Flexible controller”

<table>
<thead>
<tr>
<th>NO</th>
<th>Name</th>
<th>Function</th>
<th>Flags</th>
<th>Data type</th>
</tr>
</thead>
<tbody>
<tr>
<td>37</td>
<td>Rocker N left</td>
<td>Flexible</td>
<td>C W T U</td>
<td>DPT 1.001</td>
</tr>
<tr>
<td>37</td>
<td>Rocker N right</td>
<td>Flexible</td>
<td>C W T U</td>
<td>DPT 1.001</td>
</tr>
</tbody>
</table>
HDL KNX / EIB – BUS

4.6 Objects “Scene controller”

<table>
<thead>
<tr>
<th>NO.</th>
<th>Object name</th>
<th>Function</th>
<th>Flags</th>
<th>Data type</th>
</tr>
</thead>
<tbody>
<tr>
<td>39</td>
<td>Rocker N short</td>
<td>Call scene,</td>
<td>C W T</td>
<td>DPT 18.001</td>
</tr>
<tr>
<td>40</td>
<td>Rocker N long</td>
<td>Scene dimming</td>
<td>C W T</td>
<td>DPT 3.007</td>
</tr>
</tbody>
</table>

These communication objects used for Call and Scene dimming. Call scene NO. is 1 to 64 and the value is 0 to 63. The Scene dimming is 4bits value.

4.7 Objects “Sequence controller”

<table>
<thead>
<tr>
<th>NO.</th>
<th>Object name</th>
<th>Function</th>
<th>Flags</th>
<th>Data type</th>
</tr>
</thead>
<tbody>
<tr>
<td>41</td>
<td>Rocker N left</td>
<td>Sequence</td>
<td>C W T U</td>
<td>DPT 1.001</td>
</tr>
<tr>
<td>42</td>
<td>Rocker N right</td>
<td>Sequence</td>
<td>C W T U</td>
<td>DPT 1.001</td>
</tr>
</tbody>
</table>
Threse communication objects used for start and stop sequence. Send the telegram value ‘1’ to start one sequence, and send the telegram value ‘0’ to stop on sequence.

4.8 Objects “Percentage controller”

<table>
<thead>
<tr>
<th>NO.</th>
<th>Object name</th>
<th>Function</th>
<th>Flags</th>
<th>Data type</th>
</tr>
</thead>
<tbody>
<tr>
<td>44</td>
<td>Rocker N</td>
<td>Percentage</td>
<td>C W T</td>
<td>DPT 5.001</td>
</tr>
<tr>
<td>93</td>
<td>Rocker D</td>
<td>Percentage</td>
<td>C W T</td>
<td>1byte</td>
</tr>
</tbody>
</table>

These communication objects used for control some device, eg: dimmer. Absolute dimming the brightness.
### 4.9 Objects “Combination controller”

<table>
<thead>
<tr>
<th>No.</th>
<th>Object name</th>
<th>Function</th>
<th>Flags</th>
<th>Data type</th>
</tr>
</thead>
<tbody>
<tr>
<td>44</td>
<td>Rocker N left</td>
<td>COMB OBJ1 switching</td>
<td>C W T</td>
<td>DPT 1.001 1bit</td>
</tr>
<tr>
<td>45</td>
<td>Rocker N left</td>
<td>COMB OBJ2 shutter</td>
<td>C W T</td>
<td>DPT 1.008 1bit</td>
</tr>
<tr>
<td>46</td>
<td>Rocker N left</td>
<td>COMB OBJ3 scene</td>
<td>C W T</td>
<td>DPT 18.001 1byte</td>
</tr>
<tr>
<td>47</td>
<td>Rocker N left</td>
<td>COMB OBJ4 sequence</td>
<td>C W T</td>
<td>DPT 1.010 1bit</td>
</tr>
<tr>
<td>48</td>
<td>Rocker N left</td>
<td>COMB OBJ5 percentage</td>
<td>C W T</td>
<td>DPT 5.001 1byte</td>
</tr>
<tr>
<td>49</td>
<td>Rocker N left</td>
<td>COMB OBJ6 String(14bytes)</td>
<td>C W T</td>
<td>DPT 16.000 1byte</td>
</tr>
<tr>
<td>56</td>
<td>Rocker N right</td>
<td>COMB OBJ1 switching</td>
<td>C W T</td>
<td>DPT 1.001 1bit</td>
</tr>
<tr>
<td>57</td>
<td>Rocker N right</td>
<td>COMB OBJ2 shutter</td>
<td>C W T</td>
<td>DPT 1.008 1bit</td>
</tr>
<tr>
<td>58</td>
<td>Rocker N right</td>
<td>COMB OBJ3 scene</td>
<td>C W T</td>
<td>DPT 18.001 1byte</td>
</tr>
<tr>
<td>59</td>
<td>Rocker N right</td>
<td>COMB OBJ4 sequence</td>
<td>C W T</td>
<td>DPT 1.010 1bit</td>
</tr>
<tr>
<td>60</td>
<td>Rocker N right</td>
<td>COMB OBJ5 percentage</td>
<td>C W T</td>
<td>DPT 5.001 1byte</td>
</tr>
<tr>
<td>61</td>
<td>Rocker N right</td>
<td>COMB OBJ6 String(14bytes)</td>
<td>C W T</td>
<td>DPT 16.000 1byte</td>
</tr>
</tbody>
</table>

These communication objects used for control of multiple objects at the same time. So, multiple object can synchronization operation.
4.10 Objects “14 byte value controller(string)"

<table>
<thead>
<tr>
<th>NO.</th>
<th>Object name</th>
<th>Function</th>
<th>Flags</th>
<th>Data type</th>
</tr>
</thead>
<tbody>
<tr>
<td>71</td>
<td>Rocker N</td>
<td>14 byte value</td>
<td>C W T</td>
<td>DPT 16.000</td>
</tr>
<tr>
<td>121</td>
<td>Rocker A</td>
<td>14 byte value</td>
<td>C W T</td>
<td>14byte</td>
</tr>
<tr>
<td></td>
<td>Rocker B</td>
<td>14 byte value</td>
<td>C W T</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Rocker C</td>
<td>14 byte value</td>
<td>C W T</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Rocker D</td>
<td>14 byte value</td>
<td>C W T</td>
<td></td>
</tr>
</tbody>
</table>

Threse communication objects used for control 14 byte value. According to the set and send corresponding variables.
5-Application

5.1 Program functions diagram

The panel has 9 functions, only chose one function at the same time.